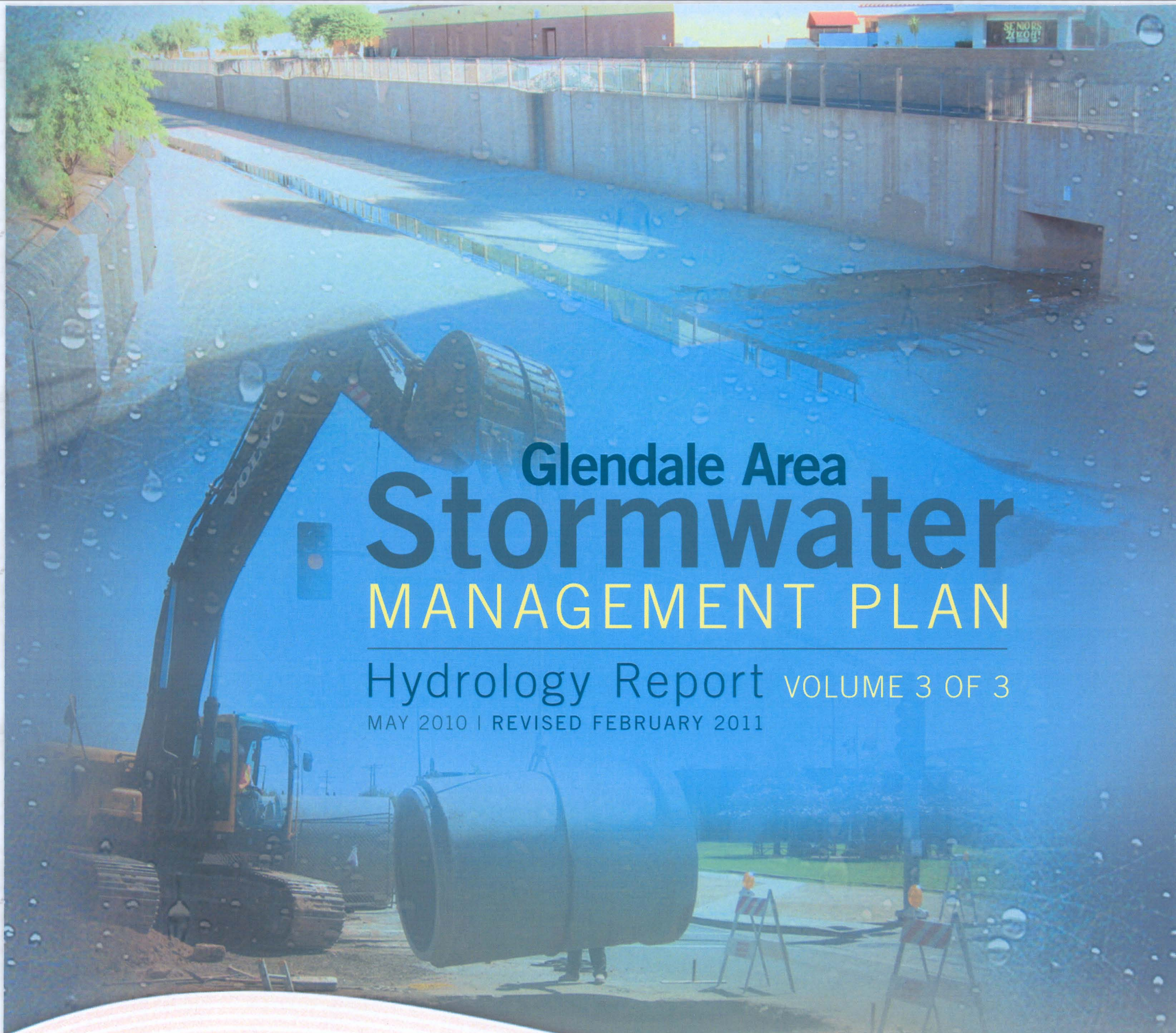

Glendale Area Stormwater MANAGEMENT PLAN

Hydrology Report VOLUME 3 OF 3

MAY 2010 | REVISED FEBRUARY 2011

GLENDALE AZ

Flood Control District of Maricopa County

Prepared for: City of Glendale and the Flood Control District of Maricopa County

Kimley-Horn and Associates, Inc.

Kimley-Horn and Associates, Inc.

GLENDALE AREA STORMWATER MANAGEMENT PLAN

HYDROLOGY REPORT VOLUME 3 OF 3

MARYVALE ADMS WATERSHED AND GLENDALE/PEORIA ADMPU WATERSHED

FINAL

Prepared for:
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5850 W. Glendale Ave., Ste. 315
Glendale, AZ 85301

In Association with
Flood Control District of Maricopa County
2801 W. Durango Street
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091910009
May 2010
Revised February 2011

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EXPIRES 9/30/2013

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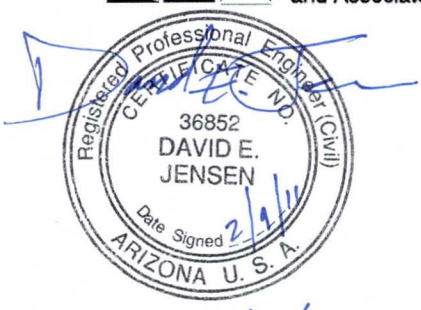

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File Name	Description
MV6E100	Maryvale ADMS Area Existing Conditions 100-Year, 6-Hour Storm
GP6E100	Glendale/Peoria ADMPU Area Existing Conditions 100-Year, 6-Hour Storm
MV24E100	Maryvale ADMS Area Existing Conditions 100-Year, 24-Hour Storm
GP24E100	Glendale/Peoria ADMPU Area Existing Conditions 100-Year, 24-Hour Storm
MV6E10	Maryvale ADMS Area Existing Conditions 10-Year, 6-Hour Storm
GP6E10	Glendale/Peoria ADMPU Area Existing Conditions 10-Year, 6-Hour Storm
MV24E10	Maryvale ADMS Area Existing Conditions 10-Year, 24-Hour Storm
GP24E10	Glendale/Peoria ADMPU Area Existing Conditions 10-Year, 24-Hour Storm
MV6F100	Maryvale ADMS Area Future Conditions 100-Year, 6-Hour Storm
GP6F100	Glendale/Peoria ADMPU Area Future Conditions 100-Year, 6-Hour Storm
MV24F100	Maryvale ADMS Area Future Conditions 100-Year, 24-Hour Storm
GP24F100	Glendale/Peoria ADMPU Area Future Conditions 100-Year, 24-Hour Storm
MV6F10	Maryvale ADMS Area Future Conditions 10-Year, 6-Hour Storm
GP6F10	Glendale/Peoria ADMPU Area Future Conditions 10-Year, 6-Hour Storm
MV24F10	Maryvale ADMS Area Future Conditions 10-Year, 24-Hour Storm
GP24F10	Glendale/Peoria ADMPU Area Future Conditions 10-Year, 24-Hour Storm

```
1*************************************
 *                                   *
 *   FLOOD HYDROGRAPH PACKAGE  (HEC-1)   *
 *             JUN  1998             *
 *           VERSION 4.1             *
 *                                   *
 *  RUN DATE   04NOV10  TIME  06:21:21   *
 *                                   *
 *************************************
```

```
*************************************
*                                   *
*   U.S. ARMY CORPS OF ENGINEERS    *
*   HYDROLOGIC ENGINEERING CENTER   *
*        609 SECOND STREET          *
*      DAVIS, CALIFORNIA 95616      *
*          (916) 756-1104           *
*                                   *
*************************************
```

```
X     X  XXXXXXX   XXXXX          X
X     X  X        X     X        XX
X     X  X        X              X
XXXXXXX  XXXX     X        XXXXX  X
X     X  X        X              X
X     X  X        X     X        X
X     X  XXXXXXX   XXXXX         XXX
```

THIS PROGRAM REPLACES ALL PREVIOUS VERSIONS OF HEC-1 KNOWN AS HEC1 (JAN 73), HEC1GS, HEC1DB, AND HEC1KW.

THE DEFINITIONS OF VARIABLES -RTIMP- AND -RTIOR- HAVE CHANGED FROM THOSE USED WITH THE 1973-STYLE INPUT STRUCTURE.
THE DEFINITION OF -AMSKK- ON RM-CARD WAS CHANGED WITH REVISIONS DATED 28 SEP 81. THIS IS THE FORTRAN77 VERSION
NEW OPTIONS: DAMBREAK OUTFLOW SUBMERGENCE , SINGLE EVENT DAMAGE CALCULATION, DSS:WRITE STAGE FREQUENCY,
DSS:READ TIME SERIES AT DESIRED CALCULATION INTERVAL LOSS RATE:GREEN AND AMPT INFILTRATION
KINEMATIC WAVE: NEW FINITE DIFFERENCE ALGORITHM

1 HEC-1 INPUT PAGE 1

```
LINE          ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10
    1         ID      GLENDALE STORMWATER MANAGEMENT PLAN
    2         ID      Model for Maryvale Watershed
    3         ID      Existing Conditions
    4         ID
    5         ID      Prepared for the City of Glendale
    6         ID      In Association with the Flood Control District of Maricopa County
    7         ID      City Project Number 089017
    8         ID
    9         ID      Prepared by Kimley-Horn and Associates, Inc.
   10         ID      KHA Project Number 091910009
   11         ID      October 2010
   12         ID
   13         ID      MODELING PARAMETERS
   14         ID      - 100 Year 6 Hour Storm Event
   15         ID      - NOAA 14 Rainfall Data
   16         ID      - Clark Unit Hydrograph
   17         ID      - Green and Ampt Rainfall Loss Method
   18         ID
   19         ID      Topo data extracted from Flood Control District database July 24, 2009
   20         ID      Land use obtained from City of Glendale General Plan August 2009, City of
   21         ID           Phoenix General Plan August 2009, and MAG General Plan Land Use 2007
   22         ID
   23         ID      Storage routing data obtained from As-built records where possible
   24         ID      When As-built data was not available data was obtained from HEC-1 models
   25         ID           and checked for accuracy. HEC-1 models used include:
   26         ID           - Maryvale ADMS, February 1997
   27         ID           - Maryvale model modified by DMJM for improvements along the Bethany
   28         ID             Home Outfall Channel, file BHGC00C6.dat, November 2004
   29         ID           - Update to ponding areas along Grand Canal in the City of Glendale
   30         ID             for a CLOMR by PEC, February 2008
   31         ID      The source of data is identified on each individual storage routing card
   32         ID
   33         ID  ************************************************************************
   34         ID
   35         ID      MODELING NOMENCLATURE
   36         ID      SUBBASIN HYDROGRAPH:
   37         ID         Example: OL51   - the subbasin northeast of Olive and 51st Avenue
   38         ID
   39         ID      STORM DRAIN DIVERSION:
   40         ID         Example: DOL51  - flow from subbasin OL51 is diverted to a storm drain
   41         ID
   42         ID      SUBBASIN DIVERSION:
   43         ID         Example: DWOL59 - flow is diverted west towards Olive and 59th Avenue
   44         ID         Example: DSNO51 - flow is diverted south towards Northern and 51st Ave
   45         ID
   46         ID      ROUTE HYDROGRAPH:
   47         ID         Example: RWOL59 - flow is routed west towards Olive and 59th Avenue
   48         ID         Example: RSNO59 - flow is routed south towards Northern and 59th Ave
   49         ID
   50         ID      COMBINE HYDROGRAPH:
   51         ID         Example: COL59  - combine flow at Olive and 59th Avenue
   52         ID
   53         ID      NAME ABBREVIATIONS
   54         ID         Jomax Road             JM
   55         ID         Happy Valley Road      HV
```


1 HEC-1 INPUT PAGE 2

```
LINE          ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10
   56         ID         Pinnacle Peak Road     PP
   57         ID         Deer Valley Road       DV
   58         ID         Loop 101               LO
   59         ID         Beardsley Road         BY
   60         ID         Union Hills Drive      UH
   61         ID         Bell Road              BL
   62         ID         Greenway Road          GW
   63         ID         Thunderbird Road       TB
   64         ID         Cactus Road            CT
   65         ID         Peoria Avenue          PE
   66         ID         Olive Avenue           OL
   67         ID         Northern Avenue        NO
   68         ID         Glendale Avenue        GL
   69         ID         Bethany Home Road      BH
   70         ID         Camelback Road         CB
   71         ID         Indian School Road     IS
   72         ID         Thomas Road            TM
   73         ID         McDowell Road          MD
   74         ID         Interstate 10          IN
   75         ID         Van Buren Street       VB
   76         ID         Avondale Boulevard     AV
   77         ID         Grand Avenue           GR
   78         ID         Grand Canal            GC
   79         ID         Brown Street           BR
   80         ID         Mountain View Road     MV
   81         ID         Orangewood Avenue      OW
   82         ID         Mitchell Drive         ML
   83         ID         Agua Fria River        AF
   84         ID         New River              NR
   85         ID         Skunk Creek            SK
   86         ID         Roosevelt Irrigation   RI
   87         ID
   88         ID      PREFIXES FOR MODELING OPERATIONS
   89         ID         RW     Routing flow in the west direction
   90         ID         RS     Routing flow in the south direction
   91         ID         RP     Routing storm drain pipe flow
   92         ID         C      Combination point
   93         ID         CI     Combination point at an intersection
   94         ID         CP     Combination point for storm drain pipe flow
   95         ID         SR     Storage for detention/retention basins
   96         ID         DW     Divert flow to the west
   97         ID         DE     Divert flow to the east
   98         ID         DS     Divert flow to the south
   99         ID         DN     Divert flow to the north
  100         ID         ER     Divert flow for existing 100-yr 2-hr retention
  101         ID         X      Existing retention divertion does not return to model
  102         ID         DR     Divert retrieval from surface flow
  103         ID         DI     Divert retrieval from intersection flow
  104         ID         D      Divert surface flow (remains after storm drain divert)
  105         ID         DP     Divert flow to a storm drain pipe
  106         ID         PR     Divert retrieval from a storm drain pipe
  107         ID
  108         ID  ************************************************************************
  109         IT      5       0       0    1000
  110         IN     15
```

1 HEC-1 INPUT PAGE 3

```
LINE          ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10
  111         IO      5
              *DIAGRAM
              *
  112         JD   2.638  0.0001
  113         PC   0.000   0.008   0.016   0.025   0.033   0.041   0.050   0.058   0.066   0.074
  114         PC   0.087   0.099   0.118   0.138   0.216   0.377   0.834   0.911   0.931   0.950
  115         PC   0.962   0.972   0.983   0.991   1.000
  116         JD   2.622  0.5000
  117         PC   0.000   0.008   0.016   0.025   0.033   0.041   0.050   0.058   0.066   0.074
  118         PC   0.087   0.099   0.118   0.138   0.216   0.377   0.834   0.911   0.931   0.950
  119         PC   0.962   0.972   0.983   0.991   1.000
  120         JD   2.572     2.8
  121         PC   0.000   0.009   0.016   0.025   0.034   0.042   0.051   0.059   0.068   0.077
  122         PC   0.088   0.101   0.121   0.164   0.253   0.451   0.694   0.836   0.900   0.938
  123         PC   0.950   0.963   0.975   0.988   1.000
  124         JD   2.432    16.0
  125         PC   0.000   0.015   0.020   0.030   0.048   0.063   0.076   0.090   0.105   0.119
  126         PC   0.135   0.152   0.175   0.222   0.304   0.472   0.670   0.796   0.868   0.912
  127         PC   0.946   0.960   0.973   0.987   1.000
  128         JD   2.137    90.0
  129         PC   0.000   0.021   0.035   0.051   0.071   0.087   0.105   0.125   0.143   0.160
  130         PC   0.179   0.201   0.232   0.281   0.364   0.500   0.658   0.773   0.841   0.888
  131         PC   0.927   0.945   0.964   0.982   1.000
  132         JD   2.110   100.0
  133         PC   0.000   0.021   0.036   0.052   0.072   0.088   0.106   0.126   0.145   0.162
  134         PC   0.182   0.204   0.235   0.284   0.368   0.501   0.656   0.770   0.839   0.886
  135         PC   0.925   0.944   0.963   0.982   1.000
              *
  136         KK    GW83   BASIN
```

```
KM   Runoff hydrograph for subbasin GW83 northeast of the intersection of Greenway
KM   Road and 83rd Avenue
BA   0.291
LG    0.30    0.25    4.70    0.31      24
UC   1.095   1.046
UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
UA     100
*

KK   DGW83  DIVERT
KM   Divert calculated full flow capapcity of 45 cfs into 42-inch storm drain
KM   pipe at the intersection of Greenway Road and 83rd Avenue
DT  DPGW83      0.0    45.0
DI      0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
DQ      0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
*

KK  DSTB83  DIVERT
KM   Divert portion of runoff hydrograph from subbasin GW83 south to the
KM   intersection of Thunderbird Road and 83rd Avenue and the remaining flow west
KM   to Skunk Creek. The diversion is based on topography
DT  DWSK01      0.0     0.0
DI      0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
DQ      0.0    57.0   114.0   285.0   570.0  1140.0  2280.0  5700.0 11400.0 28500.0
*
```

1 HEC-1 INPUT PAGE 4

```
LINE  ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

KK  RSTB83   ROUTE
KM   Route diversion DSTB83 south to combination point CTB83
RS       10     FLOW
RC    0.035   0.015   0.035    5280  0.0023     0.00
RX     0.00    0.00   48.00   48.00  251.00  251.00  299.00  299.00
RY     3.00    0.98    0.50    0.00    0.00    0.50    0.98    3.00
*

KK    TB67   BASIN
KM   Runoff hydrograph for subbasin TB67 northeast of the intersection of
KM   Thunderbird Road and 67th Avenue
BA   0.265
LG    0.23    0.16    9.70    0.05      17
UC   0.692   0.403
UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
UA     100
*

KK  DWTB75  DIVERT
KM   Divert remaining runoff hydrograph from subbasin TB67 west to combination
KM   point CTB75
DT  DSCT67      0.0     0.0
DI      0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
DQ      0.0    40.0    80.0   200.0   400.0   800.0  1600.0  4000.0  8000.0 20000.0
*

KK  RWTB75   ROUTE
KM   Route diversion DWTB75 west to combination point CTB75
RS        6     FLOW
RC    0.035   0.015   0.035    5280  0.0027     0.00
RX     0.00    0.00   48.00   48.00  251.00  251.00  299.00  299.00
RY     3.00    0.98    0.50    0.00    0.00    0.50    0.98    3.00
*

KK    TB75   BASIN
KM   Runoff hydrograph for subbasin TB75 northeast of the intersection of
KM   Thunderbird Road and 75th Avenue
BA   1.026
LG    0.23    0.15    7.00    0.10      32
UC   1.160   0.611
UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
UA     100
*

KK  ERTB75  DIVERT
KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
KM   retention developed after 1990 in subbasin TB75
DT   XTB75      8.7     0.0
DI      0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
DQ      0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
*
```

1 HEC-1 INPUT PAGE 5

```
LINE  ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

KK   CTB75 COMBINE
KM   Combine route RWTB75 and subbasin TB75
HC       2    1.18
*

KK   DTB75  DIVERT
KM   Divert calculated full flow capapcity of 161 cfs into 66-inch storm drain
```



```
KM   pipe at the intersection of Thunderbird Road and 75th Avenue
DT  DPTB75      0.0   161.0
DI      0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
DQ      0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
*

KK  DWTB83  DIVERT
KM   Divert remaining runoff hydrograph from subbasin TB83 west to combination
KM   point CTB83
DT  DSCT75      0.0     0.0
DI      0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
DQ      0.0    45.0    90.0   225.0   450.0   900.0  1800.0  4500.0  9000.0 22500.0
*

KK  RWTB83   ROUTE
KM   Route diversion DWTB83 west to combination point CTB83
RS        4     FLOW
RC    0.035   0.015   0.035    5280  0.0034     0.00
RX     0.00    0.00   76.50   76.50  372.50  372.50  449.00  449.00
RY     3.00    1.27    0.50    0.00    0.00    0.50    1.27    3.00
*

KK    TB83   BASIN
KM   Runoff hydrograph for square mile subbasin TB83 northeast of the intersection
KM   Thunderbird Road and 83rd Avenue
BA   0.994
LG    0.25    0.21    6.40    0.14      31
UC   1.408   0.949
UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
UA     100
*

KK  ERTB83  DIVERT
KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
KM   retention developed after 1990 in subbasin TB83
DT   XTB83      19.4     0.0
DI      0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
DQ      0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
*

KK   CTB83 COMBINE
KM   Combine route RWTB83, route south RSTB83, and subbasin TB83
HC       3    1.77
*
```

1 HEC-1 INPUT PAGE 6

```
LINE  ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

KK  PRTB75RETRIEVE
KM   Retrieve full flow capacity of 161 cfs from 66-inch storm drain pipe at the
KM   intersection of Thunderbird Road and 75th Avenue
DR  DPTB75
*

KK  RPTB83   ROUTE
KM   Route full flow capacity of 161 cfs through 66-inch storm drain pipe in
KM   Thunderbird Road to the intersection of Thunderbird Road and 83rd Avenue
RK    5194  0.0023   0.015            CIRC   5.500
*

KK  CPTB83 COMBINE
KM   Combine pipe return PRTB75 with the runoff hydrograph at combination point
KM   CTB83 at the intersection of Thunderbird Road and 83rd Avenue
HC       2
*

KK   DTB83  DIVERT
KM   Divert calculated full flow capapcity of 247 cfs into 72-inch storm drain
KM   pipe at the intersection of Thunderbird Road and 83rd Avenue
DT  DPTB83      0.0   247.0
DI      0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
DQ      0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
*

KK  DWTBLO  DIVERT
KM   Divert remaining runoff hydrograph from subbasin TB83 west to combination
KM   point CTBLO
DT  DSCT83      0.0     0.0
DI      0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
DQ      0.0    71.0   142.0   355.0   710.0  1420.0  2840.0  7100.0 14200.0 35500.0
*

KK  RWTBLO   ROUTE
KM   Route diversion DWTBLO west to combination point CTBLO
RS        2     FLOW
RC    0.035   0.015   0.035    2002  0.0030     0.00
RX     0.00    0.00   16.50   16.50  107.50  107.50  124.00  124.00
RY     3.00    0.66    0.50    0.00    0.00    0.50    0.66    3.00
*

KK    TBLO   BASIN
KM   Runoff hydrograph for subbasin TBLO northeast of the intersection of
```

```
267          KM   Thunderbird Road and SR Loop 101
268          BA   0.099
269          LG    0.15    0.15    8.80    0.05      71
270          UC   0.768   0.931
271          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
272          UA     100
             *
1                                        HEC-1 INPUT                                        PAGE  7

          LINE       ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


273          KK  ERTBLO  DIVERT
274          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
275          KM   retention developed after 1990 in subbasin TBLO
276          DT   XTBLO    10.8     0.0
277          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
278          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
             *

279          KK   CTBLO COMBINE
280          KM   Combine route RWTBLO and subbasin TBLO
281          HC        2    0.62
             *

282          KK  PRTB83RETRIEVE
283          KM   Retrieve full flow capacity of 247 cfs from 72-inch storm drain pipe at the
284          KM   intersection of Thunderbird Road and 83rd Avenue
285          DR  DPTB83
             *

286          KK   RPTBLO   ROUTE
287          KM   Route full flow capacity of 247 cfs through 72-inch storm drain pipe in
288          KM   Thunderbird Road to the intersection of Thunderbird Road and 83rd Avenue
289          RK    1532  0.0034   0.015            CIRC   6.000
             *

290          KK  CPTBLO COMBINE
291          KM   Combine pipe return PRTBLO with the runoff hydrograph at combination point
292          KM   CTBLO at the intersection of Thunderbird Road and SR Loop 101
293          HC        2
             *

294          KK  RSCTLO   ROUTE
295          KM   Route runoff hydrograph at combination point CPTBLO south to combination
296          KM   point CCTLO
297          RS        2     FLOW
298          RC    0.035   0.015   0.035    4816  0.0016     0.00
299          RX     0.00    3.00   13.00   29.00   39.00   55.00   65.00   68.00
300          RY     9.00    8.00    8.00    0.00    0.00    8.00    8.00    9.00
             *

301          KK    CT59   BASIN
302          KM   Runoff hydrograph for subbasin CT59 northeast of the intersection of
303          KM   Cactus Road and 59th Avenue
304          BA   0.296
305          LG    0.24    0.15    8.80    0.06      30
306          UC   0.874   0.586
307          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
308          UA     100
             *
1                                        HEC-1 INPUT                                        PAGE  8

          LINE       ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


309          KK  ERCT59  DIVERT
310          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
311          KM   retention developed after 1990 in subbasin CT59
312          DT   XCT59    24.6     0.0
313          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
314          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
             *

315          KK   D59CT  DIVERT
316          KM   Divert calculated full flow capapcity of 18 cfs into 30-inch storm drain
317          KM   pipe at the intersection of Cactus Road and 59th Avenue
318          DT  DP59CT      0.0    18.0
319          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
320          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
             *

321          KK  DWCT67  DIVERT
322          KM   Divert remaining runoff hydrograph from subbasin CT59 west to combination
323          KM   point CCT67
324          DT  DSPE59      0.0      0.0
325          DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
326          DQ     0.0    68.0   136.0   340.0   680.0  1360.0  2720.0  6800.0 13600.0 34000.0
             *

327          KK   RWCT67   ROUTE
328          KM   Route diversion DWCT67 west to combination point CCT67
329          RS       10     FLOW
```



```
330          RC    0.035   0.015   0.035    5280  0.0041     0.00
331          RX     0.00    0.00   33.50   33.50  144.50  144.50  178.00  178.00
332          RY     3.00    0.84    0.50    0.00    0.00    0.50    0.84    3.00
             *

333          KK  DRCT67RETRIEVE
334          KM   Retrieve divert DRCT67 from subbasin TB67 and divert south to combination
335          KM   point CCT67
336          DR  DSCT67
             *

337          KK   RSCT67   ROUTE
338          KM   Route retrieval DRCT67 south to combination point CCT67
339          RS        5     FLOW
340          RC    0.035   0.015   0.035    5280  0.0035     0.00
341          RX     0.00    0.00   24.50   24.50  155.50  155.50  180.00  180.00
342          RY     3.00    0.74    0.50    0.00    0.00    0.50    0.74    3.00
             *

343          KK    CT67   BASIN
344          KM   Runoff hydrograph for subbasin CT67 northeast of the intersection of Cactus
345          KM   Road and 67th Avenue
346          BA   0.910
347          LG    0.28    0.15    7.30    0.11      26
348          UC   1.070   0.619
349          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
350          UA     100
             *
1                                        HEC-1 INPUT                                        PAGE  9

          LINE       ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


351          KK  ERCT67  DIVERT
352          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
353          KM   retention developed after 1990 in subbasin CT67
354          DT   XCT67    20.9     0.0
355          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
356          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
             *

357          KK   CCT67 COMBINE
358          KM   Combine route RWCT67, route RSCT67, and subbasin CT67
359          HC        3    1.11
             *

360          KK   DCT67  DIVERT
361          KM   Divert calculated full flow capapcity of 268 cfs into 78-inch storm drain
362          KM   pipe at the intersection of Cactus Road and 67th Avenue
363          DT  DPCT67      0.0   268.0
364          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
365          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
             *

366          KK  DWCT75  DIVERT
367          KM   Divert remaining runoff hydrograph from combination point CCT67 west to
368          KM   combination point CCT75
369          DT  DSPE67      0.0      0.0
370          DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
371          DQ     0.0    43.0    86.0   215.0   430.0   860.0  1720.0  4300.0  8600.0 21500.0
             *

372          KK   RWCT75   ROUTE
373          KM   Route diversion DWCT75 west to combination point CCT75
374          RS        6     FLOW
375          RC    0.035   0.015   0.035    5280  0.0030     0.00
376          RX     0.00    0.00   76.50   76.50  372.50  372.50  449.00  449.00
377          RY     3.00    1.27    0.50    0.00    0.00    0.50    1.27    3.00
             *

378          KK  DRCT75RETRIEVE
379          KM   Retrieve divert DRCT75 from combination point CTB75 and divert south to
380          KM   combination point CCT75
381          DR  DSCT75
             *

382          KK   RSCT75   ROUTE
383          KM   Route retrieval DRCT75 south to combination point CCT75
384          RS        3     FLOW
385          RC    0.035   0.015   0.035    5280  0.0038     0.00
386          RX     0.00    0.00   57.50   57.50  291.50  291.50  349.00  349.00
387          RY     3.00    1.08    0.50    0.00    0.00    0.50    1.08    3.00
             *
1                                        HEC-1 INPUT                                        PAGE 10

          LINE       ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


388          KK    CT75   BASIN
389          KM   Runoff hydrograph for square mile subbasin CT75 northeast of the intersection
390          KM   of Cactus Road and 75th Avenue
391          BA   1.003
392          LG    0.28    0.15    8.80    0.06      25
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393          UC   1.375   0.916
394          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
395          UA     100
             *
396          KK  ERCT75  DIVERT
397          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
398          KM   retention developed after 1990 in subbasin CT75
399          DT   XCT75     23.7      0.0
400          DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
401          DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
             *
402          KK   CCT75 COMBINE
403          KM   Combine route RWCT75, route RSCT75, and subbasin CT75
404          HC        3     2.17
             *
405          KK  PRCT67RETRIEVE
406          KM   Retrieve full flow capacity of 268 cfs from 78-inch storm drain pipe at the
407          KM   intersection of Cactus Road and 67th Avenue
408          DR  DPCT67
             *
409          KK  RPCT75   ROUTE
410          KM   Route full flow capacity of 268 cfs through 78-inch storm drain pipe in
411          KM   Cactus Road to the intersection of Cactus Road and 75th Avenue
412          RK    5321  0.0026   0.015             CIRC   6.500
             *
413          KK  CPCT75 COMBINE
414          KM   Combine pipe return PRCT67 with the runoff hydrograph at combination point
415          KM   CCT75 at the intersection of Cactus Road and 75th Avenue
416          HC        2
             *
417          KK   DCT75  DIVERT
418          KM   Divert calculated full flow capapcity of 651 cfs into 108-inch storm drain
419          KM   pipe at the intersection of Cactus Road and 75th Avenue
420          DT  DPCT75       0.0     651.0
421          DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
422          DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
             *
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LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

423          KK  DWCT83  DIVERT
424          KM   Divert remaining runoff hydrograph from combination point CCT75 west to
425          KM   combination point CCT83
426          DT  DSPE75       0.0       0.0
427          DI      0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
428          DQ      0.0    50.0   100.0   250.0   500.0  1000.0  2000.0  5000.0 10000.0 25000.0
             *
429          KK  RWCT83   ROUTE
430          KM   Route diversion DWCT83 west to combination point CCT83
431          RS        4    FLOW
432          RC   0.035   0.015   0.035    5280  0.0026     0.00
433          RX    0.00    0.00   57.50   57.50  291.50  291.50  349.00  349.00
434          RY    3.00    1.08    0.50    0.00    0.00    0.50    1.08    3.00
             *
435          KK  DRCT83RETRIEVE
436          KM   Retrieve divert DRCT83 from combination point CPTB83 and divert south to
437          KM   combination point CCT83
438          DR  DSCT83
             *
439          KK  RSCT83   ROUTE
440          KM   Route retrieval DRCT83 south to combination point CCT83
441          RS        4    FLOW
442          RC   0.035   0.015   0.035    5280  0.0030     0.00
443          RX    0.00    0.00   48.00   48.00  251.00  251.00  299.00  299.00
444          RY    3.00    0.98    0.50    0.00    0.00    0.50    0.98    3.00
             *
445          KK   CT83   BASIN
446          KM   Runoff hydrograph for square mile subbasin CT83 northeast of the intersection
447          KM   of Cactus Road and 83rd Avenue
448          BA   1.008
449          LG    0.25    0.15    8.40    0.06      30
450          UC   1.397   0.933
451          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
452          UA     100
             *
453          KK  ERCT83  DIVERT
454          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
455          KM   retention developed after 1990 in subbasin CT83
456          DT   XCT83     28.8      0.0
457          DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
```



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458          DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
             *
459          KK   CCT83 COMBINE
460          KM   Combine route RWCT83, route RSCT83, and subbasin CT83
461          HC        3     3.34
             *
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LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

462          KK  PRCT75RETRIEVE
463          KM   Retrieve full flow capacity of 651 cfs from 108-inch storm drain pipe at the
464          KM   intersection of Cactus Road and 75th Avenue
465          DR  DPCT75
             *
466          KK  RPCT83   ROUTE
467          KM   Route full flow capacity of 651 cfs through 108-inch storm drain pipe in
468          KM   Cactus Road to the intersection of Cactus Road and 83rd Avenue
469          RK    5246  0.0027   0.015             CIRC   9.000
             *
470          KK  CPCT83 COMBINE
471          KM   Combine pipe return PRCT75 with the runoff hydrograph at combination point
472          KM   CCT83 at the intersection of Cactus Road and 83rd Avenue
473          HC        2
             *
474          KK   DCT83  DIVERT
475          KM   Divert calculated full flow capapcity of 663 cfs into 120-inch storm drain
476          KM   pipe at the intersection of Cactus Road and 83rd Avenue
477          DT  DPCT83       0.0     663.0
478          DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
479          DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
             *
480          KK  DWCTLO  DIVERT
481          KM   Divert remaining runoff hydrograph from combination point CCT83 west to
482          KM   combination point CCTLO
483          DT  DSPE83       0.0       0.0
484          DI      0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
485          DQ      0.0    41.0    82.0   205.0   410.0   820.0  1640.0  4100.0  8200.0 20500.0
             *
486          KK  RWCTLO   ROUTE
487          KM   Route diversion DWCTLO west to combination point CCTLO
488          RS        3    FLOW
489          RC   0.035   0.015   0.035    6650  0.0048     0.00
490          RX    0.00    0.00   76.50   76.50  372.50  372.50  449.00  449.00
491          RY    3.00    1.27    0.50    0.00    0.00    0.50    1.27    3.00
             *
492          KK   CTLO   BASIN
493          KM   Runoff hydrograph for subbasin CTLO northeast of the intersection of Cactus
494          KM   Road and SR Loop 101
495          BA   0.865
496          LG    0.20    0.15    7.30    0.09      47
497          UC   1.306   1.037
498          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
499          UA     100
             *
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LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

500          KK  ERCTLO  DIVERT
501          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
502          KM   retention developed after 1990 in subbasin CTLO
503          DT   XCTLO     46.0      0.0
504          DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
505          DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
             *
506          KK   CCTLO COMBINE
507          KM   Combine route RWCTLO, route RSCTLO, and subbasin CTLO
508          HC        3     3.46
             *
509          KK  PRCT83RETRIEVE
510          KM   Retrieve full flow capacity of 663 cfs from 120-inch storm drain pipe at the
511          KM   intersection of Cactus Road and 83rd Avenue
512          DR  DPCT83
             *
513          KK  RPCTLO   ROUTE
514          KM   Route full flow capacity of 663 cfs through 120-inch storm drain pipe in
515          KM   Cactus Road to the intersection of Cactus Road and SR Loop 101
516          RK    6334  0.0016   0.015             CIRC  10.000
             *
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```
 517          KK  CPCTLO COMBINE
 518          KM   Combine pipe return PRCT83 with the runoff hydrograph at combination point
 519          KM   CCTLO at the intersection of Cactus Road and SR Loop 101
 520          HC       2
              *

 521          KK  DSCTLO  DIVERT
 522          KM   Divert portion of runoff hydrograph from combination point CPCTLO south to
 523          KM   combination point CGRLO
 524          DT  DWNR01      0.0  1927.0
 525          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
 526          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

 527          KK  DSPELO  DIVERT
 528          KM   Divert remainder of runoff hydrograph from divert DSCTLO south to
 529          KM   combination point CGRLO
 530          DT  DSGR91      0.0     0.0
 531          DI     0.0  1299.0  1299.1 50000.0     0.0     0.0     0.0     0.0     0.0     0.0
 532          DQ     0.0     0.0  1299.1 50000.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

 533          KK    PE51   BASIN
 534          KM   Runoff hydrograph for subbasin PE51 northeast of the intersection of Peoria
 535          KM   Avenue and 51st Avenue
 536          BA   0.419
 537          LG    0.22    0.15    8.80    0.05      37
 538          UC   0.920   0.558
 539          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
1                                    HEC-1 INPUT                                           PAGE 14

LINE          ID.......1.......2.......3...... 4.......5.......6.......7.......8.......9......10

 540          UA     100
              *

 541          KK  DWPE59  DIVERT
 542          KM   Divert remaining runoff hydrograph from subbasin PE59 west to combination
 543          KM   point CPE59
 544          DT  DSOL51      0.0     0.0
 545          DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
 546          DQ     0.0    40.0    80.0   200.0   400.0   800.0  1600.0  4000.0  8000.0 20000.0
              *

 547          KK  RWPE59   ROUTE
 548          KM   Route diversion DWPE59 west to combination point CPE59
 549          RS       5    FLOW
 550          RC   0.035   0.015   0.035    5280  0.0042    0.00
 551          RX    0.00    0.00   79.50   79.50  468.50  468.50  548.00  548.00
 552          RY    3.00    1.30    0.50    0.00    0.00    0.50    1.30    3.00
              *

 553          KK  DRPE59RETRIEVE
 554          KM   Retrieve divert DRPE59 from subbasin CPCT59 and divert south to combination
 555          KM   point CPE59
 556          DR  DSPE59
              *

 557          KK  RSPE59   ROUTE
 558          KM   Route diversion retrieval DRPE59 south to combination point CPE59
 559          RS      10    FLOW
 560          RC   0.035   0.015   0.035    5280  0.0037    0.00
 561          RX    0.00    0.00   58.50   58.50  339.50  339.50  398.00  398.00
 562          RY    3.00    1.08    0.50    0.00    0.00    0.50    1.08    3.00
              *

 563          KK    PE59   BASIN
 564          KM   Runoff hydrograph for square mile subbasin PE59 northeast of the intersection
 565          KM   of Peoria Avenue and 59th Avenue
 566          BA   0.989
 567          LG    0.25    0.15    8.80    0.05      31
 568          UC   1.264   0.817
 569          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
 570          UA     100
              *

 571          KK  ERPE59  DIVERT
 572          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
 573          KM   retention developed after 1990 in subbasin PE59
 574          DT   XPE59      8.6     0.0
 575          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
 576          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 577          KK   CPE59 COMBINE
 578          KM   Combine route RWPE59, route RSPE59, and subbasin PE59
 579          HC       3    1.44
              *
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 580          KK  PR59CTRETRIEVE
 581          KM   Retrieve full flow capacity of 18 cfs from 30-inch storm drain pipe at the
 582          KM   intersection of Cactus Road and 59th Avenue
 583          DR  DP59CT
              *
              * KKRP59PE   ROUTE
              * KM Route full flow capacity of 18 cfs through 30-inch storm drain pipe in
              * KM 59th Avenue to the intersection of Peoria Avenue and 59th Avenue
              * RK  5358  0.0020   0.015            CIRC   2.500
              *

 584          KK  CPPE59 COMBINE
 585          KM   Combine pipe return PR59CT with the runoff hydrograph at combination point
 586          KM   CPE59 at the intersection of Peoria Avenue and 59th Avenue
 587          HC       2
              *

 588          KK   D59PE  DIVERT
 589          KM   Divert calculated full flow capapcity of 235 cfs into 78-inch storm drain
 590          KM   pipe at the intersection of Peoria Avenue and 59th Avenue
 591          DT  DP59PE      0.0   235.0
 592          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
 593          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

 594          KK  DWPE67  DIVERT
 595          KM   Divert remaining runoff hydrograph from combination point CPPE59 west to
 596          KM   combination point CPE67
 597          DT  DSOL59      0.0     0.0
 598          DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
 599          DQ     0.0    57.0   114.0   285.0   570.0  1140.0  2280.0  5700.0 11400.0 28500.0
              *

 600          KK  RWPE67   ROUTE
 601          KM   Route diversion DWPE67 west to combination point CPE67
 602          RS       5    FLOW
 603          RC   0.035   0.015   0.035    5280  0.0026    0.00
 604          RX    0.00    0.00   51.50   51.50  296.50  296.50  348.00  348.00
 605          RY    3.00    1.02    0.50    0.00    0.00    0.50    1.02    3.00
              *

 606          KK  DRPE67RETRIEVE
 607          KM   Retrieve divert DRPE67 from combination point CCT67 and divert south to
 608          KM   combination point CPE67
 609          DR  DSPE67
              *
1                                    HEC-1 INPUT                                           PAGE 16

LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 610          KK  RSPE67   ROUTE
 611          KM   Route diversion retrieval DRPE67 south to combination point CPE67
 612          RS       7    FLOW
 613          RC   0.035   0.015   0.035    5280  0.0022    0.00
 614          RX    0.00    0.00   58.50   58.50  339.50  339.50  398.00  398.00
 615          RY    3.00    1.08    0.50    0.00    0.00    0.50    1.08    3.00
              *

 616          KK    PE67   BASIN
 617          KM   Runoff hydrograph for square mile subbasin PE67 northeast of the intersection
 618          KM   of Peoria Avenue and 67th Avenue
 619          BA   0.962
 620          LG    0.23    0.15    7.60    0.09      36
 621          UC   1.295   0.864
 622          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
 623          UA     100
              *

 624          KK  ERPE67  DIVERT
 625          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
 626          KM   retention developed after 1990 in subbasin PE67
 627          DT   XPE67     55.4     0.0
 628          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
 629          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

 630          KK   CPE67 COMBINE
 631          KM   Combine route RWPE67, route RSPE67, and subbasin PE67
 632          HC       3    2.06
              *

 633          KK  SRPE67 STORAGE
 634          KM   Storage route runoff hydrograph from combination point CPE67 through
 635          KM     regional detention basin located in subbasin PE67
 636          KM   Stage-storage data from Sunnyside Park As-built records, 1991
 637          RS       1    STOR
 638          SV            5.24   11.27   12.67   18.77   26.81   35.20
 639          SQ                            217.00 2430.00 6873.0012627.00
 640          SE   87.00   88.00   89.00   89.20   90.00   91.00   92.00
              *

 641          KK   D67PE  DIVERT
```

```
          KM   Divert calculated full flow capapcity of 162 cfs into 60-inch storm drain
          KM   pipe at the intersection of Peoria Avenue and 67th Avenue
          DT  DP67PE      0.0    162.0
          DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
          DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
          *
1                                        HEC-1 INPUT                                                PAGE 17

        LINE      ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


          KK  DWPE75  DIVERT
          KM   Divert remaining runoff hydrograph from combination point CPE67 west to
          KM   combination point CPE75
          DT  DSOL67      0.0      0.0
          DI      0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0  10000.0  20000.0  50000.0
          DQ      0.0     38.0     76.0    190.0    380.0    760.0   1520.0   3800.0   7600.0  19000.0
          *

          KK  RWPE75   ROUTE
          KM   Route diversion DWPE75 west to combination point CPE75
          RS       7    FLOW
          RC   0.035   0.015   0.035    5280  0.0035    0.00
          RX    0.00    0.00   86.00   86.00  413.00  413.00  499.00  499.00
          RY    3.00    1.36    0.50    0.00    0.00    0.50    1.36    3.00
          *

          KK  DRPE75RETRIEVE
          KM   Retrieve divert DRPE75 from combination point CPCT75 and divert south to
          KM   combination point CPE75
          DR  DSPE75
          *

          KK  RSPE75   ROUTE
          KM   Route diversion retrieval DRPE75 south to combination point CPE75
          RS       4    FLOW
          RC   0.035   0.015   0.035    5280  0.0027    0.00
          RX    0.00    0.00   57.50   57.50  291.50  291.50  349.00  349.00
          RY    3.00    1.08    0.50    0.00    0.00    0.50    1.08    3.00
          *

          KK    PE75   BASIN
          KM   Runoff hydrograph for square mile subbasin PE75 northeast of the intersection
          KM   of Peoria Avenue and 75th Avenue
          BA   1.007
          LG    0.24    0.15    8.00    0.07      33
          UC   1.409   0.943
          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
          UA     100
          *

          KK  ERPE75  DIVERT
          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
          KM   retention developed after 1990 in subbasin PE75
          DT  XPE75       9.4      0.0
          DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
          DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
          *

          KK   CPE75 COMBINE
          KM   Combine route RWPE75, route RSPE75, and subbasin PE75
          HC       3     3.36
          *
1                                        HEC-1 INPUT                                                PAGE 18

        LINE      ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


          KK   D75PE  DIVERT
          KM   Divert calculated full flow capapcity of 179 cfs into 60-inch storm drain
          KM   pipe at the intersection of Peoria Avenue and 75th Avenue
          DT  DP75PE      0.0    179.0
          DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
          DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
          *

          KK  DWPE83  DIVERT
          KM   Divert remaining runoff hydrograph from combination point CPE75 west to
          KM   combination point CPE83
          DT  DSOL75      0.0      0.0
          DI      0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0  10000.0  20000.0  50000.0
          DQ      0.0     52.0    104.0    260.0    520.0   1040.0   2080.0   5200.0  10400.0  26000.0
          *

          KK  RWPE83   ROUTE
          KM   Route diversion DWPE83 west to combination point CPE83
          RS       3    FLOW
          RC   0.035   0.015   0.035    5280  0.0023    0.00
          RX    0.00    0.00   57.50   57.50  291.50  291.50  349.00  349.00
          RY    3.00    1.08    0.50    0.00    0.00    0.50    1.08    3.00
          *

          KK  DRPE83RETRIEVE
```



```
          KM   Retrieve divert DRPE83 from combination point CPCT83 and divert south to
          KM   combination point CPE83
          DR  DSPE83
          *

          KK  RSPE83   ROUTE
          KM   Route diversion retrieval DRPE83 south to combination point CPE83
          RS       4    FLOW
          RC   0.035   0.015   0.035    5280  0.0023    0.00
          RX    0.00    0.00   76.50   76.50  372.50  372.50  449.00  449.00
          RY    3.00    1.27    0.50    0.00    0.00    0.50    1.27    3.00
          *

          KK    PE83   BASIN
          KM   Runoff hydrograph for square mile subbasin PE83 northeast of the intersection
          KM   of Peoria Avenue, 83rd Avenue, and Grand Avenue
          BA   1.000
          LG    0.24    0.13   10.10    0.03      34
          UC   1.445   0.969
          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
          UA     100
          *

          KK  ERPE83  DIVERT
          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
          KM   retention developed after 1990 in subbasin PE83
          DT  XPE83       34.6      0.0
          DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
          DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
          *
1                                        HEC-1 INPUT                                                PAGE 19

        LINE      ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


          KK   CPE83 COMBINE
          KM   Combine route RWPE83, route RSPE83, and subbasin PE83
          HC       3     3.97
          *

          KK   DPE83  DIVERT
          KM   Divert calculated full flow capapcity of 112 cfs into 48-inch storm drain
          KM   pipe at the intersection of Peoria Avenue and 83rd Avenue
          DT  DPPE83      0.0    112.0
          DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
          DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
          *

          KK  DWGR91  DIVERT
          KM   Divert portion of runoff hydrograph from subbasin CPE83 west through subbasin
          KM   GR91 using the ratio of the widths and slopes od the streets going west and
          KM   the widths and slopes of the streets going south. The remaining flow is
          KM   diverted south through subbasin GR83
          DT  DSGR83      0.0      0.0
          DI      0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0  10000.0  20000.0  50000.0
          DQ      0.0     48.0     96.0    240.0    480.0    960.0   1920.0   4800.0   9600.0  24000.0
          *

          KK   DGR91  DIVERT
          KM   Divert portion of DWGR91 west to subbasin GR91 using the ratio of the width
          KM   of the collector and local streets and the width of the arterial street. The
          KM   remaining flow is diverted west to subbasin PE91 along Peoria Avenue
          DT  DWPE91      0.0      0.0
          DI      0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0  10000.0  20000.0  50000.0
          DQ      0.0     36.0     72.0    180.0    360.0    720.0   1440.0   3600.0   7200.0  18000.0
          *

          KK  DRGR91RETRIEVE
          KM   Retrieve divert DRGR91 from combination point CPCTLO and divert south to
          KM   combination point CGR91
          DR  DSGR91
          *

          KK  RSGR91   ROUTE
          KM   Route diversion retrieval DRGR91 south to combination point CGR91
          RS       3    FLOW
          RC   0.035   0.015   0.035    4969  0.0024    0.00
          RX    0.00    0.00   57.50   57.50  291.50  291.50  349.00  349.00
          RY    3.00    1.08    0.50    0.00    0.00    0.50    1.08    3.00
          *

          KK    GR91   BASIN
          KM   Runoff hydrograph for subbasin GR91 north of Grand Avenue and east of 91st
          KM   Avenue
          BA   0.514
          LG    0.25    0.13   10.10    0.03      37
          UC   0.915   0.466
          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
          UA     100
          *
1                                        HEC-1 INPUT                                                PAGE 20

        LINE      ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10
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770          KK  ERGR91  DIVERT
771          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
772          KM   retention developed after 1990 in subbasin GR91
773          DT  XGR91     25.5      0.0
774          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
775          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
             *

776          KK   CGR91 COMBINE
777          KM   Combine divert DGR91, route RSGR91, and subbasin GR91
778          HC        3     3.58
             *

779          KK  DWGRLO  DIVERT
780          KM   Divert portion of runoff hydrograph from combination point CGR91 west to the
781          KM   intersection of Grand Avenue and SR Loop 101 and the remaining flow south to
782          KM   the intersection of Peoria Avenue and Grand Avenue. The diversion is based on
783          KM   topography
784          DT  DSPE91      0.0      0.0
785          DI     0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0  10000.0  20000.0  50000.0
786          DQ     0.0     67.0    134.0    335.0    670.0   1340.0   2680.0   6700.0  13400.0  33500.0
             *

787          KK   CGRLO COMBINE
788          KM   Combine divert DWGRLO and divert DSPELO
789          HC        2     2.91
             *

790          KK  RSPELO   ROUTE
791          KM   Route hydrograph at combination point CGRLO south to combination point CIPEGR
792          RS        1     FLOW
793          RC   0.035   0.015   0.035     2704  0.0018     0.00
794          RX    0.00    3.00   13.00    25.00   35.00    47.00    57.00    60.00
795          RY    7.00    6.00    6.00     0.00    0.00     6.00     6.00     7.00
             *

796          KK  DSOLLO  DIVERT
797          KM   Divert remaining runoff hydrograph from combination point CPPELO south to
798          KM   combination point COLLO
799          DT  DWNR02      0.0  7462.0
800          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
801          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
             *

802          KK  DRPE91RETRIEVE
803          KM   Retrieve divert DRPE91 from combination point CPE83 and divert west to
804          KM   combination point CIPEGR
805          DR  DSPE91
             *
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LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9.....10

806          KK  SRGR91 STORAGE
807          KM   Storage route runoff hydrograph from divert retrieval DRPE91 through ponding
808          KM     area at Grand Avenue near the intersection of Peoria Avenue and 83rd Avenue
809          KM   Storage routing ID RES22 in Maryvale ADMS, Feb 1997 - comments from ADMS:
810          KM   PONDING AREA RESERVOIR ROUTE
811          KM   SUB-BASIN 22-31E
812          KM   PONDING AREA NORTHEAST OF GRAND AVENUE/RR EMBANKMENT
813          RS        1     STOR
814          SV              5.40     9.60    39.75
815          SQ              0.10  970.0010990.00
816          SE  1134.0 1136.00 1136.50 1138.00
             *

817          KK  DIPE91RETRIEVE
818          KM   Retrieve arterial street flow diverted to Peoria Avenue at the intersection
819          KM   of Peoria Avenue and Grand Avenue
820          DR  DWPE91
             *

821          KK  CIPEGR COMBINE
822          KM   Combine arterial street flow from Peoria Avenue DIPE91 with runoff hydrograph
823          KM   DRPE91 at the intersection of Peoria Avenue and Grand Avenue
824          HC        2     3.14
             *

825          KK  RWPE91   ROUTE
826          KM   Route hydrograph at combination point CIPEGR at the intersection of Peoria
827          KM   Avenue and Grand Avenue west to combination point CPE91
828          RS        3     FLOW
829          RC   0.035   0.015   0.035     5280  0.0037     0.00
830          RX    0.00    0.00   67.00    67.00  332.00   332.00   399.00   399.00
831          RY    3.00    1.17    0.50     0.00    0.00     0.50     1.17     3.00
             *

832          KK    PE91   BASIN
833          KM   Runoff hydrograph for subbasin PE91 northeast of the intersection of Peoria
834          KM   Avenue and 91st Avenue
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835          BA   0.509
836          LG    0.21    0.16    9.70    0.04      45
837          UC   0.852   0.455
838          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
839          UA     100
             *

840          KK  ERPE91  DIVERT
841          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
842          KM   retention developed after 1990 in subbasin PE91
843          DT  XPE91     13.1      0.0
844          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
845          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
             *
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LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9.....10

846          KK   CPE91 COMBINE
847          KM   Combine route RWPE91 and subbasin PE91
848          HC        2     3.65
             *

849          KK  PRPE83RETRIEVE
850          KM   Retrieve full flow capacity of 112 cfs from 48-inch storm drain pipe at the
851          KM   intersection of Peoria Avenue and 83rd Avenue
852          DR  DPPE83
             *

853          KK  RPPE91   ROUTE
854          KM   Route full flow capacity of 112 cfs through 48-inch storm drain pipe in
855          KM   Peoria Avenue to the intersection of Peoria Avenue and 91st Avenue
856          RK    5350  0.0061   0.015             CIRC    4.000
             *

857          KK  CPPE91 COMBINE
858          KM   Combine pipe return PRPE83 with the runoff hydrograph at combination point
859          KM   CPE91 at the intersection of Peoria Avenue and 91st Avenue
860          HC        2
             *

861          KK   DPE91  DIVERT
862          KM   Divert calculated full flow capapcity of 147 cfs into 72-inch storm drain
863          KM   pipe at the intersection of Peoria Avenue and 91st Avenue
864          DT  DPPE91      0.0    147.0
865          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
866          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
             *

867          KK  DWPELO  DIVERT
868          KM   Divert remaining runoff hydrograph from combination point CPPE91 west to
869          KM   combination point CPELO
870          DT  DSOL91      0.0      0.0
871          DI     0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0  10000.0  20000.0  50000.0
872          DQ     0.0     55.0    110.0    275.0    550.0   1100.0   2200.0   5500.0  11000.0  27500.0
             *

873          KK  RWPELO   ROUTE
874          KM   Route diversion DWPELO west to combination point CPELO
875          RS        1     FLOW
876          RC   0.035   0.015   0.035     1289  0.0017     0.00
877          RX    0.00    0.00   73.50    73.50  350.50   350.50   424.00   424.00
878          RY    3.00    1.23    0.50     0.00    0.00     0.50     1.23     3.00
             *

879          KK    PELO   BASIN
880          KM   Runoff hydrograph for subbasin PELO northeast of the intersection of Peoria
881          KM   Avenue and SR Loop 101
882          BA   0.271
883          LG    0.19    0.24    6.40    0.13      39
884          UC   1.024   0.844
885          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
```



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LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9.....10

886          UA     100
             *

887          KK  ERPELO  DIVERT
888          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
889          KM   retention developed after 1990 in subbasin PELO
890          DT  XPELO       8.3      0.0
891          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
892          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
             *

893          KK   CPELO COMBINE
894          KM   Combine route RWPELO, divert DSPELO, and subbasin PELO
895          HC        3     4.81
             *
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```
 896          KK  PRPE91RETRIEVE
 897          KM   Retrieve full flow capacity of 147 cfs from 72-inch storm drain pipe at the
 898          KM   intersection of Peoria Avenue and 91st Avenue
 899          DR  DPPE91
              *

 900          KK  RPPELO   ROUTE
 901          KM   Route full flow capacity of 147 cfs through 72-inch storm drain pipe in
 902          KM   Peoria Avenue to the intersection of Peoria Avenue and St Loop 101
 903          RK    1594  0.0012    0.015            CIRC    6.000
              *

 904          KK  CPPELO COMBINE
 905          KM   Combine pipe return PRPE91 with the runoff hydrograph at combination point
 906          KM   CPELO at the intersection of Peoria Avenue and SR Loop 101
 907          HC       2
              *

 908          KK   DPELO  DIVERT
 909          KM   Divert calculated full flow capapcity of 255 cfs into 72-inch storm drain
 910          KM   pipe at the intersection of Peoria Avenue and Loop 101
 911          DT  DPPELO       0.0     255.0
 912          DI       0.0 50000.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0
 913          DQ       0.0 50000.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0
              *

 914          KK  RSOLLO   ROUTE
 915          KM   Route diversion DSOLLO south to combination point COLLO
 916          RS       1     FLOW
 917          RC   0.035    0.015    0.035     5324   0.0018     0.00
 918          RX    0.00     3.00    13.00    33.00    63.00    83.00    93.00    96.00
 919          RY   11.00    10.00    10.00     0.00     0.00    10.00    10.00    11.00
              *
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LINE         ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

 920          KK    OL35   BASIN
 921          KM   Runoff hydrograph for subbasin OL35 northeast of the intersection of Olive
 922          KM   Avenue and 35th Avenue
 923          BA   0.214
 924          LG    0.10     0.25     5.40     0.23       58
 925          UC   0.697    0.700
 926          UA       0      5.0     16.0     30.0     65.0     77.0     84.0     90.0     94.0     97.0
 927          UA     100
              *

 928          KK   D35OL  DIVERT
 929          KM   Divert calculated full flow capapcity of 61 cfs into 42-inch storm drain
 930          KM   pipe at the intersection of Olive Avenue and 35th Avenue
 931          DT  DP35OL       0.0      61.0
 932          DI       0.0 50000.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0
 933          DQ       0.0 50000.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0
              *

 934          KK  DWOL43  DIVERT
 935          KM   Divert remaining runoff hydrograph from subbasin OL35 west to combination
 936          KM   point COL43
 937          DT  DSNO35       0.0       0.0
 938          DI       0.0     100.0     200.0     500.0    1000.0    2000.0    4000.0   10000.0   20000.0   50000.0
 939          DQ       0.0      70.0     140.0     350.0     700.0    1400.0    2800.0    7000.0   14000.0   35000.0
              *

 940          KK  RWOL43   ROUTE
 941          KM   Route diversion DWOL43 west to combination point COL43
 942          RS      10     FLOW
 943          RC   0.035    0.015    0.035     5280   0.0022     0.00
 944          RX    0.00     0.00    35.50    35.50   188.50   188.50   224.00   224.00
 945          RY    3.00     0.86     0.50     0.00     0.00     0.50     0.86     3.00
              *

 946          KK    OL43   BASIN
 947          KM   Runoff hydrograph for subbasin OL43 northeast of the intersection of Olive
 948          KM   Avenue and 43rd Avenue
 949          BA   0.635
 950          LG    0.25     0.25     5.40     0.20       33
 951          UC   1.253    0.768
 952          UA       0      5.0     16.0     30.0     65.0     77.0     84.0     90.0     94.0     97.0
 953          UA     100
              *

 954          KK   COL43 COMBINE
 955          KM   Combine route RWOL43 and subbasin OL43
 956          HC       2     0.70
              *
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LINE         ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

 957          KK   D43OL  DIVERT
 958          KM   Divert calculated full flow capapcity of 85 cfs into 48-inch storm drain
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 959          KM   pipe at the intersection of Olive Avenue and 43rd Avenue
 960          DT  DP43OL       0.0      85.0
 961          DI       0.0 50000.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0
 962          DQ       0.0 50000.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0
              *

 963          KK  DWOL51  DIVERT
 964          KM   Divert remaining runoff hydrograph from combination point COL43 west to
 965          KM   combination point COL51
 966          DT  DSNO43       0.0       0.0
 967          DI       0.0     100.0     200.0     500.0    1000.0    2000.0    4000.0   10000.0   20000.0   50000.0
 968          DQ       0.0      59.0     118.0     295.0     590.0    1180.0    2360.0    5900.0   11800.0   29500.0
              *

 969          KK  RWOL51   ROUTE
 970          KM   Route diversion DWOL51 west to combination point COL51
 971          RS       6     FLOW
 972          RC   0.035    0.015    0.035     5280   0.0035     0.00
 973          RX    0.00     0.00    47.50    47.50   230.50   230.50   278.00   278.00
 974          RY    3.00     0.98     0.50     0.00     0.00     0.50     0.98     3.00
              *

 975          KK  DROL51RETRIEVE
 976          KM   Retrieve divert DROL51 from subbasin CPE51 and divert south to combination
 977          KM   point COL51
 978          DR  DSOL51
              *

 979          KK  RSOL51   ROUTE
 980          KM   Route diversion retrieval DROL51 south to combination point COL51
 981          RS       6     FLOW
 982          RC   0.035    0.015    0.035     5280   0.0031     0.00
 983          RX    0.00     0.00    68.50    68.50   359.50   359.50   428.00   428.00
 984          RY    3.00     1.18     0.50     0.00     0.00     0.50     1.18     3.00
              *

 985          KK    OL51   BASIN
 986          KM   Runoff hydrograph for square mile subbasin OL51 northeast of the intersection
 987          KM   of Olive Avenue and 51st Avenue
 988          BA   0.993
 989          LG    0.23     0.15     7.30     0.10       35
 990          UC   1.301    0.866
 991          UA       0      5.0     16.0     30.0     65.0     77.0     84.0     90.0     94.0     97.0
 992          UA     100
              *

 993          KK  EROL51  DIVERT
 994          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
 995          KM   retention developed after 1990 in subbasin OL51
 996          DT   XOL51       6.0       0.0
 997          DI       0.0 50000.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0
 998          DQ       0.0 50000.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0
              *
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LINE         ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

 999          KK   COL51 COMBINE
1000          KM   Combine route RWOL51, route RSOL51, and subbasin OL51
1001          HC       3     1.45
              *

1002          KK   DOL51  DIVERT
1003          KM   Divert calculated full flow capapcity of 297 cfs into 78-inch storm drain
1004          KM   pipe at the intersection of Olive Avenue and 51st Avenue
1005          DT  DPOL51       0.0     297.0
1006          DI       0.0 50000.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0
1007          DQ       0.0 50000.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0
              *

1008          KK  DWOL59  DIVERT
1009          KM   Divert remaining runoff hydrograph from combination point COL51 west to
1010          KM   combination point COL59
1011          DT  DSNO51       0.0       0.0
1012          DI       0.0     100.0     200.0     500.0    1000.0    2000.0    4000.0   10000.0   20000.0   50000.0
1013          DQ       0.0      34.0      68.0     170.0     340.0     680.0    1360.0    3400.0    6800.0   17000.0
              *

1014          KK  RWOL59   ROUTE
1015          KM   Route diversion DWOL59 west to combination point COL59
1016          RS       4     FLOW
1017          RC   0.035    0.015    0.035     5280   0.0034     0.00
1018          RX    0.00     0.00    75.50    75.50   402.50   402.50   478.00   478.00
1019          RY    3.00     1.25     0.50     0.00     0.00     0.50     1.25     3.00
              *

1020          KK  DROL59RETRIEVE
1021          KM   Retrieve divert DROL59 from combination point CPPE59 and divert south to
1022          KM   combination point COL59
1023          DR  DSOL59
              *
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1024          KK  RSOL59   ROUTE
1025          KM   Route diversion retrieval DROL59 south to combination point COL59
1026          RS      5     FLOW
1027          RC   0.035   0.015   0.035    5280  0.0023    0.00
1028          RX    0.00    0.00   72.50   72.50  425.50  425.50  498.00  498.00
1029          RY    3.00    1.23    0.50    0.00    0.00    0.50    1.23    3.00
              *

1030          KK    OL59   BASIN
1031          KM   Runoff hydrograph for square mile subbasin OL59 northeast of the intersection
1032          KM   of Olive Avenue and 59th Avenue
1033          BA   0.990
1034          LG    0.24    0.15    8.80    0.05      34
1035          UC   1.336   0.890
1036          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
1037          UA     100
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


1038          KK  EROL59  DIVERT
1039          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
1040          KM   retention developed after 1990 in subbasin OL59
1041          DT   XOL59     21.9      0.0
1042          DI       0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
1043          DQ       0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

1044          KK   COL59 COMBINE
1045          KM   Combine route RWOL59, route RSOL59, and subbasin OL59
1046          HC       3    2.78
              *

1047          KK  PR59PERETRIEVE
1048          KM   Retrieve full flow capacity of 235 cfs from 78-inch storm drain pipe at the
1049          KM   intersection of Peoria Avenue and 59th Avenue
1050          DR  DP59PE
              *

1051          KK  RP59BR   ROUTE
1052          KM   Route full flow capacity of 235 cfs through 78-inch storm drain pipe in
1053          KM   59th Avenue to the intersection of Brown Street and 59th Avenue
1054          RK    1231  0.0020   0.015             CIRC   6.500
              *

1055          KK   DBR59  DIVERT
1056          KM   Divert calculated full flow capapcity of 161 cfs into 60-inch storm drain
1057          KM   pipe at the intersection of Brown Street and 59th Avenue
1058          DT   DPBR59      0.0    161.0
1059          DI       0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
1060          DQ       0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

1061          KK  RP59OL   ROUTE
1062          KM   Route full flow capacity of 161 cfs through 60-inch storm drain pipe in
1063          KM   59th Avenue to the intersection of Olive Avenue and 59th Avenue
1064          RK    1446  0.0031   0.015             CIRC   3.500
              *

1065          KK  PROL51RETRIEVE
1066          KM   Retrieve full flow capacity of 297 cfs from 78-inch storm drain pipe at the
1067          KM   intersection of Olive Avenue and 51st Avenue
1068          DR  DPOL51
              *

1069          KK  RPOL59   ROUTE
1070          KM   Route full flow capacity of 297 cfs through 78-inch storm drain pipe in
1071          KM   Olive Avenue to the intersection of Olive Avenue and 59th Avenue
1072          RK    5117  0.0032   0.015             CIRC   6.500
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


1073          KK  CPOL59 COMBINE
1074          KM   Combine pipe return PROL51 and the remainder of pipe return PR59PE with the
1075          KM   runoff hydrograph at combination point COL59 at the intersection of Olive
1076          KM   Avenue and 59th Avenue
1077          HC       3
              *

1078          KK   DOL59  DIVERT
1079          KM   Divert calculated full flow capapcity of 475 cfs into 90-inch storm drain
1080          KM   pipe at the intersection of Olive Avenue and 59th Avenue
1081          DT   DPOL59      0.0    475.0
1082          DI       0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
1083          DQ       0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

1084          KK  DWOL67  DIVERT
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1085          KM   Divert remaining runoff hydrograph from combination point CPOL59 west to
1086          KM   combination point COL67
1087          DT  DSNO59      0.0      0.0
1088          DI       0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
1089          DQ       0.0    61.0   122.0   305.0   610.0  1220.0  2440.0  6100.0 12200.0 30500.0
              *

1090          KK  RWOL67   ROUTE
1091          KM   Route diversion DWOL67 west to combination point COL67
1092          RS       3     FLOW
1093          RC   0.035   0.015   0.035    5280  0.0034    0.00
1094          RX    0.00    0.00   54.50   54.50  273.50  273.50  328.00  328.00
1095          RY    3.00    1.04    0.50    0.00    0.00    0.50    1.04    3.00
              *

1096          KK  DROL67RETRIEVE
1097          KM   Retrieve divert DROL67 from combination point CPE67 and divert south to
1098          KM   combination point COL67
1099          DR  DSOL67
              *

1100          KK  RSOL67   ROUTE
1101          KM   Route diversion retrieval DROL67 south to combination point COL67
1102          RS       7     FLOW
1103          RC   0.035   0.015   0.035    5280  0.0031    0.00
1104          RX    0.00    0.00   45.50   45.50  284.50  284.50  330.00  330.00
1105          RY    3.00    0.96    0.50    0.00    0.00    0.50    0.96    3.00
              *

1106          KK    OL67   BASIN
1107          KM   Runoff hydrograph for square mile subbasin OL67 northeast of the intersection
1108          KM   of Olive Avenue and 67th Avenue
1109          BA   0.960
1110          LG    0.23    0.15    8.40    0.07      36
1111          UC   1.159   0.764
1112          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
1113          UA     100
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


1114          KK  EROL67  DIVERT
1115          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
1116          KM   retention developed after 1990 in subbasin OL67
1117          DT   XOL67     39.8      0.0
1118          DI       0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
1119          DQ       0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

1120          KK   COL67 COMBINE
1121          KM   Combine route RWOL67, route RSOL67, and subbasin OL67
1122          HC       3    2.84
              *

1123          KK  PRBR59RETRIEVE
1124          KM   Retrieve full flow capacity of 161 cfs from 60-inch storm drain pipe at the
1125          KM   intersection of Brown Street and 59th Avenue
1126          DR  DPBR59
              *

1127          KK  RPBR63   ROUTE
1128          KM   Route full flow capacity of 161 cfs through 60-inch storm drain pipe in
1129          KM   63rd Avenue to the intersection of Brown Street and 63rd Avenue
1130          RK     528  0.0038   0.015             CIRC   5.000
              *

1131          KK  SRBR63 STORAGE
1132          KM   Storage route pipe flow PRBR59 from the storm drain in Brown Street
1133          KM     through regional detention basin located near the intersection of Brown
1134          KM     Street and 63rd Avenue
1135          KM   Stage-storage from Sahuaro Ranch Park - Phase VI Civil Survey, 1988
1136          RS       1    STOR
1137          SV            0.83    1.95    7.59    8.05    8.59
1138          SQ            9.00   25.00   52.00  201.00  474.00
1139          SE   57.00   58.00   59.00   63.00   63.20   63.50
              *

1140          KK  RP63OL   ROUTE
1141          KM   Route full flow capacity of 161 cfs through 60-inch storm drain pipe in
1142          KM   63rd Avenue to the intersection of Olive Avenue and 63rd Avenue
1143          RK    3878  0.0040   0.015             CIRC   2.500
              *

1144          KK  PROL59RETRIEVE
1145          KM   Retrieve full flow capacity of 475 cfs from 90-inch diameter pipe at the
1146          KM   intersection of Olive Avenue and 59th Avenue
1147          DR  DPOL59
              *

1148          KK  RPOL63   ROUTE
1149          KM   Route full flow capacity of 475 cfs through 90-inch storm drain pipe in
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1150          KM   in Olive Avenue to the intersection of Olive Avenue and 63rd Avenue
1151          RK    2835  0.0038   0.015            CIRC   7.500
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9.....10


1152          KK  CPOL63 COMBINE
1153          KM   Combine pipe return PROL67 with pipe return PRBR59 at the intersection of
1154          KM   Olive Avenue and 63rd Avenue
1155          HC       2    2.84
              *

1156          KK  RPOL67   ROUTE
1157          KM   Route full flow capacity of 161 cfs through 60inch storm drain pipe in
1158          KM   59th Avenue to the intersection of Olive Avenue and 59th Avenue
1159          RK    2409  0.0033   0.015            CIRC   7.500
              *

1160          KK  PR67PERETRIEVE
1161          KM   Retrieve full flow capacity of 161 cfs from 60-inch storm drain pipe at the
1162          KM   intersection of Olive Avenue and 67th Avenue
1163          DR  DP67PE
              *

1164          KK  RP67MV   ROUTE
1165          KM   Route full flow capacity of 162 cfs through 60-inch storm drain pipe in
1166          KM   67th Avenue to the intersection of Mountain View Road and 67th Avenue
1167          RK    2679  0.0039   0.015            CIRC   5.000
              *

1168          KK  SR67MV STORAGE
1169          KM   Storage route pipe flow PR67PE from storm drain in 67th Avenue through
1170          KM     regional detention basin located near the intersection of Mountain View
1171          KM     Road and 67th Avenue
1172          KM   Stage-storage from Chaparral Ranch Retention Basin Plans, 1984
1173          RS       1    STOR
1174          SV          2.29    2.93    3.65    5.28
1175          SQ         17.00  201.00  531.00 1457.00
1176          SE  1170.0 1171.00 1171.20 1171.50 1172.00
              *

1177          KK  RP67OL   ROUTE
1178          KM   Route full flow capacity of 175 cfs through 66-inch storm drain pipe in
1179          KM   67th Avenue to the intersection of Olive Avenue and 67th Avenue
1180          RK    2627  0.0027   0.015            CIRC   5.500
              *

1181          KK  CPOL67 COMBINE
1182          KM   Combine pipe return PR67PE with the runoff hydrograph at combination point
1183          KM   COL67 at the intersection of Olive Avenue and 67th Avenue
1184          HC       3
              *

1185          KK   DOL67  DIVERT
1186          KM   Divert calculated full flow capapcity of 662 cfs into 72-inch storm drain
1187          KM   pipe at the intersection of Olive Avenue and 67th Avenue
1188          DT  DPOL67      0.0   662.0
1189          DI      0.0 50000.0      0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
1190          DQ      0.0 50000.0      0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9.....10


1191          KK  DWOL75  DIVERT
1192          KM   Divert remaining runoff hydrograph from combination point CPOL67 west to
1193          KM   combination point COL75
1194          DT  DSNO67      0.0     0.0
1195          DI      0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
1196          DQ      0.0    44.0    88.0   220.0   440.0   880.0  1760.0  4400.0  8800.0 22000.0
              *

1197          KK  RWOL75   ROUTE
1198          KM   Route diversion DWOL75 west to combination point COL75
1199          RS       1    FLOW
1200          RC   0.035   0.015   0.035    5280  0.0031    0.00
1201          RX    0.00    0.00   67.00   67.00  332.00  332.00  399.00  399.00
1202          RY    3.00    1.17    0.50    0.00    0.00    0.50    1.17    3.00
              *

1203          KK  DROL75RETRIEVE
1204          KM   Retrieve divert DROL75 from combination point CPE75 and divert south to
1205          KM   combination point COL75
1206          DR  DSOL75
              *

1207          KK  RSOL75   ROUTE
1208          KM   Route diversion retrieval DROL75 south to combination point COL75
1209          RS       3    FLOW
1210          RC   0.035   0.015   0.035    5280  0.0027    0.00
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1211          RX    0.00    0.00   57.50   57.50  291.50  291.50  349.00  349.00
1212          RY    3.00    1.08    0.50    0.00    0.00    0.50    1.08    3.00
              *

1213          KK   OL75   BASIN
1214          KM   Runoff hydrograph for square mile subbasin OL75 northeast of the intersection
1215          KM   of Olive Avenue and 75th Avenue
1216          BA   1.004
1217          LG    0.23    0.15    8.80    0.06      32
1218          UC   1.344   0.896
1219          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
1220          UA     100
              *

1221          KK  EROL75  DIVERT
1222          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
1223          KM   retention developed after 1990 in subbasin OL75
1224          DT   XOL75     40.4     0.0
1225          DI       0.0 50000.0      0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
1226          DQ       0.0 50000.0      0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

1227          KK   COL75 COMBINE
1228          KM   Combine route RWOL75, route RSOL75, and subbasin OL75
1229          HC       3    4.34
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9.....10


1230          KK  PROL67RETRIEVE
1231          KM   Retrieve full flow capacity of 662 cfs from 72-inch storm drain pipe at the
1232          KM   intersection of Olive Avenue and 67th Avenue
1233          DR  DPOL67
              *

1234          KK  RPOL71   ROUTE
1235          KM   Route full flow capacity of 662 cfs through 72-inch storm drain pipe in
1236          KM   Olive Avenue to the intersection of Olive Avenue and 71st Avenue
1237          RK    2746  0.0243   0.015            CIRC   6.000
              *

1238          KK  CPOL71 COMBINE
1239          KM   Combine pipe return PROL67 with the runoff hydrograph at combination point
1240          KM   COL71 at the intersection of Olive Avenue and 71st Avenue
1241          HC       2
              *

1242          KK  SROL71 STORAGE
1243          KM   Storage route runoff hydrograph from combination point CPOL71 through
1244          KM     regional detention basin located near the intersection of Olive Avenue
1245          KM     and 71st Avenue
1246          KM   Stage-storage data from topography provided by FCDMC dated 3/28/1994
1247          RS       1    STOR
1248          SV          8.78   27.11   47.24   69.15   92.94  105.55  118.61
1249          SQ         57.00  147.00  148.00  184.00  213.00 2792.00 7494.00
1250          SE  1128.0 1130.00 1132.00 1134.00 1136.00 1138.00 1139.00 1140.00
              *

1251          KK   DOL71  DIVERT
1252          KM   Divert calculated full flow capapcity of 386 cfs into 78-inch storm drain
1253          KM   pipe at the intersection of Olive Avenue and 71st Avenue
1254          DT  DPOL71      0.0   386.0
1255          DI      0.0 50000.0      0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
1256          DQ      0.0 50000.0      0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

1257          KK  PR75PERETRIEVE
1258          KM   Retrieve full flow capacity of 179 cfs from 60-inch storm drain pipe at the
1259          KM   intersection of Peoria Avenue and 75th Avenue
1260          DR  DP75PE
              *

1261          KK  RP75OL   ROUTE
1262          KM   Route full flow capacity of 179 cfs through 60-inch storm drain pipe in
1263          KM   75th Avenue to the intersection of Olive Avenue and 75th Avenue
1264          RK    5035  0.0047   0.015            CIRC   5.000
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9.....10


1265          KK  PROL71RETRIEVE
1266          KM   Retrieve full flow capacity of 386 cfs from 78-inch storm drain pipe at the
1267          KM   intersection of Olive Avenue and 71st Avenue
1268          DR  DPOL71
              *

1269          KK  RPOL75   ROUTE
1270          KM   Route full flow capacity of 386 cfs through 78-inch storm drain pipe in
1271          KM   Olive Avenue to the intersection of Olive Avenue and 75th Avenue
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1272          RK    2971  0.0054   0.015            CIRC   6.500
              *

1273          KK  CPOL75 COMBINE
1274          KM   Combine pipe return PROL71 with the runoff hydrograph at combination point
1275          KM   COL75 at the intersection of Olive Avenue and 75th Avenue
1276          HC       3
              *

1277          KK   DOL75  DIVERT
1278          KM   Divert calculated full flow capapcity of 239 cfs into 90-inch storm drain
1279          KM   pipe at the intersection of Olive Avenue and 75th Avenue
1280          DT  DPOL75      0.0   239.0
1281          DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
1282          DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

1283          KK  DWGR83  DIVERT
1284          KM   Divert remaining runoff hydrograph from combination point CPOL75 west to
1285          KM   combination point CGR83
1286          DT  DSGR75      0.0      0.0
1287          DI      0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0  10000.0  20000.0  50000.0
1288          DQ      0.0     51.0    102.0    255.0    510.0   1020.0   2040.0   5100.0  10200.0  25500.0
              *

1289          KK  DRGR83RETRIEVE
1290          KM   Retrieve divert DRGR83 from combination point CPE83 and divert south to
1291          KM   combination point CGR83
1292          DR  DSGR83
              *

1293          KK   D83GR  DIVERT
1294          DT  DSOL83      0.0      0.0
1295          DI      0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0  10000.0  20000.0  50000.0
1296          DQ      0.0     28.0     56.0    140.0    280.0    560.0   1120.0   2800.0   5600.0  14000.0
              *

1297          KK  RSGR83   ROUTE
1298          KM   Route diversion D83GR south to combination point CGR83
1299          RS       10    FLOW
1300          RC   0.035   0.015   0.035    7145   0.0003     0.00
1301          RX    0.00    0.00   67.00   67.00   332.00   332.00   399.00   399.00
1302          RY    3.00    1.17    0.50    0.00     0.00     0.50     1.17     3.00
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1303          KK    GR83   BASIN
1304          KM   Runoff hydrograph for subbasin GR83 southeast of the intersection of Grand
1305          KM   Avenue and 83rd Avenue
1306          BA   0.468
1307          LG    0.18    0.14   10.10    0.03      53
1308          UC   0.880   0.487
1309          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
1310          UA     100
              *

1311          KK  ERGR83  DIVERT
1312          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
1313          KM   retention developed after 1990 in subbasin GR83
1314          DT  XGR83     29.7      0.0
1315          DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
1316          DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

1317          KK   CGR83 COMBINE
1318          KM   Combine divert DWGR83, route RSGR83, and subbasin GR83
1319          HC       3    3.99
              *

1320          KK  SRGR83 STORAGE
1321          KM   Storage routing ID RES26S in Maryvale ADMS, Feb 1997 - comments from ADMS:
1322          KM   PONDING AREA RESERVOIR ROUTE
1323          KM   SUB-BASIN 26-31E
1324          KM   PONDING AREA NORTHEAST OF GRAND AVENUE/RR EMBANKMENT
1325          KM   OUTFLOW REPRESENTS BOTH FLOW WEST (OVER THE RR EMBANKEMENT) AND
1326          KM   FLOW SOUTH OVER OLIVE AVENUE
1327          KM   ------------------------------------------------------------------------------
1328          KM   REVISION TO MARYVALE ADMS MODEL KHA --> COMBINED STORAGE AT 75TH AND 83RD AVE
1329          KM
1330          KM   Storage route runoff hydrograph from combination point CGR83 through ponding
1331          KM     area at Grand Avenue between 75th Avenue and 83rd Avenue
1332          KM   ------------------------------------------------------------------------------
1333          RS       1    STOR
1334          SV            3.40    27.60    58.20   102.60   145.28   278.39   315.39   329.41   339.52
1335          SV  350.22   367.41
1336          SQ       0      0.1      0.2      0.35  2170.1 4810.15  51070.   51070.   51070.     5117
1337          SQ  51230.  52040.
1338          SE   1132.   1134.   1136.   1137.   1138.  1138.5   1140.   1141.  1141.3    1141
1339          SE  1141.7   1142.
              *
```



```
1340          KK  DWOL83  DIVERT
1341          KM   Divert ID D26AW in Maryvale ADMS, Feb 1997
1342          KM   Divert remaining runoff hydrograph from combination point CGR83 west to
1343          KM   combination point COL83
1344          DT  DS75NO      0.0      0.0
1345          DI      0.0  2170.0  4810.0 52040.0      0.0      0.0      0.0      0.0      0.0      0.0
1346          DQ      0.0  2170.0  4160.0 51390.0      0.0      0.0      0.0      0.0      0.0      0.0
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1347          KK  RWOL83   ROUTE
1348          KM   Route diversion DWOL83 west to combination point COL83
1349          RS       1    FLOW
1350          RC   0.035   0.015   0.035    5280   0.0027     0.00
1351          RX    0.00    0.00   26.00   26.00   148.00   148.00   174.00   174.00
1352          RY    3.00    0.76    0.50    0.00     0.00     0.50     0.76     3.00
              *

1353          KK  DIOL83RETRIEVE
1354          KM   Retrieve arterial street flow diverted to 83rd Avenue at the intersection
1355          KM   of 83rd Avenue and Grand Avenue
1356          DR  DSOL83
              *

1357          KK  RSOL83   ROUTE
1358          KM   Route diversion retrieval DIOL83 south to combination point COL83
1359          RS       6    FLOW
1360          RC   0.035   0.015   0.035    5280   0.0031     0.00
1361          RX    0.00    0.00   67.00   67.00   332.00   332.00   399.00   399.00
1362          RY    3.00    1.17    0.50    0.00     0.00     0.50     1.17     3.00
              *

1363          KK   OL83   BASIN
1364          KM   Runoff hydrograph for subbasin OL83 northeast of the intersection
1365          KM   of Olive Avenue and 83rd Avenue
1366          BA   0.537
1367          LG    0.30    0.15   10.10    0.04      28
1368          UC   0.904   0.483
1369          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
1370          UA     100
              *

1371          KK  EROL83  DIVERT
1372          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
1373          KM   retention developed after 1990 in subbasin OL83
1374          DT  XOL83     13.9      0.0
1375          DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
1376          DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

1377          KK   COL83 COMBINE
1378          KM   Combine route RWOL83, route RSOL83, and subbasin OL83
1379          HC       3    1.06
              *

1380          KK   NO27   BASIN
1381          KM   Runoff hydrograph for subbasin NO27 northeast of the intersection of Northern
1382          KM   Avenue and 27th Avenue
1383          BA   0.126
1384          LG    0.18    0.15    8.80    0.05      63
1385          UC   0.754   0.978
1386          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
1387          UA     100
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1388          KK   D27NO  DIVERT
1389          KM   Divert calculated full flow capapcity of 114 cfs into 54-inch storm drain
1390          KM   pipe at the intersection of Northern Avenue and 27th Avenue
1391          DT  DP27NO      0.0    114.0
1392          DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
1393          DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

1394          KK  DWNO35  DIVERT
1395          KM   Divert remaining runoff hydrograph from subbasin NO27 west to combination
1396          KM   point CNO35
1397          DT  DSGL27      0.0      0.0
1398          DI      0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0  10000.0  20000.0  50000.0
1399          DQ      0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0  10000.0  20000.0  50000.0
              *

1400          KK  RWNO35   ROUTE
1401          KM   Route diversion DWNO35 west to combination point CNO35
1402          RS       1    FLOW
1403          RC   0.035   0.015   0.035    5280   0.0001     0.00
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1404          RX    0.00    0.00   76.50   76.50  372.50  372.50  449.00  449.00
1405          RY    3.00    1.27    0.50    0.00    0.00    0.50    1.27    3.00
                *
1406          KK  DRNO35RETRIEVE
1407          KM   Retrieve divert DRNO35 from subbasin OL35 and divert south to
1408          KM   combination point CNO35
1409          DR  DSNO35
                *
1410          KK  RSNO35   ROUTE
1411          KM   Route diversion retrieval DRNO35 south to combination point CNO35
1412          RS      10    FLOW
1413          RC   0.035   0.015   0.035    5280  0.0036    0.00
1414          RX    0.00    0.00   67.00   67.00  332.00  332.00  399.00  399.00
1415          RY    3.00    1.17    0.50    0.00    0.00    0.50    1.17    3.00
                *
1416          KK    NO35   BASIN
1417          KM   Runoff hydrograph for square mile subbasin NO35 northeast of the intersection
1418          KM   of Norhtern Avenue and 35th Avenue
1419          BA   0.991
1420          LG    0.24    0.25    5.80    0.17      38
1421          UC   1.471   0.901
1422          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
1423          UA     100
                *
1424          KK   CNO35 COMBINE
1425          KM   Combine route RWNO35, route RSNO35, and subbasin NO35
1426          HC       3    1.14
                *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9.....10

1427          KK  PR27NORETRIEVE
1428          KM   Retrieve full flow capacity of 114 cfs from 54-inch diameter pipe at the
1429          KM   intersection of Northern Avenue and 27th Avenue
1430          DR  DP27NO
                *
1431          KK  CPNO29 COMBINE
1432          KM   Combine pipe return PR27NO with the runoff hydrograph at combination point
1433          KM   CNO29 at the intersection of Northern Avenue and 29th Avenue
1434          HC       2
                *
1435          KK   D29NO  DIVERT
1436          KM   Divert calculated full flow capapcity of 114 cfs into 54-inch storm drain
1437          KM   pipe at the intersection of Northern Avenue and 29th Avenue
1438          DT  DP29NO      0.0   114.0
1439          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
1440          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
                *
1441          KK  PR35OLRETRIEVE
1442          KM   Retrieve full flow capacity of 61 cfs from 42-inch diameter pipe at the
1443          KM    intersection of Northern Avenue and 35th Avenue
1444          DR  DP35OL
                *
1445          KK  RP35NO   ROUTE
1446          KM   Route full flow capacity of 61 cfs through 42-inch storm drain pipe in
1447          KM   35th Avenue to the intersection of Northern Avenue and 35th Avenue
1448          RK    5191  0.0037   0.015             CIRC   3.500
                *
1449          KK  CPNO35 COMBINE
1450          KM   Combine pipe return PR35OL with the runoff hydrograph at combination point
1451          KM   CNO35 at the intersection of Northern Avenue and 35th Avenue
1452          HC       2
                *
1453          KK   D35NO  DIVERT
1454          KM   Capacity of storm drain in 31st Avenue and 35th Avenue diverted together.
1455          KM   Divert combined calculated full flow capacity of 26 cfs in the 30-inch storm
1456          KM   drain pipe in 31st Avenue and 87 cfs in the 48-inch storm drain pipe in
1457          KM   35th Avenue. The total calculated combined full flow capacity diverted at the
1458          KM   intersection of 35th Avenue and Northern Avenue is 113 cfs in an equivalent
1459          KM   diameter pipe of 53 inches
1460          DT  DP35NO      0.0   113.0
1461          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
1462          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
                *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9.....10

1463          KK  DWNO43  DIVERT
1464          KM   Divert remaining runoff hydrograph from combination point CPNO353 west to
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1465          KM   combination point CNO43
1466          DT  DSGL35      0.0     0.0
1467          DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
1468          DQ     0.0    46.0    92.0   230.0   460.0   920.0  1840.0  4600.0  9200.0 23000.0
                *
1469          KK  RWNO43   ROUTE
1470          KM   Route diversion DWNO43 west to combination point CNO43
1471          RS       7    FLOW
1472          RC   0.035   0.015   0.035    5280  0.0021    0.00
1473          RX    0.00    0.00  114.50  114.50  534.50  534.50  649.00  649.00
1474          RY    3.00    1.64    0.50    0.00    0.00    0.50    1.64    3.00
                *
1475          KK  DRNO43RETRIEVE
1476          KM   Retrieve divert DRNO43 from combination point COL43 and divert south to
1477          KM   combination point CNO43
1478          DR  DSNO43
                *
1479          KK  RSNO43   ROUTE
1480          KM   Route diversion retrieval DRNO43 south to combination point CNO43
1481          RS       6    FLOW
1482          RC   0.035   0.015   0.035    5280  0.0035    0.00
1483          RX    0.00    0.00   67.00   67.00  332.00  332.00  399.00  399.00
1484          RY    3.00    1.17    0.50    0.00    0.00    0.50    1.17    3.00
                *
1485          KK    NO43   BASIN
1486          KM   Runoff hydrograph for square mile subbasin NO43 northeast of the intersection
1487          KM   of Norhtern Avenue and 43rd Avenue
1488          BA   0.995
1489          LG    0.24    0.21    6.40    0.14      33
1490          UC   1.451   0.973
1491          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
1492          UA     100
                *
1493          KK   CNO43 COMBINE
1494          KM   Combine route RWNO43, route RSNO43, and subbasin NO43
1495          HC       3    2.02
                *
1496          KK  PR43OLRETRIEVE
1497          KM   Retrieve full flow capacity of 85 cfs from 48-inch storm drain pipe at the
1498          KM   intersection of Olive Avenue and 43rd Avenue
1499          DR  DP43OL
                *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9.....10

1500          KK  RP43NO   ROUTE
1501          KM   Route full flow capacity of 85 cfs through 48-inch storm drain pipe in
1502          KM   43rd Avenue to the intersection of Northern Avenue and 43rd Avenue
1503          RK    5100  0.0035   0.015             CIRC   4.000
                *
1504          KK  CPNO43 COMBINE
1505          KM   Combine pipe return PR43OL with the runoff hydrograph at combination point
1506          KM   CPNO43 at the intersection of Northern Avenue and 43rd Avenue
1507          HC       2
                *
1508          KK   D43NO  DIVERT
1509          KM   Capacity of storm drain in 43rd Avenue and 39th Avenue diverted together.
1510          KM   Divert combined calculated full flow capacity of 124 cfs in the 54-inch storm
1511          KM   drain pipe in 39th AVenue and 117 cfs in the 54-inch storm drain pipe in
1512          KM   43rd Avenue. The total calculated combined full flow capacity diverted at the
1513          KM   intersection of 43rd Avenue and Northern Avenue is 241 cfs in an equivalent
1514          KM   diameter pipe of 71 inches
1515          DT  DP43NO      0.0   241.0
1516          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
1517          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
                *
1518          KK  DWNO51  DIVERT
1519          KM   Divert remaining runoff hydrograph from combination point CPNO43 west to
1520          KM   combination point CNO51
1521          DT  DSGL43      0.0     0.0
1522          DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
1523          DQ     0.0    51.0   102.0   255.0   510.0  1020.0  2040.0  5100.0 10200.0 25500.0
                *
1524          KK  RWNO51   ROUTE
1525          KM   Route diversion DWNO51 west to combination point CNO51
1526          RS       5    FLOW
1527          RC   0.035   0.015   0.035    5280  0.0019    0.00
1528          RX    0.00    0.00   65.50   65.50  382.50  382.50  448.00  448.00
1529          RY    3.00    1.16    0.50    0.00    0.00    0.50    1.16    3.00
                *
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1530          KK  DRNO51RETRIEVE
1531          KM   Retrieve divert DRNO51 from combination point COL51 and divert south to
1532          KM   combination point CNO51
1533          DR  DSNO51
              *
1534          KK  RSNO51   ROUTE
1535          KM   Route diversion retrieval DRNO51 south to combination point CNO51
1536          RS      6    FLOW
1537          RC   0.035   0.015   0.035    5280  0.0019    0.00
1538          RX    0.00    0.00   54.50   54.50  273.50  273.50  328.00  328.00
1539          RY    3.00    1.04    0.50    0.00    0.00    0.50    1.04    3.00
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1540          KK   NO51   BASIN
1541          KM   Runoff hydrograph for square mile subbasin NO51 northeast of the intersection
1542          KM   of Norhtern Avenue and 51st Avenue
1543          BA   0.993
1544          LG    0.24    0.25    6.00    0.16      36
1545          UC   1.414   0.947
1546          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
1547          UA     100
              *
1548          KK   CNO51 COMBINE
1549          KM   Combine route RWNO51, route RSNO51, and subbasin NO51
1550          HC       3    2.47
              *
1551          KK   DNO51  DIVERT
1552          KM   Divert calculated full flow capapcity of 168 cfs into 66-inch storm drain
1553          KM   pipe at the intersection of Northern Avenue and 51st Avenue
1554          DT  DPNO51      0.0   168.0
1555          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
1556          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *
1557          KK  DWNO59  DIVERT
1558          KM   Divert remaining runoff hydrograph from combination point CNO51 west to
1559          KM   combination point CNO59
1560          DT  DSGL51      0.0     0.0
1561          DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
1562          DQ     0.0    44.0    88.0   220.0   440.0   880.0  1760.0  4400.0  8800.0 22000.0
              *
1563          KK  RWNO59   ROUTE
1564          KM   Route diversion DWNO59 west to combination point CNO59
1565          RS       3    FLOW
1566          RC   0.035   0.015   0.035    5280  0.0040    0.00
1567          RX    0.00    0.00   58.50   58.50  339.50  339.50  398.00  398.00
1568          RY    3.00    1.08    0.50    0.00    0.00    0.50    1.08    3.00
              *
1569          KK  DRNO59RETRIEVE
1570          KM   Retrieve divert DRNO59 from combination point CPOL59 and divert south to
1571          KM   combination point CNO59
1572          DR  DSNO59
              *
1573          KK  RSNO59   ROUTE
1574          KM   Route diversion retrieval DRNO59 south to combination point CNO59
1575          RS       4    FLOW
1576          RC   0.035   0.015   0.035    5280  0.0024    0.00
1577          RX    0.00    0.00   86.50   86.50  511.50  511.50  598.00  598.00
1578          RY    3.00    1.36    0.50    0.00    0.00    0.50    1.36    3.00
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1579          KK   NO59   BASIN
1580          KM   Runoff hydrograph for square mile subbasin NO59 northeast of the intersection
1581          KM   of Norhtern Avenue and 59th Avenue
1582          BA   0.992
1583          LG    0.25    0.15    7.60    0.09      28
1584          UC   1.362   0.908
1585          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
1586          UA     100
              *
1587          KK  ERNO59  DIVERT
1588          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
1589          KM   retention developed after 1990 in subbasin NO59
1590          DT   XNO59    16.5     0.0
1591          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
1592          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *
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1593          KK   CNO59 COMBINE
1594          KM   Combine route RWNO59, route RSNO59, and subbasin NO59
1595          HC       3    4.06
              *
1596          KK  SRNO59 STORAGE
1597          KM   Storage route runoff hydrograph from combination point CNO59 through
1598          KM     regional detention basin located in subbasin NO59
1599          KM   Combined storage from two retention basins
1600          KM   Stage-storage data from Butler Park Detention Basin As-built record, 1991 and
1601          KM     Butler Park Street Improvements Retention Basin As-built record, 1990
1602          RS       1    STOR
1603          SV            1.87    4.65    7.68   15.59
1604          SQ                                 2430.00
1605          SE   96.00   97.00   98.00   99.00  100.00
              *
1606          KK  PRNO51RETRIEVE
1607          KM   Retrieve full flow capacity of 168 cfs from 66-inch storm drain pipe at the
1608          KM   intersection of Northern Avenue and 51st Avenue
1609          DR  DPNO51
              *
1610          KK  RPNO59   ROUTE
1611          KM   Route full flow capacity of 168 cfs through 66-inch storm drain pipe in
1612          KM   Northern Avenue to the intersection of Northern Avenue and 51st Avenue
1613          RK    5146  0.0025   0.015             CIRC   5.500
              *
1614          KK  CPNO59 COMBINE
1615          KM   Combine pipe return PRNO51 with the runoff hydrograph at combination point
1616          KM   CNO59 at the intersection of Northern Avenue and 59th Avenue
1617          HC       2
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1618          KK   DNO59  DIVERT
1619          KM   Divert calculated full flow capapcity of 134 cfs into 72-inch storm drain
1620          KM   pipe at the intersection of Northern Avenue and 59th Avenue
1621          DT  DPNO59      0.0   134.0
1622          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
1623          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *
1624          KK  DWNO67  DIVERT
1625          KM   Divert remaining runoff hydrograph from combination point CPNO59 west to
1626          KM   combination point CNO67
1627          DT  DSGL59      0.0     0.0
1628          DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
1629          DQ     0.0    33.0    66.0   165.0   330.0   660.0  1320.0  3300.0  6600.0 16500.0
              *
1630          KK  RWNO67   ROUTE
1631          KM   Route diversion DWNO67 west to combination point CNO67
1632          RS       3    FLOW
1633          RC   0.035   0.015   0.035    5280  0.0029    0.00
1634          RX    0.00    0.00   58.50   58.50  339.50  339.50  398.00  398.00
1635          RY    3.00    1.08    0.50    0.00    0.00    0.50    1.08    3.00
              *
1636          KK  DRNO67RETRIEVE
1637          KM   Retrieve divert DRNO67 from combination point CPOL67 and divert south to
1638          KM   combination point CNO67
1639          DR  DSNO67
              *
1640          KK  RSNO67   ROUTE
1641          KM   Route diversion retrieval DRNO67 south to combination point CNO67
1642          RS       3    FLOW
1643          RC   0.035   0.015   0.035    5280  0.0019    0.00
1644          RX    0.00    0.00   58.50   58.50  339.50  339.50  398.00  398.00
1645          RY    3.00    1.08    0.50    0.00    0.00    0.50    1.08    3.00
              *
1646          KK   NO67   BASIN
1647          KM   Runoff hydrograph for square mile subbasin NO67 northeast of the intersection
1648          KM   of Norhtern Avenue and 67th Avenue
1649          BA   0.956
1650          LG    0.27    0.15    8.80    0.06      37
1651          UC   1.310   0.878
1652          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
1653          UA     100
              *
1654          KK  ERNO67  DIVERT
1655          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
1656          KM   retention developed after 1990 in subbasin NO67
1657          DT   XNO67    39.4     0.0
1658          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
1659          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
```

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  LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


  1660          KK   CNO67 COMBINE
  1661          KM   Combine route RWNO67, route RSNO67, and subbasin NO67
  1662          HC       3    4.93
                *

  1663          KK  DWGR75  DIVERT
  1664          KM   Divert portion of runoff hydrograph from subbasin CNO67 west through subbasin
  1665          KM   GR75 using the ratio of the widths and slopes of the streets going west and
  1666          KM   the widths and slopes of the streets going south. The remaining flow is
  1667          KM   diverted south through subbasin GR67
  1668          DT  DSGR67     0.0     0.0
  1669          DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
  1670          DQ     0.0    65.0   130.0   325.0   650.0  1300.0  2600.0  6500.0 13000.0 32500.0
                *

  1671          KK   DGR75  DIVERT
  1672          KM   Divert portion of DWGR75 west to subbasin GR75 using the ratio of the width
  1673          KM   of the collector and local streets and the width of the arterial street. The
  1674          KM   remaining flow is diverted west to subbasin NO75 along Northern Avenue
  1675          DT  DWNO75     0.0     0.0
  1676          DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
  1677          DQ     0.0    33.0    66.0   165.0   330.0   660.0  1320.0  3300.0  6600.0 16500.0
                *

  1678          KK  RWGR75   ROUTE
  1679          KM   Route diversion DGR75 west to combination point CGR75
  1680          RS       9    FLOW
  1681          RC   0.035   0.015   0.035    7409  0.0008    0.00
  1682          RX    0.00    0.00   44.50   44.50  253.50  253.50  298.00  298.00
  1683          RY    3.00    0.94    0.50    0.00    0.00    0.50    0.94    3.00
                *

  1684          KK  DRGR75RETRIEVE
  1685          KM   Retrieve divert DRGR75 from combination point CPOL75 and divert south to
  1686          KM   combination point CGR75
  1687          DR  DSGR75
                *

  1688          KK   D75GR  DIVERT
  1689          KM   Divert portion of divert retrieval DRGR75 south to subbasin NO75 along
  1690          KM   collector and local streets. The remaining flow is diverted south to subbasin
  1691          KM   GR75 along 75th Avenue to combination point CGR75
  1692          DT  DSNO75     0.0     0.0
  1693          DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
  1694          DQ     0.0    36.0    72.0   180.0   360.0   720.0  1440.0  3600.0  7200.0 18000.0
                *

  1695          KK    GR75   BASIN
  1696          KM   Runoff hydrograph for subbasin GR75 southeast of the intersection of Grand
  1697          KM   Avenue and 75th Avenue
  1698          BA   0.496
  1699          LG    0.25    0.17    8.80    0.05      42
  1700          UC   0.797   0.422
  1701          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
1                                         HEC-1 INPUT                                         PAGE 44

  LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

  1702          UA     100
                *

  1703          KK  ERGR75  DIVERT
  1704          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
  1705          KM   retention developed after 1990 in subbasin GR75
  1706          DT   XGR75    18.0     0.0
  1707          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
  1708          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
                *

  1709          KK   CGR75 COMBINE
  1710          KM   Combine runoff hydrographs from route RWGR75, divert D75GR, and subbasin GR75
  1711          HC       3    3.09
                *

  1712          KK  SRGR75 STORAGE
  1713          KM   Storage route runoff hydrograph from combination point CGR75 through regional
  1714          KM     detention basin located near the intersection of Grand Avenue and Olive
  1715          KM     Avenue
  1716          KM   Stage-storage-discharge data from State Highway Wickenburg-Phoenix Highway
  1717          KM     (US 60), Grand Ave: 75th Ave-Olive Ave As-builts, ADOT, August 2004
  1718          RS       1    STOR
  1719          SV     0.0     0.4     2.1     4.8     7.7    14.0    21.0    28.7    37.2    46.3
  1720          SV    56.2    66.9    72.6    75.5    78.4
  1721          SQ     0.0     8.0    20.0    25.0    29.0    36.0    42.0    47.0    52.0    56.0
  1722          SQ    60.0    64.0    66.0   305.0  1417.0
  1723          SE  1118.0  1119.0  1120.0  1121.0  1122.0  1124.0  1126.0  1128.0  1130.0  1132.0
  1724          SE  1134.0  1136.0  1137.0  1137.5  1138.0
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                *
  1725          KK  PROL75RETRIEVE
  1726          KM   Retrieve full flow capacity of 239 cfs from 90-inch storm drain pipe at the
  1727          KM   intersection of Olive Avenue and 75th Avenue
  1728          DR  DPOL75
                *

  1729          KK  CPOLGR COMBINE
                * KO              2
  1730          KM   Combine pipe return PROL75 with storage route SRGR75 at combination point
  1731          KM   CPOLGR at the intersection of Olive Avenue and Grand Avenue
  1732          HC       2
                *

  1733          KK  DPOLGR  DIVERT
                * KO              2
  1734          KM   Divert calculated full flow capapcity of 239 cfs into 90-inch storm drain
  1735          KM   pipe at the intersection of Olive Avenue and Grand Avenue. The pipe flow is
  1736          KM   followed to combination point CPOL83 and the remaining surface flow is
  1737          KM   diverted to combination point CIGR75 at the intersection of Grand Avenue and
  1738          KM   75th Avenue
  1739          DT   DOLGR     0.0     0.0
  1740          DI     0.0   239.0   239.1 50000.0     0.0     0.0     0.0     0.0     0.0     0.0
  1741          DQ     0.0     0.0     0.1 49761.0     0.0     0.0     0.0     0.0     0.0     0.0
                *
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  LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


  1742          KK  RPOL83   ROUTE
  1743          KM   Route full flow capacity of 239 cfs through 90-inch storm drain pipe in
  1744          KM   Olive Avenue to the intersection of Olive Avenue and 83rd Avenue
  1745          RK    4974  0.0010   0.015             CIRC   7.500
                *

  1746          KK  CPOL83 COMBINE
  1747          KM   Combine pipe return PROL75 with the runoff hydrograph at combination point
  1748          KM   COL83 at the intersection of Olive Avenue and 83rd Avenue
  1749          HC       2
                *

  1750          KK  SROL83 STORAGE
  1751          KM   Storage route runoff hydrograph from combination point CPOL83 through
  1752          KM     regional detention basin located near the intersection of Olive Avenue
  1753          KM     and 83rd Avenue
  1754          KM   Stage-storage data from topography provided by FCDMC dated 3/28/1994
  1755          RS       1    STOR
  1756          SV            5.45   13.07   21.61   23.90   26.31   31.42
  1757          SQ           57.00  147.00  148.00  635.00 1517.00 4002.00
  1758          SE  1118.0 1120.00 1122.00 1124.00 1124.50 1125.00 1126.00
                *

  1759          KK   DOL83  DIVERT
  1760          KM   Divert calculated full flow capapcity of 243 cfs into 90-inch storm drain
  1761          KM   pipe at the intersection of Olive Avenue and 83rd Avenue
  1762          DT  DPOL83     0.0   243.0
  1763          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
  1764          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
                *

  1765          KK  DWOL91  DIVERT
  1766          KM   Divert remaining runoff hydrograph from combination point CPOL83 west to
  1767          KM   combination point COL91
  1768          DT  DSNO83     0.0     0.0
  1769          DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
  1770          DQ     0.0    39.0    78.0   195.0   390.0   780.0  1560.0  3900.0  7800.0 19500.0
                *

  1771          KK  RWOL91   ROUTE
  1772          KM   Route diversion DWOL91 west to combination point COL91
  1773          RS       8    FLOW
  1774          RC   0.035   0.015   0.035    5280  0.0025    0.00
  1775          RX    0.00    0.00   76.50   76.50  372.50  372.50  449.00  449.00
  1776          RY    3.00    1.27    0.50    0.00    0.00    0.50    1.27    3.00
                *

  1777          KK  DROL91RETRIEVE
  1778          KM   Retrieve divert DROL91 from combination point CPPE91 and divert south to
  1779          KM   combination point COL91
  1780          DR  DSOL91
                *
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  LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


  1781          KK  RSOL91   ROUTE
  1782          KM   Route diversion retrieval DROL91 south to combination point COL91
  1783          RS       4    FLOW
  1784          RC   0.035   0.015   0.035    5280  0.0019    0.00
  1785          RX    0.00    0.00   86.00   86.00  413.00  413.00  499.00  499.00
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1786          RY    3.00    1.36    0.50    0.00    0.00    0.50    1.36    3.00
              *

1787          KK    OL91    BASIN
1788          KM   Runoff hydrograph for square mile subbasin OL91 northeast of the intersection
1789          KM   of Olive Avenue and 91st Avenue
1790          BA   1.016
1791          LG    0.22    0.15    9.70    0.04      40
1792          UC   1.301   0.865
1793          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
1794          UA     100
              *

1795          KK  EROL91  DIVERT
1796          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
1797          KM   retention developed after 1990 in subbasin OL91
1798          DT   XOL91    44.9     0.0
1799          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
1800          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

1801          KK   COL91 COMBINE
1802          KM   Combine route RWOL91, route RSOL91, and subbasin OL91
1803          HC       3    3.68
              *

1804          KK  PROL83RETRIEVE
1805          KM   Retrieve full flow capacity of 243 cfs from 90-inch storm drain pipe at the
1806          KM   intersection of Olive Avenue and 83rd Avenue
1807          DR  DPOL83
              *

1808          KK  RPOL91   ROUTE
1809          KM   Route full flow capacity of 243 cfs through 90-inch storm drain pipe in
1810          KM   Olive Avenue to the intersection of Olive Avenue and 91st Avenue
1811          RK    5184  0.0010   0.015             CIRC   7.500
              *

1812          KK  CPOL91 COMBINE
1813          KM   Combine pipe return PROL83 with the runoff hydrograph at combination point
1814          KM   COL91 at the intersection of Olive Avenue and 91st Avenue
1815          HC       2
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1816          KK  DWOLLO  DIVERT
1817          KM   Divert remaining runoff hydrograph from combination point CPOL91 west to
1818          KM   combination point COLLO
1819          DT  DSNO91      0.0      0.0
1820          DI      0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0  10000.0  20000.0  50000.0
1821          DQ      0.0     67.0    134.0    335.0    670.0   1340.0   2680.0   6700.0  13400.0  33500.0
              *

1822          KK  RWOLLO   ROUTE
1823          KM   Route diversion DWOLLO west to combination point COLLO
1824          RS       1    FLOW
1825          RC   0.035   0.015   0.035     600  0.0039    0.00
1826          RX    0.00    0.00   16.50   16.50  107.50  107.50  124.00  124.00
1827          RY    3.00    0.66    0.50    0.00    0.00    0.50    0.66    3.00
              *

1828          KK    OLLO   BASIN
1829          KM   Runoff hydrograph for subbasin OLLO northeast of the intersection of Olive
1830          KM   Avenue and SR Loop 101
1831          BA   0.160
1832          LG    0.10    0.15    8.80    0.05      85
1833          UC   0.651   0.715
1834          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
1835          UA     100
              *

1836          KK  EROLLO  DIVERT
1837          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
1838          KM   retention developed after 1990 in subbasin OLLO
1839          DT   XOLLO     11.4     0.0
1840          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
1841          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

1842          KK   COLLO COMBINE
1843          KM   Combine route RWOLLO, route RSOLLO, and subbasin OLLO
1844          HC       3    6.18
              *

1845          KK  RSNOLO   ROUTE
1846          KM   Route hydrograph at combination point COLLO south to combination point CNOLO
1847          RS       2    FLOW
1848          RC   0.035   0.015   0.035    6136  0.0023    0.00
1849          RX    0.00    4.00   16.00   26.00   34.00   44.00   56.00   59.00
1850          RY    6.24    5.24    5.00    0.00    0.20    5.20    5.44    6.44
```



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              *

1851          KK  DROLGRRETRIEVE
1852          KM   Retrieve remaining surface flow runoff hydrograph DROLGR following pipe
1853          KM   diversion DPOLGR after combination point CPOLGR at the intersection of Grand
1854          KM   Avenue and Olive Avenue
1855          DR   DOLGR
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1856          KK  DI75NORETRIEVE
1857          KM   Retrieve arterial street flow diverted to 75th Avenue at the intersection
1858          KM   of 75th Avenue and Grand Avenue
1859          DR  DSNO75
              *

1860          KK  DR75NORETRIEVE
1861          KM   Retrieve divert DR75NO from combination point CGR83 and divert south to
1862          KM   combination point CIGR75
1863          DR  DS75NO
              *

1864          KK  CIGR75 COMBINE
1865          KM   Combine arterial street flow from 75th Avenue DI75NO, divert retrieval DR75NO
1866          KM   and storage route SRGR75 at the intersection of 75th Avenue and Grand Avenue
1867          HC       3    7.85
              *

1868          KK  RSNO75   ROUTE
1869          KM   Route hydrograph at intersection combination point CIGR75
1870          KM   south to combination point CNO75
1871          RS       2    FLOW
1872          RC   0.035   0.015   0.035    5280  0.0019    0.00
1873          RX    0.00    0.00   29.00   29.00  170.00  170.00  199.00  199.00
1874          RY    3.00    0.79    0.50    0.00    0.00    0.50    0.79    3.00
              *

1875          KK  DINO75RETRIEVE
1876          KM   Retrieve arterial street flow diverted to Northern Avenue and 75th Avenue
1877          KM   from the intersection of Northern Avenue and 67th Avenue
1878          DR  DWNO75
              *

1879          KK  RWNO75   ROUTE
1880          KM   Route diversion retrieval DINO75 at the intersection of Norhtern Avenue
1881          KM   and 75th Avenue west to combination point CNO75
1882          RS       4    FLOW
1883          RC   0.035   0.015   0.035    5280  0.0030    0.00
1884          RX    0.00    0.00   16.50   16.50  107.50  107.50  124.00  124.00
1885          RY    3.00    0.66    0.50    0.00    0.00    0.50    0.66    3.00
              *

1886          KK    NO75   BASIN
1887          KM   Runoff hydrograph for subbasin NO75 northeast of the intersection of
1888          KM   Norhtern Avenue and 75th Avenue
1889          BA   0.506
1890          LG    0.21    0.15    8.40    0.07      58
1891          UC   0.739   0.387
1892          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
1893          UA     100
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1894          KK  ERNO75  DIVERT
1895          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
1896          KM   retention developed after 1990 in subbasin NO75
1897          DT   XNO75      6.6     0.0
1898          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
1899          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

1900          KK   CNO75 COMBINE
1901          KM   Combine route RWNO75, route RSNO75, and subbasin NO75
1902          HC       3    8.93
              *

1903          KK   DNO75  DIVERT
1904          KM   Divert calculated full flow capapcity of 161 cfs into 60-inch storm drain
1905          KM   pipe at the intersection of Northern Avenue and 75th Avenue
1906          DT  DPNO75      0.0   161.0
1907          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
1908          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

1909          KK  DWNO83  DIVERT
1910          KM   Divert remaining runoff hydrograph from combination point CNO75 west to
1911          KM   combination point CNO83
```

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1912          DT  DSOW75     0.0     0.0
1913          DI    0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
1914          DQ    0.0    48.0    96.0   240.0   480.0   960.0  1920.0  4800.0  9600.0 24000.0
              *

1915          KK  RWNO83   ROUTE
1916          KM   Route diversion DWNO83 west to combination point CNO83
1917          RS       2    FLOW
1918          RC   0.035   0.015   0.035    5280  0.0048     0.00
1919          RX    0.00    0.00   35.50   35.50  188.50  188.50  224.00  224.00
1920          RY    3.00    0.86    0.50    0.00    0.00    0.50    0.86    3.00
              *

1921          KK  DRNO83RETRIEVE
1922          KM   Retrieve divert DRNO83 from combination point COL83 and divert south to
1923          KM   combination point CNO83
1924          DR  DSNO83
              *

1925          KK  RSNO83   ROUTE
1926          KM   Route diversion retrieval DRNO83 south to combination point CNO83
1927          RS       6    FLOW
1928          RC   0.035   0.015   0.035    5280  0.0040     0.00
1929          RX    0.00    0.00   35.50   35.50  188.50  188.50  224.00  224.00
1930          RY    3.00    0.86    0.50    0.00    0.00    0.50    0.86    3.00
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1931          KK    NO83   BASIN
1932          KM   Runoff hydrograph for square mile subbasin NO83 northeast of the intersection
1933          KM   of Norhtern Avenue and 83rd Avenue
1934          BA   1.005
1935          LG    0.33    0.15    8.80    0.07      35
1936          UC   1.142   0.747
1937          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
1938          UA     100
              *

1939          KK  ERNO83  DIVERT
1940          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
1941          KM   retention developed after 1990 in subbasin NO83
1942          DT   XNO83     22.2      0.0
1943          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
1944          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

1945          KK   CNO83 COMBINE
1946          KM   Combine route RWNO83, route RSNO83, and subbasin NO83
1947          HC       3    6.05
              *

1948          KK  PRNO75RETRIEVE
1949          KM   Retrieve full flow capacity of 161 cfs from 60-inch storm drain pipe at the
1950          KM   intersection of Thunderbird Road and 75th Avenue
1951          DR  DPNO75
              *

1952          KK  RPNO83   ROUTE
1953          KM   Route full flow capacity of 161 cfs through 60-inch storm drain pipe in
1954          KM   Northern Avenue to the intersection of Northern Avenue and 83rd Avenue
1955          RK    5291  0.0038   0.015            CIRC   5.000
              *

1956          KK  CPNO83 COMBINE
1957          KM   Combine pipe return PRNO75 with the runoff hydrograph at combination point
1958          KM   CNO83 at the intersection of Northern Avenue and 83rd Avenue
1959          HC       2
              *

1960          KK   DNO83  DIVERT
1961          KM   Divert calculated full flow capapcity of 233 cfs into 72-inch storm drain
1962          KM   pipe at the intersection of Northern Avenue and 83rd Avenue
1963          DT  DPNO83      0.0   233.0
1964          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
1965          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *
1                                        HEC-1 INPUT                                    PAGE 51

LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1966          KK  RWNO91   ROUTE
1967          KM   Route diversion DWNO91 west to combination point CNO91
1968          RS       4    FLOW
1969          RC   0.035   0.015   0.035    5280  0.0014     0.00
1970          RX    0.00    0.00   45.00   45.00  229.00  229.00  274.00  274.00
1971          RY    3.00    0.95    0.50    0.00    0.00    0.50    0.95    3.00
              *

1972          KK  DRNO91RETRIEVE
```



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1973          KM   Retrieve divert DRNO91 from combination point CPOL91 and divert south to
1974          KM   combination point CNO91
1975          DR  DSNO91
              *

1976          KK  RSNO91   ROUTE
1977          KM   Route diversion retrieval DRNO91 south to combination point CNO91
1978          RS       3    FLOW
1979          RC   0.035   0.015   0.035    5280  0.0029     0.00
1980          RX    0.00    0.00   48.00   48.00  251.00  251.00  299.00  299.00
1981          RY    3.00    0.98    0.50    0.00    0.00    0.50    0.98    3.00
              *

1982          KK    NO91   BASIN
1983          KM   Runoff hydrograph for square mile subbasin NO91 northeast of the intersection
1984          KM   of Norhtern Avenue and 91st Avenue
1985          BA   0.993
1986          LG    0.29    0.17    8.00    0.08      23
1987          UC   1.388   0.931
1988          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
1989          UA     100
              *

1990          KK  ERNO91  DIVERT
1991          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
1992          KM   retention developed after 1990 in subbasin NO91
1993          DT   XNO91     35.1      0.0
1994          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
1995          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

1996          KK   CNO91 COMBINE
1997          KM   Combine route RWNO91, route RSNO91, and subbasin NO91
1998          HC       3    9.52
              *

1999          KK  PRNO83RETRIEVE
2000          KM   Retrieve full flow capacity of 233 cfs from 72-inch storm drain pipe at the
2001          KM   intersection of Northern Avenue and 83rd Avenue
2002          DR  DPNO83
              *
1                                        HEC-1 INPUT                                    PAGE 52

LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

2003          KK  RPNO91   ROUTE
2004          KM   Route full flow capacity of 233 cfs through 72-inch storm drain pipe in
2005          KM   Northern Avenue to the intersection of Northern Avenue and 91st Avenue
2006          RK    6941  0.0030   0.015            CIRC   6.000
              *

2007          KK  CPNO91 COMBINE
2008          KM   Combine pipe return PRNO83 with the runoff hydrograph at combination point
2009          KM   CNO91 at the intersection of Northern Avenue and 91st Avenue
2010          HC       2
              *

2011          KK  SRNO91 STORAGE
2012          KM   Storage route runoff hydrograph from combination point CPNO91 through
2013          KM     regional detention basin located near the intersection of Northern Avenue
2014          KM     and 87th Avenue
2015          KM   Stage-storage data from Northern and Butler Storm Drains Sub-Phase "A"
2016          KM     As-built records, 2001
2017          RS       1    STOR
2018          SV            7.00   21.80   62.20   67.50   72.90   84.00  107.20
2019          SQ           18.00   26.00   38.00 1526.00 4245.0011934.0033681.00
2020          SE  1089.2 1090.90 1092.50 1095.80 1096.20 1096.60 1097.50 1099.10
              *

2021          KK   DNO91  DIVERT
2022          KM   Divert calculated full flow capapcity of 69 cfs into 60-inch storm drain
2023          KM   pipe at the intersection of Northern Avenue and 29th Avenue
2024          DT  DPNO91      0.0    69.0
2025          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
2026          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

2027          KK  DWNOLO  DIVERT
2028          KM   Divert remaining runoff hydrograph from combination point CPNO91 west to
2029          KM   combination point CNOLO
2030          DT  DSGL91      0.0     0.0
2031          DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
2032          DQ     0.0    53.0   106.0   265.0   530.0  1060.0  2120.0  5300.0 10600.0 26500.0
              *

2033          KK  RWNOLO   ROUTE
2034          KM   Route diversion DWNOLO west to combination point CNOLO
2035          RS       2    FLOW
2036          RC   0.035   0.015   0.035    3480  0.0026     0.00
2037          RX    0.00    0.00   45.00   45.00  229.00  229.00  274.00  274.00
2038          RY    3.00    0.95    0.50    0.00    0.00    0.50    0.95    3.00
              *
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```
2039          KK    NOLO   BASIN
2040          KM   Runoff hydrograph for subbasin NOLO northeast of the intersection of Northern
2041          KM   Avenue and SR Loop 101
2042          BA   0.280
2043          LG    0.10    0.15    7.30    0.09      85
2044          UC   0.746   0.828
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

2045          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
2046          UA     100
              *

2047          KK  ERNOLO   DIVERT
2048          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
2049          KM   retention developed after 1990 in subbasin NOLO
2050          DT   XNOLO     19.9      0.0
2051          DI     0.0 50000.0      0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
2052          DQ     0.0 50000.0      0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

2053          KK   CNOLO COMBINE
2054          KM   Combine route RWNOLO, route RSNOLO, and subbasin NOLO
2055          HC        3   10.91
              *

2056          KK  PRNO91RETRIEVE
2057          KM   Retrieve full flow capacity of 69 cfs from 60-inch storm drain pipe at the
2058          KM   intersection of Northern Avenue and 91st Avenue
2059          DR  DPNO91
              *

2060          KK   RPNOLO    ROUTE
2061          KM   Route full flow capacity of 69cfs through 60-inch storm drain pipe in
2062          KM   Northern Avenue to the intersection of Northern Avenue and SR Loop 101
2063          RK     2827  0.0007    0.015              CIRC    5.000
              *

2064          KK   CPNOLO COMBINE
2065          KM   Combine pipe return PRNO91 with the runoff hydrograph at combination point
2066          KM   CNOLO at the intersection of Northern Avenue and SR Loop 101
2067          HC        2
              *

2068          KK    DNOLO   DIVERT
2069          KM   Divert calculated full flow capapcity of 15 cfs into 24-inch storm drain
2070          KM   pipe at the intersection of Northern Avenue and SR Loop 101
2071          DT   DPNOLO      0.0     15.0
2072          DI     0.0 50000.0      0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
2073          DQ     0.0 50000.0      0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

2074          KK   DSGLLO   DIVERT
2075          KM   Divert remaining runoff hydrograph from combination point CPNOLO south to
2076          KM   combination point CGLLO
2077          DT   DWNR03      0.0     917.0
2078          DI     0.0 50000.0      0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
2079          DQ     0.0 50000.0      0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *
1                                    HEC-1 INPUT                                    PAGE 54

LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

2080          KK   RSGLLO    ROUTE
2081          KM   Route diversion DSGLLO south to combination point CGLLO
2082          RS        1     FLOW
2083          RC    0.035   0.015   0.035    2381  0.0023     0.00
2084          RX     0.00    4.00   16.00   26.00   34.00   44.00   56.00   59.00
2085          RY     6.24    5.24    5.00    0.00    0.20    5.20    5.44    6.44
              *

2086          KK   DRGL43RETRIEVE
2087          KM   Retrieve divert DRGL43 from combination point CPNO43 and divert south to
2088          KM   combination point CGL43
2089          DR   DSGL43
              *

2090          KK   RSGL43    ROUTE
2091          KM   Route diversion retrieval DRGL43 south to combination point CGL43
2092          RS        4     FLOW
2093          RC    0.035   0.015   0.035    5280  0.0034     0.00
2094          RX     0.00    0.00   57.50   57.50  291.50  291.50  349.00  349.00
2095          RY     3.00    1.08    0.50    0.00    0.00    0.50    1.08    3.00
              *

2096          KK    GL43   BASIN
2097          KM   Runoff hydrograph for square mile subbasin GL43 northeast of the intersection
2098          KM   of Glendale Avenue and 43rd Avenue
2099          BA   0.998
2100          LG    0.24    0.15    7.30    0.09      36
```



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2101          UC   1.388   0.924
2102          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
2103          UA     100
              *

2104          KK   CGL43 COMBINE
2105          KM   Combine route RSGL43, and subbasin GL43
2106          HC        2    2.03
              *

2107          KK  PR43NORETRIEVE
2108          KM   Retrieve combined full flow capacity of 241 cfs from 71-inch equivalent
2109          KM   diameter pipe at the intersection of Northern Avenue and 43rd Avenue
2110          DR  DP43NO
              *

2111          KK  RP43GL   ROUTE
2112          KM   Route the combined full flow capacity of 241 cfs through an equivalent storm
2113          KM   drain pipe diameter of 71 inches in 43rd Avenue to the intersection of
2114          KM   43rd Avenue and Glendale Avenue
2115          RK     5336  0.0035    0.015              CIRC    5.917
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

2116          KK  CPGL43 COMBINE
2117          KM   Combine pipe return PR43NO with the runoff hydrograph at combination point
2118          KM   CGL43 at the intersection of Glendale Avenue and 43rd Avenue
2119          HC        2
              *

2120          KK    D43GL  DIVERT
2121          KM   Capacity of storm drain in 39th Avenue and 43rd Avenue diverted together.
2122          KM   Divert combined calculated full flow capacity of 268 cfs in the 72-inch storm
2123          KM   drain pipe in 39th Avenue and 117 cfs in the 54-inch storm drain pipe in
2124          KM   43rd Avenue. The total calculated combined full flow capacity diverted at the
2125          KM   intersection of 43rd Avenue and Glendale Avenue is 385 cfs in an equivalent
2126          KM   diameter pipe of 85 inches
2127          DT   DP43GL      0.0     385.0
2128          DI     0.0 50000.0      0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
2129          DQ     0.0 50000.0      0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

2130          KK  DWGL51  DIVERT
2131          KM   Divert remaining runoff hydrograph from combination point CPGL43 west to
2132          KM   combination point CGL51
2133          DT   DSBH43      0.0       0.0
2134          DI       0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
2135          DQ       0.0    59.0   118.0   295.0   590.0  1180.0  2360.0  5900.0 11800.0 29500.0
              *

2136          KK  RWGL51   ROUTE
2137          KM   Route diversion DWGL51 west to combination point CGL51
2138          RS        5     FLOW
2139          RC    0.035   0.015   0.035    5280  0.0011     0.00
2140          RX     0.00    0.00   61.50   61.50  316.50  316.50  378.00  378.00
2141          RY     3.00    1.12    0.50    0.00    0.00    0.50    1.12    3.00
              *

2142          KK  DRGL51RETRIEVE
2143          KM   Retrieve divert DRGL51 from combination point CNO51 and divert south to
2144          KM   combination point CGL51
2145          DR  DSGL51
              *

2146          KK  RSGL51   ROUTE
2147          KM   Route diversion retrieval DRGL51 south to combination point CGL51
2148          RS        4     FLOW
2149          RC    0.035   0.015   0.035    5280  0.0027     0.00
2150          RX     0.00    0.00   61.50   61.50  316.50  316.50  378.00  378.00
2151          RY     3.00    1.12    0.50    0.00    0.00    0.50    1.12    3.00
              *

2152          KK    GL51   BASIN
2153          KM   Runoff hydrograph for square mile subbasin GL51 northeast of the intersection
2154          KM   of Glendale Avenue and 51st Avenue
2155          BA   1.002
2156          LG    0.23    0.25    5.40    0.20      41
2157          UC   1.500   1.009
1                                    HEC-1 INPUT                                    PAGE 56

LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

2158          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
2159          UA     100
              *

2160          KK   CGL51 COMBINE
2161          KM   Combine route RWGL51, route RSGL51, and subbasin GL51
2162          HC        3    2.91
              *
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```
2163          KK  DWGL59  DIVERT
2164          KM   Divert remaining runoff hydrograph from combination point CGL51 west to
2165          KM   combination point CGL59
2166          DT  DSBH51      0.0      0.0
2167          DI     0.0   100.0    200.0    500.0   1000.0   2000.0   4000.0 10000.0 20000.0 50000.0
2168          DQ     0.0    47.0     94.0    235.0    470.0    940.0   1880.0  4700.0  9400.0 23500.0
              *

2169          KK  RWGL59   ROUTE
2170          KM   Route diversion DWGL59 west to combination point CGL59
2171          RS        5     FLOW
2172          RC   0.035   0.015    0.035     5280   0.0031     0.00
2173          RX    0.00    0.00    68.50    68.50   359.50   359.50   428.00  428.00
2174          RY    3.00    1.18     0.50     0.00     0.00     0.50     1.18    3.00
              *

2175          KK  DRGL59RETRIEVE
2176          KM   Retrieve divert DRGL59 from combination point CPNO59 and divert south to
2177          KM   combination point CGL59
2178          DR  DSGL59
              *

2179          KK  RSGL59   ROUTE
2180          KM   Route diversion retrieval DRGL59 south to combination point CGL59
2181          RS        4     FLOW
2182          RC   0.035   0.015    0.035     5280   0.0018     0.00
2183          RX    0.00    0.00    37.50    37.50   210.50   210.50   248.00  248.00
2184          RY    3.00    0.88     0.50     0.00     0.00     0.50     0.88    3.00
              *

2185          KK    GL59   BASIN
2186          KM   Runoff hydrograph for square mile subbasin GL59 northeast of the intersection
2187          KM   of Glendale Avenue and 59th Avenue
2188          BA   1.015
2189          LG    0.20    0.25     5.20     0.22       46
2190          UC   1.312   0.874
2191          UA       0     5.0     16.0     30.0     65.0     77.0     84.0     90.0     94.0     97.0
2192          UA     100
              *

2193          KK  ERGL59  DIVERT
2194          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
2195          KM   retention developed after 1990 in subbasin GL59
2196          DT  XGL59     22.1      0.0
2197          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
2198          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9.....10


2199          KK   CGL59 COMBINE
2200          KM   Combine route RWGL59, route RSGL59, and subbasin GL59
2201          HC        3    3.91
              *

2202          KK   D59GL  DIVERT
2203          KM   Divert calculated full flow capapcity of 217 cfs into 72-inch storm drain
2204          KM   pipe at the intersection of Glendale Avenue and 59th Avenue
2205          DT  DP59GL      0.0    217.0
2206          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
2207          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

2208          KK  DWGR67  DIVERT
2209          KM   Divert portion of runoff hydrograph from combination point CGL59 west through
2210          KM   subbasin GR67 using the ratio of the widths and slopes of the streets going
2211          KM   west and the widths and slopes of the streets going south. The remaining flow
2212          KM   is diverted south through subbasin GR59
2213          DT  DSGR59      0.0      0.0
2214          DI     0.0   100.0    200.0    500.0   1000.0   2000.0   4000.0 10000.0 20000.0 50000.0
2215          DQ     0.0    46.0     92.0    230.0    460.0    920.0   1840.0  4600.0  9200.0 23000.0
              *

2216          KK   DGR67  DIVERT
2217          KM   Divert portion of DWGR67 west to subbasin GR67 using the ratio of the width
2218          KM   of the collector and local streets and the width of the arterial street. The
2219          KM   remaining flow is diverted west to subbasin GL67 along Glendale Avenue
2220          DT  DWGL67      0.0      0.0
2221          DI     0.0   100.0    200.0    500.0   1000.0   2000.0   4000.0 10000.0 20000.0 50000.0
2222          DQ     0.0    26.0     52.0    130.0    260.0    520.0   1040.0  2600.0  5200.0 13000.0
              *

2223          KK  DRGL35RETRIEVE
2224          KM   Retrieve divert DRGL35 from combination point CPNO35 and divert south to
2225          KM   combination point CGL35
2226          DR  DSGL35
              *

2227          KK  RSGL35   ROUTE
2228          KM   Route diversion retrieval DRGL35 south to combination point CGL35
```



```
2229          RS        5     FLOW
2230          RC   0.035   0.015    0.035     5280   0.0032     0.00
2231          RX    0.00    0.00    76.50    76.50   372.50   372.50   449.00  449.00
2232          RY    3.00    1.27     0.50     0.00     0.00     0.50     1.27    3.00
              *

2233          KK    GL35   BASIN
2234          KM   Runoff hydrograph for square mile subbasin GL35 northeast of the intersection
2235          KM   of Glendale Avenue and 35th Avenue
2236          BA   1.004
2237          LG    0.23    0.23     6.20     0.15       34
2238          UC   1.500   1.012
2239          UA       0     5.0     16.0     30.0     65.0     77.0     84.0     90.0     94.0     97.0
2240          UA     100
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9.....10


2241          KK   CGL35 COMBINE
2242          KM   Combine route RSGL35, and subbasin GL35
2243          HC        2    1.53
              *

2244          KK  PR35NORETRIEVE
2245          KM   Retrieve combined full flow capacity of 113 cfs from 53-inch equivalent
2246          KM   diameter pipe at the intersection of Northern Avenue and 35th Avenue
2247          DR  DP35NO
              *

2248          KK  RP35GL   ROUTE
2249          KM   Route the combined full flow capacity of 113 cfs through an equivalent storm
2250          KM   drain pipe diameter of 53 inches in 35th Avenue to the intersection of
2251          KM   35th Avenue and Glendale Avenue
2252          RK    5335  0.0037   0.015            CIRC   4.417
              *

2253          KK  CPGL35 COMBINE
2254          KM   Combine pipe return PR35NO with the runoff hydrograph at combination point
2255          KM   CGL35 at the intersection of Glendale Avenue and 35th Avenue
2256          HC        2
              *

2257          KK   D35GL  DIVERT
2258          KM   Capacity of storm drain in 31st Avenue and 35th Avenue diverted together.
2259          KM   Divert combined calculated full flow capacity of 165 cfs in the 60-inch storm
2260          KM   drain pipe in 31st Avenue and 61 cfs in the 42-inch storm drain pipe in
2261          KM   49th Avenue. The total calculated combined full flow capacity diverted at the
2262          KM   intersection of 35th Avenue and Glendale Avenue is 226 cfs in an equivalent
2263          KM   diameter pipe of 69 inches
2264          DT  DP35GL      0.0    226.0
2265          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
2266          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

2267          KK  DEGL27  DIVERT
2268          KM   Divert remaining runoff hydrograph from combination point CPGL35 east to
2269          KM   combination point CGL27
2270          DT  DSBH35      0.0      0.0
2271          DI     0.0   100.0    200.0    500.0   1000.0   2000.0   4000.0 10000.0 20000.0 50000.0
2272          DQ     0.0    61.0    122.0    305.0    610.0   1220.0   2440.0  6100.0 12200.0 30500.0
              *

2273          KK  DRGL27RETRIEVE
2274          KM   Retrieve divert DRGL27 from subbasin NO27 and divert south to combination
2275          KM   point CGL27
2276          DR  DSGL27
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9.....10


2277          KK  RSGL27   ROUTE
2278          KM   Route diversion retrieval DRGL27 south to combination point CGL27
2279          RS        1     FLOW
2280          RC   0.035   0.015    0.035     5280   0.0040     0.00
2281          RX    0.00    0.00    26.00    26.00   148.00   148.00   174.00  174.00
2282          RY    3.00    0.76     0.50     0.00     0.00     0.50     0.76    3.00
              *

2283          KK    GL27   BASIN
2284          KM   Runoff hydrograph for subbasin GL27 northeast of the intersection of Glendale
2285          KM   Avenue and 27th Avenue
2286          BA   0.258
2287          LG    0.23    0.17     6.80     0.11       45
2288          UC   0.930   0.739
2289          UA       0     5.0     16.0     30.0     65.0     77.0     84.0     90.0     94.0     97.0
2290          UA     100
              *

2291          KK   CGL27 COMBINE
```

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2292          KM   Combine divert DEGL27, route RSGL27, and subbasin GL27
2293          HC        3    0.98
              *


2294          KK  PR29NORETRIEVE
2295          KM   Retrieve full flow capacity of 114 cfs from 54-inch diameter pipe at the
2296          KM   intersection of Northern Avenue and 29th Avenue
2297          DR  DP29NO
              *


2298          KK  RP27GL   ROUTE
2299          KM   Route full flow capacity of 114 cfs through 54-inch storm drain pipe in
2300          KM   in 27th Avenue to the intersection of 27th Avenue and Glendale Avenue
2301          RK    5260  0.0034   0.015            CIRC   4.500
              *


2302          KK  CPGL27 COMBINE
2303          KM   Combine pipe return PR29NO with the runoff hydrograph at combination point
2304          KM   CGL27 at the intersection of Glendale Avenue and 27th Avenue
2305          HC        2
              *


2306          KK   D27GL  DIVERT
2307          KM   Divert calculated full flow capapcity of 132 cfs into 57-inch storm drain
2308          KM   pipe at the intersection of Glendale Avenue and 27th Avenue
2309          DT  DP27GL      0.0   132.0
2310          DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
2311          DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


2312          KK  RSBH27   ROUTE
2313          KM   Route remainder of divert D27GL south to combination point CBH27
2314          RS        2    FLOW
2315          RC   0.035   0.015   0.035    5280  0.0039     0.00
2316          RX    0.00    0.00   26.00   26.00  148.00  148.00  174.00  174.00
2317          RY    3.00    0.76    0.50    0.00    0.00    0.50    0.76    3.00
              *


2318          KK    BH27   BASIN
2319          KM   Runoff hydrograph for subbasin BH27 northeast of the intersection of Bethany
2320          KM   Home Road and 27th Avenue
2321          BA   0.258
2322          LG    0.21    0.25    4.80    0.25      55
2323          UC   0.834   0.654
2324          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
2325          UA     100
              *


2326          KK   CBH27 COMBINE
2327          KM   Combine route RSBH27, and subbasin BH27
2328          HC        2    1.24
              *


2329          KK  PR27GLRETRIEVE
2330          KM   Retrieve full flow capacity of 132 cfs from 57-inch storm drain pipe at the
2331          KM   intersection of Glendale Avenue and 27th Avenue
2332          DR  DP27GL
              *


2333          KK  RP27BH   ROUTE
2334          KM   Route full flow capacity of 132 cfs through 57-inch storm drain pipe in
2335          KM   27th Avenue to the intersection of Bethany Home Road and 27th Avenue
2336          RK    5221  0.0034   0.015            CIRC   4.750
              *


2337          KK  CPBH27 COMBINE
2338          KM   Combine pipe return PR27GL with the runoff hydrograph at combination point
2339          KM   CBH27 at the intersection of Bethany Home Road and 27th Avenue
2340          HC        2
              *


2341          KK   D27BH  DIVERT
2342          KM   Divert calculated full flow capapcity of 132 cfs into 57-inch storm drain
2343          KM   pipe at the intersection of Bethany Home Road and 27th Avenue
2344          DT  DP27BH      0.0   132.0
2345          DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
2346          DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


2347          KK  DWBH35  DIVERT
2348          KM   Divert remaining runoff hydrograph from combination point CPBH27 west to
2349          KM   combination point CBH35
2350          DT  DSCB27      0.0      0.0
2351          DI      0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0  10000.0  20000.0  50000.0
2352          DQ      0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0  10000.0  20000.0  50000.0
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              *


2353          KK  RWBH35   ROUTE
2354          KM   Route diversion DWBH35 west to combination point CBH35
2355          RS        1    FLOW
2356          RC   0.035   0.015   0.035    5280  0.0002     0.00
2357          RX    0.00    0.00   86.00   86.00  413.00  413.00  499.00  499.00
2358          RY    3.00    1.36    0.50    0.00    0.00    0.50    1.36    3.00
              *


2359          KK  DRBH35RETRIEVE
2360          KM   Retrieve divert DRBH35 from combination point CGL35 and divert south to
2361          KM   combination point CBH35
2362          DR  DSBH35
              *


2363          KK  RSBH35   ROUTE
2364          KM   Route diversion retrieval DRBH35 south to combination point CBH35
2365          RS        3    FLOW
2366          RC   0.035   0.015   0.035    5280  0.0049     0.00
2367          RX    0.00    0.00   67.00   67.00  332.00  332.00  399.00  399.00
2368          RY    3.00    1.17    0.50    0.00    0.00    0.50    1.17    3.00
              *


2369          KK    BH35   BASIN
2370          KM   Runoff hydrograph for square mile subbasin BH35 northeast of the intersection
2371          KM   of Bethany Home Road and 35th Avenue
2372          BA   1.005
2373          LG    0.24    0.25    5.20    0.22      36
2374          UC   0.910   0.332
2375          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
2376          UA     100
              *


2377          KK   CBH35 COMBINE
2378          KM   Combine route RWBH35, route RSBH35, and subbasin BH35
2379          HC        3    1.94
              *


2380          KK  PR35GLRETRIEVE
2381          KM   Retrieve combined full flow capacity of 226 cfs from 69-inch equivalent
2382          KM   diameter pipe at the intersection of Glendale Avenue and 35th Avenue
2383          DR  DP35GL
              *

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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


2384          KK  RP35BH   ROUTE
2385          KM   Route the combined full flow capacity of 226 cfs through an equivalent storm
2386          KM   drain pipe diameter of 69 inches in 35th Avenue to the intersection of
2387          KM   35th Avenue and Bethany Home Road
2388          RK    5147  0.0037   0.015            CIRC   5.750
              *


2389          KK  CPBH35 COMBINE
2390          KM   Combine pipe return PR35GL with the runoff hydrograph at combination point
2391          KM   CBH35 at the intersection of Bethany Home Road and 35th Avenue
2392          HC        2
              *


2393          KK   D35BH  DIVERT
2394          KM   Capacity of storm drain in 31st Avenue and 35th Avenue diverted together.
2395          KM   Divert combined calculated full flow capacity of 165 cfs in the 60-inch storm
2396          KM   drain pipe in 31st Avenue and 61 cfs in the 42-inch storm drain pipe in
2397          KM   49th Avenue. The total calculated combined full flow capacity diverted at the
2398          KM   intersection of 35th Avenue and Bethany Home Road is 226 cfs in an equivalent
2399          KM   diameter pipe of 69 inches
2400          DT  DP35BH      0.0   226.0
2401          DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
2402          DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *


2403          KK  DWBH43  DIVERT
2404          KM   Divert remaining runoff hydrograph from combination point CPBH35 west to
2405          KM   combination point CBH43
2406          DT  DSCB35      0.0      0.0
2407          DI      0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0  10000.0  20000.0  50000.0
2408          DQ      0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0  10000.0  20000.0  50000.0
              *


2409          KK  RWBH43   ROUTE
2410          KM   Route diversion DWBH43 west to combination point CBH43
2411          RS        1    FLOW
2412          RC   0.035   0.015   0.035    5280  0.0001     0.00
2413          RX    0.00    0.00  133.50  133.50  615.50  615.50  749.00  749.00
2414          RY    3.00    1.84    0.50    0.00    0.00    0.50    1.84    3.00
              *


2415          KK  DRBH43RETRIEVE
2416          KM   Retrieve divert DRBH43 from combination point CGL43 and divert south to
2417          KM   combination point CBH43
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2418          DR  DSBH43
              *

2419          KK  RSBH43   ROUTE
2420          KM   Route diversion retrieval DRBH43 south to combination point CBH43
2421          RS       3    FLOW
2422          RC   0.035   0.015   0.035    5280  0.0028    0.00
2423          RX    0.00    0.00   57.50   57.50  291.50  291.50  349.00  349.00
2424          RY    3.00    1.08    0.50    0.00    0.00    0.50    1.08    3.00
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


2425          KK    BH43   BASIN
2426          KM   Runoff hydrograph for square mile subbasin BH43 northeast of the intersection
2427          KM   of Bethany Home Road and 43rd Avenue
2428          BA   0.993
2429          LG    0.23    0.25    5.20    0.24      32
2430          UC   1.498   1.013
2431          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
2432          UA     100
              *

2433          KK   CBH43 COMBINE
2434          KM   Combine route RWBH43, route RSBH43, and subbasin BH43
2435          HC       3    2.19
              *

2436          KK  PR43GLRETRIEVE
2437          KM   Retrieve combined full flow capacity of 385 cfs from 85-inch equivalent
2438          KM   diameter pipe at the intersection of Glendale Avenue and 43rd Avenue
2439          DR  DP43GL
              *

2440          KK  RP43BH   ROUTE
2441          KM   Route the combined full flow capacity of 385 cfs through an equivalent storm
2442          KM   drain pipe diameter of 85 inches in 43rd Avenue to the intersection of
2443          KM   43rd Avenue and Bethany Home Road
2444          RK    5295  0.0035   0.015            CIRC   7.083
              *

2445          KK  CPBH43 COMBINE
2446          KM   Combine pipe return PR43GL with the runoff hydrograph at combination point
2447          KM   CBH43 at the intersection of Bethany Home Road and 43rd Avenue
2448          HC       2
              *

2449          KK   D43BH  DIVERT
2450          KM   Capacity of storm drain in 39th Avenue and 43rd Avenue diverted together.
2451          KM   Divert combined calculated full flow capacity of 268 cfs in the 72-inch storm
2452          KM   drain pipe in 39th Avenue and 117 cfs in the 54-inch storm drain pipe in
2453          KM   43rd Avenue. The total calculated combined full flow capacity diverted at the
2454          KM   intersection of 43rd Avenue and Glendale Avenue is 385 cfs in an equivalent
2455          KM   diameter pipe of 85 inches
2456          DT  DP43BH     0.0   385.0
2457          DI      0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
2458          DQ      0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

2459          KK  DWBH51  DIVERT
2460          KM   Divert remaining runoff hydrograph from combination point CPBH43 west to
2461          KM   combination point CBH51
2462          DT  DSCB43     0.0     0.0
2463          DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
2464          DQ     0.0    51.0   102.0   255.0   510.0  1020.0  2040.0  5100.0 10200.0 25500.0
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


2465          KK  RWBH51   ROUTE
2466          KM   Route diversion DWBH51 west to combination point CBH51
2467          RS       5    FLOW
2468          RC   0.035   0.015   0.035    5280  0.0016    0.00
2469          RX    0.00    0.00   75.50   75.50  402.50  402.50  478.00  478.00
2470          RY    3.00    1.25    0.50    0.00    0.00    0.50    1.25    3.00
              *

2471          KK  DRBH51RETRIEVE
2472          KM   Retrieve divert DRBH51 from combination point CGL51 and divert south to
2473          KM   combination point CBH51
2474          DR  DSBH51
              *

2475          KK   D47GL  DIVERT
2476          KM   Capacity of storm drain in 47th Avenue and 49th Avenue diverted together.
2477          KM   Divert combined calculated full flow capacity of 284 cfs in the 60-inch storm
2478          KM   drain pipe in 47th Avenue and 96 cfs in the 48-inch storm drain pipe in
2479          KM   49th Avenue. The total calculated combined full flow capacity diverted at the
2480          KM   intersection of 47rd Avenue and Glendale Avenue is 379 cfs in an equivalent
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2481          KM   diameter pipe of 85 inches
2482          DT  DP47GL     0.0   379.0
2483          DI      0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
2484          DQ      0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

2485          KK  RSBH51   ROUTE
2486          KM   Route diversion retrieval DRBH51 south to combination point CBH51
2487          RS       5    FLOW
2488          RC   0.035   0.015   0.035    5280  0.0030    0.00
2489          RX    0.00    0.00   61.50   61.50  316.50  316.50  378.00  378.00
2490          RY    3.00    1.12    0.50    0.00    0.00    0.50    1.12    3.00
              *

2491          KK    BH51   BASIN
2492          KM   Runoff hydrograph for square mile subbasin BH51 northeast of the intersection
2493          KM   of Bethany Home Road and 51st Avenue
2494          BA   0.995
2495          LG    0.22    0.23    6.20    0.15      43
2496          UC   1.500   1.025
2497          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
2498          UA     100
              *

2499          KK   CBH51 COMBINE
2500          KM   Combine route RWBH51, route RSBH51, and subbasin BH51
2501          HC       3    3.42
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


2502          KK  PR47GLRETRIEVE
2503          KM   Retrieve combined full flow capacity of 379 cfs from 85-inch equivalent
2504          KM   diameter pipe at the intersection of Glendale Avenue and 47th Avenue
2505          DR  DP47GL
              *

2506          KK  RP51BH   ROUTE
2507          KM   Route the combined full flow capacity of 379 cfs through an equivalent storm
2508          KM   drain pipe diameter of 85 inches in 51st Avenue to the intersection of
2509          KM   51st Avenue and Bethany Home Road
2510          RK    2773  0.0118   0.015            CIRC   7.083
              *

2511          KK  CPBH51 COMBINE
2512          KM   Combine pipe return PR47GL with the runoff hydrograph at combination point
2513          KM   CBH51 at the intersection of Bethany Home Road and 51st Avenue
2514          HC       2
              *

2515          KK  SRBH51 STORAGE
2516          KM   Storage route runoff hydrograph from combination point CPBH51 through the
2517          KM     regional detention basin located near the intersection of Bethany Home Road
2518          KM     and 51st Avenue
2519          KM   Combined storage from two retention basins
2520          KM   Stage-storage data from topography provided by FCDMC dated 3/28/1994
2521          RS       1    STOR
2522          SV            1.99   12.41   22.30   22.31   31.52   42.36   53.20
2523          SQ            8.00   24.00 1649.00 1649.01 1649.02 1649.03 4349.00
2524          SE  1146.0 1148.00 1150.00 1151.00 1152.00 1154.00 1156.00 1157.00
              *

2525          KK  DWGR59  DIVERT
2526          KM   Divert portion of runoff hydrograph from combination point CPBH51 west
2527          KM   through subbasin GR59 using the ratio of the widths and slopes of the streets
2528          KM   going west and the widths and slopes of the streets going south. The
2529          KM   remaining flow is diverted south through subbasin GR43
2530          DT  DSGR43     0.0     0.0
2531          DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
2532          DQ     0.0    32.0    64.0   160.0   320.0   640.0  1280.0  3200.0  6400.0 16000.0
              *

2533          KK   DGR59  DIVERT
2534          KM   Divert portion of DWGR59 west to subbasin GR59 using the ratio of the width
2535          KM   of the collector and local streets and the width of the arterial street. The
2536          KM   remaining flow is diverted west to subbasin BH59 along Bethany Home Road
2537          DT  DWBH59     0.0     0.0
2538          DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
2539          DQ     0.0    23.0    46.0   115.0   230.0   460.0   920.0  2300.0  4600.0 11500.0
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


2540          KK  DRGR59RETRIEVE
2541          KM   Retrieve divert DRGR59 from combination point CGL59 and divert south to
2542          KM   combination point CGR59
2543          DR  DSGR59
              *
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2544          KK   D59GR  DIVERT
2545          KM   Divert portion of divert retrieval DRGR59 south to subbasin BH59 along 59th
2546          KM   Avenue. Divert remaining runoff hydrograph south to combination point CGR59
2547          DT  DSBH59      0.0      0.0
2548          DI      0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0 10000.0 20000.0 50000.0
2549          DQ      0.0     52.0    104.0    260.0    520.0   1040.0   2080.0  5200.0 10400.0 26000.0
              *

2550          KK    GR59   BASIN
2551          KM   Runoff hydrograph for subbasin GR59 southeast of the intersection of Grand
2552          KM   Avenue and 59th Avenue
2553          BA   0.518
2554          LG    0.16    0.25    4.80    0.25      62
2555          UC   0.618   0.313
2556          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
2557          UA     100
              *

2558          KK   CGR59 COMBINE
2559          KM   Combine remainder of divert retrieval DRGR59, divert DGR59, and subbasin GR59
2560          HC       3    3.18
              *

2561          KK   DNGR67  DIVERT
2562          KM   Divert portion of runoff hydrograph from combination point CGR59 north to the
2563          KM   intersection of 67th Avenue and Grand Avenue and the remaining flow south
2564          KM   to the intersection of Bethany Home Road and Grand Avenue. The diversion is
2565          KM   based on topography
2566          DT   DBH59      0.0      0.0
2567          DI      0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0 10000.0 20000.0 50000.0
2568          DQ      0.0     50.0    100.0    250.0    500.0   1000.0   2000.0  5000.0 10000.0 25000.0
              *

2569          KK   DGRGL  DIVERT
2570          KM   Divert calculated full flow capapcity of 234 cfs into 60-inch storm drain
2571          KM   pipe at the intersection of Grand Avenue and Glendale Avenue
2572          DT  DPGRGL      0.0    234.0
2573          DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
2574          DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

2575          KK   CIGR59 COMBINE
2576          KM   Combine diverts DRGL and DGR67 at the intersection of Grand Avenue and 59th
2577          KM   Avenue
2578          HC       2    3.15
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

2579          KK  RWGR67   ROUTE
2580          KM   Route diversion DGR67 west to combination point CGR67
2581          RS       8    FLOW
2582          RC   0.035   0.015   0.035    7222  0.0008     0.00
2583          RX    0.00    0.00   75.50   75.50  402.50  402.50  478.00  478.00
2584          RY    3.00    1.25    0.50    0.00    0.00    0.50    1.25    3.00
              *

2585          KK  DRGR67RETRIEVE
2586          KM   Retrieve divert DRGR67 from combination point CNO67 and divert south to
2587          KM   combination point CGR67
2588          DR  DSGR67
              *

2589          KK    GR67   BASIN
2590          KM   Runoff hydrograph for subbasin GR67 southeast of the intersection of Grand
2591          KM   Avenue and 67th Avenue
2592          BA   0.497
2593          LG    0.18    0.16    7.60    0.09      43
2594          UC   0.775   0.412
2595          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
2596          UA     100
              *

2597          KK  ERGR67  DIVERT
2598          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
2599          KM   retention developed after 1990 in subbasin GR67
2600          DT   XGR67      1.0      0.0
2601          DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
2602          DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

2603          KK   CGR67 COMBINE
2604          KM   Combine route RWGR67, divert retrieval DRGR67, and subbasin GR67
2605          HC       3    6.83
              *

2606          KK  PRNO59RETRIEVE
2607          KM   Retrieve full flow capacity of 134 cfs from 72-inch storm drain pipe at the
2608          KM   intersection of Northern Avenue and 59th Avenue
2609          DR  DPNO59
              *
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2610          KK  RPNO67   ROUTE
2611          KM   Route full flow capacity of 134 cfs through 72-inch storm drain pipe in
2612          KM   Grand Avenue to the intersection of Grand Avenue and 67th Avenue
2613          RK    2688  0.0010   0.015             CIRC   6.000
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

2614          KK  PR59GLRETRIEVE
2615          KM   Retrieve full flow capacity of 217 cfs from 72-inch storm drain pipe at the
2616          KM   intersection of Glendale Avenue and 59th Avenue
2617          DR  DP59GL
              *

2618          KK  PRGRGLRETRIEVE
2619          KM   Retrieve full flow capacity of 234 cfs from 60-inch storm drain pipe at the
2620          KM   intersection of Grand Avenue and Glendale Avenue
2621          DR  DPGRGL
              *

2622          KK  CPGL59 COMBINE
2623          KM   Combine pipe return PR59GL with pipe return PRGRGL at combination point
2624          KM   CGL59 near the intersection of Glendale Avenue and 59th Avenue
2625          HC       2    1.42
              *

2626          KK  RPGR67   ROUTE
2627          KM   Route combined full flow capacity of 451 cfs through 108-inch storm drain pip
2628          KM   Grand Avenue to the intersection of Grand Avenue and 67th Avenue
2629          RK    4247  0.0018   0.015             CIRC   9.000
              *

2630          KK  CPGR67 COMBINE
2631          KM   Combine pipe return PRNO59, pipe route RPGR67 and the runoff hydrograph at
2632          KM   combination point CGR67 at the intersection of Grand Avenue and 67th Avenue
2633          HC       3
              *

2634          KK  SRGR67 STORAGE
2635          KM   Storage route runoff hydrograph from combination point CPGR67 through
2636          KM     regional detention basin located near the intersection of Grand Avenue
2637          KM     and 67th Avenue
2638          KM   Stage-storage data from Orangewood Ave Storm Drain Sub-Phase "C" As-builts
2639          RS       1    STOR
2640          SV            2.25   11.38   31.32   57.76  140.64  378.04  409.71  478.76
2641          SQ           24.00   62.00  105.00  133.00  189.00  299.00 1529.00 6654.00
2642          SE  1130.0 1131.00 1132.00 1133.00 1134.00 1136.00 1142.00 1143.00 1145.00
              *

2643          KK   D67GR  DIVERT
2644          KM   Divert calculated full flow capapcity of 546 cfs into 108-inch storm drain
2645          KM   pipe at the intersection of Grand Avenue and 67th Avenue
2646          DT  DP67GR      0.0    546.0
2647          DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
2648          DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

2649          KK  RSOW67   ROUTE
2650          KM   Route remainder of divert D67GR south to combination point COW67
2651          RS       1    FLOW
2652          RC   0.035   0.015   0.035    2640  0.0035     0.00
2653          RX    0.00    0.00   17.50   17.50  112.50  112.50  130.00  130.00
2654          RY    3.00    0.68    0.50    0.00    0.00    0.50    0.68    3.00
              *

2655          KK    OW67   BASIN
2656          KM   Runoff hydrograph for subbasin OW67 northeast of the intersection of
2657          KM   Orangewood Avenue and 67th Avenue
2658          BA   0.119
2659          LG    0.23    0.15    8.00    0.08      62
2660          UC   0.439   0.300
2661          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
2662          UA     100
              *

2663          KK   COW67 COMBINE
2664          KM   Combine route RWOW67 and subbasin OW67
2665          HC       2    6.95
              *

2666          KK  PRGR67RETRIEVE
2667          KM   Retrieve full flow capacity of 546 cfs from 108-inch storm drain pipe at the
2668          KM   intersection of Grand Avenue and 67th Avenue
2669          DR  DP67GR
              *
```

```
2670          KK  RPOW67   ROUTE
2671          KM   Route full flow capacity of 546 cfs through 108-inch storm drain pipe in
2672          KM   Orangewood Avenue to the intersection of Orangewood Avenue and 67th Avenue
2673          RK    2517  0.0019   0.015            CIRC   9.000
              *

2674          KK  CPOW67 COMBINE
2675          KM   Combine pipe return PRGR67 with the runoff hydrograph at combination point
2676          KM   COW67 at the intersection of Orangewood Avenue and 67th Avenue
2677          HC       2
              *

2678          KK   DOW67  DIVERT
2679          KM   Divert calculated full flow capapcity of 181 cfs into 66-inch storm drain
2680          KM   pipe at the intersection of Orangewood Avenue and 67th Avenue
2681          DT  DPOW67      0.0   181.0
2682          DI      0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
2683          DQ      0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


2684          KK  DWOW75  DIVERT
2685          KM   Divert remaining runoff hydrograph from combination point CPOW67 west to
2686          KM   combination point COW75
2687          DT  DSGL67      0.0     0.0
2688          DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
2689          DQ     0.0    51.0   102.0   255.0   510.0  1020.0  2040.0  5100.0 10200.0 25500.0
              *

2690          KK  RWOW75   ROUTE
2691          KM   Route diversion DWOW75 west to combination point COW75
2692          RS      10     FLOW
2693          RC   0.035   0.015   0.035    5280  0.0025    0.00
2694          RX    0.00    0.00   34.00   34.00  184.00  184.00  218.00  218.00
2695          RY    3.00    0.84    0.50    0.00    0.00    0.50    0.84    3.00
              *

2696          KK  DROW75RETRIEVE
2697          KM   Retrieve divert DROW75 from combination point CNO75 and divert south to
2698          KM   combination point COW75
2699          DR  DSOW75
              *

2700          KK  RSOW75   ROUTE
2701          KM   Route diversion retrieval DROW75 south to combination point COW75
2702          RS       1     FLOW
2703          RC   0.035   0.015   0.035    2640  0.0025    0.00
2704          RX    0.00    0.00   47.50   47.50  240.50  240.50  288.00  288.00
2705          RY    3.00    0.98    0.50    0.00    0.00    0.50    0.98    3.00
              *

2706          KK    OW75   BASIN
2707          KM   Runoff hydrograph for half square mile subbasin OW75 northeast of the
2708          KM   intersection of Orangewood Avenue and 75th Avenue
2709          BA   0.498
2710          LG    0.24    0.17    8.80    0.05      48
2711          UC   0.814   0.606
2712          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
2713          UA     100
              *

2714          KK  EROW75  DIVERT
2715          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
2716          KM   retention developed after 1990 in subbasin OW75
2717          DT   XOW75    19.1     0.0
2718          DI      0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
2719          DQ      0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

2720          KK   COW75 COMBINE
2721          KM   Combine route RWOW75, route RSOW75, and subbasin OW75
2722          HC       3    8.17
              *

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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


2723          KK  PROW67RETRIEVE
2724          KM   Retrieve full flow capacity of 181 cfs from 66-inch storm drain pipe at the
2725          KM   intersection of Orangewood Avenue and 67th Avenue
2726          DR  DPOW67
              *

2727          KK  RPOW71   ROUTE
2728          KM   Route full flow capacity of 181 cfs through 66-inch storm drain pipe in
2729          KM   Orangewood Avenue to the intersection of Orangewood Avenue and 71st Avenue
2730          RK    2145  0.0029   0.015            CIRC   5.500
              *
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2731          KK  CPOW71 COMBINE
2732          KM   Combine pipe return PROW67 with the runoff hydrograph at combination point
2733          KM   COW71 at the intersection of Orangewood Avenue and 71st Avenue
2734          HC       2
              *

2735          KK  SROW75 STORAGE
2736          KM   Storage route runoff hydrograph from combination point CPOW71 through
2737          KM     regional detention basin located near the intersection of Orangewood Avenue
2738          KM     and 71st Avenue
2739          KM   Stage-storage data from Orangewood Avenue Storm Drain As-builts, 1980
2740          RS       1     STOR
2741          SV             8.74   20.36   34.36   49.53   65.12   97.58  118.22
2742          SQ                            42.00  400.00 1044.00 2459.00 3812.00
2743          SE  1121.0 1122.00 1123.00 1124.00 1125.00 1126.00 1128.00 1129.00
              *

2744          KK   DOW71  DIVERT
2745          KM   Divert calculated full flow capapcity of 44 cfs into 42-inch storm drain
2746          KM   pipe at the intersection of Orangewood Avenue and 71st Avenue
2747          DT  DPOW71      0.0    44.0
2748          DI      0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
2749          DQ      0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

2750          KK  PROW71RETRIEVE
2751          KM   Retrieve full flow capacity of 44 cfs from 42-inch storm drain pipe at the
2752          KM   intersection of Orangewood Avenue and 71st Avenue
2753          DR  DPOW71
              *

2754          KK  RPOW75   ROUTE
2755          KM   Route full flow capacity of 44 cfs through 42-inch storm drain pipe in
2756          KM   Orangewood Avenue to the intersection of Orangewood Avenue and 75th Avenue
2757          RK    3391  0.0019   0.015            CIRC   3.500
              *

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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


2758          KK  CPOW75 COMBINE
2759          KM   Combine pipe return PROW71 with the runoff hydrograph at combination point
2760          KM   COW75 at the intersection of Orangewood Avenue and 75th Avenue
2761          HC       2
              *

2762          KK   DOW75  DIVERT
2763          KM   Divert calculated full flow capapcity of 66 cfs into 48-inch storm drain
2764          KM   pipe at the intersection of Orangewood Avenue and 75th Avenue
2765          DT  DPOW75      0.0    66.0
2766          DI      0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
2767          DQ      0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

2768          KK  DWOW83  DIVERT
2769          KM   Divert remaining runoff hydrograph from combination point CPOW75 west to
2770          KM   combination point COW83
2771          DT  DSGL75      0.0     0.0
2772          DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
2773          DQ     0.0    76.0   152.0   380.0   760.0  1520.0  3040.0  7600.0 15200.0 38000.0
              *

2774          KK  RWOW83   ROUTE
2775          KM   Route diversion DWOW83 west to combination point COW83
2776          RS       3     FLOW
2777          RC   0.035   0.015   0.035    5280  0.0029    0.00
2778          RX    0.00    0.00   20.00   20.00   98.00   98.00  118.00  118.00
2779          RY    3.00    0.70    0.50    0.00    0.00    0.50    0.70    3.00
              *

2780          KK    OW83   BASIN
2781          KM   Runoff hydrograph for half square mile subbasin OW83 northeast of the
2782          KM   intersection of Orangewood Avenue and 83rd Avenue
2783          BA   0.496
2784          LG    0.29    0.17    8.40    0.07      21
2785          UC   1.203   0.937
2786          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
2787          UA     100
              *

2788          KK  EROW83  DIVERT
2789          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
2790          KM   retention developed after 1990 in subbasin OW83
2791          DT   XOW83     8.7     0.0
2792          DI      0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
2793          DQ      0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

2794          KK   COW83 COMBINE
2795          KM   Combine route RWOW83 and subbasin OW83
2796          HC       2    2.46
              *
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     LINE      ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10


     2797      KK  PROW75RETRIEVE
     2798      KM   Retrieve full flow capacity of 66 cfs from 48-inch storm drain pipe at the
     2799      KM   intersection of Orangewood Avenue and 75th Avenue
     2800      DR  DPOW75
               *

     2801      KK  RPOW83   ROUTE
     2802      KM   Route full flow capacity of 66 cfs through 48-inch storm drain pipe in
     2803      KM   Orangewood Avenue to the intersection of Orangewood Avenue and 67th Avenue
     2804      RK    5178  0.0021    0.015            CIRC   4.000
               *

     2805      KK  CPOW83 COMBINE
     2806      KM   Combine pipe return PROW75 with the runoff hydrograph at combination point
     2807      KM   COW83 at the intersection of Orangewood Avenue and 83rd Avenue
     2808      HC       2
               *

     2809      KK   D83OW  DIVERT
     2810      KM   Divert calculated full flow capapcity of 255 cfs into 72-inch storm drain
     2811      KM   pipe at the intersection of Orangewood Avenue and 83rd Avenue
     2812      DT  DP83OW      0.0   255.0
     2813      DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
     2814      DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
               *

     2815      KK  DWOW91  DIVERT
     2816      KM   Divert remaining runoff hydrograph from combination point CPOW83 west to
     2817      KM   combination point CGL91
     2818      DT  DSGL83      0.0      0.0
     2819      DI      0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0 10000.0 20000.0 50000.0
     2820      DQ      0.0     85.0    170.0    425.0    850.0   1700.0   3400.0  8500.0 17000.0 42500.0
               *

     2821      KK  RWOW91   ROUTE
     2822      KM   Route diversion DWOW91 west to combination point COW91
     2823      RS        5    FLOW
     2824      RC   0.035   0.015   0.035    5280  0.0038     0.00
     2825      RX    0.00    0.00    7.00    7.00   43.00   43.00   50.00   50.00
     2826      RY    3.00    0.57    0.50    0.00    0.00    0.50    0.57    3.00
               *

     2827      KK  DIGL67RETRIEVE
     2828      KM   Retrieve arterial street flow diverted to Glendale Avenue at the intersection
     2829      KM   of Glendale Avenue and 67th Avenue
     2830      DR  DWGL67
               *

     2831      KK  RWGL67   ROUTE
     2832      KM   Route diversion retrieval DIGL67 at the intersection of Glendale Avenue
     2833      KM   and 67th Avenue west to combination point CGL67
     2834      RS        4    FLOW
     2835      RC   0.035   0.015   0.035    5280  0.0037     0.00
     2836      RX    0.00    0.00   41.50   41.50  218.50  218.50  260.00  260.00
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     LINE      ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

     2837      RY    3.00    0.92    0.50    0.00    0.00    0.50    0.92    3.00
               *

     2838      KK    GL67   BASIN
     2839      KM   Runoff hydrograph for square mile subbasin GL67 northeast of the intersection
     2840      KM   of Glendale Avenue and 67th Avenue
     2841      BA   0.359
     2842      LG    0.19    0.25    5.40    0.19      63
     2843      UC   0.667   0.410
     2844      UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
     2845      UA     100
               *

     2846      KK  DRGL67RETRIEVE
     2847      KM   Retrieve divert DRGL67 from combination point CPOW67 and divert south to
     2848      KM   combination point CGL67
     2849      DR  DSGL67
               *

     2850      KK  RSGL67   ROUTE
     2851      KM   Route diversion retrieval DRGL67 south to combination point CGL67
     2852      RS        2    FLOW
     2853      RC   0.035   0.015   0.035    2640  0.0052     0.00
     2854      RX    0.00    0.00   27.50   27.50  132.50  132.50  160.00  160.00
     2855      RY    3.00    0.78    0.50    0.00    0.00    0.50    0.78    3.00
               *

     2856      KK   CGL67 COMBINE*
     2857      KM   Combine route RWGL67, route RSGL67, and subbasin GL67
     2858      HC       3    4.47
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               *

     2859      KK  DWGL75  DIVERT
     2860      KM   Divert remaining runoff hydrograph from combination point CGL67 west to
     2861      KM   combination point CGL75
     2862      DT  DSBH67      0.0      0.0
     2863      DI      0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0 10000.0 20000.0 50000.0
     2864      DQ      0.0     49.0     98.0    245.0    490.0    980.0   1960.0  4900.0  9800.0 24500.0
               *

     2865      KK  RWGL75   ROUTE
     2866      KM   Route diversion DWGL75 west to combination point CGL75
     2867      RS        6    FLOW
     2868      RC   0.035   0.015   0.035    5280  0.0034     0.00
     2869      RX    0.00    0.00   47.00   47.00  283.00  283.00  330.00  330.00
     2870      RY    3.00    0.97    0.50    0.00    0.00    0.50    0.97    3.00
               *

     2871      KK  DRGL75RETRIEVE
     2872      KM   Retrieve divert DRGL75 from combination point CPOW75 and divert south to
     2873      KM   combination point CGL75
     2874      DR  DSGL75
               *
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     LINE      ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

     2875      KK  RSGL75   ROUTE
     2876      KM   Route diversion retrieval DRGL75 south to combination point CGL75
     2877      RS        1    FLOW
     2878      RC   0.035   0.015   0.035    2640  0.0035     0.00
     2879      RX    0.00    0.00   54.50   54.50  283.50  283.50  338.00  338.00
     2880      RY    3.00    1.04    0.50    0.00    0.00    0.50    1.04    3.00
               *

     2881      KK    GL75   BASIN
     2882      KM   Runoff hydrograph for half square mile subbasin GL75 northeast of the
     2883      KM   intersection of Glendale Avenue and 75th Avenue
     2884      BA   0.499
     2885      LG    0.26    0.15    8.80    0.05      42
     2886      UC   1.205   0.936
     2887      UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
     2888      UA     100
               *

     2889      KK  ERGL75  DIVERT
     2890      KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
     2891      KM   retention developed after 1990 in subbasin GL75
     2892      DT  XGL75     38.5      0.0
     2893      DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
     2894      DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
               *

     2895      KK   CGL75 COMBINE
     2896      KM   Combine route RWGL75, route RSGL75, and subbasin GL75
     2897      HC       3    8.97
               *

     2898      KK  DWGL83  DIVERT
     2899      KM   Divert remaining runoff hydrograph from combination point CGL75 west to
     2900      KM   combination point CGL83
     2901      DT  DSBH75      0.0      0.0
     2902      DI      0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0 10000.0 20000.0 50000.0
     2903      DQ      0.0     50.0    100.0    250.0    500.0   1000.0   2000.0  5000.0 10000.0 25000.0
               *

     2904      KK  RWGL83   ROUTE
     2905      KM   Route diversion DWGL83 west to combination point CGL83
     2906      RS        3    FLOW
     2907      RC   0.035   0.015   0.035    5280  0.0032     0.00
     2908      RX    0.00    0.00   47.00   47.00  283.00  283.00  330.00  330.00
     2909      RY    3.00    0.97    0.50    0.00    0.00    0.50    0.97    3.00
               *

     2910      KK  DRGL83RETRIEVE
     2911      KM   Retrieve divert DRGL83 from combination point CPOW83 and divert south to
     2912      KM   combination point CGL83
     2913      DR  DSGL83
               *
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     LINE      ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

     2914      KK  RSGL83   ROUTE
     2915      KM   Route diversion retrieval DRGL83 south to combination point CGL83
     2916      RS        2    FLOW
     2917      RC   0.035   0.015   0.035    2640  0.0041     0.00
     2918      RX    0.00    0.00   38.50   38.50  241.50  241.50  280.00  280.00
     2919      RY    3.00    0.88    0.50    0.00    0.00    0.50    0.88    3.00
               *
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```
KK    GL83   BASIN
KM   Runoff hydrograph for half square mile subbasin GL83 northeast of the
KM   intersection of Glendale Avenue and 83rd Avenue
BA   0.495
LG    0.27    0.16    7.00    0.11      28
UC   1.177   0.911
UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
UA     100
*

KK  ERGL83  DIVERT
KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
KM   retention developed after 1990 in subbasin GL83
DT   XGL83     16.3      0.0
DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
*

KK   CGL83 COMBINE
KM   Combine route RWGL83, route RSGL83, and subbasin GL83
HC        3     7.11
*

KK  PR83OWRETRIEVE
KM   Retrieve full flow capacity of 255 cfs from 72-inch storm drain pipe at the
KM   intersection of Orangewood Avenue and 83rd Avenue
DR  DP83OW
*

KK  RP83GL   ROUTE
KM   Route full flow capacity of 255 cfs through 72-inch storm drain pipe in
KM   83rd Avenue to the intersection of Glendale Avenue and 83rd Avenue
RK    2644  0.0036   0.015              CIRC   6.000
*

KK  CPGL83 COMBINE
KM   Combine pipe return PR83OW with the runoff hydrograph at combination point
KM   CGL83 at the intersection of Glendale Avenue and 83rd Avenue
HC        2
*
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LINE      ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

KK   DGL83  DIVERT
KM   Divert calculated full flow capapcity of 374 cfs into 84-inch storm drain
KM   pipe at the intersection of Glendale Avenue and 83rd Avenue
DT  DPGL83      0.0    374.0
DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
*

KK  DWGL91  DIVERT
KM   Divert remaining runoff hydrograph from combination point CPGL83 west to
KM   combination point CGL91
DT  DSBH83      0.0      0.0
DI      0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0  10000.0  20000.0  50000.0
DQ      0.0     63.0    126.0    315.0    630.0   1260.0   2520.0   6300.0  12600.0  31500.0
*

KK  RWGL91   ROUTE
KM   Route diversion DWGL91 west to combination point CGL92
RS        4     FLOW
RC   0.035   0.015   0.035    5280  0.0032     0.00
RX    0.00    0.00   33.00   33.00  197.00  197.00  230.00  230.00
RY    3.00    0.83    0.50    0.00    0.00    0.50    0.83    3.00
*

KK  DRGL91RETRIEVE
KM   Retrieve divert DRGL91 from combination point CCPNO91 and divert south to
KM   combination point CGL91
DR  DSGL91
*

KK  RSGL91   ROUTE
KM   Route diversion retrieval DRGL91 south to combination point CGL91
RS        2     FLOW
RC   0.035   0.015   0.035    5280  0.0032     0.00
RX    0.00    0.00   38.50   38.50  241.50  241.50  280.00  280.00
RY    3.00    0.88    0.50    0.00    0.00    0.50    0.88    3.00
*

KK    GL91   BASIN
KM   Runoff hydrograph for square mile subbasin GL91 northeast of the intersection
KM   of Glendale Avenue and 91st Avenue
BA   0.979
LG    0.28    0.19    6.80    0.13      25
UC   1.447   0.979
UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
UA     100
*
```



```
KK  ERGL91  DIVERT
KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
KM   retention developed after 1990 in subbasin GL91
DT   XGL91     51.6      0.0
DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
*
```



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LINE      ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

KK   CGL91 COMBINE
KM   Combine route RWGL91, route RSGL91, route RWoW91, and subbasin GL91
HC        4     9.02
*

KK  PRGL83RETRIEVE
KM   Retrieve full flow capacity of 374 cfs from 84-inch storm drain pipe at the
KM   intersection of Glendale Avenue and 83rd Avenue
DR  DPGL83
*

KK  RPGL91   ROUTE
KM   Route full flow capacity of 374 cfs through 84-inch storm drain pipe in
KM   Glendale Avenue to the intersection of Glendale Avenue and 91st Avenue
RK    5306  0.0034   0.015              CIRC   7.000
*

KK  CPGL91 COMBINE
KM   Combine pipe return PRGL83 with the runoff hydrograph at combination point
KM   CGL91 at the intersection of Glendale Avenue and 91st Avenue
HC        2
*

KK   DGL91  DIVERT
KM   Divert calculated full flow capapcity of 449 cfs into 90-inch storm drain
KM   pipe at the intersection of Glendale Avenue and 91st Avenue
DT  DPGL91      0.0    449.0
DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
*

KK  DWGLLO  DIVERT
KM   Divert remaining runoff hydrograph from combination point CPGL91 west to
KM   combination point CGLLO
DT  DSBH91      0.0      0.0
DI      0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0  10000.0  20000.0  50000.0
DQ      0.0     62.0    124.0    310.0    620.0   1240.0   2480.0   6200.0  12400.0  31000.0
*

KK  RWGLLO   ROUTE
KM   Route diversion DWGLLO west to combination point CGLLO
RS        3     FLOW
RC   0.035   0.015   0.035    4441  0.0027     0.00
RX    0.00    0.00   19.00   19.00  111.00  111.00  130.00  130.00
RY    3.00    0.69    0.50    0.00    0.00    0.50    0.69    3.00
*

KK    GLLO   BASIN
KM   Runoff hydrograph for subbasin GLLO northeast of the intersection of Glendale
KM   Avenue and SR Loop 101
BA   0.848
LG    0.37    0.21    6.60    0.18      21
UC   1.124   0.744
UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
```



```
LINE      ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

UA     100
*

KK  ERGLLO  DIVERT
KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
KM   retention developed after 1990 in subbasin GLLO
DT   XGLLO     17.5      0.0
DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
*

KK   CGLLO COMBINE
KM   Combine route RWGLLO, route RSGLLO, and subbasin GLLO
HC        3    15.23
*

KK  PRGL91RETRIEVE
KM   Retrieve full flow capacity of 449 cfs from 90-inch storm drain pipe at the
KM   intersection of Glendale Avenue and 91st Avenue
DR  DPGL91
*

KK  RPGLLO   ROUTE
```

```
3046          KM   Route full flow capacity of 449 cfs through 90-inch storm drain pipe in
3047          KM   Glendale Avenue to the intersection of Glendale Avenue and SR Loop 101
3048          RK    4160  0.0034   0.015             CIRC   7.500
              *

3049          KK  CPGLLO COMBINE
3050          KM   Combine pipe return PRGL91 with the runoff hydrograph at combination point
3051          KM   CGLLO at the intersection of Glendale Avenue and SR Loop 101
3052          HC       2
              *

3053          KK  RSBHLO   ROUTE
3054          KM   Route hydrograph at combination point CPGLLO south to combination point CBHLO
3055          RS       2    FLOW
3056          RC  0.035   0.015   0.035    5165  0.0005    0.00
3057          RX   0.00    4.00   16.00   34.00   57.00   74.00   86.00   89.00
3058          RY  10.24    9.24    9.00    0.00    0.20    8.70    8.97    9.94
              *

3059          KK  DIBH59RETRIEVE
3060          KM   Retrieve arterial street flow diverted to Bethany Home Road at the intersecti
3061          KM   of Bethany Home Road and Grand Avenue
3062          DR  DWBH59
              *

3063          KK  DRBH59RETRIEVE
3064          KM   Retrieve divert DRBH59 from combination point CGR59 and divert south to
3065          KM   combination point CIBHGR
3066          DR   DBH59
              *

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LINE          ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

3067          KK  SRGR59 STORAGE
3068          KM   Storage route runoff hydrograph from divert retrieval DRBH59 through ponding
3069          KM     area at Grand Avenue between 51st and 59th Avenues
3070          KM   Storage routing ID RES8 in DMJM HEC-1 revision (model BHGC00C6, Nov 2004)
3071          KM   Comments from DMJM model:
3072          KM   PONDING AREA RESERVOIR ROUTE
3073          KM   PONDING AREA NORTHEAST OF GRAND AVENUE/RR EMBANKMENT
3074          KM   SUB-BASIN 8-22E
3075          RS       1     STOR
3076          SV           14.95   50.65   78.30  116.78  220.43
3077          SQ            0.10    0.20  310.00 1070.00 4090.00
3078          SE  1148.0 1149.00 1150.00 1150.50 1151.00 1152.00
              *

3079          KK  CIBHGR COMBINE
3080          KM   Combine arterial street flow from Bethany Home Road DIBH59 with runoff
3081          KM   hydrograph DRBH59 at the intersection of Bethany Home Road and Grand Avenue
3082          HC       2    2.13
              *

3083          KK  RWBH59   ROUTE
3084          KM   Route hydrograph at combination point CIBHGR at the intersection of Bethany
3085          KM   Home Road and Grand Avenue west to combination point CBH59
3086          RS       4    FLOW
3087          RC  0.035   0.015   0.035    5280  0.0025    0.00
3088          RX   0.00    0.00   47.50   47.50  230.50  230.50  278.00  278.00
3089          RY   3.00    0.98    0.50    0.00    0.00    0.50    0.98    3.00
              *

3090          KK  DI59BHRETRIEVE
3091          KM   Retrieve arterial street flow diverted to 59th Avenue at the intersection
3092          KM   of Bethany Home Road and Grand Avenue
3093          DR  DSBH59
              *

3094          KK  RSBH59   ROUTE
3095          KM   Route diversion retrieval DI59HB at the intersection of Bethany Home Road and
3096          KM   59th Avenue south to combination point CBH59
3097          RS       3    FLOW
3098          RC  0.035   0.015   0.035    5280  0.0024    0.00
3099          RX   0.00    0.00   30.50   30.50  167.50  167.50  198.00  198.00
3100          RY   3.00    0.80    0.50    0.00    0.00    0.50    0.80    3.00
              *

3101          KK    BH59   BASIN
3102          KM   Runoff hydrograph for subbasin BH59 northeast of the intersection of Bethany
3103          KM   Home Road and 59th Avenue
3104          BA   0.493
3105          LG    0.17    0.26    5.00    0.23      66
3106          UC   0.687   0.365
3107          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
3108          UA     100
              *

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LINE          ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10
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3109          KK   CBH59 COMBINE
3110          KM   Combine route RWBH59, route RSBH59, and subbasin BH59
3111          HC       3    3.58
              *

3112          KK  DWBH67  DIVERT
3113          KM   Divert remaining runoff hydrograph from combination point CBH59 west to
3114          KM   combination point CBH67
3115          DT  DSCB59      0.0      0.0
3116          DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
3117          DQ     0.0    42.0    84.0   210.0   420.0   840.0  1680.0  4200.0  8400.0 21000.0
              *

3118          KK  RWBH67   ROUTE
3119          KM   Route diversion DWBH67 west to combination point CBH67
3120          RS       4    FLOW
3121          RC  0.035   0.015   0.035    5280  0.0028    0.00
3122          RX   0.00    0.00   68.50   68.50  359.50  359.50  428.00  428.00
3123          RY   3.00    1.18    0.50    0.00    0.00    0.50    1.18    3.00
              *

3124          KK  DRBH67RETRIEVE
3125          KM   Retrieve divert DRBH67 from combination point CGL75 and divert south to
3126          KM   combination point CBH67
3127          DR  DSBH67
              *

3128          KK  RSBH67   ROUTE
3129          KM   Route diversion retrieval DRBH67 south to combination point CBH67
3130          RS       8    FLOW
3131          RC  0.035   0.015   0.035    5280  0.0015    0.00
3132          RX   0.00    0.00   75.50   75.50  402.50  402.50  478.00  478.00
3133          RY   3.00    1.25    0.50    0.00    0.00    0.50    1.25    3.00
              *

3134          KK    BH67   BASIN
3135          KM   Runoff hydrograph for square mile subbasin BH67 northeast of the intersection
3136          KM   of Bethany Home Road and 67th Avenue
3137          BA   0.971
3138          LG    0.23    0.26    5.60    0.19      38
3139          UC   1.466   0.990
3140          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
3141          UA     100
              *

3142          KK   CBH67 COMBINE
3143          KM   Combine route RWBH67, route RSBH67, and subbasin BH67
3144          HC       3    5.24
              *

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LINE          ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

3145          KK  DWBH75  DIVERT
3146          KM   Divert remaining runoff hydrograph from combination point CBH67 west to
3147          KM   combination point CBH75
3148          DT  DSCB67      0.0      0.0
3149          DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
3150          DQ     0.0    44.0    88.0   220.0   440.0   880.0  1760.0  4400.0  8800.0 22000.0
              *

3151          KK  RWBH75   ROUTE
3152          KM   Route diversion DWBH75 west to combination point CBH75
3153          RS       3    FLOW
3154          RC  0.035   0.015   0.035    5280  0.0038    0.00
3155          RX   0.00    0.00   61.50   61.50  316.50  316.50  378.00  378.00
3156          RY   3.00    1.12    0.50    0.00    0.00    0.50    1.12    3.00
              *

3157          KK  DRBH75RETRIEVE
3158          KM   Retrieve divert DRBH75 from combination point CGL75 and divert south to
3159          KM   combination point CBH75
3160          DR  DSBH75
              *

3161          KK  RSBH75   ROUTE
3162          KM   Route diversion retrieval DRBH75 south to combination point CBH75
3163          RS       4    FLOW
3164          RC  0.035   0.015   0.035    5280  0.0019    0.00
3165          RX   0.00    0.00   68.50   68.50  359.50  359.50  428.00  428.00
3166          RY   3.00    1.18    0.50    0.00    0.00    0.50    1.18    3.00
              *

3167          KK    BH75   BASIN
3168          KM   Runoff hydrograph for square mile subbasin BH75 northeast of the intersection
3169          KM   of Bethany Home Road and 75th Avenue
3170          BA   1.003
3171          LG    0.27    0.15    9.70    0.05      32
3172          UC   1.384   0.922
3173          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
3174          UA     100
              *
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3175          KK  ERBH75  DIVERT
3176          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
3177          KM   retention developed after 1990 in subbasin BH75
3178          DT  XBH75     60.1      0.0
3179          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
3180          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *


3181          KK   CBH75 COMBINE
3182          KM   Combine route RWBH75, route RSBH75, and subbasin BH75
3183          HC        3    8.42
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


3184          KK  DWBH83  DIVERT
3185          KM   Divert remaining runoff hydrograph from combination point CBH75 west to
3186          KM   combination point CBH83
3187          DT  DSCB75      0.0      0.0
3188          DI     0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0  10000.0  20000.0  50000.0
3189          DQ     0.0     53.0    106.0    265.0    530.0   1060.0   2120.0   5300.0  10600.0  26500.0
              *


3190          KK  RWBH83   ROUTE
3191          KM   Route diversion DWBH83 west to combination point CBH83
3192          RS        5     FLOW
3193          RC   0.035    0.015    0.035     5280   0.0034     0.00
3194          RX    0.00     0.00    47.50    47.50   230.50   230.50   278.00   278.00
3195          RY    3.00     0.98     0.50     0.00     0.00     0.50     0.98     3.00
              *


3196          KK  DRBH83RETRIEVE
3197          KM   Retrieve divert DRBH83 from combination point CGL83 and divert south to
3198          KM   combination point CBH83
3199          DR  DSBH83
              *


3200          KK  RSBH83   ROUTE
3201          KM   Route diversion retrieval DRBH83 south to combination point CBH83
3202          RS        5     FLOW
3203          RC   0.035    0.015    0.035     5280   0.0021     0.00
3204          RX    0.00     0.00    72.50    72.50   425.50   425.50   498.00   498.00
3205          RY    3.00     1.23     0.50     0.00     0.00     0.50     1.23     3.00
              *


3206          KK    BH83   BASIN
3207          KM   Runoff hydrograph for square mile subbasin BH83 northeast of the intersection
3208          KM   of Bethany Home Road and 83rd Avenue
3209          BA   0.998
3210          LG    0.27     0.19     7.60     0.09       24
3211          UC   1.336    0.893
3212          UA        0      5.0     16.0     30.0     65.0     77.0     84.0     90.0     94.0     97.0
3213          UA      100
              *


3214          KK  ERBH83  DIVERT
3215          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
3216          KM   retention developed after 1990 in subbasin BH83
3217          DT  XBH83     57.0      0.0
3218          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
3219          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *


3220          KK   CBH83 COMBINE
3221          KM   Combine route RWBH83, route RSBH83, and subbasin BH83
3222          HC        3    9.47
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


3223          KK  DWBH91  DIVERT
3224          KM   Divert remaining runoff hydrograph from combination point CBH83 west to
3225          KM   combination point CIBH83
3226          DT  DSGC83      0.0      0.0
3227          DI     0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0  10000.0  20000.0  50000.0
3228          DQ     0.0     34.0     68.0    170.0    340.0    680.0   1360.0   3400.0   6800.0  17000.0
              *


3229          KK  DRCB27RETRIEVE
3230          KM   Retrieve divert DRCB27 from combination point CPBH27 and divert south to
3231          KM   combination point CCB27
3232          DR  DSCB27
              *


3233          KK  RSCB27   ROUTE
3234          KM   Route diversion retrieval DRCB27 south to combination point CCB27
3235          RS        4     FLOW
3236          RC   0.035    0.015    0.035     5280   0.0037     0.00
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3237          RX    0.00     0.00    26.00    26.00   148.00   148.00   174.00   174.00
3238          RY    3.00     0.76     0.50     0.00     0.00     0.50     0.76     3.00
              *


3239          KK    CB27   BASIN
3240          KM   Runoff hydrograph for subbasin CB27 northeast of the intersection of
3241          KM   Camelback Road and 27th Avenue
3242          BA   0.262
3243          LG    0.20     0.25     5.10     0.22       54
3244          UC   0.855    0.673
3245          UA        0      5.0     16.0     30.0     65.0     77.0     84.0     90.0     94.0     97.0
3246          UA      100
              *


3247          KK   CCB27 COMBINE
3248          KM   Combine route RSCB27, and subbasin CB27
3249          HC        2    1.50
              *


3250          KK  PR27BHRETRIEVE
3251          KM   Retrieve full flow capacity of 132 cfs from 57-inch diameter pipe at the
3252          KM   intersection of Bethany Home Road and 27th Avenue
3253          DR  DP27BH
              *


3254          KK  RP27CB   ROUTE
3255          KM   Route full flow capacity of 132 cfs through 57-inch storm drain pipe in
3256          KM   27th Avenue to the intersection of 27th Avenue and Camelback Road
3257          RK     5336  0.0034    0.015             CIRC    4.750
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


3258          KK  CPCB27 COMBINE
3259          KM   Combine pipe return PR27BH with the runoff hydrograph at combination point
3260          KM   CGL83 at the intersection of Camelback Road and 27th Avenue
3261          HC        2
              *


3262          KK   D27CB  DIVERT
3263          KM   Divert calculated full flow capapcity of 132 cfs into 57-inch storm drain
3264          KM   pipe at the intersection of Camelback Road and 27th Avenue
3265          DT  DP27CB      0.0    132.0
3266          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
3267          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *


3268          KK  DWCB35  DIVERT
3269          KM   Divert remaining runoff hydrograph from combination point CPCB27 west to
3270          KM   combination point CCB35
3271          DT  DSIS27      0.0      0.0
3272          DI     0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0  10000.0  20000.0  50000.0
3273          DQ     0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0  10000.0  20000.0  50000.0
              *


3274          KK  RWCB35   ROUTE
3275          KM   Route diversion DWCB35 west to combination point CCB35
3276          RS        1     FLOW
3277          RC   0.035    0.015    0.035     5280   0.0006     0.00
3278          RX    0.00     0.00   105.00   105.00   494.00   494.00   599.00   599.00
3279          RY    3.00     1.55     0.50     0.00     0.00     0.50     1.55     3.00
              *


3280          KK  DRCB35RETRIEVE
3281          KM   Retrieve divert DRCB35 from combination point CPBH35 and divert south to
3282          KM   combination point CCB35
3283          DR  DSCB35
              *


3284          KK  RSCB35   ROUTE
3285          KM   Route diversion retrieval DRCB35 south to combination point CCB35
3286          RS        3     FLOW
3287          RC   0.035    0.015    0.035     5280   0.0040     0.00
3288          RX    0.00     0.00    95.50    95.50   453.50   453.50   549.00   549.00
3289          RY    3.00     1.46     0.50     0.00     0.00     0.50     1.46     3.00
              *


3290          KK    CB35   BASIN
3291          KM   Runoff hydrograph for square mile subbasin CB35 northeast of the intersection
3292          KM   of Camelback Road and 35th Avenue
3293          BA   1.000
3294          LG    0.24     0.25     5.00     0.25       39
3295          UC   1.483    0.997
3296          UA        0      5.0     16.0     30.0     65.0     77.0     84.0     90.0     94.0     97.0
3297          UA      100
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10
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3298          KK   CCB35 COMBINE
3299          KM   Combine route RWCB35, route RSCB35, and subbasin CB35
3300          HC       3    2.94
              *

3301          KK  PR27CBRETRIEVE
3302          KM   Retrieve combined full flow capacity of 132 cfs from 57-inch equivalent
3303          KM   diameter pipe at the intersection of Camelback Road and 27th Avenue
3304          DR  DP27CB
              *

3305          KK  CPCB29 COMBINE
3306          KM   Combine pipe return PR27CB with the runoff hydrograph at combination point
3307          KM   CCB29 at the intersection of Camelback Road and 29thth Avenue
3308          HC       2
              *

3309          KK   D29CB  DIVERT
3310          KM   Divert calculated full flow capapcity of 132 cfs into 57-inch storm drain
3311          KM   pipe at the intersection of Camelback Road and 29th Avenue
3312          DT  DP29CB      0.0   132.0
3313          DI      0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
3314          DQ      0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

3315          KK  PR35BHRETRIEVE
3316          KM   Retrieve combined full flow capacity of 226 cfs from 69-inch equivalent
3317          KM   diameter pipe at the intersection of Bethany Home Road and 35th Avenue
3318          DR  DP35BH
              *

3319          KK  RP35CB   ROUTE
3320          KM   Route the combined full flow capacity of 226 cfs through an equivalent storm
3321          KM   drain pipe diameter of 69 inches in 35th Avenue to the intersection of
3322          KM   35th Avenue and Camelback Road
3323          RK    5249  0.0037   0.015            CIRC   5.750
              *

3324          KK  CPCB35 COMBINE
3325          KM   Combine pipe return PR35BH with the runoff hydrograph at combination point
3326          KM   CCB35 at the intersection of Camelback Road and 35th Avenue
3327          HC       2
              *

3328          KK   D35CB  DIVERT
3329          KM   Capacity of storm drain in 31st Avenue and 35th Avenue diverted together.
3330          KM   Divert combined calculated full flow capacity of 213 cfs in the 66-inch storm
3331          KM   drain pipe in 31st Avenue and 40 cfs in the 36-inch storm drain pipe in
3332          KM   35th Avenue. The total calculated combined full flow capacity diverted at the
3333          KM   intersection of 35th Avenue and Camelback Road is 253 cfs in an equivalent
3334          KM   diameter pipe of 73 inches
3335          DT  DP35CB      0.0   253.0
3336          DI      0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
3337          DQ      0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

3338          KK  DWCB43  DIVERT
3339          KM   Divert remaining runoff hydrograph from combination point CPCB35 west to
3340          KM   combination point CCB43
3341          DT  DSIS35      0.0     0.0
3342          DI      0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
3343          DQ      0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
              *

3344          KK  RWCB43   ROUTE
3345          KM   Route diversion DWCB43 west to combination point CCB43
3346          RS       1    FLOW
3347          RC   0.035   0.015   0.035    5280  0.0001    0.00
3348          RX    0.00    0.00   86.00   86.00  413.00  413.00  499.00  499.00
3349          RY    3.00    1.36    0.50    0.00    0.00    0.50    1.36    3.00
              *

3350          KK  DRCB43RETRIEVE
3351          KM   Retrieve divert DRCB43 from combination point CPBH43 and divert south to
3352          KM   combination point CCB43
3353          DR  DSCB43
              *

3354          KK  RSCB43   ROUTE
3355          KM   Route diversion retrieval DRCB43 south to combination point CCB43
3356          RS       4    FLOW
3357          RC   0.035   0.015   0.035    5280  0.0032    0.00
3358          RX    0.00    0.00   57.50   57.50  291.50  291.50  349.00  349.00
3359          RY    3.00    1.08    0.50    0.00    0.00    0.50    1.08    3.00
              *

3360          KK    CB43   BASIN
3361          KM   Runoff hydrograph for square mile subbasin CB43 northeast of the intersection
3362          KM   of Camelback Road and 43rd Avenue
```



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3363          BA   0.999
3364          LG    0.24    0.25    4.80    0.26      35
3365          UC   0.959   0.353
3366          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
3367          UA     100
              *

3368          KK   CCB43 COMBINE
3369          KM   Combine route RWCB43, route RSCB43, and subbasin CB43
3370          HC       3    2.12
              *

3371          KK  PR43BHRETRIEVE
3372          KM   Retrieve combined full flow capacity of 385 cfs from 85-inch equivalent
3373          KM   diameter pipe at the intersection of Bethany Home Road and 43rd Avenue
3374          DR  DP43BH
              *

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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

3375          KK  RP43CB   ROUTE
3376          KM   Route the combined full flow capacity of 385 cfs through an equivalent storm
3377          KM   drain pipe diameter of 85 inches in 43rd Avenue to the intersection of
3378          KM   43rd Avenue and Camelback Road
3379          RK    5172  0.0035   0.015            CIRC   7.083
              *

3380          KK  CPCB43 COMBINE
3381          KM   Combine pipe return PR43BH with the runoff hydrograph at combination point
3382          KM   CCB43 at the intersection of Camelback Road and 43rd Avenue
3383          HC       2
              *

3384          KK   D39CB  DIVERT
3385          KM   Divert calculated full flow capapcity of 268 cfs into 72-inch storm drain
3386          KM   pipe at the intersection of Camelback Road and 39th Avenue
3387          DT  DP39CB      0.0   268.0
3388          DI      0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
3389          DQ      0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

3390          KK   D43CB  DIVERT
3391          KM   Divert calculated full flow capapcity of 155 cfs into 60-inch storm drain
3392          KM   pipe at the intersection of Camelback Road and 43rd Avenue
3393          DT  DP43CB      0.0   155.0
3394          DI      0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
3395          DQ      0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

3396          KK  DWGR43  DIVERT
3397          KM   Divert portion of runoff hydrograph from combination point CPCB43 west
3398          KM   through subbasin GR43 using the ratio of the widths and slopes of the streets
3399          KM   going west and the widths and slopes of the streets going south. The
3400          KM   remaining flow is diverted south through subbasin IS43
3401          DT  DSGR35      0.0     0.0
3402          DI      0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
3403          DQ      0.0    57.0   114.0   285.0   570.0  1140.0  2280.0  5700.0 11400.0 28500.0
              *

3404          KK   DGR43  DIVERT
3405          KM   Divert portion of DWGR43 west to subbasin GR43 using the ratio of the width
3406          KM   of the collector and local streets and the width of the arterial street. The
3407          KM   remaining flow is diverted west to subbasin CB51 along Camelback Road
3408          DT   DCB51      0.0     0.0
3409          DI      0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
3410          DQ      0.0    25.0    50.0   125.0   250.0   500.0  1000.0  2500.0  5000.0 12500.0
              *

3411          KK  DRGR43RETRIEVE
3412          KM   Retrieve divert DRGR43 from combination point CPBH51 and divert south to
3413          KM   combination point CGR43
3414          DR  DSGR43
              *

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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

3415          KK  RSGR43   ROUTE
3416          KM   Route diversion retrieval DRGR43 south to combination point CGR43
3417          RS       6    FLOW
3418          RC   0.035   0.015   0.035    7370  0.0013    0.00
3419          RX    0.00    0.00   31.50   31.50  143.50  143.50  175.00  175.00
3420          RY    3.00    0.82    0.50    0.00    0.00    0.50    0.82    3.00
              *

3421          KK    GR43   BASIN
3422          KM   Runoff hydrograph for subbasin GR43 northwest of the intersection of Grand
3423          KM   Avenue and 43rd Avenue
3424          BA   0.514
3425          LG    0.22    0.26    4.90    0.24      44
```

```
3426          UC   0.792   0.421
3427          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
3428          UA     100
              *

3429          KK  ERGR43  DIVERT
3430          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
3431          KM   retention developed after 1990 in subbasin GR43
3432          DT   XGR43      2.4      0.0
3433          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
3434          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

3435          KK   CGR43 COMBINE
3436          KM   Combine route RSGR43, remainder of combination point CPCB43, and subbasin
3437          KM   GR43
3438          HC       3    2.28
              *

3439          KK  SRGR43 STORAGE
3440          KM   Combined storage routing IDs BCm1 and BCm2 from PEC model, Feb 2008
3441          KM   Storage routing through two basins along Grand Avenue between 51st Avenue and
3442          KM     Bethany Home and 43rd Avenue and Camelback
3443          RS       1    STOR
3444          SV             20.40   65.70  122.40  136.72  212.40  323.58  339.80
3445          SE  1126.0  1131.0  1136.0  1141.0  1142.0  1146.0  1150.0  1151.0
3446          SQ     0.0     0.0     0.0    10.0    17.0    40.0    80.0   100.0   160.0     200
3447          SQ   300.0   400.0   500.0   600.0   700.0   800.0   900.0  1000.0  1100.0
3448          SE  1126.0  1140.0  1142.5 1142.67  1142.7 1142.8 1142.91 1142.95 1143.05   1143.
3449          SE  1143.2 1143.38 1143.48 1143.58 1143.67 1143.75 1143.83 1143.91 1143.98
              *

3450          KK   DGR35  DIVERT
3451          KM   Divert portion of runoff hydrograph from combination point CGR43 west to
3452          KM   combination point CICBGR using the ratio of the widths and slopes of the
3453          KM   streets going east and the widths and slopes of the streets going south. The
3454          KM   remaining flow is diverted east through subbasin GR35 along Grand Avenue.
3455          DT  DEGR35      0.0      0.0
3456          DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
3457          DQ     0.0    35.0    70.0   175.0   350.0   700.0  1400.0  3500.0  7000.0 17500.0
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

3458          KK  DWCB51  DIVERT
3459          KM   Divert portion of DGR35 south to subbasin IS43 using the ratio of the width
3460          KM   of the collector and local streets and the width of the arterial street. The
3461          KM   remaining flow is diverted west to combination point CICBGR at the
3462          KM   intersection of Camelback Road and 51st Avenue
3463          DT  DSIS43      0.0      0.0
3464          DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
3465          DQ     0.0    65.0   130.0   325.0   650.0  1300.0  2600.0  6500.0 13000.0 32500.0
              *

3466          KK  DICB51RETRIEVE
3467          KM   Retrieve arterial street flow diverted to Camelback Road at the intersection
3468          KM   of Bethany Home Road and 51st Avenue
3469          DR   DCB51
              *

3470          KK  CICBGR COMBINE
3471          KM   Combine arterial street flow from Camelback Rd DICB51 with runoff hydrograph
3472          KM   DWCB51 at the intersection of Camelback Road and 51st Avenue
3473          HC       2    0.74
              *

3474          KK  RWCB51   ROUTE
3475          KM   Route hydrograph at combination point CICBGR at the intersection of Camelback
3476          KM   Road and 51st Avenue west to combination point CCB51
3477          RS       5    FLOW
3478          RC   0.035   0.015   0.035    5280  0.0014     0.00
3479          RX    0.00    0.00   16.50   16.50  107.50  107.50  124.00  124.00
3480          RY    3.00    0.66    0.50    0.00    0.00    0.50    0.66    3.00
              *

3481          KK    CB51   BASIN
3482          KM   Runoff hydrograph for subbasin CB51 northeast of the intersection
3483          KM   of Camelback Road and 51st Avenue
3484          BA   0.483
3485          LG    0.15    0.25    5.00    0.23      80
3486          UC   0.449   0.227
3487          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
3488          UA     100
              *

3489          KK   CCB51 COMBINE
3490          KM   Combine hydrograph at combination point CICBGR and subbasin CB51
3491          HC       2    1.23
              *

3492          KK  DWCB59  DIVERT
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3493          KM   Divert remaining runoff hydrograph from combination point CCB51 west to
3494          KM   combination point CCB59
3495          DT  DSIS51      0.0      0.0
3496          DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
3497          DQ     0.0    51.0   102.0   255.0   510.0  1020.0  2040.0  5100.0 10200.0 25500.0
              *
```



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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

3498          KK  RWCB59   ROUTE
3499          KM   Route diversion DWCB59 west to combination point CCB59
3500          RS       4    FLOW
3501          RC   0.035   0.015   0.035    5280  0.0023     0.00
3502          RX    0.00    0.00   48.00   48.00  251.00  251.00  299.00  299.00
3503          RY    3.00    0.98    0.50    0.00    0.00    0.50    0.98    3.00
              *

3504          KK  DRCB59RETRIEVE
3505          KM   Retrieve divert DRCB59 from combination point CBH59 and divert south to
3506          KM   combination point CCB59
3507          DR  DSCB59
              *

3508          KK  RSCB59   ROUTE
3509          KM   Route diversion retrieval DRCB59 south to combination point CCB59
3510          RS       4    FLOW
3511          RC   0.035   0.015   0.035    5280  0.0030     0.00
3512          RX    0.00    0.00   48.00   48.00  251.00  251.00  299.00  299.00
3513          RY    3.00    0.98    0.50    0.00    0.00    0.50    0.98    3.00
              *

3514          KK    CB59   BASIN
3515          KM   Runoff hydrograph for square mile subbasin CB59 northeast of the intersection
3516          KM   of Camelback Road and 59th Avenue
3517          BA   1.010
3518          LG    0.18    0.27    5.10    0.22      60
3519          UC   1.068   0.695
3520          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
3521          UA     100
              *

3522          KK  ERCB59  DIVERT
3523          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
3524          KM   retention developed after 1990 in subbasin CB59
3525          DT   XCB59      2.9      0.0
3526          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
3527          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

3528          KK   CCB59 COMBINE
3529          KM   Combine route RWCB59, route RSCB59, and subbasin CB59
3530          HC       3    3.11
              *

3531          KK  DWCB67  DIVERT
3532          KM   Divert remaining runoff hydrograph from combination point CCB59 west to
3533          KM   combination point CCB67
3534          DT  DSIS59      0.0      0.0
3535          DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
3536          DQ     0.0    53.0   106.0   265.0   530.0  1060.0  2120.0  5300.0 10600.0 26500.0
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

3537          KK  RWCB67   ROUTE
3538          KM   Route diversion DWCB67 west to combination point CCB67
3539          RS       3    FLOW
3540          RC   0.035   0.015   0.035    5280  0.0025     0.00
3541          RX    0.00    0.00   67.00   67.00  332.00  332.00  399.00  399.00
3542          RY    3.00    1.17    0.50    0.00    0.00    0.50    1.17    3.00
              *

3543          KK  DRCB67RETRIEVE
3544          KM   Retrieve divert DRCB67 from combination point CBH67 and divert south to
3545          KM   combination point CCB67
3546          DR  DSCB67
              *

3547          KK  RSCB67   ROUTE
3548          KM   Route diversion retrieval DRCB67 south to combination point CCB67
3549          RS       4    FLOW
3550          RC   0.035   0.015   0.035    5280  0.0027     0.00
3551          RX    0.00    0.00   57.50   57.50  291.50  291.50  349.00  349.00
3552          RY    3.00    1.08    0.50    0.00    0.00    0.50    1.08    3.00
              *

3553          KK    CB67   BASIN
3554          KM   Runoff hydrograph for square mile subbasin CB67 northeast of the intersection
3555          KM   of Camelback Road and 67th Avenue
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3556          BA   0.970
3557          LG    0.24    0.15    7.60    0.08      35
3558          UC   1.394   0.936
3559          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
3560          UA     100
              *

3561          KK  ERCB67  DIVERT
3562          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
3563          KM   retention developed after 1990 in subbasin CB67
3564          DT   XCB67     1.8     0.0
3565          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
3566          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

3567          KK   CCB67 COMBINE
3568          KM   Combine route RWCB67, route RSCB67, and subbasin CB67
3569          HC       3    4.73
              *

3570          KK  DWCB75  DIVERT
3571          KM   Divert remaining runoff hydrograph from combination point CCB67 west to
3572          KM   combination point CCB75
3573          DT  DSGC67     0.0     0.0
3574          DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
3575          DQ     0.0    43.0    86.0   215.0   430.0   860.0  1720.0  4300.0  8600.0 21500.0
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

3576          KK  RWCB75   ROUTE
3577          KM   Route diversion DWCB75 west to combination point CCB75
3578          RS       4    FLOW
3579          RC   0.035   0.015   0.035    5280  0.0024     0.00
3580          RX    0.00    0.00   86.00   86.00  413.00  413.00  499.00  499.00
3581          RY    3.00    1.36    0.50    0.00    0.00    0.50    1.36    3.00
              *

3582          KK  DRCB75RETRIEVE
3583          KM   Retrieve divert DRCB75 from combination point CBH75 and divert south to
3584          KM   combination point CCB75
3585          DR  DSCB75
              *

3586          KK  RSCB75   ROUTE
3587          KM   Route diversion retrieval DRCB75 south to combination point CCB75
3588          RS       7    FLOW
3589          RC   0.035   0.015   0.035    5280  0.0013     0.00
3590          RX    0.00    0.00   86.00   86.00  413.00  413.00  499.00  499.00
3591          RY    3.00    1.36    0.50    0.00    0.00    0.50    1.36    3.00
              *

3592          KK    CB75   BASIN
3593          KM   Runoff hydrograph for square mile subbasin CB75 northeast of the intersection
3594          KM   of Camelback Road and 75th Avenue
3595          BA   0.998
3596          LG    0.25    0.15    7.30    0.10      32
3597          UC   1.470   0.989
3598          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
3599          UA     100
              *

3600          KK  ERCB75  DIVERT
3601          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
3602          KM   retention developed after 1990 in subbasin CB75
3603          DT   XCB75    23.2     0.0
3604          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
3605          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

3606          KK   CCB75 COMBINE
3607          KM   Combine RWCB75, route RSCB75, and subbasin CB75
3608          HC       3    8.14
              *

3609          KK  DWGC83  DIVERT
3610          KM   Divert remaining runoff hydrograph from combination point CCB75 west to
3611          KM   combination point CICB75
3612          DT  DSGC75     0.0     0.0
3613          DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
3614          DQ     0.0    44.0    88.0   220.0   440.0   880.0  1760.0  4400.0  8800.0 22000.0
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

3615          KK  DRIS27RETRIEVE
3616          KM   Retrieve divert DRIS27 from combination point CPCB27 and divert south to
3617          KM   combination point CIS27
3618          DR  DSIS27
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              *

3619          KK  RSIS27   ROUTE
3620          KM   Route diversion retrieval DRIS27 south to combination point CIS27
3621          RS       3    FLOW
3622          RC   0.035   0.015   0.035    5280  0.0038     0.00
3623          RX    0.00    0.00   26.00   26.00  148.00  148.00  174.00  174.00
3624          RY    3.00    0.76    0.50    0.00    0.00    0.50    0.76    3.00
              *

3625          KK    IS27   BASIN
3626          KM   Runoff hydrograph for subbasin IS27 northeast of the intersection of Indian
3627          KM   School Road and 27th Avenue
3628          BA   0.239
3629          LG    0.20    0.15    7.30    0.09      58
3630          UC   1.057   0.890
3631          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
3632          UA     100
              *

3633          KK   CIS27 COMBINE
3634          KM   Combine route RSIS27 and subbasin IS27
3635          HC       2    1.74
              *

3636          KK  PR29CBRETRIEVE
3637          KM   Retrieve full flow capacity of 132 cfs from 57-inch storm drain pipe at the
3638          KM   intersection of Camelback Road and 29th Avenue
3639          DR  DP29CB
              *

3640          KK  RP27IS   ROUTE
3641          KM   Route full flow capacity of 132 cfs through 57-inch storm drain pipe in
3642          KM   27th Avenue to the intersection of Indian School Road and 43rd Avenue
3643          RK    5210  0.0034   0.015             CIRC   4.750
              *

3644          KK  CPIS27 COMBINE
3645          KM   Combine pipe return PR29CB with the runoff hydrograph at combination point
3646          KM   CIS27 at the intersection of Indian School Road and 27th Avenue
3647          HC       2
              *

3648          KK   D27IS  DIVERT
3649          KM   Divert calculated full flow capapcity of 151 cfs into 60-inch storm drain
3650          KM   pipe at the intersection of Indian School Road and 27th Avenue
3651          DT  DP27IS     0.0   151.0
3652          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
3653          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

3654          KK  DWIS35  DIVERT
3655          KM   Divert remaining runoff hydrograph from combination point CIS27 west to
3656          KM   combination point CIS35
3657          DT  DSGC27     0.0     0.0
3658          DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
3659          DQ     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
              *

3660          KK  RWIS35   ROUTE
3661          KM   Route diversion DWIS35 west to combination point CIS35
3662          RS       1    FLOW
3663          RC   0.035   0.015   0.035    5280  0.0006     0.00
3664          RX    0.00    0.00   95.50   95.50  453.50  453.50  549.00  549.00
3665          RY    3.00    1.46    0.50    0.00    0.00    0.50    1.46    3.00
              *

3666          KK  DRIS35RETRIEVE
3667          KM   Retrieve divert DRIS35 from combination point CPCB35 and divert south to
3668          KM   combination point CIS35
3669          DR  DSIS35
              *

3670          KK  RSIS35   ROUTE
3671          KM   Route diversion retrieval DRIS35 south to combination point CIS35
3672          RS       3    FLOW
3673          RC   0.035   0.015   0.035    5280  0.0038     0.00
3674          RX    0.00    0.00   86.00   86.00  413.00  413.00  499.00  499.00
3675          RY    3.00    1.36    0.50    0.00    0.00    0.50    1.36    3.00
              *

3676          KK    IS35   BASIN
3677          KM   Runoff hydrograph for square mile subbasin IS35 northeast of the intersection
3678          KM   Indian School Road and 35th Avenue
3679          BA   0.990
3680          LG    0.24    0.15    7.60    0.09      31
3681          UC   0.883   0.324
3682          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
3683          UA     100
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                *
3684            KK   CIS35 COMBINE
3685            KM   Combine route RWIS35, route RSIS35, and subbasin IS35
3686            HC        3    3.93
                *

3687            KK  PR35CBRETRIEVE
3688            KM   Retrieve combined full flow capacity of 253 cfs from 73-inch equivalent
3689            KM   diameter pipe at the intersection of Camelback Road and 35th Avenue
3690            DR  DP35CB
                *
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LINE            ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


3691            KK  RP35IS   ROUTE
3692            KM   Route the combined full flow capacity of 253 cfs through an equivalent storm
3693            KM   drain pipe diameter of 73 inches in 35th Avenue to the intersection of
3694            KM   35th Avenue and Indian School Road
3695            RK    2083  0.0037   0.015            CIRC   6.083
                *

3696            KK  CPIS35 COMBINE
3697            KM   Combine pipe return PR35CB with the runoff hydrograph at combination point
3698            KM   CIS35 at the intersection of Indian School Road and 35th Avenue
3699            HC        2
                *

3700            KK   D31IS  DIVERT
3701            KM   Divert calculated full flow capapcity of 268 cfs into 72-inch storm drain
3702            KM   pipe at the intersection of Indian School Road and 31st Avenue
3703            DT  DP31IS      0.0     268.0
3704            DI      0.0 50000.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0
3705            DQ      0.0 50000.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0
                *

3706            KK   D35IS  DIVERT
3707            KM   Divert calculated full flow capapcity of 40 cfs into 36-inch storm drain
3708            KM   pipe at the intersection of Indian School Road and 35th Avenue
3709            DT  DP35IS      0.0      40.0
3710            DI      0.0 50000.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0
3711            DQ      0.0 50000.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0
                *

3712            KK  DWGR35  DIVERT
3713            KM   Divert remaining runoff hydrograph from combination point CIS35 west to
3714            KM   combination point CGR35
3715            DT  DSGC35      0.0       0.0
3716            DI      0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
3717            DQ      0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
                *

3718            KK  DIGR35RETRIEVE
3719            KM   Retrieve arterial street flow diverted to Grand Avenue at the intersection
3720            KM   of Grand Avenue and 35th Avenue
3721            DR  DEGR35
                *

3722            KK  DRGR35RETRIEVE
3723            KM   Retrieve subbasin flow diverted to the intersection of 43rd Avenue and
3724            KM   Grand Avenue
3725            DR  DSGR35
                *
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LINE            ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


3726            KK   D35GR  DIVERT
3727            KM   Divert portion of divert return DRGR35 south to subbasin GR35 using the ratio
3728            KM   of the width of the collector and local streets and the width of the arterial
3729            KM   street. The remaining flow is diverted south to combination point CICB43
3730            KM   along 43rd Avenue
3731            DT  DS43IS      0.0       0.0
3732            DI      0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
3733            DQ      0.0    36.0    72.0   180.0   360.0   720.0  1440.0  3600.0  7200.0 18000.0
                *

3734            KK  CIGR43 COMBINE
3735            KM   Combine arterial street flow from Grand Avenue DIGR35 with runoff hydrograph
3736            KM   D35GR at the intersection of 43rd Avenue and Grand Avenue
3737            HC        2    1.58
                *

3738            KK  RSGR35   ROUTE
3739            KM   Route hydrograph at combination point CIGR43 at the intersection of Grand
3740            KM   Avenue and 43rd Avenue south to combination point CGR35
3741            RS        5    FLOW
3742            RC    0.035   0.015   0.035    7095  0.0033    0.00
3743            RX     0.00    0.00   48.00   48.00  251.00  251.00  299.00  299.00
3744            RY     3.00    0.98    0.50    0.00    0.00    0.50    0.98    3.00
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                *
3745            KK    GR35   BASIN
3746            KM   Runoff hydrograph for subbasin GR35 northwest of the intersection of Grand
3747            KM   Avenue, 35th Avenue, and Indian School Road
3748            BA   0.531
3749            LG    0.21    0.26    4.80    0.26      49
3750            UC   0.790   0.425
3751            UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
3752            UA     100
                *

3753            KK   CGR35 COMBINE
3754            KM   Combine divert DWGR35, route RSGR35, and subbasin GR35
3755            HC        3    2.11
                *

3756            KK  PR39CBRETRIEVE
3757            KM   Retrieve full flow capacity of 268 cfs from 72-inch diameter pipe at the
3758            KM   intersection of Camelback Road and 39th Avenue
3759            DR  DP39CB
                *

3760            KK  RP39GR   ROUTE
3761            KM   Route the full flow capacity of 268 cfs through 72-inch storm drain pipe
3762            KM   diameter in 39th Avenue to the intersection of 39th Avenue and Indian School
3763            KM   Road
3764            RK    2846  0.0040   0.015            CIRC   6.000
                *
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LINE            ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


3765            KK  CPGR35 COMBINE
3766            KM   Combine pipe return PR39CB with the runoff hydrograph at combination point
3767            KM   CGC35 at the intersection of Grand Avenue and 35th Avenue
3768            HC        2
                *

3769            KK  DP39GR  DIVERT
3770            KM   Divert calculated full flow capapcity of 251 cfs into 72-inch storm drain
3771            KM   pipe at the intersection of Grand Avenue and 39th Avenue. The pipe flow is
3772            KM   followed to combination point CPIS43 and the remaining surface flow is
3773            KM   diverted to combination point CIIS53 at the intersection of Indian School
3774            KM   Road and 35th Avenue
3775            DT  D39GR       0.0       0.0
3776            DI      0.0   251.0   251.1 50000.0       0.0       0.0       0.0       0.0       0.0       0.0
3777            DQ      0.0       0.0       0.1 49749.0       0.0       0.0       0.0       0.0       0.0       0.0
                *

3778            KK  RP39IS   ROUTE
3779            KM   Route the full flow capacity of 251 cfs through 72-inch storm drain pipe
3780            KM   diameter in 39th Avenue to the intersection of 39th Avenue and Indian School
3781            KM   Road
3782            RK    2428  0.0035   0.015            CIRC   6.000
                *

3783            KK  DRIS43RETRIEVE
3784            KM   Retrieve divert DRIS43 in 43rd Avenue from combination point CGR43 and divert
3785            KM   south to intersection combination point CICB43
3786            DR  DSIS43
                *

3787            KK  DI43ISRETRIEVE
3788            KM   Retrieve subbasin flow diverted to the intersection of Camelback Road and
3789            KM   43rd Avenue
3790            DR  DS43IS
                *

3791            KK  CICB43 COMBINE
3792            KM   Combine arterial street flow from 43rd Avenue DRIS43 with arterial street
3793            KM   flow DI43IS at the intersection of 43rd Avenue and Camelback Road
3794            HC        2    1.40
                *

3795            KK  RSIS43   ROUTE
3796            KM   Route hydrograph at intersection combination point CICB43 at the intersection
3797            KM   of Camelback Road and 43rd Avenue south to combination point CIS43
3798            RS        3    FLOW
3799            RC    0.035   0.015   0.035    5280  0.0048    0.00
3800            RX     0.00    0.00   16.50   16.50  107.50  107.50  124.00  124.00
3801            RY     3.00    0.66    0.50    0.00    0.00    0.50    0.66    3.00
                *
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LINE            ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


3802            KK    IS43   BASIN
3803            KM   Runoff hydrograph for subbasin IS43 northeast of the intersection of Indian
3804            KM   School Road and 43rd Avenue
3805            BA   0.467
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3806          LG    0.15    0.25    4.80    0.25      80
3807          UC   0.456   0.225
3808          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
3809          UA     100
              *

3810          KK  CIS43 COMBINE
3811          KM  Combine route RSIS43 and subbasin IS43
3812          HC       2    1.87
              *

3813          KK  PR43CBRETRIEVE
3814          KM   Retrieve full flow capacity of 155 cfs from 60-inch storm drain pipe at the
3815          KM   intersection of Camelback Road and 43rd Avenue
3816          DR  DP43CB
              *

3817          KK  RP43IS   ROUTE
3818          KM   Route full flow capacity of 155 cfs through 60-inch storm drain pipe in
3819          KM   43rd Avenue to the intersection of Indian School Road and 43rd Avenue
3820          RK    5374  0.0035   0.015             CIRC   5.000
              *

3821          KK  CPIS43 COMBINE
3822          KM   Combine pipe return PR43CB with the runoff hydrograph at combination point
3823          KM   CIS43 at the intersection of Indian School Road and 43rd Avenue
3824          HC       3
              *

3825          KK   D43IS  DIVERT
3826          KM   Capacity of storm drain in 39th Avenue and 43rd Avenue diverted together.
3827          KM   Divert combined calculated full flow capacity of 251 cfs in the 72-inch storm
3828          KM   drain pipe in 39th Avenue and 154 cfs in the 60-inch storm drain pipe in
3829          KM   43rd Avenue. The total calculated combined full flow capacity diverted at the
3830          KM   intersection of 43rd Avenue and Indian School Road is 406 cfs in an
3831          KM   equivalent diameter pipe of 87 inches
3832          DT  DP43IS      0.0    406.0
3833          DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
3834          DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

3835          KK  DWIS51  DIVERT
3836          KM   Divert runoff hydrograph from combination point CPIS43 west to combination
3837          KM   point CIS51
3838          DT  DSGC43      0.0      0.0
3839          DI      0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0  10000.0  20000.0  50000.0
3840          DQ      0.0     83.0    166.0    415.0    830.0   1660.0   3320.0   8300.0  16600.0  41500.0
              *

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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

3841          KK  RWIS51   ROUTE
3842          KM   Route diversion DWIS51 west to combination point CIS51
3843          RS      10     FLOW
3844          RC   0.035   0.015   0.035    5280  0.0003     0.00
3845          RX    0.00    0.00   45.00   45.00  229.00  229.00  274.00  274.00
3846          RY    3.00    0.95    0.50    0.00    0.00    0.50    0.95    3.00
              *

3847          KK  DRIS51RETRIEVE
3848          KM   Retrieve divert DRIS51 from combination point CCB51 and divert south to
3849          KM   combination point CIS51
3850          DR  DSIS51
              *

3851          KK  RSIS51   ROUTE
3852          KM   Route diversion retrieval DRIS51 south to combination point CIS51
3853          RS       3     FLOW
3854          RC   0.035   0.015   0.035    5280  0.0037     0.00
3855          RX    0.00    0.00   38.50   38.50  210.50  210.50  249.00  249.00
3856          RY    3.00    0.88    0.50    0.00    0.00    0.50    0.88    3.00
              *

3857          KK    IS51   BASIN
3858          KM   Runoff hydrograph for square mile subbasin IS51 northeast of the intersection
3859          KM   of Indian School Road and 51st Avenue
3860          BA   0.994
3861          LG    0.21    0.27    5.00    0.23      47
3862          UC   1.232   0.811
3863          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
3864          UA     100
              *

3865          KK  ERIS51  DIVERT
3866          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
3867          KM   retention developed after 1990 in subbasin IS51
3868          DT  XIS51     36.7      0.0
3869          DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
3870          DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *
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3871          KK   CIS51 COMBINE
3872          KM   Combine route RWIS51, route RSIS51, and subbasin IS51
3873          HC       3    1.94
              *

3874          KK   D51IS  DIVERT
3875          KM   Divert calculated full flow capapcity of 244 cfs into 72-inch storm drain
3876          KM   pipe at the intersection of Indian School Road and 51st Avenue
3877          DT  DP51IS      0.0    244.0
3878          DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
3879          DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

3880          KK  DWIS59  DIVERT
3881          KM   Divert remaining runoff hydrograph from combination point CIS51 west to
3882          KM   combination point CIS59
3883          DT  DSGC51      0.0      0.0
3884          DI      0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0  10000.0  20000.0  50000.0
3885          DQ      0.0     62.0    124.0    310.0    620.0   1240.0   2480.0   6200.0  12400.0  31000.0
              *

3886          KK  RWIS59   ROUTE
3887          KM   Route diversion DWIS59 west to combination point CIS59
3888          RS       9     FLOW
3889          RC   0.035   0.015   0.035    5280  0.0016     0.00
3890          RX    0.00    0.00   67.00   67.00  332.00  332.00  399.00  399.00
3891          RY    3.00    1.17    0.50    0.00    0.00    0.50    1.17    3.00
              *

3892          KK  DRIS59RETRIEVE
3893          KM   Retrieve divert DRIS59 from combination point CCB59 and divert south to
3894          KM   combination point CIS59
3895          DR  DSIS59
              *

3896          KK  RSIS59   ROUTE
3897          KM   Route diversion retrieval DRIS59 south to combination point CIS59
3898          RS       3     FLOW
3899          RC   0.035   0.015   0.035    5280  0.0030     0.00
3900          RX    0.00    0.00   67.00   67.00  332.00  332.00  399.00  399.00
3901          RY    3.00    1.17    0.50    0.00    0.00    0.50    1.17    3.00
              *

3902          KK    IS59   BASIN
3903          KM   Runoff hydrograph for square mile subbasin IS59 northeast of the intersection
3904          KM   of Indian School Road and 59th Avenue
3905          BA   1.014
3906          LG    0.22    0.25    5.30    0.21      43
3907          UC   1.413   0.942
3908          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
3909          UA     100
              *

3910          KK   CIS59 COMBINE
3911          KM   Combine route RWIS59, route RSIS59, and subbasin IS59
3912          HC       3    3.38
              *

3913          KK   D59IS  DIVERT
3914          KM   Divert calculated full flow capapcity of 353 cfs into 81-inch storm drain
3915          KM   pipe at the intersection of Indian School Road and 59th Avenue
3916          DT  DP59IS      0.0    353.0
3917          DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
3918          DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

3919          KK  DWGC67  DIVERT
3920          KM   Divert remaining runoff hydrograph from combination point CIS59 west to
3921          KM   combination point CGC67
3922          DT  DSGC59      0.0      0.0
3923          DI      0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0  10000.0  20000.0  50000.0
3924          DQ      0.0     60.0    120.0    300.0    600.0   1200.0   2400.0   6000.0  12000.0  30000.0
              *

3925          KK  RWGC67   ROUTE
3926          KM   Route diversion DWGC67 west to combination point CGC67
3927          RS       4     FLOW
3928          RC   0.035   0.015   0.035    3841  0.0016     0.00
3929          RX    0.00    0.00   48.00   48.00  251.00  251.00  299.00  299.00
3930          RY    3.00    0.98    0.50    0.00    0.00    0.50    0.98    3.00
              *

3931          KK  DRGC67RETRIEVE
3932          KM   Retrieve divert DRGC67 from combination point CCB67 and divert south to
3933          KM   combination point CGC67
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3934          DR  DSGC67
                  *

3935          KK  RSGC67   ROUTE
3936          KM   Route diversion retrieval DRGC67 south to combination point CGC67
3937          RS       4    FLOW
3938          RC   0.035   0.015   0.035    5280  0.0017    0.00
3939          RX    0.00    0.00   76.50   76.50  372.50  372.50  449.00  449.00
3940          RY    3.00    1.27    0.50    0.00    0.00    0.50    1.27    3.00
                  *

3941          KK   GC67   BASIN
3942          KM   Runoff hydrograph for subbasin GC67 northeast of the intersection of the
3943          KM   Grand Canal and 67th Avenue
3944          BA   0.936
3945          LG    0.21    0.15    7.30    0.11      28
3946          UC   1.256   0.767
3947          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
3948          UA     100
                  *

3949          KK   CGC67 COMBINE
3950          KM   Combine route RWGC67, route RSGC67, and subbasin GC67
3951          HC       3    4.34
                  *

3952          KK   D67IS  DIVERT
3953          KM   Divert calculated full flow capapcity of 175 cfs into 66-inch storm drain
3954          KM   pipe at the intersection of Indian School Road and 67th Avenue
3955          DT  DP67IS      0.0   175.0
3956          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
3957          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
                  *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9.....10

3958          KK  DWGC75  DIVERT
3959          KM   Divert remaining runoff hydrograph from combination point CGC67 west to
3960          KM   combination point CGC75
3961          DT  DSISGC      0.0     0.0
3962          DI      0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
3963          DQ      0.0    51.0   102.0   255.0   510.0  1020.0  2040.0  5100.0 10200.0 25500.0
                  *

3964          KK  DRGR39RETRIEVE
3965          KM   Retrieve remaining surface flow runoff hydrograph DRGR39 following pipe
3966          KM   diversion DP39GR after combination point CPGR35 at the intersection of 39th
3967          KM   Avenue and Grand Avenue
3968          DR   D39GR
                  *

3969          KK   DGC35  DIVERT
3970          KM   Divert runoff hydrograph DRGR39 along Grand Avenue.  Remaining hydrograph
3971          KM   flows along 35th Avenue to the intersection of 35th Avenue and the Grand
3972          KM   Canal
3973          DT  DEGCGR      0.0     0.0
3974          DI      0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
3975          DQ      0.0    48.0    96.0   240.0   480.0   960.0  1920.0  4800.0  9600.0 24000.0
                  *

3976          KK  DRGC35RETRIEVE
3977          KM   Retrieve remaining runoff hydrograph DRGC35 coming south from combination
3978          KM   point CPIS35 at the intersection of 35th Avenue and Grand Avenue
3979          DR  DSGC35
                  *

3980          KK  DS35GC  DIVERT
3981          KM   Divert runoff hydrograph DRGC35 along Grand Avenue. Remaining hydrograph
3982          KM   flows along 35th Avenue to the intersection of 35th Avenue and the Grand
3983          KM   Canal
3984          DT  DSGCGR      0.0     0.0
3985          DI      0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
3986          DQ      0.0    25.0    50.0   125.0   250.0   500.0  1000.0  2500.0  5000.0 12500.0
                  *

3987          KK  CIIS35 COMBINE
3988          KM   Combine arterial street flow from 35th Avenue DIGC35 with areterial street
3989          KM   flow from 35th Avenue DRGC35 at the intersection of 35th Avenue and Indian
3990          KM   School Road
3991          HC       2    2.06
                  *

3992          KK  RSGC35   ROUTE
3993          KM   Route hydrograph at combination point CIIS35 at the intersection of Indian
3994          KM   School Road and 35th Avenue south to combination point CGC35
3995          RS       1    FLOW
3996          RC   0.035   0.015   0.035    1973  0.0033    0.00
3997          RX    0.00    0.00   16.50   16.50  107.50  107.50  124.00  124.00
3998          RY    3.00    0.66    0.50    0.00    0.00    0.50    0.66    3.00
                  *
1                                        HEC-1 INPUT                                        PAGE104
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9.....10

3999          KK    GC35   BASIN
4000          KM   Runoff hydrograph for subbasin GC35 northeast of the intersection of the
4001          KM   Grand Canal and 35th Avenue
4002          BA   0.077
4003          LG    0.15    0.25    4.25    0.35      80
4004          UC   0.342   0.219
4005          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
4006          UA     100
                  *

4007          KK   CGC35 COMBINE
4008          KM   Combine route RSGC35 and subbasin GC35
4009          HC       2    2.14
                  *

4010          KK  PR35ISRETRIEVE
4011          KM   Retrieve full flow capacity of 40 cfs from 36-inch diameter pipe at the
4012          KM   intersection of Indian School Road and 35th Avenue
4013          DR  DP35IS
                  *

4014          KK  RP35GC   ROUTE
4015          KM   Route the full flow capacity of 40 cfs through 36-inch storm drain pipe
4016          KM   diameter in 35th Avenue to the intersection of 35th Avenue and the Grand
4017          KM   Canal
4018          RK    2327  0.0035   0.015            CIRC   3.000
                  *

4019          KK  CPGC35 COMBINE
4020          KM   Combine pipe return PR35IS with the runoff hydrograph at combination point
4021          KM   CGC35 at the intersection of the Grand Canal and 35th Avenue
4022          HC       2
                  *

4023          KK   D35GC  DIVERT
4024          KM   Divert calculated full flow capapcity of 40 cfs into 36-inch storm drain
4025          KM   pipe at the intersection of the Grand Canal and 35th Avenue
4026          DT  DP35GC      0.0    40.0
4027          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
4028          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
                  *

4029          KK  DWGC43  DIVERT
4030          KM   Divert runoff hydrograph from combination point CGC35 west to combination
4031          KM   point CGC35
4032          DT  DSTM35      0.0     0.0
4033          DI      0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
4034          DQ      0.0    85.0   170.0   425.0   850.0  1700.0  3400.0  8500.0 17000.0 42500.0
                  *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9.....10

4035          KK  RWGC43   ROUTE
4036          KM   Route hydrograph at combination point CGC35 at the intersection of the Grand
4037          KM   Canal and 35th Avenue west to combination point CGC43
4038          RS       5    FLOW
4039          RC   0.035   0.015   0.035    6627  0.0009    0.00
4040          RX    0.00    0.00    9.50    9.50   40.50   40.50   50.00   50.00
4041          RY    3.00    0.60    0.50    0.00    0.00    0.50    0.60    3.00
                  *

4042          KK  DRGC43RETRIEVE
4043          KM   Retrieve divert DRGC43 from combination point CPIS43 and divert south to
4044          KM   combination point CGC43
4045          DR  DSGC43
                  *

4046          KK  RSGC43   ROUTE
4047          KM   Route diversion retrieval DRGC43 south to combination point CGC43
4048          RS       1    FLOW
4049          RC   0.035   0.015   0.035    2155  0.0038    0.00
4050          RX    0.00    0.00   57.50   57.50  291.50  291.50  349.00  349.00
4051          RY    3.00    1.08    0.50    0.00    0.00    0.50    1.08    3.00
                  *

4052          KK    GC43   BASIN
4053          KM   Runoff hydrograph for subbasin GC43 northeast of the intersection of the
4054          KM   Grand Canal and 43rd Avenue
4055          BA   0.370
4056          LG    0.15    0.25    6.00    0.15      80
4057          UC   0.832   0.724
4058          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
4059          UA     100
                  *

4060          KK   CGC43 COMBINE
4061          KM   Combine route RWGC43, route RSGC43, and subbasin GC43
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4062          HC       3    2.23
              *

4063          KK  PR43ISRETRIEVE
4064          KM   Retrieve combined full flow capacity of 406 cfs from 87-inch equivalent
4065          KM   diameter pipe at the intersection of Indian School Road and 43rd Avenue
4066          DR  DP43IS
              *

4067          KK  RP43GC   ROUTE
4068          KM   Route the combined full flow capacity of 406 cfs through an equivalent storm
4069          KM   drain pipe diameter of 87 inches in 43rd Avenue to the intersection of
4070          KM   43rd Avenue and the Grand Canal
4071          RK    2347  0.0035   0.015            CIRC   6.083
              *
1                                        HEC-1 INPUT                                        PAGE106

LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

4072          KK  CPGC43 COMBINE
4073          KM   Combine pipe return PR43IS with the runoff hydrograph at combination point
4074          KM   CGC43 at the intersection of the Grand Canal and 43rd Avenue
4075          HC       2
              *

4076          KK   D43GC  DIVERT
4077          KM   Capacity of storm drain in 39th Avenue and 43rd Avenue diverted together.
4078          KM   Divert combined calculated full flow capacity of 251 cfs in the 72-inch storm
4079          KM   drain pipe in 39th Avenue and 154 cfs in the 60-inch storm drain pipe in
4080          KM   43rdAvenue. The total calculated combined full flow capacity diverted at the
4081          KM   intersection of 43rd Avenue and the Grand Canal is 406 cfs in an
4082          KM   equivalent diameter pipe of 87 inches
4083          DT  DP43GC      0.0     406.0
4084          DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
4085          DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

4086          KK  SRGC43 STORAGE
4087          KM    Storage routing ID PA43 in Maryvale ADMS, Feb 1997 - comments from ADMS:
4088          KM    STORAGE ROUTING
4089          KM    PONDING AREA IN THE VICINITY OF 43RD AVE
4090          KM    PRELIMINARY COMPUTATIONS BY WPA 6/96
4091          KM    CAPACITY OF SURFACE FLOW NORTH OF CANAL = 200 CFS
4092          KM    DIVERSION OF FLOW UNDER THE GRAND CANAL BY AN EXISTING STORM DRAIN SYSTEM
4093          KM    ESTIMATED STORM DRAIN CAPACITY(63") = 89 CFS
4094          KM    TOP OF CANAL BANK ELEVATION = 1108
4095          KM
4096          KM    ------------------------------------------------------------------------
4097          KM    REVISED BY KHA ---> storm drain flows diverted previously. Subtracted out
4098          KM                        pipe capacity from SQ cards
4099          KM                        Confirmed capacity of surface flow on north side of bank
4100          KM
4101          KM    Storage route runoff hydrograph from divert D43GC through ponding
4102          KM      area at the Grand Canal between 35th and 43rd Avenues
4103          KM    ------------------------------------------------------------------------
4104          RS        1    STOR      -1   1104.
4105          SV             0.01    0.10    0.64    4.77    6.79   29.76   33.00
4106          SQ                                             200.00  200.00 2200.00
4107          SE  1104.0 1104.10 1105.00 1106.00 1106.80 1107.00 1108.00 1109.00
              *

4108          KK  DWGC51  DIVERT
4109          KM    Divert ID D43 in Maryvale ADMS, Feb 1997 - comments from ADMS:
4110          KM    FLOW DIVERSION AT 43RD AVE
4111          KM    DIVERSION TO SOUTH
4112          KM    PRELIMINARY COMPUTATIONS BY WPA 6/96
4113          KM    CAPACITY OF SURFACE FLOW NORTH OF CANAL = 200 CFS
4114          KM    DIVERSION OF FLOW SOUTH UNDER THE GRAND CANAL BY EXIST. STORM DRAIN SYSTEM
4115          KM    ESTIMATED STORM DRAIN CAPACITY(63") = 89 CFS
4116          KM    ------------------------------------------------------------------------
4117          KM    Divert runoff hydrograph from combination point CGC43 west to combination
4118          KM    point CGC51
4119          KM    ------------------------------------------------------------------------
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

4120          DT  DSTM43      0.0      0.0
4121          DI      0.0    200.0 2200.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
4122          DQ      0.0      0.0 2000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

4123          KK  RWGC51   ROUTE
4124          KM   Route diversion DWGC51 west to combination point CGC51
4125          RS       10    FLOW
4126          RC   0.035   0.015   0.035    5614  0.0005    0.00
4127          RX    0.00    0.00   19.00   19.00   81.00   81.00  100.00  100.00
4128          RY    3.00    0.69    0.50    0.00    0.00    0.50    0.69    3.00
              *

4129          KK  DRGC51RETRIEVE
4130          KM   Retrieve divert DRGC51 from combination point CIS51 and divert south to
```



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4131          KM   combination point CGC51
4132          DR  DSGC51
              *

4133          KK  RSGC51   ROUTE
4134          KM   Route diversion retrieval DRGC51 south to combination point CGC51
4135          RS       3    FLOW
4136          RC   0.035   0.015   0.035    2155  0.0045    0.00
4137          RX    0.00    0.00   67.00   67.00  332.00  332.00  399.00  399.00
4138          RY    3.00    1.17    0.50    0.00    0.00    0.50    1.17    3.00
              *

4139          KK   GC51   BASIN
4140          KM   Runoff hydrograph for subbasin GC51 northeast of the intersection of the
4141          KM   Grand Canal and 51st Avenue
4142          BA   0.448
4143          LG    0.24    0.25    5.00    0.24      36
4144          UC   1.500   1.228
4145          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
4146          UA     100
              *

4147          KK   CGC51 COMBINE
4148          KM   Combine route RWGC51, route RSGC51, and subbasin GC51
4149          HC       3    2.04
              *

4150          KK  PR51ISRETRIEVE
4151          KM   Retrieve full flow capacity of 244 cfs from 72-inch storm drain pipe at the
4152          KM   intersection of Indian School Road and 51st Avenue
4153          DR  DP51IS
              *

4154          KK  RP51ML   ROUTE
4155          KM   Route full flow capacity of 244 cfs through 72-inch storm drain pipe in
4156          KM   51st Avenue to the intersection of Mitchell Drive and 51st Avenue
4157          RK    2089  0.0033   0.015            CIRC   6.000
              *
1                                        HEC-1 INPUT                                        PAGE108

LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

4158          KK  CPML51 COMBINE
4159          KM   Combine pipe return PR51IS with the runoff hydrograph at combination point
4160          KM   CGC51 at the intersection of the Grand Canal and 51st Avenue
4161          HC       2
              *

4162          KK   DML51  DIVERT
4163          KM   Divert calculated full flow capapcity of 136 cfs into 72-inch storm drain
4164          KM   pipe at the intersection of Mitchell Drive and 51st Avenue
4165          DT  DPML51      0.0    136.0
4166          DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
4167          DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

4168          KK   D51GC  DIVERT
4169          KM   Divert calculated full flow capapcity of 113 cfs into 54-inch storm drain
4170          KM   pipe near the intersection of the Grand Canal and 51st Avenue
4171          DT  DP51GC      0.0    113.0
4172          DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
4173          DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

4174          KK  SRGC51 STORAGE
4175          KM    Storage routing ID PA47 in Maryvale ADMS, Feb 1997 - comments from ADMS:
4176          KM    PONDING AREA IN THE VICINITY OF 47TH  AND 51ST AVE
4177          KM
4178          KM    PRELIMINARY COMPUTATIONS BY WPA 6/96
4179          KM    CAPACITY OF FLOW NORTH OF CANAL = 300 CFS+(STORM DRAIN CAP)105CFS PER CVL
4180          KM    DIVERSION OF FLOW OVER THE CANAL BANKS
4181          KM    TOP OF CANAL BANK ELEV = 1105
4182          KM    ------------------------------------------------------------------------
4183          KM    REVISION TO MARYVALE ADMS MODEL BY KHA --> COMBINE DIVERTS AT 47TH & 51ST AVE
4184          KM                        SUBTRACTED OUT STORM DRAIN CAPACITY FROM SQ CARDS
4185          KM                        CONFIRMED CAPACITY OF SURFACE FLOW ON NORTH SIDE OF BANK
4186          KM
4187          KM    Storage route runoff hydrograph from divert D51GC through ponding
4188          KM      area at the Grand Canal between 43rd 51st Avenues
4189          KM    ------------------------------------------------------------------------
4190          RS        1    STOR      -1
4191          SV             4.82   23.64   29.62   63.89   86.57
4192          SQ            25.00  275.00  350.00 1350.00 4250.00
4193          SE  1103.0 1104.00 1104.80 1105.00 1105.50 1106.00
              *

4194          KK  DWGC53  DIVERT
4195          KM    Divert ID D47 in Maryvale ADMS, Feb 1997 - comments from ADMS:
4196          KM    DIVERSION AT 47TH AVE
4197          KM    PRELIMINARY COMPUTATIONS BY WPA 6/96
4198          KM    AN EXISTING STORM DRAIN SYSTEM CONVEYS FLOW TO THE WEST ONLY
4199          KM    CAPACITY OF FLOW NORTH OF CANAL = 300 CFS+(STORM DRAIN CAP)105CFS PER CVL
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4200          KM    DIVERSION OF FLOW OVER THE CANAL BANKS
4201          KM    ********************************************************************************
4202          KM    REVISION TO MARYVALE ADMS MODEL BY KHA --> COMBINE DIVERTS AT 47TH & 51ST AVE
4203          KM                          SUBTRACTED OUT STORM DRAIN CAPACITY FROM SQ CARDS
1                                                HEC-1 INPUT                                    PAGE109

LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

4204          KM                          CONFIRMED CAPACITY OF SURFACE FLOW ON NORTH SIDE OF BANK
4205          KM
4206          KM   Divert remaining runoff hydrograph from combination point CPGC51 west to
4207          KM   combination point CGC59
4208          KM   ********************************************************************************
4209          DT  DSTM51      0.0      0.0
4210          DI      0.0    300.0   2300.0   4250.0      0.0      0.0      0.0      0.0      0.0      0.0
4211          DQ      0.0      0.1   2000.0   3950.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

4212          KK  RWGC53    ROUTE
4213          KM   Route diversion DWGC53 west to combination point CGC53
4214          RS      10     FLOW
4215          RC   0.035    0.015    0.035     1296  0.0012     0.00
4216          RX    0.00     0.00     9.50     9.50   40.50    40.50    50.00    50.00
4217          RY    3.00     0.60     0.50     0.00    0.00     0.50     0.60     3.00
              *

4218          KK  DRGC59RETRIEVE
4219          KM   Retrieve divert DRGC59 from combination point CIS59 and divert south to
4220          KM   combination point CGC59
4221          DR  DSGC59
              *

4222          KK  RSGC59    ROUTE
4223          KM   Route diversion retrieval DRGC59 south to combination point CGC59
4224          RS       2     FLOW
4225          RC   0.035    0.015    0.035     2502  0.0025     0.00
4226          RX    0.00     0.00    57.50    57.50  291.50   291.50   349.00   349.00
4227          RY    3.00     1.08     0.50     0.00    0.00     0.50     1.08     3.00
              *

4228          KK    GC59    BASIN
4229          KM   Runoff hydrograph for subbasin GC59 northeast of the intersection of the
4230          KM   Grand Canal and 59th Avenue
4231          BA   0.410
4232          LG    0.24     0.23     6.20     0.16       42
4233          UC   1.005    0.720
4234          UA       0      5.0     16.0     30.0     65.0     77.0     84.0     90.0     94.0     97.0
4235          UA     100
              *

4236          KK    CGC55 COMBINE
4237          KM   Combine route RSGC59 and subbasin GC59
4238          HC       2     2.42
              *

4239          KK  DEGC53   DIVERT
4240          KM   Divert portion of runoff hydrograph from combination point CGC55  to
4241          KM   combination point CGC53 where it will be routed through the Maryvale Ball
4242          KM   Park basin near the intersection of the Grand Canal and 53rd Avenue.  The
4243          KM   remaining flow is diverted to combination point CPGC59. The diversion is
4244          KM   based on topography
4245          DT  DWGC59      0.0      0.0
4246          DI      0.0    173.0    200.0    500.0  1000.0  2000.0  4000.0 10000.0 20000.0      0.0
1                                                HEC-1 INPUT                                    PAGE110

LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

4247          DQ      0.0      0.0     14.0    167.0    422.0    932.0   1952.0   5012.0  10112.0      0.0
              *

4248          KK  PRML51RETRIEVE
4249          KM   Retrieve full flow capacity of 136 cfs from 72-inch storm drain pipe at the
4250          KM   intersection of Mitchell Drive and 51st Avenue
4251          DR  DPML51
              *

4252          KK  RPML53    ROUTE
4253          KM   Route full flow capacity of 136 cfs through 72-inch storm drain pipe in
4254          KM   Mitchell Drive to the intersection of Mitchell Drive and 53rd Avenue
4255          RK    1084  0.0010    0.015             CIRC    6.000
              *

4256          KK    CGC53 COMBINE
4257          KM   Combine route RWGC53, route RPML53, and divert DGC53
4258          HC       3     2.27
              *

4259          KK  SRGC53 STORAGE
4260          KM   Storage route runoff hydrograph from combination point CPGC59 thru detention
4261          KM     basin at Grand Avenue near the intersection of Grand Avenue and 59th Avenue
4262          KM   Stage-storage data from Maryvale Baseball Park Grading and Drainage As-built
4263          KM     Record, 1997
4264          RS       1    STOR
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4265          SV            1.90     5.90    10.00    15.20    22.20    31.70    44.60    59.50    75.60
4266          SV    93.0
4267          SQ     0.0     10.0     28.0     44.0     56.0     65.0     73.0     81.0     88.0       94
4268          SQ  1358.0
4269          SE  1094.0   1095.0   1096.0   1097.0   1098.0   1099.0   1100.0   1101.0   1102.0     1103
4270          SE  1104.0
              *

4271          KK   DGC53  DIVERT
4272          KM   Storm drain outflow from Maryvale Baseball Park basin. Divert calculated full
4273          KM   flow capapcity of 20 cfs into 36-inch storm drain pipe at the intersection of
4274          KM   the Grand Canal and 53rd Avenue
4275          DT  DPGC53      0.0     20.0
4276          DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
4277          DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

4278          KK  PR59ISRETRIEVE
4279          KM   Retrieve full flow capacity of 353 cfs from 81-inch storm drain pipe at the
4280          KM   intersection of Indian School Road and 59th Avenue
4281          DR  DP591S
              *

4282          KK  RP59GC   ROUTE
4283          KM   Route full flow capacity of 353 cfs through 81-inch storm drain pipe in
4284          KM   59th Avenue to the intersection of the Grand Canal and 59th Avenue
4285          RK    1243  0.0037    0.015             CIRC    6.750
              *
1                                                HEC-1 INPUT                                    PAGE111

LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

4286          KK  DRGC59RETRIEVE
4287          KM   Retrieve divert DRGC59 from combination point CGC55 and divert to
4288          KM   combination point CPGC59
4289          DR  DWGC59
              *

4290          KK  CPGC59 COMBINE
4291          KM   Combine pipe return PR59IS with the runoff hydrograph at combination point
4292          KM   CGC59 at the intersection of the Grand Canal and 59th Avenue
4293          HC       2     1.24
              *

4294          KK   D59GC  DIVERT
4295          KM   Divert calculated full flow capapcity of 258 cfs into 72-inch storm drain
4296          KM   pipe at the intersection of the Grand Canal and 59th Avenue
4297          DT  DP59GC      0.0    258.0
4298          DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
4299          DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

4300          KK   CGC59 COMBINE
4301          KM   Combine divert DGC53 and divert D59GC
4302          HC       2     3.50
              *

4303          KK  DWISGC   DIVERT
4304          KM    Divert ID D55 in Maryvale ADMS, Feb 1997 - comments from ADMS:
4305          KM    FLOW DIVERSION TO SOUTH
4306          KM    PRELIMINARY COMPUTATIONS BY WPA 6/96
4307          KM    CAPACITY OF SURFACE FLOW NORTH OF CANAL =  50 CFS
4308          KM    AN EXISTING STORM DRAIN SYSTEM CONVEYS FLOW TO THE WEST ONLY
4309          KM    DIVERSION OF FLOW OVER THE GRAND CANAL
4310          KM    STORM DRAIN CAPACITY WEST = 74 CFS PER CVL
4311          KM    TOP OF CANAL BANK ELEV = 1103
4312          KM    ********************************************************************************
4313          KM    REVISION TO MARYVALE ADMS MODEL BY KHA --> COMBINE DIVERTS AT 55TH & 59TH AVE
4314          KM                        SUBTRACTED OUT STORM DRAIN CAPACITY FROM SQ CARDS
4315          KM                        CONFIRMED CAPACITY OF SURFACE FLOW ON NORTH SIDE OF BANK
4316          KM
4317          KM   Divert remaining runoff hydrograph from combination point CPGC59 west to
4318          KM   combination point CISGC
4319          KM   ********************************************************************************
4320          DT  DSTM59      0.0      0.0
4321          DI      0.0     50.0    555.0   2689.0      0.0      0.0      0.0      0.0      0.0      0.0
4322          DQ      0.0      0.2    505.0   1030.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

4323          KK  RWISGC    ROUTE
4324          KM   Route diversion DWISGC west to combination point CISGC
4325          RS       3     FLOW
4326          RC   0.035    0.015    0.035     4300  0.0009     0.00
4327          RX    0.00     0.00     9.50     9.50   40.50    40.50    50.00    50.00
4328          RY    3.00     0.60     0.50     0.00    0.00     0.50     0.60     3.00
              *
1                                                HEC-1 INPUT                                    PAGE112

LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

4329          KK  DRISGCRETRIEVE
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4330          KM   Retrieve divert DRISGC from combination point CGC67 and divert south to
4331          KM   combination point CISGC
4332          DR  DSISGC
              *
4333          KK  RSISGC   ROUTE
4334          KM   Route diversion retrieval DRISGC south to combination point CISGC
4335          RS      1    FLOW
4336          RC   0.035   0.015   0.035    1231  0.0022    0.00
4337          RX    0.00    0.00   31.50   31.50  143.50  143.50  175.00  175.00
4338          RY    3.00    0.82    0.50    0.00    0.00    0.50    0.82    3.00
              *
4339          KK   ISGC   BASIN
4340          KM   Runoff hydrograph for subbasin ISGC southeast of the intersection of Indian
4341          KM   School Road and the Grand Canal
4342          BA   0.159
4343          LG    0.25    0.15    7.00    0.11      32
4344          UC   1.439   1.632
4345          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
4346          UA     100
              *
4347          KK   CISGC COMBINE
4348          KM   Combine route RWISGC, route RSISGC, and subbasin ISGC
4349          HC       3    3.33
              *
4350          KK  PR59GCRETRIEVE
4351          KM   Retrieve full flow capacity of 258 cfs from 72-inch storm drain pipe at the
4352          KM   intersection of the Grand Canal and 59th Avenue
4353          DR  DP59GC
              *
4354          KK  CPISGC COMBINE
4355          KM   Combine pipe return PR59GC with the runoff hydrograph at combination point
4356          KM   CISGC at the intersection of Indian School Road and the Grand Canal
4357          HC       2
              *
4358          KK   DGC63  DIVERT
4359          KM   Divert calculated full flow capapcity of 258 cfs into 72-inch storm drain
4360          KM   pipe at the intersection of the Grand Canal and 63rd Avenue
4361          DT  DPGC63     0.0   258.0
4362          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
4363          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *
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4364          KK  SRISGC STORAGE
4365          KM   Storage route runoff hydrograph from combination point CPISGC through
4366          KM     regional detention basin located near the intersection of the Grand Canal
4367          KM     and Indian School Road (Sunset Basin).
4368          KM   Stage-storage data from Bethany Home Outfall Channel TDN for CLOMR, Jan 2003
4369          KM   Discharge data for 96-in outlet pipe under construction Dec 2009
4370          RS      1    STOR
4371          SV           1.52    4.61   12.85   22.46   33.32   45.48   48.72   52.06
4372          SQ           3.00   12.00   46.00   83.00   91.00  593.00 1600.00 3421.00
4373          SE   85.00   86.00   87.00   89.00   91.00   93.00   95.00   95.50   96.00
              *
4374          KK  DPGC67  DIVERT
4375          KM   Divert excess flow that overtops the subbasin to the south.  The calculated
4376          KM   full flow capapcity in the 96-inch storm drain pipe leaving the basin is
4377          KM   is diverted north to combination point CGC75
4378          DT  DSTM67     0.0     0.0
4379          DI     0.0     3.0    12.0    46.0    83.0    91.0   593.0  1600.0  3421.0     0.0
4380          DQ     0.0     0.0     0.0     0.0     0.0     0.0     0.0   983.0  2781.0     0.0
              *
4381          KK  DRGC75RETRIEVE
4382          KM   Retrieve divert DRGC75 from combination point CCB75 and divert south to
4383          KM   combination point CGC75
4384          DR  DSGC75
              *
4385          KK    GC75   BASIN
4386          KM   Runoff hydrograph for subbasin GC75 southeast of the intersection of the
4387          KM   Grand Canal and 75th Avenue
4388          BA   0.410
4389          LG    0.24    0.15    8.00    0.07      33
4390          UC   1.500   1.585
4391          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
4392          UA     100
              *
4393          KK   CGC75 COMBINE
4394          KM   Combine divert DWGC75, pipe diversion DPGC67, divert retrieval DRGC75, and
4395          KM   subbasin GC75
4396          HC       4    9.44
```



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              *
4397          KK  SRGC75 STORAGE
4398          KM   Storage route runoff hydrograph from combination point CGC75 through regional
4399          KM     detention basin along the Grand Canal between 67th and 75th Avenues
4400          KM   Vol/Elev data taken from DMJM HEC-1 revision (model BHGC00C6, Nov 2004)
4401          KM     confirmd by comparing with Bethany Home Outfall Channel Reach B As-builts
4402          KM   Discharge data calculated from discharge channel in As-builts (Bethany Home
4403          KM     Outfall Channel Reach C - 83rd Ave to 73rd Ave, June 2007)
4404          KM     Rect concrete channel, width = 14 ft, slope = 0.000992 ft/ft
4405          RS      1    STOR
4406          SV           0.00    0.00    0.08    0.74    2.74    6.42   12.25   20.32   29.62
4407          SV  40.248  52.049  65.081  79.346  94.800  103.1   111.4
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4408          SQ      0.0     0.0     0.0    36.0   120.0   230.0   356.0   493.0   639.0     790
4409          SQ    947.0  1107.0  1270.0  1436.0  1604.0  1689.0  1774.0
4410          SE   1074.7  1078.0  1081.0  1083.0  1084.0  1085.0  1086.0  1087.0  1088.0    1089
4411          SE   1090.0  1091.0  1092.0  1093.0  1094.0  1094.5  1095.0
              *
4412          KK  CICB75 COMBINE
4413          KM   Combine runoff hydrograph DWGC83 with runoff hydrograph from combination
4414          KM   point CGC75 at the intersection of Camelback Road and 75th Avenue
4415          HC       2   14.03
              *
4416          KK  RWGC83   ROUTE
4417          KM   Route hydrograph at combination point CICB75 at the intersection of Camelback
4418          KM   Road and 75th Avenue west to combination point CGC83
4419          RS      3    FLOW
4420          RC   0.035   0.015   0.035    6563  0.0010    0.00
4421          RX    0.00    3.00   13.00   13.00   31.00   31.00   41.00   44.00
4422          RY   10.00    9.00    9.00    0.00    0.00    9.00    9.00   10.00
              *
4423          KK  DRGC83RETRIEVE
4424          KM   Retrieve divert DRGC83 from combination point CBH83 and divert south to
4425          KM   combination point CGC83
4426          DR  DSGC83
              *
4427          KK    GC83   BASIN
4428          KM   Runoff hydrograph for subbasin GC83 southeast of the intersection of the
4429          KM   Grand Canal and 83rd Avenue
4430          BA   0.426
4431          LG    0.25    0.15    8.40    0.07      26
4432          UC   1.500   1.722
4433          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
4434          UA     100
              *
4435          KK  ERGC83  DIVERT
4436          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
4437          KM   retention developed after 1990 in subbasin GC83
4438          DT   XGC83    28.0     0.0
4439          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
4440          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *
4441          KK   CGC83 COMBINE
4442          KM   Combine route RWGC83, divert retrieval DRGC83, and subbasin GC83
4443          HC       3   17.67
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9.....10

4444          KK  CIBH83 COMBINE
4445          KM   Combine runoff hydrograph DWBH91 with runoff hydrograph from combination
4446          KM   point CGC83 at the intersection of 83rd Avenue and Bethany Home Road
4447          HC       2   23.92
              *
4448          KK  RWBH91   ROUTE
4449          KM   Route hydrograph at combination point CIBH83 at the intersection of Bethany
4450          KM   Home Road and 91st Avenue west to combination point CBH91
4451          RS      3    FLOW
4452          RC   0.035   0.015   0.035    6508  0.0008    0.00
4453          RX    0.00    4.00   18.00   66.00  126.00  162.00  172.00  176.00
4454          RY   13.14   12.14   12.00    0.00    0.60    9.15    9.25   10.25
              *
4455          KK  DRBH91RETRIEVE
4456          KM   Retrieve divert DRBH91 from combination point CPGL91 and divert south to
4457          KM   combination point CBH91
4458          DR  DSBH91
              *
4459          KK  RSBH91   ROUTE
```

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4460          KM   Route diversion retrieval DRBH91 south to combination point CBH91
4461          RS       4    FLOW
4462          RC  0.035   0.015   0.035    5280  0.0019    0.00
4463          RX   0.00    0.00   37.50   37.50  210.50  210.50  248.00  248.00
4464          RY   3.00    0.88    0.50    0.00    0.00    0.50    0.88    3.00
              *

4465          KK    BH91   BASIN
4466          KM   Runoff hydrograph for square mile subbasin BH91 northeast of the intersection
4467          KM   of Bethany Home Road and 91st Avenue
4468          BA   1.032
4469          LG    0.27    0.16    7.60    0.10      21
4470          UC   1.422   0.973
4471          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
4472          UA     100
              *

4473          KK  ERBH91  DIVERT
4474          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
4475          KM   retention developed after 1990 in subbasin BH91
4476          DT   XBH91      3.8      0.0
4477          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
4478          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

4479          KK   CBH91 COMBINE
4480          KM   Combine route RWBH91, route RSBH91, and subbasin BH91
4481          HC       3   30.54
              *

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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

4482          KK  RWBHLO   ROUTE
4483          KM   Route hydrograph at combination point CBH91 west to combination point CBHLO
4484          RS       1    FLOW
4485          RC  0.035   0.015   0.035    4110  0.0011    0.00
4486          RX   0.00    4.00   18.00   46.50  135.50  153.40  167.40  171.40
4487          RY   8.26    7.26    7.12    0.00    0.85    5.32    5.46    6.46
              *

4488          KK    BHLO   BASIN
4489          KM   Runoff hydrograph for subbasin BHLO northeast of the intersection of Bethany
4490          KM   Home Road and SR Loop 101
4491          BA   0.788
4492          LG    0.10    0.15    7.30    0.09      81
4493          UC  0.763   0.491
4494          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
4495          UA     100
              *

4496          KK  ERBHLO  DIVERT
4497          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
4498          KM   retention developed after 1990 in subbasin BHLO
4499          DT   XBHLO     41.5      0.0
4500          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
4501          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

4502          KK   CBHLO COMBINE
4503          KM   Combine route RWBHLO, route RSBHLO, and subbasin BHLO
4504          HC       3   46.47
              *

4505          KK  RWBH99   ROUTE
4506          KM   Route hydrograph at combination point CBHLO west to combination point CBH99
4507          RS       1    FLOW
4508          RC  0.035   0.015   0.035    1075  0.0011    0.00
4509          RX   0.00    4.00   18.00   46.50  135.50  153.40  167.40  171.40
4510          RY   8.26    7.26    7.12    0.00    0.85    5.32    5.46    6.46
              *

4511          KK    BH99   BASIN
4512          KM   Runoff hydrograph for subbasin BH99 northeast of the intersection of Bethany
4513          KM   Home Road and 99th Avenue
4514          BA   0.184
4515          LG    0.39    0.19    6.60    0.19      20
4516          UC  0.998   1.046
4517          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
4518          UA     100
              *

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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

4519          KK   CBH99 COMBINE
4520          KM   Combine route RWBH99 and subbasin BH99
4521          HC       2   46.65
              *

4522          KK  RWBHRI   ROUTE
```



```
4523          KM   Route hydrograph at combination point CBH99 west to combination point CGLNR
4524          RS       1    FLOW
4525          RC  0.035   0.015   0.035    2392  0.0010    0.00
4526          RX   0.00    4.00   18.00   46.50  135.50  153.40  167.40  171.40
4527          RY   8.26    7.26    7.12    0.00    0.85    5.32    5.46    6.46
              *

4528          KK    GLNR   BASIN
4529          KM   Runoff hydrograph for subbasin GLNR north of Glendale Avenue and east of New
4530          KM   River
4531          BA   0.483
4532          LG    0.32    0.25    6.40    0.17      25
4533          UC  1.177   1.103
4534          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
4535          UA     100
              *

4536          KK  ERGLNR  DIVERT
4537          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
4538          KM   retention developed after 1990 in subbasin GLNR
4539          DT   XGLNR      2.9      0.0
4540          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
4541          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

4542          KK  DSBHRI  DIVERT
4543          KM   Divert portion of runoff hydrograph from subbasin GLNR south to the
4544          KM   intersection of Bethany Home Road and the Roosevelt Irrigation District canal
4545          KM   and the remaining flow west to New River. The diversion is based on
4546          KM   topography
4547          KM   Divert remaining runoff hydrograph from subbasin GLNR south to combination
4548          KM   point CBHRI
4549          DT  DWNR04      0.0      0.0
4550          DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
4551          DQ     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
              *

4552          KK  RSBHRI   ROUTE
4553          KM   Route subbasin diversion DSBHRI south to combination point CBHRI
4554          RS       1    FLOW
4555          RC  0.035   0.015   0.035    5280  0.0015    0.00
4556          RX   0.00    0.00    7.00    7.00   43.00   43.00   50.00   50.00
4557          RY   3.00    0.57    0.50    0.00    0.00    0.50    0.57    3.00
              *

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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

4558          KK    BHRI   BASIN
4559          KM   Runoff hydrograph for subbasin BHRI north of Bethany Home Road and east of
4560          KM   the Roosevelt Irrigation District canal
4561          BA   0.512
4562          LG    0.48    0.24    6.20    0.25       0
4563          UC  1.125   0.804
4564          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
4565          UA     100
              *

4566          KK   DBHNR  DIVERT
4567          KM   Divert portion of runoff hydrograph from subbasin BHRI west to the
4568          KM   intersection of Bethany Home Road and New River and the remaining flow
4569          KM   west to New River. The diversion is based on topography.
4570          DT  DWBHAF      0.0      0.0
4571          DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
4572          DQ     0.0    79.0   158.0   395.0   790.0  1580.0  3160.0  7900.0 15800.0 39500.0
              *

4573          KK   CBHRI COMBINE
4574          KM   Combine route RWBHRI, route RSBHRI, and and divert DBHNR
4575          HC       3   47.17
              *

4576          KK  RWBHNR   ROUTE
4577          KM   Route remaining hydrograph at combination point CBHRI west to combination
4578          KM   point CBHNR
4579          RS       2    FLOW
4580          RC  0.035   0.015   0.035    3231  0.0010    0.00
4581          RX   0.00    4.00   18.00   46.50  135.50  153.40  167.40  171.40
4582          RY   8.26    7.26    7.12    0.00    0.85    5.32    5.46    6.46
              *

4583          KK    BHNR   BASIN
4584          KM   Runoff hydrograph for subbasin BHNR north of Bethany Home Road and east of
4585          KM   New River
4586          BA   0.258
4587          LG    0.45    0.25    6.20    0.24       0
4588          UC  0.951   0.602
4589          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
4590          UA     100
              *

4591          KK   CBHNR COMBINE
```

```
4592          KM   Combine route RWBHNR and subbasin BHNR
4593          HC       2   47.42
              *
4594          KK    CB99   BASIN
4595          KM   Runoff hydrograph for subbasin CB99 northeast of the intersection of
4596          KM   Camelback Road and 99th Avenue
4597          BA   0.201
4598          LG    0.21    0.25    7.30    0.09      35
4599          UC   0.886   0.922
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4600          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
4601          UA     100
              *
4602          KK  ERCB99  DIVERT
4603          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
4604          KM   retention developed after 1990 in subbasin CB99
4605          DT   XCB99     4.6     0.0
4606          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
4607          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *
4608          KK  DWCBRI  DIVERT
4609          KM   Divert remaining runoff hydrograph from subbasin CB99 west to combination
4610          KM   point CCBRI
4611          DT  DSIS99      0.0     0.0
4612          DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
4613          DQ     0.0    49.0    98.0   245.0   490.0   980.0  1960.0  4900.0  9800.0 24500.0
              *
4614          KK  RWCBRI   ROUTE
4615          KM   Route diversion DWCBRI west to combination point CCBRI
4616          RS       6    FLOW
4617          RC   0.035   0.015   0.035    3883  0.0021     0.00
4618          RX    0.00    0.00   16.50   16.50  107.50  107.50  124.00  124.00
4619          RY    3.00    0.66    0.50    0.00    0.00    0.50    0.66    3.00
              *
4620          KK    CBRI   BASIN
4621          KM   Runoff hydrograph for subbasin CBRI north of Camelback Road and east of the
4622          KM   Roosevelt Irrigation District canal
4623          BA   0.698
4624          LG    0.34    0.15    7.00    0.13      21
4625          UC   1.467   1.219
4626          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
4627          UA     100
              *
4628          KK  ERCBRI  DIVERT
4629          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
4630          KM   retention developed after 1990 in subbasin CBRI
4631          DT   XCBRI    41.4     0.0
4632          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
4633          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *
4634          KK   CCBRI COMBINE
4635          KM   Combine route RWCBRI and subbasin CBRI
4636          HC       2    0.80
              *
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4637          KK  DWCB07  DIVERT
4638          KM   Divert runoff hydrograph from combination point CCBRI west to combination
4639          KM   point CCB07
4640          DT  DSIS07      0.0     0.0
4641          DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
4642          DQ     0.0    69.0   138.0   345.0   690.0  1380.0  2760.0  6900.0 13800.0 34500.0
              *
4643          KK    CB07   BASIN
4644          KM   Runoff hydrograph for subbasin CB07 northeast of the intersection of
4645          KM   Camelback Road and 107th Avenue
4646          BA   0.317
4647          LG    0.31    0.26    6.00    0.22       4
4648          UC   1.496   1.105
4649          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
4650          UA     100
              *
4651          KK   CCB07 COMBINE
4652          KM   Combine divert DWCB07 and subbasin CB07
4653          HC       2    0.56
              *
4654          KK  DWCBNR  DIVERT
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4655          KM   Divert runoff hydrograph from combination point CCB07 west to combination
4656          KM   point CCBNR
4657          DT   DIS07      0.0     0.0
4658          DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
4659          DQ     0.0    69.0   138.0   345.0   690.0  1380.0  2760.0  6900.0 13800.0 34500.0
              *
4660          KK  RWCBNR   ROUTE
4661          KM   Route diversion DWCBNR west to combination point CCBNR
4662          RS       6    FLOW
4663          RC   0.035   0.015   0.035    3883  0.0010     0.00
4664          RX    0.00    0.00   16.50   16.50  107.50  107.50  124.00  124.00
4665          RY    3.00    0.66    0.50    0.00    0.00    0.50    0.66    3.00
              *
4666          KK    CBNR   BASIN
4667          KM   Runoff hydrograph for subbasin CBNR north of Camelback Road and east of New
4668          KM   River
4669          BA   0.466
4670          LG    0.13    0.30    5.80    0.24       3
4671          UC   1.176   1.056
4672          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
4673          UA     100
              *
1                                      HEC-1 INPUT                                    PAGE121

LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

4674          KK   CCBNR COMBINE
4675          KM   Combine route RWCBNR and subbasin CBNR
4676          HC       2    0.64
              *
4677          KK  DRIS99RETRIEVE
4678          KM   Retrieve divert DRIS99 from subbasin CB99 and divert south to
4679          KM   combination point CIS99
4680          DR  DSIS99
              *
4681          KK  RSIS99   ROUTE
4682          KM   Route diversion retrieval DRIS99 south to combination point CIS99
4683          RS       9    FLOW
4684          RC   0.035   0.015   0.035    5280  0.0020     0.00
4685          RX    0.00    0.00   16.50   16.50  107.50  107.50  124.00  124.00
4686          RY    3.00    0.66    0.50    0.00    0.00    0.50    0.66    3.00
              *
4687          KK    IS99   BASIN
4688          KM   Runoff hydrograph for subbasin IS99 northeast of the intersection of Indian
4689          KM   School Road and 99th Avenue
4690          BA   0.323
4691          LG    0.44    0.15    9.70    0.07      12
4692          UC  0.952   0.772
4693          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
4694          UA     100
              *
4695          KK   CIS99 COMBINE
4696          KM   Combine route RSIS99 and subbasin IS99
4697          HC       2    0.42
              *
4698          KK  DWIS07  DIVERT
4699          KM   Divert runoff hydrograph from combination point CIS99 west to combination
4700          KM   point CIS07
4701          DT  DSTM99      0.0     0.0
4702          DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
4703          DQ     0.0    26.0    52.0   130.0   260.0   520.0  1040.0  2600.0  5200.0 13000.0
              *
4704          KK  RWIS07   ROUTE
4705          KM   Route diversion DWIS07 west to combination point CIS07
4706          RS       5    FLOW
4707          RC   0.035   0.015   0.035    5280  0.0022     0.00
4708          RX    0.00    0.00   35.50   35.50  188.50  188.50  224.00  224.00
4709          RY    3.00    0.86    0.50    0.00    0.00    0.50    0.86    3.00
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

4710          KK  DI07ISRETRIEVE
4711          KM   Retrieve arterial street flow diverted to 107th Avenue at the intersection
4712          KM   of 107th Avenue and Camelback Road
4713          DR   DIS07
              *
4714          KK  DRIS07RETRIEVE
4715          KM   Retrieve divert DRIS07 from combination point CCBRI and divert south to
4716          KM   combination point CICB07
4717          DR  DSIS07
```

```
                *
4718            KK  CICB07 COMBINE
4719            KM   Combine arterial street flow from 107th Avenue DI07IS with runoff hydrograph
4720            KM   DSIS07 at the intersection of 107th Avenue and Camelback Road
4721            HC       2    0.94
                *
4722            KK  RSIS07   ROUTE
4723            KM   Route hydrograph at combination point CICB07 at the intersection of Camelback
4724            KM   Road and 107th Avenue south to combination point CIS07
4725            RS       4    FLOW
4726            RC   0.035   0.015   0.035    5280  0.0026    0.00
4727            RX    0.00    0.00   26.00   26.00  148.00  148.00  174.00  174.00
4728            RY    3.00    0.76    0.50    0.00    0.00    0.50    0.76    3.00
                *
4729            KK    IS07   BASIN
4730            KM   Runoff hydrograph for square mile subbasin IS07 northeast of the intersection
4731            KM   of Indian Schhol Road and 107th Avenue
4732            BA   1.021
4733            LG    0.22    0.16    8.00    0.08      27
4734            UC   1.419   0.950
4735            UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
4736            UA     100
                *
4737            KK  ERIS07  DIVERT
4738            KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
4739            KM   retention developed after 1990 in subbasin IS07
4740            DT   XIS07     10.5      0.0
4741            DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
4742            DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
                *
4743            KK   CIS07 COMBINE
4744            KM   Combine route RWIS07, route RSIS07 and subbasin IS07
4745            HC       3    2.28
                *
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LINE            ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

4746            KK  DWISAF  DIVERT
4747            KM   Divert runoff hydrograph from combination point CIS07 west to combination
4748            KM   point CISAF
4749            DT  DSRI07      0.0      0.0
4750            DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
4751            DQ     0.0    25.0    50.0   125.0   250.0   500.0  1000.0  2500.0  5000.0 12500.0
                *
4752            KK  RWISAF   ROUTE
4753            KM   Route diversion DWISAF west to combination point CISAF
4754            RS       6    FLOW
4755            RC   0.035   0.015   0.035    6868  0.0013    0.00
4756            RX    0.00    0.00   67.00   67.00  332.00  332.00  399.00  399.00
4757            RY    3.00    1.17    0.50    0.00    0.00    0.50    1.17    3.00
                *
4758            KK    ISAF   BASIN
4759            KM   Runoff hydrograph for subbasin ISAF north of Indian School Road and east of
4760            KM   the Agua Fria River
4761            BA   0.989
4762            LG    0.23    0.25    4.80    0.26      45
4763            UC   1.500   1.137
4764            UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
4765            UA     100
                *
4766            KK   CISAF COMBINE
4767            KM   Combine route RWISAF and subbasin ISAF
4768            HC       2    2.69
                *
4769            KK  DRTM99RETRIEVE
4770            KM   Retrieve divert DRTM99 from combination point CIS99 and divert south to
4771            KM   combination point CTM99
4772            DR  DSTM99
                *
4773            KK  RSTM99   ROUTE
4774            KM   Route diversion retrieval DRTM99 south to combination point CTM99
4775            RS       8    FLOW
4776            RC   0.035   0.015   0.035    5280  0.0009    0.00
4777            RX    0.00    0.00   16.50   16.50  107.50  107.50  124.00  124.00
4778            RY    3.00    0.66    0.50    0.00    0.00    0.50    0.66    3.00
                *
4779            KK    TM99   BASIN
4780            KM   Runoff hydrograph for subbasin TM99 northeast of the intersection of Thomas
4781            KM   Road and 99th Avenue
4782            BA   0.505
```



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4783            LG    0.46    0.15    8.80    0.09       8
4784            UC   1.228   0.949
4785            UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
4786            UA     100
                *
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LINE            ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

4787            KK   CTM99 COMBINE
4788            KM   Combine route RSTM99 and subbasin TM99
4789            HC       2    0.62
                *
4790            KK  DWRI07  DIVERT
4791            KM   Divert runoff hydrograph from combination point CTM99 west to combination
4792            KM   point CRI07
4793            DT  DSMD99      0.0      0.0
4794            DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
4795            DQ     0.0    46.0    92.0   230.0   460.0   920.0  1840.0  4600.0  9200.0 23000.0
                *
4796            KK  RWRI07   ROUTE
4797            KM   Route diversion DWRI07 west to combination point CRI07
4798            RS       7    FLOW
4799            RC   0.035   0.015   0.035    5402  0.0013    0.00
4800            RX    0.00    0.00   16.50   16.50  107.50  107.50  124.00  124.00
4801            RY    3.00    0.66    0.50    0.00    0.00    0.50    0.66    3.00
                *
4802            KK  DRRI07RETRIEVE
4803            KM   Retrieve divert DRRI07 from combination point CIS07 and divert south to
4804            KM   combination point CRI07
4805            DR  DSRI07
                *
4806            KK  RSRI07   ROUTE
4807            KM   Route diversion retrieval DRRI07 south to combination point CRI07
4808            RS       3    FLOW
4809            RC   0.035   0.015   0.035    2640  0.0008    0.00
4810            RX    0.00    0.00   26.00   26.00  148.00  148.00  174.00  174.00
4811            RY    3.00    0.76    0.50    0.00    0.00    0.50    0.76    3.00
                *
4812            KK    RI07   BASIN
4813            KM   Runoff hydrograph for subbasin RI07 northeast of the intersection of the
4814            KM   Roosevelt Irrigation District Canal and 107th Avenue
4815            BA   0.759
4816            LG    0.41    0.15    8.80    0.08      12
4817            UC   1.160   0.714
4818            UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
4819            UA     100
                *
4820            KK  ERRI07  DIVERT
4821            KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
4822            KM   retention developed after 1990 in subbasin RI07
4823            DT   XRI07     21.1      0.0
4824            DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
4825            DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
                *
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LINE            ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

4826            KK   CRI07 COMBINE
4827            KM   Combine route RWRI07, route RSRI07 and subbasin RI07
4828            HC       3    1.67
                *
4829            KK   DRIAF  DIVERT
4830            KM   Divert portion of runoff hydrograph from combination point CRIAF south to the
4831            KM   intersection of Thomas Road and 107th Avenue and the remaining flow
4832            KM   west to the intersection of the Roosevelt Irrigation District canal and the
4833            KM   Agua Fria River. The diversion is based on topography
4834            DT   DTM07      0.0      0.0
4835            DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
4836            DQ     0.0    49.0    98.0   245.0   490.0   980.0  1960.0  4900.0  9800.0 24500.0
                *
4837            KK  DWRIAF  DIVERT
4838            KM   Divert runoff hydrograph from combination point CRI07 west to combination
4839            KM   point CRIAF
4840            DT  DSTM07      0.0      0.0
4841            DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
4842            DQ     0.0    62.0   124.0   310.0   620.0  1240.0  2480.0  6200.0 12400.0 31000.0
                *
4843            KK  RWRIAF   ROUTE
4844            KM   Route diversion DWRIAF west to combination point CRIAF
4845            RS      10    FLOW
```

```
RC  0.035   0.015   0.035   10904  0.0007    0.00
RX   0.00    0.00   22.00   22.00  103.00  103.00  125.00  125.00
RY   3.00    0.72    0.50    0.00    0.00    0.50    0.72    3.00
*

KK   RIAF   BASIN
KM  Runoff hydrograph for subbasin RIAF north of the Roosevelt Irrigation
KM  District Canal and east of the Aqua Fria River
BA  0.659
LG   0.22    0.18    6.60    0.13      41
UC  1.500   1.317
UA      0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
UA    100
*

KK   CRIAF COMBINE
KM   Combine route RWRIAF and subbasin RIAF
HC       2    0.98
*

KK  DRBHAFRETRIEVE
DR  DWBHAF
*
```



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LINE        ID.......1.......2.......3.......4.......5.......6.......7.......8.......9.....10

KK  SRBHRI STORAGE
KM   Storage route runoff hydrograph from combination point CRIAF through ponding
KM     area at the Roosevelt Irrigation District Canal and the Agua Fria River
KM   Stage-storage-discharge data from Maryvale ADMS, Feb 1997
RS       1     STOR
SV           15.00   34.70   63.80  107.60
SQ            0.10    0.20 4536.0013441.00
SE  1050.0 1052.00 1053.00 1054.00 1055.00
*

KK   CAF01 COMBINE
KM   Combine combination point CCBNR, combination point CISAF, and combination
KM   point CRIAF
HC       5    4.31
*

KK    CB83   BASIN
KM   Runoff hydrograph for subbasin CB83 northeast of the intersection of
KM   Camelback Road and 83rd Avenue
BA   0.554
LG    0.27    0.15    8.00    0.08      20
UC   0.955   0.500
UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
UA     100
*

KK  ERCB83  DIVERT
KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
KM   retention developed after 1990 in subbasin CB83
DT   XCB83    18.0     0.0
DI      0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
DQ      0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
*

KK   D83CB  DIVERT
KM   Divert calculated full flow capapcity of 10 cfs into 24-inch storm drain
KM   pipe at the intersection of Camelback Road and 83rd Avenue
DT   DP83CB      0.0     10.0
DI      0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
DQ      0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
*

KK  DWCB91  DIVERT
KM   Divert remaining runoff hydrograph from subbasin CB83 west to combination
KM   point CCB91
DT   DSIS83      0.0     0.0
DI      0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
DQ      0.0    44.0    88.0   220.0   440.0   880.0  1760.0  4400.0  8800.0 22000.0
*
```



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LINE        ID.......1.......2.......3.......4.......5.......6.......7.......8.......9.....10

KK  RWCB91   ROUTE
KM   Route diversion DWCB91 west to combination point CCB91
RS       6    FLOW
RC  0.035   0.015   0.035    5280  0.0036    0.00
RX   0.00    0.00   57.50   57.50  291.50  291.50  349.00  349.00
RY   3.00    1.08    0.50    0.00    0.00    0.50    1.08    3.00
*

KK    CB91   BASIN
KM   Runoff hydrograph for square mile subbasin CB91 northeast of the intersection
KM   of Camelback Road and 91st Avenue
```



```
BA  0.961
LG   0.41    0.17    8.80    0.08       6
UC  1.177   0.774
UA      0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
UA    100
*

KK  ERCB91  DIVERT
KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
KM   retention developed after 1990 in subbasin CB91
DT   XCB91    16.4     0.0
DI      0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
DQ      0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
*

KK   CCB91 COMBINE
KM   Combine route RWCB91 and subbasin CB91
HC       2    1.32
*

KK  DWCBLO  DIVERT
KM   Divert remaining runoff hydrograph from combination point CCB91 west to
KM   combination point CCBLO
DT   DSIS91      0.0     0.0
DI      0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
DQ      0.0    47.0    94.0   235.0   470.0   940.0  1880.0  4700.0  9400.0 23500.0
*

KK  RWCBLO   ROUTE
KM   Route diversion DWCBLO west to combination point CCBLO
RS       3    FLOW
RC  0.035   0.015   0.035    4287  0.0028    0.00
RX   0.00    0.00   48.00   48.00  251.00  251.00  299.00  299.00
RY   3.00    0.98    0.50    0.00    0.00    0.50    0.98    3.00
*

KK    CBLO   BASIN
KM   Runoff hydrograph for subbasin CBLO northeast of the intersection of
KM   Camelback Road and SR Loop 101
BA   0.818
LG    0.39    0.15    8.80    0.08      14
UC  1.104   0.748
UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
```



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LINE        ID.......1.......2.......3.......4.......5.......6.......7.......8.......9.....10

UA     100
*

KK  ERCBLO  DIVERT
KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
KM   retention developed after 1990 in subbasin CBLO
DT   XCBLO    13.0     0.0
DI      0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
DQ      0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
*

KK   CCBLO COMBINE
KM   Combine route RWCBLO and subbasin CBLO
HC       2    1.52
*

KK  RSISLO   ROUTE
KM   Route hydrograph at combination point CCBLO south to combination point CISLO
RS       3    FLOW
RC  0.035   0.015   0.035    5583  0.0010    0.00
RX   0.00    4.00   14.00   29.00   49.00   64.00   94.00   97.00
RY  11.20   10.20   10.00    0.00    0.40   10.40   11.84   12.84
*

KK    IS75   BASIN
KM   Runoff hydrograph for subbasin IS75 northeast of the intersection of Indian
KM   School Road and 75th Avenue
BA   0.615
LG    0.23    0.15    7.60    0.08      41
UC  1.060   0.639
UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
UA     100
*

KK  ERIS75  DIVERT
KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
KM   retention developed after 1990 in subbasin IS75
DT   XIS75     0.8     0.0
DI      0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
DQ      0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
*

KK   D75IS  DIVERT
KM   Divert calculated full flow capapcity of 123 cfs into 60-inch storm drain
KM   pipe at the intersection of Indian School Road and 75th Avenue
DT   DP75IS     0.0   123.0
```

```
 4976          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
 4977          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
               *
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 LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


 4978          KK  DWIS83  DIVERT
 4979          KM   Divert remaining runoff hydrograph from combination point CPIS75 west to
 4980          KM   combination point CIS83
 4981          DT  DSTM75      0.0      0.0
 4982          DI      0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0  10000.0  20000.0  50000.0
 4983          DQ      0.0     35.0     70.0    175.0    350.0    700.0   1400.0   3500.0   7000.0  17500.0
               *


 4984          KK  RWIS83   ROUTE
 4985          KM   Route diversion DWIS83 west to combination point CIS83
 4986          RS       5     FLOW
 4987          RC   0.035    0.015    0.035     5280   0.0028     0.00
 4988          RX    0.00     0.00    76.50    76.50   372.50   372.50   449.00   449.00
 4989          RY    3.00     1.27     0.50     0.00     0.00     0.50     1.27     3.00
               *


 4990          KK  DRIS83RETRIEVE
 4991          KM   Retrieve divert DRIS83 from subbasin CB83 and divert south to combination
 4992          KM   point CIS83
 4993          DR  DSIS83
               *


 4994          KK  RSIS83   ROUTE
 4995          KM   Route diversion retrieval DRIS83 south to combination point CIS83
 4996          RS       8     FLOW
 4997          RC   0.035    0.015    0.035     5280   0.0022     0.00
 4998          RX    0.00     0.00    57.50    57.50   291.50   291.50   349.00   349.00
 4999          RY    3.00     1.08     0.50     0.00     0.00     0.50     1.08     3.00
               *


 5000          KK    IS83   BASIN
 5001          KM   Runoff hydrograph for square mile subbasin IS83 northeast of the intersection
 5002          KM   Indian School Road and 83rd Avenue
 5003          BA   0.991
 5004          LG    0.24     0.17     6.80     0.12       34
 5005          UC   1.387    0.924
 5006          UA       0      5.0     16.0     30.0     65.0     77.0     84.0     90.0     94.0     97.0
 5007          UA     100
               *


 5008          KK   CIS83 COMBINE
 5009          KM   Combine route RWIS83, route RSIS83 and subbasin IS83
 5010          HC       3     1.64
               *


 5011          KK  PR83CBRETRIEVE
 5012          KM   Retrieve full flow capacity of 10 cfs from 24-inch storm drain pipe at the
 5013          KM   intersection of Camelback Road and 83rd Avenue
 5014          DR  DP83CB
               *
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 LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


 5015          KK  RP83IS   ROUTE
 5016          KM   Route full flow capacity of 10 cfs through 24-inch storm drain pipe in
 5017          KM   83rd Avenue to the intersection of Indian School Road and 83rd Avenue
 5018          RK    5208  0.0019   0.015             CIRC   2.000
               *


 5019          KK  CPIS83 COMBINE
 5020          KM   Combine pipe return PR83CB with the runoff hydrograph at combination point
 5021          KM   CIS83 at the intersection of Indian School Road and 83rd Avenue
 5022          HC       2
               *


 5023          KK   D83IS  DIVERT
 5024          KM   Divert calculated full flow capapcity of 187 cfs into 72-inch storm drain
 5025          KM   pipe at the intersection of Indian School Road and 83rd Avenue
 5026          DT  DP83IS      0.0   187.0
 5027          DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
 5028          DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
               *


 5029          KK  DWIS91  DIVERT
 5030          KM   Divert remaining runoff hydrograph from combination point CPIS83 west to
 5031          KM   combination point CIS91
 5032          DT  DSTM83      0.0      0.0
 5033          DI      0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0  10000.0  20000.0  50000.0
 5034          DQ      0.0     55.0    110.0    275.0    550.0   1100.0   2200.0   5500.0  11000.0  27500.0
               *


 5035          KK  RWIS91   ROUTE
 5036          KM   Route diversion DWIS91 west to combination point CIS91
```



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 5037          RS       3     FLOW
 5038          RC   0.035    0.015    0.035     5280   0.0030     0.00
 5039          RX    0.00     0.00    54.50    54.50   269.50   269.50   324.00   324.00
 5040          RY    3.00     1.04     0.50     0.00     0.00     0.50     1.04     3.00
               *


 5041          KK  DRIS91RETRIEVE
 5042          KM   Retrieve divert DRIS91 from combination point CCB91 and divert south to
 5043          KM   combination point CIS91
 5044          DR  DSIS91
               *


 5045          KK  RSIS91   ROUTE
 5046          KM   Route diversion retrieval DRIS91 south to combination point CIS91
 5047          RS       5     FLOW
 5048          RC   0.035    0.015    0.035     5280   0.0017     0.00
 5049          RX    0.00     0.00    57.50    57.50   291.50   291.50   349.00   349.00
 5050          RY    3.00     1.08     0.50     0.00     0.00     0.50     1.08     3.00
               *
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 LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


 5051          KK    IS91   BASIN
 5052          KM   Runoff hydrograph for square mile subbasin IS91 northeast of the intersection
 5053          KM   Indian School Road and 91st Avenue
 5054          BA   0.999
 5055          LG    0.25     0.15     9.70     0.04       37
 5056          UC   1.416    0.948
 5057          UA       0      5.0     16.0     30.0     65.0     77.0     84.0     90.0     94.0     97.0
 5058          UA     100
               *


 5059          KK  ERIS91  DIVERT
 5060          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
 5061          KM   retention developed after 1990 in subbasin IS91
 5062          DT   XIS91     24.3      0.0
 5063          DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
 5064          DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
               *


 5065          KK   CIS91 COMBINE
 5066          KM   Combine route RWIS91, route RSIS91 and subbasin IS91
 5067          HC       3     2.36
               *


 5068          KK   D91IS  DIVERT
 5069          KM   Divert calculated full flow capapcity of 190 cfs into 72-inch storm drain
 5070          KM   pipe at the intersection of Indian School Road and 91st Avenue
 5071          DT  DP91IS      0.0   190.0
 5072          DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
 5073          DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
               *


 5074          KK  DWISLO  DIVERT
 5075          KM   Divert remaining runoff hydrograph from combination point CIS91 west to
 5076          KM   combination point CISLO
 5077          DT  DSTM91      0.0      0.0
 5078          DI      0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0  10000.0  20000.0  50000.0
 5079          DQ      0.0     57.0    114.0    285.0    570.0   1140.0   2280.0   5700.0  11400.0  28500.0
               *


 5080          KK  RWISLO   ROUTE
 5081          KM   Route diversion DWISLO west to combination point CISLO
 5082          RS       1     FLOW
 5083          RC   0.035    0.015    0.035     2651   0.0039     0.00
 5084          RX    0.00     0.00    35.50    35.50   188.50   188.50   224.00   224.00
 5085          RY    3.00     0.86     0.50     0.00     0.00     0.50     0.86     3.00
               *


 5086          KK    ISLO   BASIN
 5087          KM   Runoff hydrograph for subbasin ISLO northeast of the intersection of Indian
 5088          KM   School Road and SR Loop 101
 5089          BA   0.684
 5090          LG    0.34     0.15     9.70     0.06       21
 5091          UC   1.143    0.741
 5092          UA       0      5.0     16.0     30.0     65.0     77.0     84.0     90.0     94.0     97.0
1                                        HEC-1 INPUT                                        PAGE132

 LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


 5093          UA     100
               *


 5094          KK  ERISLO  DIVERT
 5095          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
 5096          KM   retention developed after 1990 in subbasin ISLO
 5097          DT   XISLO     29.8      0.0
 5098          DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
 5099          DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
               *
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5100          KK  CISLO COMBINE
5101          KM  Combine route RWISLO, route RSISLO and subbasin ISLO
5102          HC       3    3.22
              *

5103          KK  RSTMLO   ROUTE
5104          KM  Route hydrograph at combination point CISLO south to combination point CTMLO
5105          RS       2    FLOW
5106          RC  0.035   0.015   0.035    5309  0.0010    0.00
5107          RX   0.00    4.00   14.00   29.00   44.00   59.00   73.00   76.00
5108          RY  11.20   10.20   10.00    0.00    0.30   10.30   10.58   11.58
              *

5109          KK  DRGCGRRETRIEVE
5110          KM  Retrieve divert DRGCGR from combination point CGR35 and divert south to
5111          KM  combination point CIGR35
5112          DR  DEGCGR
              *

5113          KK  DIGCGRRETRIEVE
5114          KM  Retrieve divert DIGCGR from combination point CPIS35 and divert south to
5115          KM  combination point CIGR35
5116          DR  DSGCGR
              *

5117          KK  CIGR35 COMBINE
5118          KM  Combine arterial street flow from Grand Avenue DEGCGR with runoff hydrograph
5119          KM  DGRGC at the intersection of 35th Avenue and Grand Avenue
5120          HC       2    3.97
              *

5121          KK  RSGCGR   ROUTE
5122          KM  Route hydrograph at combination point CIGR35 at the intersection of Grand
5123          KM  Avenue and 35th Avenue south to combination point CGCGR
5124          RS       2    FLOW
5125          RC  0.035   0.015   0.035    3104  0.0029    0.00
5126          RX   0.00    0.00   48.00   48.00  251.00  251.00  299.00  299.00
5127          RY   3.00    0.98    0.50    0.00    0.00    0.50    0.98    3.00
              *
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LINE          ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

5128          KK  DRGC27RETRIEVE
5129          KM  Retrieve divert DRGC27 from combination point CPIS27 and divert south to
5130          KM  combination point CGCGR
5131          DR  DSGC27
              *

5132          KK  RSGC27   ROUTE
5133          KM  Route diversion retrieval DRGC27 south to combination point CGC27
5134          RS       1    FLOW
5135          RC  0.035   0.015   0.035    1755  0.0028    0.00
5136          RX   0.00    0.00   16.50   16.50  107.50  107.50  124.00  124.00
5137          RY   3.00    0.66    0.50    0.00    0.00    0.50    0.66    3.00
              *

5138          KK   GCGR   BASIN
5139          KM  Runoff hydrograph for subbasin GCGR northeast of the intersection of Grand
5140          KM  Avenue and the Grand Canal
5141          BA  0.376
5142          LG   0.15    0.25    5.00    0.23      77
5143          UC  0.280   0.065
5144          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
5145          UA     100
              *

5146          KK   CGCGR COMBINE
5147          KM  Combine route RSGCGR, route RSGC27, and subbasin GCGR
5148          HC       3    6.09
              *

5149          KK  PR31ISRETRIEVE
5150          KM  Retrieve full flow capacity of 268 cfs from 72-inch diameter pipe at the
5151          KM  intersection of Indian School Road and 31st Avenue
5152          DR  DP31IS
              *

5153          KK  RP31GC   ROUTE
5154          KM  Route full flow capacity of 268 cfs through 72-inch storm drain pipe
5155          KM  in 31st Avenue to the intersection of 31st Avenue and the Grand Canal
5156          RK    2506  0.0040   0.015            CIRC   6.000
              *

5157          KK  PR27ISRETRIEVE
5158          KM  Retrieve full flow capacity of 151 cfs from 60-inch diameter pipe at the
5159          KM  intersection of Indian School Road and 27th Avenue
5160          DR  DP27IS
              *

5161          KK  RP27GC   ROUTE
5162          KM  Route full flow capacity of 151 cfs through 60-inch storm drain pipe in
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5163          KM  in 27th Avenue to the intersection of 27th Avenue and the Grand Canal
5164          RK    1763  0.0034   0.015            CIRC   5.000
              *
1                                        HEC-1 INPUT                                    PAGE134

LINE          ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

5165          KK  CPGCGR COMBINE
5166          KM  Combine pipe return PR27IS and pipe return PR35IS with the runoff hydrograph
5167          KM  at combination point CGCGR at the intersection of the Grand Canal and Grand
5168          KM  Avenue
5169          HC       3
              *

5170          KK   DGCGR  DIVERT
5171          KM  Capacity of storm drain in 27th Avenue and 29th Avenue diverted together.
5172          KM  Divert combined calculated full flow capacity of 257 cfs in the 72-inch storm
5173          KM  drain pipe in 27th Avenue and 165 cfs in the 60-inch storm drain pipe in
5174          KM  29th Avenue. The total calculated combined full flow capacity diverted at the
5175          KM  intersection of the Grand Canal and Grand Avenue is 422 cfs in an equivalent
5176          KM  diameter pipe of 87 inches
5177          DT  DPGCGR      0.0   422.0
5178          DI      0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
5179          DQ      0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

5180          KK  SRGCGR STORAGE
5181          KM  Storage route runoff hydrograph from divert DGCGR through ponding
5182          KM    area at the Grand Canal between I-17 and Grand Avenue
5183          KM  Storage routing ID RES26E in Maryvale ADMS, Feb 1997 - comments from ADMS:
5184          KM  PONDING AREA RESERVOIR ROUTE
5185          KM  PONDING AREA NORTHEAST OF GRAND AVENUE/RR EMBANKMENT
5186          KM  SUB-BASIN 26-22E
5187          RS       1    STOR      0.
5188          SV            0.10   13.20   45.92   91.09  149.48
5189          SQ          160.00  160.00  376.00 1056.00 6078.00
5190          SE  1095.0 1096.00 1097.00 1098.00 1099.00 1100.00
              *

5191          KK  RSGR27   ROUTE
5192          KM  Route diversion retrieval DRGR27 south to combination point CGR27
5193          RS       3    FLOW
5194          RC  0.035   0.015   0.035    4632  0.0019    0.00
5195          RX   0.00    0.00   33.00   33.00  215.00  215.00  248.00  248.00
5196          RY   3.00    0.83    0.50    0.00    0.00    0.50    0.83    3.00
              *

5197          KK    GR27   BASIN
5198          KM  Runoff hydrograph for subbasin GR27 northwest of the intersection of Grand
5199          KM  Avenue and 27th Avenue
5200          BA  0.407
5201          LG   0.18    0.15    8.40    0.06      66
5202          UC  0.604   0.328
5203          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
5204          UA     100
              *
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LINE          ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

5205          KK   CTM27 COMBINE
5206          KM  Combine route RSGR27 and subbasin GR27
5207          HC       2    6.50
              *

5208          KK   DTM27  DIVERT
5209          KM  Divert portion of runoff hydrograph from combination point CTM27  to storage
5210          KM  route SRTM27 where it will be routed through the Verde Basin near the
5211          KM  intersection of Thomas and 27th Avenue.  The remaining flow is diverted to
5212          KM  combination point CGR27. The diversion is based on topography
5213          DT  DGR27       0.0     0.0
5214          DI      0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
5215          DQ      0.0    50.0   100.0   250.0   500.0  1000.0  2000.0  5000.0 10000.0 25000.0
              *

5216          KK  SRTM27 STORAGE
5217          KM  Storage route runoff hydrograph from storm drain route RP27TM thru regional
5218          KM    detention basin near the intersection of Thomas Road and 27th Avenue
5219          KM  Stage-storage-discharge data from 26th Avenue and Verde Lane Drainage
5220          KM    Improvement Project Phase II Plans, November 2005 (Verde Basin)
5221          RS       1    STOR
5222          SV            0.30    2.10    8.50   15.80   23.90   32.70   42.20   47.30   49.93
5223          SV    24.1
5224          SQ     0.0    49.0    20.0    25.0    29.0    33.0    36.0    39.0    42.0   521.0
5225          SQ  1395.0
5226          SE  1088.0  1089.0  1090.0  1091.0  1092.0  1093.0  1094.0  1095.0  1096.0  1096.5
5227          SE  1097.0
              *

5228          KK  PRGCGRRETRIEVE
5229          KM  Retrieve combined full flow capacity of 422 cfs from 87-inch equivalent
```

```
KM   diameter pipe at the intersection of the Grand Canal and Grand Avenue
DR  DPGCGR
*

KK   D31GR  DIVERT
KM   Divert calculated full flow capapcity of 257 cfs into 72-inch storm drain
KM   pipe at the intersection of Grand Avenue and 31st Avenue
DT  DP31GR     0.0   257.0
DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
*

KK  RP27TM   ROUTE
KM   Route full flow capacity of 151 cfs through 60-inch storm drain pipe in
KM   27th Avenue to the intersection of Thomas Road and 27th Avenue
RK    3088  0.0034   0.015            CIRC   5.000
*
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LINE        ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

KK  CPGR27 COMBINE
KM   Combine remainder of pipe return PRGCGR with the runoff hydrograph at
KM   storage route SRTM27 at the intersection of Grand Avenue and 27th Avenue
HC       2
*

KK   D27GR  DIVERT
KM   Divert calculated full flow capapcity of 195 cfs into 66-inch storm drain
KM   pipe at the intersection of Grand Avenue and 27th Avenue
DT  DP27GR     0.0   195.0
DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
*

KK  DRGR27RETRIEVE
KM   Retrieve divert DRGR27 from combination point CRM27 and divert south to
KM   combination point CGR27
DR   DGR27
*

KK   CGR27 COMBINE
KM   Combine divert D27GR and divert retrieval DRGR27
HC       2    6.50
*

KK  SRGR27 STORAGE
KM   Storage route runoff hydrograph from divert D27GR through regional detention
KM     basin near the intersection of Grand Avenue and 27th Avenue.
KM   Stage-storage-discharge data from State Highway Wickenburg-Phoenix Highway
KM     (US 60), 27th Avnue/Thomas Road As-builts, ADOT, August 2006
RS       1    STOR
SV            0.30    2.10    8.50   15.80   23.90   32.70   42.20   47.30   49.93
SV    52.6    57.8
SQ       0       2       7      14      19      22      25      28      29       3
SQ     813    1469
SE  1084.0  1085.0  1086.0  1088.0  1090.0  1092.0  1094.0  1096.0  1097.0    1097
SE  1098.0  1098.5
*

KK  DWTM35  DIVERT
KM   Divert remaining runoff hydrograph from combination point CPGR27 west to
KM   combination point CTM35
DT  DSMD27     0.0     0.0
DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
DQ     0.0    68.0   136.0   340.0   680.0  1360.0  2720.0  6800.0 13600.0 34000.0
*

KK  RWTM35   ROUTE
KM   Route diversion DWTM35 west to combination point CTM35
RS       5    FLOW
RC   0.035   0.015   0.035    5280  0.0008     0.00
RX    0.00    0.00   16.50   16.50  107.50  107.50  124.00  124.00
RY    3.00    0.66    0.50    0.00    0.00    0.50    0.66    3.00
*
```



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LINE        ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

KK  DRTM35RETRIEVE
KM   Retrieve divert DRTM35 from combination point CGC35 and divert south to
KM   combination point CTM35
DR  DSTM35
*

KK  RSTM35   ROUTE
KM   Route diversion retrieval DRTM35 south to combination point CTM35
RS       1    FLOW
RC   0.035   0.015   0.035    3050  0.0051     0.00
RX    0.00    0.00   16.50   16.50  107.50  107.50  124.00  124.00
RY    3.00    0.66    0.50    0.00    0.00    0.50    0.66    3.00
```



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*

KK    TM35   BASIN
KM   Runoff hydrograph for subbasin TM35 northeast of the intersection of Thomas
KM   Road and 35th Avenue
BA   0.393
LG    0.14    0.15    7.60    0.08      80
UC   0.548   0.315
UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
UA     100
*

KK   CTM35 COMBINE
KM   Combine route RWTM35, route RSTM35, and subbasin TM35
HC       3    4.31
*

KK  PR31GRRETRIEVE
KM   Retrieve full flow capacity of 257 cfs from 72-inch storm drain pipe at the
KM   intersection of Grand Avenue and 31st Avenue
DR  DP31GR
*

KK  RP31TM   ROUTE
KM   Route full flow capacity of 257 cfs through 72-inch storm drain pipe in
KM   31st Avenue to the intersection of Thomas Road and 31st Avenue
RK    3862  0.0037   0.015            CIRC   6.000
*

KK  PR35GCRETRIEVE
KM   Retrieve full flow capacity of 40 cfs from 36-inch storm drain pipe at the
KM   intersection of the Grand Canal and 35th Avenue
DR  DP35GC
*

KK  RP35TM   ROUTE
KM   Route full flow capacity of 40 cfs through 36-inch storm drain pipe in
KM   35th Avenue to the intersection of Thomas Road and 35th Avenue
RK    3051  0.0035   0.015            CIRC   3.000
*
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LINE        ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

KK  CPTM35 COMBINE
KM   Combine pipe returns PR31GR and PR35GC with the runoff hydrograph at
KM   combination point CTM35 at the intersection of Thomas Road and 35th Avenue
HC       3
*

KK   D35TM  DIVERT
KM   Capacity of storm drain in 31st Avenue and 35th Avenue diverted together.
KM   Divert combined calculated full flow capacity of 213 cfs in the 66-inch storm
KM   drain pipe in 31st AVenue and 87 cfs in the 48-inch storm drain pipe in
KM   35th Avenue. The total calculated combined full flow capacity diverted at the
KM   intersection of 35th Avenue and Thomas Road is 300 cfs in an equivalent
KM   diameter pipe of 77 inches
DT  DP35TM     0.0   300.0
DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
*

KK  DWTM43  DIVERT
KM   Divert remaining runoff hydrograph from combination point CPTM35 west to
KM   combination point CTM43
DT  DSMD35     0.0     0.0
DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
DQ     0.0    84.0   168.0   420.0   840.0  1680.0  3360.0  8400.0 16800.0 42000.0
*

KK  RWTM43   ROUTE
KM   Route diversion DWTM43 west to combination point CTM43
RS       9    FLOW
RC   0.035   0.015   0.035    5280  0.0003     0.00
RX    0.00    0.00   38.50   38.50  210.50  210.50  249.00  249.00
RY    3.00    0.88    0.50    0.00    0.00    0.50    0.88    3.00
*

KK  DRTM43RETRIEVE
KM   Retrieve divert DRTM43 from combination point CGC43 and divert south to
KM   combination point CTM43
DR  DSTM43
*

KK  RSTM43   ROUTE
KM   Route diversion retrieval DRTM43 south to combination point CTM43
RS       1    FLOW
RC   0.035   0.015   0.035    3050  0.0045     0.00
RX    0.00    0.00   16.50   16.50  107.50  107.50  124.00  124.00
RY    3.00    0.66    0.50    0.00    0.00    0.50    0.66    3.00
*
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5356          KK    TM43   BASIN
5357          KM    Runoff hydrograph for subbasin TM43 northeast of the intersection of Thomas
5358          KM    Road and 43rd Avenue
5359          BA    0.636
5360          LG     0.23    0.15    8.80    0.05      37
5361          UC    1.398   1.001
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

5362          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
5363          UA     100
              *

5364          KK  ERTM43  DIVERT
5365          KM    Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
5366          KM    retention developed after 1990 in subbasin TM43
5367          DT    XTM43      1.7      0.0
5368          DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
5369          DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

5370          KK    CTM43 COMBINE
5371          KM    Combine route RWTM43, route RSTM43, and subbasin TM43
5372          HC         3     3.16
              *

5373          KK  PR43GCRETRIEVE
5374          KM    Retrieve combined full flow capacity of 406 cfs from 87-inch equivalent
5375          KM    diameter pipe at the intersection of the Grand Canal and 43rd Avenue
5376          DR  DP43GC
              *

5377          KK  RP43TM   ROUTE
5378          KM    Route the combined full flow capacity of 406 cfs through an equivalent storm
5379          KM    drain pipe diameter of 87 inches in 43rd Avenue to the intersection of
5380          KM    43rd Avenue and Thomas Road
5381          RK     2924  0.0035   0.015             CIRC    7.250
              *

5382          KK  CPTM43 COMBINE
5383          KM    Combine pipe return PR43GC with the runoff hydrograph at combination point
5384          KM    CTM43 at the intersection of the Grand Canal and 43rd Avenue
5385          HC         2
              *

5386          KK    D43TM  DIVERT
5387          KM    Capacity of storm drain in 39th Avenue and 43rd Avenue diverted together.
5388          KM    Divert combined calculated full flow capacity of 404 cfs in the 84-inch storm
5389          KM    drain pipe in 39th AVenue and 225 cfs in the 69-inch storm drain pipe in
5390          KM    43rd Avenue. The total calculated combined full flow capacity diverted at the
5391          KM    intersection of 43rd Avenue and Thomas Road is 629 cfs in an equivalent
5392          KM    diameter pipe of 102 inches
5393          DT  DP43TM       0.0     629.0
5394          DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
5395          DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

5396          KK  DWTM51  DIVERT
5397          KM    Divert remaining runoff hydrograph from combination point CTM43 west to
5398          KM    combination point CTM51
5399          DT  DSMD43       0.0      0.0
5400          DI      0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0  10000.0  20000.0  50000.0
5401          DQ      0.0     79.0    158.0    395.0    790.0   1580.0   3160.0   7900.0  15800.0  39500.0
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

5402          KK  RWTM51   ROUTE
5403          KM    Route diversion DWTM51 west to combination point CTM51
5404          RS        9    FLOW
5405          RC    0.035   0.015   0.035    5280  0.0004     0.00
5406          RX     0.00    0.00   48.00   48.00  251.00  251.00  299.00  299.00
5407          RY     3.00    0.98    0.50    0.00    0.00    0.50    0.98    3.00
              *

5408          KK  DRTM51RETRIEVE
5409          KM    Retrieve divert DRTM51 from combination point CPGC51 and divert south to
5410          KM    combination point CTM51
5411          DR  DSTM51
              *

5412          KK  RSTM51   ROUTE
5413          KM    Route diversion retrieval DRTM51 south to combination point CTM51
5414          RS        2    FLOW
5415          RC    0.035   0.015   0.035    2916  0.0044     0.00
5416          RX     0.00    0.00   29.00   29.00  170.00  170.00  199.00  199.00
5417          RY     3.00    0.79    0.50    0.00    0.00    0.50    0.79    3.00
              *

5418          KK    TM51   BASIN
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5419          KM    Runoff hydrograph for subbasin TM51 northeast of the intersection of Thomas
5420          KM    Road and 51st Avenue
5421          BA    0.545
5422          LG     0.24    0.19    6.60    0.13      33
5423          UC    1.449   1.121
5424          UA        0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
5425          UA      100
              *

5426          KK    CTM51 COMBINE
5427          KM    Combine route RWTM51, route RSTM51, and subbasin TM51
5428          HC         3     2.15
              *

5429          KK  PR51GCRETRIEVE
5430          KM    Retrieve full flow capacity of 113 cfs from 54-inch storm drain pipe near the
5431          KM    intersection of the Grand Canal and 51st Avenue
5432          DR  DP51GC
              *

5433          KK  PRGC53RETRIEVE
5434          KM    Retrieve full flow capacity of 20 cfs from 36-inch storm drain pipe at the
5435          KM    intersection of the Grand Canal and 53rd Avenue
5436          DR  DPGC53
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

5437          KK  RPGC51   ROUTE
5438          KM    Route full flow capacity of 20 cfs through 36-inch storm drain near the
5439          KM    Grand Canal to the intersection of the Grand Canal and 51st Avenue
5440          RK     1038  0.0009   0.015             CIRC    3.000
              *

5441          KK  CPGC51 COMBINE
5442          KM    Combine pipe return PR51GC with pipe route RPGC51 at the intersection of
5443          KM    the Grand Canal and 51st Avenue
5444          HC         2     2.15
              *

5445          KK  RP51TM   ROUTE
5446          KM    Route combined full flow capacity of 133 cfs through a 72-inch storm drain
5447          KM    pipe in 51st Avenue to the intersection of Thomas Road and 51st Avenue
5448          RK     2803  0.0033   0.015             CIRC    6.000
              *

5449          KK  CPTM51 COMBINE
5450          KM    Combine the runoff hydrograph at combination point CTM51 with pipe route
5451          KM    RP51TM at the intersection of Thomas Road and 51st Avenue
5452          HC         2
              *

5453          KK    D51TM  DIVERT
5454          KM    Divert calculated full flow capapcity of 244 cfs into 72-inch storm drain
5455          KM    pipe at the intersection of Thomas Road and 51st Avenue
5456          DT  DP51TM       0.0     244.0
5457          DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
5458          DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

5459          KK  DWTM59  DIVERT
5460          KM    Divert remaining runoff hydrograph from combination point CPTM51 west to
5461          KM    combination point CTM59
5462          DT  DSMD51       0.0      0.0
5463          DI      0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0  10000.0  20000.0  50000.0
5464          DQ      0.0     64.0    128.0    320.0    640.0   1280.0   2560.0   6400.0  12800.0  32000.0
              *

5465          KK  RWTM59   ROUTE
5466          KM    Route diversion DWTM59 west to combination point CTM59
5467          RS        6    FLOW
5468          RC    0.035   0.015   0.035    5280  0.0013     0.00
5469          RX     0.00    0.00   48.00   48.00  251.00  251.00  299.00  299.00
5470          RY     3.00    0.98    0.50    0.00    0.00    0.50    0.98    3.00
              *

5471          KK  DRTM59RETRIEVE
5472          KM    Retrieve divert DRTM59 from combination point CPGC59 and divert south to
5473          KM    combination point CTM59
5474          DR  DSTM59
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

5475          KK  RSTM59   ROUTE
5476          KM    Route diversion retrieval DRTM59 south to combination point CTM59
5477          RS        2    FLOW
5478          RC    0.035   0.015   0.035    2752  0.0054     0.00
5479          RX     0.00    0.00   29.00   29.00  170.00  170.00  199.00  199.00
```

```
5480          RY    3.00    0.79    0.50    0.00    0.00    0.50    0.79    3.00
              *

5481          KK    TM59    BASIN
5482          KM    Runoff hydrograph for subbasin TM59 northeast of the intersection of Thomas
5483          KM    Road and 59th Avenue
5484          BA    0.599
5485          LG    0.24    0.21    6.60    0.13      31
5486          UC   1.276   0.913
5487          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
5488          UA     100
              *

5489          KK    CTM59 COMBINE
5490          KM    Combine route RWTM59, route RSTM59, and subbasin TM59
5491          HC       3    3.90
              *

5492          KK   PRGC63RETRIEVE
5493          KM    Retrieve full flow capacity of 258 cfs from 72-inch storm drain pipe at the
5494          KM    intersection of the Grand Canal and 63rd Avenue
5495          DR   DPGC63
              *

5496          KK   RP59TM   ROUTE
5497          KM    Route full flow capacity of 258 cfs through 72-inch storm drain pipe in
5498          KM    59th Avenue to the intersection of Thomas Road and 59th Avenue
5499          RK    4111  0.0037   0.015            CIRC   6.000
              *

5500          KK   CPTM59 COMBINE
5501          KM    Combine pipe return PRGC63 with the runoff hydrograph at combination point
5502          KM    CTM59 at the intersection of Thomas Road and 59th Avenue
5503          HC       2
              *

5504          KK    D59TM  DIVERT
5505          KM    Divert calculated full flow capapcity of 389 cfs into 84-inch storm drain
5506          KM    pipe at the intersection of Thomas Road and 59th Avenue
5507          DT   DP59TM      0.0   389.0
5508          DI      0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
5509          DQ      0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

5510          KK   DWTM67  DIVERT
5511          KM    Divert remaining runoff hydrograph from combination point CPTM59 west to
5512          KM    combination point CTM67
5513          DT   DSMD59      0.0     0.0
5514          DI      0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
5515          DQ      0.0    41.0    82.0   205.0   410.0   820.0  1640.0  4100.0  8200.0 20500.0
              *

5516          KK   RWTM67   ROUTE
5517          KM    Route diversion DWTM67 west to combination point CTM67
5518          RS       5    FLOW
5519          RC   0.035   0.015   0.035    5280  0.0015    0.00
5520          RX    0.00    0.00   95.50   95.50  453.50  453.50  549.00  549.00
5521          RY    3.00    1.46    0.50    0.00    0.00    0.50    1.46    3.00
              *

5522          KK   DRTM67RETRIEVE
5523          KM    Retrieve divert DRTM67 from combination point CPISGC and divert south to
5524          KM    combination point CTM67
5525          DR   DSTM67
              *

5526          KK   RSTM67   ROUTE
5527          KM    Route diversion DRTM67 south to combination point CTM67
5528          RS       4    FLOW
5529          RC   0.035   0.015   0.035    5280  0.0029    0.00
5530          RX    0.00    0.00    9.50    9.50   40.50   40.50   50.00   50.00
5531          RY    3.00    0.60    0.50    0.00    0.00    0.50    0.60    3.00
              *

5532          KK    TM67   BASIN
5533          KM    Runoff hydrograph for subbasin TM67 northeast of the intersection of Thomas
5534          KM    Road and 67th Avenue
5535          BA    0.813
5536          LG    0.24    0.15    8.00    0.07      36
5537          UC   1.332   0.879
5538          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
5539          UA     100
              *

5540          KK   ERTM67  DIVERT
5541          KM    Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
5542          KM    retention developed after 1990 in subbasin TM67
5543          DT   XTM67      1.1     0.0
5544          DI      0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
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5545          DQ      0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

5546          KK   CTM67 COMBINE
5547          KM   Combine route RWTM67, route RSTM67, and subbasin TM67
5548          HC       3    3.12
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

5549          KK   PR67ISRETRIEVE
5550          KM    Retrieve full flow capacity of 175 cfs from 66-inch storm drain pipe at the
5551          KM    intersection of Indian School Road and 67th Avenue
5552          DR   DP67IS
              *

5553          KK   RP67TM   ROUTE
5554          KM    Route full flow capacity of 175 cfs through 66-inch storm drain pipe in
5555          KM    67th Avenue to the intersection of Thomas Road and 67th Avenue
5556          RK    5268  0.0027   0.015            CIRC   5.500
              *

5557          KK   CPTM67 COMBINE
5558          KM    Combine pipe flow at combination point CPIS67 with runoff hydrograph at
5559          KM    combination point CTM67 at the intersection of Thomas Road and 67th Avenue
5560          HC       2
              *

5561          KK    D67TM  DIVERT
5562          KM    Divert calculated full flow capapcity of 273 cfs into 78-inch storm drain
5563          KM    pipe at the intersection of Thomas Road and 67th Avenue
5564          DT   DP67TM      0.0   273.0
5565          DI      0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
5566          DQ      0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

5567          KK   DWTM75  DIVERT
5568          KM    Divert remaining runoff hydrograph from combination point CPTM67 west to
5569          KM    combination point CTM75
5570          DT   DSMD67      0.0     0.0
5571          DI      0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
5572          DQ      0.0    45.0    90.0   225.0   450.0   900.0  1800.0  4500.0  9000.0 22500.0
              *

5573          KK   RWTM75   ROUTE
5574          KM    Route diversion DWTM75 west to combination point CTM75
5575          RS       4    FLOW
5576          RC   0.035   0.015   0.035    5280  0.0023    0.00
5577          RX    0.00    0.00   76.50   76.50  372.50  372.50  449.00  449.00
5578          RY    3.00    1.27    0.50    0.00    0.00    0.50    1.27    3.00
              *

5579          KK   DRTM75RETRIEVE
5580          KM    Retrieve divert DRTM75 from combination point CPIS75 and divert south to
5581          KM    combination point CTM75
5582          DR   DSTM75
              *

5583          KK   RSTM75   ROUTE
5584          KM    Route diversion retrieval DRTM75 south to combination point CTM75
5585          RS       6    FLOW
5586          RC   0.035   0.015   0.035    5280  0.0027    0.00
5587          RX    0.00    0.00   38.50   38.50  210.50  210.50  249.00  249.00
5588          RY    3.00    0.88    0.50    0.00    0.00    0.50    0.88    3.00
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

5589          KK    TM75   BASIN
5590          KM    Runoff hydrograph for square mile subbasin TM75 northeast of the intersection
5591          KM    of Thomas Road and 75th Avenue
5592          BA    0.997
5593          LG    0.23    0.15    9.70    0.04      41
5594          UC   1.278   0.847
5595          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
5596          UA     100
              *

5597          KK   ERTM75  DIVERT
5598          KM    Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
5599          KM    retention developed after 1990 in subbasin TM75
5600          DT   XTM75      0.9     0.0
5601          DI      0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
5602          DQ      0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

5603          KK   CTM75 COMBINE
5604          KM   Combine route RWTM75, route RSTM75, and subbasin TM75
5605          HC       3    2.92
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                *
5606            KK  PR75ISRETRIEVE
5607            KM   Retrieve full flow capacity of 123 cfs from 60-inch storm drain pipe at the
5608            KM   intersection of Indian School Road and 75th Avenue
5609            DR  DP75IS
                *
5610            KK  RP75TM   ROUTE
5611            KM   Route full flow capacity of 123 cfs through 60-inch storm drain pipe in
5612            KM   75th Avenue to the intersection of Thomas Road and 75th Avenue
5613            RK    5256  0.0022   0.015            CIRC   5.000
                *
5614            KK  CPTM75 COMBINE
5615            KM   Combine pipe return PR75IS with the runoff hydrograph at combination point
5616            KM   CTM75 at the intersection of Thomas Road and 75th Avenue
5617            HC       2
                *
5618            KK   D75TM  DIVERT
5619            KM   Divert calculated full flow capapcity of 303 cfs into 84-inch storm drain
5620            KM   pipe at the intersection of Thomas Road and 75th Avenue
5621            DT  DP75TM     0.0   303.0
5622            DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
5623            DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
                *
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LINE            ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

5624            KK  DWTM83  DIVERT
5625            KM   Divert remaining runoff hydrograph from combination point CPTM75 west to
5626            KM   combination point CTM83
5627            DT  DSMD75      0.0      0.0
5628            DI      0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
5629            DQ      0.0    48.0    96.0   240.0   480.0   960.0  1920.0  4800.0  9600.0 24000.0
                *
5630            KK  RWTM83   ROUTE
5631            KM   Route diversion DWTM83 west to combination point CTM83
5632            RS        4    FLOW
5633            RC   0.035   0.015   0.035    5280  0.0025     0.00
5634            RX    0.00    0.00   76.50   76.50  372.50  372.50  449.00  449.00
5635            RY    3.00    1.27    0.50    0.00    0.00    0.50    1.27    3.00
                *
5636            KK  DRTM83RETRIEVE
5637            KM   Retrieve divert DRTM83 from combination point CPIS83 and divert south to
5638            KM   combination point CTM83
5639            DR  DSTM83
                *
5640            KK  RSTM83   ROUTE
5641            KM   Route diversion retrieval DRTM83 south to combination point CTM83
5642            RS        3    FLOW
5643            RC   0.035   0.015   0.035    5280  0.0023     0.00
5644            RX    0.00    0.00   76.50   76.50  372.50  372.50  449.00  449.00
5645            RY    3.00    1.27    0.50    0.00    0.00    0.50    1.27    3.00
                *
5646            KK    TM83   BASIN
5647            KM   Runoff hydrograph for square mile subbasin TM83 northeast of the intersection
5648            KM   of Thomas Road and 83rd Avenue
5649            BA   0.992
5650            LG    0.24    0.15    7.30    0.10      34
5651            UC   1.432   0.960
5652            UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
5653            UA     100
                *
5654            KK   CTM83 COMBINE
5655            KM   Combine route RWTM83, route RSTM83, and subbasin TM83
5656            HC       3    3.41
                *
5657            KK  PR83ISRETRIEVE
5658            KM   Retrieve full flow capacity of 187 cfs from 72-inch storm drain pipe at the
5659            KM   intersection of Indian School Road and 83rd Avenue
5660            DR  DP83IS
                *
1                                                HEC-1 INPUT                                                PAGE147

LINE            ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

5661            KK  RP83TM   ROUTE
5662            KM   Route full flow capacity of 187 cfs through 72-inch storm drain pipe in
5663            KM   83rd Avenue to the intersection of Thomas Road and 83rd Avenue
5664            RK    5330  0.0019   0.015            CIRC   6.000
                *
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5665            KK  CPTM83 COMBINE
5666            KM   Combine pipe return PR83IS with the runoff hydrograph at combination point
5667            KM   CTM83 at the intersection of Thomas Road and 83rd Avenue
5668            HC       2
                *
5669            KK   D83TM  DIVERT
5670            KM   Divert calculated full flow capapcity of 283 cfs into 84-inch storm drain
5671            KM   pipe at the intersection of Thomas Road and 83rd Avenue
5672            DT  DP83TM     0.0   283.0
5673            DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
5674            DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
                *
5675            KK  DWTM91  DIVERT
5676            KM   Divert remaining runoff hydrograph from combination point CPTM83 west to
5677            KM   combination point CTM91
5678            DT  DSMD83      0.0      0.0
5679            DI      0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
5680            DQ      0.0    23.0    46.0   115.0   230.0   460.0   920.0  2300.0  4600.0 11500.0
                *
5681            KK  RWTM91   ROUTE
5682            KM   Route diversion DWTM91 west to combination point CTM91
5683            RS        4    FLOW
5684            RC   0.035   0.015   0.035    5280  0.0028     0.00
5685            RX    0.00    0.00  114.50  114.50  534.50  534.50  649.00  649.00
5686            RY    3.00    1.64    0.50    0.00    0.00    0.50    1.64    3.00
                *
5687            KK  DRTM91RETRIEVE
5688            KM   Retrieve divert DRTM91 from combination point CIS91 and divert south to
5689            KM   combination point CTM91
5690            DR  DSTM91
                *
5691            KK  RSTM91   ROUTE
5692            KM   Route diversion retrieval DRTM91 south to combination point CTM91
5693            RS        4    FLOW
5694            RC   0.035   0.015   0.035    5280  0.0021     0.00
5695            RX    0.00    0.00   67.00   67.00  332.00  332.00  399.00  399.00
5696            RY    3.00    1.17    0.50    0.00    0.00    0.50    1.17    3.00
                *
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LINE            ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

5697            KK    TM91   BASIN
5698            KM   Runoff hydrograph for square mile subbasin TM91 northeast of the intersection
5699            KM   of Thomas Road and 91st Avenue
5700            BA   1.003
5701            LG    0.24    0.15    7.30    0.09      36
5702            UC   1.443   0.966
5703            UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
5704            UA     100
                *
5705            KK  ERTM91  DIVERT
5706            KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
5707            KM   retention developed after 1990 in subbasin TM91
5708            DT   XTM91    14.8      0.0
5709            DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
5710            DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
                *
5711            KK   CTM91 COMBINE
5712            KM   Combine route RWTM91, route RSTM91, and subbasin TM91
5713            HC       3    4.96
                *
5714            KK  PR91ISRETRIEVE
5715            KM   Retrieve full flow capacity of 190 cfs from 72-inch storm drain pipe at the
5716            KM   intersection of Indian School Road and 91st Avenue
5717            DR  DP91IS
                *
5718            KK  RP91TM   ROUTE
5719            KM   Route full flow capacity of 190 cfs through 72-inch storm drain pipe in
5720            KM   91st Avenue to the intersection of Thomas Road and 91st Avenue
5721            RK    5130  0.0020   0.015            CIRC   6.000
                *
5722            KK  CPTM91 COMBINE
5723            KM   Combine pipe return PR91IS with the runoff hydrograph at combination point
5724            KM   CTM91 at the intersection of Thomas Road and 91st Avenue
5725            HC       2
                *
5726            KK   D91TM  DIVERT
5727            KM   Divert calculated full flow capapcity of 287 cfs into 84-inch storm drain
5728            KM   pipe at the intersection of Thomas Road and 91st Avenue
5729            DT  DP91TM     0.0   287.0
```

```
5730          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
5731          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *
1                                        HEC-1 INPUT                                        PAGE149

LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


5732          KK  DWTMLO  DIVERT
5733          KM   Divert remaining runoff hydrograph from combination point CPTM91 west to
5734          KM   combination point CTMLO
5735          DT  DSMD91      0.0     0.0
5736          DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
5737          DQ     0.0    77.0   154.0   385.0   770.0  1540.0  3080.0  7700.0 15400.0 38500.0
              *

5738          KK  RWTMLO   ROUTE
5739          KM   Route diversion DWTMLO west to combination point CTMLO
5740          RS       2    FLOW
5741          RC   0.035   0.015   0.035    2623  0.0015    0.00
5742          RX    0.00    0.00   16.50   16.50  107.50  107.50  124.00  124.00
5743          RY    3.00    0.66    0.50    0.00    0.00    0.50    0.66    3.00
              *

5744          KK    TMLO   BASIN
5745          KM   Runoff hydrograph for subbasin TMLO northeast of the intersection of Thomas
5746          KM   Road and SR Loop 101
5747          BA   0.496
5748          LG    0.45    0.15    8.80    0.09       8
5749          UC   1.104   0.852
5750          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
5751          UA     100
              *

5752          KK  ERTMLO  DIVERT
5753          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
5754          KM   retention developed after 1990 in subbasin TMLO
5755          DT   XTMLO      0.4     0.0
5756          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
5757          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

5758          KK   CTMLO COMBINE
5759          KM   Combine route RWTMLO, route RSTMLO, and subbasin TMLO
5760          HC       3    4.87
              *

5761          KK  RSMDLO   ROUTE
5762          KM   Route hydrograph at combination point CTMLO south to combination point CMDLO
5763          RS       1    FLOW
5764          RC   0.035   0.015   0.035    5729  0.0012    0.00
5765          RX    0.00    3.00    5.00   39.00   47.00   51.00   65.00   68.00
5766          RY   18.00   17.00   17.00    0.00    0.16   17.16   17.44   18.44
              *

5767          KK  DRMD27RETRIEVE
5768          KM   Retrieve divert DRMD27 from combination point CPGR27 and divert south to
5769          KM   combination point CMD27
5770          DR  DSMD27
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


5771          KK  RSMD27   ROUTE
5772          KM   Route diversion retrieval DRMD27 south to combination point CMD27
5773          RS       2    FLOW
5774          RC   0.035   0.015   0.035    5280  0.0034    0.00
5775          RX    0.00    0.00   16.50   16.50  107.50  107.50  124.00  124.00
5776          RY    3.00    0.66    0.50    0.00    0.00    0.50    0.66    3.00
              *

5777          KK    MD27   BASIN
5778          KM   Runoff hydrograph for subbasin MD27 northeast of the intersection of McDowell
5779          KM   Road and 27th Avenue
5780          BA   0.241
5781          LG    0.15    0.15    8.00    0.07      80
5782          UC   0.502   0.378
5783          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
5784          UA     100
              *

5785          KK   CMD27 COMBINE
5786          KM   Combine route RSMD27 and subbasin MD27
5787          HC       2    4.65
              *

5788          KK  PR27GRRETRIEVE
5789          KM   Retrieve full flow capacity of 195 cfs from 66-inch storm drain pipe at the
5790          KM   intersection of Grand Avenue and 27th Avenue
5791          DR  DP27GR
              *
```



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5792          KK  RP27MD   ROUTE
5793          KM   Route full flow capacity of 195 cfs through 66-inch storm drain pipe in
5794          KM   27th Avenue to the intersection of McDowell Road and 27th Avenue
5795          RK    5006  0.0034   0.015            CIRC   5.500
              *

5796          KK  CPMD27 COMBINE
5797          KM   Combine pipe return PR27GR with the runoff hydrograph at combination point
5798          KM   CMD27 at the intersection of McDowell Road and 27th Avenue
5799          HC       2
              *

5800          KK   D27MD  DIVERT
5801          KM   Divert calculated full flow capapcity of 246 cfs into 72-inch storm drain
5802          KM   pipe at the intersection of McDowell Road and 27th Avenue
5803          DT  DP27MD      0.0   246.0
5804          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
5805          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


5806          KK  RWMD35   ROUTE
5807          KM   Route remainder of diversion D27MD west to combination point CMD35
5808          RS       5    FLOW
5809          RC   0.035   0.015   0.035    5280  0.0009    0.00
5810          RX    0.00    0.00   48.00   48.00  251.00  251.00  299.00  299.00
5811          RY    3.00    0.98    0.50    0.00    0.00    0.50    0.98    3.00
              *

5812          KK  DRMD35RETRIEVE
5813          KM   Retrieve divert DRMD35 from combination point CPTM35 and divert south to
5814          KM   combination point CMD35
5815          DR  DSMD35
              *

5816          KK  RSMD35   ROUTE
5817          KM   Route diversion retrieval DRMD35 south to combination point CMD35
5818          RS       2    FLOW
5819          RC   0.035   0.015   0.035    5280  0.0036    0.00
5820          RX    0.00    0.00   67.00   67.00  332.00  332.00  399.00  399.00
5821          RY    3.00    1.17    0.50    0.00    0.00    0.50    1.17    3.00
              *

5822          KK    MD35   BASIN
5823          KM   Runoff hydrograph for square mile subbasin MD35 northeast of the intersection
5824          KM   of McDowell Road and 35th Avenue
5825          BA   0.999
5826          LG    0.19    0.13   10.10    0.03      58
5827          UC   1.224   0.797
5828          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
5829          UA     100
              *

5830          KK   CMD35 COMBINE
5831          KM   Combine route RWMD35, route RSMD35, and subbasin MD35
5832          HC       3    9.29
              *

5833          KK  PR35TMRETRIEVE
5834          KM   Retrieve combined full flow capacity of 300 cfs from 77-inch equivalent
5835          KM   diameter pipe at the intersection of Thomas Road and 35th Avenue
5836          DR  DP35TM
              *

5837          KK  RP35MD   ROUTE
5838          KM   Route the combined full flow capacity of 300 cfs through an equivalent storm
5839          KM   drain pipe diameter of 77 inches in 35th Avenue to the intersection of
5840          KM   McDowell Road and 35th Avenue
5841          RK    5093  0.0037   0.015            CIRC   6.417
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


5842          KK  CPMD35 COMBINE
5843          KM   Combine pipe return PR35TM with the runoff hydrograph at combination point
5844          KM   CMD35 at the intersection of McDowell Road and 35th Avenue
5845          HC       2
              *

5846          KK   D35MD  DIVERT
5847          KM   Capacity of storm drain in 31st Avenue and 35th Avenue diverted together.
5848          KM   Divert combined calculated full flow capacity of 405 cfs in the 84-inch storm
5849          KM   drain pipe in 31st AVenue and 102 cfs in the 51-inch storm drain pipe in
5850          KM   35th Avenue. The total calculated combined full flow capacity diverted at the
5851          KM   intersection of 35th Avenue and McDowell Road is 507 cfs in an equivalent
5852          KM   diameter pipe of 93 inches
5853          DT  DP35MD      0.0   507.0
```

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5854          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
5855          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

5856          KK  DWMD43  DIVERT
5857          KM   Divert remaining runoff hydrograph from combination point CPMD35 west to
5858          KM   combination point CMD43
5859          DT  DSIN35      0.0     0.0
5860          DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
5861          DQ     0.0    63.0   126.0   315.0   630.0  1260.0  2520.0  6300.0 12600.0 31500.0
              *

5862          KK  RWMD43   ROUTE
5863          KM   Route diversion DWMD43 west to combination point CMD43
5864          RS       7    FLOW
5865          RC   0.035   0.015   0.035    5280  0.0004    0.00
5866          RX    0.00    0.00   95.50   95.50  453.50  453.50  549.00  549.00
5867          RY    3.00    1.46    0.50    0.00    0.00    0.50    1.46    3.00
              *

5868          KK  DRMD43RETRIEVE
5869          KM   Retrieve divert DRMD43 from combination point CTM43 and divert south to
5870          KM   combination point CMD43
5871          DR  DSMD43
              *

5872          KK  RSMD43   ROUTE
5873          KM   Route diversion retrieval DRMD43 south to combination point CMD43
5874          RS       3    FLOW
5875          RC   0.035   0.015   0.035    5280  0.0037    0.00
5876          RX    0.00    0.00   67.00   67.00  332.00  332.00  399.00  399.00
5877          RY    3.00    1.17    0.50    0.00    0.00    0.50    1.17    3.00
              *

5878          KK    MD43   BASIN
5879          KM   Runoff hydrograph for square mile subbasin MD43 northeast of the intersection
5880          KM   of McDowell Road and 43rd Avenue
5881          BA   0.999
5882          LG    0.22    0.15    9.70    0.04      41
5883          UC   0.920   0.337
```

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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

5884          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
5885          UA     100
              *

5886          KK   CMD43 COMBINE
5887          KM   Combine route RWMD43, route RSMD43, and subbasin MD43
5888          HC       3    6.96
              *

5889          KK  PR43TMRETRIEVE
5890          KM   Retrieve combined full flow capacity of 629 cfs from 102-inch equivalent
5891          KM   diameter pipe at the intersection of Thomas Road and 43rd Avenue
5892          DR  DP43TM
              *

5893          KK  RP43MD   ROUTE
5894          KM   Route the combined full flow capacity of 629 cfs through an equivalent storm
5895          KM   drain pipe diameter of 102 inches in 43rd Avenue to the intersection of
5896          KM   43rd Avenue and McDowell Road
5897          RK    5212  0.0035   0.015            CIRC   8.500
              *

5898          KK  CPMD43 COMBINE
5899          KM   Combine pipe return PR43TM with the runoff hydrograph at combination point
5900          KM   CMD43 at the intersection of McDowell Road and 43rd Avenue
5901          HC       2
              *

5902          KK   D43MD  DIVERT
5903          KM   Capacity of storm drain in 39th Avenue and 43rd Avenue diverted together.
5904          KM   Divert combined calculated full flow capacity of 404 cfs in the 84-inch storm
5905          KM   drain pipe in 39th AVenue and 225 cfs in the 69-inch storm drain pipe in
5906          KM   43rd Avenue. The total calculated combined full flow capacity diverted at the
5907          KM   intersection of 35th Avenue and McDowell Road is 629 cfs in an equivalent
5908          KM   diameter pipe of 102 inches
5909          DT  DP43MD      0.0    629.0
5910          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
5911          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

5912          KK  DWMD51  DIVERT
5913          KM   Divert remaining runoff hydrograph from combination point CPMD43 west to
5914          KM   combination point CMD51
5915          DT  DSIN43      0.0     0.0
5916          DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
5917          DQ     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
              *

5918          KK  RWMD51   ROUTE
```



```
5919          KM   Route diversion DWMD51 west to combination point CMD51
5920          RS       1    FLOW
5921          RC   0.035   0.015   0.035    5280  0.0002    0.00
5922          RX    0.00    0.00   57.50   57.50  291.50  291.50  349.00  349.00
5923          RY    3.00    1.08    0.50    0.00    0.00    0.50    1.08    3.00
              *
```

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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

5924          KK  DRMD51RETRIEVE
5925          KM   Retrieve divert DRMD51 from combination point CPTM51 and divert south to
5926          KM   combination point CMD51
5927          DR  DSMD51
              *

5928          KK  RSMD51   ROUTE
5929          KM   Route diversion retrieval DRMD51 south to combination point CMD51
5930          RS       4    FLOW
5931          RC   0.035   0.015   0.035    5280  0.0035    0.00
5932          RX    0.00    0.00   54.50   54.50  269.50  269.50  324.00  324.00
5933          RY    3.00    1.04    0.50    0.00    0.00    0.50    1.04    3.00
              *

5934          KK    MD51   BASIN
5935          KM   Runoff hydrograph for square mile subbasin MD51 northeast of the intersection
5936          KM   of McDowell Road and 51st Avenue
5937          BA   1.001
5938          LG    0.23    0.15    8.40    0.07      35
5939          UC   1.500   1.010
5940          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
5941          UA     100
              *

5942          KK   CMD51 COMBINE
5943          KM   Combine route RWMD51, route RSMD51, and subbasin MD51
5944          HC       3    2.37
              *

5945          KK  PR51TMRETRIEVE
5946          KM   Retrieve full flow capacity of 244 cfs from 72-inch storm drain pipe at the
5947          KM   intersection of Thomas Road and 51st Avenue
5948          DR  DP51TM
              *

5949          KK  RP51MD   ROUTE
5950          KM   Route full flow capacity of 244 cfs through 72-inch storm drain pipe in
5951          KM   51st Avenue to the intersection of McDowell Road and 51st Avenue
5952          RK    5322  0.0033   0.015            CIRC   6.000
              *

5953          KK  CPMD51 COMBINE
5954          KM   Combine pipe return PR51TM with the runoff hydrograph at combination point
5955          KM   CMD51 at the intersection of McDowell Road and 51st Avenue
5956          HC       2
              *

5957          KK   D51MD  DIVERT
5958          KM   Divert calculated full flow capapcity of 368 cfs into 84-inch storm drain
5959          KM   pipe at the intersection of McDowell Road and 51st Avenue
5960          DT  DP51MD      0.0    368.0
5961          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
5962          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

5963          KK  DWMD59  DIVERT
5964          KM   Divert remaining runoff hydrograph from combination point CPMD43 west to
5965          KM   combination point CMD51
5966          DT  DSIN51      0.0     0.0
5967          DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
5968          DQ     0.0    39.0    78.0   195.0   390.0   780.0  1560.0  3900.0  7800.0 19500.0
              *

5969          KK  RWMD59   ROUTE
5970          KM   Route diversion DWMD59 west to combination point CMD59
5971          RS       3    FLOW
5972          RC   0.035   0.015   0.035    5280  0.0014    0.00
5973          RX    0.00    0.00   57.50   57.50  291.50  291.50  349.00  349.00
5974          RY    3.00    1.08    0.50    0.00    0.00    0.50    1.08    3.00
              *

5975          KK  DRMD59RETRIEVE
5976          KM   Retrieve divert DRMD59 from combination point CPTM59 and divert south to
5977          KM   combination point CMD59
5978          DR  DSMD59
              *

5979          KK  RSMD59   ROUTE
```

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5980          KM   Route diversion retrieval DRMD59 south to combination point CMD59
5981          RS      3    FLOW
5982          RC   0.035   0.015   0.035    5280  0.0035    0.00
5983          RX    0.00    0.00   38.50   38.50  210.50  210.50  249.00  249.00
5984          RY    3.00    0.88    0.50    0.00    0.00    0.50    0.88    3.00
              *

5985          KK    MD59   BASIN
5986          KM   Runoff hydrograph for square mile subbasin MD59 northeast of the intersection
5987          KM   of McDowell Road and 59th Avenue
5988          BA   1.005
5989          LG    0.25    0.15    7.60    0.08      33
5990          UC   1.481   0.993
5991          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
5992          UA     100
              *

5993          KK   CMD59 COMBINE
5994          KM   Combine route RWMD59, route RSMD59, and subbasin MD59
5995          HC       3    4.05
              *

5996          KK  PR59TMRETRIEVE
5997          KM   Retrieve full flow capacity of 389 cfs from 84-inch storm drain pipe at the
5998          KM   intersection of Thomas Road and 59th Avenue
5999          DR  DP59TM
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

6000          KK  RP59MD   ROUTE
6001          KM   Route full flow capacity of 389 cfs through 84-inch storm drain pipe in
6002          KM   59th Avenue to the intersection of McDowell Road and 59th Avenue
6003          RK    5206  0.0037   0.015            CIRC   7.000
              *

6004          KK   CPMD59 COMBINE
6005          KM   Combine pipe return PR59TM with the runoff hydrograph at combination point
6006          KM   CMD59 at the intersection of McDowell Road and 59th Avenue
6007          HC       2
              *

6008          KK   D59MD  DIVERT
6009          KM   Divert calculated full flow capapcity of 468 cfs into 90-inch storm drain
6010          KM   pipe at the intersection of McDowell Road and 59th Avenue
6011          DT  DP59MD      0.0   468.0
6012          DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
6013          DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

6014          KK  DWMD67  DIVERT
6015          KM   Divert remaining runoff hydrograph from combination point CPMD59 west to
6016          KM   combination point CMD67
6017          DT  DSIN59      0.0      0.0
6018          DI      0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0  10000.0  20000.0  50000.0
6019          DQ      0.0     50.0    100.0    250.0    500.0   1000.0   2000.0   5000.0  10000.0  25000.0
              *

6020          KK  RWMD67   ROUTE
6021          KM   Route diversion DWMD67 west to combination point CMD67
6022          RS       4    FLOW
6023          RC   0.035   0.015   0.035    5280  0.0015    0.00
6024          RX    0.00    0.00   67.00   67.00  332.00  332.00  399.00  399.00
6025          RY    3.00    1.17    0.50    0.00    0.00    0.50    1.17    3.00
              *

6026          KK  DRMD67RETRIEVE
6027          KM   Retrieve divert DRMD67 from combination point CPTM67 and divert south to
6028          KM   combination point CMD67
6029          DR  DSMD67
              *

6030          KK  RSMD67   ROUTE
6031          KM   Route diversion retrieval DRMD67 south to combination point CMD67
6032          RS       4    FLOW
6033          RC   0.035   0.015   0.035    5280  0.0035    0.00
6034          RX    0.00    0.00   48.00   48.00  251.00  251.00  299.00  299.00
6035          RY    3.00    0.98    0.50    0.00    0.00    0.50    0.98    3.00
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

6036          KK    MD67   BASIN
6037          KM   Runoff hydrograph for square mile subbasin MD67 northeast of the intersection
6038          KM   of McDowell Road and 67th Avenue
6039          BA   0.978
6040          LG    0.22    0.15    8.40    0.07      29
6041          UC   1.348   0.902
6042          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
```



```
6043          UA     100
              *

6044          KK  ERMD67  DIVERT
6045          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
6046          KM   retention developed after 1990 in subbasin MD67
6047          DT   XMD67     11.6      0.0
6048          DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
6049          DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

6050          KK   CMD67 COMBINE
6051          KM   Combine route RWMD67, route RSMD67, and subbasin MD67
6052          HC       3    4.41
              *

6053          KK  PR67TMRETRIEVE
6054          KM   Retrieve full flow capacity of 273 cfs from 78-inch storm drain pipe at the
6055          KM   intersection of Thomas Road and 67th Avenue
6056          DR  DP67TM
              *

6057          KK  RP67MD   ROUTE
6058          KM   Route full flow capacity of 273 cfs through 78-inch storm drain pipe in
6059          KM   67th Avenue to the intersection of McDowell Road and 67th Avenue
6060          RK    5218  0.0027   0.015            CIRC   6.500
              *

6061          KK   CPMD67 COMBINE
6062          KM   Combine pipe return PR67TM with the runoff hydrograph at combination point
6063          KM   CMD67 at the intersection of McDowell Road and 67th Avenue
6064          HC       2
              *

6065          KK   D67MD  DIVERT
6066          KM   Divert calculated full flow capapcity of 400 cfs into 90-inch storm drain
6067          KM   pipe at the intersection of McDowell Road and 67th Avenue
6068          DT  DP67MD      0.0    400.0
6069          DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
6070          DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

6071          KK  DWMD75  DIVERT
6072          KM   Divert remaining runoff hydrograph from combination point CPMD67 west to
6073          KM   combination point CMD75
6074          DT  DSIN67      0.0      0.0
6075          DI      0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0  10000.0  20000.0  50000.0
6076          DQ      0.0     15.0     30.0     75.0    150.0    300.0    600.0   1500.0   3000.0   7500.0
              *

6077          KK  RWMD75   ROUTE
6078          KM   Route diversion DWMD75 west to combination point CMD75
6079          RS       5    FLOW
6080          RC   0.035   0.015   0.035    5280  0.0015    0.00
6081          RX    0.00    0.00   95.50   95.50  453.50  453.50  549.00  549.00
6082          RY    3.00    1.46    0.50    0.00    0.00    0.50    1.46    3.00
              *

6083          KK  DRMD75RETRIEVE
6084          KM   Retrieve divert DRMD75 from combination point CPTM75 and divert south to
6085          KM   combination point CMD75
6086          DR  DSMD75
              *

6087          KK  RSMD75   ROUTE
6088          KM   Route diversion retrieval DRMD75 south to combination point CMD75
6089          RS       4    FLOW
6090          RC   0.035   0.015   0.035    5280  0.0027    0.00
6091          RX    0.00    0.00   67.00   67.00  332.00  332.00  399.00  399.00
6092          RY    3.00    1.17    0.50    0.00    0.00    0.50    1.17    3.00
              *

6093          KK    MD75   BASIN
6094          KM   Runoff hydrograph for square mile subbasin MD75 northeast of the intersection
6095          KM   of McDowell Road and 75th Avenue
6096          BA   1.002
6097          LG    0.23    0.15    7.60    0.08      38
6098          UC   1.381   0.917
6099          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
6100          UA     100
              *

6101          KK  ERMD75  DIVERT
6102          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
6103          KM   retention developed after 1990 in subbasin MD75
6104          DT   XMD75      6.7      0.0
6105          DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
6106          DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *
```

```
6107          KK  CMD75 COMBINE
6108          KM  Combine route RWMD75, route RSMD75, and subbasin MD75
6109          HC       3    6.14
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


6110          KK  PR75TMRETRIEVE
6111          KM  Retrieve full flow capacity of 303 cfs from 84-inch storm drain pipe at the
6112          KM  intersection of Thomas Road and 75th Avenue
6113          DR  DP75TM
              *

6114          KK  RP75MD   ROUTE
6115          KM  Route full flow capacity of 303 cfs through 84-inch storm drain pipe in
6116          KM  75th Avenue to the intersection of McDowell Road and 75th Avenue
6117          RK   5222  0.0022   0.015            CIRC   7.000
              *

6118          KK  CPMD75 COMBINE
6119          KM  Combine pipe return PR75TM with the runoff hydrograph at combination point
6120          KM  CMD75 at the intersection of McDowell Road and 75th Avenue
6121          HC       2
              *

6122          KK  D75MD  DIVERT
6123          KM  Divert calculated full flow capapcity of 364 cfs into 90-inch storm drain
6124          KM  pipe at the intersection of McDowell Road and 75th Avenue
6125          DT  DP75MD     0.0   364.0
6126          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
6127          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

6128          KK  DWMD83  DIVERT
6129          KM  Divert remaining runoff hydrograph from combination point CPMD75 west to
6130          KM  combination point CMD83
6131          DT  DSIN75     0.0     0.0
6132          DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
6133          DQ     0.0    35.0    70.0   175.0   350.0   700.0  1400.0  3500.0  7000.0 17500.0
              *

6134          KK  RWMD83   ROUTE
6135          KM  Route diversion DWMD83 west to combination point CMD83
6136          RS       3    FLOW
6137          RC   0.035   0.015   0.035    5280  0.0026    0.00
6138          RX    0.00    0.00   57.50   57.50  291.50  291.50  349.00  349.00
6139          RY    3.00    1.08    0.50    0.00    0.00    0.50    1.08    3.00
              *

6140          KK  DRMD83RETRIEVE
6141          KM  Retrieve divert DRMD83 from combination point CPTM83 and divert south to
6142          KM  combination point CMD83
6143          DR  DSMD83
              *

6144          KK  RSMD83   ROUTE
6145          KM  Route diversion retrieval DRMD83 south to combination point CMD83
6146          RS       4    FLOW
6147          RC   0.035   0.015   0.035    5280  0.0028    0.00
6148          RX    0.00    0.00   29.00   29.00  170.00  170.00  199.00  199.00
6149          RY    3.00    0.79    0.50    0.00    0.00    0.50    0.79    3.00
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


6150          KK   MD83   BASIN
6151          KM  Runoff hydrograph for square mile subbasin MD83 northeast of the intersection
6152          KM  of McDowell Road and 83rd Avenue
6153          BA  0.992
6154          LG   0.23    0.17    8.80    0.06      47
6155          UC  0.954   0.617
6156          UA      0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
6157          UA    100
              *

6158          KK  ERMD83  DIVERT
6159          KM  Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
6160          KM  retention developed after 1990 in subbasin MD83
6161          DT  XMD83    28.9     0.0
6162          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
6163          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

6164          KK  CMD83 COMBINE
6165          KM  Combine route RWMD83, route RSMD83, and subbasin MD83
6166          HC       3    5.80
              *
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6167          KK  PR83TMRETRIEVE
6168          KM  Retrieve full flow capacity of 283 cfs from 84-inch storm drain pipe at the
6169          KM  intersection of Thomas Road and 83rd Avenue
6170          DR  DP83TM
              *

6171          KK  RP83MD   ROUTE
6172          KM  Route full flow capacity of 283 cfs through 84-inch storm drain pipe in
6173          KM  83rd Avenue to the intersection of McDowell Road and 83rd Avenue
6174          RK   5059  0.0019   0.015            CIRC   7.000
              *

6175          KK  CPMD83 COMBINE
6176          KM  Combine pipe return PR83TM with the runoff hydrograph at combination point
6177          KM  CMD83 at the intersection of McDowell Road and 83rd Avenue
6178          HC       2
              *

6179          KK  D83MD  DIVERT
6180          KM  Divert calculated full flow capapcity of 340 cfs into 90-inch storm drain
6181          KM  pipe at the intersection of McDowell Road and 83rd Avenue
6182          DT  DP83MD     0.0   340.0
6183          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
6184          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *
1                                        HEC-1 INPUT                                    PAGE161

LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


6185          KK  RWMD91   ROUTE
6186          KM  Route remainder of diversion D83MD west to combination point CMD91
6187          RS       3    FLOW
6188          RC   0.035   0.015   0.035    5280  0.0021    0.00
6189          RX    0.00    0.00   57.50   57.50  291.50  291.50  349.00  349.00
6190          RY    3.00    1.08    0.50    0.00    0.00    0.50    1.08    3.00
              *

6191          KK  DRMD91RETRIEVE
6192          KM  Retrieve divert DRMD91 from combination point CPTM91 and divert south to
6193          KM  combination point CMD91
6194          DR  DSMD91
              *

6195          KK  RSMD91   ROUTE
6196          KM  Route diversion retrieval DRMD91 south to combination point CMD91
6197          RS       3    FLOW
6198          RC   0.035   0.015   0.035    5280  0.0021    0.00
6199          RX    0.00    0.00   57.50   57.50  291.50  291.50  349.00  349.00
6200          RY    3.00    1.08    0.50    0.00    0.00    0.50    1.08    3.00
              *

6201          KK   MD91   BASIN
6202          KM  Runoff hydrograph for square mile subbasin MD91 northeast of the intersection
6203          KM  of McDowell Road and 91st Avenue
6204          BA  1.007
6205          LG   0.23    0.15    8.80    0.05      39
6206          UC  1.385   0.921
6207          UA      0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
6208          UA    100
              *

6209          KK  ERMD91  DIVERT
6210          KM  Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
6211          KM  retention developed after 1990 in subbasin MD91
6212          DT  XMD91    21.4     0.0
6213          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
6214          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

6215          KK  CMD91 COMBINE
6216          KM  Combine route RWMD91, route RSMD91, and subbasin MD91
6217          HC       3   10.61
              *

6218          KK  PR91TMRETRIEVE
6219          KM  Retrieve full flow capacity of 287 cfs from 84-inch storm drain pipe at the
6220          KM  intersection of Thomas Road and 91st Avenue
6221          DR  DP91TM
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


6222          KK  RP91MD   ROUTE
6223          KM  Route full flow capacity of 287 cfs through 84-inch storm drain pipe in
6224          KM  91st Avenue to the intersection of McDowell Road and 91st Avenue
6225          RK   5271  0.0020   0.015            CIRC   7.000
              *

6226          KK  CPMD91 COMBINE
6227          KM  Combine pipe return PR91TM with the runoff hydrograph at combination point
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6228          KM   CMD91 at the intersection of McDowell Road and 91st Avenue
6229          HC       2
              *

6230          KK   D91MD  DIVERT
6231          KM   Divert calculated full flow capapcity of 345 cfs into 90-inch storm drain
6232          KM   pipe at the intersection of McDowell Road and 83rd Avenue
6233          DT  DP91MD     0.0   345.0
6234          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
6235          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

6236          KK  DWMDLO  DIVERT
6237          KM   Divert remaining runoff hydrograph from combination point CPMD91 west to
6238          KM   combination point CMDLO
6239          DT  DSIN91      0.0      0.0
6240          DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
6241          DQ     0.0    20.0    40.0   100.0   200.0   400.0   800.0  2000.0  4000.0 10000.0
              *

6242          KK  RWMDLO   ROUTE
6243          KM   Route diversion DWMDLO west to combination point CMDLO
6244          RS       3    FLOW
6245          RC   0.035   0.015   0.035    4061  0.0010    0.00
6246          RX    0.00    0.00   45.00   45.00  229.00  229.00  274.00  274.00
6247          RY    3.00    0.95    0.50    0.00    0.00    0.50    0.95    3.00
              *

6248          KK    MDLO   BASIN
6249          KM   Runoff hydrograph for subbasin MDLO northeast of the intersection of McDowell
6250          KM   Road and SR Loop 101
6251          BA   0.671
6252          LG    0.21    0.16    9.70    0.04      44
6253          UC   0.983   0.460
6254          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
6255          UA     100
              *

6256          KK  ERMDLO  DIVERT
6257          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
6258          KM   retention developed after 1990 in subbasin MDLO
6259          DT   XMDLO    56.3     0.0
6260          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
6261          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *
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LINE          ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

6262          KK   CMDLO COMBINE
6263          KM   Combine route RWMDLO, route RSMDLO, and subbasin MDLO
6264          HC       3   14.07
              *

6265          KK  RSINLO   ROUTE
6266          KM   Route hydrograph at combination point CMDLO south to combination point CINLO
6267          RS       1    FLOW
6268          RC   0.035   0.015   0.035    1374  0.0019    0.00
6269          RX    0.00    3.00    5.00   39.00   47.00   51.00   65.00   68.00
6270          RY   18.00   17.00   17.00    0.00    0.16   17.16   17.44   18.44
              *

6271          KK  DSINLO  DIVERT
6272          KM   Divert route RSINLO to detention basin northeast of L101 and I-10 Freeways.
6273          KM   Only the flow greater than the channel capacity is diverted to the basin.
6274          DT  DEIN95      0.0      0.0
6275          DI     0.0 10390.0 11211.0 12070.0 13910.0     0.0     0.0     0.0     0.0     0.0
6276          DQ     0.0     0.0   286.0   810.0  2291.0     0.0     0.0     0.0     0.0     0.0
              *

6277          KK    IN27   BASIN
6278          KM   Runoff hydrograph for subbasin IN27 northeast of the intersection of
6279          KM   Interstate 10 and 27th Avenue
6280          BA   0.105
6281          LG    0.14    0.25    5.60    0.18      80
6282          UC   0.469   0.398
6283          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
6284          UA     100
              *

6285          KK  PR27MDRETRIEVE
6286          KM   Retrieve full flow capacity of 246 cfs from 72-inch diameter pipe at the
6287          KM   intersection of McDowell Road and 27th Avenue
6288          DR  DP27MD
              *

6289          KK  RP27IN   ROUTE
6290          KM   Route full flow capacity of 246 cfs through 72-inch storm drain pipe in
6291          KM   in 27th Avenue to the intersection of 27th Avenue and Interstate 10
6292          RK     959  0.0034   0.015           CIRC   6.000
              *
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6293          KK  CPIN27 COMBINE
6294          KM   Combine pipe return PR27MD with the runoff hydrograph at combination point
6295          KM   CIN27 at the intersection of Interstate 10 and 27th Avenue
6296          HC       2
              *
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LINE          ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

6297          KK  DWIN35  DIVERT
6298          KM   Divert remaining runoff hydrograph from combination point CPIN27 west to
6299          KM   combination point CIN35
6300          DT  DSVB27      0.0      0.0
6301          DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
6302          DQ     0.0    72.0   144.0   360.0   720.0  1440.0  2880.0  7200.0 14400.0 36000.0
              *

6303          KK  RWIN35   ROUTE
6304          KM   Route diversion DWIN35 west to combination point CIN35
6305          RS       7    FLOW
6306          RC   0.035   0.015   0.035    5280  0.0005    0.00
6307          RX    0.00    0.00    9.50    9.50   40.50   40.50   50.00   50.00
6308          RY    3.00    0.60    0.50    0.00    0.00    0.50    0.60    3.00
              *

6309          KK  DRIN35RETRIEVE
6310          KM   Retrieve divert DRIN35 from combination point CPMD35 and divert south to
6311          KM   combination point CIN35
6312          DR  DSIN35
              *

6313          KK  RSIN35   ROUTE
6314          KM   Route diversion retrieval DRIN35 south to combination point CIN35
6315          RS       1    FLOW
6316          RC   0.035   0.015   0.035    1116  0.0019    0.00
6317          RX    0.00    0.00   76.50   76.50  372.50  372.50  449.00  449.00
6318          RY    3.00    1.27    0.50    0.00    0.00    0.50    1.27    3.00
              *

6319          KK    IN35   BASIN
6320          KM   Runoff hydrograph for subbasin IN35 northeast of the intersection of
6321          KM   Interstate 10 and 35th Avenue
6322          BA   0.242
6323          LG    0.17    0.13   10.10    0.03      64
6324          UC   0.359   0.073
6325          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
6326          UA     100
              *

6327          KK   CIN35 COMBINE
6328          KM   Combine route RWIN35, route RSIN35, and subbasin IN35
6329          HC       3    6.11
              *

6330          KK  PR35MDRETRIEVE
6331          KM   Retrieve combined full flow capacity of 507 cfs from 93-inch equivalent
6332          KM   diameter pipe at the intersection of McDowell Road and 35th Avenue
6333          DR  DP35MD
              *
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LINE          ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

6334          KK  RP35IN   ROUTE
6335          KM   Route the combined full flow capacity of 507 cfs through an equivalent storm
6336          KM   drain pipe diameter of 93 inches in 35th Avenue to the intersection of
6337          KM   35th Avenue and Interstate 10
6338          RK     937  0.0037   0.015           CIRC   7.750
              *

6339          KK  CPIN35 COMBINE
6340          KM   Combine pipe return PR35MD with the runoff hydrograph at combination point
6341          KM   CIN35 at the intersection of Interstate 10 and 35th Avenue
6342          HC       2
              *

6343          KK  DWIN43  DIVERT
6344          KM   Divert remaining runoff hydrograph from combination point CPIN35 west to
6345          KM   combination point CIN43
6346          DT  DSVB35      0.0      0.0
6347          DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
6348          DQ     0.0    87.0   174.0   435.0   870.0  1740.0  3480.0  8700.0 17400.0 43500.0
              *

6349          KK  RWIN43   ROUTE
6350          KM   Route diversion DWIN43 west to combination point CIN43
6351          RS       4    FLOW
6352          RC   0.035   0.015   0.035    5280  0.0008    0.00
6353          RX    0.00    0.00    9.50    9.50   40.50   40.50   50.00   50.00
6354          RY    3.00    0.60    0.50    0.00    0.00    0.50    0.60    3.00
              *
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6355          KK  DRIN43RETRIEVE
6356          KM   Retrieve divert DRIN43 from combination point CPMD43 and divert south to
6357          KM   combination point CIN43
6358          DR  DSIN43
              *

6359          KK  RSIN43   ROUTE
6360          KM   Route diversion retrieval DRIN43 south to combination point CIN43
6361          RS      1    FLOW
6362          RC  0.035   0.015   0.035      900  0.0042     0.00
6363          RX   0.00    0.00   57.50   57.50  291.50  291.50  349.00  349.00
6364          RY   3.00    1.08    0.50    0.00    0.00    0.50    1.08    3.00
              *

6365          KK    IN43   BASIN
6366          KM   Runoff hydrograph for subbasin IN43 northeast of the intersection of
6367          KM   Interstate 10 and 43rd Avenue
6368          BA  0.256
6369          LG   0.20    0.15    9.70    0.04      49
6370          UC  0.558   0.148
6371          UA      0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
6372          UA    100
              *

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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


6373          KK   CIN43 COMBINE
6374          KM   Combine route RWIN43, route RSIN43, and subbasin IN43
6375          HC       3    7.99
              *

6376          KK  PR43MDRETRIEVE
6377          KM   Retrieve combined full flow capacity of 629 cfs from 102-inch equivalent
6378          KM   diameter pipe at the intersection of McDowell Road and 43rd Avenue
6379          DR  DP43MD
              *

6380          KK  RP43IN   ROUTE
6381          KM   Route the combined full flow capacity of 629 cfs through an equivalent storm
6382          KM   drain pipe diameter of 102 inches in 43rd Avenue to the intersection of
6383          KM   35th Avenue and Interstate 10
6384          RK    1217  0.0035   0.015            CIRC   8.500
              *

6385          KK  CPIN43 COMBINE
6386          KM   Combine pipe return PR43MD with the runoff hydrograph at combination point
6387          KM   CIN43 at the intersection of Interstate 10 and 43rd Avenue
6388          HC       2
              *

6389          KK  DWIN51   DIVERT
6390          KM   Divert remaining runoff hydrograph from combination point CPIN43 west to
6391          KM   combination point CIN51
6392          DT  DSVB43      0.0     0.0
6393          DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
6394          DQ     0.0    81.0   162.0   405.0   810.0  1620.0  3240.0  8100.0 16200.0 40500.0
              *

6395          KK  RWIN51   ROUTE
6396          KM   Route diversion DWIN51 west to combination point CIN51
6397          RS       2    FLOW
6398          RC  0.035   0.015   0.035     5290  0.0027     0.00
6399          RX   0.00    0.10   18.00   36.00   66.00   84.00  102.00  102.10
6400          RY  18.00   17.05    9.00    0.00    0.00    9.00   17.05   18.00
              *

6401          KK  DRIN51RETRIEVE
6402          KM   Retrieve divert DRIN51 from combination point CPMD51 and divert south to
6403          KM   combination point CIN51
6404          DR  DSIN51
              *

6405          KK  RSIN51   ROUTE
6406          KM   Route diversion retrieval DRIN51 south to combination point CIN51
6407          RS      1    FLOW
6408          RC  0.035   0.015   0.035     1143  0.0007     0.00
6409          RX   0.00    0.00   54.50   54.50  269.50  269.50  324.00  324.00
6410          RY   3.00    1.04    0.50    0.00    0.00    0.50    1.04    3.00
              *

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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


6411          KK    IN51   BASIN
6412          KM   Runoff hydrograph for subbasin IN51 northeast of the intersection of
6413          KM   Interstate 10 and 51st Avenue
6414          BA  0.232
6415          LG   0.13    0.16    9.70    0.04      75
6416          UC  0.620   0.587
```



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6417          UA      0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
6418          UA    100
              *

6419          KK   CIN51 COMBINE
6420          KM   Combine route RWIN51, route RSIN51, and subbasin IN51
6421          HC       3    2.68
              *

6422          KK  PR51MDRETRIEVE
6423          KM   Retrieve full flow capacity of 368 cfs from 84-inch storm drain pipe at the
6424          KM   intersection of McDowell Road and 51st Avenue
6425          DR  DP51MD
              *

6426          KK  RP51IN   ROUTE
6427          KM   Route full flow capacity of 368 cfs through 84-inch storm drain pipe in
6428          KM   51st Avenue to the intersection of Interstate 10 and 51st Avenue
6429          RK     731  0.0033   0.015            CIRC   7.000
              *

6430          KK  CPIN51 COMBINE
6431          KM   Combine pipe return PR51MD with the runoff hydrograph at combination point
6432          KM   CIN51 at the intersection of Interstate 10 and 51st Avenue
6433          HC       2
              *

6434          KK  DWIN59  DIVERT
6435          KM   Divert remaining runoff hydrograph from combination point CPIN51 west to
6436          KM   combination point CIN59
6437          DT  DSVB51      0.0     0.0
6438          DI     0.0 26494.0 26494.1 50000.0     0.0     0.0     0.0     0.0     0.0     0.0
6439          DQ     0.0     0.0 26494.1 50000.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

6440          KK  RWIN59   ROUTE
6441          KM   Route diversion DWIN59 west to combination point CIN59
6442          RS       1    FLOW
6443          RC  0.035   0.015   0.035     5297  0.0017     0.00
6444          RX   0.00    0.10   18.00   36.00   66.00   84.00  102.00  102.10
6445          RY  18.00   17.05    9.00    0.00    0.00    9.00   17.05   18.00
              *

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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


6446          KK  DRIN59RETRIEVE
6447          KM   Retrieve divert DRIN59 from combination point CPMD59 and divert south to
6448          KM   combination point CIN59
6449          DR  DSIN59
              *

6450          KK  RSIN59   ROUTE
6451          KM   Route diversion retrieval DRIN59 south to combination point CIN59
6452          RS       1    FLOW
6453          RC  0.035   0.015   0.035      730  0.0047     0.00
6454          RX   0.00    0.00   35.50   35.50  188.50  188.50  224.00  224.00
6455          RY   3.00    0.86    0.50    0.00    0.00    0.50    0.86    3.00
              *

6456          KK    IN59   BASIN
6457          KM   Runoff hydrograph for subbasin IN59 northeast of the intersection of
6458          KM   Interstate 10 and 59th Avenue
6459          BA  0.202
6460          LG   0.20    0.16    9.70    0.04      54
6461          UC  1.089   1.125
6462          UA      0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
6463          UA    100
              *

6464          KK   CIN59 COMBINE
6465          KM   Combine route RWIN59, route RSIN59, and subbasin IN59
6466          HC       3    4.90
              *

6467          KK  PR59MDRETRIEVE
6468          KM   Retrieve full flow capacity of 468 cfs from 90-inch storm drain pipe at the
6469          KM   intersection of McDowell Road and 59th Avenue
6470          DR  DP59MD
              *

6471          KK  RP59IN   ROUTE
6472          KM   Route full flow capacity of 468 cfs through 90-inch storm drain pipe in
6473          KM   59th Avenue to the intersection of Interstate 10 and 59th Avenue
6474          RK     846  0.0037   0.015            CIRC   7.500
              *

6475          KK  CPIN59 COMBINE
6476          KM   Combine pipe return PR59MD with the runoff hydrograph at combination point
6477          KM   CIN59 at the intersection of Interstate 10 and 59th Avenue
6478          HC       2
              *
```

```
6479          KK  DWIN67  DIVERT
6480          KM   Divert remaining runoff hydrograph from combination point CPIN59 west to
6481          KM   combination point CIN67
6482          DT  DSVB59      0.0      0.0
6483          DI      0.0 21022.0 21022.1 50000.0      0.0      0.0      0.0      0.0      0.0      0.0
6484          DQ      0.0      0.0 21022.1 50000.0      0.0      0.0      0.0      0.0      0.0      0.0
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


6485          KK  RWIN67   ROUTE
6486          KM   Route diversion DWIN67 west to combination point CIN67
6487          RS       2    FLOW
6488          RC   0.035   0.015   0.035    5145  0.0012    0.00
6489          RX    0.00    0.10   18.00   36.00   66.00   84.00  102.00  102.10
6490          RY   18.00   17.05    9.00    0.00    0.00    9.00   17.05   18.00
              *

6491          KK  DRIN67RETRIEVE
6492          KM   Retrieve divert DRIN67 from combination point CPMD67 and divert south to
6493          KM   combination point CIN67
6494          DR  DSIN67
              *

6495          KK  RSIN67   ROUTE
6496          KM   Route diversion retrieval DRIN67 south to combination point CIN67
6497          RS       1    FLOW
6498          RC   0.035   0.015   0.035     741  0.0027    0.00
6499          RX    0.00    0.00   12.50   12.50   62.50   62.50   75.00   75.00
6500          RY    3.00    0.62    0.50    0.00    0.00    0.50    0.62    3.00
              *

6501          KK    IN67   BASIN
6502          KM   Runoff hydrograph for subbasin IN67 northeast of the intersection of
6503          KM   Interstate 10 and 67th Avenue
6504          BA   0.197
6505          LG    0.21    0.16    9.70    0.04      53
6506          UC   1.285   1.351
6507          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
6508          UA     100
              *

6509          KK  ERIN67  DIVERT
6510          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
6511          KM   retention developed after 1990 in subbasin IN67
6512          DT   XIN67      9.1      0.0
6513          DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
6514          DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

6515          KK   CIN67 COMBINE
6516          KM   Combine route RWIN67, route RSIN67, and subbasin IN67
6517          HC       3    5.78
              *

6518          KK  PR67MDRETRIEVE
6519          KM   Retrieve full flow capacity of 400 cfs from 90-inch storm drain pipe at the
6520          KM   intersection of McDowell Road and 67th Avenue
6521          DR  DP67MD
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


6522          KK  RP67IN   ROUTE
6523          KM   Route full flow capacity of 400 cfs through 90-inch storm drain pipe in
6524          KM   67th Avenue to the intersection of Interstate 10 and 67th Avenue
6525          RK     824  0.0027   0.015            CIRC   7.500
              *

6526          KK  CPIN67 COMBINE
6527          KM   Combine pipe return PR67MD with the runoff hydrograph at combination point
6528          KM   CIN67 at the intersection of Interstate 10 and 67th Avenue
6529          HC       2
              *

6530          KK  DWIN75  DIVERT
6531          KM   Divert remaining runoff hydrograph from combination point CPIN67 west to
6532          KM   combination point CIN75
6533          DT  DSVB67      0.0      0.0
6534          DI      0.0 17662.0 17662.1 50000.0      0.0      0.0      0.0      0.0      0.0      0.0
6535          DQ      0.0      0.0 17662.1 50000.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

6536          KK  RWIN75   ROUTE
6537          KM   Route diversion DWIN75 west to combination point CIN75
6538          RS       1    FLOW
6539          RC   0.035   0.015   0.035    5237  0.0020    0.00
6540          RX    0.00    0.10   18.00   36.00   66.00   84.00  102.00  102.10
```



```
6541          RY   18.00   17.05    9.00    0.00    0.00    9.00   17.05   18.00
              *

6542          KK  DRIN75RETRIEVE
6543          KM   Retrieve divert DRIN75 from combination point CPMD75 and divert south to
6544          KM   combination point CIN75
6545          DR  DSIN75
              *

6546          KK  RSIN75   ROUTE
6547          KM   Route diversion retrieval DRIN75 south to combination point CIN75
6548          RS       1    FLOW
6549          RC   0.035   0.015   0.035     731  0.0022    0.00
6550          RX    0.00    0.00   29.00   29.00  170.00  170.00  199.00  199.00
6551          RY    3.00    0.79    0.50    0.00    0.00    0.50    0.79    3.00
              *

6552          KK    IN75   BASIN
6553          KM   Runoff hydrograph for subbasin IN75 northeast of the intersection of
6554          KM   Interstate 10 and 75th Avenue
6555          BA   0.199
6556          LG    0.19    0.21    6.60    0.12      55
6557          UC   1.115   1.156
6558          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
6559          UA     100
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


6560          KK  ERIN75  DIVERT
6561          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
6562          KM   retention developed after 1990 in subbasin IN75
6563          DT   XIN75      2.8      0.0
6564          DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
6565          DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

6566          KK   CIN75 COMBINE
6567          KM   Combine route RWIN75, route RSIN75, and subbasin IN75
6568          HC       3    8.11
              *

6569          KK  PR75MDRETRIEVE
6570          KM   Retrieve full flow capacity of 364 cfs from 90-inch storm drain pipe at the
6571          KM   intersection of McDowell Road and 75th Avenue
6572          DR  DP75MD
              *

6573          KK  RP75IN   ROUTE
6574          KM   Route full flow capacity of 364 cfs through 90-inch storm drain pipe in
6575          KM   75th Avenue to the intersection of Interstate 10 and 75th Avenue
6576          RK     811  0.0022   0.015            CIRC   7.500
              *

6577          KK  CPIN75 COMBINE
6578          KM   Combine pipe return PR75MD with the runoff hydrograph at combination point
6579          KM   CIN75 at the intersection of Interstate 10 and 75th Avenue
6580          HC       2
              *

6581          KK  DWIN83  DIVERT
6582          KM   Divert remaining runoff hydrograph from combination point CPIN75 west to
6583          KM   combination point CIN83
6584          DT  DSVB75      0.0      0.0
6585          DI      0.0 22802.0 22802.1 50000.0      0.0      0.0      0.0      0.0      0.0      0.0
6586          DQ      0.0      0.0 22802.1 50000.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

6587          KK  RWIN83   ROUTE
6588          KM   Route diversion DWIN83 west to combination point CIN83
6589          RS       1    FLOW
6590          RC   0.035   0.015   0.035    5396  0.0016    0.00
6591          RX    0.00    0.10   18.00   36.00   66.00   84.00  102.00  102.10
6592          RY   18.00   17.05    9.00    0.00    0.00    9.00   17.05   18.00
              *

6593          KK    IN83   BASIN
6594          KM   Runoff hydrograph for subbasin IN83 northeast of the intersection of
6595          KM   Interstate 10 and 83rd Avenue
6596          BA   0.196
6597          LG    0.18    0.15    7.00    0.10      64
6598          UC   1.032   1.092
6599          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

6600          UA     100
              *

6601          KK  ERIN83  DIVERT
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```
6602          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
6603          KM   retention developed after 1990 in subbasin IN83
6604          DT   XIN83     12.2       0.0
6605          DI      0.0 50000.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0
6606          DQ      0.0 50000.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0
              *

6607          KK   CIN83 COMBINE
6608          KM   Combine route RWIN83, route RSIN83, and subbasin IN83
6609          HC        2    8.31
              *

6610          KK  PR83MDRETRIEVE
6611          KM   Retrieve full flow capacity of 340 cfs from 90-inch storm drain pipe at the
6612          KM   intersection of McDowell Road and 83rd Avenue
6613          DR  DP83MD
              *

6614          KK  RP83IN   ROUTE
6615          KM   Route full flow capacity of 340 cfs through 90-inch storm drain pipe in
6616          KM   83rd Avenue to the intersection of Interstate 10 and 83rd Avenue
6617          RK      824  0.0019    0.015             CIRC   7.500
              *

6618          KK  CPIN83 COMBINE
6619          KM   Combine pipe return PR83MD with the runoff hydrograph at combination point
6620          KM   CIN83 at the intersection of Interstate 10 and 83rd Avenue
6621          HC        2
              *

6622          KK  DWIN91  DIVERT
6623          KM   Divert remaining runoff hydrograph from combination point CPIN83 west to
6624          KM   combination point CIN91
6625          DT  DSVB83       0.0       0.0
6626          DI      0.0 20395.0 20395.1 50000.0       0.0       0.0       0.0       0.0       0.0       0.0
6627          DQ      0.0       0.0 20395.1 50000.0       0.0       0.0       0.0       0.0       0.0       0.0
              *

6628          KK  RWIN91   ROUTE
6629          KM   Route diversion DWIN91 west to combination point CIN91
6630          RS        1    FLOW
6631          RC   0.035   0.015   0.035    5217  0.0016     0.00
6632          RX    0.00    0.10   18.00   36.00   66.00   84.00  102.00  102.10
6633          RY   18.00   17.05    9.00    0.00    0.00    9.00   17.05   18.00
              *

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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

6634          KK  DRIN91RETRIEVE
6635          KM   Retrieve divert DRIN91 from combination point CPMD91 and divert south to
6636          KM   combination point CIN91
6637          DR  DSIN91
              *

6638          KK  RSIN91   ROUTE
6639          KM   Route diversion retrieval DRIN91 south to combination point CIN91
6640          RS        1    FLOW
6641          RC   0.035   0.015   0.035     535  0.0019     0.00
6642          RX    0.00    0.00    9.50    9.50   40.50   40.50   50.00   50.00
6643          RY    3.00    0.60    0.50    0.00    0.00    0.50    0.60    3.00
              *

6644          KK    IN91   BASIN
6645          KM   Runoff hydrograph for subbasin IN91 northeast of the intersection of
6646          KM   Interstate 10 and 91st Avenue
6647          BA   0.185
6648          LG    0.11    0.17    9.70    0.04      64
6649          UC   0.634   0.644
6650          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
6651          UA     100
              *

6652          KK   CIN91 COMBINE
6653          KM   Combine route RWIN91, route RSIN91, and subbasin IN91
6654          HC        3   10.57
              *

6655          KK  PR91MDRETRIEVE
6656          KM   Retrieve full flow capacity of 345 cfs from 90-inch storm drain pipe at the
6657          KM   intersection of McDowell Road and 91st Avenue
6658          DR  DP91MD
              *

6659          KK  RP91IN   ROUTE
6660          KM   Route full flow capacity of 345 cfs through 90-inch storm drain pipe in
6661          KM   91st Avenue to the intersection of Interstate 10 and 91st Avenue
6662          RK      729  0.0020    0.015             CIRC   7.500
              *

6663          KK  CPIN91 COMBINE
6664          KM   Combine pipe return PR91MD with the runoff hydrograph at combination point
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6665          KM   CIN91 at the intersection of Interstate 10 and 91st Avenue
6666          HC        2
              *

6667          KK  DWINLO  DIVERT
6668          KM   Divert remaining runoff hydrograph from combination point CPIN91 west to
6669          KM   combination point CINLO
6670          DT  DSVB91       0.0       0.0
6671          DI      0.0 11110.0 11110.1 50000.0       0.0       0.0       0.0       0.0       0.0       0.0
6672          DQ      0.0       0.0 11110.1 50000.0       0.0       0.0       0.0       0.0       0.0       0.0
              *

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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

6673          KK  RWINLO   ROUTE
6674          KM   Route diversion DWINLO west to combination point CINLO
6675          RS        1    FLOW
6676          RC   0.035   0.015   0.035     4153  0.0008     0.00
6677          RX    0.00    0.10   18.00   36.00   66.00   84.00  102.00  102.10
6678          RY   18.00   17.05    9.00    0.00    0.00    9.00   17.05   18.00
              *

6679          KK  DWIN07  DIVERT
6680          KM   Divert route RWINLO to detention basin northeast of L101 and I-10 Freeways.
6681          KM   Only the flow greater than the channel capacity is diverted to the basin.
6682          DT  DNINLO       0.0       0.0
6683          DI      0.0  9505.0 10216.0 10958.0 12536.0       0.0       0.0       0.0       0.0       0.0
6684          DQ      0.0       0.0   620.0  1755.0  4964.0       0.0       0.0       0.0       0.0       0.0
              *

6685          KK    INLO   BASIN
6686          KM   Runoff hydrograph for subbasin INLO northeast of the intersection of
6687          KM   Interstate 10 and SR Loop 101
6688          BA   0.147
6689          LG    0.10    0.21    9.70    0.04      35
6690          UC   0.735   0.715
6691          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
6692          UA     100
              *

6693          KK  ERINLO  DIVERT
6694          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
6695          KM   retention developed after 1990 in subbasin INLO
6696          DT   XINLO       0.3       0.0
6697          DI      0.0 50000.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0
6698          DQ      0.0 50000.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0
              *

6699          KK  DRINLORETRIEVE
6700          KM   Retrieve divert DRINLO from route RWINLO and route north to combination point
6701          KM   CIN95 to route thru the detention basin northeast of L101 and I-10 Freeways
6702          DR  DNINLO
              *

6703          KK  DRIN95RETRIEVE
6704          KM   Retrieve divert DRIN95 from route RSINLO and route east to combination point
6705          KM   CIN95 to route thru the detention basin northeast of L101 and I-10 Freeways
6706          DR  DEIN95
              *

6707          KK   CIN95 COMBINE
6708          KM   Combine retrieve DRINLO, retreive DRIN95, and subbasin INLO
6709          HC        3   24.79
              *

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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

6710          KK  SRINLO STORAGE
6711          KM   Storage route runoff hydrograph from combination CIN95 through detention
6712          KM     basin northeast of L101 and I-10 freeways
6713          KM   Stage-storage-discharge data from Agua Fria Freeway (101L) RAM-600-0-526
6714          KM     As-built Records, ADOT, October 2001
6715          RS        1    STOR
6716          SV            15.50  206.50  210.50  220.50  251.20  293.90
6717          SQ            33.00  159.00  367.00 1534.00 8123.0022263.00
6718          SE  1002.3 1004.50 1015.80 1016.00 1016.50 1018.00 1020.00
              *

6719          KK   CINLO COMBINE
6720          KM   Combine route RSINLO, route RWINLO, and storage route SRINLO
6721          HC        3   24.79
              *

6722          KK  RWIN07   ROUTE
6723          KM   Route diversion DWIN07 west to combination point CIN07
6724          RS        1    FLOW
6725          RC   0.035   0.015   0.035     6475  0.0017     0.00
6726          RX    0.00    0.10   18.00   36.00   66.00   84.00  102.00  102.10
6727          RY   18.00   17.05    9.00    0.00    0.00    9.00   17.05   18.00
```

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                *
6728            KK  DITM07RETRIEVE
6729            KM   Retrieve divert DITM07 from combination point CRI07 and divert south to
6730            KM   combination point CTM07
6731            DR   DTM07
                *
6732            KK  SRRI03 STORAGE
6733            KM   Storage route runoff hydrograph from divert retrieval DITM07 through ponding
6734            KM     area at the Roosevelt Irrigation District Canal near the intersection of
6735            KM     canal and 103rd Avenue.
6736            KM   Stage-storage-discharge data from Maryvale ADMS, February 1997
6737            RS       1    STOR
6738            SV          16.40   50.70   71.40   77.20  109.70
6739            SQ           0.10    0.20    0.30   96.00 1160.00
6740            SE  1019.0 1020.00 1021.00 1021.40 1021.50 1022.00
                *
6741            KK  RWTM07   ROUTE
6742            KM   Route diversion retrieval DRRIAF west to combination point CTM07
6743            RS      10    FLOW
6744            RC   0.035   0.015   0.035    2719  0.0029    0.00
6745            RX    0.00    0.00   16.50   16.50  107.50  107.50  124.00  124.00
6746            RY    3.00    0.66    0.50    0.00    0.00    0.50    0.66    3.00
                *
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LINE            ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

6747            KK  DRTM07RETRIEVE
6748            KM   Retrieve divert DRTM07 from combination point CRI07 and divert south to
6749            KM   combination point CTM07
6750            DR  DSTM07
                *
6751            KK  RSTM07   ROUTE
6752            KM   Route diversion retrieval DRTM07 south to combination point CTM07
6753            RS       3    FLOW
6754            RC   0.035   0.015   0.035    2640  0.0019    0.00
6755            RX    0.00    0.00   16.50   16.50  107.50  107.50  124.00  124.00
6756            RY    3.00    0.66    0.50    0.00    0.00    0.50    0.66    3.00
                *
6757            KK    TM07   BASIN
6758            KM   Runoff hydrograph for subbasin TM07 northeast of the intersection of Thomas
6759            KM   Road and 107th Avenue
6760            BA   0.265
6761            LG    0.29    0.16    9.70    0.05      13
6762            UC   1.383   1.103
6763            UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
6764            UA     100
                *
6765            KK   CTM07 COMBINE
6766            KM   Combine route RWTM07, route RSTM07, and subbasin TM07
6767            HC       3    1.61
                *
6768            KK  DSMD07  DIVERT
6769            DT  DWTMAF      0.0     0.0
6770            DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
6771            DQ     0.0    65.0   130.0   325.0   650.0  1300.0  2600.0  6500.0 13000.0 32500.0
                *
6772            KK  RSMD07   ROUTE
6773            KM   Route diversion DSMD07 south to combination point CMD07
6774            RS       9    FLOW
6775            RC   0.035   0.015   0.035    5280  0.0006    0.00
6776            RX    0.00    0.00   26.00   26.00  148.00  148.00  174.00  174.00
6777            RY    3.00    0.76    0.50    0.00    0.00    0.50    0.76    3.00
                *
6778            KK  DRMD99RETRIEVE
6779            KM   Retrieve divert DRMD99 from combination point CTM99 and divert south to
6780            KM   combination point CMD99
6781            DR  DSMD99
                *
1                                          HEC-1 INPUT                                    PAGE177

LINE            ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

6782            KK  RSMD99   ROUTE
6783            KM   Route diversion retrieval DRMD99 south to combination point CMD99
6784            RS       8    FLOW
6785            RC   0.035   0.015   0.035    5508  0.0010    0.00
6786            RX    0.00    0.00   16.50   16.50  107.50  107.50  124.00  124.00
6787            RY    3.00    0.66    0.50    0.00    0.00    0.50    0.66    3.00
                *
6788            KK    MD99   BASIN
```



```
6789            KM   Runoff hydrograph for subbasin MD99 northeast of the intersection of McDowell
6790            KM   Road and 99th Avenue
6791            BA   0.319
6792            LG    0.43    0.15    9.70    0.07      13
6793            UC   1.179   1.165
6794            UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
6795            UA     100
                *
6796            KK   CMD99 COMBINE
6797            KM   Combine route RSMD99 and subbasin MD99
6798            HC       2    0.60
                *
6799            KK  DWTMRI  DIVERT
6800            KM   Divert portion of runoff hydrograph from combination point CMD99 west to the
6801            KM   intersection of Thomas Road and the Roosevelt Irrigation Distric canal and
6802            KM   the remaining flow west to the intersection of McDowell Road and 107th
6803            KM   Avenue. The diversion is based on topography
6804            DT   DMD99      0.0     0.0
6805            DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
6806            DQ     0.0    56.0   112.0   280.0   560.0  1120.0  2240.0  5600.0 11200.0 28000.0
                *
6807            KK  RWTMRI   ROUTE
6808            KM   Route diversion DWTMRI west to combination point CTMRI
6809            RS       2    FLOW
6810            RC   0.035   0.015   0.035    2601  0.0023    0.00
6811            RX    0.00    0.00    9.50    9.50   40.50   40.50   50.00   50.00
6812            RY    3.00    0.60    0.50    0.00    0.00    0.50    0.60    3.00
                *
6813            KK    TMRI   BASIN
6814            KM   Runoff hydrograph for subbasin TMRI southeast of the intersection of Thomas
6815            KM   Road and the Roosevelt Irrigation District canal
6816            BA   0.240
6817            LG    0.30    0.15    9.70    0.07       2
6818            UC   0.503   0.220
6819            UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
6820            UA     100
                *
1                                          HEC-1 INPUT                                    PAGE178

LINE            ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

6821            KK   CTMRI COMBINE
6822            KM   Combine route RWTMRI and subbasin TMRI
6823            HC       2    0.51
                *
6824            KK  SRTMRI STORAGE
6825            KM   Storage route runoff hydrograph from combination point CTMRI through ponding
6826            KM     area at the Roosevelt Irrigation District canal near the intersection of th
6827            KM     canal and Thomas Road.
6828            KM   Stage-storage-discharge data from Maryvale ADMS, February 1997
6829            RS       1    STOR
6830            SV          15.73   25.07   35.38   85.58
6831            SQ           0.10 1069.00 3077.0011170.00
6832            SE  1020.0 1021.00 1021.50 1022.00 1023.00
                *
6833            KK   RMD07   ROUTE
6834            KM   Route runoff hydrograph from combination point CTMRI south to combination
6835            KM   point CMD07
6836            RS       8    FLOW
6837            RC   0.035   0.015   0.035    6743  0.0013    0.00
6838            RX    0.00    0.00   12.50   12.50   62.50   62.50   75.00   75.00
6839            RY    3.00    0.62    0.50    0.00    0.00    0.50    0.62    3.00
                *
6840            KK  DIMD99RETRIEVE
6841            KM   Retrieve subbasin flow diverted at the intersection of McDowell Road and 99th
6842            KM   Avenue
6843            DR   DMD99
                *
6844            KK  DWMD07  DIVERT
6845            KM   Divert remaining runoff hydrograph from combination point CTMRI west to
6846            KM   combination point CMD07
6847            DT  DSIN99      0.0     0.0
6848            DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
6849            DQ     0.0    50.0   100.0   250.0   500.0  1000.0  2000.0  5000.0 10000.0 25000.0
                *
6850            KK  SRMD99 STORAGE
6851            KM   Storage route runoff hydrograph from divert DWMD07 through ponding area at
6852            KM     the Roosevelt Irrigation District canal near the intersection of the canal
6853            KM     and McDowell Road.
6854            KM   Stage-storage-discharge data from Maryvale ADMS, Feb 1997
6855            RS       1    STOR
6856            SV          11.90   27.50   38.50   54.00   98.80
6857            SQ                         1604.00 7290.0028409.00
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 6858          SE  1022.0 1023.00 1024.00 1024.50 1025.00 1026.00
               *
1                                        HEC-1 INPUT                                        PAGE179

 LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


 6859          KK  RWMD07   ROUTE
 6860          KM   Route diversion retrieval DRMD07 west to combination point CMD07
 6861          RS       1     FLOW
 6862          RC   0.035   0.015   0.035    5792  0.0019    0.00
 6863          RX    0.00    0.00   16.50   16.50  107.50  107.50  124.00  124.00
 6864          RY    3.00    0.66    0.50    0.00    0.00    0.50    0.66    3.00
               *

 6865          KK    MD07   BASIN
 6866          KM   Runoff hydrograph for subbasin MD07 northeast of the intersection of McDowell
 6867          KM   Road and 107th Avenue
 6868          BA   0.783
 6869          LG    0.24    0.15    8.80    0.05      36
 6870          UC   1.471   0.927
 6871          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
 6872          UA     100
               *

 6873          KK  ERMD07  DIVERT
 6874          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
 6875          KM   retention developed after 1990 in subbasin MD07
 6876          DT   XMD07     49.9      0.0
 6877          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
 6878          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
               *

 6879          KK   CMD07 COMBINE
 6880          KM   Combine route RWMD07, route RSMD07, route RMD07 and subbasin MD07
 6881          HC       4    2.50
               *

 6882          KK  DSIN07  DIVERT
 6883          KM   Divert runoff hydrograph from combination point CMD07 sout to combination
 6884          KM   point CIN07
 6885          DT  DWMDAV      0.0      0.0
 6886          DI     0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0  10000.0  20000.0  50000.0
 6887          DQ     0.0     75.0    150.0    375.0    750.0   1500.0   3000.0   7500.0  15000.0  37500.0
               *

 6888          KK  RSIN07   ROUTE
 6889          KM   Route diversion DSIN07 south to combination point CIN07
 6890          RS       2     FLOW
 6891          RC   0.035   0.015   0.035     844  0.0008    0.00
 6892          RX    0.00    0.00   16.50   16.50  107.50  107.50  124.00  124.00
 6893          RY    3.00    0.66    0.50    0.00    0.00    0.50    0.66    3.00
               *

 6894          KK  DRIN99RETRIEVE
 6895          KM   Retrieve divert DRIN99 from combination point CTMRI and divert south to
 6896          KM   combination point CIN07
 6897          DR  DSIN99
               *
1                                        HEC-1 INPUT                                        PAGE180

 LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


 6898          KK  RSIN99   ROUTE
 6899          KM   Route divert retrieveal DRIN99 south to combination point CIN07
 6900          RS       6     FLOW
 6901          RC   0.035   0.015   0.035    6080  0.0019    0.00
 6902          RX    0.00    0.00   16.50   16.50  107.50  107.50  124.00  124.00
 6903          RY    3.00    0.66    0.50    0.00    0.00    0.50    0.66    3.00
               *

 6904          KK    IN07   BASIN
 6905          KM   Runoff hydrograph for subbasin IN07 northeast of the intersection of
 6906          KM   Interstate 10 and 107th Avenue
 6907          BA   0.256
 6908          LG    0.26    0.15    8.40    0.08      50
 6909          UC   0.664   0.618
 6910          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
 6911          UA     100
               *

 6912          KK  ERIN07  DIVERT
 6913          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
 6914          KM   retention developed after 1990 in subbasin IN07
 6915          DT   XIN07     8.1      0.0
 6916          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
 6917          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
               *

 6918          KK   CIN07 COMBINE
 6919          KM   Combine route RWIN07, route RSIN99, route RSIN07, and subbasin IN07
 6920          HC       4   27.09
```



```
               *

 6921          KK  DWINAV  DIVERT
 6922          KM   Divert remaining runoff hydrograph from combination point CIN07 west to
 6923          KM   combination point CINAV
 6924          DT  DSVB07      0.0      0.0
 6925          DI     0.0 21022.0 21022.1 50000.0      0.0      0.0      0.0      0.0      0.0      0.0
 6926          DQ     0.0      0.0 21022.1 50000.0      0.0      0.0      0.0      0.0      0.0      0.0
               *

 6927          KK  RWINAV   ROUTE
 6928          KM   Route diversion DWINAV west to combination point CINAV
 6929          RS       1     FLOW
 6930          RC   0.035   0.015   0.035    5174  0.0019    0.00
 6931          RX    0.00    0.10   18.00   36.00   66.00   84.00  102.00  102.10
 6932          RY   18.00   17.05    9.00    0.00    0.00    9.00   17.05   18.00
               *

 6933          KK  DRTMAFRETRIEVE
 6934          KM   Retrieve divert DRTMAF from combination point CTM07 and divert south to
 6935          KM   combination point CTMAF
 6936          DR  DWTMAF
               *
1                                        HEC-1 INPUT                                        PAGE181

 LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


 6937          KK  RWTMAF   ROUTE
 6938          KM   Route diversion retrieval DRTMAF west to combination point CTMAF
 6939          RS       7     FLOW
 6940          RC   0.035   0.015   0.035    8219  0.0020    0.00
 6941          RX    0.00    0.00   26.00   26.00  148.00  148.00  174.00  174.00
 6942          RY    3.00    0.76    0.50    0.00    0.00    0.50    0.76    3.00
               *

 6943          KK    TMAF   BASIN
 6944          KM   Runoff hydrograph for subbasin TMAF north of Thomas Road and east of the Agua
 6945          KM   Fria River
 6946          BA   0.762
 6947          LG    0.22    0.16    6.80    0.11      38
 6948          UC   1.500   1.208
 6949          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
 6950          UA     100
               *

 6951          KK   CTMAF COMBINE
 6952          KM   Combine route RWTMAF and subbasin TMAF
 6953          HC       2    1.33
               *

 6954          KK  DSMDAV  DIVERT
 6955          KM   Divert portion of runoff hydrograph from combination point CTMAF south to the
 6956          KM   intersection of McDowell Road and Avondale Boulevard and the remaining flow
 6957          KM   west to the Agua Fria River. The diversion is based on topography
 6958          DT  DWAF02      0.0      0.0
 6959          DI     0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0  10000.0  20000.0  50000.0
 6960          DQ     0.0     89.0    178.0    445.0    890.0   1780.0   3560.0   8900.0  17800.0  44500.0
               *

 6961          KK  RSMDAV   ROUTE
 6962          KM   Route diversion DSMDAV south to combination point CMDAV
 6963          RS       7     FLOW
 6964          RC   0.035   0.015   0.035    5280  0.0017    0.00
 6965          RX    0.00    0.00   38.50   38.50  210.50  210.50  249.00  249.00
 6966          RY    3.00    0.88    0.50    0.00    0.00    0.50    0.88    3.00
               *

 6967          KK  DRMDAVRETRIEVE
 6968          KM   Retrieve divert DRMDAV from combination point CMD07 and divert south to
 6969          KM   combination point CMDAV
 6970          DR  DWMDAV
               *

 6971          KK  RWMDAV   ROUTE
 6972          KM   Route diversion retrieval DRMDAV west to combination point CMDAV
 6973          RS       5     FLOW
 6974          RC   0.035   0.015   0.035    5280  0.0023    0.00
 6975          RX    0.00    0.00   35.50   35.50  188.50  188.50  224.00  224.00
 6976          RY    3.00    0.86    0.50    0.00    0.00    0.50    0.86    3.00
               *
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 LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


 6977          KK    MDAV   BASIN
 6978          KM   Runoff hydrograph for square mile subbasin MDAV northeast of the intersection
 6979          KM   McDowell Road and Avondale Boulevard
 6980          BA   0.954
 6981          LG    0.23    0.14    7.60    0.09      25
 6982          UC   1.500   1.038
 6983          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
```

```
6984          UA     100
              *

6985          KK  ERMDAV  DIVERT
6986          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
6987          KM   retention developed after 1990 in subbasin MDAV
6988          DT   XMDAV     75.6      0.0
6989          DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
6990          DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

6991          KK   CMDAV COMBINE
6992          KM   Combine route RWMDAV, route RSMDAV, and subbasin MDAV
6993          HC        3    1.72
              *

6994          KK  DSINAV  DIVERT
6995          KM   Divert remaining runoff hydrograph from combination point CMDAV south to
6996          KM   combination point CINAV
6997          DT  DWMDAF      0.0      0.0
6998          DI      0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0 10000.0 20000.0 50000.0
6999          DQ      0.0     73.0    146.0    365.0    730.0   1460.0   2920.0  7300.0 14600.0 36500.0
              *

7000          KK  RSINAV   ROUTE
7001          KM   Route diversion DSINAV south to combination point CINAV
7002          RS        2    FLOW
7003          RC    0.035    0.015    0.035     1317   0.0022     0.00
7004          RX     0.00     0.00    16.50    16.50   107.50   107.50   124.00   124.00
7005          RY     3.00     0.66     0.50     0.00     0.00     0.50     0.66     3.00
              *

7006          KK    INAV   BASIN
7007          KM   Runoff hydrograph for subbasin INAV north of Interstate 10 and east of the
7008          KM   Agua Fria River
7009          BA   0.235
7010          LG    0.32     0.15     8.00     0.10       37
7011          UC   0.644    0.575
7012          UA       0      5.0     16.0     30.0     65.0     77.0     84.0     90.0     94.0     97.0
7013          UA     100
              *
```



```
LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

7014          KK  ERINAV  DIVERT
7015          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
7016          KM   retention developed after 1990 in subbasin INAV
7017          DT   XINAV      3.6      0.0
7018          DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
7019          DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

7020          KK   CINAV COMBINE
7021          KM   Combine route RWINAV, route RSINAV, and subbasin INAV
7022          HC        3   28.58
              *

7023          KK  DWINAF  DIVERT
7024          KM   Divert remaining runoff hydrograph from combination point CINAV west to
7025          KM   combination point CINAF
7026          DT  DSVBAF      0.0      0.0
7027          DI      0.0 22225.0 22225.1 50000.0      0.0      0.0      0.0      0.0      0.0      0.0
7028          DQ      0.0      0.0 22225.1 50000.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

7029          KK  RWINAF   ROUTE
7030          KM   Route diversion DWINAF west to combination point CINAF
7031          RS        1    FLOW
7032          RC    0.035    0.015    0.035     7360   0.0009     0.00
7033          RX     0.00     0.10    18.00    36.00    66.00    84.00   102.00   102.10
7034          RY    18.00    17.05     9.00     0.00     0.00     9.00    17.05    18.00
              * Need to re-evaluate divert, flow is greater than channel capacity
              *

7035          KK  DRMDAFRETRIEVE
7036          KM   Retrieve divert DRMDAF from combination point CMDAV and divert south to
7037          KM   combination point CMDAF
7038          DR  DWMDAF
              *

7039          KK  RWMDAF   ROUTE
7040          KM   Route diversion retrieval DRMDAF west to combination point CMDAF
7041          RS        4    FLOW
7042          RC    0.035    0.015    0.035     6890   0.0027     0.00
7043          RX     0.00     0.00    48.00    48.00   251.00   251.00   299.00   299.00
7044          RY     3.00     0.98     0.50     0.00     0.00     0.50     0.98     3.00
              *

7045          KK    MDAF   BASIN
7046          KM   Runoff hydrograph for subbasin MDAF north of McDowell Road and east of the
7047          KM   Interstate 10 and east of the Agua Fria River
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```
7048          BA   0.834
7049          LG    0.25     0.29     5.20     0.23       19
7050          UC   1.500    1.253
7051          UA       0      5.0     16.0     30.0     65.0     77.0     84.0     90.0     94.0     97.0
7052          UA     100
              *
```



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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

7053          KK   CMDAF COMBINE
7054          KM   Combine route RWMDAF and subbasin MDAF
7055          HC        2    1.30
              *

7056          KK  DSINAF  DIVERT
7057          KM   Divert portion of runoff hydrograph from combination point CMDAF south to the
7058          KM   intersection of Interstate 10 and the Agua Fria River and the remaining flow
7059          KM   west to the Agua Fria River. The diversion is based on topography
7060          DT  DWAF03      0.0      0.0
7061          DI      0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0 10000.0 20000.0 50000.0
7062          DQ      0.0     76.0    152.0    380.0    760.0   1520.0   3040.0  7600.0 15200.0 38000.0
              *

7063          KK  RSINAF   ROUTE
7064          KM   Route diversion DSINAF south to combination point CINAF
7065          RS        1    FLOW
7066          RC    0.035    0.015    0.035     1317   0.0022     0.00
7067          RX     0.00     0.00    22.00    22.00   103.00   103.00   125.00   125.00
7068          RY     3.00     0.72     0.50     0.00     0.00     0.50     0.72     3.00
              *

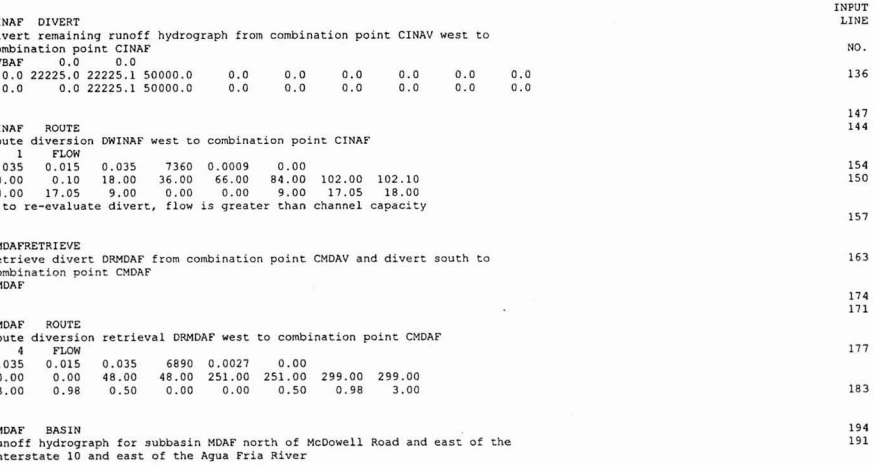
7069          KK    INAF   BASIN
7070          KM   Runoff hydrograph for subbasin INAf north of Interstate 10 and east of the
7071          KM   Agua Fria River
7072          BA   0.472
7073          LG    0.23     0.30     6.20     0.16       20
7074          UC   1.236    1.072
7075          UA       0      5.0     16.0     30.0     65.0     77.0     84.0     90.0     94.0     97.0
7076          UA     100
              *

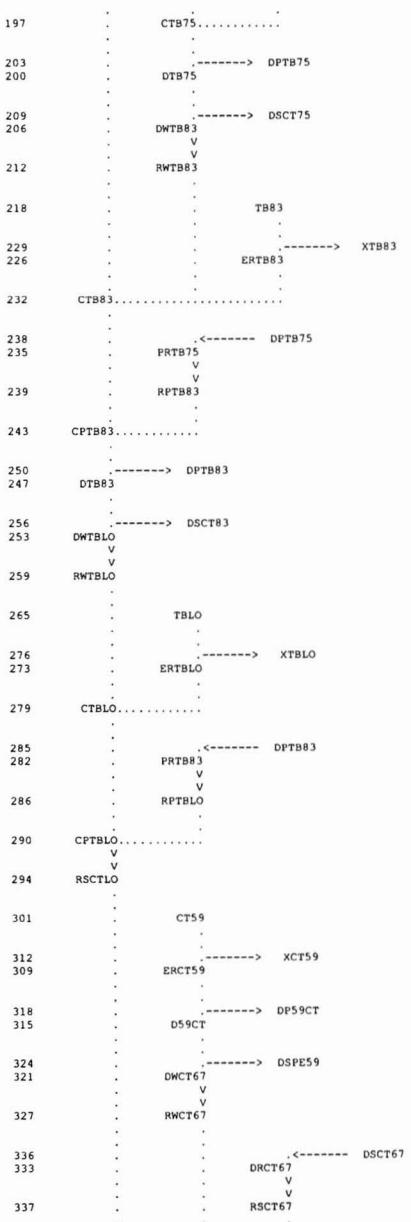
7077          KK  ERINAF  DIVERT
7078          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
7079          KM   retention developed after 1990 in subbasin INAF
7080          DT   XINAF      8.4      0.0
7081          DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
7082          DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

7083          KK   CINAF COMBINE
7084          KM   Combine route RWINAF, route RSINAF, and subbasin INAF
7085          HC        3   29.36
              *
7086          ZZ
```

1

SCHEMATIC DIAGRAM OF STREAM NETWORK

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RPTBLO
CPTBLO
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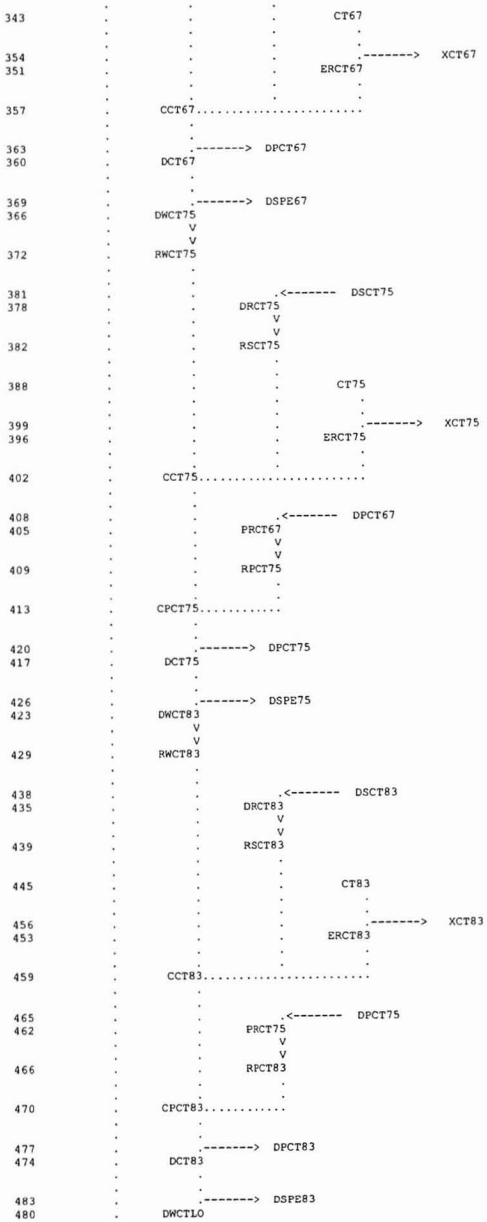
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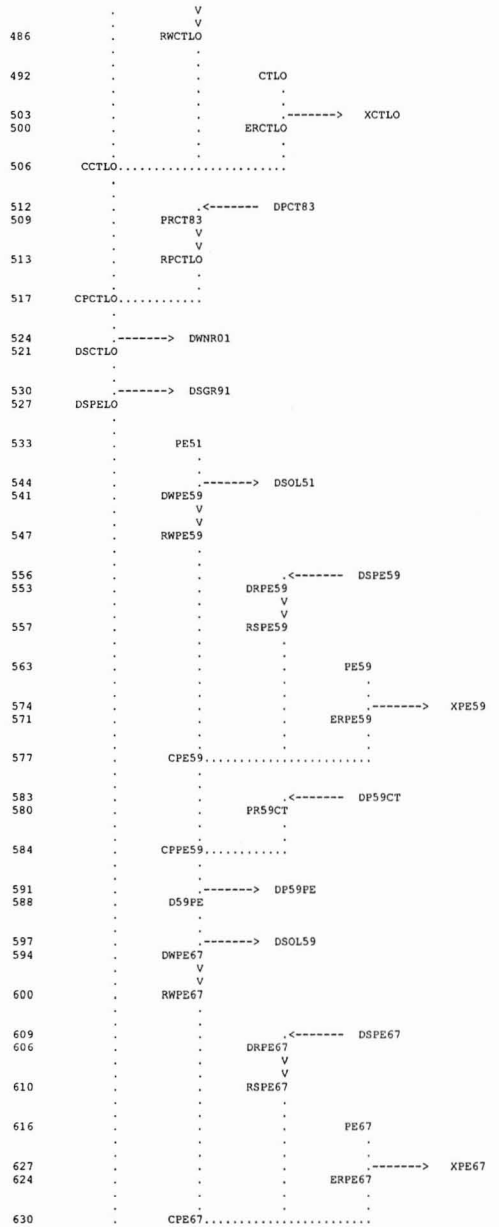
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RSPE59
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ERPE59
CPE59
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CPPE59
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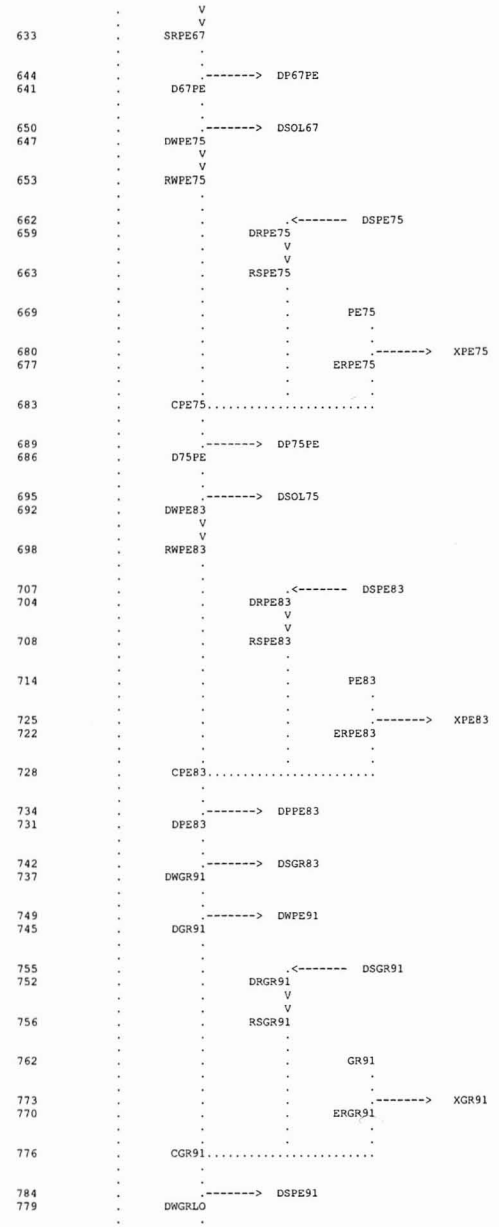
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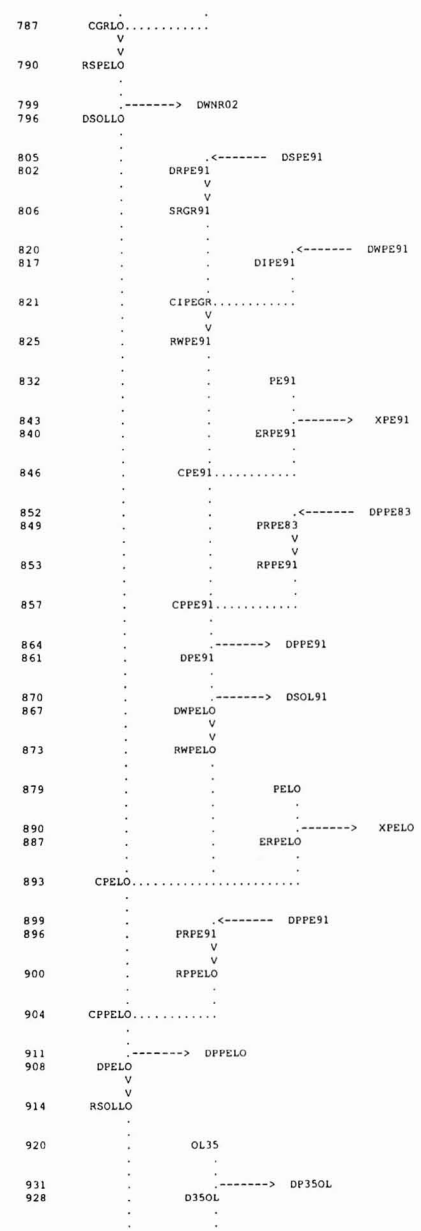
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840 ERPE91
846 CPE91
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853 RPPE91
857 CPPE91
864 DPPE91
861 DPE91
870 DSOL91
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873 RWPELO
879 PELO
890 XPELO
887 ERPELO
893 CPELO
899 DPPE91
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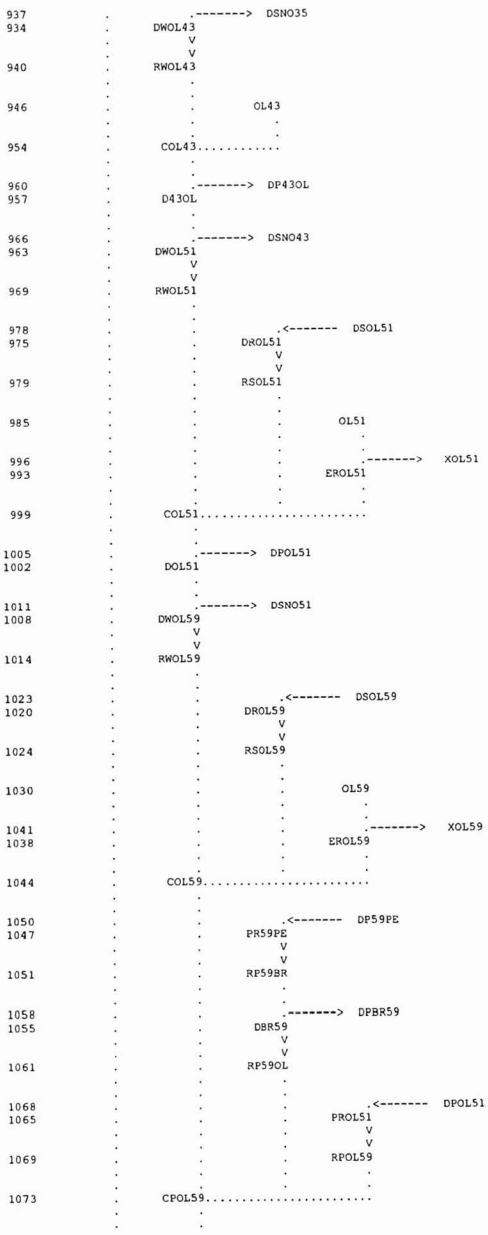
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996 XOL51
993 EROL51
999 COL51
1005 DPOL51
1002 DOL51
1011 DSNO51
1008 DWOL59
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1023 DSOL59
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1024 RSOL59
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1041 XOL59
1038 EROL59
1044 COL59
1050 DP59PE
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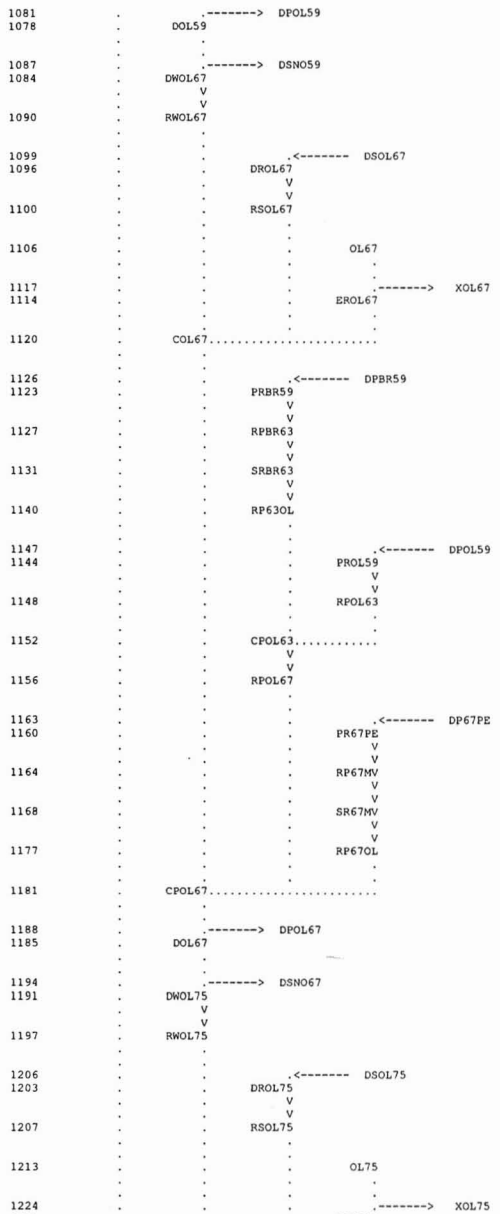
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RSOL67
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OL67
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XOL67
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COL67
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RPBR63
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SRBR63
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DPOL59
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1191
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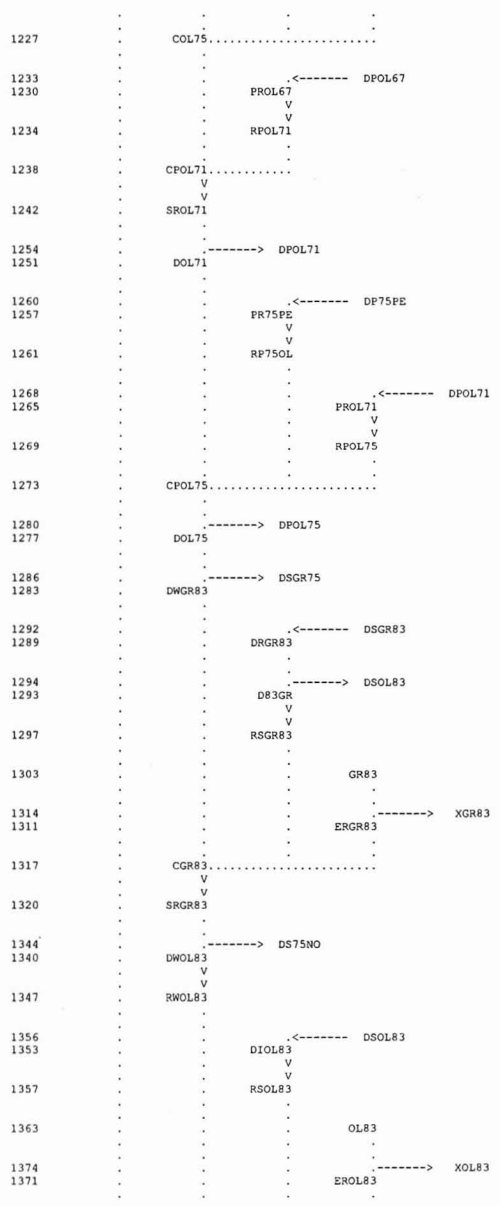
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1268
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DSGR83
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XGR83
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CGR83
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RWOL83
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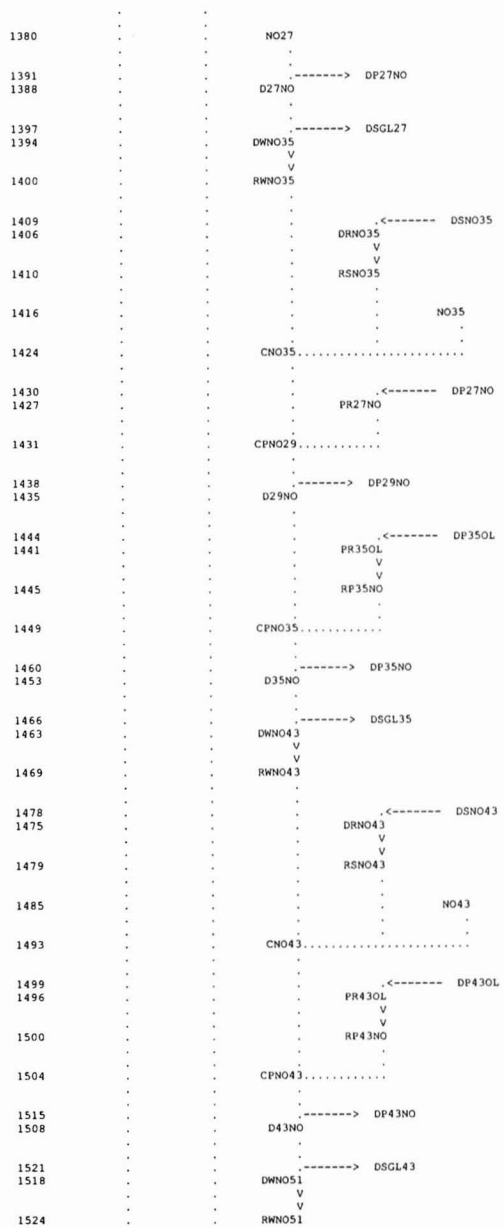
COL83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NO35
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CNO35
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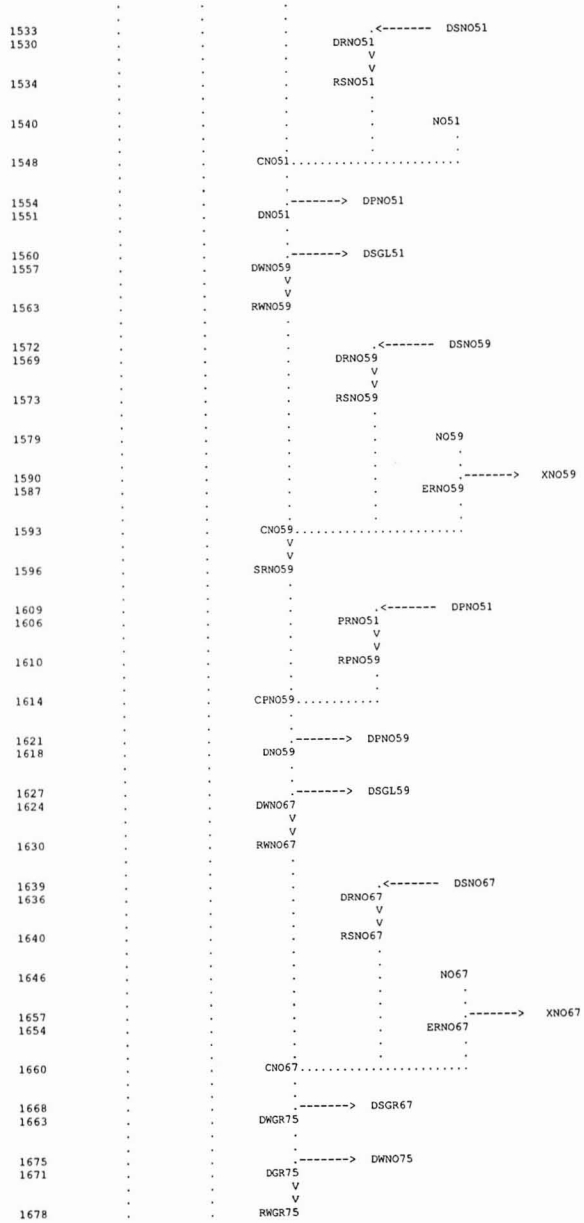
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RSNO59
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ERNO59
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CNO59
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SRNO59
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PRNO51
DPNO51
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RPNO59
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CPNO59
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DNO59
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DSNO67
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RSNO67
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NO67
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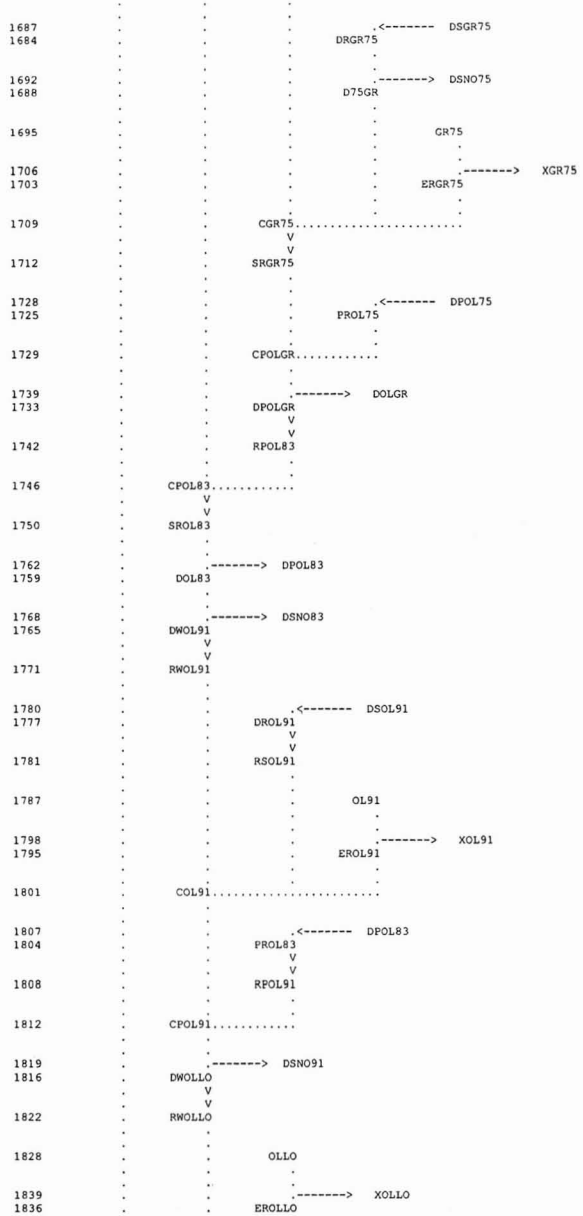
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1695 GR75
1706 .-------> XGR75
1703 ERGR75
1709 CGR75.....
1712 SRGR75
1728 .<------- DPOL75
1725 PROL75
1729 CPOLGR.....
1739 .-------> DOLGR
1733 DPOLGR
1742 RPOL83
1746 CPOL83.....
1750 SROL83
1762 .-------> DPOL83
1759 DOL83
1768 .-------> DSNO83
1765 DWOL91
1771 RWOL91
1780 .<------- DSOL91
1777 DROL91
1781 RSOL91
1787 OL91
1798 .-------> XOL91
1795 EROL91
1801 COL91.....
1807 .<------- DPOL83
1804 PROL83
1808 RPOL91
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1822 RWOLLO
1828 OLLO
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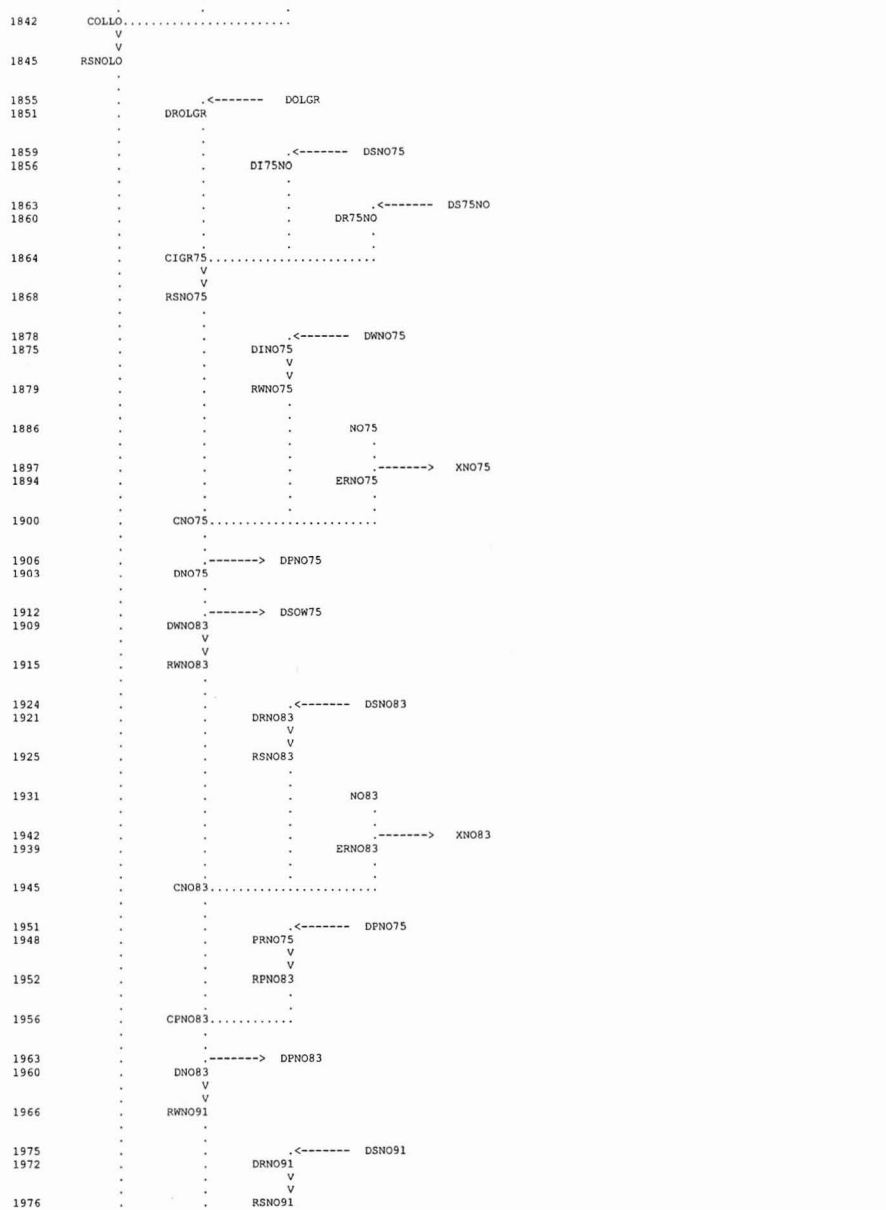
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1864 CIGR75.....
1868 RSNO75
1878 .<------- DWNO75
1875 DINO75
1879 RWNO75
1886 NO75
1897 .-------> XNO75
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1900 CNO75.....
1906 .-------> DPNO75
1903 DNO75
1912 .-------> DSOW75
1909 DWNO83
1915 RWNO83
1924 .<------- DSNO83
1921 DRNO83
1925 RSNO83
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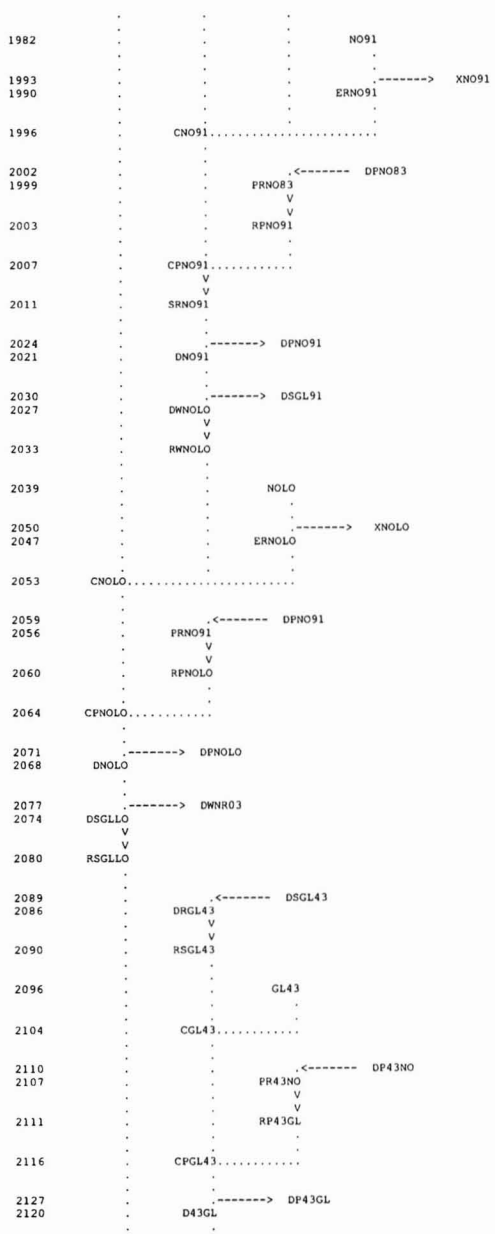
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2039 NOLO
2050 XNOLO
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2053 CNOLO
2059 DPNO91
2056 PRNO91
2060 RPNOLO
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2071 DPNOLO
2068 DNOLO
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2080 RSGLLO
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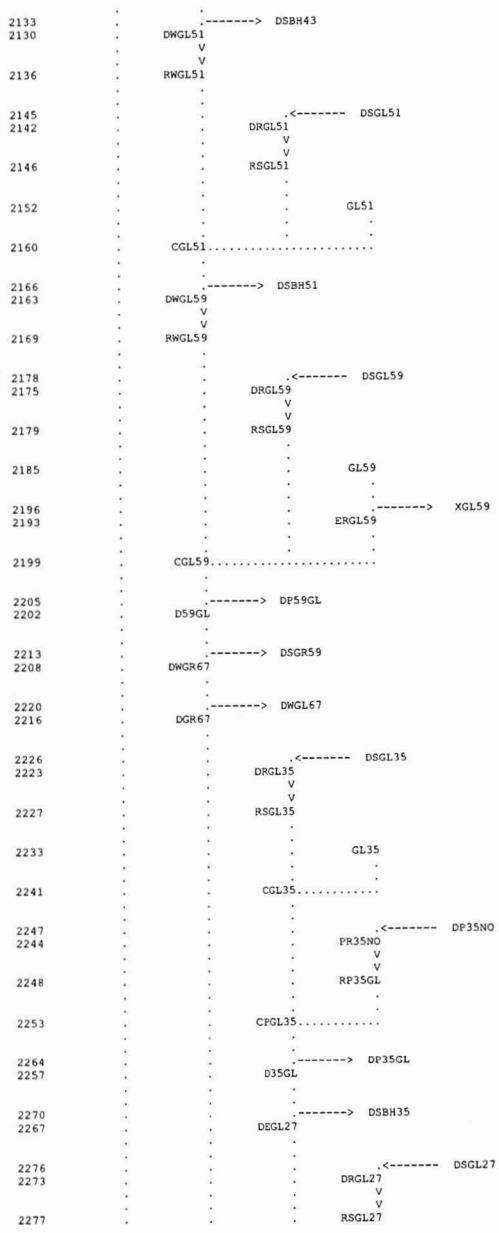
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2213 DSGR59
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2220 DWGL67
2216 DGR67
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2223 DRGL35
2227 RSGL35
2233 GL35
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2247 DP35NO
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2248 RP35GL
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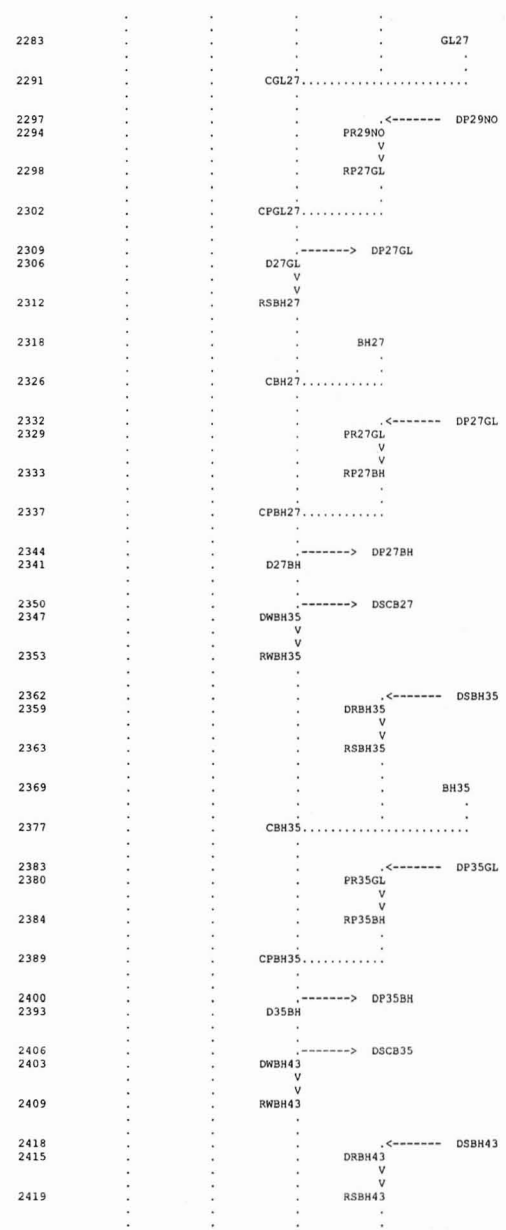
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RSBH35
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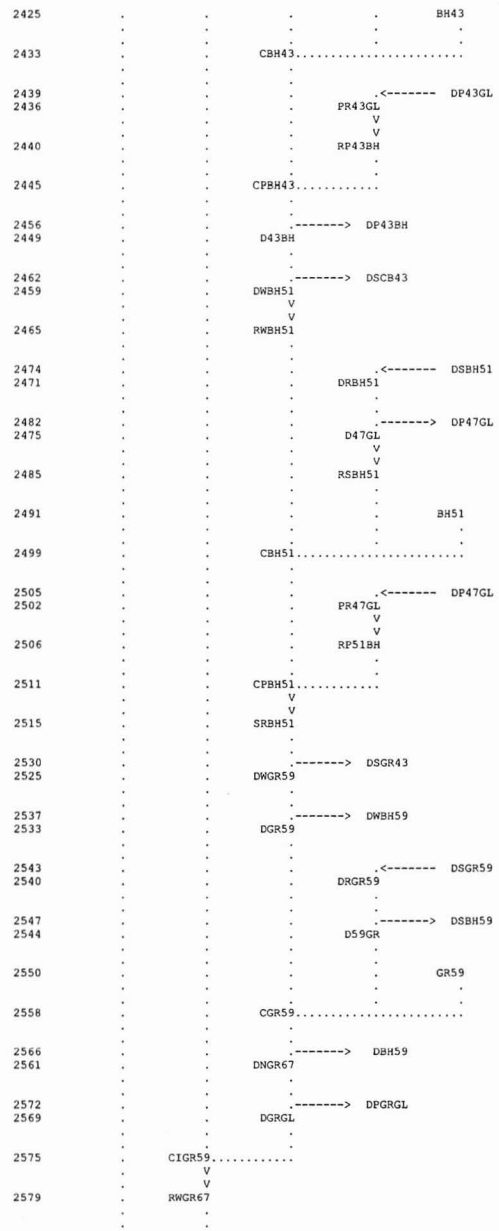
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RSBH51
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CBH51
DP47GL
PR47GL
RP51BH
CPBH51
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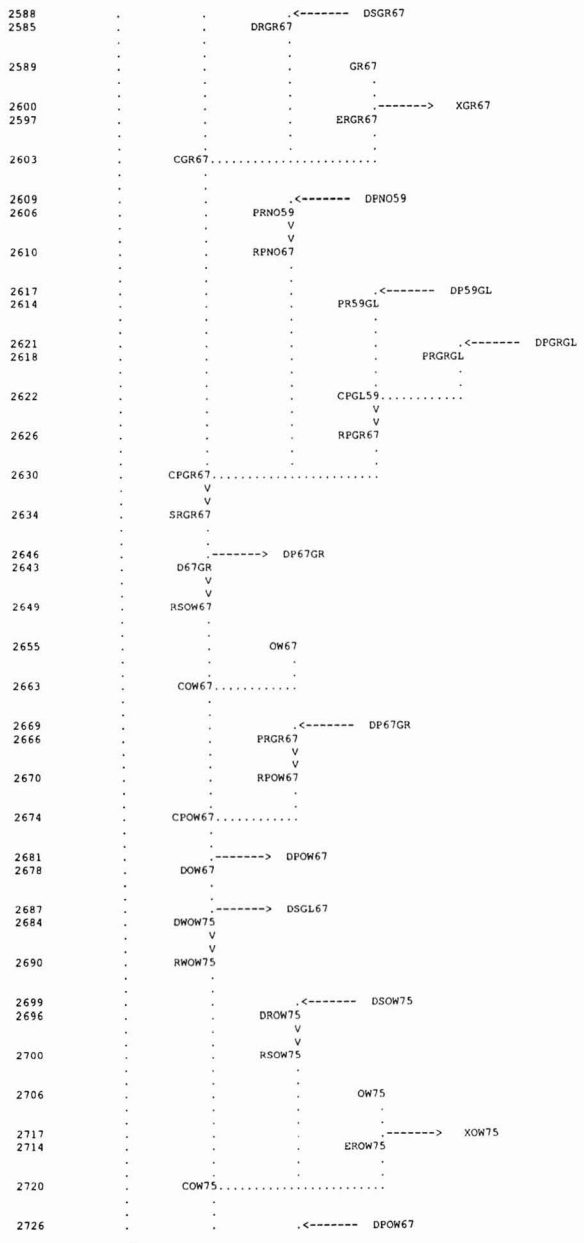
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2618 PRGRGL
2622 CPGL59
2626 RPGR67
2630 CPGR67
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2643 D67GR
2649 RSOW67
2655 OW67
2663 COW67
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2666 PRGR67
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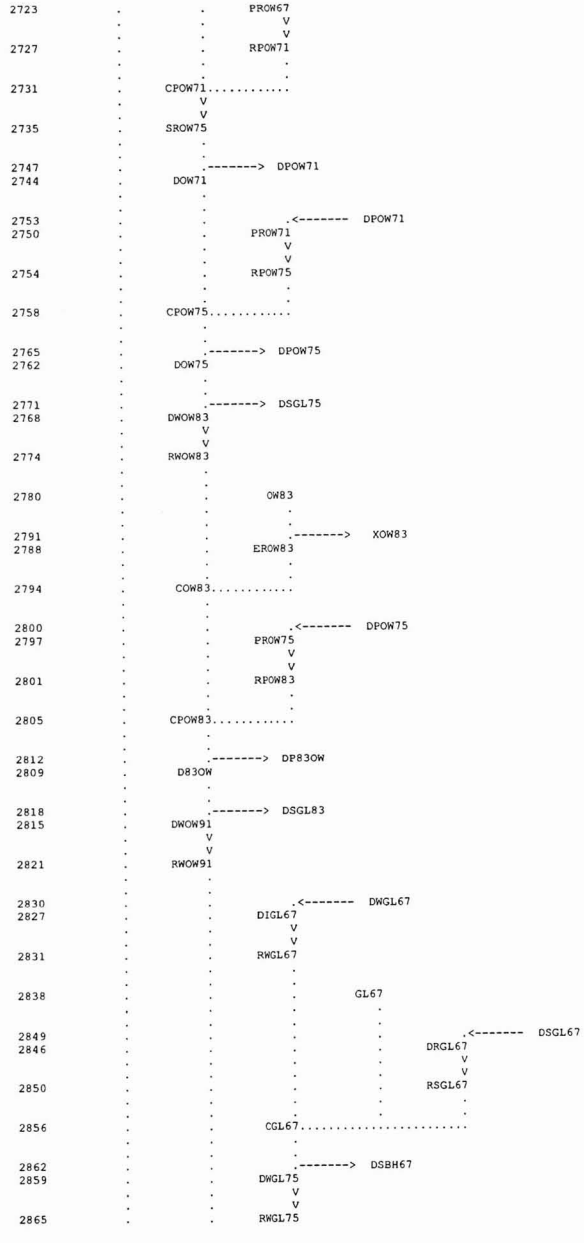
DPOW67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2765
2762 DOW75
2771
2768 DWOW83
2774 RWOW83
2780 OW83
2791
2788 EROW83
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2797 PROW75
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2809 D83OW
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2815 DWOW91
2821 RWOW91
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2831 RWGL67
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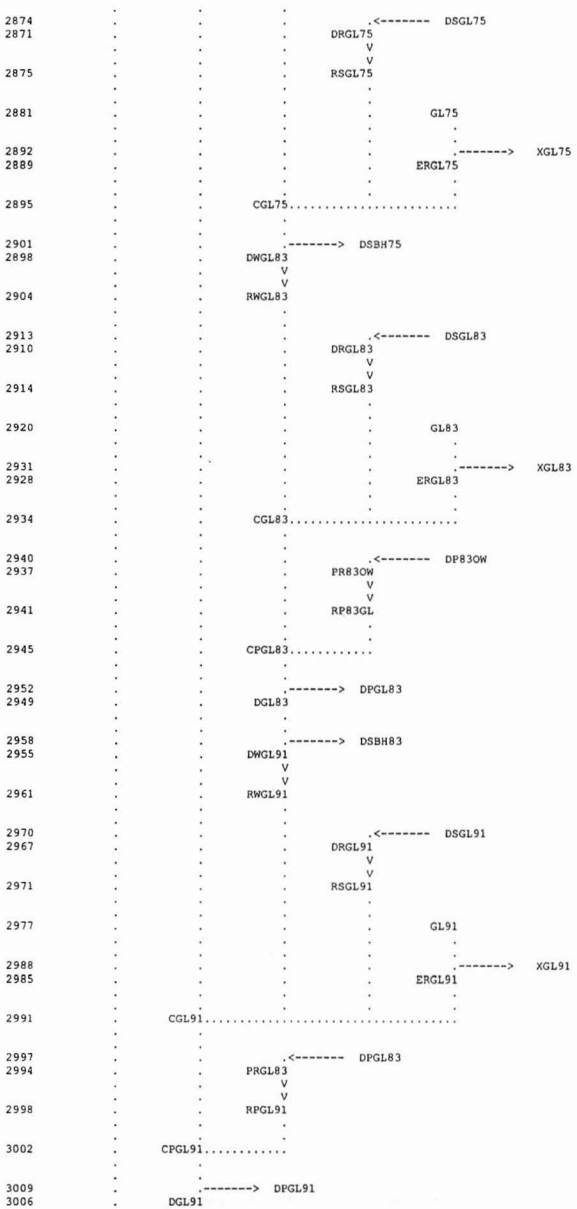
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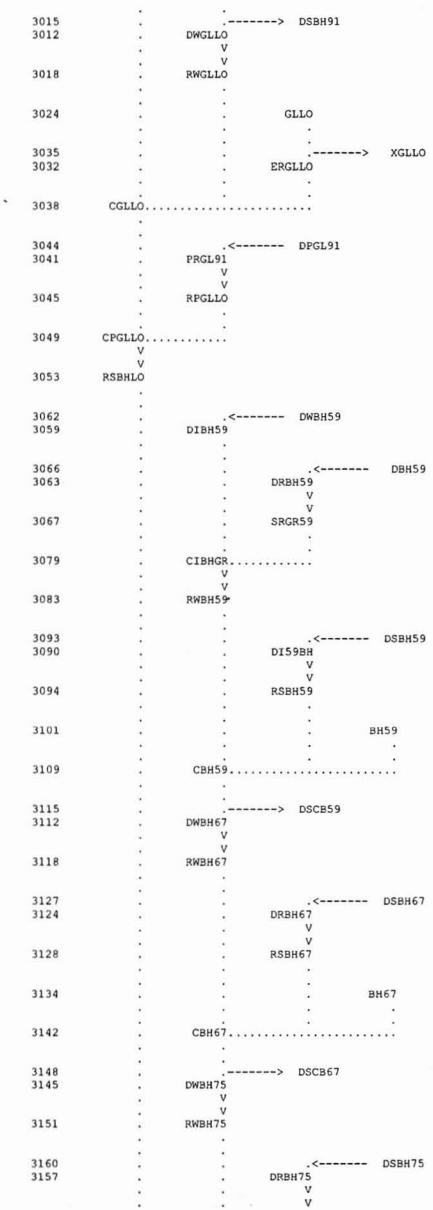
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3128 RSBH67
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3148 DSCB67
3145 DWBH75
3151 RWBH75
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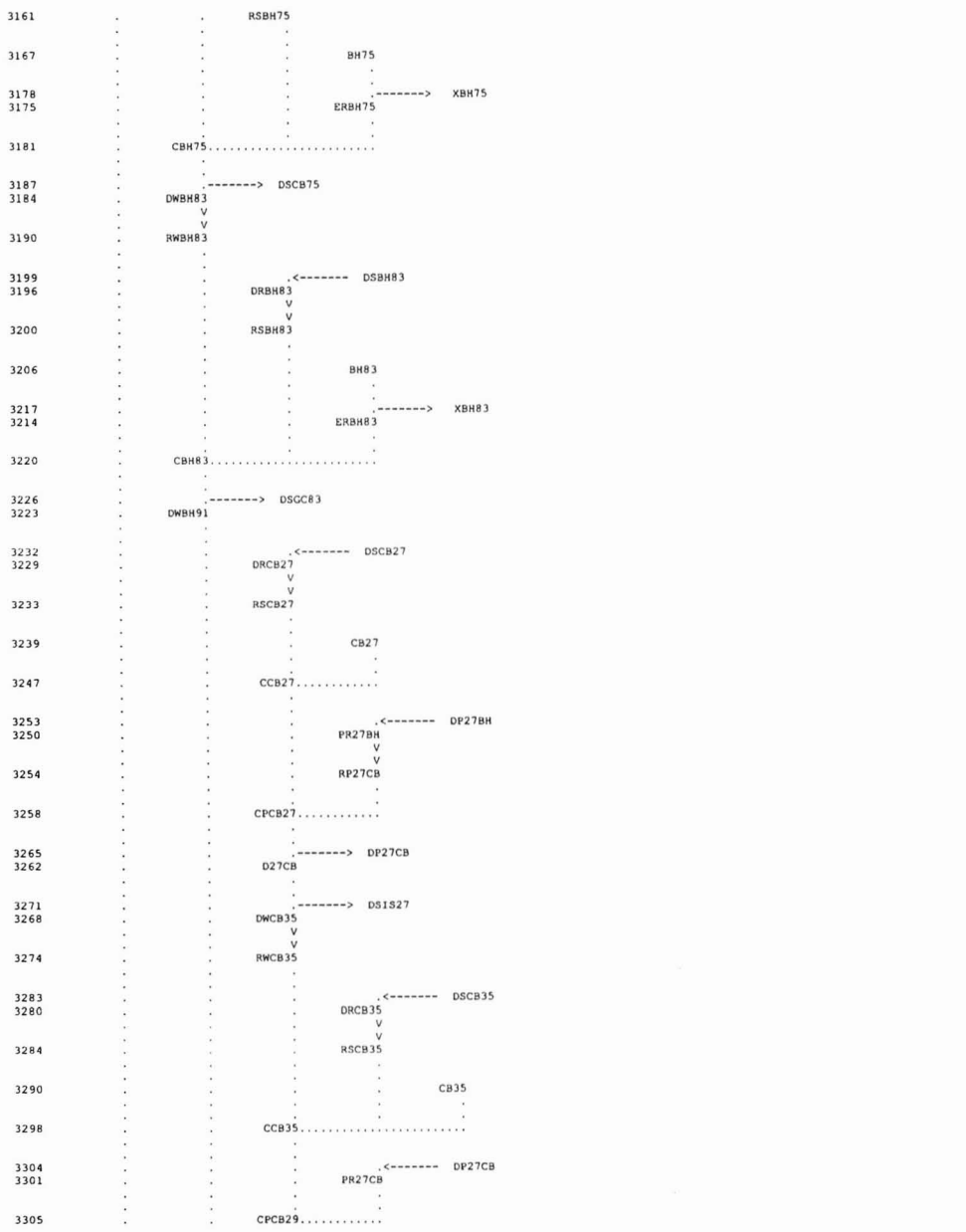
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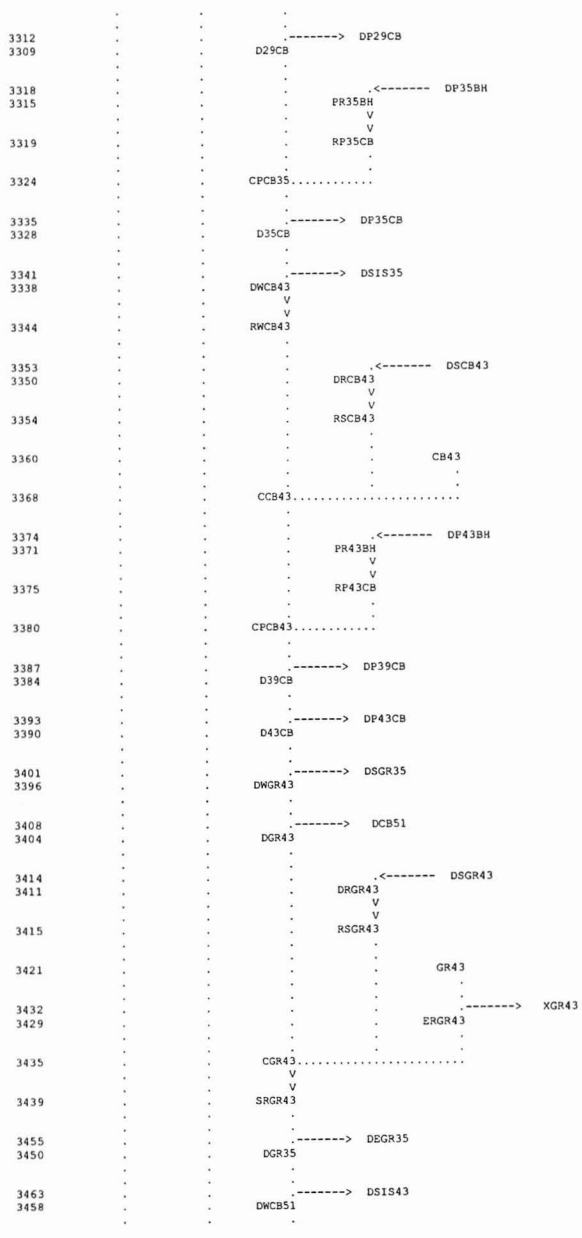
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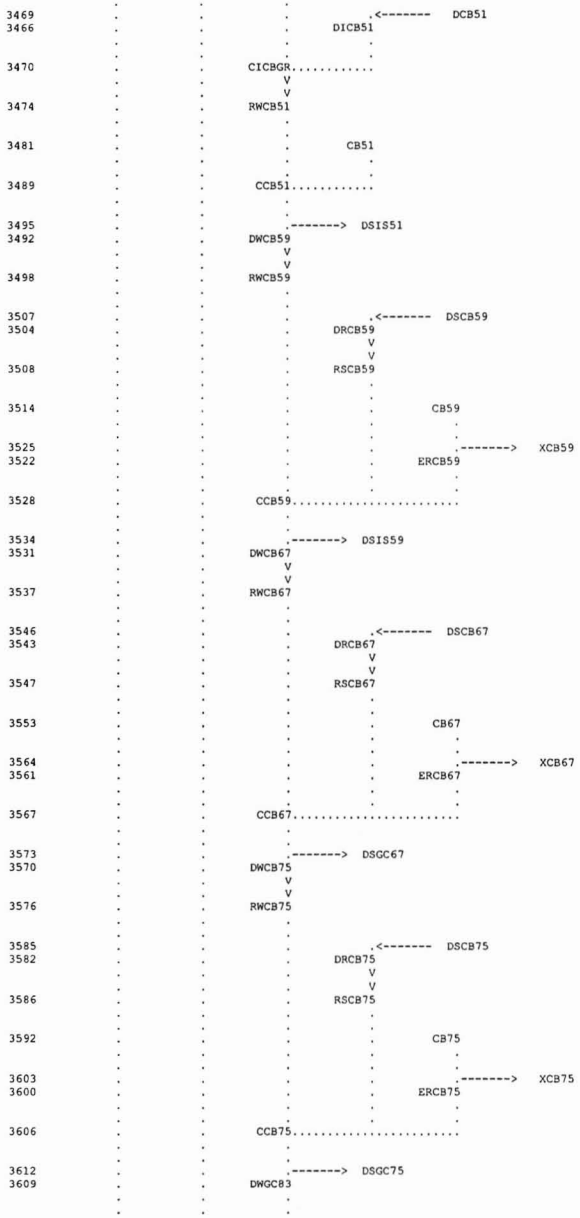
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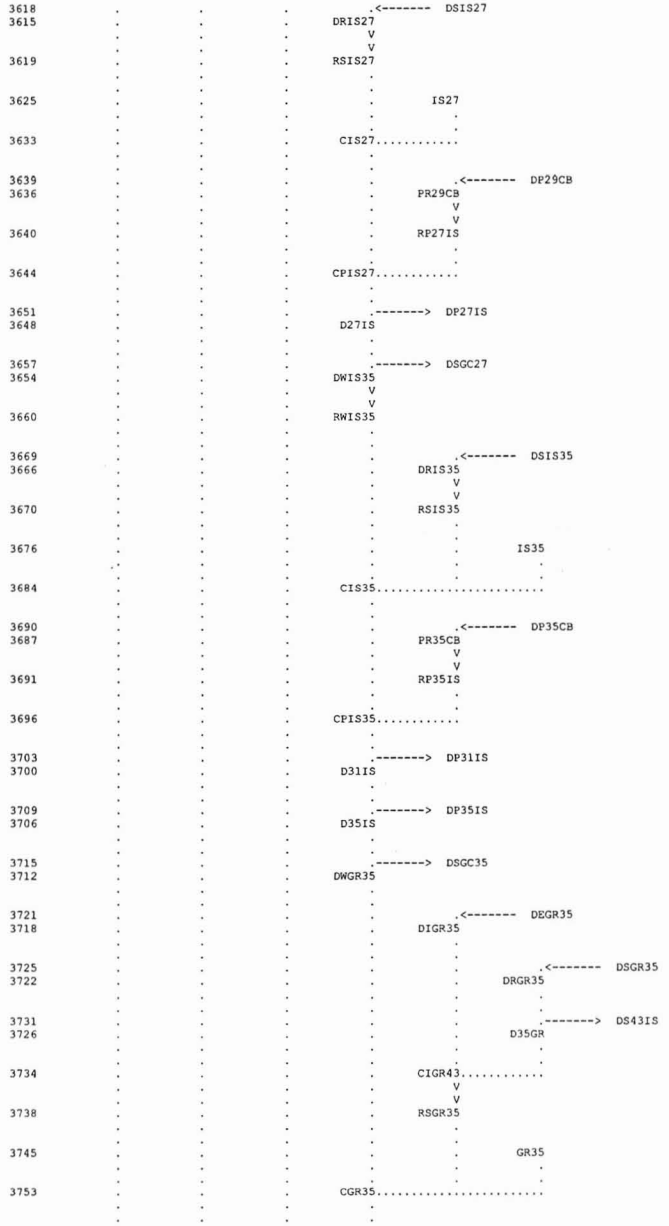
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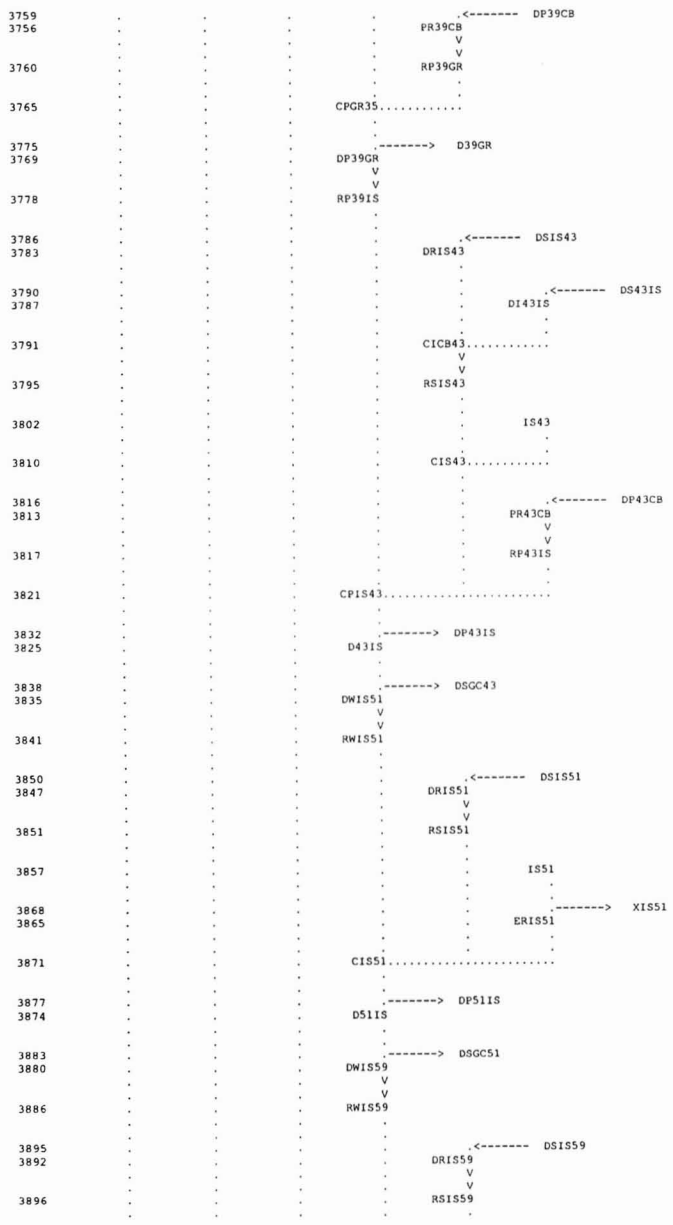
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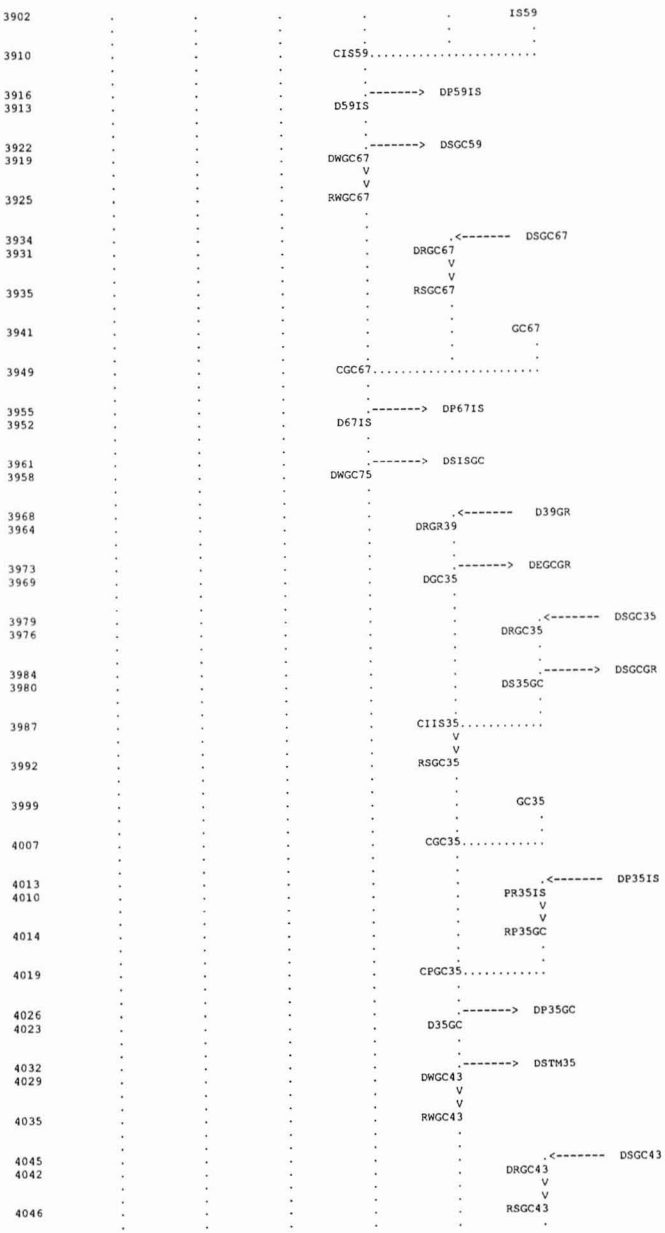
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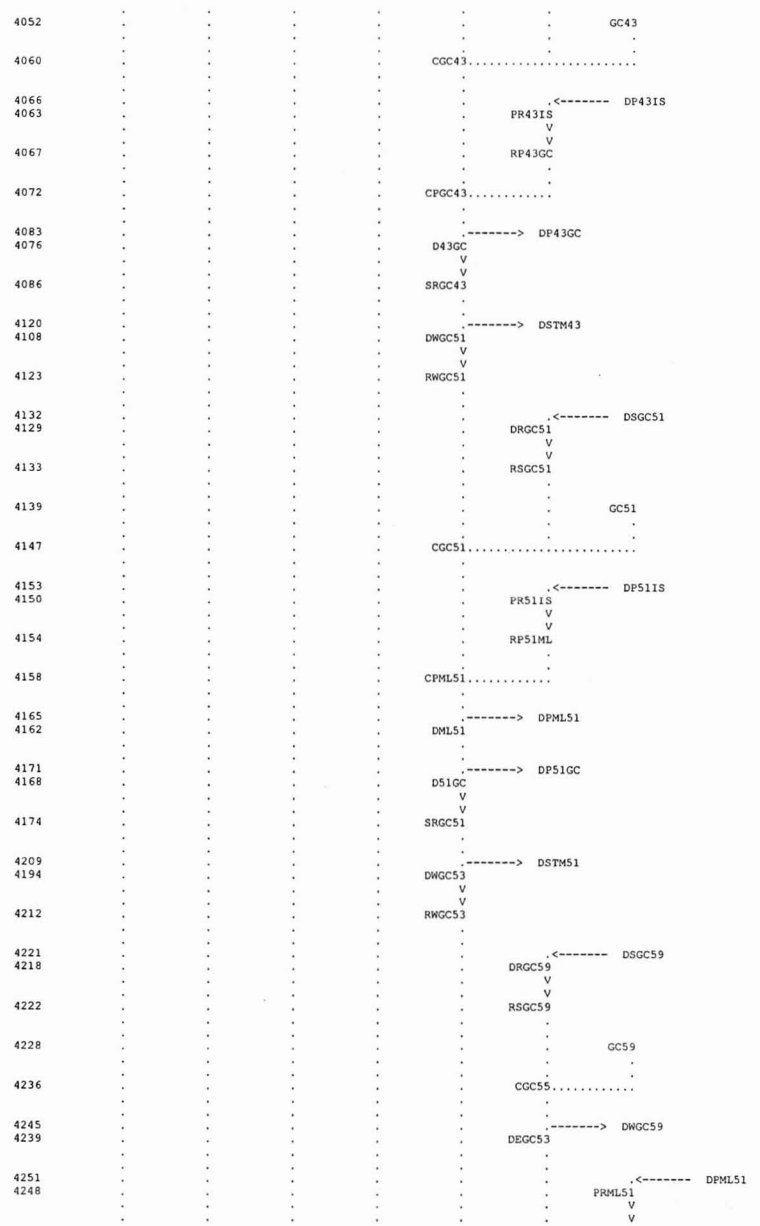
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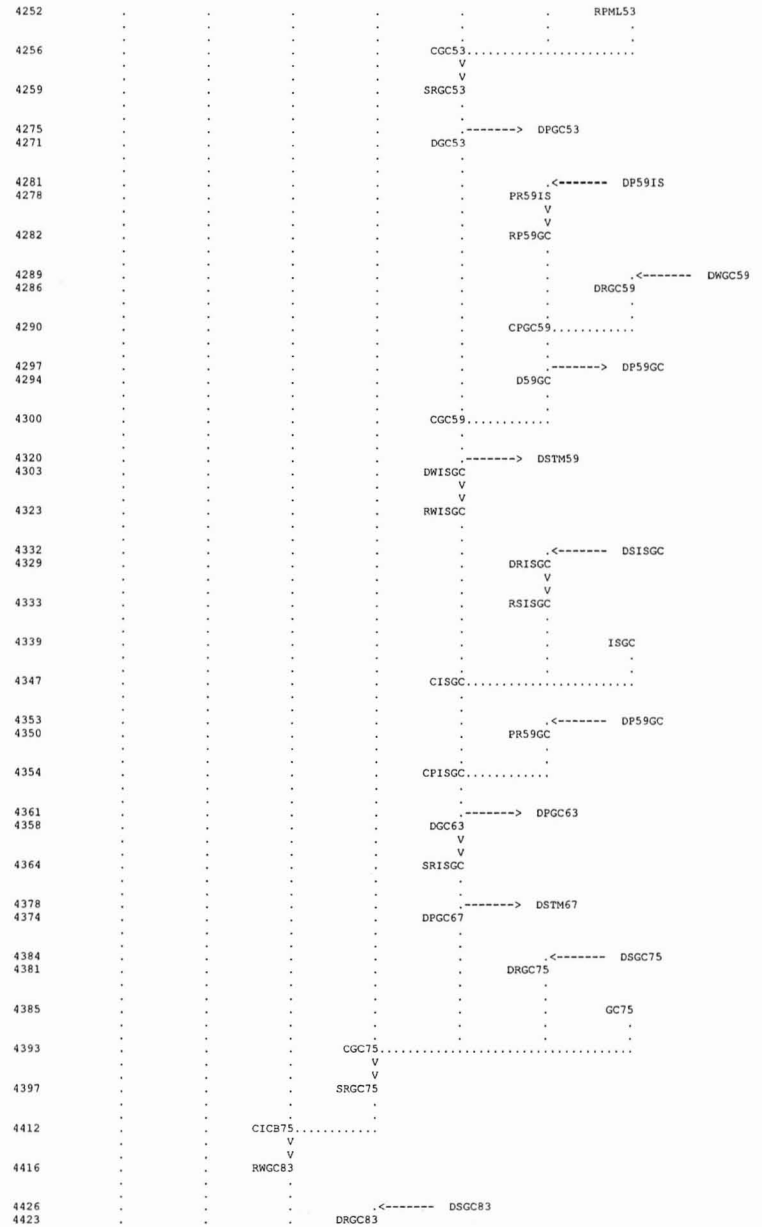
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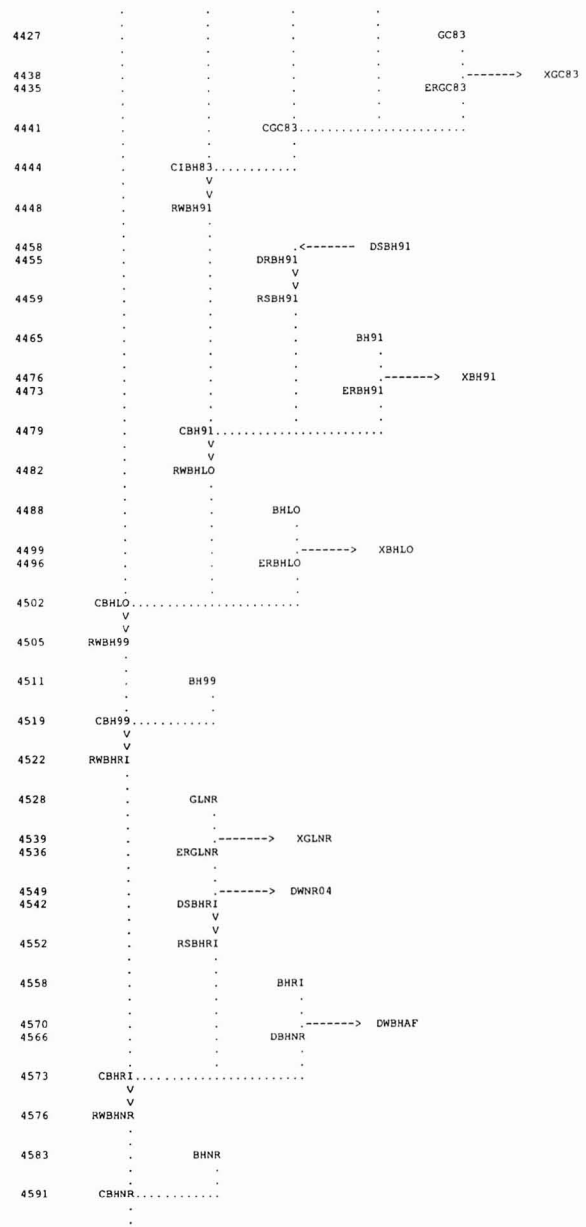
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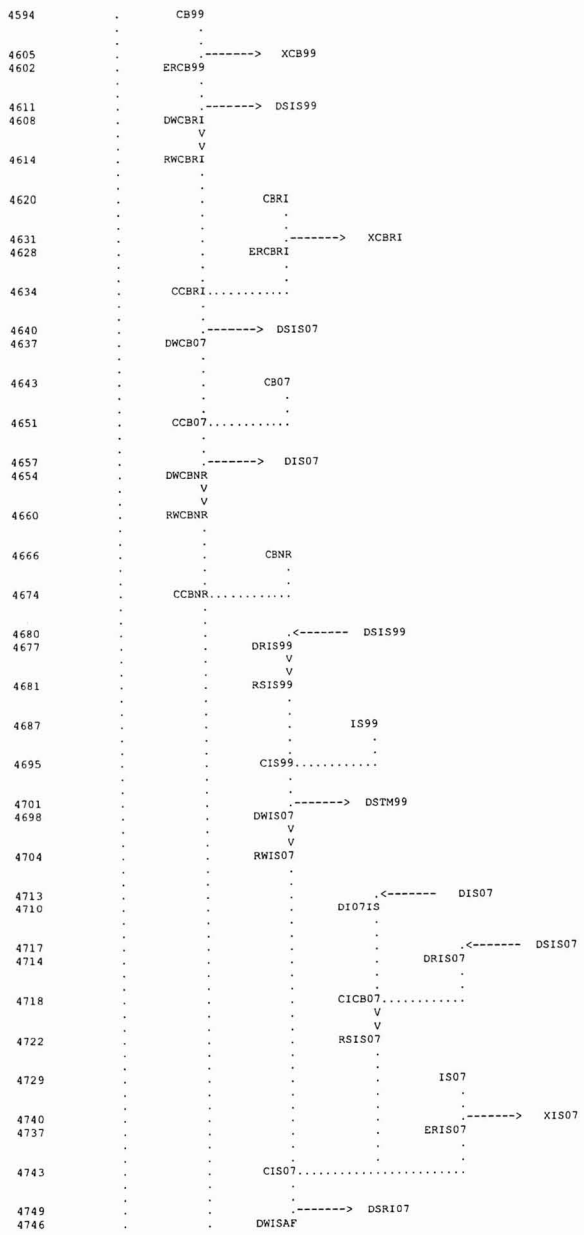
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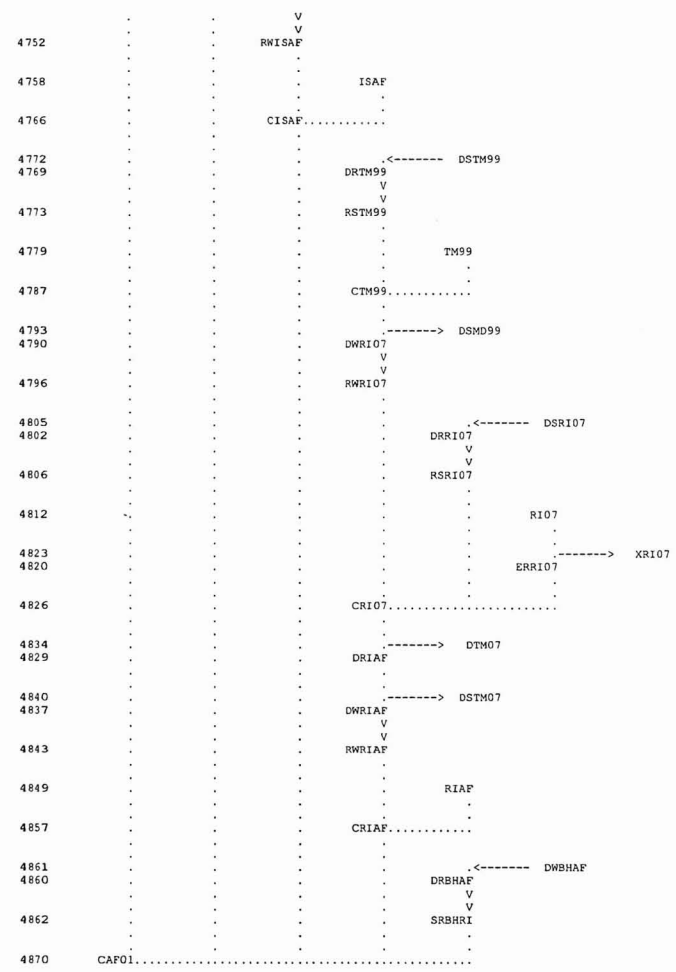
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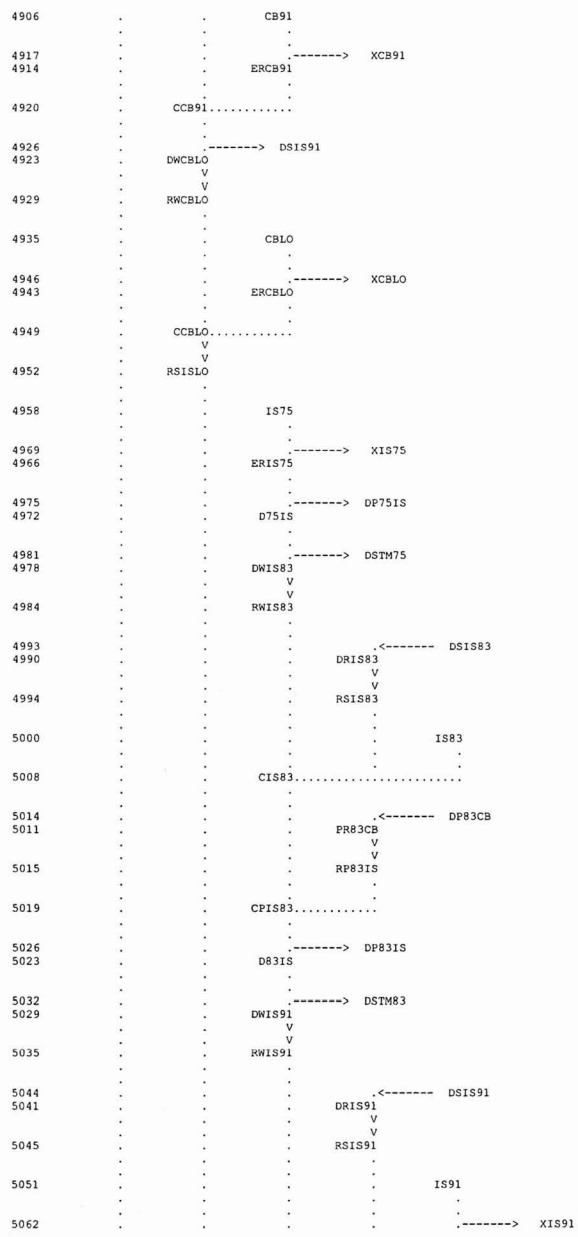
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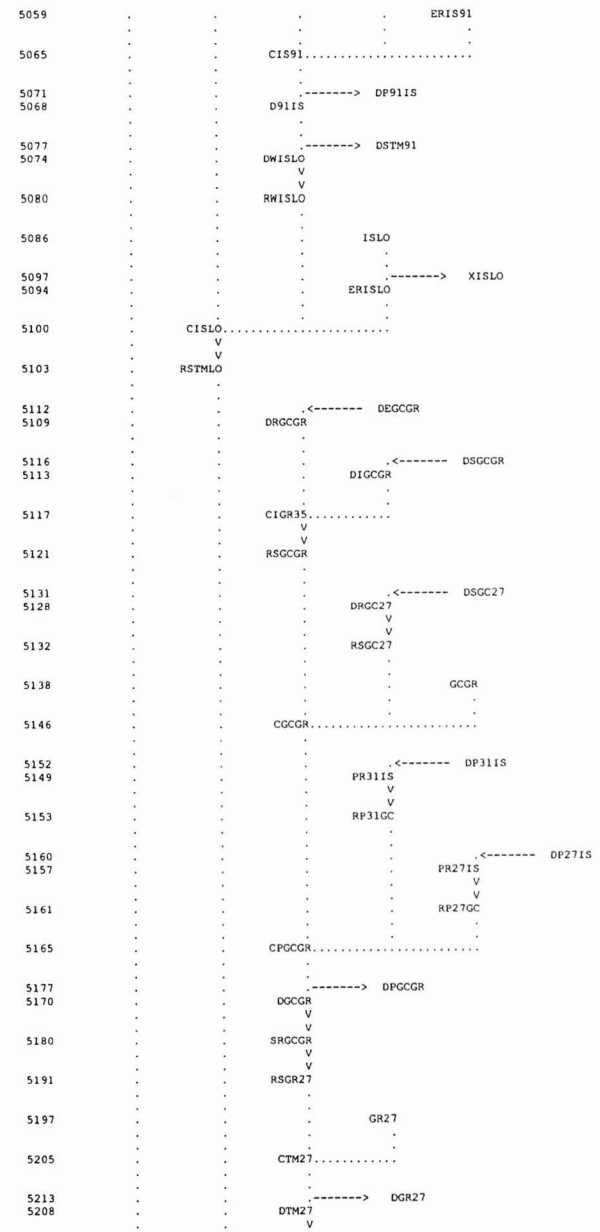
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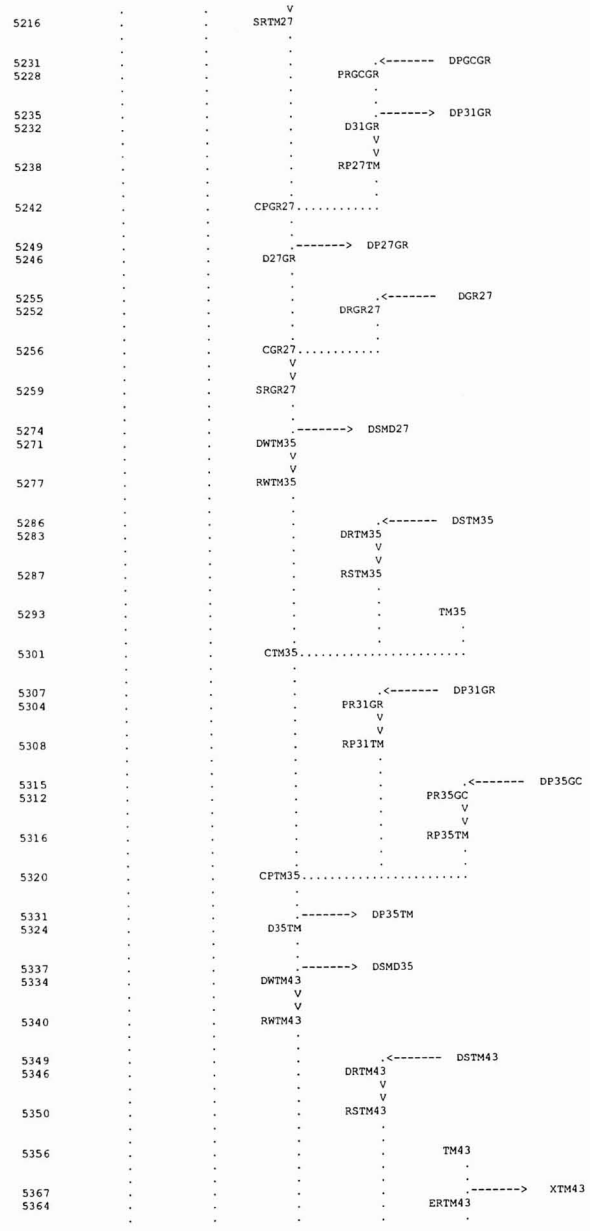
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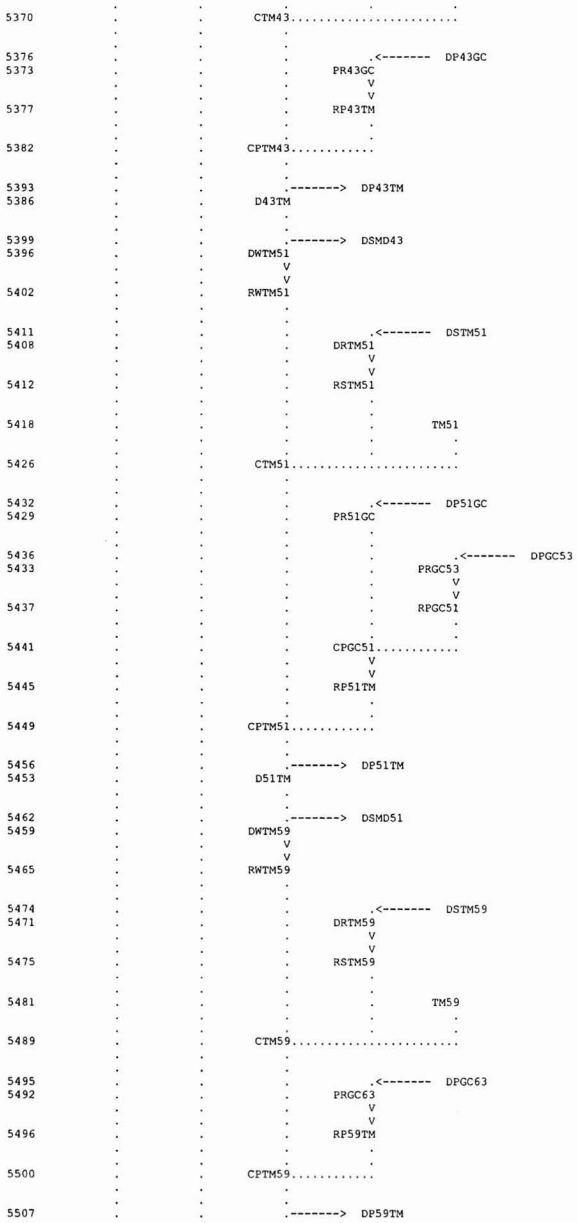
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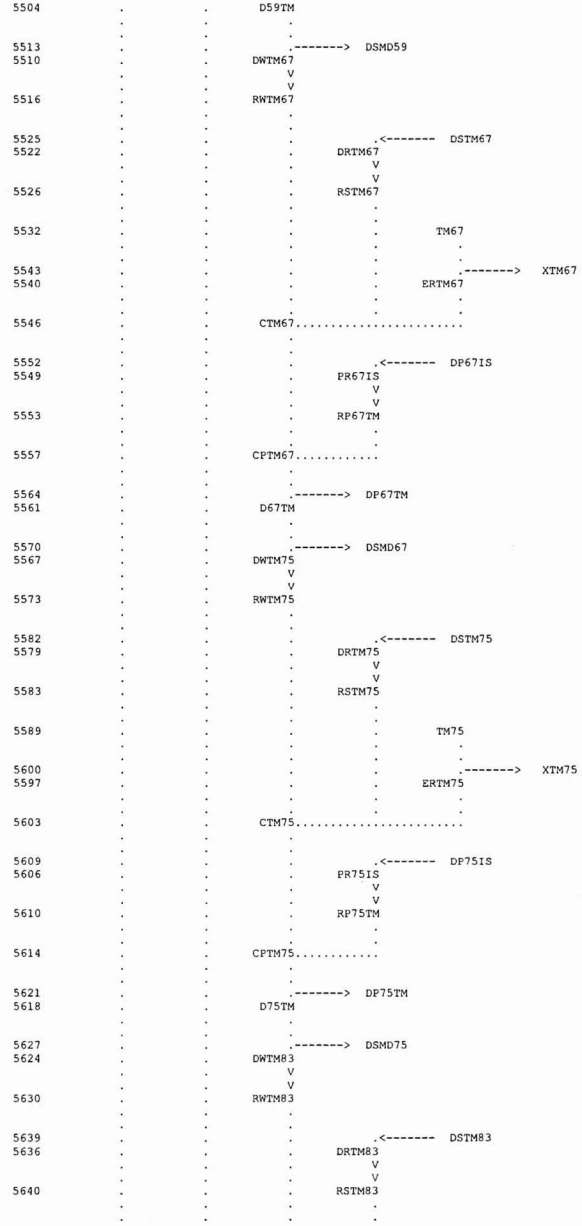
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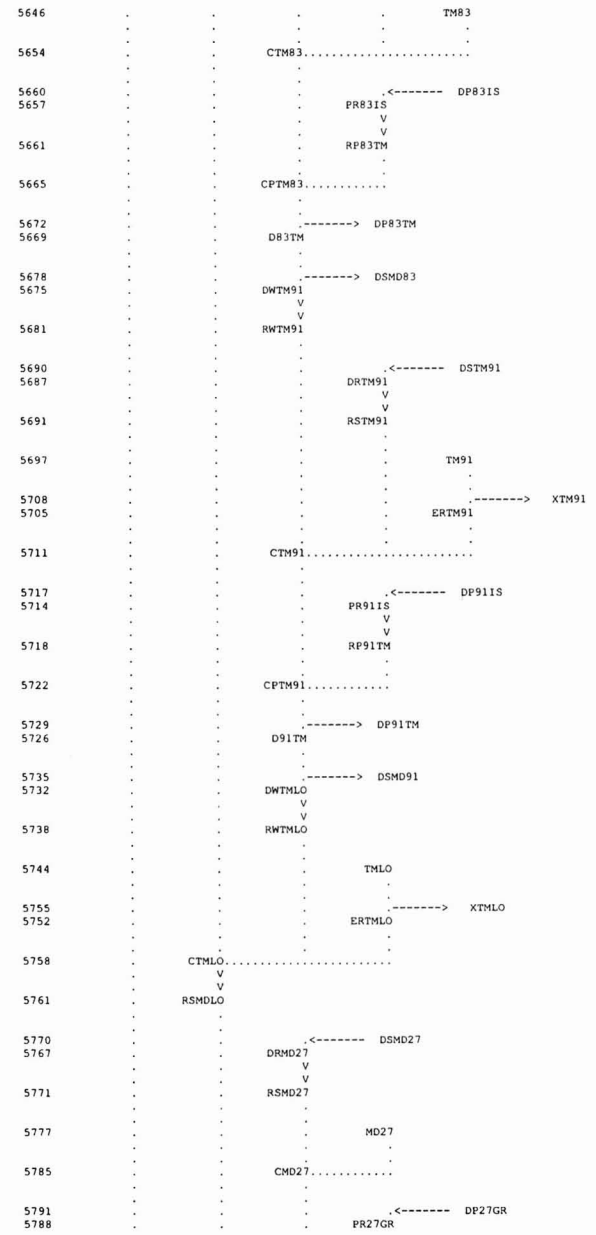
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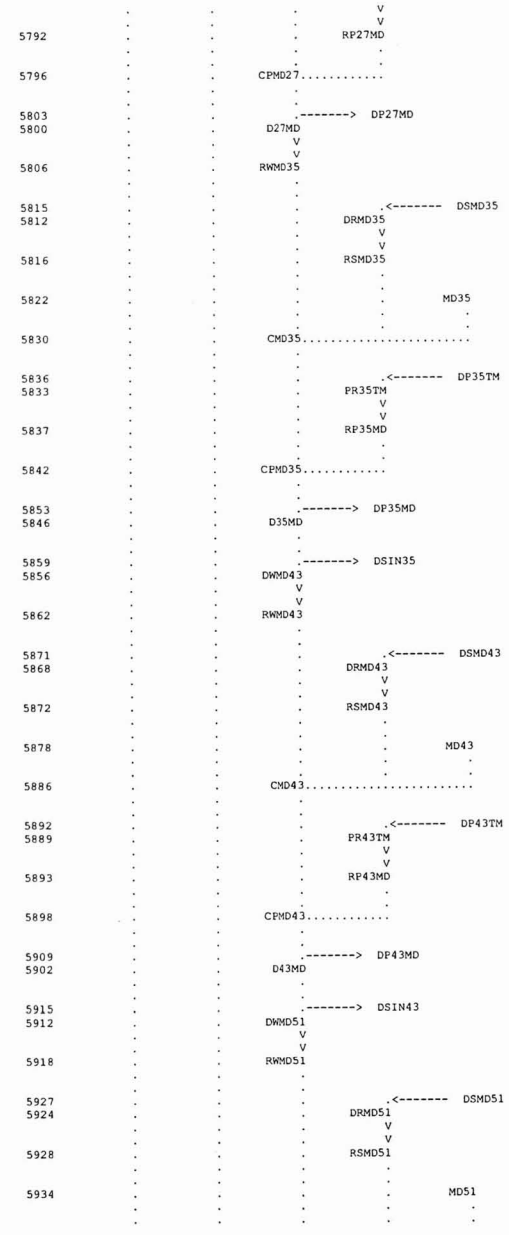
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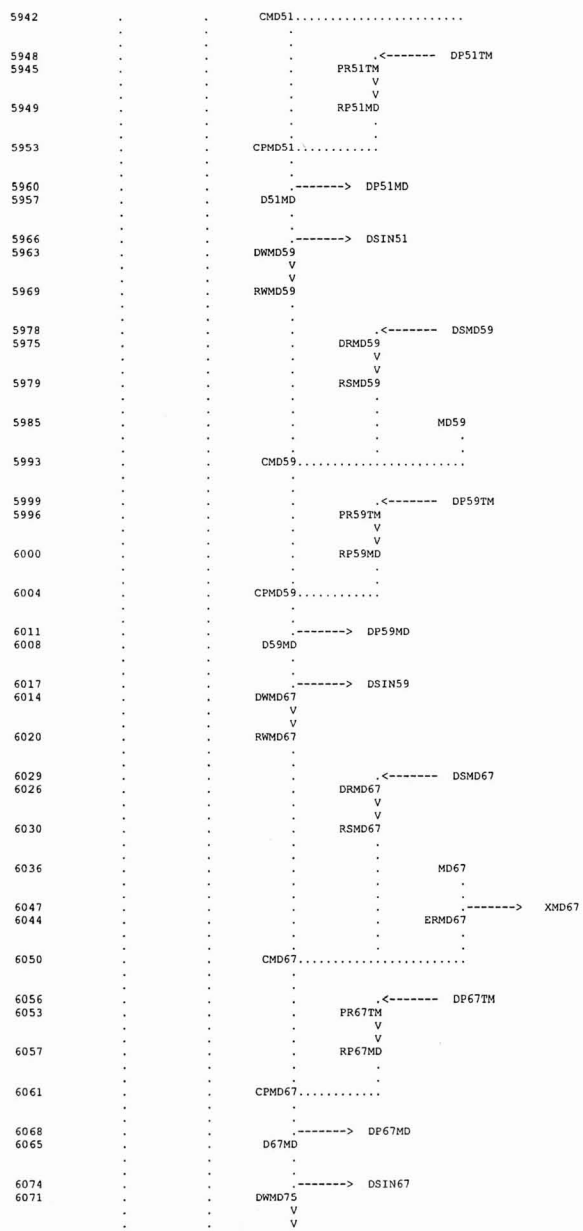
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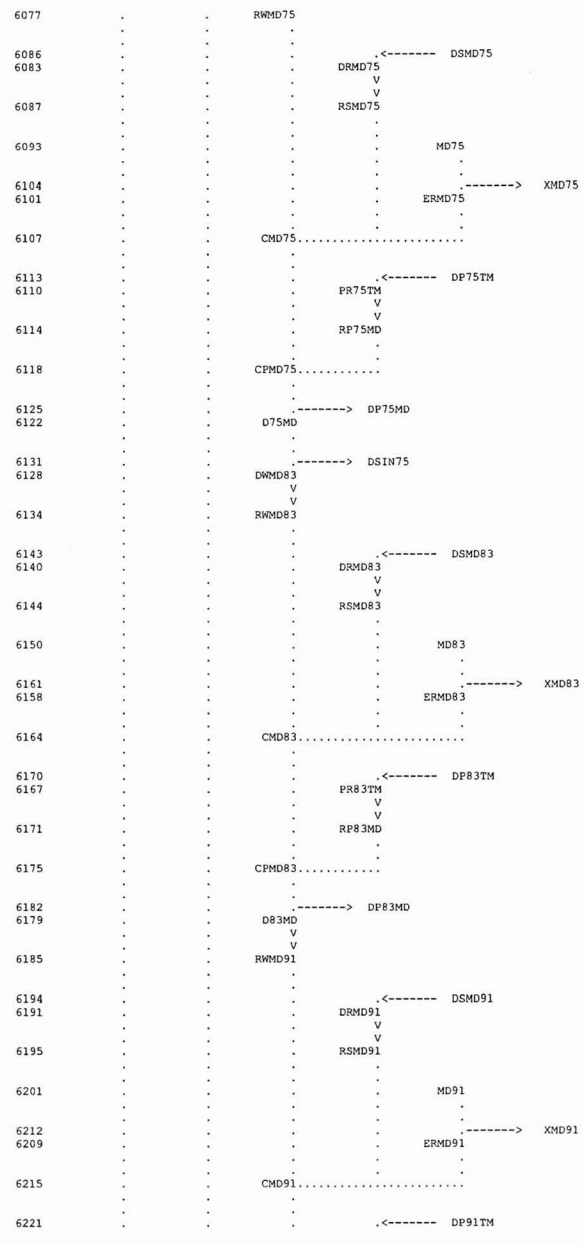
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D75MD
DSIN75
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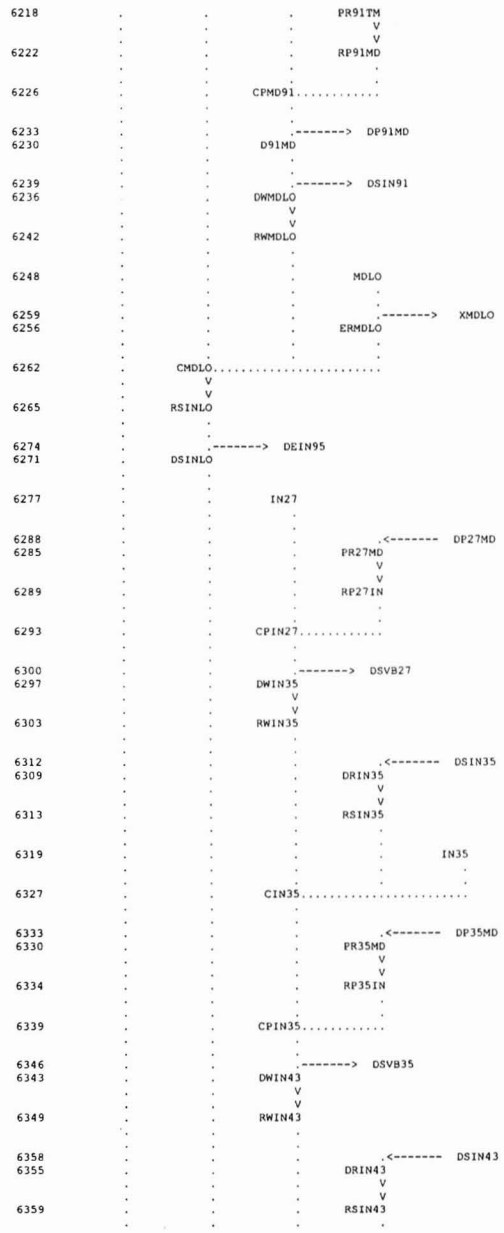
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MDLO
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CMDLO
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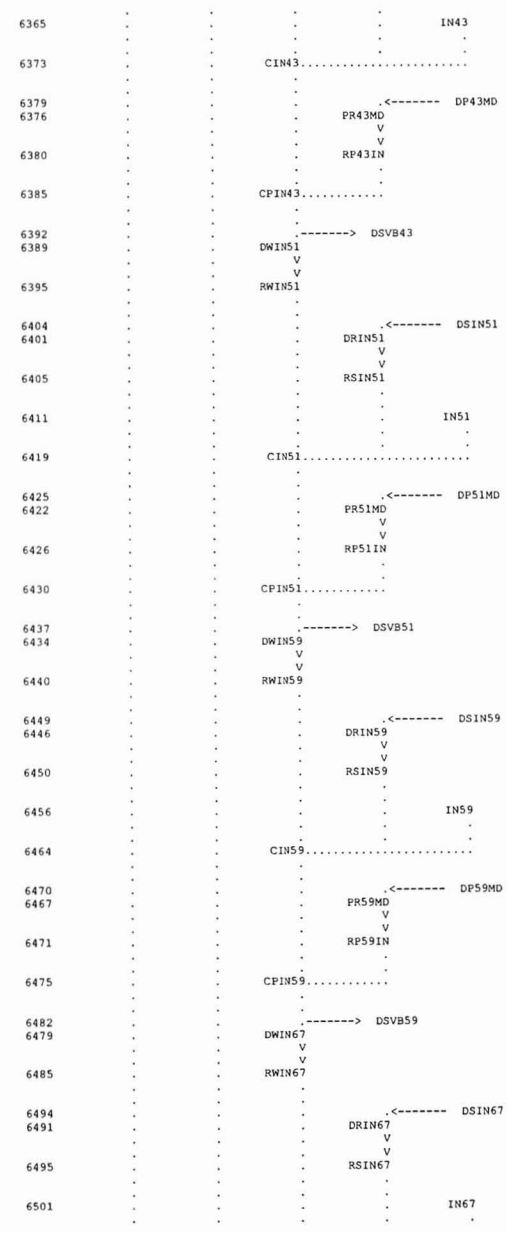
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PR51MD
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RP51IN
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CPIN51
6437
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RWIN59
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DSIN59
6446
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RSIN59
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IN59
6464
CIN59
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DP59MD
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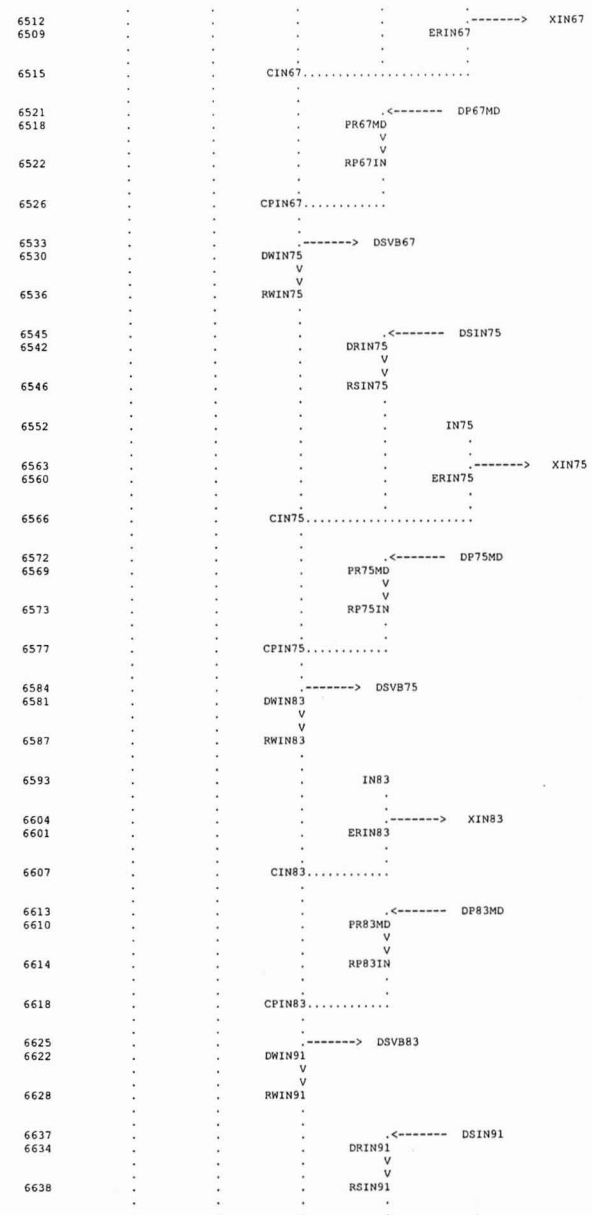
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DRIN75
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RSIN75
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IN75
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XIN75
ERIN75
6566
CIN75
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PR75MD
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DSVB75
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RWIN83
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XIN83
ERIN83
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CIN83
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RP83IN
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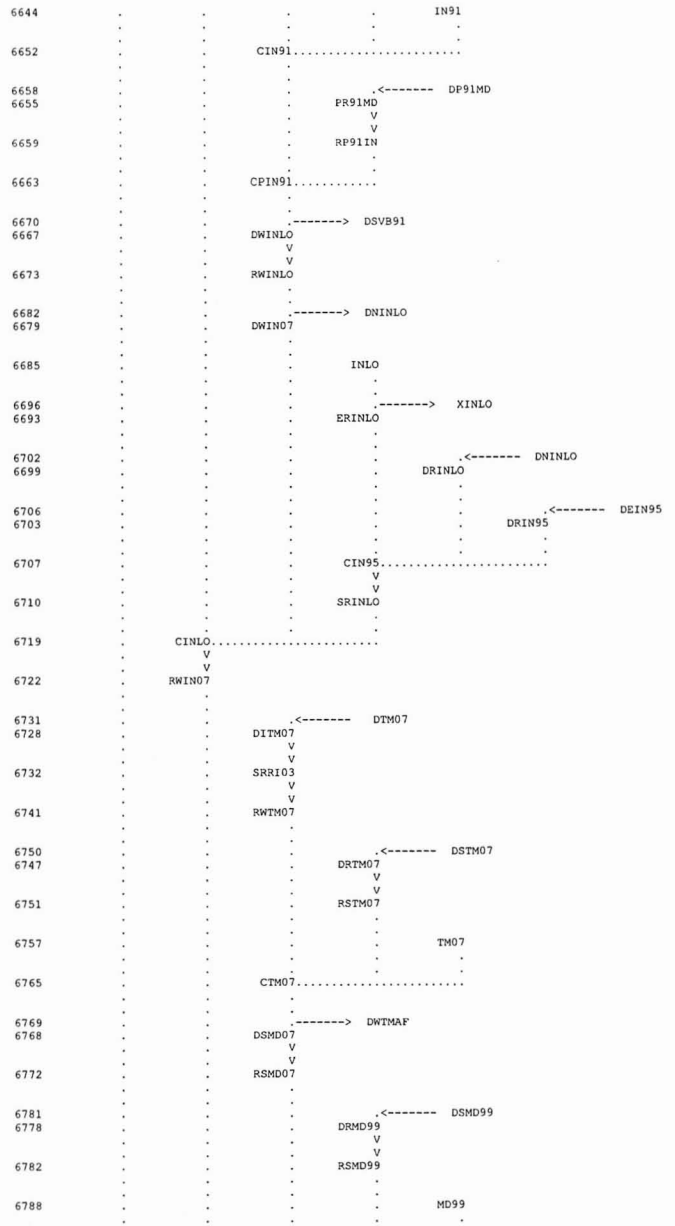
RSIN91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DWINLO
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RWINLO
6682
6679
DNINLO
DWIN07
6685
INLO
6696
6693
XINLO
ERINLO
6702
6699
DNINLO
DRINLO
6706
6703
DEIN95
DRIN95
6707
CIN95
6710
SRINLO
6719
CINLO
6722
RWIN07
6731
6728
DTM07
DITM07
6732
SRRI03
6741
RWTM07
6750
6747
DSTM07
DRTM07
6751
RSTM07
6757
TM07
6765
CTM07
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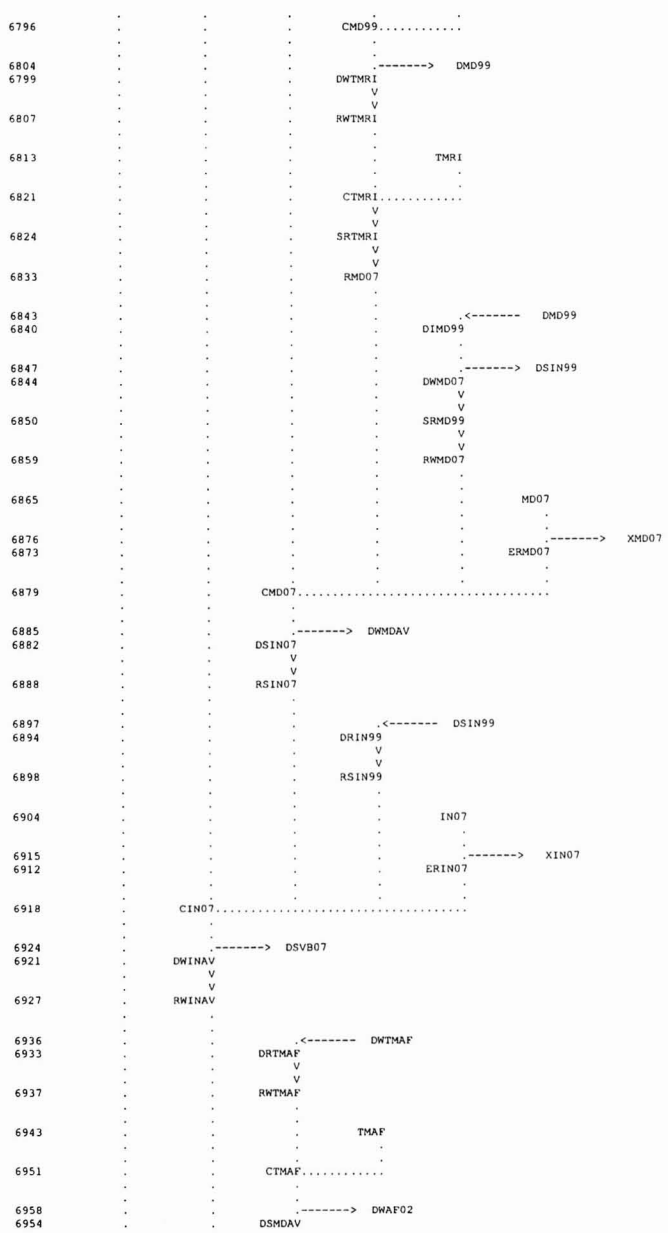
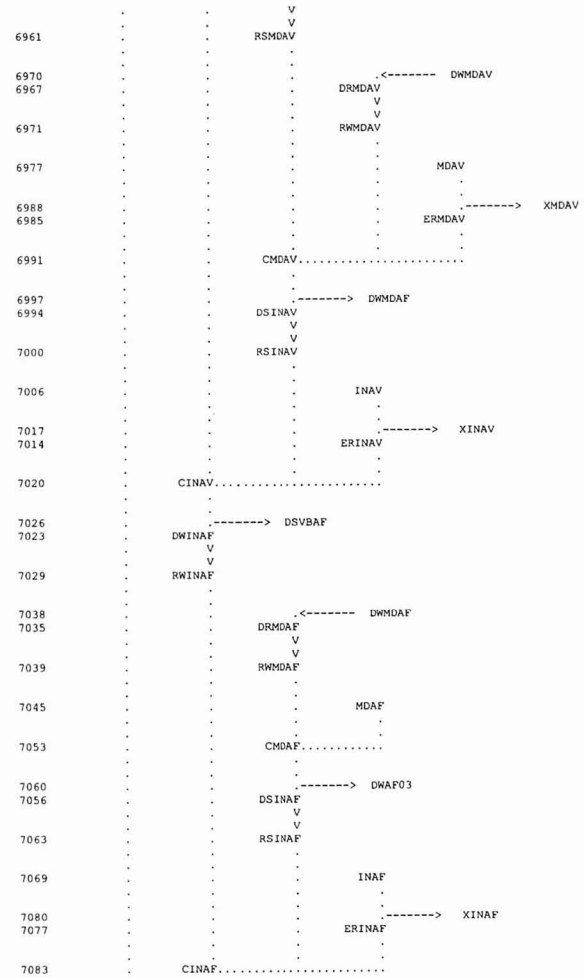
MD99





(***) RUNOFF ALSO COMPUTED AT THIS LOCATION

```
1*************************************
*                                   *
*   FLOOD HYDROGRAPH PACKAGE  (HEC-1)   *
*             JUN   1998              *
*           VERSION 4.1               *
*                                   *
*  RUN DATE   04NOV10  TIME  06:21:21   *
*                                   *
*************************************
```

```
*************************************
*                                   *
*    U.S. ARMY CORPS OF ENGINEERS   *
*    HYDROLOGIC ENGINEERING CENTER  *
*         609 SECOND STREET         *
*       DAVIS, CALIFORNIA 95616     *
*           (916) 756-1104          *
*                                   *
*************************************
```

GLENDALE STORMWATER MANAGEMENT PLAN
Model for Maryvale Watershed
Existing Conditions

Prepared for the City of Glendale
In Association with the Flood Control District of Maricopa County
City Project Number 089017

Prepared by Kimley-Horn and Associates, Inc.
KHA Project Number 091910009
October 2010

MODELING PARAMETERS
- 100 Year 6 Hour Storm Event
- NOAA 14 Rainfall Data
- Clark Unit Hydrograph
- Green and Ampt Rainfall Loss Method

Topo data extracted from Flood Control District database July 24, 2009
Land use obtained from City of Glendale General Plan August 2009, City of Phoenix General Plan August 2009, and MAG General Plan Land Use 2007

Storage routing data obtained from As-built records where possible
When As-built data was not available data was obtained from HEC-1 models and checked for accuracy. HEC-1 models used include:
- Maryvale ADMS, February 1997
- Maryvale model modified by DMJM for improvements along the Bethany Home Outfall Channel, file BHGC00C6.dat, November 2004
- Update to ponding areas along Grand Canal in the City of Glendale for a CLOMR by PEC, February 2008

The source of data is identified on each individual storage routing card

****

MODELING NOMENCLATURE
SUBBASIN HYDROGRAPH:
Example: OL51 - the subbasin northeast of Olive and 51st Avenue

STORM DRAIN DIVERSION:
Example: DOL51 - flow from subbasin OL51 is diverted to a storm drain

SUBBASIN DIVERSION:
Example: DWOL59 - flow is diverted west towards Olive and 59th Avenue
Example: DSNO51 - flow is diverted south towards Northern and 51st Ave

ROUTE HYDROGRAPH:
Example: RWOL59 - flow is routed west towards Olive and 59th Avenue
Example: RSNO59 - flow is routed south towards Northern and 59th Ave

COMBINE HYDROGRAPH:
Example: COL59 - combine flow at Olive and 59th Avenue

NAME ABBREVIATIONS

Jomax Road	JM
Happy Valley Road	HV
Pinnacle Peak Road	PP
Deer Valley Road	DV
Loop 101	LO
Beardsley Road	BY
Union Hills Drive	UH
Bell Road	BL
Greenway Road	GW
Thunderbird Road	TB
Cactus Road	CT
Peoria Avenue	PE
Olive Avenue	OL
Northern Avenue	NO
Glendale Avenue	GL
Bethany Home Road	BH
Camelback Road	CB
Indian School Road	IS
Thomas Road	TM
McDowell Road	MD
Interstate 10	IN
Van Buren Street	VB
Avondale Boulevard	AV
Grand Avenue	GR
Grand Canal	GC
Brown Street	BR
Mountain View Road	MV
Orangewood Avenue	OW
Mitchell Drive	ML
Agua Fria River	AF
New River	NR
Skunk Creek	SK
Roosevelt Irrigation	RI

PREFIXES FOR MODELING OPERATIONS

RW	Routing flow in the west direction
RS	Routing flow in the south direction
RP	Routing storm drain pipe flow
C	Combination point
CI	Combination point at an intersection
CP	Combination point for storm drain pipe flow
SR	Storage for detention/retention basins
DW	Divert flow to the west

DE	Divert flow to the east
DS	Divert flow to the south
DN	Divert flow to the north
ER	Divert flow for existing 100-yr 2-hr retention
X	Existing retention divertion does not return to model
DR	Divert retrieval from surface flow
DI	Divert retrieval from intersection flow
D	Divert surface flow (remains after storm drain divert)
DP	Divert flow to a storm drain pipe
PR	Divert retrieval from a storm drain pipe

****

```
111 IO          OUTPUT CONTROL VARIABLES
                     IPRNT          5  PRINT CONTROL
                     IPLOT          0  PLOT CONTROL
                     QSCAL          0.  HYDROGRAPH PLOT SCALE

    IT          HYDROGRAPH TIME DATA
                     NMIN           5  MINUTES IN COMPUTATION INTERVAL
                    IDATE       1    0  STARTING DATE
                    ITIME         0000  STARTING TIME
                       NQ         1000  NUMBER OF HYDROGRAPH ORDINATES
                   NDDATE       4    0  ENDING DATE
                   NDTIME         1115  ENDING TIME
                    ICENT           19  CENTURY MARK

                  COMPUTATION INTERVAL      .08 HOURS
                      TOTAL TIME BASE   83.25 HOURS

            ENGLISH UNITS
                DRAINAGE AREA          SQUARE MILES
                PRECIPITATION DEPTH    INCHES
                LENGTH, ELEVATION      FEET
                FLOW                   CUBIC FEET PER SECOND
                STORAGE VOLUME         ACRE-FEET
                SURFACE AREA           ACRES
                TEMPERATURE            DEGREES FAHRENHEIT

112 JD            INDEX STORM NO. 1
                        STRM        2.64  PRECIPITATION DEPTH
                        TRDA         .00  TRANSPOSITION DRAINAGE AREA

113 PI              PRECIPITATION PATTERN
                     .00   .00   .00   .00   .00   .00   .00   .00   .00   .00
                     .00   .00   .00   .00   .00   .00   .00   .00   .00   .00
                     .00   .00   .00   .00   .00   .00   .00   .00   .00   .00
                     .00   .00   .00   .01   .01   .01   .01   .01   .01   .03
                     .03   .03   .05   .05   .05   .15   .15   .15   .03   .03
                     .03   .01   .01   .01   .01   .01   .01   .00   .00   .00
                     .00   .00   .00   .00   .00   .00   .00   .00   .00   .00
                     .00   .00

116 JD          INDEX STORM NO. 2
                        STRM        2.62  PRECIPITATION DEPTH
                        TRDA         .50  TRANSPOSITION DRAINAGE AREA

117 PI              PRECIPITATION PATTERN
                     .00   .00   .00   .00   .00   .00   .00   .00   .00   .00
                     .00   .00   .00   .00   .00   .00   .00   .00   .00   .00
                     .00   .00   .00   .00   .00   .00   .00   .00   .00   .00
                     .00   .00   .00   .01   .01   .01   .01   .01   .01   .03
                     .03   .03   .05   .05   .05   .15   .15   .15   .03   .03
                     .03   .01   .01   .01   .01   .01   .01   .00   .00   .00
                     .00   .00   .00   .00   .00   .00   .00   .00   .00   .00
                     .00   .00

120 JD          INDEX STORM NO. 3
                        STRM        2.57  PRECIPITATION DEPTH
                        TRDA        2.80  TRANSPOSITION DRAINAGE AREA

121 PI              PRECIPITATION PATTERN
                     .00   .00   .00   .00   .00   .00   .00   .00   .00   .00
                     .00   .00   .00   .00   .00   .00   .00   .00   .00   .00
                     .00   .00   .00   .00   .00   .00   .00   .00   .00   .00
                     .00   .00   .00   .01   .01   .01   .01   .01   .01   .03
                     .03   .03   .07   .07   .07   .08   .08   .08   .05   .05
                     .05   .02   .02   .02   .01   .01   .01   .00   .00   .00
                     .00   .00   .00   .00   .00   .00   .00   .00   .00   .00
                     .00   .00

124 JD          INDEX STORM NO. 4
                        STRM        2.43  PRECIPITATION DEPTH
                        TRDA       16.00  TRANSPOSITION DRAINAGE AREA

125 PI              PRECIPITATION PATTERN
                     .01   .01   .00   .00   .00   .00   .00   .00   .00   .01
                     .01   .01   .00   .01   .00   .00   .00   .00   .00   .00
                     .00   .00   .01   .00   .00   .00   .00   .01   .01   .01
                     .01   .01   .01   .01   .01   .01   .02   .02   .02   .03
                     .03   .03   .06   .06   .06   .07   .07   .07   .04   .04
                     .04   .02   .02   .02   .01   .01   .01   .01   .01   .01
                     .00   .00   .00   .00   .00   .00   .00   .00   .00   .00
```

```
                    .00       .00

128 JD          INDEX STORM NO. 5
                     STRM       2.14  PRECIPITATION DEPTH
                     TRDA      90.00  TRANSPOSITION DRAINAGE AREA

129 PI            PRECIPITATION PATTERN
                    .01       .01       .01       .00       .00       .00       .01       .01       .01       .01
                    .01       .01       .01       .01       .01       .01       .01       .01       .01       .01
                    .01       .01       .01       .01       .01       .01       .01       .01       .01       .01
                    .01       .01       .01       .01       .01       .01       .02       .02       .02       .03
                    .03       .03       .05       .05       .05       .05       .05       .05       .04       .04
                    .04       .02       .02       .02       .02       .02       .02       .01       .01       .01
                    .01       .01       .01       .01       .01       .01       .01       .01       .01       .01
                    .01       .01

132 JD          INDEX STORM NO. 6
                     STRM       2.11  PRECIPITATION DEPTH
                     TRDA     100.00  TRANSPOSITION DRAINAGE AREA

133 PI            PRECIPITATION PATTERN
                    .01       .01       .01       .00       .01       .00       .01       .01       .01       .01
                    .01       .01       .01       .01       .01       .01       .01       .01       .01       .01
                    .01       .01       .01       .01       .01       .01       .01       .01       .01       .01
                    .01       .01       .01       .01       .01       .01       .02       .02       .02       .03
                    .03       .03       .04       .04       .04       .05       .05       .05       .04       .04
                    .04       .02       .02       .02       .02       .02       .02       .01       .01       .01
                    .01       .01       .01       .01       .01       .01       .01       .01       .01       .01
                    .01       .01

        *** FDKRUT WARNING TIME STEP CALCULATION FAILED TO CONVERGE. STABILITY PROBLEMS MAY RESULT

  *** Multiple FDKRUT Warnings deleted from model for brevity and in consideration of the environment when printing ***

  *** Warning from RWGC83:

WARNING --- ROUTED OUTFLOW (   1711.) IS GREATER THAN MAXIMUM OUTFLOW (   1682.) IN STORAGE-OUTFLOW TABLE
WARNING --- ROUTED OUTFLOW (   1803.) IS GREATER THAN MAXIMUM OUTFLOW (   1682.) IN STORAGE-OUTFLOW TABLE
WARNING --- ROUTED OUTFLOW (   1898.) IS GREATER THAN MAXIMUM OUTFLOW (   1682.) IN STORAGE-OUTFLOW TABLE
WARNING --- ROUTED OUTFLOW (   1986.) IS GREATER THAN MAXIMUM OUTFLOW (   1682.) IN STORAGE-OUTFLOW TABLE
WARNING --- ROUTED OUTFLOW (   2064.) IS GREATER THAN MAXIMUM OUTFLOW (   1682.) IN STORAGE-OUTFLOW TABLE
WARNING --- ROUTED OUTFLOW (   2133.) IS GREATER THAN MAXIMUM OUTFLOW (   1682.) IN STORAGE-OUTFLOW TABLE
WARNING --- ROUTED OUTFLOW (   2187.) IS GREATER THAN MAXIMUM OUTFLOW (   1682.) IN STORAGE-OUTFLOW TABLE
WARNING --- ROUTED OUTFLOW (   2221.) IS GREATER THAN MAXIMUM OUTFLOW (   1682.) IN STORAGE-OUTFLOW TABLE
WARNING --- ROUTED OUTFLOW (   2235.) IS GREATER THAN MAXIMUM OUTFLOW (   1682.) IN STORAGE-OUTFLOW TABLE
WARNING --- ROUTED OUTFLOW (   2233.) IS GREATER THAN MAXIMUM OUTFLOW (   1682.) IN STORAGE-OUTFLOW TABLE
WARNING --- ROUTED OUTFLOW (   2218.) IS GREATER THAN MAXIMUM OUTFLOW (   1682.) IN STORAGE-OUTFLOW TABLE
WARNING --- ROUTED OUTFLOW (   2197.) IS GREATER THAN MAXIMUM OUTFLOW (   1682.) IN STORAGE-OUTFLOW TABLE
WARNING --- ROUTED OUTFLOW (   2171.) IS GREATER THAN MAXIMUM OUTFLOW (   1682.) IN STORAGE-OUTFLOW TABLE
WARNING --- ROUTED OUTFLOW (   2144.) IS GREATER THAN MAXIMUM OUTFLOW (   1682.) IN STORAGE-OUTFLOW TABLE
WARNING --- ROUTED OUTFLOW (   2114.) IS GREATER THAN MAXIMUM OUTFLOW (   1682.) IN STORAGE-OUTFLOW TABLE

  ***  Several similar warnings for routed outflow greater than maximum outflow deleted (this route only) for brevety
       and in consideration of the environment when printing

1
                                                RUNOFF SUMMARY
                                        FLOW IN CUBIC FEET PER SECOND
                                    TIME IN HOURS,  AREA IN SQUARE MILES

                                                PEAK    TIME OF     AVERAGE FLOW FOR MAXIMUM PERIOD      BASIN    MAXIMUM   TIME OF
          OPERATION          STATION            FLOW    PEAK      6-HOUR    24-HOUR   72-HOUR          AREA     STAGE   MAX STAGE
+
          HYDROGRAPH AT
+                              GW83             150.    4.58        45.       12.        4.             .29
          DIVERSION TO
+                              DPGW83            45.    4.08        25.        7.        2.             .29
          HYDROGRAPH AT
+                              DGW83            105.    4.58        20.        5.        2.             .29
          DIVERSION TO
+                              DWSK01            60.    4.58        11.        3.        1.             .29
          HYDROGRAPH AT
+                              DSTB83            45.    4.58         8.        2.        1.             .29
          ROUTED TO
+                              RSTB83            36.    5.75         8.        2.        1.             .29
          HYDROGRAPH AT
+                              TB67             335.    4.25        53.       13.        4.             .26
          DIVERSION TO
+                              DSCT67           134.    4.25        21.        5.        2.             .26
          HYDROGRAPH AT
+                              DWTB75           201.    4.25        32.        8.        3.             .26
          ROUTED TO
+                              RWTB75           173.    4.75        32.        8.        3.             .26
          HYDROGRAPH AT
+                              TB75             840.    4.50       205.       52.       17.            1.03
          DIVERSION TO
+                              XTB75            193.    3.92        18.        4.        1.            1.03
          HYDROGRAPH AT
+                              ERTB75           840.    4.50       190.       47.       16.            1.03
          2 COMBINED AT
+                              CTB75            950.    4.67       220.       55.       18.            1.18
          DIVERSION TO
+                              DPTB75           161.    4.08        76.       19.        6.            1.18
          HYDROGRAPH AT
+                              DTB75            789.    4.67       143.       36.       12.            1.18
          DIVERSION TO
+                              DSCT75           355.    4.67        65.       16.        5.            1.18
          HYDROGRAPH AT
+                              DWTB83           434.    4.67        79.       20.        7.            1.18
          ROUTED TO
+                              RWTB83           407.    4.92        79.       20.        7.            1.18
          HYDROGRAPH AT
+                              TB83             570.    4.75       180.       46.       15.             .99
          DIVERSION TO
+                              XTB83            476.    4.42        39.       10.        3.             .99
          HYDROGRAPH AT
+                              ERTB83           570.    4.75       147.       37.       12.             .99
          3 COMBINED AT
+                              CTB83            913.    4.92       224.       56.       19.            1.77
          HYDROGRAPH AT
+                              PRTB75           161.    4.08        76.       19.        6.            1.18
          ROUTED TO
+                              RPTB83           161.    4.25        76.       19.        6.            1.18
          2 COMBINED AT
+                              CPTB83          1074.    4.92       301.       75.       25.            1.77
          DIVERSION TO
+                              DPTB83           247.    4.50       133.       33.       11.            1.77
          HYDROGRAPH AT
+                              DTB83            827.    4.92       168.       42.       14.            1.77
          DIVERSION TO
+                              DSCT83           587.    4.92       119.       30.       10.            1.77
          HYDROGRAPH AT
+                              DWTBLO           240.    4.92        49.       12.        4.            1.77
          ROUTED TO
+                              RWTBLO           237.    5.00        49.       12.        4.            1.77
          HYDROGRAPH AT
+                              TBLO              85.    4.42        24.        6.        2.             .10
          DIVERSION TO
+                              XTBLO             85.    4.42        22.        5.        2.             .10
          HYDROGRAPH AT
+                              ERTBLO            20.    6.17         3.        1.        0.             .10
          2 COMBINED AT
```

+		CTBLO	267.	5.00	57.	14.	5.	.62
+	HYDROGRAPH AT	PRTB83	247.	4.50	133.	33.	11.	1.77
+	ROUTED TO	RPTBLO	247.	4.58	133.	33.	11.	1.77
+	2 COMBINED AT	CPTBLO	514.	5.00	189.	47.	16.	.62
+	ROUTED TO	RSCTLO	507.	5.17	188.	47.	16.	.62
+	HYDROGRAPH AT	CT59	297.	4.42	62.	16.	5.	.30
+	DIVERSION TO	XCT59	297.	4.42	50.	12.	4.	.30
+	HYDROGRAPH AT	ERCT59	108.	5.25	13.	3.	1.	.30
+	DIVERSION TO	DP59CT	18.	5.17	5.	1.	0.	.30
+	HYDROGRAPH AT	D59CT	90.	5.25	7.	2.	1.	.30
+	DIVERSION TO	DSPE59	61.	5.25	5.	1.	0.	.30
+	HYDROGRAPH AT	DWCT67	29.	5.25	2.	1.	0.	.30
+	ROUTED TO	RWCT67	15.	6.17	2.	1.	0.	.30
+	HYDROGRAPH AT	DRCT67	134.	4.25	21.	5.	2.	.26
+	ROUTED TO	RSCT67	115.	4.67	21.	5.	2.	.26
+	HYDROGRAPH AT	CT67	734.	4.50	172.	43.	14.	.91
+	DIVERSION TO	XCT67	581.	4.25	42.	11.	4.	.91
+	HYDROGRAPH AT	ERCT67	734.	4.50	131.	33.	11.	.91
+	3 COMBINED AT	CCT67	801.	4.58	152.	38.	13.	1.11
+	DIVERSION TO	DPCT67	268.	4.42	89.	22.	7.	1.11
+	HYDROGRAPH AT	DCT67	533.	4.58	63.	16.	5.	1.11
+	DIVERSION TO	DSPE67	229.	4.58	27.	7.	2.	1.11
+	HYDROGRAPH AT	DWCT75	304.	4.58	36.	9.	3.	1.11
+	ROUTED TO	RWCT75	246.	5.08	36.	9.	3.	1.11
+	HYDROGRAPH AT	DRCT75	355.	4.67	65.	16.	5.	1.18
+	ROUTED TO	RSCT75	327.	4.92	65.	16.	5.	1.18
+	HYDROGRAPH AT	CT75	637.	4.67	196.	50.	17.	1.00
+	DIVERSION TO	XCT75	568.	4.50	48.	12.	4.	1.00
+	HYDROGRAPH AT	ERCT75	637.	4.67	152.	38.	13.	1.00
+	3 COMBINED AT	CCT75	1053.	5.08	243.	61.	20.	2.17
+	HYDROGRAPH AT	PRCT67	268.	4.42	89.	22.	7.	1.11
	ROUTED TO							

+		RPCT75	268.	4.58	89.	22.	7.	1.11
+	2 COMBINED AT	CPCT75	1321.	5.08	332.	83.	28.	2.17
+	DIVERSION TO	DPCT75	651.	4.58	238.	60.	20.	2.17
+	HYDROGRAPH AT	DCT75	670.	5.08	94.	23.	8.	2.17
+	DIVERSION TO	DSPE75	335.	5.08	47.	12.	4.	2.17
+	HYDROGRAPH AT	DWCT83	335.	5.08	47.	12.	4.	2.17
+	ROUTED TO	RWCT83	295.	5.42	47.	12.	4.	2.17
+	HYDROGRAPH AT	DRCT83	587.	4.92	119.	30.	10.	1.77
+	ROUTED TO	RSCT83	562.	5.25	119.	30.	10.	1.77
+	HYDROGRAPH AT	CT83	645.	4.75	204.	52.	17.	1.01
+	DIVERSION TO	XCT83	604.	4.50	58.	15.	5.	1.01
+	HYDROGRAPH AT	ERCT83	645.	4.75	151.	38.	13.	1.01
+	3 COMBINED AT	CCT83	1233.	5.33	298.	75.	25.	3.34
+	HYDROGRAPH AT	PRCT75	651.	4.58	238.	60.	20.	2.17
+	ROUTED TO	RPCT83	651.	4.75	239.	60.	20.	2.17
+	2 COMBINED AT	CPCT83	1884.	5.33	536.	134.	45.	3.34
+	DIVERSION TO	DPCT83	663.	4.75	299.	75.	25.	3.34
+	HYDROGRAPH AT	DCT83	1221.	5.33	237.	59.	20.	3.34
+	DIVERSION TO	DSPE83	501.	5.33	97.	24.	8.	3.34
+	HYDROGRAPH AT	DWCTLO	720.	5.33	140.	35.	12.	3.34
+	ROUTED TO	RWCTLO	680.	5.58	140.	35.	12.	3.34
+	HYDROGRAPH AT	CTLO	553.	4.67	185.	48.	16.	.87
+	DIVERSION TO	XCTLO	553.	4.67	93.	23.	8.	.87
+	HYDROGRAPH AT	ERCTLO	465.	5.17	100.	25.	8.	.87
+	3 COMBINED AT	CCTLO	1446.	5.50	412.	103.	34.	3.46
+	HYDROGRAPH AT	PRCT83	663.	4.75	299.	75.	25.	3.34
+	ROUTED TO	RPCTLO	663.	4.92	299.	75.	25.	3.34
+	2 COMBINED AT	CPCTLO	2109.	5.50	711.	178.	59.	3.46
+	DIVERSION TO	DWNR01	1918.	5.58	697.	175.	58.	3.46
+	HYDROGRAPH AT	DSCTLO	193.	5.50	13.	3.	1.	3.46
+	DIVERSION TO	DSGR91	0.	.00	0.	0.	0.	3.46
	HYDROGRAPH AT							

	DSPELO	193.	5.50	13.	3.	1.	3.46
HYDROGRAPH AT	PE51	438.	4.42	92.	23.	8.	.42
DIVERSION TO	DSOL51	175.	4.42	37.	9.	3.	.42
HYDROGRAPH AT	DWPE59	263.	4.42	55.	14.	5.	.42
ROUTED TO	RWPE59	237.	4.83	55.	14.	5.	.42
HYDROGRAPH AT	DRPE59	61.	5.25	5.	1.	0.	.30
ROUTED TO	RSPE59	32.	6.25	5.	1.	0.	.30
HYDROGRAPH AT	PE59	708.	4.67	205.	52.	17.	.99
DIVERSION TO	XPE59	213.	4.00	17.	4.	1.	.99
HYDROGRAPH AT	ERPE59	708.	4.67	191.	48.	16.	.99
3 COMBINED AT	CPE59	875.	4.75	247.	62.	21.	1.44
HYDROGRAPH AT	PR59CT	18.	5.17	5.	1.	0.	.30
2 COMBINED AT	CPPE59	875.	4.75	252.	63.	21.	1.44
DIVERSION TO	DP59PE	235.	4.17	123.	31.	10.	1.44
HYDROGRAPH AT	D59PE	640.	4.75	128.	32.	11.	1.44
DIVERSION TO	DSOL59	365.	4.75	73.	18.	6.	1.44
HYDROGRAPH AT	DWPE67	275.	4.75	55.	14.	5.	1.44
ROUTED TO	RWPE67	258.	5.17	55.	14.	5.	1.44
HYDROGRAPH AT	DRPE67	229.	4.58	27.	7.	2.	1.11
ROUTED TO	RSPE67	175.	5.17	27.	7.	2.	1.11
HYDROGRAPH AT	PE67	652.	4.67	195.	50.	17.	.96
DIVERSION TO	XPE67	652.	4.67	112.	28.	9.	.96
HYDROGRAPH AT	ERPE67	479.	5.25	88.	22.	7.	.96
3 COMBINED AT	CPE67	876.	5.25	163.	41.	14.	2.06
ROUTED TO	SRPE67	907.	5.33	140.	35.	12.	2.06
DIVERSION TO	DP67PE	162.	5.25	64.	16.	5.	2.06
HYDROGRAPH AT	D67PE	745.	5.33	76.	19.	6.	2.06
DIVERSION TO	DSOL67	283.	5.33	29.	7.	2.	2.06
HYDROGRAPH AT	DWPE75	462.	5.33	47.	12.	4.	2.06
ROUTED TO	RWPE75	299.	5.92	47.	12.	4.	2.06
HYDROGRAPH AT	DRPE75	335.	5.08	47.	12.	4.	2.17
ROUTED TO							

RSPE75	297.	5.42	47.	12.	4.	2.17
HYDROGRAPH AT PE75	640.	4.75	204.	52.	17.	1.01
DIVERSION TO XPE75	234.	4.08	19.	5.	2.	1.01
HYDROGRAPH AT ERPE75	640.	4.75	191.	48.	16.	1.01
3 COMBINED AT CPE75	734.	5.83	269.	67.	22.	3.36
DIVERSION TO DP75PE	179.	4.17	108.	27.	9.	3.36
HYDROGRAPH AT D75PE	555.	5.83	161.	40.	13.	3.36
DIVERSION TO DSOL75	289.	5.83	84.	21.	7.	3.36
HYDROGRAPH AT DWPE83	267.	5.83	77.	19.	6.	3.36
ROUTED TO RWPE83	244.	6.08	77.	19.	6.	3.36
HYDROGRAPH AT DRPE83	501.	5.33	97.	24.	8.	3.34
ROUTED TO RSPE83	472.	5.67	97.	24.	8.	3.34
HYDROGRAPH AT PE83	659.	4.75	217.	56.	19.	1.00
DIVERSION TO XPE83	640.	4.58	70.	17.	6.	1.00
HYDROGRAPH AT ERPE83	653.	4.83	154.	38.	13.	1.00
3 COMBINED AT CPE83	1093.	5.58	315.	79.	26.	3.97
DIVERSION TO DPPE83	112.	4.83	69.	17.	6.	3.97
HYDROGRAPH AT DPE83	981.	5.58	246.	61.	20.	3.97
DIVERSION TO DSGR83	471.	5.58	118.	29.	10.	3.97
HYDROGRAPH AT DWGR91	510.	5.58	128.	32.	11.	3.97
DIVERSION TO DWPE91	184.	5.58	46.	11.	4.	3.97
HYDROGRAPH AT DGR91	326.	5.58	82.	20.	7.	3.97
HYDROGRAPH AT DRGR91	0.	.00	0.	0.	0.	3.46
ROUTED TO RSGR91	0.	.00	0.	0.	0.	3.46
HYDROGRAPH AT GR91	596.	4.33	117.	29.	10.	.51
DIVERSION TO XGR91	596.	4.33	51.	13.	4.	.51
HYDROGRAPH AT ERGR91	565.	4.50	66.	16.	5.	.51
3 COMBINED AT CGR91	544.	4.83	144.	36.	12.	3.58
DIVERSION TO DSPE91	365.	4.83	97.	24.	8.	3.58
HYDROGRAPH AT DWGRLO	180.	4.83	48.	12.	4.	3.58
2 COMBINED AT CGRLO	371.	5.50	64.	16.	5.	2.91
ROUTED TO						

+	RSPELO	353.	5.58	64.	16.	5.	2.91
+ DIVERSION TO	DWNR02	353.	5.58	64.	16.	5.	2.91
+ HYDROGRAPH AT	DSOLLO	0.	.00	0.	0.	0.	2.91
+ HYDROGRAPH AT	DRPE91	365.	4.83	97.	24.	8.	3.58
+ ROUTED TO	SRGR91	344.	5.00	86.	22.	7.	3.58
+ HYDROGRAPH AT	DIPE91	184.	5.58	46.	11.	4.	3.97
+ 2 COMBINED AT	CIPEGR	508.	5.50	135.	34.	11.	3.14
+ ROUTED TO	RWPE91	494.	5.75	135.	34.	11.	3.14
+ HYDROGRAPH AT	PE91	615.	4.33	117.	29.	10.	.51
+ DIVERSION TO	XPE91	381.	4.08	26.	7.	2.	.51
+ HYDROGRAPH AT	ERPE91	615.	4.33	91.	23.	8.	.51
+ 2 COMBINED AT	CPE91	577.	5.58	218.	55.	18.	3.65
+ HYDROGRAPH AT	PRPE83	112.	4.83	69.	17.	6.	3.97
+ ROUTED TO	RPPE91	112.	5.00	69.	17.	6.	3.97
+ 2 COMBINED AT	CPPE91	689.	5.58	287.	72.	24.	3.65
+ DIVERSION TO	DPPE91	147.	4.17	108.	27.	9.	3.65
+ HYDROGRAPH AT	DPE91	542.	5.58	179.	45.	15.	3.65
+ DIVERSION TO	DSOL91	298.	5.58	98.	25.	8.	3.65
+ HYDROGRAPH AT	DWPELO	244.	5.58	80.	20.	7.	3.65
+ ROUTED TO	RWPELO	241.	5.67	80.	20.	7.	3.65
+ HYDROGRAPH AT	PELO	202.	4.50	54.	14.	5.	.27
+ DIVERSION TO	XPELO	200.	4.42	17.	4.	1.	.27
+ HYDROGRAPH AT	ERPELO	199.	4.58	39.	10.	3.	.27
+ 3 COMBINED AT	CPELO	306.	5.58	110.	28.	9.	4.81
+ HYDROGRAPH AT	PRPE91	147.	4.17	108.	27.	9.	3.65
+ ROUTED TO	RPPELO	147.	4.25	108.	27.	9.	3.65
+ 2 COMBINED AT	CPPELO	453.	5.58	218.	55.	18.	4.81
+ DIVERSION TO	DPPELO	255.	4.58	165.	41.	14.	4.81
+ HYDROGRAPH AT	DPELO	198.	5.58	53.	13.	4.	4.81
+ ROUTED TO	RSOLLO	187.	5.75	53.	13.	4.	4.81
+ HYDROGRAPH AT	OL35	199.	4.33	47.	12.	4.	.21
DIVERSION TO							

+	DP35OL	61.	3.92	28.	7.	2.	.21
+ HYDROGRAPH AT	D35OL	138.	4.33	18.	5.	2.	.21
+ DIVERSION TO	DSNO35	97.	4.33	13.	3.	1.	.21
+ HYDROGRAPH AT	DWOL43	41.	4.33	6.	1.	0.	.21
+ ROUTED TO	RWOL43	28.	5.50	6.	1.	0.	.21
+ HYDROGRAPH AT	OL43	426.	4.58	114.	29.	10.	.63
+ 2 COMBINED AT	COL43	422.	4.58	119.	30.	10.	.70
+ DIVERSION TO	DP43OL	85.	4.00	50.	13.	4.	.70
+ HYDROGRAPH AT	D43OL	337.	4.58	69.	17.	6.	.70
+ DIVERSION TO	DSNO43	199.	4.58	41.	10.	3.	.70
+ HYDROGRAPH AT	DWOL51	138.	4.58	28.	7.	2.	.70
+ ROUTED TO	RWOL51	129.	5.08	28.	7.	2.	.70
+ HYDROGRAPH AT	DROL51	175.	4.42	37.	9.	3.	.42
+ ROUTED TO	RSOL51	156.	4.92	37.	9.	3.	.42
+ HYDROGRAPH AT	OL51	662.	4.67	199.	51.	17.	.99
+ DIVERSION TO	XOL51	93.	3.83	12.	3.	1.	.99
+ HYDROGRAPH AT	EROL51	662.	4.67	192.	48.	16.	.99
+ 3 COMBINED AT	COL51	841.	4.92	250.	63.	21.	1.45
+ DIVERSION TO	DPOL51	297.	4.17	151.	38.	13.	1.45
+ HYDROGRAPH AT	DOL51	544.	4.92	99.	25.	8.	1.45
+ DIVERSION TO	DSNO51	185.	4.92	34.	8.	3.	1.45
+ HYDROGRAPH AT	DWOL59	359.	4.92	66.	16.	5.	1.45
+ ROUTED TO	RWOL59	329.	5.25	66.	16.	5.	1.45
+ HYDROGRAPH AT	DROL59	365.	4.75	73.	18.	6.	1.44
+ ROUTED TO	RSOL59	337.	5.17	73.	18.	6.	1.44
+ HYDROGRAPH AT	OL59	675.	4.67	207.	53.	18.	.99
+ DIVERSION TO	XOL59	515.	4.33	44.	11.	4.	.99
+ HYDROGRAPH AT	EROL59	675.	4.67	168.	42.	14.	.99
+ 3 COMBINED AT	COL59	1121.	5.17	293.	73.	24.	2.78
+ HYDROGRAPH AT	PR59PE	235.	4.17	123.	31.	10.	1.44
+ ROUTED TO	RP59BR	235.	4.25	124.	31.	10.	1.44
DIVERSION TO							

+		DPBR59	161.	4.17	93.	23.	8.	1.44
+	HYDROGRAPH AT	DBR59	74.	4.25	31.	8.	3.	1.44
+	ROUTED TO	RP59OL	74.	4.33	31.	8.	3.	1.44
+	HYDROGRAPH AT	PROL51	297.	4.17	151.	38.	13.	1.45
+	ROUTED TO	RPOL59	297.	4.33	151.	38.	13.	1.45
+	3 COMBINED AT	CPOL59	1421.	5.25	463.	116.	39.	4.22
+	DIVERSION TO	DPOL59	475.	4.50	256.	64.	21.	4.22
+	HYDROGRAPH AT	DOL59	946.	5.25	206.	52.	17.	4.22
+	DIVERSION TO	DSNO59	577.	5.25	126.	31.	10.	4.22
+	HYDROGRAPH AT	DWOL67	369.	5.25	80.	20.	7.	4.22
+	ROUTED TO	RWOL67	348.	5.50	80.	20.	7.	4.22
+	HYDROGRAPH AT	DROL67	283.	5.33	29.	7.	2.	2.06
+	ROUTED TO	RSOL67	175.	6.00	29.	7.	2.	2.06
+	HYDROGRAPH AT	OL67	726.	4.58	199.	51.	17.	.96
+	DIVERSION TO	XOL67	726.	4.58	80.	20.	7.	.96
+	HYDROGRAPH AT	EROL67	684.	4.75	123.	31.	10.	.96
+	3 COMBINED AT	COL67	781.	5.25	230.	57.	19.	2.84
+	HYDROGRAPH AT	PRBR59	161.	4.17	93.	23.	8.	1.44
+	ROUTED TO	RPBR63	161.	4.25	93.	23.	8.	1.44
+	ROUTED TO	SRBR63	165.	4.83	89.	23.	8.	1.44
+	ROUTED TO	RP63OL	163.	4.92	89.	23.	8.	1.44
+	HYDROGRAPH AT	PROL59	475.	4.50	256.	64.	21.	4.22
+	ROUTED TO	RPOL63	475.	4.58	256.	64.	21.	4.22
+	2 COMBINED AT	CPOL63	637.	4.92	345.	88.	29.	2.84
+	ROUTED TO	RPOL67	636.	5.00	345.	88.	29.	2.84
+	HYDROGRAPH AT	PR67PE	162.	5.25	64.	16.	5.	2.06
+	ROUTED TO	RP67MV	162.	5.33	63.	16.	5.	2.06
+	ROUTED TO	SR67MV	162.	5.75	62.	16.	5.	2.06
+	ROUTED TO	RP67OL	162.	5.83	62.	16.	5.	2.06
+	3 COMBINED AT	CPOL67	1386.	5.92	610.	155.	52.	5.68
+	DIVERSION TO	DPOL67	662.	4.83	396.	102.	34.	5.68
	HYDROGRAPH AT							

+		DOL67	724.	5.92	214.	54.	18.	5.68
+	DIVERSION TO	DSNO67	319.	5.92	94.	24.	8.	5.68
+	HYDROGRAPH AT	DWOL75	405.	5.92	120.	30.	10.	5.68
+	ROUTED TO	RWOL75	377.	6.00	120.	30.	10.	5.68
+	HYDROGRAPH AT	DROL75	289.	5.83	84.	21.	7.	3.36
+	ROUTED TO	RSOL75	265.	6.08	84.	21.	7.	3.36
+	HYDROGRAPH AT	OL75	669.	4.67	205.	53.	18.	1.00
+	DIVERSION TO	XOL75	669.	4.67	81.	20.	7.	1.00
+	HYDROGRAPH AT	EROL75	631.	4.92	129.	32.	11.	1.00
+	3 COMBINED AT	COL75	957.	5.50	322.	81.	27.	4.34
+	HYDROGRAPH AT	PROL67	662.	4.83	396.	102.	34.	5.68
+	ROUTED TO	RPOL71	662.	4.92	396.	102.	34.	5.68
+	2 COMBINED AT	CPOL71	1619.	5.50	718.	183.	61.	4.34
+	ROUTED TO	SROL71	1591.	5.75	582.	183.	61.	4.34
+	DIVERSION TO	DPOL71	386.	5.58	279.	107.	36.	4.34
+	HYDROGRAPH AT	DOL71	1205.	5.75	303.	76.	25.	4.34
+	HYDROGRAPH AT	PR75PE	179.	4.17	108.	27.	9.	3.36
+	ROUTED TO	RP75OL	179.	4.33	108.	27.	9.	3.36
+	HYDROGRAPH AT	PROL71	386.	5.58	279.	107.	36.	4.34
+	ROUTED TO	RPOL75	386.	5.67	279.	107.	36.	4.34
+	3 COMBINED AT	CPOL75	1770.	5.75	675.	210.	70.	4.34
+	DIVERSION TO	DPOL75	239.	4.58	231.	98.	33.	4.34
+	HYDROGRAPH AT	DOL75	1531.	5.75	445.	111.	37.	4.34
+	DIVERSION TO	DSGR75	781.	5.75	227.	57.	19.	4.34
+	HYDROGRAPH AT	DWGR83	750.	5.75	218.	54.	18.	4.34
+	HYDROGRAPH AT	DRGR83	471.	5.58	118.	29.	10.	3.97
+	DIVERSION TO	DSOL83	132.	5.58	33.	8.	3.	3.97
+	HYDROGRAPH AT	D83GR	339.	5.58	85.	21.	7.	3.97
+	ROUTED TO	RSGR83	284.	6.75	84.	21.	7.	3.97
+	HYDROGRAPH AT	GR83	554.	4.33	113.	28.	9.	.47
+	DIVERSION TO	XGR83	554.	4.33	60.	15.	5.	.47
	HYDROGRAPH AT							

+		ERGR83	446.	4.67	54.	13.	4.	.47
+	3 COMBINED AT	CGR83	927.	6.42	350.	89.	30.	3.99
+	ROUTED TO	SRGR83	844.	6.83	235.	59.	20.	3.99
+	DIVERSION TO	DS75NO	844.	6.83	235.	59.	20.	3.99
+	HYDROGRAPH AT	DWOL83	0.	.00	0.	0.	0.	3.99
+	ROUTED TO	RWOL83	0.	.00	0.	0.	0.	3.99
+	HYDROGRAPH AT	DIOL83	132.	5.58	33.	8.	3.	3.97
+	ROUTED TO	RSOL83	123.	6.08	33.	8.	3.	3.97
+	HYDROGRAPH AT	OL83	586.	4.42	113.	28.	9.	.54
+	DIVERSION TO	XOL83	445.	4.17	28.	7.	2.	.54
+	HYDROGRAPH AT	EROL83	586.	4.42	85.	21.	7.	.54
+	3 COMBINED AT	COL83	535.	4.42	121.	30.	10.	1.06
+	HYDROGRAPH AT	NO27	104.	4.42	30.	8.	3.	.13
+	DIVERSION TO	DP27NO	104.	4.42	30.	8.	3.	.13
+	HYDROGRAPH AT	D27NO	0.	.00	0.	0.	0.	.13
+	DIVERSION TO	DSGL27	0.	.00	0.	0.	0.	.13
+	HYDROGRAPH AT	DWNO35	0.	.00	0.	0.	0.	.13
+	ROUTED TO	RWNO35	0.	.00	0.	0.	0.	.13
+	HYDROGRAPH AT	DRNO35	97.	4.33	13.	3.	1.	.21
+	ROUTED TO	RSNO35	72.	5.17	13.	3.	1.	.21
+	HYDROGRAPH AT	NO35	577.	4.75	183.	47.	16.	.99
+	3 COMBINED AT	CNO35	597.	4.83	193.	50.	17.	1.14
+	HYDROGRAPH AT	PR27NO	104.	4.42	30.	8.	3.	.13
+	2 COMBINED AT	CPNO29	680.	4.75	222.	57.	19.	1.14
+	DIVERSION TO	DP29NO	114.	3.92	80.	22.	7.	1.14
+	HYDROGRAPH AT	D29NO	566.	4.75	142.	35.	12.	1.14
+	HYDROGRAPH AT	PR35OL	61.	3.92	28.	7.	2.	.21
+	ROUTED TO	RP35NO	61.	4.08	28.	7.	2.	.21
+	2 COMBINED AT	CPNO35	627.	4.75	171.	43.	14.	1.14
+	DIVERSION TO	DP35NO	113.	4.00	55.	14.	5.	1.14
+	HYDROGRAPH AT	D35NO	514.	4.75	115.	29.	10.	1.14
+	DIVERSION TO							

+		DSGL35	236.	4.75	53.	13.	4.	1.14
+	HYDROGRAPH AT	DWNO43	277.	4.75	62.	16.	5.	1.14
+	ROUTED TO	RWNO43	261.	5.33	62.	16.	5.	1.14
+	HYDROGRAPH AT	DRNO43	199.	4.58	41.	10.	3.	.70
+	ROUTED TO	RSNO43	186.	5.08	41.	10.	3.	.70
+	HYDROGRAPH AT	NO43	564.	4.75	183.	47.	16.	1.00
+	3 COMBINED AT	CNO43	849.	5.17	271.	69.	23.	2.02
+	HYDROGRAPH AT	PR43OL	85.	4.00	50.	13.	4.	.70
+	ROUTED TO	RP43NO	85.	4.17	50.	13.	4.	.70
+	2 COMBINED AT	CPNO43	934.	5.17	321.	82.	27.	2.02
+	DIVERSION TO	DP43NO	241.	4.08	155.	41.	14.	2.02
+	HYDROGRAPH AT	D43NO	693.	5.17	165.	41.	14.	2.02
+	DIVERSION TO	DSGL43	354.	5.17	84.	21.	7.	2.02
+	HYDROGRAPH AT	DWNO51	340.	5.17	81.	20.	7.	2.02
+	ROUTED TO	RWNO51	319.	5.58	81.	20.	7.	2.02
+	HYDROGRAPH AT	DRNO51	185.	4.92	34.	8.	3.	1.45
+	ROUTED TO	RSNO51	166.	5.42	34.	8.	3.	1.45
+	HYDROGRAPH AT	NO51	565.	4.75	181.	47.	16.	.99
+	3 COMBINED AT	CNO51	823.	5.42	282.	72.	24.	2.47
+	DIVERSION TO	DPNO51	168.	4.08	116.	30.	10.	2.47
+	HYDROGRAPH AT	DNO51	655.	5.42	166.	42.	14.	2.47
+	DIVERSION TO	DSGL51	288.	5.42	73.	18.	6.	2.47
+	HYDROGRAPH AT	DWNO59	367.	5.42	93.	23.	8.	2.47
+	ROUTED TO	RWNO59	348.	5.67	93.	23.	8.	2.47
+	HYDROGRAPH AT	DRNO59	577.	5.25	126.	31.	10.	4.22
+	ROUTED TO	RSNO59	541.	5.58	126.	31.	10.	4.22
+	HYDROGRAPH AT	NO59	626.	4.67	192.	49.	16.	.99
+	DIVERSION TO	XNO59	462.	4.33	33.	8.	3.	.99
+	HYDROGRAPH AT	ERNO59	626.	4.67	163.	41.	14.	.99
+	3 COMBINED AT	CNO59	1195.	5.50	363.	91.	30.	4.06
+	ROUTED TO	SRNO59	1194.	5.58	348.	87.	29.	4.06
+	HYDROGRAPH AT							

+		PRNO51	168.	4.08	116.	30.	10.	2.47
+	ROUTED TO	RPNO59	168.	4.25	116.	30.	10.	2.47
+	2 COMBINED AT	CPNO59	1362.	5.58	462.	117.	39.	4.06
+	DIVERSION TO	DPNO59	134.	4.17	107.	28.	9.	4.06
+	HYDROGRAPH AT	DNO59	1228.	5.58	356.	89.	30.	4.06
+	DIVERSION TO	DSGL59	405.	5.58	117.	29.	10.	4.06
+	HYDROGRAPH AT	DWNO67	823.	5.58	238.	60.	20.	4.06
+	ROUTED TO	RWNO67	801.	5.83	238.	60.	20.	4.06
+	HYDROGRAPH AT	DRNO67	319.	5.92	94.	24.	8.	5.68
+	ROUTED TO	RSNO67	303.	6.17	94.	24.	8.	5.68
+	HYDROGRAPH AT	NO67	654.	4.67	198.	51.	17.	.96
+	DIVERSION TO	XNO67	654.	4.67	79.	20.	7.	.96
+	HYDROGRAPH AT	ERNO67	609.	4.92	124.	31.	10.	.96
+	3 COMBINED AT	CNO67	1354.	5.75	441.	110.	37.	4.93
+	DIVERSION TO	DSGR67	880.	5.75	287.	72.	24.	4.93
+	HYDROGRAPH AT	DWGR75	474.	5.75	154.	39.	13.	4.93
+	DIVERSION TO	DWNO75	156.	5.75	51.	13.	4.	4.93
+	HYDROGRAPH AT	DGR75	317.	5.75	103.	26.	9.	4.93
+	ROUTED TO	RWGR75	302.	6.50	102.	26.	9.	4.93
+	HYDROGRAPH AT	DRGR75	781.	5.75	227.	57.	19.	4.34
+	DIVERSION TO	DSNO75	281.	5.75	82.	20.	7.	4.34
+	HYDROGRAPH AT	D75GR	500.	5.75	145.	36.	12.	4.34
+	HYDROGRAPH AT	GR75	620.	4.33	110.	28.	9.	.50
+	DIVERSION TO	XGR75	520.	4.17	36.	9.	3.	.50
+	HYDROGRAPH AT	ERGR75	620.	4.33	75.	19.	6.	.50
+	3 COMBINED AT	CGR75	820.	6.25	325.	83.	28.	3.09
+	ROUTED TO	SRGR75	762.	6.50	192.	81.	28.	3.09
+	HYDROGRAPH AT	PROL75	239.	4.58	231.	98.	33.	4.34
+	2 COMBINED AT	CPOLGR	1001.	6.50	417.	179.	60.	3.09
+	DIVERSION TO	DOLGR	762.	6.50	178.	45.	15.	3.09
+	HYDROGRAPH AT	DPOLGR	239.	4.42	239.	134.	45.	3.09
	ROUTED TO							

+		RPOL83	239.	4.67	239.	134.	45.	3.09
+	2 COMBINED AT	CPOL83	674.	4.50	343.	162.	55.	4.15
+	ROUTED TO	SROL83	557.	4.92	312.	161.	55.	4.15
+	DIVERSION TO	DPOL83	243.	4.92	242.	143.	49.	4.15
+	HYDROGRAPH AT	DOL83	314.	4.92	71.	18.	6.	4.15
+	DIVERSION TO	DSNO83	122.	4.92	28.	7.	2.	4.15
+	HYDROGRAPH AT	DWOL91	191.	4.92	43.	11.	4.	4.15
+	ROUTED TO	RWOL91	130.	5.67	43.	11.	4.	4.15
+	HYDROGRAPH AT	DROL91	298.	5.58	98.	25.	8.	3.65
+	ROUTED TO	RSOL91	284.	6.00	98.	25.	8.	3.65
+	HYDROGRAPH AT	OL91	725.	4.67	221.	57.	19.	1.02
+	DIVERSION TO	XOL91	725.	4.67	91.	23.	8.	1.02
+	HYDROGRAPH AT	EROL91	675.	4.92	136.	34.	11.	1.02
+	3 COMBINED AT	COL91	737.	5.67	271.	68.	23.	3.68
+	HYDROGRAPH AT	PROL83	243.	4.92	242.	143.	49.	4.15
+	ROUTED TO	RPOL91	243.	5.17	242.	143.	49.	4.15
+	2 COMBINED AT	CPOL91	980.	5.67	509.	211.	71.	3.68
+	DIVERSION TO	DSNO91	656.	5.67	341.	141.	48.	3.68
+	HYDROGRAPH AT	DWOLLO	323.	5.67	168.	70.	24.	3.68
+	ROUTED TO	RWOLLO	323.	5.67	168.	70.	24.	3.68
+	HYDROGRAPH AT	OLLO	168.	4.33	42.	11.	4.	.16
+	DIVERSION TO	XOLLO	168.	4.33	23.	6.	2.	.16
+	HYDROGRAPH AT	EROLLO	134.	4.67	20.	5.	2.	.16
+	3 COMBINED AT	COLLO	523.	5.67	229.	85.	29.	6.18
+	ROUTED TO	RSNOLO	518.	5.83	227.	85.	29.	6.18
+	HYDROGRAPH AT	DROLGR	762.	6.50	178.	45.	15.	3.09
+	HYDROGRAPH AT	DI75NO	281.	5.75	82.	20.	7.	4.34
+	HYDROGRAPH AT	DR75NO	844.	6.83	235.	59.	20.	3.99
+	3 COMBINED AT	CIGR75	1566.	6.92	424.	108.	36.	7.85
+	ROUTED TO	RSNO75	1464.	7.17	422.	108.	36.	7.85
+	HYDROGRAPH AT	DINO75	156.	5.75	51.	13.	4.	4.93
	ROUTED TO							

+		RWNO75	153.	6.08	51.	13.	4.	4.93
+	HYDROGRAPH AT	NO75	674.	4.33	120.	30.	10.	.51
+	DIVERSION TO	XNO75	119.	3.75	13.	3.	1.	.51
+	HYDROGRAPH AT	ERNO75	674.	4.33	107.	27.	9.	.51
+	3 COMBINED AT	CNO75	1521.	7.17	539.	141.	47.	8.93
+	DIVERSION TO	DPNO75	161.	3.83	157.	46.	15.	8.93
+	HYDROGRAPH AT	DNO75	1360.	7.17	382.	95.	32.	8.93
+	DIVERSION TO	DSOW75	653.	7.17	183.	46.	15.	8.93
+	HYDROGRAPH AT	DWNO83	707.	7.17	199.	50.	17.	8.93
+	ROUTED TO	RWNO83	679.	7.33	198.	50.	17.	8.93
+	HYDROGRAPH AT	DRNO83	122.	4.92	28.	7.	2.	4.15
+	ROUTED TO	RSNO83	87.	5.58	28.	7.	2.	4.15
+	HYDROGRAPH AT	NO83	748.	4.58	202.	51.	17.	1.00
+	DIVERSION TO	XNO83	548.	4.25	45.	11.	4.	1.00
+	HYDROGRAPH AT	ERNO83	748.	4.58	161.	40.	13.	1.00
+	3 COMBINED AT	CNO83	810.	7.25	391.	98.	33.	6.05
+	HYDROGRAPH AT	PRNO75	161.	3.83	157.	46.	15.	8.93
+	ROUTED TO	RPNO83	161.	4.00	156.	45.	15.	8.93
+	2 COMBINED AT	CPNO83	971.	7.25	547.	143.	48.	6.05
+	DIVERSION TO	DPNO83	233.	4.42	219.	61.	21.	6.05
+	HYDROGRAPH AT	DNO83	738.	7.25	328.	82.	27.	6.05
+	ROUTED TO	RWNO91	703.	7.58	327.	82.	27.	6.05
+	HYDROGRAPH AT	DRNO91	656.	5.67	341.	141.	48.	3.68
+	ROUTED TO	RSNO91	643.	5.92	334.	141.	48.	3.68
+	HYDROGRAPH AT	NO91	597.	4.75	185.	47.	16.	.99
+	DIVERSION TO	XNO91	597.	4.75	71.	18.	6.	.99
+	HYDROGRAPH AT	ERNO91	559.	4.92	118.	29.	10.	.99
+	3 COMBINED AT	CNO91	1425.	5.33	701.	234.	79.	9.52
+	HYDROGRAPH AT	PRNO83	233.	4.42	219.	61.	21.	6.05
+	ROUTED TO	RPNO91	233.	4.58	219.	61.	21.	6.05
+	2 COMBINED AT	CPNO91	1658.	5.33	907.	295.	100.	9.52
+	ROUTED TO							

+		SRNO91	1636.	5.50	819.	267.	100.	9.52
+	DIVERSION TO	DPNO91	69.	5.42	69.	58.	30.	9.52
+	HYDROGRAPH AT	DNO91	1567.	5.50	751.	209.	70.	9.52
+	DIVERSION TO	DSGL91	831.	5.50	398.	111.	37.	9.52
+	HYDROGRAPH AT	DWNOLO	737.	5.50	353.	98.	33.	9.52
+	ROUTED TO	RWNOLO	672.	5.83	349.	98.	33.	9.52
+	HYDROGRAPH AT	NOLO	263.	4.42	72.	19.	6.	.28
+	DIVERSION TO	XNOLO	263.	4.42	40.	10.	3.	.28
+	HYDROGRAPH AT	ERNOLO	199.	4.83	34.	9.	3.	.28
+	3 COMBINED AT	CNOLO	1210.	5.83	579.	185.	62.	10.91
+	HYDROGRAPH AT	PRNO91	69.	5.42	69.	58.	30.	9.52
+	ROUTED TO	RPNOLO	69.	5.58	69.	58.	30.	9.52
+	2 COMBINED AT	CPNOLO	1279.	5.83	644.	243.	92.	10.91
+	DIVERSION TO	DPNOLO	15.	4.58	15.	15.	11.	10.91
+	HYDROGRAPH AT	DNOLO	1264.	5.83	629.	228.	81.	10.91
+	DIVERSION TO	DWNR03	917.	5.67	586.	217.	77.	10.91
+	HYDROGRAPH AT	DSGLLO	347.	5.83	43.	11.	4.	10.91
+	ROUTED TO	RSGLLO	335.	5.92	43.	11.	4.	10.91
+	HYDROGRAPH AT	DRGL43	354.	5.17	84.	21.	7.	2.02
+	ROUTED TO	RSGL43	337.	5.50	84.	21.	7.	2.02
+	HYDROGRAPH AT	GL43	639.	4.67	202.	52.	17.	1.00
+	2 COMBINED AT	CGL43	797.	5.25	282.	72.	24.	2.03
+	HYDROGRAPH AT	PR43NO	241.	4.08	155.	41.	14.	2.02
+	ROUTED TO	RP43GL	241.	4.25	155.	41.	14.	2.02
+	2 COMBINED AT	CPGL43	1038.	5.25	437.	113.	38.	2.03
+	DIVERSION TO	DP43GL	385.	4.08	257.	68.	23.	2.03
+	HYDROGRAPH AT	D43GL	653.	5.25	180.	45.	15.	2.03
+	DIVERSION TO	DSBH43	385.	5.25	106.	27.	9.	2.03
+	HYDROGRAPH AT	DWGL51	268.	5.25	74.	18.	6.	2.03
+	ROUTED TO	RWGL51	254.	5.67	74.	18.	6.	2.03
+	HYDROGRAPH AT	DRGL51	288.	5.42	73.	18.	6.	2.47
+	ROUTED TO							

+		RSGL51	273.	5.75	73.	18.	6.	2.47
+	HYDROGRAPH AT	GL51	545.	4.75	185.	48.	16.	1.00
+	3 COMBINED AT	CGL51	828.	5.58	315.	81.	27.	2.91
+	DIVERSION TO	DSBH51	389.	5.58	148.	38.	13.	2.91
+	HYDROGRAPH AT	DWGL59	439.	5.58	167.	43.	14.	2.91
+	ROUTED TO	RWGL59	431.	5.92	167.	43.	14.	2.91
+	HYDROGRAPH AT	DRGL59	405.	5.58	117.	29.	10.	4.06
+	ROUTED TO	RSGL59	391.	5.92	117.	29.	10.	4.06
+	HYDROGRAPH AT	GL59	630.	4.67	194.	50.	17.	1.01
+	DIVERSION TO	XGL59	488.	4.33	45.	11.	4.	1.01
+	HYDROGRAPH AT	ERGL59	630.	4.67	156.	39.	13.	1.01
+	3 COMBINED AT	CGL59	1063.	5.75	420.	106.	35.	3.91
+	DIVERSION TO	DP59GL	217.	4.50	153.	39.	13.	3.91
+	HYDROGRAPH AT	D59GL	846.	5.75	267.	67.	22.	3.91
+	DIVERSION TO	DSGR59	389.	5.75	123.	31.	10.	3.91
+	HYDROGRAPH AT	DWGR67	457.	5.75	144.	36.	12.	3.91
+	DIVERSION TO	DWGL67	119.	5.75	38.	9.	3.	3.91
+	HYDROGRAPH AT	DGR67	338.	5.75	107.	27.	9.	3.91
+	HYDROGRAPH AT	DRGL35	236.	4.75	53.	13.	4.	1.14
+	ROUTED TO	RSGL35	224.	5.25	53.	13.	4.	1.14
+	HYDROGRAPH AT	GL35	546.	4.75	183.	47.	16.	1.00
+	2 COMBINED AT	CGL35	694.	5.08	230.	59.	20.	1.53
+	HYDROGRAPH AT	PR35NO	113.	4.00	55.	14.	5.	1.14
+	ROUTED TO	RP35GL	113.	4.17	56.	14.	5.	1.14
+	2 COMBINED AT	CPGL35	807.	5.08	285.	73.	24.	1.53
+	DIVERSION TO	DP35GL	226.	4.08	139.	37.	12.	1.53
+	HYDROGRAPH AT	D35GL	581.	5.08	146.	37.	12.	1.53
+	DIVERSION TO	DSBH35	354.	5.08	89.	22.	7.	1.53
+	HYDROGRAPH AT	DEGL27	227.	5.08	57.	14.	5.	1.53
+	HYDROGRAPH AT	DRGL27	0.	.00	0.	0.	0.	.13
+	ROUTED TO	RSGL27	0.	.00	0.	0.	0.	.13
+	HYDROGRAPH AT							

+		GL27	223.	4.42	55.	14.	5.	.26
+	3 COMBINED AT	CGL27	391.	4.92	114.	29.	10.	.98
+	HYDROGRAPH AT	PR29NO	114.	3.92	80.	22.	7.	1.14
+	ROUTED TO	RP27GL	114.	4.08	80.	22.	7.	1.14
+	2 COMBINED AT	CPGL27	505.	4.92	194.	50.	17.	.98
+	DIVERSION TO	DP27GL	132.	3.92	94.	26.	9.	.98
+	HYDROGRAPH AT	D27GL	373.	4.92	99.	25.	8.	.98
+	ROUTED TO	RSBH27	362.	5.08	99.	25.	8.	.98
+	HYDROGRAPH AT	BH27	236.	4.33	55.	14.	5.	.26
+	2 COMBINED AT	CBH27	486.	4.83	149.	38.	13.	1.24
+	HYDROGRAPH AT	PR27GL	132.	3.92	94.	26.	9.	.98
+	ROUTED TO	RP27BH	132.	4.08	94.	26.	9.	.98
+	2 COMBINED AT	CPBH27	618.	4.83	243.	63.	21.	1.24
+	DIVERSION TO	DP27BH	132.	3.92	102.	28.	9.	1.24
+	HYDROGRAPH AT	D27BH	486.	4.83	141.	35.	12.	1.24
+	DIVERSION TO	DSCB27	486.	4.83	141.	35.	12.	1.24
+	HYDROGRAPH AT	DWBH35	0.	.00	0.	0.	0.	1.24
+	ROUTED TO	RWBH35	0.	.00	0.	0.	0.	1.24
+	HYDROGRAPH AT	DRBH35	354.	5.08	89.	22.	7.	1.53
+	ROUTED TO	RSBH35	342.	5.33	89.	22.	7.	1.53
+	HYDROGRAPH AT	BH35	1040.	4.33	182.	46.	15.	1.00
+	3 COMBINED AT	CBH35	915.	4.42	258.	66.	22.	1.94
+	HYDROGRAPH AT	PR35GL	226.	4.08	139.	37.	12.	1.53
+	ROUTED TO	RP35BH	226.	4.25	139.	37.	12.	1.53
+	2 COMBINED AT	CPBH35	1141.	4.42	396.	102.	34.	1.94
+	DIVERSION TO	DP35BH	226.	3.83	162.	44.	15.	1.94
+	HYDROGRAPH AT	D35BH	915.	4.42	233.	58.	19.	1.94
+	DIVERSION TO	DSCB35	915.	4.42	233.	58.	19.	1.94
+	HYDROGRAPH AT	DWBH43	0.	.00	0.	0.	0.	1.94
+	ROUTED TO	RWBH43	0.	.00	0.	0.	0.	1.94
+	HYDROGRAPH AT	DRBH43	385.	5.25	106.	27.	9.	2.03
	ROUTED TO							

+		RSBH43	372.	5.50	106.	27.	9.	2.03
+	HYDROGRAPH AT	BH43	499.	4.75	166.	43.	14.	.99
+	3 COMBINED AT	CBH43	728.	5.25	262.	67.	22.	2.19
+	HYDROGRAPH AT	PR43GL	385.	4.08	257.	68.	23.	2.03
+	ROUTED TO	RP43BH	385.	4.25	257.	68.	23.	2.03
+	2 COMBINED AT	CPBH43	1113.	5.25	519.	135.	45.	2.19
+	DIVERSION TO	DP43BH	385.	4.08	281.	75.	25.	2.19
+	HYDROGRAPH AT	D43BH	728.	5.25	238.	60.	20.	2.19
+	DIVERSION TO	DSCB43	372.	5.25	121.	30.	10.	2.19
+	HYDROGRAPH AT	DWBH51	357.	5.25	117.	29.	10.	2.19
+	ROUTED TO	RWBH51	349.	5.67	117.	29.	10.	2.19
+	HYDROGRAPH AT	DRBH51	389.	5.58	148.	38.	13.	2.91
+	DIVERSION TO	DP47GL	377.	5.58	148.	38.	13.	2.91
+	HYDROGRAPH AT	D47GL	12.	5.58	0.	0.	0.	2.91
+	ROUTED TO	RSBH51	3.	6.33	0.	0.	0.	2.91
+	HYDROGRAPH AT	BH51	561.	4.75	192.	50.	17.	1.00
+	3 COMBINED AT	CBH51	715.	5.33	291.	75.	25.	3.42
+	HYDROGRAPH AT	PR47GL	377.	5.58	148.	38.	13.	2.91
+	ROUTED TO	RP51BH	377.	5.58	148.	38.	13.	2.91
+	2 COMBINED AT	CPBH51	1074.	5.42	436.	112.	37.	3.42
+	ROUTED TO	SRBH51	1069.	5.50	420.	112.	37.	3.42
+	DIVERSION TO	DSGR43	342.	5.50	134.	36.	12.	3.42
+	HYDROGRAPH AT	DWGR59	727.	5.50	286.	76.	25.	3.42
+	DIVERSION TO	DWBH59	167.	5.50	66.	18.	6.	3.42
+	HYDROGRAPH AT	DGR59	560.	5.50	220.	59.	20.	3.42
+	HYDROGRAPH AT	DRGR59	389.	5.75	123.	31.	10.	3.91
+	DIVERSION TO	DSBH59	202.	5.75	64.	16.	5.	3.91
+	HYDROGRAPH AT	D59GR	187.	5.75	59.	15.	5.	3.91
+	HYDROGRAPH AT	GR59	749.	4.25	117.	29.	10.	.52
+	3 COMBINED AT	CGR59	820.	4.50	383.	102.	34.	3.18
+	DIVERSION TO	DBH59	410.	4.50	192.	51.	17.	3.18
	HYDROGRAPH AT							

+		DNGR67	410.	4.50	192.	51.	17.	3.18
+	DIVERSION TO	DPGRGL	234.	4.17	141.	38.	13.	3.18
+	HYDROGRAPH AT	DGRGL	176.	4.50	51.	13.	4.	3.18
+	2 COMBINED AT	CIGR59	513.	5.58	162.	41.	14.	3.15
+	ROUTED TO	RWGR67	495.	6.25	162.	41.	14.	3.15
+	HYDROGRAPH AT	DRGR67	880.	5.75	287.	72.	24.	4.93
+	HYDROGRAPH AT	GR67	622.	4.33	109.	27.	9.	.50
+	DIVERSION TO	XGR67	12.	1.67	2.	1.	0.	.50
+	HYDROGRAPH AT	ERGR67	622.	4.33	108.	27.	9.	.50
+	3 COMBINED AT	CGR67	1224.	5.92	495.	127.	42.	6.83
+	HYDROGRAPH AT	PRNO59	134.	4.17	107.	28.	9.	4.06
+	ROUTED TO	RPNO67	134.	4.33	107.	29.	10.	4.06
+	HYDROGRAPH AT	PR59GL	217.	4.50	153.	39.	13.	3.91
+	HYDROGRAPH AT	PRGRGL	234.	4.17	141.	38.	13.	3.18
+	2 COMBINED AT	CPGL59	451.	4.50	293.	78.	26.	1.42
+	ROUTED TO	RPGR67	451.	4.67	293.	78.	26.	1.42
+	3 COMBINED AT	CPGR67	1761.	5.92	871.	228.	76.	8.25
+	ROUTED TO	SRGR67	324.	8.33	273.	204.	76.	8.25
+	DIVERSION TO	DP67GR	324.	8.33	273.	204.	76.	8.25
+	HYDROGRAPH AT	D67GR	0.	.00	0.	0.	0.	8.25
+	ROUTED TO	RSOW67	0.	.00	0.	0.	0.	8.25
+	HYDROGRAPH AT	OW67	198.	4.17	29.	7.	2.	.12
+	2 COMBINED AT	COW67	121.	4.17	26.	7.	2.	6.95
+	HYDROGRAPH AT	PRGR67	324.	8.33	273.	204.	76.	8.25
+	ROUTED TO	RPOW67	324.	8.33	273.	204.	76.	8.25
+	2 COMBINED AT	CPOW67	337.	8.33	277.	211.	79.	6.95
+	DIVERSION TO	DPOW67	181.	4.17	181.	172.	66.	6.95
+	HYDROGRAPH AT	DOW67	156.	8.33	96.	39.	13.	6.95
+	DIVERSION TO	DSGL67	80.	8.33	49.	20.	7.	6.95
+	HYDROGRAPH AT	DWOW75	77.	8.33	47.	19.	6.	6.95
+	ROUTED TO	RWOW75	73.	8.83	47.	19.	6.	6.95
	HYDROGRAPH AT							

+		DROW75	653.	7.17	183.	46.	15.	8.93
	ROUTED TO							
+		RSOW75	629.	7.25	183.	46.	15.	8.93
	HYDROGRAPH AT							
+		OW75	518.	4.33	113.	29.	10.	.50
	DIVERSION TO							
+		XOW75	486.	4.25	39.	10.	3.	.50
	HYDROGRAPH AT							
+		EROW75	514.	4.42	76.	19.	6.	.50
	3 COMBINED AT							
+		COW75	674.	7.25	280.	82.	27.	8.17
	HYDROGRAPH AT							
+		PROW67	181.	4.17	181.	172.	66.	6.95
	ROUTED TO							
+		RPOW71	181.	4.25	181.	172.	66.	6.95
	2 COMBINED AT							
+		CPOW71	855.	7.25	461.	253.	93.	8.17
	ROUTED TO							
+		SROW75	791.	7.58	424.	242.	90.	8.17
	DIVERSION TO							
+		DPOW71	44.	4.83	44.	44.	21.	8.17
	HYDROGRAPH AT							
+		DOW71	747.	7.58	380.	198.	69.	8.17
	HYDROGRAPH AT							
+		PROW71	44.	4.83	44.	44.	21.	8.17
	ROUTED TO							
+		RPOW75	44.	5.00	44.	44.	21.	8.17
	2 COMBINED AT							
+		CPOW75	791.	7.58	424.	242.	90.	8.17
	DIVERSION TO							
+		DPOW75	66.	4.83	66.	66.	30.	8.17
	HYDROGRAPH AT							
+		DOW75	725.	7.58	358.	176.	60.	8.17
	DIVERSION TO							
+		DSGL75	551.	7.58	272.	134.	46.	8.17
	HYDROGRAPH AT							
+		DWOW83	174.	7.58	86.	42.	14.	8.17
	ROUTED TO							
+		RWOW83	170.	7.83	85.	42.	14.	8.17
	HYDROGRAPH AT							
+		OW83	332.	4.58	95.	24.	8.	.50
	DIVERSION TO							
+		XOW83	271.	4.33	18.	4.	1.	.50
	HYDROGRAPH AT							
+		EROW83	332.	4.58	79.	20.	7.	.50
	2 COMBINED AT							
+		COW83	283.	4.75	168.	66.	23.	2.46
	HYDROGRAPH AT							
+		PROW75	66.	4.83	66.	66.	30.	8.17
	ROUTED TO							
+		RPOW83	66.	5.08	66.	66.	30.	8.17
	2 COMBINED AT							
+		CPOW83	329.	4.92	228.	130.	54.	2.46
	DIVERSION TO							
+		DP83OW	255.	4.50	214.	127.	53.	2.46
	HYDROGRAPH AT							
+		D83OW	74.	4.92	14.	4.	1.	2.46
	DIVERSION TO							
+		DSGL83	63.	4.92	12.	3.	1.	2.46
	HYDROGRAPH AT							
+		DWOW91	11.	4.92	2.	1.	0.	2.46
	ROUTED TO							

+		RWOW91	6.	5.92	2.	1.	0.	2.46
	HYDROGRAPH AT							
+		DIGL67	119.	5.75	38.	9.	3.	3.91
	ROUTED TO							
+		RWGL67	115.	6.08	38.	9.	3.	3.91
	HYDROGRAPH AT							
+		GL67	461.	4.25	82.	21.	7.	.36
	HYDROGRAPH AT							
+		DRGL67	80.	8.33	49.	20.	7.	6.95
	ROUTED TO							
+		RSGL67	77.	8.50	49.	20.	7.	6.95
	3 COMBINED AT							
+		CGL67	461.	4.33	200.	75.	25.	4.47
	DIVERSION TO							
+		DSBH67	160.	4.33	67.	25.	8.	4.47
	HYDROGRAPH AT							
+		DWGL75	166.	4.33	70.	26.	9.	4.47
	ROUTED TO							
+		RWGL75	156.	4.75	69.	26.	9.	4.47
	HYDROGRAPH AT							
+		DRGL75	551.	7.58	272.	134.	46.	8.17
	ROUTED TO							
+		RSGL75	543.	7.67	270.	133.	46.	8.17
	HYDROGRAPH AT							
+		GL75	365.	4.58	109.	28.	9.	.50
	DIVERSION TO							
+		XGL75	365.	4.58	78.	19.	6.	.50
	HYDROGRAPH AT							
+		ERGL75	199.	5.50	34.	9.	3.	.50
	3 COMBINED AT							
+		CGL75	609.	7.67	341.	159.	55.	8.97
	DIVERSION TO							
+		DSBH75	305.	7.67	170.	79.	27.	8.97
	HYDROGRAPH AT							
+		DWGL83	305.	7.67	170.	79.	27.	8.97
	ROUTED TO							
+		RWGL83	297.	7.92	169.	79.	27.	8.97
	HYDROGRAPH AT							
+		DRGL83	63.	4.92	12.	3.	1.	2.46
	ROUTED TO							
+		RSGL83	41.	5.33	12.	3.	1.	2.46
	HYDROGRAPH AT							
+		GL83	338.	4.58	96.	24.	8.	.50
	DIVERSION TO							
+		XGL83	338.	4.58	33.	8.	3.	.50
	HYDROGRAPH AT							
+		ERGL83	325.	4.75	65.	16.	5.	.50
	3 COMBINED AT							
+		CGL83	336.	7.92	228.	96.	33.	7.11
	HYDROGRAPH AT							
+		PR83OW	255.	4.50	214.	127.	53.	2.46
	ROUTED TO							
+		RP83GL	255.	4.58	214.	127.	53.	2.46
	2 COMBINED AT							
+		CPGL83	577.	7.92	427.	218.	83.	7.11
	DIVERSION TO							
+		DPGL83	374.	4.83	341.	197.	76.	7.11
	HYDROGRAPH AT							
+		DGL83	203.	7.92	86.	21.	7.	7.11
	DIVERSION TO							
+		DSBH83	128.	7.92	54.	14.	5.	7.11
	HYDROGRAPH AT							

+		DWGL91	75.	7.92	32.	8.	3.	7.11
+	ROUTED TO	RWGL91	59.	8.42	32.	8.	3.	7.11
+	HYDROGRAPH AT	DRGL91	831.	5.50	398.	111.	37.	9.52
+	ROUTED TO	RSGL91	727.	6.00	391.	111.	37.	9.52
+	HYDROGRAPH AT	GL91	539.	4.75	172.	44.	15.	.98
+	DIVERSION TO	XGL91	539.	4.75	104.	26.	9.	.98
+	HYDROGRAPH AT	ERGL91	355.	5.50	73.	18.	6.	.98
+	4 COMBINED AT	CGL91	994.	5.92	470.	131.	44.	9.02
+	HYDROGRAPH AT	PRGL83	374.	4.83	341.	197.	76.	7.11
+	ROUTED TO	RPGL91	374.	4.92	341.	197.	76.	7.11
+	2 COMBINED AT	CPGL91	1368.	5.92	800.	326.	118.	9.02
+	DIVERSION TO	DPGL91	449.	5.58	427.	232.	87.	9.02
+	HYDROGRAPH AT	DGL91	919.	5.92	374.	93.	31.	9.02
+	DIVERSION TO	DSBH91	569.	5.92	232.	58.	19.	9.02
+	HYDROGRAPH AT	DWGLLO	349.	5.92	142.	35.	12.	9.02
+	ROUTED TO	RWGLLO	329.	6.25	142.	35.	12.	9.02
+	HYDROGRAPH AT	GLLO	531.	4.50	134.	34.	11.	.85
+	DIVERSION TO	XGLLO	461.	4.33	35.	9.	3.	.85
+	HYDROGRAPH AT	ERGLLO	530.	4.58	101.	25.	8.	.85
+	3 COMBINED AT	CGLLO	620.	6.17	227.	57.	19.	15.23
+	HYDROGRAPH AT	PRGL91	449.	5.58	427.	232.	87.	9.02
+	ROUTED TO	RPGLLO	449.	5.67	427.	232.	87.	9.02
+	2 COMBINED AT	CPGLLO	1069.	6.17	642.	285.	104.	15.23
+	ROUTED TO	RSBHLO	1034.	6.33	636.	284.	104.	15.23
+	HYDROGRAPH AT	DIBH59	167.	5.50	66.	18.	6.	3.42
+	HYDROGRAPH AT	DRBH59	410.	4.50	192.	51.	17.	3.18
+	ROUTED TO	SRGR59	210.	6.58	94.	25.	9.	3.18
+	2 COMBINED AT	CIBHGR	340.	6.25	166.	45.	15.	2.13
+	ROUTED TO	RWBH59	336.	6.50	163.	45.	15.	2.13
+	HYDROGRAPH AT	DI59BH	202.	5.75	64.	16.	5.	3.91
+	ROUTED TO	RSBH59	197.	6.00	64.	16.	5.	3.91
	HYDROGRAPH AT							

+		BH59	663.	4.25	114.	29.	10.	.49
+	3 COMBINED AT	CBH59	508.	6.25	303.	85.	29.	3.58
+	DIVERSION TO	DSCB59	213.	6.25	127.	36.	12.	3.58
+	HYDROGRAPH AT	DWBH67	294.	6.25	176.	49.	17.	3.58
+	ROUTED TO	RWBH67	289.	6.58	173.	49.	17.	3.58
+	HYDROGRAPH AT	DRBH67	160.	4.33	67.	25.	8.	4.47
+	ROUTED TO	RSBH67	143.	5.00	66.	25.	8.	4.47
+	HYDROGRAPH AT	BH67	530.	4.75	176.	45.	15.	.97
+	3 COMBINED AT	CBH67	792.	4.83	376.	112.	37.	5.24
+	DIVERSION TO	DSCB67	349.	4.83	165.	49.	16.	5.24
+	HYDROGRAPH AT	DWBH75	444.	4.83	211.	63.	21.	5.24
+	ROUTED TO	RWBH75	429.	5.17	208.	63.	21.	5.24
+	HYDROGRAPH AT	DRBH75	305.	7.67	170.	79.	27.	8.97
+	ROUTED TO	RSBH75	295.	8.00	169.	79.	27.	8.97
+	HYDROGRAPH AT	BH75	652.	4.67	205.	53.	18.	1.00
+	DIVERSION TO	XBH75	652.	4.67	121.	30.	10.	1.00
+	HYDROGRAPH AT	ERBH75	450.	5.42	89.	22.	7.	1.00
+	3 COMBINED AT	CBH75	794.	5.58	426.	154.	53.	8.42
+	DIVERSION TO	DSCB75	421.	5.58	226.	82.	28.	8.42
+	HYDROGRAPH AT	DWBH83	373.	5.58	200.	72.	25.	8.42
+	ROUTED TO	RWBH83	347.	6.00	199.	72.	25.	8.42
+	HYDROGRAPH AT	DRBH83	128.	7.92	54.	14.	5.	7.11
+	ROUTED TO	RSBH83	97.	8.42	54.	14.	5.	7.11
+	HYDROGRAPH AT	BH83	614.	4.67	184.	47.	16.	1.00
+	DIVERSION TO	XBH83	614.	4.67	115.	29.	10.	1.00
+	HYDROGRAPH AT	ERBH83	377.	5.42	73.	18.	6.	1.00
+	3 COMBINED AT	CBH83	627.	5.92	291.	95.	33.	9.47
+	DIVERSION TO	DSGC83	213.	5.92	99.	32.	11.	9.47
+	HYDROGRAPH AT	DWBH91	414.	5.92	192.	63.	22.	9.47
+	HYDROGRAPH AT	DRCB27	486.	4.83	141.	35.	12.	1.24
+	ROUTED TO	RSCB27	479.	5.17	141.	35.	12.	1.24
	HYDROGRAPH AT							

+		CB27	235.	4.42	56.	14.	5.	.26
+	2 COMBINED AT	CCB27	598.	5.00	191.	48.	16.	1.50
+	HYDROGRAPH AT	PR27BH	132.	3.92	102.	28.	9.	1.24
+	ROUTED TO	RP27CB	132.	4.08	102.	28.	9.	1.24
+	2 COMBINED AT	CPCB27	730.	5.00	293.	77.	26.	1.50
+	DIVERSION TO	DP27CB	132.	3.83	109.	30.	10.	1.50
+	HYDROGRAPH AT	D27CB	598.	5.00	184.	46.	15.	1.50
+	DIVERSION TO	DSIS27	598.	5.00	184.	46.	15.	1.50
+	HYDROGRAPH AT	DWCB35	0.	.00	0.	0.	0.	1.50
+	ROUTED TO	RWCB35	0.	.00	0.	0.	0.	1.50
+	HYDROGRAPH AT	DRCB35	915.	4.42	233.	58.	19.	1.94
+	ROUTED TO	RSCB35	866.	4.67	233.	58.	19.	1.94
+	HYDROGRAPH AT	CB35	527.	4.75	176.	46.	15.	1.00
+	3 COMBINED AT	CCB35	1264.	4.75	389.	99.	33.	2.94
+	HYDROGRAPH AT	PR27CB	132.	3.83	109.	30.	10.	1.50
+	2 COMBINED AT	CPCB29	1396.	4.75	498.	129.	43.	2.94
+	DIVERSION TO	DP29CB	132.	3.67	120.	35.	12.	2.94
+	HYDROGRAPH AT	D29CB	1264.	4.75	378.	95.	32.	2.94
+	HYDROGRAPH AT	PR35BH	226.	3.83	162.	44.	15.	1.94
+	ROUTED TO	RP35CB	226.	4.00	162.	44.	15.	1.94
+	2 COMBINED AT	CPCB35	1490.	4.75	541.	139.	46.	2.94
+	DIVERSION TO	DP35CB	253.	3.83	190.	51.	17.	2.94
+	HYDROGRAPH AT	D35CB	1237.	4.75	351.	88.	29.	2.94
+	DIVERSION TO	DSIS35	1237.	4.75	351.	88.	29.	2.94
+	HYDROGRAPH AT	DWCB43	0.	.00	0.	0.	0.	2.94
+	ROUTED TO	RWCB43	0.	.00	0.	0.	0.	2.94
+	HYDROGRAPH AT	DRCB43	372.	5.25	121.	30.	10.	2.19
+	ROUTED TO	RSCB43	366.	5.50	121.	30.	10.	2.19
+	HYDROGRAPH AT	CB43	966.	4.33	175.	44.	15.	1.00
+	3 COMBINED AT	CCB43	841.	4.42	283.	72.	24.	2.12
+	HYDROGRAPH AT	PR43BH	385.	4.08	281.	75.	25.	2.19
	ROUTED TO							

+		RP43CB	385.	4.25	281.	75.	25.	2.19
+	2 COMBINED AT	CPCB43	1226.	4.42	563.	148.	49.	2.12
+	DIVERSION TO	DP39CB	268.	3.83	227.	64.	21.	2.12
+	HYDROGRAPH AT	D39CB	958.	4.42	336.	84.	28.	2.12
+	DIVERSION TO	DP43CB	155.	3.92	100.	25.	8.	2.12
+	HYDROGRAPH AT	D43CB	803.	4.42	236.	59.	20.	2.12
+	DIVERSION TO	DSGR35	457.	4.42	135.	34.	11.	2.12
+	HYDROGRAPH AT	DWGR43	345.	4.42	102.	25.	8.	2.12
+	DIVERSION TO	DCB51	86.	4.42	25.	6.	2.	2.12
+	HYDROGRAPH AT	DGR43	259.	4.42	76.	19.	6.	2.12
+	HYDROGRAPH AT	DRGR43	342.	5.50	134.	36.	12.	3.42
+	ROUTED TO	RSGR43	330.	6.08	133.	36.	12.	3.42
+	HYDROGRAPH AT	GR43	575.	4.33	102.	26.	9.	.51
+	DIVERSION TO	XGR43	16.	2.83	5.	1.	0.	.51
+	HYDROGRAPH AT	ERGR43	575.	4.33	98.	24.	8.	.51
+	3 COMBINED AT	CGR43	690.	4.42	298.	78.	26.	2.28
+	ROUTED TO	SRGR43	12.	8.00	8.	5.	2.	2.28
+	DIVERSION TO	DEGR35	4.	8.00	3.	2.	1.	2.28
+	HYDROGRAPH AT	DGR35	8.	8.00	5.	3.	1.	2.28
+	DIVERSION TO	DSIS43	5.	8.00	3.	2.	1.	2.28
+	HYDROGRAPH AT	DWCB51	3.	8.00	2.	1.	0.	2.28
+	HYDROGRAPH AT	DICB51	86.	4.42	25.	6.	2.	2.12
+	2 COMBINED AT	CICBGR	106.	4.33	33.	10.	3.	.74
+	ROUTED TO	RWCB51	88.	5.00	32.	9.	3.	.74
+	HYDROGRAPH AT	CB51	889.	4.17	121.	31.	10.	.48
+	2 COMBINED AT	CCB51	734.	4.17	140.	38.	13.	1.23
+	DIVERSION TO	DSIS51	374.	4.17	71.	20.	7.	1.23
+	HYDROGRAPH AT	DWCB59	360.	4.17	68.	19.	6.	1.23
+	ROUTED TO	RWCB59	306.	4.50	68.	19.	6.	1.23
+	HYDROGRAPH AT	DRCB59	213.	6.25	127.	36.	12.	3.58
+	ROUTED TO	RSCB59	209.	6.58	126.	36.	12.	3.58
	HYDROGRAPH AT							

+	CB59	792.	4.50	215.	55.	18.	1.01
+ DIVERSION TO	XCB59	30.	2.00	6.	1.	0.	1.01
+ HYDROGRAPH AT	ERCB59	792.	4.50	214.	54.	18.	1.01
+ 3 COMBINED AT	CCB59	1120.	4.58	387.	105.	35.	3.11
+ DIVERSION TO	DSIS59	594.	4.58	205.	56.	19.	3.11
+ HYDROGRAPH AT	DWCB67	527.	4.58	182.	49.	17.	3.11
+ ROUTED TO	RWCB67	497.	4.92	180.	49.	17.	3.11
+ HYDROGRAPH AT	DRCB67	349.	4.83	165.	49.	16.	5.24
+ ROUTED TO	RSCB67	336.	5.17	164.	49.	16.	5.24
+ HYDROGRAPH AT	CB67	620.	4.67	197.	51.	17.	.97
+ DIVERSION TO	XCB67	16.	2.42	4.	1.	0.	.97
+ HYDROGRAPH AT	ERCB67	620.	4.67	197.	50.	17.	.97
+ 3 COMBINED AT	CCB67	1300.	5.00	516.	144.	48.	4.73
+ DIVERSION TO	DSGC67	559.	5.00	222.	62.	21.	4.73
+ HYDROGRAPH AT	DWCB75	741.	5.00	294.	82.	27.	4.73
+ ROUTED TO	RWCB75	722.	5.25	292.	82.	27.	4.73
+ HYDROGRAPH AT	DRCB75	421.	5.58	226.	82.	28.	8.42
+ ROUTED TO	RSCB75	382.	6.17	223.	82.	28.	8.42
+ HYDROGRAPH AT	CB75	591.	4.75	195.	50.	17.	1.00
+ DIVERSION TO	XCB75	538.	4.50	47.	12.	4.	1.00
+ HYDROGRAPH AT	ERCB75	591.	4.75	154.	38.	13.	1.00
+ 3 COMBINED AT	CCB75	1204.	5.50	625.	193.	66.	8.14
+ DIVERSION TO	DSGC75	530.	5.50	275.	85.	29.	8.14
+ HYDROGRAPH AT	DWGC83	674.	5.50	350.	108.	37.	8.14
+ HYDROGRAPH AT	DRIS27	598.	5.00	184.	46.	15.	1.50
+ ROUTED TO	RSIS27	587.	5.25	184.	46.	15.	1.50
+ HYDROGRAPH AT	IS27	189.	4.50	55.	14.	5.	.24
+ 2 COMBINED AT	CIS27	701.	5.17	235.	59.	20.	1.74
+ HYDROGRAPH AT	PR29CB	132.	3.67	120.	35.	12.	2.94
+ ROUTED TO	RP27IS	132.	3.83	120.	35.	12.	2.94
+ 2 COMBINED AT	CPIS27	833.	5.17	354.	94.	31.	1.74
DIVERSION TO							

+	DP27IS	151.	3.75	137.	40.	13.	1.74
+ HYDROGRAPH AT	D27IS	682.	5.17	217.	54.	18.	1.74
+ DIVERSION TO	DSGC27	682.	5.17	217.	54.	18.	1.74
+ HYDROGRAPH AT	DWIS35	0.	.00	0.	0.	0.	1.74
+ ROUTED TO	RWIS35	0.	.00	0.	0.	0.	1.74
+ HYDROGRAPH AT	DRIS35	1237.	4.75	351.	88.	29.	2.94
+ ROUTED TO	RSIS35	1201.	5.00	351.	88.	29.	2.94
+ HYDROGRAPH AT	IS35	1162.	4.33	199.	50.	17.	.99
+ 3 COMBINED AT	CIS35	1705.	4.83	521.	132.	44.	3.93
+ HYDROGRAPH AT	PR35CB	253.	3.83	190.	51.	17.	2.94
+ ROUTED TO	RP35IS	253.	3.92	190.	51.	17.	2.94
+ 2 COMBINED AT	CPIS35	1958.	4.83	711.	183.	61.	3.93
+ DIVERSION TO	DP31IS	268.	3.67	218.	60.	20.	3.93
+ HYDROGRAPH AT	D31IS	1690.	4.83	493.	123.	41.	3.93
+ DIVERSION TO	DP35IS	40.	3.75	27.	7.	2.	3.93
+ HYDROGRAPH AT	D35IS	1650.	4.83	466.	117.	39.	3.93
+ DIVERSION TO	DSGC35	1650.	4.83	466.	117.	39.	3.93
+ HYDROGRAPH AT	DWGR35	0.	.00	0.	0.	0.	3.93
+ HYDROGRAPH AT	DIGR35	4.	8.00	3.	2.	1.	2.28
+ HYDROGRAPH AT	DRGR35	457.	4.42	135.	34.	11.	2.12
+ DIVERSION TO	DS43IS	165.	4.42	48.	12.	4.	2.12
+ HYDROGRAPH AT	D35GR	293.	4.42	86.	22.	7.	2.12
+ 2 COMBINED AT	CIGR43	311.	4.42	92.	24.	8.	1.58
+ ROUTED TO	RSGR35	276.	4.92	91.	24.	8.	1.58
+ HYDROGRAPH AT	GR35	595.	4.33	108.	27.	9.	.53
+ 3 COMBINED AT	CGR35	554.	4.75	182.	49.	16.	2.11
+ HYDROGRAPH AT	PR39CB	268.	3.83	227.	64.	21.	2.12
+ ROUTED TO	RP39GR	268.	3.92	227.	64.	21.	2.12
+ 2 COMBINED AT	CPGR35	822.	4.75	409.	112.	37.	2.11
+ DIVERSION TO	D39GR	571.	4.75	185.	46.	15.	2.11
+ HYDROGRAPH AT	DP39GR	251.	3.75	224.	66.	22.	2.11
ROUTED TO							

+		RP39IS	251.	3.83	224.	66.	22.	2.11
+	HYDROGRAPH AT	DRIS43	5.	8.00	3.	2.	1.	2.28
+	HYDROGRAPH AT	DI43IS	165.	4.42	48.	12.	4.	2.12
+	2 COMBINED AT	CICB43	179.	4.42	56.	16.	5.	1.40
+	ROUTED TO	RSIS43	165.	4.67	55.	16.	5.	1.40
+	HYDROGRAPH AT	IS43	859.	4.17	117.	29.	10.	.47
+	2 COMBINED AT	CIS43	645.	4.17	157.	43.	14.	1.87
+	HYDROGRAPH AT	PR43CB	155.	3.92	100.	25.	8.	2.12
+	ROUTED TO	RP43IS	155.	4.08	100.	25.	8.	2.12
+	3 COMBINED AT	CPIS43	958.	4.17	472.	131.	44.	3.98
+	DIVERSION TO	DP43IS	406.	3.67	345.	99.	33.	3.98
+	HYDROGRAPH AT	D43IS	552.	4.17	128.	32.	11.	3.98
+	DIVERSION TO	DSGC43	458.	4.17	106.	26.	9.	3.98
+	HYDROGRAPH AT	DWIS51	94.	4.17	22.	5.	2.	3.98
+	ROUTED TO	RWIS51	63.	5.50	21.	5.	2.	3.98
+	HYDROGRAPH AT	DRIS51	374.	4.17	71.	20.	7.	1.23
+	ROUTED TO	RSIS51	326.	4.42	71.	20.	7.	1.23
+	HYDROGRAPH AT	IS51	649.	4.58	191.	49.	16.	.99
+	DIVERSION TO	XIS51	649.	4.58	74.	19.	6.	.99
+	HYDROGRAPH AT	ERIS51	610.	4.83	122.	31.	10.	.99
+	3 COMBINED AT	CIS51	770.	4.83	206.	54.	18.	1.94
+	DIVERSION TO	DP51IS	244.	4.33	135.	36.	12.	1.94
+	HYDROGRAPH AT	D51IS	526.	4.83	71.	18.	6.	1.94
+	DIVERSION TO	DSGC51	326.	4.83	44.	11.	4.	1.94
+	HYDROGRAPH AT	DWIS59	200.	4.83	27.	7.	2.	1.94
+	ROUTED TO	RWIS59	142.	5.67	27.	7.	2.	1.94
+	HYDROGRAPH AT	DRIS59	594.	4.58	205.	56.	19.	3.11
+	ROUTED TO	RSIS59	564.	4.92	204.	56.	19.	3.11
+	HYDROGRAPH AT	IS59	584.	4.75	190.	49.	16.	1.01
+	3 COMBINED AT	CIS59	1070.	4.83	399.	107.	36.	3.38
+	DIVERSION TO	DP59IS	353.	4.25	241.	68.	23.	3.38
	HYDROGRAPH AT							

+		D59IS	717.	4.83	158.	40.	13.	3.38
+	DIVERSION TO	DSGC59	430.	4.83	95.	24.	8.	3.38
+	HYDROGRAPH AT	DWGC67	287.	4.83	63.	16.	5.	3.38
+	ROUTED TO	RWGC67	273.	5.17	63.	16.	5.	3.38
+	HYDROGRAPH AT	DRGC67	559.	5.00	222.	62.	21.	4.73
+	ROUTED TO	RSGC67	539.	5.33	219.	62.	21.	4.73
+	HYDROGRAPH AT	GC67	658.	4.58	180.	46.	15.	.94
+	3 COMBINED AT	CGC67	1227.	5.17	440.	120.	40.	4.34
+	DIVERSION TO	DP67IS	175.	4.00	153.	48.	16.	4.34
+	HYDROGRAPH AT	D67IS	1052.	5.17	287.	72.	24.	4.34
+	DIVERSION TO	DSISGC	537.	5.17	147.	37.	12.	4.34
+	HYDROGRAPH AT	DWGC75	516.	5.17	141.	35.	12.	4.34
+	HYDROGRAPH AT	DRGR39	571.	4.75	185.	46.	15.	2.11
+	DIVERSION TO	DEGCGR	274.	4.75	89.	22.	7.	2.11
+	HYDROGRAPH AT	DGC35	297.	4.75	96.	24.	8.	2.11
+	HYDROGRAPH AT	DRGC35	1650.	4.83	466.	117.	39.	3.93
+	DIVERSION TO	DSGCGR	413.	4.83	117.	29.	10.	3.93
+	HYDROGRAPH AT	DS35GC	1238.	4.83	350.	87.	29.	3.93
+	2 COMBINED AT	CIIS35	1640.	4.83	469.	117.	39.	2.06
+	ROUTED TO	RSGC35	1636.	4.83	469.	117.	39.	2.06
+	HYDROGRAPH AT	GC35	149.	4.08	19.	5.	2.	.08
+	2 COMBINED AT	CGC35	1653.	4.83	485.	122.	41.	2.14
+	HYDROGRAPH AT	PR35IS	40.	3.75	27.	7.	2.	3.93
+	ROUTED TO	RP35GC	40.	3.92	27.	7.	2.	3.93
+	2 COMBINED AT	CPGC35	1693.	4.83	512.	128.	43.	2.14
+	DIVERSION TO	DP35GC	40.	3.75	32.	8.	3.	2.14
+	HYDROGRAPH AT	D35GC	1653.	4.83	479.	120.	40.	2.14
+	DIVERSION TO	DSTM35	1405.	4.83	407.	102.	34.	2.14
+	HYDROGRAPH AT	DWGC43	248.	4.83	72.	18.	6.	2.14
+	ROUTED TO	RWGC43	230.	5.25	72.	18.	6.	2.14
+	HYDROGRAPH AT	DRGC43	458.	4.17	106.	26.	9.	3.98
	ROUTED TO							

+		RSGC43	437.	4.33	106.	26.	9.	3.98
+	HYDROGRAPH AT	GC43	357.	4.42	92.	24.	8.	.37
+	3 COMBINED AT	CGC43	782.	4.50	269.	69.	23.	2.23
+	HYDROGRAPH AT	PR43IS	406.	3.67	345.	99.	33.	3.98
+	ROUTED TO	RP43GC	406.	3.75	345.	99.	33.	3.98
+	2 COMBINED AT	CPGC43	1188.	4.50	613.	168.	56.	2.23
+	DIVERSION TO	DP43GC	406.	3.75	354.	104.	35.	2.23
+	HYDROGRAPH AT	D43GC	782.	4.50	259.	65.	22.	2.23
+	ROUTED TO	SRGC43	783.	4.50	259.	65.	22.	2.23
+	DIVERSION TO	DSTM43	583.	4.50	141.	35.	12.	2.23
+	HYDROGRAPH AT	DWGC51	200.	4.00	118.	30.	10.	2.23
+	ROUTED TO	RWGC51	200.	5.33	118.	30.	10.	2.23
+	HYDROGRAPH AT	DRGC51	326.	4.83	44.	11.	4.	1.94
+	ROUTED TO	RSGC51	300.	5.00	44.	11.	4.	1.94
+	HYDROGRAPH AT	GC51	221.	4.75	80.	21.	7.	.45
+	3 COMBINED AT	CGC51	686.	5.00	234.	60.	20.	2.04
+	HYDROGRAPH AT	PR51IS	244.	4.33	135.	36.	12.	1.94
+	ROUTED TO	RP51ML	244.	4.42	135.	36.	12.	1.94
+	2 COMBINED AT	CPML51	930.	5.00	368.	95.	32.	2.04
+	DIVERSION TO	DPML51	136.	4.08	114.	32.	11.	2.04
+	HYDROGRAPH AT	DML51	794.	5.00	254.	64.	21.	2.04
+	DIVERSION TO	DP51GC	113.	4.17	72.	18.	6.	2.04
+	HYDROGRAPH AT	D51GC	681.	5.00	182.	46.	15.	2.04
+	ROUTED TO	SRGC51	435.	5.75	176.	46.	15.	2.04
+	DIVERSION TO	DSTM51	135.	5.75	22.	5.	2.	2.04
+	HYDROGRAPH AT	DWGC53	300.	5.75	154.	40.	13.	2.04
+	ROUTED TO	RWGC53	302.	5.42	154.	40.	13.	2.04
+	HYDROGRAPH AT	DRGC59	430.	4.83	95.	24.	8.	3.38
+	ROUTED TO	RSGC59	421.	5.00	95.	24.	8.	3.38
+	HYDROGRAPH AT	GC59	332.	4.42	82.	21.	7.	.41
+	2 COMBINED AT	CGC55	671.	4.92	177.	45.	15.	2.42
	DIVERSION TO							

+		DWGC59	254.	4.92	45.	11.	4.	2.42
+	HYDROGRAPH AT	DEGC53	417.	4.92	131.	33.	11.	2.42
+	HYDROGRAPH AT	PRML51	136.	4.08	114.	32.	11.	2.04
+	ROUTED TO	RPML53	136.	4.17	114.	32.	11.	2.04
+	3 COMBINED AT	CGC53	776.	5.33	394.	105.	35.	2.27
+	ROUTED TO	SRGC53	628.	6.17	263.	104.	35.	2.27
+	DIVERSION TO	DPGC53	20.	3.75	20.	19.	7.	2.27
+	HYDROGRAPH AT	DGC53	608.	6.17	243.	86.	29.	2.27
+	HYDROGRAPH AT	PR59IS	353.	4.25	241.	68.	23.	3.38
+	ROUTED TO	RP59GC	353.	4.33	241.	68.	23.	3.38
+	HYDROGRAPH AT	DRGC59	254.	4.92	45.	11.	4.	2.42
+	2 COMBINED AT	CPGC59	640.	4.92	295.	82.	27.	1.24
+	DIVERSION TO	DP59GC	258.	4.17	196.	57.	19.	1.24
+	HYDROGRAPH AT	D59GC	382.	4.92	99.	25.	8.	1.24
+	2 COMBINED AT	CGC59	700.	6.17	317.	105.	35.	3.50
+	DIVERSION TO	DSTM59	541.	6.17	253.	67.	22.	3.50
+	HYDROGRAPH AT	DWISGC	162.	6.08	64.	38.	13.	3.50
+	ROUTED TO	RWISGC	146.	6.50	64.	38.	13.	3.50
+	HYDROGRAPH AT	DRISGC	537.	5.17	147.	37.	12.	4.34
+	ROUTED TO	RSISGC	532.	5.25	147.	37.	12.	4.34
+	HYDROGRAPH AT	ISGC	73.	4.83	30.	8.	3.	.16
+	3 COMBINED AT	CISGC	662.	5.17	240.	84.	28.	3.33
+	HYDROGRAPH AT	PR59GC	258.	4.17	196.	57.	19.	1.24
+	2 COMBINED AT	CPISGC	920.	5.17	431.	140.	47.	3.33
+	DIVERSION TO	DPGC63	258.	4.08	219.	87.	29.	3.33
+	HYDROGRAPH AT	DGC63	662.	5.17	212.	53.	18.	3.33
+	ROUTED TO	SRISGC	479.	5.83	182.	53.	18.	3.33
+	DIVERSION TO	DSTM67	0.	.00	0.	0.	0.	3.33
+	HYDROGRAPH AT	DPGC67	479.	5.83	182.	53.	18.	3.33
+	HYDROGRAPH AT	DRGC75	530.	5.50	275.	85.	29.	8.14
+	HYDROGRAPH AT	GC75	196.	4.83	82.	22.	7.	.41
	4 COMBINED AT							

+	CGC75	1331.	5.67	607.	178.	60.	9.44
	ROUTED TO						
+	SRGC75	1091.	6.25	606.	178.	60.	9.44
	2 COMBINED AT						
+	CICB75	1591.	6.08	898.	270.	92.	14.03
	ROUTED TO						
+	RWGC83	1579.	6.33	896.	270.	92.	14.03
	HYDROGRAPH AT						
+	DRGC83	213.	5.92	99.	32.	11.	9.47
	HYDROGRAPH AT						
+	GC83	188.	4.83	81.	22.	7.	.43
	DIVERSION TO						
+	XGC83	188.	4.83	56.	14.	5.	.43
	HYDROGRAPH AT						
+	ERGC83	101.	6.33	30.	8.	3.	.43
	3 COMBINED AT						
+	CGC83	1684.	6.25	958.	292.	99.	17.67
	2 COMBINED AT						
+	CIBH83	1868.	6.00	1035.	323.	109.	23.92
	ROUTED TO						
+	RWBH91	1857.	6.25	1031.	322.	109.	23.92
	HYDROGRAPH AT						
+	DRBH91	569.	5.92	232.	58.	19.	9.02
	ROUTED TO						
+	RSBH91	530.	6.42	231.	58.	19.	9.02
	HYDROGRAPH AT						
+	BH91	589.	4.75	186.	48.	16.	1.03
	DIVERSION TO						
+	XBH91	63.	3.83	8.	2.	1.	1.03
	HYDROGRAPH AT						
+	ERBH91	589.	4.75	183.	46.	15.	1.03
	3 COMBINED AT						
+	CBH91	2176.	6.33	1208.	373.	126.	30.54
	ROUTED TO						
+	RWBHLO	2155.	6.42	1205.	372.	126.	30.54
	HYDROGRAPH AT						
+	BHLO	918.	4.33	202.	51.	17.	.79
	DIVERSION TO						
+	XBHLO	888.	4.25	84.	21.	7.	.79
	HYDROGRAPH AT						
+	ERBHLO	896.	4.42	121.	30.	10.	.79
	3 COMBINED AT						
+	CBHLO	2591.	6.42	1621.	585.	203.	46.47
	ROUTED TO						
+	RWBH99	2594.	6.42	1621.	585.	203.	46.47
	HYDROGRAPH AT						
+	BH99	102.	4.50	30.	8.	3.	.18
	2 COMBINED AT						
+	CBH99	2605.	6.42	1631.	588.	204.	46.65
	ROUTED TO						
+	RWBHRI	2597.	6.50	1629.	588.	204.	46.65
	HYDROGRAPH AT						
+	GLNR	258.	4.58	81.	21.	7.	.48
	DIVERSION TO						
+	XGLNR	68.	4.08	6.	1.	0.	.48
	HYDROGRAPH AT						
+	ERGLNR	258.	4.58	78.	19.	6.	.48
	DIVERSION TO						
+	DWNR04	258.	4.58	78.	19.	6.	.48
	HYDROGRAPH AT						
+	DSBHRI	0.	.00	0.	0.	0.	.48
	ROUTED TO						

+	RSBHRI	0.	.00	0.	0.	0.	.48
	HYDROGRAPH AT						
+	BHRI	245.	4.50	57.	14.	5.	.51
	DIVERSION TO						
+	DWBHAF	193.	4.50	45.	11.	4.	.51
	HYDROGRAPH AT						
+	DBHNR	51.	4.50	12.	3.	1.	.51
	3 COMBINED AT						
+	CBHRI	2594.	6.50	1629.	588.	204.	47.17
	ROUTED TO						
+	RWBHNR	2584.	6.58	1623.	587.	204.	47.17
	HYDROGRAPH AT						
+	BHNR	160.	4.42	30.	7.	2.	.26
	2 COMBINED AT						
+	CBHNR	2581.	6.58	1625.	588.	204.	47.42
	HYDROGRAPH AT						
+	CB99	147.	4.50	40.	10.	3.	.20
	DIVERSION TO						
+	XCB99	126.	4.25	9.	2.	1.	.20
	HYDROGRAPH AT						
+	ERCB99	147.	4.50	32.	8.	3.	.20
	DIVERSION TO						
+	DSIS99	72.	4.50	16.	4.	1.	.20
	HYDROGRAPH AT						
+	DWCBRI	75.	4.50	16.	4.	1.	.20
	ROUTED TO						
+	RWCBRI	67.	5.00	16.	4.	1.	.20
	HYDROGRAPH AT						
+	CBRI	343.	4.75	122.	31.	10.	.70
	DIVERSION TO						
+	XCBRI	343.	4.75	83.	21.	7.	.70
	HYDROGRAPH AT						
+	ERCBRI	162.	6.08	42.	11.	4.	.70
	2 COMBINED AT						
+	CCBRI	187.	6.08	57.	14.	5.	.80
	DIVERSION TO						
+	DSIS07	129.	6.08	39.	10.	3.	.80
	HYDROGRAPH AT						
+	DWCB07	58.	6.08	18.	4.	1.	.80
	HYDROGRAPH AT						
+	CB07	132.	4.75	42.	11.	4.	.32
	2 COMBINED AT						
+	CCB07	143.	4.92	60.	15.	5.	.56
	DIVERSION TO						
+	DIS07	99.	4.92	41.	10.	3.	.56
	HYDROGRAPH AT						
+	DWCBNR	44.	4.92	18.	5.	2.	.56
	ROUTED TO						
+	RWCBNR	41.	5.42	18.	5.	2.	.56
	HYDROGRAPH AT						
+	CBNR	215.	4.58	62.	16.	5.	.47
	2 COMBINED AT						
+	CCBNR	208.	4.58	78.	20.	7.	.64
	HYDROGRAPH AT						
+	DRIS99	72.	4.50	16.	4.	1.	.20
	ROUTED TO						
+	RSIS99	60.	5.17	16.	4.	1.	.20
	HYDROGRAPH AT						
+	IS99	240.	4.50	56.	14.	5.	.32
	2 COMBINED AT						
+	CIS99	240.	4.50	71.	18.	6.	.42
	DIVERSION TO						

+		DSTM99	62.	4.50	18.	5.	2.	.42
+	HYDROGRAPH AT	DWIS07	177.	4.50	53.	13.	4.	.42
+	ROUTED TO	RWIS07	165.	4.92	52.	13.	4.	.42
+	HYDROGRAPH AT	DI07IS	99.	4.92	41.	10.	3.	.56
+	HYDROGRAPH AT	DRIS07	129.	6.08	39.	10.	3.	.80
+	2 COMBINED AT	CICB07	203.	6.08	77.	19.	6.	.94
+	ROUTED TO	RSIS07	178.	6.42	76.	19.	6.	.94
+	HYDROGRAPH AT	IS07	625.	4.75	198.	51.	17.	1.02
+	DIVERSION TO	XIS07	287.	4.17	21.	5.	2.	1.02
+	HYDROGRAPH AT	ERIS07	625.	4.75	182.	46.	15.	1.02
+	3 COMBINED AT	CIS07	749.	5.00	292.	74.	25.	2.28
+	DIVERSION TO	DSRI07	187.	5.00	73.	18.	6.	2.28
+	HYDROGRAPH AT	DWISAF	562.	5.00	219.	55.	18.	2.28
+	ROUTED TO	RWISAF	543.	5.50	213.	55.	18.	2.28
+	HYDROGRAPH AT	ISAF	499.	4.75	182.	48.	16.	.99
+	2 COMBINED AT	CISAF	906.	5.33	373.	100.	33.	2.69
+	HYDROGRAPH AT	DRTM99	62.	4.50	18.	5.	2.	.42
+	ROUTED TO	RSTM99	55.	5.25	18.	5.	2.	.42
+	HYDROGRAPH AT	TM99	294.	4.58	82.	21.	7.	.50
+	2 COMBINED AT	CTM99	289.	4.67	99.	25.	8.	.62
+	DIVERSION TO	DSMD99	133.	4.67	46.	12.	4.	.62
+	HYDROGRAPH AT	DWRI07	156.	4.67	54.	14.	5.	.62
+	ROUTED TO	RWRI07	153.	5.25	53.	14.	5.	.62
+	HYDROGRAPH AT	DRRI07	187.	5.00	73.	18.	6.	2.28
+	ROUTED TO	RSRI07	183.	5.25	72.	18.	6.	2.28
+	HYDROGRAPH AT	RI07	534.	4.58	130.	33.	11.	.76
+	DIVERSION TO	XRI07	533.	4.50	43.	11.	4.	.76
+	HYDROGRAPH AT	ERRI07	508.	4.67	88.	22.	7.	.76
+	3 COMBINED AT	CRI07	713.	4.92	207.	53.	18.	1.67
+	DIVERSION TO	DTM07	350.	4.92	102.	26.	9.	1.67
+	HYDROGRAPH AT	DRIAF	364.	4.92	106.	27.	9.	1.67
	DIVERSION TO							

+		DSTM07	226.	4.92	66.	17.	6.	1.67
+	HYDROGRAPH AT	DWRIAF	138.	4.92	40.	10.	3.	1.67
+	ROUTED TO	RWRIAF	103.	6.50	37.	10.	3.	1.67
+	HYDROGRAPH AT	RIAF	339.	4.83	130.	34.	11.	.66
+	2 COMBINED AT	CRIAF	329.	4.83	163.	44.	15.	.98
+	HYDROGRAPH AT	DRBHAF	193.	4.50	45.	11.	4.	.51
+	ROUTED TO	SRBHRI	0.	8.58	0.	0.	0.	.51
+	5 COMBINED AT	CAF01	5428.	6.42	3141.	1033.	365.	4.31
+	HYDROGRAPH AT	CB83	560.	4.42	107.	27.	9.	.55
+	DIVERSION TO	XCB83	548.	4.33	36.	9.	3.	.55
+	HYDROGRAPH AT	ERCB83	542.	4.50	71.	18.	6.	.55
+	DIVERSION TO	DP83CB	10.	4.42	4.	1.	0.	.55
+	HYDROGRAPH AT	D83CB	532.	4.50	67.	17.	6.	.55
+	DIVERSION TO	DSIS83	234.	4.50	29.	7.	2.	.55
+	HYDROGRAPH AT	DWCB91	298.	4.50	37.	9.	3.	.55
+	ROUTED TO	RWCB91	231.	5.00	37.	9.	3.	.55
+	HYDROGRAPH AT	CB91	603.	4.58	153.	39.	13.	.96
+	DIVERSION TO	XCB91	497.	4.33	33.	8.	3.	.96
+	HYDROGRAPH AT	ERCB91	603.	4.58	121.	30.	10.	.96
+	2 COMBINED AT	CCB91	681.	5.00	154.	38.	13.	1.32
+	DIVERSION TO	DSIS91	320.	5.00	72.	18.	6.	1.32
+	HYDROGRAPH AT	DWCBLO	361.	5.00	82.	20.	7.	1.32
+	ROUTED TO	RWCBLO	339.	5.25	82.	20.	7.	1.32
+	HYDROGRAPH AT	CBLO	570.	4.58	142.	36.	12.	.82
+	DIVERSION TO	XCBLO	414.	4.25	26.	7.	2.	.82
+	HYDROGRAPH AT	ERCBLO	570.	4.58	117.	29.	10.	.82
+	2 COMBINED AT	CCBLO	716.	5.00	194.	49.	16.	1.52
+	ROUTED TO	RSISLO	702.	5.25	194.	49.	16.	1.52
+	HYDROGRAPH AT	IS75	553.	4.50	132.	34.	11.	.62
+	DIVERSION TO	XIS75	12.	1.58	2.	0.	0.	.62
+	HYDROGRAPH AT	ERIS75	553.	4.50	132.	33.	11.	.62
	DIVERSION TO							

+	DP75IS	123.	3.92	62.	16.	5.	.62
	HYDROGRAPH AT						
+	D75IS	430.	4.50	70.	18.	6.	.62
	DIVERSION TO						
+	DSTM75	150.	4.50	25.	6.	2.	.62
	HYDROGRAPH AT						
+	DWIS83	279.	4.50	46.	11.	4.	.62
	ROUTED TO						
+	RWIS83	246.	4.92	46.	11.	4.	.62
	HYDROGRAPH AT						
+	DRIS83	234.	4.50	29.	7.	2.	.55
	ROUTED TO						
+	RSIS83	168.	5.17	29.	7.	2.	.55
	HYDROGRAPH AT						
+	IS83	609.	4.67	191.	49.	16.	.99
	3 COMBINED AT						
+	CIS83	844.	5.17	257.	66.	22.	1.64
	HYDROGRAPH AT						
+	PR83CB	10.	4.42	4.	1.	0.	.55
	ROUTED TO						
+	RP83IS	10.	4.83	5.	1.	0.	.55
	2 COMBINED AT						
+	CPIS83	854.	5.17	262.	67.	22.	1.64
	DIVERSION TO						
+	DP83IS	187.	4.08	116.	30.	10.	1.64
	HYDROGRAPH AT						
+	D83IS	667.	5.17	146.	36.	12.	1.64
	DIVERSION TO						
+	DSTM83	367.	5.17	80.	20.	7.	1.64
	HYDROGRAPH AT						
+	DWIS91	300.	5.17	66.	16.	5.	1.64
	ROUTED TO						
+	RWIS91	282.	5.42	66.	16.	5.	1.64
	HYDROGRAPH AT						
+	DRIS91	320.	5.00	72.	18.	6.	1.32
	ROUTED TO						
+	RSIS91	289.	5.42	72.	18.	6.	1.32
	HYDROGRAPH AT						
+	IS91	657.	4.75	213.	55.	18.	1.00
	DIVERSION TO						
+	XIS91	552.	4.42	49.	12.	4.	1.00
	HYDROGRAPH AT						
+	ERIS91	657.	4.75	170.	43.	14.	1.00
	3 COMBINED AT						
+	CIS91	1030.	5.33	298.	75.	25.	2.36
	DIVERSION TO						
+	DP91IS	190.	4.58	112.	28.	9.	2.36
	HYDROGRAPH AT						
+	D91IS	840.	5.33	187.	47.	16.	2.36
	DIVERSION TO						
+	DSTM91	479.	5.33	107.	27.	9.	2.36
	HYDROGRAPH AT						
+	DWISLO	361.	5.33	80.	20.	7.	2.36
	ROUTED TO						
+	RWISLO	350.	5.42	80.	20.	7.	2.36
	HYDROGRAPH AT						
+	ISLO	515.	4.50	130.	33.	11.	.68
	DIVERSION TO						
+	XISLO	515.	4.50	60.	15.	5.	.68
	HYDROGRAPH AT						
+	ERISLO	431.	4.92	71.	18.	6.	.68
	3 COMBINED AT						

+	CISLO	1258.	5.25	326.	82.	27.	3.22
	ROUTED TO						
+	RSTMLO	1240.	5.42	326.	82.	27.	3.22
	HYDROGRAPH AT						
+	DRGCGR	274.	4.75	89.	22.	7.	2.11
	HYDROGRAPH AT						
+	DIGCGR	413.	4.83	117.	29.	10.	3.93
	2 COMBINED AT						
+	CIGR35	662.	4.83	200.	50.	17.	3.97
	ROUTED TO						
+	RSGCGR	642.	5.00	200.	50.	17.	3.97
	HYDROGRAPH AT						
+	DRGC27	682.	5.17	217.	54.	18.	1.74
	ROUTED TO						
+	RSGC27	678.	5.25	217.	54.	18.	1.74
	HYDROGRAPH AT						
+	GCGR	980.	4.00	94.	23.	8.	.38
	3 COMBINED AT						
+	CGCGR	1193.	5.08	461.	117.	39.	6.09
	HYDROGRAPH AT						
+	PR31IS	268.	3.67	218.	60.	20.	3.93
	ROUTED TO						
+	RP31GC	268.	3.75	218.	60.	20.	3.93
	HYDROGRAPH AT						
+	PR27IS	151.	3.75	137.	40.	13.	1.74
	ROUTED TO						
+	RP27GC	151.	3.83	137.	40.	13.	1.74
	3 COMBINED AT						
+	CPGCGR	1612.	5.08	819.	219.	73.	6.09
	DIVERSION TO						
+	DPGCGR	422.	3.58	378.	109.	36.	6.09
	HYDROGRAPH AT						
+	DGCGR	1190.	5.08	441.	110.	37.	6.09
	ROUTED TO						
+	SRGCGR	838.	5.83	424.	110.	37.	6.09
	ROUTED TO						
+	RSGR27	830.	6.08	423.	110.	37.	6.09
	HYDROGRAPH AT						
+	GR27	626.	4.25	100.	25.	8.	.41
	2 COMBINED AT						
+	CTM27	849.	6.08	489.	133.	44.	6.50
	DIVERSION TO						
+	DGR27	425.	6.08	245.	67.	22.	6.50
	HYDROGRAPH AT						
+	DTM27	425.	6.08	245.	67.	22.	6.50
	ROUTED TO						
+	SRTM27	402.	6.42	158.	63.	22.	6.50
	HYDROGRAPH AT						
+	PRGCGR	422.	3.58	378.	109.	36.	6.09
	DIVERSION TO						
+	DP31GR	257.	3.33	249.	76.	25.	6.09
	HYDROGRAPH AT						
+	D31GR	165.	3.58	129.	32.	11.	6.09
	ROUTED TO						
+	RP27TM	165.	3.67	129.	32.	11.	6.09
	2 COMBINED AT						
+	CPGR27	531.	6.50	257.	91.	31.	12.59
	DIVERSION TO						
+	DP27GR	195.	3.67	179.	71.	25.	12.59
	HYDROGRAPH AT						
+	D27GR	336.	6.50	79.	20.	7.	12.59
	HYDROGRAPH AT						

+		DRGR27	425.	6.08	245.	67.	22.	6.50
+	2 COMBINED AT	CGR27	774.	6.42	341.	91.	30.	6.50
+	ROUTED TO	SRGR27	776.	6.42	255.	80.	30.	6.50
+	DIVERSION TO	DSMD27	528.	6.42	173.	54.	21.	6.50
+	HYDROGRAPH AT	DWTM35	248.	6.42	82.	26.	10.	6.50
+	ROUTED TO	RWTM35	223.	7.08	81.	25.	10.	6.50
+	HYDROGRAPH AT	DRTM35	1405.	4.83	407.	102.	34.	2.14
+	ROUTED TO	RSTM35	1384.	4.92	407.	102.	34.	2.14
+	HYDROGRAPH AT	TM35	630.	4.25	102.	26.	9.	.39
+	3 COMBINED AT	CTM35	1445.	4.92	545.	145.	50.	4.31
+	HYDROGRAPH AT	PR31GR	257.	3.33	249.	76.	25.	6.09
+	ROUTED TO	RP31TM	257.	3.42	249.	76.	25.	6.09
+	HYDROGRAPH AT	PR35GC	40.	3.75	32.	8.	3.	2.14
+	ROUTED TO	RP35TM	40.	3.92	32.	8.	3.	2.14
+	3 COMBINED AT	CPTM35	1742.	4.92	821.	229.	78.	4.31
+	DIVERSION TO	DP35TM	300.	3.33	293.	97.	34.	4.31
+	HYDROGRAPH AT	D35TM	1442.	4.92	529.	132.	44.	4.31
+	DIVERSION TO	DSMD35	1211.	4.92	444.	111.	37.	4.31
+	HYDROGRAPH AT	DWTM43	231.	4.92	85.	21.	7.	4.31
+	ROUTED TO	RWTM43	210.	5.67	83.	21.	7.	4.31
+	HYDROGRAPH AT	DRTM43	583.	4.50	141.	35.	12.	2.23
+	ROUTED TO	RSTM43	570.	4.58	141.	35.	12.	2.23
+	HYDROGRAPH AT	TM43	420.	4.67	136.	35.	12.	.64
+	DIVERSION TO	XTM43	13.	2.92	3.	1.	0.	.64
+	HYDROGRAPH AT	ERTM43	420.	4.67	136.	34.	11.	.64
+	3 COMBINED AT	CTM43	938.	5.08	347.	88.	29.	3.16
+	HYDROGRAPH AT	PR43GC	406.	3.75	354.	104.	35.	2.23
+	ROUTED TO	RP43TM	406.	3.83	354.	104.	35.	2.23
+	2 COMBINED AT	CPTM43	1344.	5.08	697.	191.	64.	3.16
+	DIVERSION TO	DP43TM	629.	4.17	504.	143.	48.	3.16
+	HYDROGRAPH AT	D43TM	715.	5.08	194.	48.	16.	3.16
	DIVERSION TO							

+		DSMD43	565.	5.08	153.	38.	13.	3.16
+	HYDROGRAPH AT	DWTM51	150.	5.08	41.	10.	3.	3.16
+	ROUTED TO	RWTM51	141.	5.75	41.	10.	3.	3.16
+	HYDROGRAPH AT	DRTM51	135.	5.75	22.	5.	2.	2.04
+	ROUTED TO	RSTM51	126.	6.00	22.	5.	2.	2.04
+	HYDROGRAPH AT	TM51	306.	4.75	104.	27.	9.	.55
+	3 COMBINED AT	CTM51	413.	5.92	161.	41.	14.	2.15
+	HYDROGRAPH AT	PR51GC	113.	4.17	72.	18.	6.	2.04
+	HYDROGRAPH AT	PRGC53	20.	3.75	20.	19.	7.	2.27
+	ROUTED TO	RPGC51	20.	3.83	20.	19.	7.	2.27
+	2 COMBINED AT	CPGC51	133.	4.17	92.	37.	13.	2.15
+	ROUTED TO	RP51TM	133.	4.25	92.	37.	13.	2.15
+	2 COMBINED AT	CPTM51	488.	5.92	237.	74.	25.	4.30
+	DIVERSION TO	DP51TM	244.	4.33	169.	57.	19.	4.30
+	HYDROGRAPH AT	D51TM	244.	5.92	68.	17.	6.	4.30
+	DIVERSION TO	DSMD51	156.	5.92	44.	11.	4.	4.30
+	HYDROGRAPH AT	DWTM59	88.	5.92	25.	6.	2.	4.30
+	ROUTED TO	RWTM59	78.	6.50	24.	6.	2.	4.30
+	HYDROGRAPH AT	DRTM59	541.	6.17	253.	67.	22.	3.50
+	ROUTED TO	RSTM59	539.	6.33	252.	67.	22.	3.50
+	HYDROGRAPH AT	TM59	383.	4.58	113.	29.	10.	.60
+	3 COMBINED AT	CTM59	705.	6.33	371.	99.	33.	3.90
+	HYDROGRAPH AT	PRGC63	258.	4.08	219.	87.	29.	3.33
+	ROUTED TO	RP59TM	258.	4.17	219.	87.	29.	3.33
+	2 COMBINED AT	CPTM59	963.	6.33	590.	186.	62.	3.90
+	DIVERSION TO	DP59TM	389.	4.17	340.	123.	41.	3.90
+	HYDROGRAPH AT	D59TM	574.	6.33	249.	62.	21.	3.90
+	DIVERSION TO	DSMD59	236.	6.33	102.	26.	9.	3.90
+	HYDROGRAPH AT	DWTM67	339.	6.33	147.	37.	12.	3.90
+	ROUTED TO	RWTM67	327.	6.83	147.	37.	12.	3.90
+	HYDROGRAPH AT	DRTM67	0.	.00	0.	0.	0.	3.33
	ROUTED TO							

+	RSTM67	0.	.00	0.	0.	0.	3.33
+ HYDROGRAPH AT	TM67	560.	4.67	169.	43.	14.	.81
+ DIVERSION TO	XTM67	13.	2.00	2.	1.	0.	.81
+ HYDROGRAPH AT	ERTM67	560.	4.67	169.	43.	14.	.81
+ 3 COMBINED AT	CTM67	617.	5.33	310.	79.	26.	3.12
+ HYDROGRAPH AT	PR67IS	175.	4.00	153.	48.	16.	4.34
+ ROUTED TO	RP67TM	175.	4.17	153.	48.	16.	4.34
+ 2 COMBINED AT	CPTM67	792.	5.33	464.	128.	43.	3.12
+ DIVERSION TO	DP67TM	273.	4.00	245.	73.	25.	3.12
+ HYDROGRAPH AT	D67TM	519.	5.33	219.	55.	18.	3.12
+ DIVERSION TO	DSMD67	234.	5.33	98.	25.	8.	3.12
+ HYDROGRAPH AT	DWTM75	286.	5.33	120.	30.	10.	3.12
+ ROUTED TO	RWTM75	270.	5.67	120.	30.	10.	3.12
+ HYDROGRAPH AT	DRTM75	150.	4.50	25.	6.	2.	.62
+ ROUTED TO	RSTM75	133.	4.92	25.	6.	2.	.62
+ HYDROGRAPH AT	TM75	723.	4.67	218.	56.	19.	1.00
+ DIVERSION TO	XTM75	15.	1.50	2.	0.	0.	1.00
+ HYDROGRAPH AT	ERTM75	723.	4.67	218.	55.	18.	1.00
+ 3 COMBINED AT	CTM75	884.	5.00	351.	90.	30.	2.92
+ HYDROGRAPH AT	PR75IS	123.	3.92	62.	16.	5.	.62
+ ROUTED TO	RP75TM	123.	4.08	62.	16.	5.	.62
+ 2 COMBINED AT	CPTM75	1007.	5.00	413.	106.	35.	2.92
+ DIVERSION TO	DP75TM	303.	4.00	223.	59.	20.	2.92
+ HYDROGRAPH AT	D75TM	704.	5.00	190.	48.	16.	2.92
+ DIVERSION TO	DSMD75	338.	5.00	91.	23.	8.	2.92
+ HYDROGRAPH AT	DWTM83	366.	5.00	99.	25.	8.	2.92
+ ROUTED TO	RWTM83	350.	5.42	99.	25.	8.	2.92
+ HYDROGRAPH AT	DRTM83	367.	5.17	80.	20.	7.	1.64
+ ROUTED TO	RSTM83	338.	5.42	80.	20.	7.	1.64
+ HYDROGRAPH AT	TM83	607.	4.75	196.	50.	17.	.99
+ 3 COMBINED AT	CTM83	1076.	5.33	357.	91.	30.	3.41
HYDROGRAPH AT							

+	PR83IS	187.	4.08	116.	30.	10.	1.64
+ ROUTED TO	RP83TM	187.	4.25	116.	30.	10.	1.64
+ 2 COMBINED AT	CPTM83	1263.	5.33	473.	121.	40.	3.41
+ DIVERSION TO	DP83TM	283.	4.08	202.	54.	18.	3.41
+ HYDROGRAPH AT	D83TM	980.	5.33	271.	68.	23.	3.41
+ DIVERSION TO	DSMD83	225.	5.33	62.	16.	5.	3.41
+ HYDROGRAPH AT	DWTM91	754.	5.33	209.	52.	17.	3.41
+ ROUTED TO	RWTM91	735.	5.58	209.	52.	17.	3.41
+ HYDROGRAPH AT	DRTM91	479.	5.33	107.	27.	9.	2.36
+ ROUTED TO	RSTM91	454.	5.67	107.	27.	9.	2.36
+ HYDROGRAPH AT	TM91	620.	4.75	202.	52.	17.	1.00
+ DIVERSION TO	XTM91	357.	4.25	30.	7.	2.	1.00
+ HYDROGRAPH AT	ERTM91	620.	4.75	179.	45.	15.	1.00
+ 3 COMBINED AT	CTM91	1452.	5.58	460.	115.	38.	4.96
+ HYDROGRAPH AT	PR91IS	190.	4.58	112.	28.	9.	2.36
+ ROUTED TO	RP91TM	190.	4.75	112.	28.	9.	2.36
+ 2 COMBINED AT	CPTM91	1642.	5.58	571.	143.	48.	4.96
+ DIVERSION TO	DP91TM	287.	4.42	198.	50.	17.	4.96
+ HYDROGRAPH AT	D91TM	1355.	5.58	372.	93.	31.	4.96
+ DIVERSION TO	DSMD91	1043.	5.58	287.	72.	24.	4.96
+ HYDROGRAPH AT	DWTMLO	312.	5.58	86.	21.	7.	4.96
+ ROUTED TO	RWTMLO	305.	5.75	86.	21.	7.	4.96
+ HYDROGRAPH AT	TMLO	320.	4.58	81.	21.	7.	.50
+ DIVERSION TO	XTMLO	3.	3.25	1.	0.	0.	.50
+ HYDROGRAPH AT	ERTMLO	320.	4.58	81.	20.	7.	.50
+ 3 COMBINED AT	CTMLO	1577.	5.42	464.	117.	39.	4.87
+ ROUTED TO	RSMDLO	1539.	5.58	463.	117.	39.	4.87
+ HYDROGRAPH AT	DRMD27	528.	6.42	173.	54.	21.	6.50
+ ROUTED TO	RSMD27	495.	6.75	173.	54.	21.	6.50
+ HYDROGRAPH AT	MD27	362.	4.17	63.	16.	5.	.24
+ 2 COMBINED AT	CMD27	531.	6.67	224.	70.	27.	4.65
HYDROGRAPH AT							

+	PR27GR	195.	3.67	179.	71.	25.	12.59
	ROUTED TO						
+	RP27MD	195.	3.83	178.	71.	25.	12.59
	2 COMBINED AT						
+	CPMD27	726.	6.67	403.	141.	52.	4.65
	DIVERSION TO						
+	DP27MD	246.	3.67	237.	100.	38.	4.65
	HYDROGRAPH AT						
+	D27MD	480.	6.67	165.	41.	14.	4.65
	ROUTED TO						
+	RWMD35	444.	7.25	163.	41.	14.	4.65
	HYDROGRAPH AT						
+	DRMD35	1211.	4.92	444.	111.	37.	4.31
	ROUTED TO						
+	RSMD35	1168.	5.08	442.	111.	37.	4.31
	HYDROGRAPH AT						
+	MD35	793.	4.58	238.	61.	20.	1.00
	3 COMBINED AT						
+	CMD35	1749.	5.00	744.	192.	64.	9.29
	HYDROGRAPH AT						
+	PR35TM	300.	3.33	293.	97.	34.	4.31
	ROUTED TO						
+	RP35MD	300.	3.42	293.	97.	34.	4.31
	2 COMBINED AT						
+	CPMD35	2049.	5.00	1033.	291.	99.	9.29
	DIVERSION TO						
+	DP35MD	507.	3.83	483.	154.	53.	9.29
	HYDROGRAPH AT						
+	D35MD	1542.	5.00	551.	138.	46.	9.29
	DIVERSION TO						
+	DSIN35	972.	5.00	347.	87.	29.	9.29
	HYDROGRAPH AT						
+	DWMD43	571.	5.00	204.	51.	17.	9.29
	ROUTED TO						
+	RWMD43	537.	5.58	200.	51.	17.	9.29
	HYDROGRAPH AT						
+	DRMD43	565.	5.08	153.	38.	13.	3.16
	ROUTED TO						
+	RSMD43	555.	5.25	153.	38.	13.	3.16
	HYDROGRAPH AT						
+	MD43	1207.	4.33	223.	56.	19.	1.00
	3 COMBINED AT						
+	CMD43	1251.	5.33	528.	139.	46.	6.96
	HYDROGRAPH AT						
+	PR43TM	629.	4.17	504.	143.	48.	3.16
	ROUTED TO						
+	RP43MD	629.	4.33	504.	143.	48.	3.16
	2 COMBINED AT						
+	CPMD43	1880.	5.33	1027.	282.	94.	6.96
	DIVERSION TO						
+	DP43MD	629.	3.75	565.	166.	56.	6.96
	HYDROGRAPH AT						
+	D43MD	1251.	5.33	462.	115.	38.	6.96
	DIVERSION TO						
+	DSIN43	1251.	5.33	462.	115.	38.	6.96
	HYDROGRAPH AT						
+	DWMD51	0.	.00	0.	0.	0.	6.96
	ROUTED TO						
+	RWMD51	0.	.00	0.	0.	0.	6.96
	HYDROGRAPH AT						
+	DRMD51	156.	5.92	44.	11.	4.	4.30
	ROUTED TO						

+	RSMD51	146.	6.25	44.	11.	4.	4.30
	HYDROGRAPH AT						
+	MD51	606.	4.75	204.	53.	18.	1.00
	3 COMBINED AT						
+	CMD51	592.	5.00	251.	64.	21.	2.37
	HYDROGRAPH AT						
+	PR51TM	244.	4.33	169.	57.	19.	4.30
	ROUTED TO						
+	RP51MD	244.	4.50	169.	57.	19.	4.30
	2 COMBINED AT						
+	CPMD51	836.	5.00	420.	121.	41.	2.37
	DIVERSION TO						
+	DP51MD	368.	4.17	267.	83.	28.	2.37
	HYDROGRAPH AT						
+	D51MD	468.	5.00	154.	38.	13.	2.37
	DIVERSION TO						
+	DSIN51	182.	5.00	60.	15.	5.	2.37
	HYDROGRAPH AT						
+	DWMD59	285.	5.00	94.	23.	8.	2.37
	ROUTED TO						
+	RWMD59	272.	5.50	94.	23.	8.	2.37
	HYDROGRAPH AT						
+	DRMD59	236.	6.33	102.	26.	9.	3.90
	ROUTED TO						
+	RSMD59	229.	6.67	102.	26.	9.	3.90
	HYDROGRAPH AT						
+	MD59	606.	4.75	201.	52.	17.	1.00
	3 COMBINED AT						
+	CMD59	883.	5.25	375.	96.	32.	4.05
	HYDROGRAPH AT						
+	PR59TM	389.	4.17	340.	123.	41.	3.90
	ROUTED TO						
+	RP59MD	389.	4.33	340.	123.	41.	3.90
	2 COMBINED AT						
+	CPMD59	1272.	5.25	714.	219.	73.	4.05
	DIVERSION TO						
+	DP59MD	468.	4.08	416.	145.	48.	4.05
	HYDROGRAPH AT						
+	D59MD	804.	5.25	299.	75.	25.	4.05
	DIVERSION TO						
+	DSIN59	402.	5.25	149.	37.	12.	4.05
	HYDROGRAPH AT						
+	DWMD67	402.	5.25	149.	37.	12.	4.05
	ROUTED TO						
+	RWMD67	383.	5.67	149.	37.	12.	4.05
	HYDROGRAPH AT						
+	DRMD67	234.	5.33	98.	25.	8.	3.12
	ROUTED TO						
+	RSMD67	224.	5.67	98.	25.	8.	3.12
	HYDROGRAPH AT						
+	MD67	640.	4.67	196.	50.	17.	.98
	DIVERSION TO						
+	XMD67	315.	4.17	23.	6.	2.	.98
	HYDROGRAPH AT						
+	ERMD67	640.	4.67	177.	44.	15.	.98
	3 COMBINED AT						
+	CMD67	945.	5.42	405.	101.	34.	4.41
	HYDROGRAPH AT						
+	PR67TM	273.	4.00	245.	73.	25.	3.12
	ROUTED TO						
+	RP67MD	273.	4.17	245.	73.	25.	3.12
	2 COMBINED AT						

+		CPMD67	1218.	5.42	647.	175.	58.	4.41
+	DIVERSION TO	DP67MD	400.	4.25	348.	100.	33.	4.41
+	HYDROGRAPH AT	D67MD	818.	5.42	300.	75.	25.	4.41
+	DIVERSION TO	DSIN67	123.	5.42	45.	11.	4.	4.41
+	HYDROGRAPH AT	DWMD75	696.	5.42	255.	64.	21.	4.41
+	ROUTED TO	RWMD75	684.	5.75	254.	64.	21.	4.41
+	HYDROGRAPH AT	DRMD75	338.	5.00	91.	23.	8.	2.92
+	ROUTED TO	RSMD75	324.	5.42	91.	23.	8.	2.92
+	HYDROGRAPH AT	MD75	655.	4.67	207.	53.	18.	1.00
+	DIVERSION TO	XMD75	100.	3.92	14.	3.	1.	1.00
+	HYDROGRAPH AT	ERMD75	655.	4.67	199.	50.	17.	1.00
+	3 COMBINED AT	CMD75	1291.	5.50	504.	127.	42.	6.14
+	HYDROGRAPH AT	PR75TM	303.	4.00	223.	59.	20.	2.92
+	ROUTED TO	RP75MD	303.	4.17	223.	59.	20.	2.92
+	2 COMBINED AT	CPMD75	1594.	5.50	721.	185.	62.	6.14
+	DIVERSION TO	DP75MD	364.	4.00	301.	80.	27.	6.14
+	HYDROGRAPH AT	D75MD	1230.	5.50	420.	105.	35.	6.14
+	DIVERSION TO	DSIN75	430.	5.50	147.	37.	12.	6.14
+	HYDROGRAPH AT	DWMD83	799.	5.50	273.	68.	23.	6.14
+	ROUTED TO	RWMD83	785.	5.75	273.	68.	23.	6.14
+	HYDROGRAPH AT	DRMD83	225.	5.33	62.	16.	5.	3.41
+	ROUTED TO	RSMD83	218.	5.58	62.	16.	5.	3.41
+	HYDROGRAPH AT	MD83	895.	4.42	218.	55.	18.	.99
+	DIVERSION TO	XMD83	776.	4.25	58.	15.	5.	.99
+	HYDROGRAPH AT	ERMD83	895.	4.42	163.	41.	14.	.99
+	3 COMBINED AT	CMD83	1253.	5.50	483.	121.	40.	5.80
+	HYDROGRAPH AT	PR83TM	283.	4.08	202.	54.	18.	3.41
+	ROUTED TO	RP83MD	283.	4.25	202.	54.	18.	3.41
+	2 COMBINED AT	CPMD83	1536.	5.50	683.	175.	58.	5.80
+	DIVERSION TO	DP83MD	340.	4.33	255.	68.	23.	5.80
+	HYDROGRAPH AT	D83MD	1196.	5.50	428.	107.	36.	5.80
	ROUTED TO							

+		RWMD91	1173.	5.75	428.	107.	36.	5.80
+	HYDROGRAPH AT	DRMD91	1043.	5.58	287.	72.	24.	4.96
+	ROUTED TO	RSMD91	1008.	5.83	287.	72.	24.	4.96
+	HYDROGRAPH AT	MD91	675.	4.67	215.	55.	18.	1.01
+	DIVERSION TO	XMD91	497.	4.33	43.	11.	4.	1.01
+	HYDROGRAPH AT	ERMD91	675.	4.67	178.	45.	15.	1.01
+	3 COMBINED AT	CMD91	2252.	5.83	803.	201.	67.	10.61
+	HYDROGRAPH AT	PR91TM	287.	4.42	198.	50.	17.	4.96
+	ROUTED TO	RP91MD	287.	4.58	198.	50.	17.	4.96
+	2 COMBINED AT	CPMD91	2539.	5.83	1000.	250.	83.	10.61
+	DIVERSION TO	DP91MD	345.	4.50	255.	64.	21.	10.61
+	HYDROGRAPH AT	D91MD	2194.	5.83	745.	186.	62.	10.61
+	DIVERSION TO	DSIN91	439.	5.83	149.	37.	12.	10.61
+	HYDROGRAPH AT	DWMDLO	1755.	5.83	596.	149.	50.	10.61
+	ROUTED TO	RWMDLO	1738.	6.00	596.	149.	50.	10.61
+	HYDROGRAPH AT	MDLO	745.	4.42	152.	38.	13.	.67
+	DIVERSION TO	XMDLO	745.	4.42	114.	28.	9.	.67
+	HYDROGRAPH AT	ERMDLO	324.	5.00	40.	10.	3.	.67
+	3 COMBINED AT	CMDLO	2995.	5.83	997.	251.	84.	14.07
+	ROUTED TO	RSINLO	2995.	5.83	997.	251.	84.	14.07
+	DIVERSION TO	DEIN95	0.	.00	0.	0.	0.	14.07
+	HYDROGRAPH AT	DSINLO	2995.	5.83	997.	251.	84.	14.07
+	HYDROGRAPH AT	IN27	152.	4.17	27.	7.	2.	.10
+	HYDROGRAPH AT	PR27MD	246.	3.67	237.	100.	38.	4.65
+	ROUTED TO	RP27IN	246.	3.75	237.	100.	38.	4.65
+	2 COMBINED AT	CPIN27	398.	4.17	257.	100.	38.	.10
+	DIVERSION TO	DSVB27	287.	4.17	185.	72.	27.	.10
+	HYDROGRAPH AT	DWIN35	112.	4.17	72.	28.	11.	.10
+	ROUTED TO	RWIN35	104.	4.75	71.	28.	11.	.10
+	HYDROGRAPH AT	DRIN35	972.	5.00	347.	87.	29.	9.29
+	ROUTED TO	RSIN35	967.	5.08	347.	87.	29.	9.29
	HYDROGRAPH AT							

+		IN35	630.	4.08	61.	15.	5.	.24
+	3 COMBINED AT	CIN35	1161.	5.00	492.	137.	47.	6.11
+	HYDROGRAPH AT	PR35MD	507.	3.83	483.	154.	53.	9.29
+	ROUTED TO	RP35IN	507.	3.92	483.	154.	53.	9.29
+	2 COMBINED AT	CPIN35	1668.	5.00	973.	289.	100.	6.11
+	DIVERSION TO	DSVB35	1451.	5.00	847.	251.	87.	6.11
+	HYDROGRAPH AT	DWIN43	217.	5.00	127.	38.	13.	6.11
+	ROUTED TO	RWIN43	213.	5.33	126.	37.	13.	6.11
+	HYDROGRAPH AT	DRIN43	1251.	5.33	462.	115.	38.	6.96
+	ROUTED TO	RSIN43	1248.	5.33	462.	115.	38.	6.96
+	HYDROGRAPH AT	IN43	522.	4.17	60.	15.	5.	.26
+	3 COMBINED AT	CIN43	1453.	5.33	624.	164.	55.	7.99
+	HYDROGRAPH AT	PR43MD	629.	3.75	565.	166.	56.	6.96
+	ROUTED TO	RP43IN	629.	3.83	565.	166.	56.	6.96
+	2 COMBINED AT	CPIN43	2082.	5.33	1188.	330.	111.	7.99
+	DIVERSION TO	DSVB43	1687.	5.33	962.	267.	90.	7.99
+	HYDROGRAPH AT	DWIN51	396.	5.33	226.	63.	21.	7.99
+	ROUTED TO	RWIN51	392.	5.50	225.	63.	21.	7.99
+	HYDROGRAPH AT	DRIN51	182.	5.00	60.	15.	5.	2.37
+	ROUTED TO	RSIN51	181.	5.17	60.	15.	5.	2.37
+	HYDROGRAPH AT	IN51	271.	4.25	59.	15.	5.	.23
+	3 COMBINED AT	CIN51	722.	4.83	357.	97.	32.	2.68
+	HYDROGRAPH AT	PR51MD	368.	4.17	267.	83.	28.	2.37
+	ROUTED TO	RP51IN	368.	4.25	267.	83.	28.	2.37
+	2 COMBINED AT	CPIN51	1090.	4.83	624.	180.	61.	2.68
+	DIVERSION TO	DSVB51	0.	.00	0.	0.	0.	2.68
+	HYDROGRAPH AT	DWIN59	1090.	4.83	624.	180.	61.	2.68
+	ROUTED TO	RWIN59	1082.	5.00	623.	179.	61.	2.68
+	HYDROGRAPH AT	DRIN59	402.	5.25	149.	37.	12.	4.05
+	ROUTED TO	RSIN59	401.	5.33	149.	37.	12.	4.05
+	HYDROGRAPH AT	IN59	140.	4.58	46.	12.	4.	.20
	3 COMBINED AT							

+		CIN59	1512.	5.25	790.	222.	75.	4.90
+	HYDROGRAPH AT	PR59MD	468.	4.08	416.	145.	48.	4.05
+	ROUTED TO	RP59IN	468.	4.17	416.	145.	48.	4.05
+	2 COMBINED AT	CPIN59	1980.	5.25	1204.	367.	123.	4.90
+	DIVERSION TO	DSVB59	0.	.00	0.	0.	0.	4.90
+	HYDROGRAPH AT	DWIN67	1980.	5.25	1204.	367.	123.	4.90
+	ROUTED TO	RWIN67	1975.	5.33	1203.	367.	123.	4.90
+	HYDROGRAPH AT	DRIN67	123.	5.42	45.	11.	4.	4.41
+	ROUTED TO	RSIN67	123.	5.50	45.	11.	4.	4.41
+	HYDROGRAPH AT	IN67	117.	4.67	44.	12.	4.	.20
+	DIVERSION TO	XIN67	117.	4.67	18.	5.	2.	.20
+	HYDROGRAPH AT	ERIN67	107.	5.08	28.	7.	2.	.20
+	3 COMBINED AT	CIN67	2154.	5.33	1260.	382.	128.	5.78
+	HYDROGRAPH AT	PR67MD	400.	4.25	348.	100.	33.	4.41
+	ROUTED TO	RP67IN	400.	4.33	348.	100.	33.	4.41
+	2 COMBINED AT	CPIN67	2554.	5.33	1606.	481.	161.	5.78
+	DIVERSION TO	DSVB67	0.	.00	0.	0.	0.	5.78
+	HYDROGRAPH AT	DWIN75	2554.	5.33	1606.	481.	161.	5.78
+	ROUTED TO	RWIN75	2544.	5.42	1604.	481.	161.	5.78
+	HYDROGRAPH AT	DRIN75	430.	5.50	147.	37.	12.	6.14
+	ROUTED TO	RSIN75	430.	5.50	147.	37.	12.	6.14
+	HYDROGRAPH AT	IN75	128.	4.58	43.	11.	4.	.20
+	DIVERSION TO	XIN75	57.	4.17	6.	1.	0.	.20
+	HYDROGRAPH AT	ERIN75	128.	4.58	39.	10.	3.	.20
+	3 COMBINED AT	CIN75	2973.	5.42	1753.	519.	174.	8.11
+	HYDROGRAPH AT	PR75MD	364.	4.00	301.	80.	27.	6.14
+	ROUTED TO	RP75IN	364.	4.08	301.	80.	27.	6.14
+	2 COMBINED AT	CPIN75	3337.	5.42	2050.	598.	200.	8.11
+	DIVERSION TO	DSVB75	0.	.00	0.	0.	0.	8.11
+	HYDROGRAPH AT	DWIN83	3337.	5.42	2050.	598.	200.	8.11
+	ROUTED TO	RWIN83	3326.	5.58	2047.	598.	200.	8.11
	HYDROGRAPH AT							

+	IN83	139.	4.58	45.	12.	4.	.20
+	DIVERSION TO XIN83	139.	4.58	25.	6.	2.	.20
+	HYDROGRAPH AT ERIN83	110.	5.08	23.	6.	2.	.20
+	2 COMBINED AT CIN83	3391.	5.58	2063.	602.	202.	8.31
+	HYDROGRAPH AT PR83MD	340.	4.33	255.	68.	23.	5.80
+	ROUTED TO RP83IN	340.	4.42	255.	68.	23.	5.80
+	2 COMBINED AT CPIN83	3731.	5.58	2313.	669.	224.	8.31
+	DIVERSION TO DSVB83	0.	.00	0.	0.	0.	8.31
+	HYDROGRAPH AT DWIN91	3731.	5.58	2313.	669.	224.	8.31
+	ROUTED TO RWIN91	3721.	5.67	2310.	669.	224.	8.31
+	HYDROGRAPH AT DRIN91	439.	5.83	149.	37.	12.	10.61
+	ROUTED TO RSIN91	439.	5.83	149.	37.	12.	10.61
+	HYDROGRAPH AT IN91	201.	4.33	45.	12.	4.	.19
+	3 COMBINED AT CIN91	4139.	5.67	2467.	710.	238.	10.57
+	HYDROGRAPH AT PR91MD	345.	4.50	255.	64.	21.	10.61
+	ROUTED TO RP91IN	345.	4.58	255.	64.	21.	10.61
+	2 COMBINED AT CPIN91	4484.	5.67	2720.	774.	259.	10.57
+	DIVERSION TO DSVB91	0.	.00	0.	0.	0.	10.57
+	HYDROGRAPH AT DWINLO	4484.	5.67	2720.	774.	259.	10.57
+	ROUTED TO RWINLO	4475.	5.75	2717.	774.	259.	10.57
+	DIVERSION TO DNINLO	0.	.00	0.	0.	0.	10.57
+	HYDROGRAPH AT DWIN07	4475.	5.75	2717.	774.	259.	10.57
+	HYDROGRAPH AT INLO	141.	4.33	32.	8.	3.	.15
+	DIVERSION TO XINLO	3.	2.17	1.	0.	0.	.15
+	HYDROGRAPH AT ERINLO	141.	4.33	32.	8.	3.	.15
+	HYDROGRAPH AT DRINLO	0.	.00	0.	0.	0.	10.57
+	HYDROGRAPH AT DRIN95	0.	.00	0.	0.	0.	14.07
+	3 COMBINED AT CIN95	141.	4.50	39.	10.	3.	24.79
+	ROUTED TO SRINLO	20.	6.08	16.	7.	2.	24.79
+	3 COMBINED AT CINLO	6754.	5.83	3433.	956.	320.	24.79
+	ROUTED TO RWIN07	6729.	5.92	3430.	956.	320.	24.79
+	HYDROGRAPH AT						

+	DITM07	350.	4.92	102.	26.	9.	1.67
+	ROUTED TO SRRI03	0.	12.58	0.	0.	0.	1.67
+	ROUTED TO RWTM07	0.	11.50	0.	0.	0.	1.67
+	HYDROGRAPH AT DRTM07	226.	4.92	66.	17.	6.	1.67
+	ROUTED TO RSTM07	221.	5.17	65.	17.	6.	1.67
+	HYDROGRAPH AT TM07	155.	4.67	50.	13.	4.	.26
+	3 COMBINED AT CTM07	352.	5.08	112.	29.	10.	1.61
+	DIVERSION TO DWTMAF	229.	5.08	73.	19.	6.	1.61
+	HYDROGRAPH AT DSMD07	123.	5.08	39.	10.	3.	1.61
+	ROUTED TO RSMD07	112.	5.83	39.	10.	3.	1.61
+	HYDROGRAPH AT DRMD99	133.	4.67	46.	12.	4.	.62
+	ROUTED TO RSMD99	130.	5.33	45.	12.	4.	.62
+	HYDROGRAPH AT MD99	174.	4.67	55.	14.	5.	.32
+	2 COMBINED AT CMD99	271.	5.08	99.	26.	9.	.60
+	DIVERSION TO DMD99	152.	5.08	55.	14.	5.	.60
+	HYDROGRAPH AT DWTMRI	119.	5.08	44.	11.	4.	.60
+	ROUTED TO RWTMRI	117.	5.25	43.	11.	4.	.60
+	HYDROGRAPH AT TMRI	404.	4.17	41.	10.	3.	.24
+	2 COMBINED AT CTMRI	413.	4.17	84.	22.	7.	.51
+	ROUTED TO SRTMRI	200.	4.58	54.	14.	5.	.51
+	ROUTED TO RMD07	149.	5.25	52.	14.	5.	.51
+	HYDROGRAPH AT DIMD99	152.	5.08	55.	14.	5.	.60
+	DIVERSION TO DSIN99	76.	5.08	28.	7.	2.	.60
+	HYDROGRAPH AT DWMD07	76.	5.08	28.	7.	2.	.60
+	ROUTED TO SRMD99	0.	.00	0.	0.	0.	.60
+	ROUTED TO RWMD07	0.	.00	0.	0.	0.	.60
+	HYDROGRAPH AT MD07	522.	4.75	166.	43.	14.	.78
+	DIVERSION TO XMD07	522.	4.75	101.	25.	8.	.78
+	HYDROGRAPH AT ERMD07	351.	5.42	70.	17.	6.	.78
+	4 COMBINED AT CMD07	547.	5.50	149.	39.	13.	2.50
+	DIVERSION TO DWMDAV	410.	5.50	112.	29.	10.	2.50
+	HYDROGRAPH AT						

+		DSIN07	137.	5.50	37.	10.	3.	2.50
+	ROUTED TO	RSIN07	134.	5.67	37.	10.	3.	2.50
+	HYDROGRAPH AT	DRIN99	76.	5.08	28.	7.	2.	.60
+	ROUTED TO	RSIN99	71.	5.58	27.	7.	2.	.60
+	HYDROGRAPH AT	IN07	269.	4.33	57.	15.	5.	.26
+	DIVERSION TO	XIN07	239.	4.17	16.	4.	1.	.26
+	HYDROGRAPH AT	ERIN07	269.	4.33	42.	10.	3.	.26
+	4 COMBINED AT	CIN07	6777.	5.92	3461.	964.	323.	27.09
+	DIVERSION TO	DSVB07	0.	.00	0.	0.	0.	27.09
+	HYDROGRAPH AT	DWINAV	6777.	5.92	3461.	964.	323.	27.09
+	ROUTED TO	RWINAV	6761.	6.00	3459.	964.	323.	27.09
+	HYDROGRAPH AT	DRTMAF	229.	5.08	73.	19.	6.	1.61
+	ROUTED TO	RWTMAF	210.	5.67	72.	19.	6.	1.61
+	HYDROGRAPH AT	TMAF	414.	4.75	152.	40.	13.	.76
+	2 COMBINED AT	CTMAF	504.	5.50	218.	58.	19.	1.33
+	DIVERSION TO	DWAF02	449.	5.50	194.	52.	17.	1.33
+	HYDROGRAPH AT	DSMDAV	55.	5.50	24.	6.	2.	1.33
+	ROUTED TO	RSMDAV	53.	6.08	24.	6.	2.	1.33
+	HYDROGRAPH AT	DRMDAV	410.	5.50	112.	29.	10.	2.50
+	ROUTED TO	RWMDAV	376.	6.00	111.	29.	10.	2.50
+	HYDROGRAPH AT	MDAV	547.	4.75	183.	47.	16.	.95
+	DIVERSION TO	XMDAV	547.	4.75	152.	38.	13.	.95
+	HYDROGRAPH AT	ERMDAV	162.	6.50	36.	9.	3.	.95
+	3 COMBINED AT	CMDAV	492.	6.50	168.	44.	15.	1.72
+	DIVERSION TO	DWMDAF	359.	6.50	123.	32.	11.	1.72
+	HYDROGRAPH AT	DSINAV	133.	6.50	45.	12.	4.	1.72
+	ROUTED TO	RSINAV	124.	6.67	45.	12.	4.	1.72
+	HYDROGRAPH AT	INAV	244.	4.33	48.	12.	4.	.23
+	DIVERSION TO	XINAV	121.	4.00	7.	2.	1.	.23
+	HYDROGRAPH AT	ERINAV	244.	4.33	41.	10.	3.	.23
+	3 COMBINED AT	CINAV	6740.	6.00	3488.	973.	326.	28.58
	DIVERSION TO							

+		DSVBAF	0.	.00	0.	0.	0.	28.58
+	HYDROGRAPH AT	DWINAF	6729.	6.00	3483.	972.	325.	28.58
+	ROUTED TO	RWINAF	6690.	6.17	3475.	971.	325.	28.58
+	HYDROGRAPH AT	DRMDAF	359.	6.50	123.	32.	11.	1.72
+	ROUTED TO	RWMDAF	319.	6.83	121.	32.	11.	1.72
+	HYDROGRAPH AT	MDAF	337.	4.75	122.	32.	11.	.83
+	2 COMBINED AT	CMDAF	438.	6.58	230.	63.	21.	1.30
+	DIVERSION TO	DWAF03	333.	6.58	174.	48.	16.	1.30
+	HYDROGRAPH AT	DSINAF	105.	6.58	55.	15.	5.	1.30
+	ROUTED TO	RSINAF	104.	6.67	55.	15.	5.	1.30
+	HYDROGRAPH AT	INAF	250.	4.67	78.	20.	7.	.47
+	DIVERSION TO	XINAF	229.	4.42	17.	4.	1.	.47
+	HYDROGRAPH AT	ERINAF	250.	4.67	63.	16.	5.	.47
+	3 COMBINED AT	CINAF	6743.	6.17	3528.	986.	330.	29.36

1

SUMMARY OF KINEMATIC WAVE - MUSKINGUM-CUNGE ROUTING
(FLOW IS DIRECT RUNOFF WITHOUT BASE FLOW)

ISTAQ	ELEMENT	DT (MIN)	PEAK (CFS)	TIME TO PEAK (MIN)	VOLUME (IN)	INTERPOLATED TO COMPUTATION INTERVAL DT (MIN)	PEAK (CFS)	TIME TO PEAK (MIN)	VOLUME (IN)
FOR STORM = 1	STORM AREA (SQ MI) = .00								
RPTB83	MANE	.93	161.00	249.51	.60	5.00	161.00	250.00	.60

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3739E+02 EXCESS= .0000E+00 OUTFLOW= .3750E+02 BASIN STORAGE= .6481E-10 PERCENT ERROR= -.3

FOR STORM = 2	STORM AREA (SQ MI) = .50								
RPTB83	MANE	1.69	161.00	253.89	.59	5.00	161.00	255.00	.59

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3725E+02 EXCESS= .0000E+00 OUTFLOW= .3738E+02 BASIN STORAGE= .1177E-09 PERCENT ERROR= -.4

FOR STORM = 3	STORM AREA (SQ MI) = 2.80								
RPTB83	MANE	1.61	161.00	248.81	.62	5.00	161.00	250.00	.61

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3865E+02 EXCESS= .0000E+00 OUTFLOW= .3870E+02 BASIN STORAGE= .1145E-09 PERCENT ERROR= -.1

FOR STORM = 4	STORM AREA (SQ MI) = 16.00								
RPTB83	MANE	1.56	161.00	246.48	.64	5.00	161.00	250.00	.64

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4002E+02 EXCESS= .0000E+00 OUTFLOW= .4002E+02 BASIN STORAGE= .1146E-09 PERCENT ERROR= .0

FOR STORM = 5	STORM AREA (SQ MI) = 90.00								
RPTB83	MANE	2.42	161.00	242.74	.63	5.00	161.00	245.00	.63

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3983E+02 EXCESS= .0000E+00 OUTFLOW= .3989E+02 BASIN STORAGE= .1734E-09 PERCENT ERROR= -.1

FOR STORM = 6	STORM AREA (SQ MI) = 100.00								
RPTB83	MANE	2.42	161.00	242.86	.63	5.00	161.00	245.00	.63

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3969E+02 EXCESS= .0000E+00 OUTFLOW= .3975E+02 BASIN STORAGE= .1687E-09 PERCENT ERROR= -.1

FOR STORM = 1 STORM AREA (SQ MI) = .00

```
            RPTBLO  MANE          .80    247.00    271.78       .70      5.00    247.00    275.00         .70

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6575E+02 EXCESS= .0000E+00 OUTFLOW= .6577E+02 BASIN STORAGE= .7193E-10 PERCENT ERROR=    .0


          FOR STORM = 2  STORM AREA (SQ MI) =        .50
            RPTBLO  MANE          .86    247.00    272.33       .69      5.00    247.00    275.00         .69

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6549E+02 EXCESS= .0000E+00 OUTFLOW= .6550E+02 BASIN STORAGE= .1064E-09 PERCENT ERROR=    .0


          FOR STORM = 3  STORM AREA (SQ MI) =       2.80
            RPTBLO  MANE          .79    247.00    271.66       .70      5.00    247.00    275.00         .70

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6648E+02 EXCESS= .0000E+00 OUTFLOW= .6648E+02 BASIN STORAGE= .1036E-09 PERCENT ERROR=    .0


          FOR STORM = 4  STORM AREA (SQ MI) =      16.00
            RPTBLO  MANE          .76    247.00    276.67       .70      5.00    247.00    280.00         .70

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6641E+02 EXCESS= .0000E+00 OUTFLOW= .6641E+02 BASIN STORAGE= .1037E-09 PERCENT ERROR=    .0


          FOR STORM = 5  STORM AREA (SQ MI) =      90.00
            RPTBLO  MANE          .86    247.00    282.28       .68      5.00    247.00    285.00         .68

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6380E+02 EXCESS= .0000E+00 OUTFLOW= .6380E+02 BASIN STORAGE= .1334E-09 PERCENT ERROR=    .0


          FOR STORM = 6  STORM AREA (SQ MI) =     100.00
            RPTBLO  MANE          .73    247.00    286.97       .67      5.00    247.00    290.00         .67

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6337E+02 EXCESS= .0000E+00 OUTFLOW= .6337E+02 BASIN STORAGE= .1311E-09 PERCENT ERROR=    .0


          FOR STORM = 1  STORM AREA (SQ MI) =        .00
            RPCT75  MANE          .83    268.00    332.66       .75      5.00    268.00    330.00         .75

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4457E+02 EXCESS= .0000E+00 OUTFLOW= .4462E+02 BASIN STORAGE= .5705E-10 PERCENT ERROR=   -.1


          FOR STORM = 2  STORM AREA (SQ MI) =        .50
            RPCT75  MANE          .83    268.00    267.64       .75      5.00    268.00    270.00         .74

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4439E+02 EXCESS= .0000E+00 OUTFLOW= .4444E+02 BASIN STORAGE= .5692E-10 PERCENT ERROR=   -.1


          FOR STORM = 3  STORM AREA (SQ MI) =       2.80
            RPCT75  MANE         2.74    268.00    272.62       .75      5.00    268.00    275.00         .75

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4416E+02 EXCESS= .0000E+00 OUTFLOW= .4420E+02 BASIN STORAGE= .1803E-09 PERCENT ERROR=   -.1


          FOR STORM = 4  STORM AREA (SQ MI) =      16.00
            RPCT75  MANE         1.75    268.00    272.61       .72      5.00    268.00    275.00         .72

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4266E+02 EXCESS= .0000E+00 OUTFLOW= .4272E+02 BASIN STORAGE= .1155E-09 PERCENT ERROR=   -.1


          FOR STORM = 5  STORM AREA (SQ MI) =      90.00
            RPCT75  MANE         2.75    268.00    280.92       .62      5.00    268.00    285.00         .62

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3664E+02 EXCESS= .0000E+00 OUTFLOW= .3666E+02 BASIN STORAGE= .2027E-09 PERCENT ERROR=    .0


          FOR STORM = 6  STORM AREA (SQ MI) =     100.00
            RPCT75  MANE         2.69    268.01    319.31       .61      5.00    268.00    315.00         .60

 *** The remainder of the continuity summary has been deleted for brevity, but the entire output is included on the CD ***

*** NORMAL END OF HEC-1 ***
```

```
1*************************************
*                                   *
*   FLOOD HYDROGRAPH PACKAGE  (HEC-1)   *
*             JUN  1998             *
*           VERSION 4.1             *
*                                   *
*  RUN DATE   01NOV10  TIME  13:42:07   *
*                                   *
*************************************
```

```
*************************************
*                                   *
*   U.S. ARMY CORPS OF ENGINEERS    *
*   HYDROLOGIC ENGINEERING CENTER   *
*        609 SECOND STREET          *
*     DAVIS, CALIFORNIA 95616       *
*         (916) 756-1104            *
*                                   *
*************************************
```

```
X     X  XXXXXXX   XXXXX          X
X     X  X       X     X        XX
X     X  X             X         X
XXXXXXX  XXXX    X       XXXXX   X
X     X  X       X               X
X     X  X       X     X         X
X     X  XXXXXXX   XXXXX        XXX
```

THIS PROGRAM REPLACES ALL PREVIOUS VERSIONS OF HEC-1 KNOWN AS HEC1 (JAN 73), HEC1GS, HEC1DB, AND HEC1KW.

THE DEFINITIONS OF VARIABLES -RTIMP- AND -RTIOR- HAVE CHANGED FROM THOSE USED WITH THE 1973-STYLE INPUT STRUCTURE.
THE DEFINITION OF -AMSKK- ON RM-CARD WAS CHANGED WITH REVISIONS DATED 28 SEP 81. THIS IS THE FORTRAN77 VERSION
NEW OPTIONS: DAMBREAK OUTFLOW SUBMERGENCE , SINGLE EVENT DAMAGE CALCULATION, DSS:WRITE STAGE FREQUENCY,
DSS:READ TIME SERIES AT DESIRED CALCULATION INTERVAL LOSS RATE:GREEN AND AMPT INFILTRATION
KINEMATIC WAVE: NEW FINITE DIFFERENCE ALGORITHM

1 HEC-1 INPUT PAGE 1

```
LINE          ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10
    1         ID      GLENDALE STORMWATER MANAGEMENT PLAN
    2         ID      Model for Glendale/Peoria Watershed
    3         ID      Existing Conditions
    4         ID
    5         ID      Prepared for the City of Glendale
    6         ID      In Association with the Flood Control District of Maricopa County
    7         ID      City Project Number 089017
    8         ID
    9         ID      Prepared by Kimley-Horn and Associates, Inc.
   10         ID      KHA Project Number 091910009
   11         ID      October 2010
   12         ID
   13         ID      MODELING PARAMETERS
   14         ID      - 100 Year 6 Hour Storm Event
   15         ID      - NOAA 14 Rainfall Data
   16         ID      - Clark Unit Hydrograph
   17         ID      - Green and Ampt Rainfall Loss Method
   18         ID
   19         ID      Topo data extracted from Flood Control District database July 24, 2009
   20         ID      Land use obtained from City of Glendale General Plan August 2009, City of
   21         ID           Phoenix General Plan August 2009, and MAG General Plan Land Use 2007
   22         ID
   23         ID      Storage routing data obtained from As-built Records or Final Drainage
   24         ID           Reports where possible
   25         ID      When As-built data/Drainage reports were not available data was obtained
   26         ID           from HEC-1 models and checked for accuracy.
   27         ID      Storage routing data obtained from the following HEC-1 models:
   28         ID           - Glendale/Peoria ADMPU, May 2001
   29         ID           - Glendale/Peoria ADMP Northwest Region Update, May 2007
   30         ID      The source of data is identified on each individual storage routing card
   31         ID
   32         ID   **********************************************************************
   33         ID
   34         ID      MODELING NOMENCLATURE
   35         ID      SUBBASIN HYDROGRAPH:
   36         ID         Example: JMRS   - the subbasin upstream of Jomax and Rock Springs Wash
   37         ID
   38         ID      STORM DRAIN DIVERSION:
   39         ID         Example: DBL59  - flow from subbasin BL59 is diverted to a storm drain
   40         ID
   41         ID      SUBBASIN DIVERSION:
   42         ID         Example: DWBL59 - flow is diverted west towards Bell and 59th Avenue
   43         ID         Example: DSGW51 - flow is diverted south towards Greenway and 51st Ave
   44         ID
   45         ID      ROUTE HYDROGRAPH:
   46         ID         Example: RWBL51 - flow is routed west towards Bell and 51st Avenue
   47         ID         Example: RSGW59 - flow is routed south towards Greenway and 59th Ave
   48         ID
   49         ID      COMBINE HYDROGRAPH:
   50         ID         Example: CJMRS  - combine flow at Jomax and Rock Springs Wash
   51         ID
   52         ID      STREET NAME ABBREVIATIONS
   53         ID         Jomax Road              JM
   54         ID         Happy Valley Road       HV
   55         ID         Pinnacle Peak Road      PP
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1 HEC-1 INPUT PAGE 2

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LINE          ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10
   56         ID         Deer Valley Road        DV
   57         ID         SR Loop 101             LO
   58         ID         Beardsley Road          BY
   59         ID         Union Hills Drive       UH
   60         ID         Bell Road               BL
   61         ID         Greenway Road           GW
   62         ID         Thunderbird Road        TB
   63         ID         Cactus Road             CT
   64         ID         Peoria Avenue           PE
   65         ID         Olive Avenue            OL
   66         ID         Northern Avenue         NO
   67         ID         Glendale Avenue         GL
   68         ID         Bethany Home Road       BH
   69         ID         Camelback Road          CB
   70         ID         Indian School Road      IS
   71         ID         Thomas Road             TM
   72         ID         McDowell Road           MD
   73         ID         Interstate 10           IN
   74         ID         Grand Avenue            GR
   75         ID         Mountain View Road      MV
   76         ID         Pinnacle Hill Road      PH
   77         ID         Greenbriar Drive        GB
   78         ID         Utopia Road             UT
   79         ID         Pyramid Peak Boulevard  PY
   80         ID         Bent Tree Drive         BT
   81         ID         Glen Harbor Boulevard   GH
   82         ID         Black Rock Boulevard    BR
   83         ID         Rose Garden Lane        RG
   84         ID         Calle Lejos             CL
   85         ID         Rock Springs Wash       RS
   86         ID         Williams Road           WL
   87         ID         Del Webb Boulevard      DW
   88         ID         Westwing Parkway        WW
   89         ID         Lake Pleasant Parkway   LP
   90         ID         Thunderbird Park Road   TP
   91         ID         Talisman Road           TL
   92         ID         Royal Oak Road          RO
   93         ID         Yearling Road           YL
   94         ID         Meade Drive             ME
   95         ID         Acoma Drive             AM
   96         ID         Athens Street           AT
   97         ID
   98         ID
   99         ID      PREFIXES FOR MODELING OPERATIONS
  100         ID         RW     Routing flow in the west direction
  101         ID         RS     Routing flow in the south direction
  102         ID         RP     Routing storm drain pipe flow
  103         ID         C      Combination point
  104         ID         CI     Combination point at an intersection
  105         ID         CP     Combination point for storm drain pipe flow
  106         ID         SR     Storage for detention/retention basins
  107         ID         DW     Divert flow to the west
  108         ID         DE     Divert flow to the east
  109         ID         DS     Divert flow to the south
  110         ID         DN     Divert flow to the north
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1 HEC-1 INPUT PAGE 3

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LINE          ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10
  111         ID         ER     Divert flow for existing 100-yr 2-hr retention
  112         ID         X      Existing retention diversion does not return to model
  113         ID         DR     Divert retrieval from surface flow
  114         ID         DI     Divert retrieval from intersection flow
  115         ID         D      Divert surface flow (remains after storm drain divert)
  116         ID         DP     Divert flow to a storm drain pipe
  117         ID         PR     Divert retrieval from a storm drain pipe
  118         ID
  119         ID   **********************************************************************
  120         IT       5       0       0    1000
  121         IN      15
  122         IO       5
              *DIAGRAM
              *
  123         JD   2.692  0.0001
  124         PC   0.000  0.008  0.016  0.025  0.033  0.041  0.050  0.058  0.066  0.074
  125         PC   0.087  0.099  0.118  0.138  0.216  0.377  0.834  0.911  0.931  0.950
  126         PC   0.962  0.972  0.983  0.991  1.000
  127         JD   2.676  0.5000
  128         PC   0.000  0.008  0.016  0.025  0.033  0.041  0.050  0.058  0.066  0.074
  129         PC   0.087  0.099  0.118  0.138  0.216  0.377  0.834  0.911  0.931  0.950
  130         PC   0.962  0.972  0.983  0.991  1.000
  131         JD   2.625     2.8
  132         PC   0.000  0.009  0.016  0.025  0.034  0.042  0.051  0.059  0.068  0.077
  133         PC   0.088  0.101  0.121  0.164  0.253  0.451  0.694  0.836  0.900  0.938
  134         PC   0.950  0.963  0.975  0.988  1.000
  135         JD   2.482    16.0
  136         PC   0.000  0.015  0.020  0.030  0.048  0.063  0.076  0.090  0.105  0.119
  137         PC   0.135  0.152  0.175  0.222  0.304  0.472  0.670  0.796  0.868  0.912
  138         PC   0.946  0.960  0.973  0.987  1.000
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 139          JD   2.181    90.0
 140          PC   0.000   0.021   0.035   0.051   0.071   0.087   0.105   0.125   0.143   0.160
 141          PC   0.179   0.201   0.232   0.281   0.364   0.500   0.658   0.773   0.841   0.888
 142          PC   0.927   0.945   0.964   0.982   1.000
 143          JD   2.154   100.0
 144          PC   0.000   0.021   0.036   0.052   0.072   0.088   0.106   0.126   0.145   0.162
 145          PC   0.182   0.204   0.235   0.284   0.368   0.501   0.656   0.770   0.839   0.886
 146          PC   0.925   0.944   0.963   0.982   1.000
              *
 147          KK    UH35   BASIN
 148          KM   Runoff hydrograph for subbasin UH35 northeast of the intersection of Union
 149          KM   Hills Drive and 35th Avenue
 150          BA   1.136
 151          LG    0.20    0.13   10.10    0.03      51
 152          UC   1.034   0.647
 153          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
 154          UA     100
              *
1                                        HEC-1 INPUT                                        PAGE  4

     LINE     ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 155          KK  ERUH35  DIVERT
 156          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
 157          KM   retention developed after 1990 in subbasin UH35
 158          DT   XUH35     47.3      0.0
 159          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
 160          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *
 161          KK   DUH35  DIVERT
 162          KM   Divert calculated full flow capacity of 875 cfs into a 114-inch storm drain
 163          KM   pipe at the intersection of Union Hills Drive and 35th Avenue
 164          DT   DPUH35      0.0    875.0
 165          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
 166          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *
 167          KK  DSBL35  DIVERT
 168          KM   Divert remaining runoff hydrograph from subbasin UH35 south to combination
 169          KM   point CBL35
 170          DT   DWUH43      0.0      0.0
 171          DI     0.0   100.0    200.0    500.0   1000.0   2000.0   4000.0  10000.0  20000.0  50000.0
 172          DQ     0.0    51.0    102.0    255.0    510.0   1020.0   2040.0   5100.0  10200.0  25500.0
              *
 173          KK  RSBL35   ROUTE
 174          KM   Route diversion DSBL35 south to combination point CBL35
 175          RS       6    FLOW
 176          RC   0.035   0.015   0.035    5280  0.0030     0.00
 177          RX    0.00    0.00   76.50   76.50  372.50  372.50  449.00  449.00
 178          RY    3.00    1.27    0.50    0.00    0.00    0.50    1.27    3.00
              *
 179          KK    BL35   BASIN
 180          KM   Runoff hydrograph for subbasin BL35 northeast of the intersection of Bell
 181          KM   Road and 35th Avenue
 182          BA   1.139
 183          LG    0.22    0.15    7.30    0.09      42
 184          UC   1.212   0.767
 185          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
 186          UA     100
              *
 187          KK  ERBL35  DIVERT
 188          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
 189          KM   retention developed after 1990 in subbasin BL35
 190          DT   XBL35      8.0      0.0
 191          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
 192          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *
1                                        HEC-1 INPUT                                        PAGE  5

     LINE     ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 193          KK   CBL35 COMBINE
 194          KM   Combine route RSBL35 and subbasin BL35
 195          HC       2    1.70
              *
 196          KK   D35BL  DIVERT
 197          KM   Divert calculated full flow capacity of 158 cfs into a 60-inch storm drain
 198          KM   pipe at the intersection of Bell Road and 35th Avenue
 199          DT   DP35BL      0.0    158.0
 200          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
 201          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *
 202          KK  DSGW35  DIVERT
 203          KM   Divert remaining runoff hydrograph from combination point CBL35 south to
```



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 204          KM   combination point CGW35
 205          DT   DWBL43      0.0      0.0
 206          DI     0.0   100.0    200.0    500.0   1000.0   2000.0   4000.0  10000.0  20000.0  50000.0
 207          DQ     0.0    66.0    132.0    330.0    660.0   1320.0   2640.0   6600.0  13200.0  33000.0
              *
 208          KK  RSGW35   ROUTE
 209          KM   Route diversion DSGW35 south to combination point CGW35
 210          RS       3    FLOW
 211          RC   0.035   0.015   0.035    5280  0.0041     0.00
 212          RX    0.00    0.00   45.00   45.00  229.00  229.00  274.00  274.00
 213          RY    3.00    0.95    0.50    0.00    0.00    0.50    0.95    3.00
              *
 214          KK    GW35   BASIN
 215          KM   Runoff hydrograph for subbasin GW35 northeast of the intersection of Greenway
 216          KM   Road and 35th Avenue
 217          BA   1.008
 218          LG    0.21    0.17    6.80    0.12      45
 219          UC   1.356   0.892
 220          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
 221          UA     100
              *
 222          KK   CGW35 COMBINE
 223          KM   Combine route RSGW35 and subbasin GW35
 224          HC       2    1.58
              *
 225          KK  PR35BLRETRIEVE
 226          KM   Retrieve full flow capacity of 158 cfs from 60-inch storm drain pipe at the
 227          KM   intersection of Bell Road and 35th Avenue
 228          DR  DP35BL
              *
1                                        HEC-1 INPUT                                        PAGE  6

     LINE     ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 229          KK  RP35GW   ROUTE
 230          KM   Route full flow capacity of 158 cfs through 60-inch storm drain pipe in
 231          KM   35th Avenue to the intersection of Greenway Road and 35th Avenue
 232          RK    5260  0.0037   0.015             CIRC   5.000
              *
 233          KK  CPGW35 COMBINE
 234          KM   Combine pipe return PR35BL with the runoff hydrograph at combination point
 235          KM   CGW35 at the intersection of Greenway Road and 35th Avenue
 236          HC       2
              *
 237          KK   D35GW  DIVERT
 238          KM   Divert calculated full flow capacity of 318 cfs into a 78-inch storm drain
 239          KM   pipe at the intersection of Greenway Road and 35th Avenue
 240          DT   DP35GW      0.0    318.0
 241          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
 242          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *
 243          KK  DSTB35  DIVERT
 244          KM   Divert remaining runoff hydrograph from combination point CGW35 south to
 245          KM   combination point CTB35
 246          DT   DWGW43      0.0      0.0
 247          DI     0.0   100.0    200.0    500.0   1000.0   2000.0   4000.0  10000.0  20000.0  50000.0
 248          DQ     0.0    58.0    116.0    290.0    580.0   1160.0   2320.0   5800.0  11600.0  29000.0
              *
 249          KK  RSTB35   ROUTE
 250          KM   Route diversion DSTB35 south to combination point CTB35
 251          RS       4    FLOW
 252          RC   0.035   0.015   0.035    5280  0.0035     0.00
 253          RX    0.00    0.00   54.50   54.50  269.50  269.50  324.00  324.00
 254          RY    3.00    1.04    0.50    0.00    0.00    0.50    1.04    3.00
              *
 255          KK    TB35   BASIN
 256          KM   Runoff hydrograph for subbasin TB35 northeast of the intersection of
 257          KM   Thunderbird Road and 35th Avenue
 258          BA   0.976
 259          LG    0.23    0.15    7.60    0.08      36
 260          UC   1.465   0.986
 261          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
 262          UA     100
              *
 263          KK   CTB35 COMBINE
 264          KM   Combine route RSTB35 and subbasin TB35
 265          HC       2    1.65
              *
1                                        HEC-1 INPUT                                        PAGE  7

     LINE     ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10
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266          KK  PR35GWRETRIEVE
267          KM   Retrieve full flow capacity of 318 cfs from 78-inch storm drain pipe at the
268          KM   intersection of Greenway Road and 35th Avenue
269          DR  DP35GW
             *
270          KK  RP35TB   ROUTE
271          KM   Route full flow capacity of 318 cfs through 78-inch storm drain pipe in
272          KM   35th Avenue to the intersection of Thunderbird Road and 35th Avenue
273          RK    5252  0.0037   0.015            CIRC   6.500
             *
274          KK  CPTB35 COMBINE
275          KM   Combine pipe return PR35GW with the runoff hydrograph at combination point
276          KM   CTB35 at the intersection of Thundebird Road and 35th Avenue
277          HC       2
             *
278          KK   D35TB  DIVERT
279          KM   Divert calculated full flow capacity of 554 cfs into a 96-inch storm drain
280          KM   pipe at the intersection of Thunderbird Road and 35th Avenue
281          DT  DP35TB      0.0   554.0
282          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
283          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
             *
284          KK  DSCT35  DIVERT
285          KM   Divert remaining runoff hydrograph from combination point CTB35 south to
286          KM   combination point CCT35
287          DT  DWTB43      0.0     0.0
288          DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
289          DQ     0.0    52.0   104.0   260.0   520.0  1040.0  2080.0  5200.0 10400.0 26000.0
             *
290          KK  RSCT35   ROUTE
291          KM   Route diversion DSCT35 south to combination point CCT35
292          RS       3    FLOW
293          RC  0.035   0.015   0.035    5280  0.0036    0.00
294          RX   0.00    0.00   86.00   86.00  413.00  413.00  499.00  499.00
295          RY   3.00    1.36    0.50    0.00    0.00    0.50    1.36    3.00
             *
296          KK    CT35   BASIN
297          KM   Runoff hydrograph for subbasin CT35 northeast of the intersection of Cactus
298          KM   Road and 35th Avenue
299          BA   0.976
300          LG    0.21    0.25    5.20    0.21      47
301          UC   1.343   0.895
302          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
303          UA     100
             *
1                                        HEC-1 INPUT                                    PAGE  8
LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9.....10
304          KK   CCT35 COMBINE
305          KM   Combine route RSCT35 and subbasin CT35
306          HC       2    1.76
             *
307          KK  PR35TBRETRIEVE
308          KM   Retrieve full flow capacity of 554 cfs from 96-inch storm drain pipe at the
309          KM   intersection of Thunderbird Road and 35th Avenue
310          DR  DP35TB
             *
311          KK  RP35CT   ROUTE
312          KM   Route full flow capacity of 554 cfs through 96-inch storm drain pipe in
313          KM   35th Avenue to the intersection of Cactus Road and 35th Avenue
314          RK    5200  0.0037   0.015            CIRC   8.000
             *
315          KK  CPCT35 COMBINE
316          KM   Combine pipe return PR35TB with the runoff hydrograph at combination point
317          KM   CCT35 at the intersection of Cactus Road and 35th Avenue
318          HC       2
             *
319          KK   D35CT  DIVERT
320          KM   Divert calculated full flow capacity of 554 cfs into a 96-inch storm drain
321          KM   pipe at the intersection of Cactus Road and 35th Avenue
322          DT  DP35CT      0.0   554.0
323          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
324          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
             *
325          KK  DSPE35  DIVERT
326          KM   Divert remaining runoff hydrograph from combination point CCT35 south to
327          KM   combination point CPE35
328          DT  DWCT43      0.0     0.0
329          DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
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330          DQ     0.0    58.0   116.0   290.0   580.0  1160.0  2320.0  5800.0 11600.0 29000.0
             *
331          KK  RSPE35   ROUTE
332          KM   Route diversion DSPE35 south to combination point CPE35
333          RS       4    FLOW
334          RC   0.035   0.015   0.035    5280  0.0023    0.00
335          RX    0.00    0.00   67.00   67.00  332.00  332.00  399.00  399.00
336          RY    3.00    1.17    0.50    0.00    0.00    0.50    1.17    3.00
             *
337          KK    PE35   BASIN
338          KM   Runoff hydrograph for subbasin PE35 northeast of the intersection of Peoria
339          KM   Avenue and 35th Avenue
340          BA   0.977
341          LG    0.23    0.24    4.70    0.27      40
342          UC   1.500   1.016
343          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
1                                        HEC-1 INPUT                                    PAGE  9
LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9.....10
344          UA     100
             *
345          KK   CPE35 COMBINE
346          KM   Combine route RSPE35 and subbasin PE35
347          HC       2    1.71
             *
348          KK  PR35CTRETRIEVE
349          KM   Retrieve full flow capacity of 554 cfs from 96-inch storm drain pipe at the
350          KM   intersection of Cactus Road and 35th Avenue
351          DR  DP35CT
             *
352          KK  RP35PE   ROUTE
353          KM   Route full flow capacity of 554 cfs through 96-inch storm drain pipe in
354          KM   35th Avenue to the intersection of Peoria Avenue and 35th Avenue
355          RK    5256  0.0037   0.015            CIRC   8.000
             *
356          KK  CPPE35 COMBINE
357          KM   Combine pipe return PR35CT with the runoff hydrograph at combination point
358          KM   CPE35 at the intersection of Peoria Avenue and 35th Avenue
359          HC       2
             *
360          KK   D35PE  DIVERT
361          KM   Divert calculated full flow capacity of 466 cfs into a 90-inch storm drain
362          KM   pipe at the intersection of Peoria Avenue and 35th Avenue
363          DT  DP35PE      0.0   466.0
364          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
365          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
             *
366          KK  DSAC35  DIVERT
367          KM   Divert remaining runoff hydrograph from combination point CPE35 south to
368          KM   combination pointCAC01
369          DT  DWPE43      0.0     0.0
370          DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
371          DQ     0.0    70.0   140.0   350.0   700.0  1400.0  2800.0  7000.0 14000.0 35000.0
             *
372          KK  RSAC35   ROUTE
373          KM   Route diversion DSAC35 south to combination pointCAC01
374          RS       2    FLOW
375          RC   0.035   0.015   0.035    3447  0.0041    0.00
376          RX    0.00    0.00   41.00   41.00  184.00  184.00  225.00  225.00
377          RY    3.00    0.91    0.50    0.00    0.00    0.50    0.91    3.00
             *
1                                        HEC-1 INPUT                                    PAGE 10
LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9.....10
378          KK    AC35   BASIN
379          KM   Runoff hydrograph for subbasin AC35 northeast of the intersection of the ACDC
380          KM   Canal and 35th Avenue
381          BA   0.755
382          LG    0.15    0.25    5.30    0.20      67
383          UC   0.882   0.583
384          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
385          UA     100
             *
386          KK   CAC01 COMBINE
387          KM   Combine route RSAC35 and subbasin AC35
388          HC       2    1.27
             *
389          KK  PR35PERETRIEVE
390          KM   Retrieve full flow capacity of 446 cfs from 90-inch storm drain pipe at the
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          KM   intersection of Peoria Avenue and 35th Avenue
          DR  DP35PE
              *

          KK  RP35AC    ROUTE
          KM   Route full flow capacity of 446 cfs through 90-inch storm drain pipe in
          KM   35th Avenue to the intersection of ACDC and 35th Avenue
          RK    3523  0.0037   0.015            CIRC   7.500
              *

          KK  CPAC01 COMBINE
          KM   Combine pipe return PR35PE with the runoff hydrograph at combination point
          KM   CAC01 at the intersection of ACDC and 35th Avenue
          HC       2
              *

          KK  DRUH43RETRIEVE
          KM   Retrieve divert DRUH43 from combination point CUH35 and divert west to
          KM   combination point CUH43
          DR  DWUH43
              *

          KK  RWUH43    ROUTE
          KM   Route diversion retrieval DRUH43 west to combination point CUH43
          RS       5     FLOW
          RC   0.035   0.015   0.035    5280  0.0041    0.00
          RX    0.00    0.00   67.00   67.00  332.00  332.00  399.00  399.00
          RY    3.00    1.17    0.50    0.00    0.00    0.50    1.17    3.00
              *

          KK    UH43    BASIN
          KM   Runoff hydrograph for subbasin UH43 northeast of the intersection of Unioin
          KM   Hills Drive and 43rd Avenue
          BA   1.025
          LG    0.26    0.17    7.30    0.11      17
          UC   1.308   0.856
          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
1                                      HEC-1 INPUT                                      PAGE 11

        LINE      ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

          UA     100
              *

          KK  ERUH43  DIVERT
          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
          KM   retention developed after 1990 in subbasin UH43
          DT  XUH43     26.8      0.0
          DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
          DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

          KK   CUH43 COMBINE
          KM   Combine route RWUH43 and subbasin UH43
          HC       2     1.60
              *

          KK  PRUH35RETRIEVE
          KM   Retrieve full flow capacity of 875 cfs from 114-inch storm drain pipe at the
          KM   intersection of Union Hills Drive and 35th Avenue
          DR  DPUH35
              *

          KK  RPUH43    ROUTE
          KM   Route full flow capacity of 875 cfs through 114-inch storm drain pipe in
          KM   Union Hills Drive to the intersection of Union Hills Drive and 43rd Avenue
          RK    5324  0.0037   0.015            CIRC   9.500
              *

          KK  CPUH43 COMBINE
          KM   Combine pipe return PRUH35 with the runoff hydrograph at combination point
          KM   CUH43 at the intersection of Union Hills Drive and 43rd Avenue
          HC       2
              *

          KK   DUH43   DIVERT
          KM   Divert calculated full flow capacity of 1268 cfs into a 132-inch storm drain
          KM   pipe at the intersection of Union Hills Drive and 43rd Avenue
          DT  DPUH43      0.0  1268.0
          DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
          DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

          KK  DSBL43  DIVERT
          KM   Divert remaining runoff hydrograph from combination point CUH43 south to
          KM   combination point CBL43
          DT  DWUH51      0.0      0.0
          DI      0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0 10000.0 20000.0 50000.0
          DQ      0.0     42.0     84.0    210.0    420.0    840.0   1680.0  4200.0  8400.0 21000.0
              *
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        LINE      ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10
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          KK  RSBL43    ROUTE
          KM   Route diversion DSBL43 south to combination point CBL43
          RS       3     FLOW
          RC   0.035   0.015   0.035    5280  0.0037    0.00
          RX    0.00    0.00   48.00   48.00  251.00  251.00  299.00  299.00
          RY    3.00    0.98    0.50    0.00    0.00    0.50    0.98    3.00
              *

          KK  DRBL43RETRIEVE
          KM   Retrieve divert DRBL43 from combination point CBL35 and divert west to
          KM   combination point CBL43
          DR  DWBL43
              *

          KK  RWBL43    ROUTE
          KM   Route diversion retrieval DRBL43 west to combination point CBL43
          RS       3     FLOW
          RC   0.035   0.015   0.035    5280  0.0047    0.00
          RX    0.00    0.00   86.00   86.00  413.00  413.00  499.00  499.00
          RY    3.00    1.36    0.50    0.00    0.00    0.50    1.36    3.00
              *

          KK    BL43    BASIN
          KM   Runoff hydrograph for subbasin BL43 northeast of the intersection of Bell
          KM   Road and 43rd Avenue
          BA   1.049
          LG    0.24    0.15    8.00    0.07      33
          UC   1.306   0.857
          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
          UA     100
              *

          KK   CBL43 COMBINE
          KM   Combine route RSBL43, route RWBL43, and subbasin BL43
          HC       3     3.10
              *

          KK   D43BL  DIVERT
          KM   Divert calculated full flow capacity of 117 cfs into a 54-inch storm drain
          KM   pipe at the intersection of Bell Road and 43rd Avenue
          DT  DP43BL      0.0    117.0
          DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
          DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

          KK  DSGW43  DIVERT
          KM   Divert remaining runoff hydrograph from combination point CBL43 south to
          KM   combination point CGW43
          DT  DWBL51      0.0      0.0
          DI      0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0 10000.0 20000.0 50000.0
          DQ      0.0     46.0     92.0    230.0    460.0    920.0   1840.0  4600.0  9200.0 23000.0
              *
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        LINE      ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

          KK  RSGW43    ROUTE
          KM   Route diversion DSGW43 south to combination point CGW43
          RS       3     FLOW
          RC   0.035   0.015   0.035    5280  0.0028    0.00
          RX    0.00    0.00   57.50   57.50  291.50  291.50  349.00  349.00
          RY    3.00    1.08    0.50    0.00    0.00    0.50    1.08    3.00
              *

          KK  DRGW43RETRIEVE
          KM   Retrieve divert DRGW43 from combination point CGW35 and divert west to
          KM   combination point CGW43
          DR  DWGW43
              *

          KK  RWGW43    ROUTE
          KM   Route diversion retrieval DRGW43 west to combination point CGW43
          RS       4     FLOW
          RC   0.035   0.015   0.035    5280  0.0034    0.00
          RX    0.00    0.00   76.50   76.50  372.50  372.50  449.00  449.00
          RY    3.00    1.27    0.50    0.00    0.00    0.50    1.27    3.00
              *

          KK    GW43    BASIN
          KM   Runoff hydrograph for subbasin GW43 northeast of the intersection of Greenway
          KM   Road and 43rd Avenue
          BA   0.987
          LG    0.24    0.19    6.60    0.13      36
          UC   1.226   0.814
          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
          UA     100
              *

          KK  ERGW43  DIVERT
          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
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 517          KM   retention developed after 1990 in subbasin GW43
 518          DT   XGW43      5.5      0.0
 519          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
 520          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

 521          KK   CGW43 COMBINE
 522          KM   Combine route RSGW43, route RWGW43, and subbasin GW43
 523          HC        3     3.57
              *

 524          KK  PR43BLRETRIEVE
 525          KM   Retrieve full flow capacity of 117 cfs from 54-inch storm drain pipe at the
 526          KM   intersection of Bell Road and 43rd Avenue
 527          DR  DP43BL
              *
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 LINE         ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

 528          KK  RP43GW    ROUTE
 529          KM   Route full flow capacity of 117 cfs through 54-inch storm drain pipe in
 530          KM   43rd Avenue to the intersection of Greenway Road and 43rd Avenue
 531          RK    5150  0.0035    0.015             CIRC    4.500
              *

 532          KK  CPGW43 COMBINE
 533          KM   Combine pipe return PR43BL with the runoff hydrograph at combination point
 534          KM   CGW43 at the intersection of Greenway Road and 43rd Avenue
 535          HC        2
              *

 536          KK   D43GW  DIVERT
 537          KM   Divert calculated full flow capacity of 155 cfs into a 60-inch storm drain
 538          KM   pipe at the intersection of Greenway Road and 43rd Avenue
 539          DT  DP43GW       0.0    155.0
 540          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
 541          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

 542          KK  DSTB43  DIVERT
 543          KM   Divert remaining runoff hydrograph from combination point CGW43 south to
 544          KM   combination point CTB43
 545          DT  DWGW51       0.0      0.0
 546          DI     0.0   100.0    200.0    500.0   1000.0   2000.0   4000.0  10000.0  20000.0  50000.0
 547          DQ     0.0    53.0    106.0    265.0    530.0   1060.0   2120.0   5300.0  10600.0  26500.0
              *

 548          KK  RSTB43    ROUTE
 549          KM   Route diversion DSTB43 south to combination point CTB43
 550          RS        2     FLOW
 551          RC   0.035    0.015    0.035     5280   0.0038     0.00
 552          RX    0.00     0.00    67.00    67.00   332.00   332.00   399.00   399.00
 553          RY    3.00     1.17     0.50     0.00     0.00     0.50     1.17     3.00
              *

 554          KK  DRTB43RETRIEVE
 555          KM   Retrieve divert DRTB43 from combination point CTB35 and divert west to
 556          KM   combination point CTB43
 557          DR  DWTB43
              *

 558          KK  RWTB43    ROUTE
 559          KM   Route diversion retrieval DRTB43 west to combination point CTB43
 560          RS        3     FLOW
 561          RC   0.035    0.015    0.035     5280   0.0037     0.00
 562          RX    0.00     0.00    95.50    95.50   453.50   453.50   549.00   549.00
 563          RY    3.00     1.46     0.50     0.00     0.00     0.50     1.46     3.00
              *
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 LINE         ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

 564          KK    TB43    BASIN
 565          KM   Runoff hydrograph for subbasin TB43 northeast of the intersection of
 566          KM   Thunderbird Road and 43rd Avenue
 567          BA   0.995
 568          LG    0.26     0.15     7.30     0.10       25
 569          UC   1.352    0.903
 570          UA       0      5.0     16.0     30.0     65.0     77.0     84.0     90.0     94.0     97.0
 571          UA     100
              *

 572          KK    CTB43 COMBINE
 573          KM   Combine route RSTB43, route RWTB43, and subbasin TB43
 574          HC        3     3.55
              *

 575          KK  PR43GWRETRIEVE
 576          KM   Retrieve full flow capacity of 155 cfs from 60-inch storm drain pipe at the
 577          KM   intersection of Greenway Road and 43rd Avenue
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```
 578          DR  DP43GW
              *

 579          KK  RP43TB    ROUTE
 580          KM   Route full flow capacity of 155 cfs through 60-inch storm drain pipe in
 581          KM   43rd Avenue to the intersection of Thunderbird Road and 43rd Avenue
 582          RK    5245  0.0035    0.015             CIRC    5.000
              *

 583          KK  CPTB43 COMBINE
 584          KM   Combine pipe return PR43GW with the runoff hydrograph at combination point
 585          KM   CTB43 at the intersection of Thunderbird Road and 43rd Avenue
 586          HC        2
              *

 587          KK   D43TB  DIVERT
 588          KM   Divert calculated full flow capacity of 312 cfs into a 78-inch storm drain
 589          KM   pipe at the intersection of Tunderbird Road and 43rd Avenue
 590          DT  DP43TB       0.0    312.0
 591          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
 592          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

 593          KK  DSCT43  DIVERT
 594          KM   Divert remaining runoff hydrograph from combination point CTB43 south to
 595          KM   combination point CCT43
 596          DT  DWTB51       0.0      0.0
 597          DI     0.0   100.0    200.0    500.0   1000.0   2000.0   4000.0  10000.0  20000.0  50000.0
 598          DQ     0.0    63.0    126.0    315.0    630.0   1260.0   2520.0   6300.0  12600.0  31500.0
              *
1                                        HEC-1 INPUT                                        PAGE 16

 LINE         ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

 599          KK  RSCT43    ROUTE
 600          KM   Route diversion DSCT43 south to combination point CCT43
 601          RS        3     FLOW
 602          RC   0.035    0.015    0.035     5280   0.0030     0.00
 603          RX    0.00     0.00    48.00    48.00   251.00   251.00   299.00   299.00
 604          RY    3.00     0.98     0.50     0.00     0.00     0.50     0.98     3.00
              *

 605          KK  DRCT43RETRIEVE
 606          KM   Retrieve divert DRCT43 from combination point CCT35 and divert west to
 607          KM   combination point CCT43
 608          DR  DWCT43
              *

 609          KK  RWCT43    ROUTE
 610          KM   Route diversion retrieval DRCT43 west to combination point CCT43
 611          RS        4     FLOW
 612          RC   0.035    0.015    0.035     5280   0.0029     0.00
 613          RX    0.00     0.00    86.00    86.00   413.00   413.00   499.00   499.00
 614          RY    3.00     1.36     0.50     0.00     0.00     0.50     1.36     3.00
              *

 615          KK    CT43    BASIN
 616          KM   Runoff hydrograph for subbasin CT43 northeast of the intersection of Cactus
 617          KM   Road and 43rd Avenue
 618          BA   0.996
 619          LG    0.23     0.15     8.00     0.07       37
 620          UC   1.292    0.858
 621          UA       0      5.0     16.0     30.0     65.0     77.0     84.0     90.0     94.0     97.0
 622          UA     100
              *

 623          KK  ERCT43  DIVERT
 624          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
 625          KM   retention developed after 1990 in subbasin CT43
 626          DT   XCT43     41.4      0.0
 627          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
 628          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

 629          KK   CCT43 COMBINE
 630          KM   Combine route RSCT43, route RWCT43, and subbasin CT43
 631          HC        3     3.35
              *

 632          KK  PR43TBRETRIEVE
 633          KM   Retrieve full flow capacity of 312 cfs from 78-inch storm drain pipe at the
 634          KM   intersection of Thunderbird Road and 43rd Avenue
 635          DR  DP43TB
              *
1                                        HEC-1 INPUT                                        PAGE 17

 LINE         ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

 636          KK  RP43CT    ROUTE
 637          KM   Route full flow capacity of 312 cfs through 78-inch storm drain pipe in
 638          KM   43rd Avenue to the intersection of Cactus Road and 43rd Avenue
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639          RK    5194  0.0035   0.015            CIRC   6.500
             *

640          KK  CPCT43 COMBINE
641          KM   Combine pipe return PR43TB with the runoff hydrograph at combination point
642          KM   CCT43 at the intersection of Cactus Road and 43rd Avenue
643          HC       2
             *

644          KK   D43CT  DIVERT
645          KM   Divert calculated full flow capacity of 380 cfs into an 84-inch storm drain
646          KM   pipe at the intersection of Cactus Road and 43rd Avenue
647          DT  DP43CT     0.0   380.0
648          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
649          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
             *

650          KK  DSPE43  DIVERT
651          KM   Divert remaining runoff hydrograph from combination point CCT43 south to
652          KM   combination point CPE43
653          DT  DWCT51     0.0     0.0
654          DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
655          DQ     0.0    63.0   126.0   315.0   630.0  1260.0  2520.0  6300.0 12600.0 31500.0
             *

656          KK  RSPE43   ROUTE
657          KM   Route diversion DSPE43 south to combination point CPE43
658          RS       4    FLOW
659          RC   0.035   0.015   0.035    5280  0.0024    0.00
660          RX    0.00    0.00   48.00   48.00  251.00  251.00  299.00  299.00
661          RY    3.00    0.98    0.50    0.00    0.00    0.50    0.98    3.00
             *

662          KK  DRPE43RETRIEVE
663          KM   Retrieve divert DRPE43 from combination point CPE35 and divert west to
664          KM   combination point CPE43
665          DR  DWPE43
             *

666          KK  RWPE43   ROUTE
667          KM   Route diversion retrieval DRPE43 west to combination point CPE43
668          RS       4    FLOW
669          RC   0.035   0.015   0.035    5280  0.0030    0.00
670          RX    0.00    0.00  105.00  105.00  494.00  494.00  599.00  599.00
671          RY    3.00    1.55    0.50    0.00    0.00    0.50    1.55    3.00
             *
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LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

672          KK    PE43   BASIN
673          KM   Runoff hydrograph for subbasin PE43 northeast of the intersection of Peoria
674          KM   Avenue and 43rd Avenue
675          BA   0.997
676          LG    0.24    0.25    5.70    0.19      32
677          UC   1.452   0.976
678          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
679          UA     100
             *

680          KK   CPE43 COMBINE
681          KM   Combine route RSPE43, route RWPE43, and subbasin PE43
682          HC       3    3.42
             *

683          KK  PR43CTRETRIEVE
684          KM   Retrieve full flow capacity of 380 cfs from 84-inch storm drain pipe at the
685          KM   intersection of Cactus Road and 43rd Avenue
686          DR  DP43CT
             *

687          KK  RP43PE   ROUTE
688          KM   Route full flow capacity of 380 cfs through 84-inch storm drain pipe in
689          KM   43rd Avenue to the intersection of Peoria Avenue and 43rd Avenue
690          RK    4928  0.0035   0.015            CIRC   7.000
             *

691          KK  CPPE43 COMBINE
692          KM   Combine pipe return PR43CT with the runoff hydrograph at combination point
693          KM   CPE43 at the intersection of Peoria Avenue and 43rd Avenue
694          HC       2
             *

695          KK   D43PE  DIVERT
696          KM   Capacity of storm drain in Peoria Avenue and 43rd Avenue diverted together.
697          KM   Divert combined calculated full flow capacity of 456 cfs in the 90-inch storm
698          KM   drain pipe in Peoria Avenue and 64 cfs in the 42-inch storm drain pipe in
699          KM   43rd Avenue. The total calculated combined full flow capacity diverted at the
700          KM   intersection of Peoria Avenue and 43rd Avenue is 520 cfs in an equivalent
701          KM   diameter pipe of 96 inches
702          DT  DP43PE     0.0   520.0
703          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
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704          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
             *

705          KK  DSAC43  DIVERT
706          KM   Divert remaining runoff hydrograph from combination point CPE43 south to
707          KM   combination point CAC02
708          DT  DWAC51     0.0     0.0
709          DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
710          DQ     0.0    38.0    76.0   190.0   380.0   760.0  1520.0  3800.0  7600.0 19000.0
             *
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LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

711          KK    AC43   BASIN
712          KM   Runoff hydrograph for subbasin AC43 northeast of the intersection of the ACDC
713          KM   Canal and 43rd Avenue
714          BA   0.362
715          LG    0.23    0.25    4.35    0.35      37
716          UC   1.246   1.349
717          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
718          UA     100
             *

719          KK   CAC02 COMBINE
720          KM   Combine divert DSAC43, subbasin AC43, and combination point CPAC01
721          HC       3    3.75
             *

722          KK  PR43PERETRIEVE
723          KM   Retrieve combined full flow capacity of 520 cfs from 96-inch equivalent
724          KM   diameter pipe at the intersection of Peoria Avenue and 43rd Avenue
725          DR  DP43PE
             *

726          KK  CPAC02 COMBINE
727          KM   Combine pipe return PR43PE with the runoff hydrograph at combination point
728          KM   CAC02 at the intersection of ACDC and 43rd Avenue
729          HC       2
             *

730          KK  DRUH51RETRIEVE
731          KM   Retrieve divert DRUH51 from combination point CUH43 and divert west to
732          KM   combination point CUH51
733          DR  DWUH51
             *

734          KK  RWUH51   ROUTE
735          KM   Route diversion retrieval DRUH51 west to combination point CUH51
736          RS       4    FLOW
737          RC   0.035   0.015   0.035    5280  0.0037    0.00
738          RX    0.00    0.00   76.50   76.50  372.50  372.50  449.00  449.00
739          RY    3.00    1.27    0.50    0.00    0.00    0.50    1.27    3.00
             *

740          KK    UH51   BASIN
741          KM   Runoff hydrograph for subbasin UH51 northeast of the intersection of Union
742          KM   Hills Drive and 51st Avenue
743          BA   0.990
744          LG    0.23    0.26    4.60    0.29      36
745          UC   1.445   0.967
746          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
747          UA     100
             *
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LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

748          KK  ERUH51  DIVERT
749          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
750          KM   retention developed after 1990 in subbasin UH51
751          DT   XUH51    48.6     0.0
752          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
753          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
             *

754          KK   CUH51 COMBINE
755          KM   Combine route RWUH51 and subbasin UH51
756          HC       2    1.66
             *

757          KK  DSBL51  DIVERT
758          KM   Divert remaining runoff hydrograph from combination point CUH51 south to
759          KM   combination point CBL51
760          DT  DWUHSK     0.0     0.0
761          DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
762          DQ     0.0    61.0   122.0   305.0   610.0  1220.0  2440.0  6100.0 12200.0 30500.0
             *

763          KK  PRUH43RETRIEVE
764          KM   Retrieve full flow capacity of 1268 cfs from 132-inch storm drain pipe at the
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765          KM   intersection of Union Hills Drive and 43rd Avenue
766          DR  DPUH43
             *
767          KK  RPUH51    ROUTE
768          KM   Route full flow capacity of 1268 cfs through 132-inch storm drain pipe in
769          KM   Union Hills Drive to the intersection of Union Hills Drive and 51st Avenue
770          RK    5152  0.0035   0.015            CIRC  11.000
             *
771          KK  CPUH51 COMBINE
772          KM   Combine pipe return PRUH43 with diversion DSBL51 at the intersection of Union
773          KM   Hills Drive and 51st Avenue
774          HC       2
             *
775          KK   DUH51  DIVERT
776          KM   Divert calculated full flow capacity of 1548 cfs into a 144-inch storm drain
777          KM   pipe at the intersection of Union Hills Drive and 51st Avenue.
778          KM   Storm drain flow discharges to Skunk Creek and is not returned to the model.
779          DT  DPUH51      0.0  1548.0
780          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
781          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
             *
782          KK  RSBL51    ROUTE
783          KM   Route diversion DUH51 south to combination point CBL51
784          RS       5     FLOW
785          RC   0.035   0.015   0.035    5280  0.0040    0.00
786          RX    0.00    0.00   48.00   48.00  251.00  251.00  299.00  299.00
787          RY    3.00    0.98    0.50    0.00    0.00    0.50    0.98    3.00
             *
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LINE         ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

788          KK  DRBL51RETRIEVE
789          KM   Retrieve divert DRBL51 from combination point CBL43 and divert west to
790          KM   combination point CBL51
791          DR  DWBL51
             *
792          KK  RWBL51    ROUTE
793          KM   Route diversion retrieval DRBL51 west to combination point CBL51
794          RS       3     FLOW
795          RC   0.035   0.015   0.035    5280  0.0040    0.00
796          RX    0.00    0.00   38.50   38.50  210.50  210.50  249.00  249.00
797          RY    3.00    0.88    0.50    0.00    0.00    0.50    0.88    3.00
             *
798          KK    BL51    BASIN
799          KM   Runoff hydrograph for subbasin BL51 northeast of the intersection of Bell
800          KM   Road and 51st Avenue
801          BA  1.045
802          LG   0.22    0.19    6.60    0.14      31
803          UC  1.267   0.834
804          UA      0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
805          UA    100
             *
806          KK  ERBL51  DIVERT
807          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
808          KM   retention developed after 1990 in subbasin BL51
809          DT   XBL51     23.0      0.0
810          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
811          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
             *
812          KK   CBL51 COMBINE
813          KM   Combine route RSBL51, route RWBL51, and subbasin BL51
814          HC       3    3.12
             *
815          KK   D51BL  DIVERT
816          KM   Divert calculated full flow capacity of 38 cfs into a 36-inch storm drain
817          KM   pipe at the intersection of Bell Road and 51st Avenue
818          DT  DP51BL      0.0     38.0
819          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
820          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
             *
821          KK  DSGW51  DIVERT
822          KM   Divert remaining runoff hydrograph from combination point CBL51 south to
823          KM   combination point CGW51
824          DT  DWBL59      0.0      0.0
825          DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
826          DQ     0.0    52.0   104.0   260.0   520.0  1040.0  2080.0  5200.0 10400.0 26000.0
             *
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LINE         ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10
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827          KK  RSGW51    ROUTE
828          KM   Route diversion DSGW51 south to combination point CGW51
829          RS       3     FLOW
830          RC   0.035   0.015   0.035    5280  0.0035    0.00
831          RX    0.00    0.00   48.00   48.00  251.00  251.00  299.00  299.00
832          RY    3.00    0.98    0.50    0.00    0.00    0.50    0.98    3.00
             *
833          KK  DRGW51RETRIEVE
834          KM   Retrieve divert DRGW51 from combination point CGW43 and divert west to
835          KM   combination point CGW51
836          DR  DWGW51
             *
837          KK  RWGW51    ROUTE
838          KM   Route diversion retrieval DRGW51 west to combination point CGW51
839          RS       2     FLOW
840          RC   0.035   0.015   0.035    5280  0.0047    0.00
841          RX    0.00    0.00   67.00   67.00  332.00  332.00  399.00  399.00
842          RY    3.00    1.17    0.50    0.00    0.00    0.50    1.17    3.00
             *
843          KK    GW51    BASIN
844          KM   Runoff hydrograph for subbasin GW51 northeast of the intersection of Greenway
845          KM   Road and 51st Avenue
846          BA  0.962
847          LG   0.26    0.21    6.40    0.17      21
848          UC  1.336   0.898
849          UA      0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
850          UA    100
             *
851          KK  ERGW51  DIVERT
852          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
853          KM   retention developed after 1990 in subbasin GW51
854          DT   XGW51      1.3      0.0
855          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
856          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
             *
857          KK   CGW51 COMBINE
858          KM   Combine route RSGW51, route RWGW51, and subbasin GW51
859          HC       3    4.34
             *
860          KK  PR51BLRETRIEVE
861          KM   Retrieve full flow capacity of 38 cfs from 36-inch storm drain pipe at the
862          KM   intersection of Bell Road and 51st Avenue
863          DR  DP51BL
             *
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LINE         ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

864          KK  RP51GW    ROUTE
865          KM   Route full flow capacity of 38 cfs through 36-inch storm drain pipe in
866          KM   51st Avenue to the intersection of Greenway Road and 51st Avenue
867          RK    4986  0.0033   0.015            CIRC   3.000
             *
868          KK  CPGW51 COMBINE
869          KM   Combine pipe return PR51BL with the runoff hydrograph at combination point
870          KM   CGW51 at the intersection of Greenway Road and 51st Avenue
871          HC       2
             *
872          KK   D51GW  DIVERT
873          KM   Divert calculated full flow capacity of 150 cfs into a 60-inch storm drain
874          KM   pipe at the intersection of Greenway Road and 51st Avenue
875          DT  DP51GW      0.0     150.0
876          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
877          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
             *
878          KK  DSTB51  DIVERT
879          KM   Divert remaining runoff hydrograph from combination point CGW51 south to
880          KM   combination point CTB51
881          DT  DWGW59      0.0      0.0
882          DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
883          DQ     0.0    65.0   130.0   325.0   650.0  1300.0  2600.0  6500.0 13000.0 32500.0
             *
884          KK  RSTB51    ROUTE
885          KM   Route diversion DSTB51 south to combination point CTB51
886          RS       4     FLOW
887          RC   0.035   0.015   0.035    5280  0.0027    0.00
888          RX    0.00    0.00   38.50   38.50  210.50  210.50  249.00  249.00
889          RY    3.00    0.88    0.50    0.00    0.00    0.50    0.88    3.00
             *
890          KK  DRTB51RETRIEVE
```

```
          KM   Retrieve divert DRTB51 from combination point CTB43 and divert west to
          KM   combination point CTB51
          DR  DWTB51
          *

          KK  RWTB51    ROUTE
          KM   Route diversion retrieval DRTB51 west to combination point CTB51
          RS       3    FLOW
          RC   0.035   0.015   0.035    5280  0.0037    0.00
          RX    0.00    0.00   76.50   76.50  372.50  372.50  449.00  449.00
          RY    3.00    1.27    0.50    0.00    0.00    0.50    1.27    3.00
          *
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        LINE      ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

          KK    TB51    BASIN
          KM   Runoff hydrograph for subbasin TB51 northeast of the intersection of
          KM   Thunderbird Road and 51st Avenue
          BA   0.990
          LG    0.27    0.19    6.60    0.15      21
          UC   1.352   0.902
          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
          UA     100
          *

          KK   CTB51 COMBINE
          KM   Combine route RSTB51, route RWTB51, and subbasin TB51
          HC       3    4.70
          *

          KK  PR51GWRETRIEVE
          KM   Retrieve full flow capacity of 150 cfs from 60-inch storm drain pipe at the
          KM   intersection of Greenway Road and 51st Avenue
          DR  DP51GW
          *

          KK  RP51TB    ROUTE
          KM   Route full flow capacity of 150 cfs through 60-inch storm drain pipe in
          KM   51st Avenue to the intersection of Thunderbird Road and 51st Avenue
          RK    5283  0.0033   0.015            CIRC   5.000
          *

          KK  CPTB51 COMBINE
          KM   Combine pipe return PR51GW with the runoff hydrograph at combination point
          KM   CTB51 at the intersection of Thunderbird Road and 51st Avenue
          HC       2
          *

          KK   D51TB  DIVERT
          KM   Divert calculated full flow capacity of 244 cfs into a 72-inch storm drain
          KM   pipe at the intersection of Thunderbird Road and 51st Avenue
          DT  DP51TB      0.0   244.0
          DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
          DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
          *

          KK  DSCT51  DIVERT
          KM   Divert remaining runoff hydrograph from combination point CTB51 south to
          KM   combination point CCT51
          DT  DWTB59      0.0      0.0
          DI      0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0 10000.0 20000.0 50000.0
          DQ      0.0     61.0    122.0    305.0    610.0   1220.0   2440.0  6100.0 12200.0 30500.0
          *
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        LINE      ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

          KK  RSCT51    ROUTE
          KM   Route diversion DSCT51 south to combination point CCT51
          RS       3    FLOW
          RC   0.035   0.015   0.035    5280  0.0026    0.00
          RX    0.00    0.00   26.00   26.00  148.00  148.00  174.00  174.00
          RY    3.00    0.76    0.50    0.00    0.00    0.50    0.76    3.00
          *

          KK  DRCT51RETRIEVE
          KM   Retrieve divert DRCT51 from combination point CCT43 and divert west to
          KM   combination point CCT51
          DR  DWCT51
          *

          KK  RWCT51    ROUTE
          KM   Route diversion retrieval DRCT51 west to combination point CCT51
          RS       4    FLOW
          RC   0.035   0.015   0.035    5280  0.0032    0.00
          RX    0.00    0.00   76.50   76.50  372.50  372.50  449.00  449.00
          RY    3.00    1.27    0.50    0.00    0.00    0.50    1.27    3.00
          *

          KK    CT51    BASIN
```



```
          KM   Runoff hydrograph for subbasin CT51 northeast of the intersection of Cactus
          KM   Road and 51st Avenue
          BA   0.988
          LG    0.24    0.26    6.40    0.13      32
          UC   1.197   0.789
          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
          UA     100
          *

          KK  ERCT51  DIVERT
          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
          KM   retention developed after 1990 in subbasin CT51
          DT   XCT51    29.9      0.0
          DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
          DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
          *

          KK   CCT51 COMBINE
          KM   Combine route RSCT51, route RWCT51, and subbasin CT51
          HC       3    4.94
          *

          KK  PR51TBRETRIEVE
          KM   Retrieve full flow capacity of 244 cfs from 72-inch storm drain pipe at the
          KM   intersection of Thunderbird Road and 51st Avenue
          DR  DP51TB
          *
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        LINE      ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

          KK  RP51CT    ROUTE
          KM   Route full flow capacity of 244 cfs through 72-inch storm drain pipe in
          KM   51st Avenue to the intersection of Cactus Road and 51st Avenue
          RK    5189  0.0033   0.015            CIRC   6.000
          *

          KK  CPCT51 COMBINE
          KM   Combine pipe return PR51TB with the runoff hydrograph at combination point
          KM   CCT51 at the intersection of Cactus Road and 51st Avenue
          HC       2
          *

          KK   D51CT  DIVERT
          KM   Divert calculated full flow capacity of 244 cfs into a 72-inch storm drain
          KM   pipe at the intersection of Cactus Road and 51st Avenue
          DT  DP51CT      0.0   244.0
          DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
          DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
          *

          KK  DSAC51  DIVERT
          KM   Divert remaining runoff hydrograph from combination point CCT51 south to
          KM   combination pointCAC03
          DT  DWAC59      0.0      0.0
          DI      0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0 10000.0 20000.0 50000.0
          DQ      0.0     33.0     66.0    165.0    330.0    660.0   1320.0  3300.0  6600.0 16500.0
          *

          KK  DRAC51RETRIEVE
          KM   Retrieve divert DRAC51 from combination point CPE43 and divert west to
          KM   combination point CAC03
          DR  DWAC51
          *

          KK    AC51    BASIN
          KM   Runoff hydrograph for subbasin AC51 northeast of the intersection of the ACDC
          KM   Canal and 51st Avenue
          BA   0.576
          LG    0.23    0.15    8.00    0.07      35
          UC   1.461   1.575
          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
          UA     100
          *

          KK   CAC03 COMBINE
          KM   Combine divert DSAC51, subbasin AC51, divert retrieval DRAC51, and
          KM   combination point CPAC02
          HC       4    8.95
          *
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        LINE      ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

          KK  PR51CTRETRIEVE
          KM   Retrieve full flow capacity of 244 cfs from 72-inch storm drain pipe at the
          KM   intersection of Cactus Road and 51st Avenue
          DR  DP51CT
          *

          KK  CPAC03 COMBINE
```

```
1013          KM   Combine pipe return PR51CT with the runoff hydrograph at combination point
1014          KM   CAC03 at the intersection of ACDC and 51st Avenue
1015          HC       2
              *


1016          KK  DRBL59RETRIEVE
1017          KM   Retrieve divert DRBL59 from combination point CBL51 and divert west to
1018          KM   combination point CBL59
1019          DR  DWBL59
              *


1020          KK  RWBL59   ROUTE
1021          KM   Route diversion retrieval DRBL59 west to combination point CBL59
1022          RS       5     FLOW
1023          RC   0.035   0.015   0.035    5280  0.0031    0.00
1024          RX    0.00    0.00   51.50   51.50  296.50  296.50  348.00  348.00
1025          RY    3.00    1.02    0.50    0.00    0.00    0.50    1.02    3.00
              *


1026          KK   BL59   BASIN
1027          KM   Runoff hydrograph for subbasin BL59 northeast of the intersection of Bell
1028          KM   Road and 59th Avenue
1029          BA   1.075
1030          LG    0.23    0.18    6.80    0.12      38
1031          UC   1.230   0.799
1032          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
1033          UA     100
              *


1034          KK  ERBL59  DIVERT
1035          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
1036          KM   retention developed after 1990 in subbasin BL59
1037          DT   XBL59    72.8     0.0
1038          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
1039          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *


1040          KK   CBL59 COMBINE
1041          KM   Combine route RWBL59 and subbasin BL59
1042          HC       2    2.71
              *

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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9.....10


1043          KK   D59BL  DIVERT
1044          KM   Divert calculated full flow capacity of 108 cfs into 54-inch storm drain
1045          KM   pipe at the intersection of Bell Road and 59th Avenue
1046          DT   DP59BL     0.0   108.0
1047          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
1048          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *


1049          KK  DSGW59  DIVERT
1050          KM   Divert remaining runoff hydrograph from combination point CBL59 south to
1051          KM   combination point CGW59
1052          DT   DWBL67     0.0     0.0
1053          DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
1054          DQ     0.0    31.0    62.0   155.0   310.0   620.0  1240.0  3100.0  6200.0 15500.0
              *


1055          KK  RSGW59   ROUTE
1056          KM   Route diversion DSGW59 south to combination point CGW59
1057          RS       4     FLOW
1058          RC   0.035   0.015   0.035    5280  0.0038    0.00
1059          RX    0.00    0.00   38.50   38.50  241.50  241.50  280.00  280.00
1060          RY    3.00    0.88    0.50    0.00    0.00    0.50    0.88    3.00
              *


1061          KK  DRGW59RETRIEVE
1062          KM   Retrieve divert DRGW59 from combination point CGW51 and divert west to
1063          KM   combination point CGW59
1064          DR  DWGW59
              *


1065          KK  RWGW59   ROUTE
1066          KM   Route diversion retrieval DRGW59 west to combination point CGW59
1067          RS       4     FLOW
1068          RC   0.035   0.015   0.035    5280  0.0033    0.00
1069          RX    0.00    0.00   68.50   68.50  359.50  359.50  428.00  428.00
1070          RY    3.00    1.18    0.50    0.00    0.00    0.50    1.18    3.00
              *


1071          KK   GW59   BASIN
1072          KM   Runoff hydrograph for subbasin GW59 northeast of the intersection of Greenway
1073          KM   Road and 59th Avenue
1074          BA   0.944
1075          LG    0.21    0.16    7.30    0.10      40
1076          UC   1.267   0.852
1077          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
1078          UA     100
              *
```



```
1079          KK  ERGW59  DIVERT
1080          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
1081          KM   retention developed after 1990 in subbasin GW59
1082          DT   XGW59    35.3     0.0
1083          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
1084          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9.....10


1085          KK   CGW59 COMBINE
1086          KM   Combine route RSGW59, route RWGW59, and subbasin GW59
1087          HC       3    5.64
              *


1088          KK  PR59BLRETRIEVE
1089          KM   Retrieve full flow capacity of 108 cfs from 54-inch storm drain pipe at the
1090          KM   intersection of Bell Road and 59th Avenue
1091          DR  DP59BL
              *


1092          KK  RP59GW   ROUTE
1093          KM   Route full flow capacity of 108 cfs through 54-inch storm drain pipe in
1094          KM   59th Avenue to the intersection of Greenway Road and 59th Avenue
1095          RK    4995  0.0030   0.015             CIRC   4.500
              *


1096          KK  CPGW59 COMBINE
1097          KM   Combine pipe return PR59BL with the runoff hydrograph at combination point
1098          KM   CGW59 at the intersection of Greenway Road and 59th Avenue
1099          HC       2
              *


1100          KK   D59GW  DIVERT
1101          KM   Divert calculated full flow capacity of 273 cfs into 78-inch storm drain
1102          KM   pipe at the intersection of Greenway Road and 59th Avenue
1103          DT   DP59GW     0.0   273.0
1104          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
1105          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *


1106          KK  DSTB59  DIVERT
1107          KM   Divert remaining runoff hydrograph from combination point CPGW59 south to
1108          KM   combination point CTB59
1109          DT   DWGW67     0.0     0.0
1110          DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
1111          DQ     0.0    45.0    90.0   225.0   450.0   900.0  1800.0  4500.0  9000.0 22500.0
              *


1112          KK  RSTB59   ROUTE
1113          KM   Route diversion DSTB59 south to combination point CTB59
1114          RS       4     FLOW
1115          RC   0.035   0.015   0.035    5280  0.0026    0.00
1116          RX    0.00    0.00   65.50   65.50  382.50  382.50  448.00  448.00
1117          RY    3.00    1.16    0.50    0.00    0.00    0.50    1.16    3.00
              *


1118          KK  DRTB59RETRIEVE
1119          KM   Retrieve divert DRTB59 from combination point CTB51 and divert west to
1120          KM   combination point CTB59
1121          DR  DWTB59
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9.....10


1122          KK  RWTB59   ROUTE
1123          KM   Route diversion retrieval DRTB59 west to combination point CTB59
1124          RS       2     FLOW
1125          RC   0.035   0.015   0.035    5280  0.0032    0.00
1126          RX    0.00    0.00   37.50   37.50  210.50  210.50  248.00  248.00
1127          RY    3.00    0.88    0.50    0.00    0.00    0.50    0.88    3.00
              *


1128          KK   TB59   BASIN
1129          KM   Runoff hydrograph for subbasin TB59 northeast of the intersection of
1130          KM   Thunderbird Road and 59th Avenue
1131          BA   0.995
1132          LG    0.25    0.25    6.20    0.15      34
1133          UC   1.294   0.860
1134          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
1135          UA     100
              *


1136          KK   CTB59 COMBINE
1137          KM   Combine route RSTB59, route RWTB59, and subbasin TB59
1138          HC       3    6.96
              *
```

```
1139          KK  PR59GWRETRIEVE
1140          KM   Retrieve full flow capacity of 273 cfs from 78-inch storm drain pipe at the
1141          KM   intersection of Greenway Road and 59th Avenue
1142          DR  DP59GW
              *

1143          KK  RP59AM   ROUTE
1144          KM   Route full flow capacity of 273 cfs through 78-inch storm drain pipe in
1145          KM   59th Avenue to the intersection of Acoma Drive and 59th Avenue
1146          RK    2519  0.0027   0.015            CIRC   6.500
              *

1147          KK  SRAM59 STORAGE
1148          KM   Storage route pipe flow PR59GW through the regional retention basin located
1149          KM     in subbasin TB59 near the intersection of Acoma Drive and 59th Avenue
1150          KM   Stage-storage data from 59th Avenue Detention Basin As-built records, 1990
1151          RS       1     STOR
1152          SV             0.20    2.80   10.90   11.80   12.70   14.90
1153          SQ             3.00  118.00  206.00  478.00  970.00 2354.00
1154          SE  1214.5 1215.00 1218.00 1224.00 1224.50 1225.00 1226.00
              *

1155          KK  RP59TB   ROUTE
1156          KM   Route full flow capacity of 135 cfs through 60-inch storm drain pipe in
1157          KM   59th Avenue to the intersection of Thunderbird Road and 59th Avenue
1158          RK    2759  0.0027   0.015            CIRC   5.000
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1159          KK  CPTB59 COMBINE
1160          KM   Combine pipe return PR59GW with the runoff hydrograph at combination point
1161          KM   CTB59 at the intersection of Thunderbird Road and 59th Avenue
1162          HC       2
              *

1163          KK   DTB59  DIVERT
1164          KM   Divert calculated full flow capacity of 578 cfs into 96-inch storm drain
1165          KM   pipe at the intersection of Olive Avenue and 43rd Avenue
1166          DT  DPTB59      0.0   578.0
1167          DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
1168          DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

1169          KK  DSAC59  DIVERT
1170          KM   Divert remaining runoff hydrograph from combination point CPTB59 south to
1171          KM   combination point CAC04
1172          DT  DWAC67      0.0      0.0
1173          DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
1174          DQ     0.0    41.0    82.0   205.0   410.0   820.0  1640.0  4100.0  8200.0 20500.0
              *

1175          KK  DRAC59RETRIEVE
1176          KM   Retrieve divert DRAC59 from combination point CCT51 and divert west to
1177          KM   combination point CAC04
1178          DR  DWAC59
              *

1179          KK    AC59   BASIN
1180          KM   Runoff hydrograph for subbasin AC59 northeast of the intersection of the ACDC
1181          KM   Canal and 59th Avenue
1182          BA   0.742
1183          LG    0.18    0.15    8.00    0.08      38
1184          UC   1.411   1.363
1185          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
1186          UA     100
              *

1187          KK  ERAC59  DIVERT
1188          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
1189          KM   retention developed after 1990 in subbasin AC59
1190          DT   XAC59     56.5      0.0
1191          DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
1192          DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

1193          KK   CAC04 COMBINE
1194          KM   Combine divert DSAC59 and subbasin AC59
1195          HC       4   15.39
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1196          KK  PRTB59RETRIEVE
1197          KM   Retrieve full flow capacity of 578 cfs from 96-inch storm drain pipe at the
1198          KM   intersection of Thunderbird Road and 59th Avenue
1199          DR  DPTB59
              *
```



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1200          KK  CPAC04 COMBINE
1201          KM   Combine pipe return PRTB59 with the runoff hydrograph at combination point
1202          KM   CAC04 at the intersection of the ACDC canal and 59th Avenue
1203          HC       2
              *

1204          KK  DRBL67RETRIEVE
1205          KM   Retrieve divert DRBL67 from combination point CBL59 and divert west to
1206          KM   combination point CBL67
1207          DR  DWBL67
              *

1208          KK   DBL67  DIVERT
1209          KM   Divert portion of diversion retrieval DRBL67 west to subbasin SK67 and the
1210          KM   remaining flow follow to subbasin BL67 at combination point CBL67
1211          DT  DWSK67      0.0      0.0
1212          DI      0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
1213          DQ      0.0    74.0   148.0   370.0   740.0  1480.0  2960.0  7400.0 14800.0 37000.0
              *

1214          KK  RWBL67   ROUTE
1215          KM   Route diversion retrieval DRBL67 west to combination point CBL67
1216          RS       7    FLOW
1217          RC   0.035   0.015   0.035    5280  0.0037     0.00
1218          RX    0.00    0.00   17.50   17.50  112.50  112.50  130.00  130.00
1219          RY    3.00    0.68    0.50    0.00    0.00    0.50    0.68    3.00
              *

1220          KK    BL67   BASIN
1221          KM   Runoff hydrograph for subbasin BL67 northeast of the intersection of Bell
1222          KM   Road and 67th Avenue
1223          BA   0.233
1224          LG    0.19    0.26    6.20    0.15      45
1225          UC   0.852   0.822
1226          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
1227          UA     100
              *

1228          KK  ERBL67  DIVERT
1229          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
1230          KM   retention developed after 1990 in subbasin BL67
1231          DT   XBL67     13.0      0.0
1232          DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
1233          DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1234          KK   CBL67 COMBINE
1235          KM   Combine route RWBL67 and subbasin BL67
1236          HC       2    0.46
              *

1237          KK   D67BL  DIVERT
1238          KM   Divert calculated full flow capacity of 32 cfs into 36-inch storm drain
1239          KM   pipe at the intersection of Bell Road and 67th Avenue
1240          DT  DP67BL      0.0     32.0
1241          DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
1242          DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

1243          KK  DSGW67  DIVERT
1244          KM   Divert remaining runoff hydrograph from combination point CBL67 south to
1245          KM   combination point CGW67
1246          DT  DWBL75      0.0      0.0
1247          DI      0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
1248          DQ      0.0    61.0   122.0   305.0   610.0  1220.0  2440.0  6100.0 12200.0 30500.0
              *

1249          KK  RSGW67   ROUTE
1250          KM   Route diversion DSGW67 south to combination point CGW67
1251          RS      10    FLOW
1252          RC   0.035   0.015   0.035    5280  0.0025     0.00
1253          RX    0.00    0.00   44.50   44.50  253.50  253.50  298.00  298.00
1254          RY    3.00    0.94    0.50    0.00    0.00    0.50    0.94    3.00
              *

1255          KK  DRGW67RETRIEVE
1256          KM   Retrieve divert DRGW67 from combination point CGW59 and divert west to
1257          KM   combination point CGW67
1258          DR  DWGW67
              *

1259          KK  RWGW67   ROUTE
1260          KM   Route diversion retrieval DRGW67 west to combination point CGW67
1261          RS       4    FLOW
1262          RC   0.035   0.015   0.035    5280  0.0025     0.00
1263          RX    0.00    0.00   61.50   61.50  316.50  316.50  378.00  378.00
1264          RY    3.00    1.12    0.50    0.00    0.00    0.50    1.12    3.00
              *
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1265          KK    GW67   BASIN
1266          KM   Runoff hydrograph for subbasin GW67 northeast of the intersection of Greenway
1267          KM   Road and 67th Avenue
1268          BA   0.892
1269          LG    0.24    0.16    8.40    0.06      35
1270          UC   1.215   0.819
1271          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
1272          UA     100
              *
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LINE          ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

1273          KK  ERGW67  DIVERT
1274          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
1275          KM   retention developed after 1990 in subbasin GW67
1276          DT   XGW67     47.9      0.0
1277          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
1278          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

1279          KK   CGW67 COMBINE
1280          KM   Combine route RSGW67, route RWGW67, and subbasin GW67
1281          HC       3    3.63
              *

1282          KK  PR67BLRETRIEVE
1283          KM   Retrieve full flow capacity of 32 cfs from 36-inch storm drain pipe at the
1284          KM   intersection of Bell Road and 67th Avenue
1285          DR  DP67BL
              *

1286          KK  RP67GW   ROUTE
1287          KM   Route full flow capacity of 32 cfs through 36-inch storm drain pipe in
1288          KM   67th Avenue to the intersection of Greenway Road and 67th Avenue
1289          RK    5072  0.0023   0.015            CIRC    3.000
              *

1290          KK  CPGW67 COMBINE
1291          KM   Combine pipe return PR67BL with the runoff hydrograph at combination point
1292          KM   CGW67 at the intersection of Greenway Road and 67th Avenue
1293          HC       2
              *

1294          KK   D67GW  DIVERT
1295          KM   Divert calculated full flow capacity of 608 cfs into 84-inch storm drain
1296          KM   pipe at the intersection of Greenway Road and 67th Avenue
1297          DT  DP67GW      0.0    608.0
1298          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
1299          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

1300          KK  DSAC67  DIVERT
1301          KM   Divert remaining runoff hydrograph from combination point CPGW67 south to
1302          KM   combination point CAC05
1303          DT  DWAC75      0.0      0.0
1304          DI      0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0  10000.0  20000.0  50000.0
1305          DQ      0.0     84.0    168.0    420.0    840.0   1680.0   3360.0   8400.0  16800.0  42000.0
              *

1306          KK  RSAC67   ROUTE
1307          KM   Route diversion DSAC67 south to combination point CAC05
1308          RS       1     FLOW
1309          RC   0.035   0.015   0.035    1216  0.0020     0.00
1310          RX    0.00    0.00   34.00   34.00  184.00  184.00  218.00  218.00
1311          RY    3.00    0.84    0.50    0.00    0.00    0.50    0.84    3.00
              *
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LINE          ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

1312          KK  DRAC67RETRIEVE
1313          KM   Retrieve divert DRAC67 from combination point CPTB59 and divert west to
1314          KM   combination point CAC05
1315          DR  DWAC67
              *

1316          KK  RWAC67   ROUTE
1317          KM   Route diversion retrieval DRAC67 west to combination point CAC05
1318          RS       1     FLOW
1319          RC   0.035   0.015   0.035    1071  0.0029     0.00
1320          RX    0.00    0.00   28.00   28.00  172.00  172.00  200.00  200.00
1321          RY    3.00    0.78    0.50    0.00    0.00    0.50    0.78    3.00
              *

1322          KK    AC67   BASIN
1323          KM   Runoff hydrograph for subbasin AC67 northeast of the intersection of the ACDC
1324          KM   Canal and 67th Avenue
1325          BA   0.698
1326          LG    0.22    0.15    8.40    0.07      29
1327          UC   1.358   1.246
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1328          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
1329          UA     100
              *

1330          KK   CAC05 COMBINE
1331          KM   Combine route RSAC67, and subbasin AC67
1332          HC       4   19.52
              *

1333          KK  PR67GWRETRIEVE
1334          KM   Retrieve full flow capacity of 608 cfs from 84-inch storm drain pipe at the
1335          KM   intersection of Greenway Road and 67th Avenue
1336          DR  DP67GW
              *

1337          KK  RP67AC   ROUTE
1338          KM   Route full flow capacity of 608 cfs through 84-inch storm drain pipe in
1339          KM   67th Avenue to the intersection of the ACDC canal and 67th Avenue
1340          RK    1168  0.0090   0.015            CIRC    7.000
              *

1341          KK  CPAC05 COMBINE
1342          KM   Combine pipe return PR67GW with the runoff hydrograph at combination point
1343          KM   CAC05 at the intersection of the ACDC canal and 67th Avenue
1344          HC       2   19.55
              *

1345          KK  DRAC75RETRIEVE
1346          KM   Retrieve divert DRAC75 from combination point CPGW67 and divert west to
1347          KM   combination point CAC06
1348          DR  DWAC75
              *
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LINE          ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

1349          KK    AC75   BASIN
1350          KM   Runoff hydrograph for subbasin AC75 near the intersection of the ACDC Canal
1351          KM   75th Avenue
1352          BA   0.842
1353          LG    0.21    0.26    5.80    0.18      28
1354          UC   1.338   1.102
1355          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
1356          UA     100
              *

1357          KK  ERAC75  DIVERT
1358          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
1359          KM   retention developed after 1990 in subbasin AC75
1360          DT   XAC75     10.9      0.0
1361          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
1362          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

1363          KK   CAC06 COMBINE
1364          KM   Combine route RAC75 and subbasin AC75
1365          HC       3   23.43
              *

1366          KK    HV55   BASIN
1367          KM   Runoff hydrograph for subbasin HV55 near the intersection of Happy Valley
1368          KM   Road and 55th Avenue
1369          BA   2.054
1370          LG    0.20    0.30    4.40    0.32      29
1371          UC   1.090   0.584
1372          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
1373          UA     100
              *

1374          KK  ERHV55  DIVERT
1375          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
1376          KM   retention developed after 1990 in subbasin HV55
1377          DT   XHV55     94.8      0.0
1378          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
1379          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

1380          KK   RCL57   ROUTE
1381          KM   Route runoff hydrograph at subbasin HV55 to combination point CCL57
1382          RS       3     FLOW
1383          RC   0.045   0.035   0.045    5676  0.0078     0.00
1384          RX    0.00    0.00   40.00   50.00   60.00   70.00  110.00  110.00
1385          RY    6.20    5.20    5.00    0.00    0.00    5.00    5.20    6.20
              *
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LINE          ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

1386          KK    CL57   BASIN
1387          KM   Runoff hydrograph for subbasin CL57 near the intersection of Pinnacle Hill
1388          KM   Road and 57th Avenue
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 1389          BA   0.746
 1390          LG    0.22    0.28    4.55    0.32      27
 1391          UC   0.896   0.475
 1392          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
 1393          UA     100
               *

 1394          KK  ERCL57  DIVERT
 1395          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
 1396          KM   retention developed after 1990 in subbasin CL57
 1397          DT   XCL57    41.3     0.0
 1398          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
 1399          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
               *

 1400          KK   CCL57 COMBINE
 1401          KM   Combine route RCL57 and subbasin CL57
 1402          HC       2    2.80
               *

 1403          KK   RWL59   ROUTE
 1404          KM   Route runoff hydrograph at combination point CCL57 to combination point CWL59
 1405          RS       5    FLOW
 1406          RC   0.045   0.035   0.045    8099  0.0061    0.00
 1407          RX    0.00    0.00   40.00   50.00   60.00   70.00  110.00  110.00
 1408          RY    6.20    5.20    5.00    0.00    0.00    5.00    5.20    6.20
               *

 1409          KK    WL59   BASIN
 1410          KM   Runoff hydrograph for subbasin WL59 near the intersection of Williams Road
 1411          KM   and 59th Avenue
 1412          BA   0.562
 1413          LG    0.17    0.32    4.70    0.29      22
 1414          UC   1.111   0.858
 1415          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
 1416          UA     100
               *

 1417          KK  ERWL59  DIVERT
 1418          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
 1419          KM   retention developed after 1990 in subbasin WL59
 1420          DT   XWL59    11.1     0.0
 1421          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
 1422          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
               *
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 LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 1423          KK   CWL59 COMBINE
 1424          KM   Combine route RWL59 and subbasin WL59
 1425          HC       2    3.36
               *

 1426          KK    DV56   BASIN
 1427          KM   Runoff hydrograph for subbasin DV56 near the intersection of Deer Valley Road
 1428          KM   and 56th Avenue
 1429          BA   0.287
 1430          LG    0.10    0.33    4.65    0.27      38
 1431          UC   0.571   0.314
 1432          UA       0     3.0     5.0     8.0    12.0    20.0    43.0    75.0    90.0    96.0
 1433          UA     100
               *

 1434          KK   CDV56 COMBINE
 1435          KM   Combine route RDV56 and subbasin DV56
 1436          HC       2    3.65
               *

 1437          KK  SRDV56 STORAGE
 1438          KM   Storage route runoff hydrograph from combination point CDV56 through
 1439          KM     regional detention basin located in subbasin DV56 (Arrowhead Lake 1)
 1440          KM   Stage-storage-discharge data from Glendale/Peoria ADMPU Arrowhead Lakes
 1441          KM     Hydrology Report (Volume AL), 2001
 1442          RS       1    STOR
 1443          SV            8.50   17.19   26.06   35.12   44.34   53.71   63.24   72.91
 1444          SQ          139.00  399.00  732.00 1146.00 1639.00 2202.00 2814.00 3516.00
 1445          SE            0.50    1.00    1.50    2.00    2.50    3.00    3.50    4.00
               *

 1446          KK    LO51   BASIN
 1447          KM   Runoff hydrograph for subbasin LO51 near the intersection of SR Loop 101
 1448          KM   and 51st Avenue
 1449          BA   1.130
 1450          LG    0.14    0.25    4.25    0.35      44
 1451          UC   1.328   0.757
 1452          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
 1453          UA     100
               *

 1454          KK   CLO51 COMBINE
 1455          KM   Combine route RLO51 and subbasin LO51
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 1456          HC       2    4.78
               *

 1457          KK   D51LO  DIVERT
 1458          KM   Divert calculated full flow capacity of 38 cfs into a 36-inch storm drain
 1459          KM   pipe at the intersection of SR Loop 101 and 51st Avenue
 1460          KM   Storm drain flow discharges to Skunk Creek and is not returned to the model.
 1461          DT  DP51LO     0.0    38.0
 1462          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
 1463          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
               *
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 LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 1464          KK  SRLO51 STORAGE
 1465          KM   Storage route runoff hydrograph from combination point CLO51 through
 1466          KM     regional detention basin located in subbasin LO51 (Arrowhead Lakes 2-5)
 1467          KM   Stage-storage-discharge data from Glendale/Peoria ADMPU Arrowhead Lakes
 1468          KM     Hydrology Report (Volume AL), 2001
 1469          RS       1    STOR
 1470          SV           62.29  129.43  199.09  270.01  340.91  411.82  482.73  582.60
 1471          SQ          120.00  346.00  634.00  993.00 1421.00 1908.00 2439.00 3047.00
 1472          SE            0.50    1.00    1.50    2.00    2.50    3.00    3.50    4.00
               *

 1473          KK  RUHSKA   ROUTE
 1474          KM   Route runoff hydrograph at combination point CLO51 to combination point CSK01
 1475          RS       4    FLOW
 1476          RC   0.045   0.035   0.045    4440  0.0034    0.00
 1477          RX    0.00    0.00   55.00   75.00  100.00  120.00  175.00  175.00
 1478          RY   11.20   10.20   10.00    0.00    0.00   10.00   10.20   11.20
               *

 1479          KK  DRUHSKRETRIEVE
 1480          KM   Retrieve divert DRUHSK from combination point CUH51 and divert west to
 1481          KM   combination point CUHSK
 1482          DR  DWUHSK
               *

 1483          KK   D51SK  DIVERT
 1484          KM   Divert calculated full flow capacity of 24 cfs into a 30-inch storm drain
 1485          KM   pipe near the intersection of Skunk Creek and 51st Avenue
 1486          KM   Storm drain flow discharges to Skunk Creek and is not returned to the model.
 1487          DT  DP51SK     0.0    24.0
 1488          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
 1489          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
               *

 1490          KK  RUHSKB   ROUTE
 1491          KM   Route diversion D51SK to combination point CSK01
 1492          RS       5    FLOW
 1493          RC   0.035   0.015   0.035    6960  0.0034    0.00
 1494          RX    0.00    0.00   17.50   17.50  112.50  112.50  130.00  130.00
 1495          RY    3.00    0.68    0.50    0.00    0.00    0.50    0.68    3.00
               *

 1496          KK    UHSK   BASIN
 1497          KM   Runoff hydrograph for subbasin UHSK northeast of the intersection of Union
 1498          KM   Hills Drive and 59th Avenue
 1499          BA   0.933
 1500          LG    0.22    0.28    5.00    0.24      26
 1501          UC   1.083   0.700
 1502          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
 1503          UA     100
               *
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 LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 1504          KK  ERUHSK  DIVERT
 1505          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
 1506          KM   retention developed after 1990 in subbasin UHSK
 1507          DT   XUHSK    15.2     0.0
 1508          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
 1509          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
               *

 1510          KK   CSK01 COMBINE
 1511          KM   Combine route RUHSKA, route RUHSKB, and subbasin UHSK
 1512          HC       3    6.73
               *

 1513          KK   DUHSK  DIVERT
 1514          KM   Divert calculated full flow capacity of 10 cfs into 24-inch storm drain
 1515          KM   pipe at the intersection of Union Hills Drive and 59th Avenue
 1516          DT  DPUHSK     0.0    10.0
 1517          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
 1518          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
               *
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1519          KK  DRSK67RETRIEVE
1520          KM   Retrieve divert DRSK67 from combination point CBL59 and divert west to
1521          KM   combination point CSK67
1522          DR  DWSK67
              *
1523          KK   RSK67   ROUTE
1524          KM   Route diversion retrieval DRSK67 to combination point CSK67
1525          RS       7    FLOW
1526          RC   0.035   0.015   0.035    5113  0.0037    0.00
1527          RX    0.00    0.00   68.50   68.50  359.50  359.50  428.00  428.00
1528          RY    3.00    1.18    0.50    0.00    0.00    0.50    1.18    3.00
              *
1529          KK    SK67   BASIN
1530          KM   Runoff hydrograph for subbasin SK67 northeast of the intersection of
1531          KM   Greenbriar Drive and 67th Avenue
1532          BA   0.942
1533          LG    0.26    0.26    5.20    0.24      27
1534          UC   1.095   0.586
1535          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
1536          UA     100
              *
1537          KK  ERSK67  DIVERT
1538          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
1539          KM   retention developed after 1990 in subbasin SK67
1540          DT   XSK67     25.1      0.0
1541          DI     0.0 50000.0      0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
1542          DQ     0.0 50000.0      0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *
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LINE          ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

1543          KK   CSK02 COMBINE
1544          KM   Combine route RSK67 and subbasin SK67
1545          HC       3    8.30
              *
1546          KK  PRUHSKRETRIEVE
1547          KM   Retrieve full flow capacity of 10 cfs from 24-inch storm drain pipe at the
1548          KM   intersection of Union Hills Drive and 59th Avenue
1549          DR  DPUHSK
              *
1550          KK  RPSK67   ROUTE
1551          KM   Route full flow capacity of 10 cfs through 24-inch storm drain pipe in
1552          KM   67th Avenue to the intersection of Greenbriar Drive and 67th Avenue
1553          RK    6044  0.0020   0.015            CIRC   2.000
              *
1554          KK  CPSK02 COMBINE
1555          KM   Combine pipe return PRUHSK with the runoff hydrograph at combination point
1556          KM   CSK67 at the intersection of Greenbriar Drive and 67th Avenue
1557          HC       2
              *
1558          KK    UH67   BASIN
1559          KM   Runoff hydrograph for subbasin UH67 near the intersection of Utopia Road
1560          KM   67th Avenue
1561          BA   0.784
1562          LG    0.23    0.26    5.80    0.17      40
1563          UC   1.051   0.738
1564          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
1565          UA     100
              *
1566          KK  ERUH67  DIVERT
1567          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
1568          KM   retention developed after 1990 in subbasin UH67
1569          DT   XUH67     66.1      0.0
1570          DI     0.0 50000.0      0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
1571          DQ     0.0 50000.0      0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *
1572          KK   RUH75   ROUTE
1573          KM   Route runoff hydrograph at subbasin UH67 to combination point CUH75
1574          RS       10    FLOW
1575          RC    0.045   0.035   0.045    7047  0.0021    0.00
1576          RX     0.00    0.00   19.00   25.00   30.00   36.00   55.00   55.00
1577          RY     4.10    3.10    3.00    0.00    0.00    3.00    3.10    4.10
              *
1                                        HEC-1 INPUT                                    PAGE 42

LINE          ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

1578          KK    UH75   BASIN
1579          KM   Runoff hydrograph for subbasin UH75 near the intersection of Union Hills
1580          KM   Road and 75th Avenue
1581          BA   0.814
```



```
1582          LG    0.22    0.15    7.30    0.11      29
1583          UC   1.500   1.021
1584          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
1585          UA     100
              *
1586          KK  ERUH75  DIVERT
1587          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
1588          KM   retention developed after 1990 in subbasin UH75
1589          DT   XUH75     65.2      0.0
1590          DI     0.0 50000.0      0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
1591          DQ     0.0 50000.0      0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *
1592          KK   CUH75 COMBINE
1593          KM   Combine route RUH75 and subbasin UH75
1594          HC       2    1.60
              *
1595          KK  RBL75A   ROUTE
1596          KM   Route runoff hydrograph at combination point CUH75 to combination point CSK03
1597          RS       5    FLOW
1598          RC   0.045   0.035   0.045    4730  0.0037    0.00
1599          RX    0.00    0.00   19.00   25.00   30.00   36.00   55.00   55.00
1600          RY    4.10    3.10    3.00    0.00    0.00    3.00    3.10    4.10
              *
1601          KK  DRBL75RETRIEVE
1602          KM   Retrieve divert DRBL75 from combination point CBL67 and divert west to
1603          KM   combination point CSK03
1604          DR  DWBL75
              *
1605          KK  RBL75B   ROUTE
1606          KM   Route diversion retrieval DRBL75 to combination point CSK03
1607          RS      10    FLOW
1608          RC   0.035   0.015   0.035    2940  0.0048    0.00
1609          RX    0.00    0.00   17.50   17.50  112.50  112.50  130.00  130.00
1610          RY    3.00    0.68    0.50    0.00    0.00    0.50    0.68    3.00
              *
1611          KK    BL75   BASIN
1612          KM   Runoff hydrograph for subbasin BL75 near the intersection of Bell Road
1613          KM   75th Avenue
1614          BA   1.063
1615          LG    0.24    0.26    5.20    0.24      30
1616          UC   1.226   0.783
1617          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
1618          UA     100
              *
1                                        HEC-1 INPUT                                    PAGE 43

LINE          ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

1619          KK  ERBL75  DIVERT
1620          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
1621          KM   retention developed after 1990 in subbasin BL75
1622          DT   XBL75     13.2      0.0
1623          DI     0.0 50000.0      0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
1624          DQ     0.0 50000.0      0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *
1625          KK   CSK03 COMBINE
1626          KM   Combine route RBL75A, route RBL75B and subbasin BL75
1627          HC       4   11.24
              *
1628          KK    UHLO   BASIN
1629          KM   Runoff hydrograph for subbasin UHLO near the intersection of SR Loop 101 and
1630          KM   Union Hills Drive
1631          BA   0.822
1632          LG    0.21    0.25    5.80    0.19      31
1633          UC   0.976   0.472
1634          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
1635          UA     100
              *
1636          KK  ERUHLO  DIVERT
1637          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
1638          KM   retention developed after 1990 in subbasin UHLO
1639          DT   XUHLO     66.5      0.0
1640          DI     0.0 50000.0      0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
1641          DQ     0.0 50000.0      0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *
1642          KK   RBLLO   ROUTE
1643          KM   Route runoff hydrograph at subbasin UHLO to combination point CBLLO
1644          RS       9    FLOW
1645          RC   0.035   0.015   0.035    9255  0.0033    0.00
1646          RX    0.00    0.00   17.50   17.50  112.50  112.50  130.00  130.00
1647          RY    3.00    0.68    0.50    0.00    0.00    0.50    0.68    3.00
              *
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1648          KK    BLLO   BASIN
1649          KM   Runoff hydrograph for subbasin BLLO near the intersection of Bell Road and
1650          KM   SR Loop 101
1651          BA   0.765
1652          LG    0.18    0.25    4.35    0.34      55
1653          UC   1.076   0.732
1654          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
1655          UA     100
              *
1                                        HEC-1 INPUT                                        PAGE 44
          LINE        ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1656          KK  ERBLLO  DIVERT
1657          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
1658          KM   retention developed after 1990 in subbasin BLLO
1659          DT   XBLLO    70.9     0.0
1660          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
1661          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

1662          KK   CBLLO COMBINE
1663          KM   Combine route RBLLO and subbasin BLLO
1664          HC       2    1.59
              *

1665          KK   DBLLO  DIVERT
1666          KM   Divert calculated full flow capacity of 169 cfs into 84-inch storm drain
1667          KM   pipe at the intersection of Bell Road and SR Loop 101
1668          DT  DPBLLO     0.0   169.0
1669          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
1670          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

1671          KK   RGWLO   ROUTE
1672          KM   Route diversion DBLLO to combination point CSK04
1673          RS       3    FLOW
1674          RC   0.035   0.015   0.035    6833  0.0066    0.00
1675          RX    0.00    0.00   16.50   16.50  107.50  107.50  124.00  124.00
1676          RY    3.00    0.66    0.50    0.00    0.00    0.50    0.66    3.00
              *

1677          KK    GWLO   BASIN
1678          KM   Runoff hydrograph for subbasin GWLO near the intersection of Greenway Road
1679          KM   and SR Loop 101
1680          BA   0.814
1681          LG    0.10    0.25    4.20    0.43      59
1682          UC   0.615   0.376
1683          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
1684          UA     100
              *

1685          KK  ERGWLO  DIVERT
1686          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
1687          KM   retention developed after 1990 in subbasin GWLO
1688          DT   XGWLO    53.2     0.0
1689          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
1690          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

1691          KK   CSK04 COMBINE
1692          KM   Combine route RGWLO and subbasin GWLO
1693          HC       4   37.07
              *
1                                        HEC-1 INPUT                                        PAGE 45
          LINE        ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1694          KK  PRBLLORETRIEVE
1695          KM   Retrieve full flow capacity of 169 cfs from 84-inch storm drain pipe at the
1696          KM   intersection of Bell Road and SR Loop 101
1697          DR  DPBLLO
              *

1698          KK   RPGWLO   ROUTE
1699          KM   Route full flow capacity of 169 cfs through 84-inch storm drain pipe in
1700          KM   Greenway Road to the intersection of Greenway Road and SR Loop 101
1701          RK    2236  0.0007   0.015            CIRC   7.000
              *

1702          KK  CPSK04 COMBINE
1703          KM   Combine pipe return PRBLLO with the runoff hydrograph at combination point
1704          KM   CSK04 at the intersection of Greenway Road and SR Loop 101
1705          HC       2
              *

1706          KK    JM63   BASIN
1707          KM   Runoff hydrograph for subbasin JM63 near the intersection of Pyramid Peak
1708          KM   Boulevard and Bent Tree Drive
1709          BA   0.840
```



```
1710          LG    0.18    0.30    5.10    0.23      21
1711          UC   0.831   0.431
1712          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
1713          UA     100
              *

1714          KK  ERJM63  DIVERT
1715          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
1716          KM   retention developed after 1990 in subbasin JM63
1717          DT   XJM63    50.3     0.0
1718          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
1719          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

1720          KK   RJM67   ROUTE
1721          KM   Route runoff hydrograph at subbasin JM63 to combination point CJM67
1722          RS       2    FLOW
1723          RC   0.045   0.020   0.045    4129  0.0076    0.00
1724          RX    0.00    0.00   19.00   25.00   30.00   36.00   55.00   55.00
1725          RY    4.10    3.10    3.00    0.00    0.00    3.00    3.10    4.10
              *

1726          KK    JM67   BASIN
1727          KM   Runoff hydrograph for subbasin JM67 near the intersection of Pyramid Peak
1728          KM   Boulevard and and 67th Avenue
1729          BA   0.381
1730          LG    0.20    0.29    4.35    0.33      34
1731          UC   0.774   0.524
1732          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
1733          UA     100
              *
1                                        HEC-1 INPUT                                        PAGE 46
          LINE        ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1734          KK  ERJM67  DIVERT
1735          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
1736          KM   retention developed after 1990 in subbasin JM67
1737          DT   XJM67    20.3     0.0
1738          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
1739          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

1740          KK   CJM67 COMBINE
1741          KM   Combine route RJM67 and subbasin JM67
1742          HC       2    1.22
              *

1743          KK   RHV75   ROUTE
1744          KM   Route runoff hydrograph at combination point CJM67 to combination point CHV75
1745          RS       3    FLOW
1746          RC   0.045   0.020   0.045    7197  0.0099    0.00
1747          RX    0.00    0.00   40.00   50.00   60.00   70.00  110.00  110.00
1748          RY    6.20    5.20    5.00    0.00    0.00    5.00    5.20    6.20
              *

1749          KK    HV75   BASIN
1750          KM   Runoff hydrograph for subbasin HV75 near the intersection of Happy Valley
1751          KM   Road and 75th Avenue
1752          BA   0.958
1753          LG    0.24    0.26    4.10    0.40      26
1754          UC   1.024   0.573
1755          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
1756          UA     100
              *

1757          KK  ERHV75  DIVERT
1758          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
1759          KM   retention developed after 1990 in subbasin HV75
1760          DT   XHV75    70.0     0.0
1761          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
1762          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

1763          KK   CHV75 COMBINE
1764          KM   Combine route RHV75 and subbasin HV75
1765          HC       2    2.18
              *

1766          KK    JM80   BASIN
1767          KM   Runoff hydrograph for subbasin JM80 near the intersection of Jomax Road
1768          KM   and 80th Avenue
1769          BA   0.164
1770          LG    0.24    0.35    3.88    0.42       5
1771          UC   0.578   0.415
1772          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
1773          UA     100
              *
1                                        HEC-1 INPUT                                        PAGE 47
          LINE        ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10
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1774          KK    JM76   BASIN
1775          KM   Runoff hydrograph for subbasin JM76 near the intersection of Jomax Road
1776          KM   and 76th Avenue
1777          BA   0.169
1778          LG    0.25    0.35    3.92    0.41       0
1779          UC   0.721   0.605
1780          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
1781          UA     100
              *

1782          KK    JMNR   BASIN
1783          KM   Runoff hydrograph for subbasin JMNR near the intersection of Jomax Road
1784          KM   and New River
1785          BA   0.149
1786          LG    0.16    0.35    3.29    0.63       1
1787          UC   1.054   1.161
1788          UA       0     3.0     5.0     8.0    12.0    20.0    43.0    75.0    90.0    96.0
1789          UA     100
              *

1790          KK   CNR01 COMBINE
1791          KM   Combine route subbasin JM76, and subbasin JMNR
1792          HC       3    0.48
              *

1793          KK    JM75   BASIN
1794          KM   Runoff hydrograph for subbasin JM75 near the intersection of Jomax Road
1795          KM   and 75th Avenue
1796          BA   1.112
1797          LG    0.11    0.34    4.30    0.34      12
1798          UC   0.713   0.318
1799          UA       0     3.0     5.0     8.0    12.0    20.0    43.0    75.0    90.0    96.0
1800          UA     100
              *

1801          KK  ERJM75  DIVERT
1802          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
1803          KM   retention developed after 1990 in subbasin JM75
1804          DT   XJM75      5.6     0.0
1805          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
1806          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

1807          KK    HVNR   BASIN
1808          KM   Runoff hydrograph for subbasin HVNR near the intersection of Happy Valley
1809          KM   Road and New River
1810          BA   0.202
1811          LG    0.10    0.35    3.48    0.55       0
1812          UC   1.157   1.210
1813          UA       0     3.0     5.0     8.0    12.0    20.0    43.0    75.0    90.0    96.0
1814          UA     100
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1815          KK   CNR02 COMBINE
1816          KM   Combine subbasin HVNR
1817          HC       4    3.98
              *

1818          KK    HV67   BASIN
1819          KM   Runoff hydrograph for subbasin HV67 near the intersection of Happy Valley
1820          KM   Road and 67th Avenue
1821          BA   0.544
1822          LG    0.16    0.30    4.20    0.36      57
1823          UC   0.596   0.350
1824          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
1825          UA     100
              *

1826          KK  ERHV67  DIVERT
1827          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
1828          KM   retention developed after 1990 in subbasin HV67
1829          DT   XHV67     23.4     0.0
1830          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
1831          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

1832          KK   RCL67   ROUTE
1833          KM   Route runoff hydrograph at subbasin HV67 to combination point CCL67
1834          RS       2    FLOW
1835          RC   0.045   0.035   0.045    3990  0.0076    0.00
1836          RX    0.00    0.00   40.00   50.00   60.00   70.00  110.00  110.00
1837          RY    6.20    5.20    5.00    0.00    0.00    5.00    5.20    6.20
              *

1838          KK    CL67   BASIN
1839          KM   Runoff hydrograph for subbasin CL67 near the intersection of Calle Lejos Road
1840          KM   67th Avenue
1841          BA   0.275
```



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1842          LG    0.22    0.27    4.40    0.38      23
1843          UC   0.931   0.874
1844          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
1845          UA     100
              *

1846          KK  ERCL67  DIVERT
1847          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
1848          KM   retention developed after 1990 in subbasin CL67
1849          DT   XCL67     16.5     0.0
1850          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
1851          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *
```



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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1852          KK   CCL67 COMBINE
1853          KM   Combine route RCL67 and subbasin CL67
1854          HC       2    0.82
              *

1855          KK  RPP73A   ROUTE
1856          KM   Route runoff hydrograph at combination point CCL67 to combination point CPP73
1857          RS       4    FLOW
1858          RC   0.045   0.035   0.045    5599  0.0045    0.00
1859          RX    0.00    0.00   40.00   50.00   60.00   70.00  110.00  110.00
1860          RY    6.20    5.20    5.00    0.00    0.00    5.00    5.20    6.20
              *

1861          KK    PP67   BASIN
1862          KM   Runoff hydrograph for subbasin PP67 near the intersection of Pinnacle Peak
1863          KM   Road and 67th Avenue
1864          BA   0.096
1865          LG    0.30    0.25    4.55    0.41       6
1866          UC   0.912   0.988
1867          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
1868          UA     100
              *

1869          KK  ERPP67  DIVERT
1870          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
1871          KM   retention developed after 1990 in subbasin PP67
1872          DT   XPP67      5.8     0.0
1873          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
1874          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

1875          KK  DWPP73  DIVERT
1876          KM   Divert remaining runoff hydrograph at subbasin PP67 west to combination point
1877          KM   CPP73
1878          DT   DSWL67      0.0     0.0
1879          DI       0     100     200     500    1000    2000    4000   10000   20000   50000
1880          DQ     0.0    32.0    64.0   160.0   320.0   640.0  1280.0  3200.0  6400.0 16000.0
              *

1881          KK  RPP73B   ROUTE
1882          KM   Route diversion DWPP73 west to combination point CPP73
1883          RS       2    FLOW
1884          RC   0.035   0.015   0.035    3886  0.0064    0.00
1885          RX    0.00    0.00   16.50   16.50  107.50  107.50  124.00  124.00
1886          RY    3.00    0.66    0.50    0.00    0.00    0.50    0.66    3.00
              *

1887          KK    PP73   BASIN
1888          KM   Runoff hydrograph for subbasin PP73 near the intersection of Pinnacle Peak
1889          KM   Road and 73rd Avenue
1890          BA   0.545
1891          LG    0.29    0.25    4.70    0.31      18
1892          UC   0.964   0.604
1893          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
```



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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1894          UA     100
              *

1895          KK  ERPP73  DIVERT
1896          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
1897          KM   retention developed after 1990 in subbasin PP73
1898          DT   XPP73     10.3     0.0
1899          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
1900          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

1901          KK   CPP73 COMBINE
1902          KM   Combine route RPP73A, route RPP73B, and subbasin PP73
1903          HC       3    1.43
              *

1904          KK  DWPP75  DIVERT
```

```
1905          KM   Divert remaining runoff hydrograph at combination point CPP73 west to
1906          KM   combination point CPP75
1907          DT  DSWL75       0.0       0.0
1908          DI      0.0     100.0     200.0     500.0    1000.0    2000.0    4000.0   10000.0   20000.0   50000.0
1909          DQ      0.0      41.0      82.0     205.0     410.0     820.0    1640.0    4100.0    8200.0   20500.0
              *
1910          KK   RPPNR    ROUTE
1911          KM   Route diversion DWPP75 west to combination point CNR03
1912          RS       1     FLOW
1913          RC   0.045    0.020    0.045     1225   0.0052     0.00
1914          RX    0.00     0.00    40.00    50.00    60.00    70.00   110.00   110.00
1915          RY    6.20     5.20     5.00     0.00     0.00     5.00     5.20     6.20
              *
1916          KK    PP75    BASIN
1917          KM   Runoff hydrograph for subbasin PP75 near the intersection of Pinnacle Peak
1918          KM   Road and 75th Avenue
1919          BA   0.420
1920          LG    0.28     0.29     4.25     0.40       18
1921          UC   0.743    0.508
1922          UA       0      5.0     16.0     30.0     65.0     77.0     84.0     90.0     94.0     97.0
1923          UA     100
              *
1924          KK  ERPP75  DIVERT
1925          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
1926          KM   retention developed after 1990 in subbasin PP75
1927          DT   XPP75     12.5      0.0
1928          DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
1929          DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *
1                                          HEC-1 INPUT                                          PAGE 51

LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9.....10

1930          KK    PPNR    BASIN
1931          KM   Runoff hydrograph for subbasin PPNR near the intersection of Pinnacle Peak
1932          KM   Road and New River
1933          BA   0.237
1934          LG    0.13     0.34     3.53     0.53        1
1935          UC   1.177    1.103
1936          UA       0      3.0      5.0      8.0     12.0     20.0     43.0     75.0     90.0     96.0
1937          UA     100
              *
1938          KK   CNR03 COMBINE
1939          KM   Combine route RPPNR and subbasin PPNR
1940          HC       4     5.47
              *
1941          KK  DRWL75RETRIEVE
1942          KM   Retrieve divert DRWL75 from combination point CPP73 and divert to
1943          KM   combination point CWL75
1944          DR  DSWL75
              *
1945          KK  RWL75B    ROUTE
1946          KM   Route diversion retrieval DRWL75 to combination point CWL75
1947          RS       2     FLOW
1948          RC   0.035    0.015    0.035     2577   0.0049     0.00
1949          RX    0.00     0.00     7.00     7.00    43.00    43.00    50.00    50.00
1950          RY    3.00     0.57     0.50     0.00     0.00     0.50     0.57     3.00
              *
1951          KK  DRWL67RETRIEVE
1952          KM   Retrieve divert DRWL67 from subbasin PP67 and divert to combination point
1953          KM   CTB67
1954          DR  DSWL67
              *
1955          KK   RWL67    ROUTE
1956          KM   Route diversion retrieval DRWL67 to combination point CWL67
1957          RS       1     FLOW
1958          RC   0.035    0.015    0.035     1195   0.0014     0.00
1959          RX    0.00     0.00    20.50    20.50    89.50    89.50   110.00   110.00
1960          RY    3.00     0.70     0.50     0.00     0.00     0.50     0.70     3.00
              *
1961          KK    WL67    BASIN
1962          KM   Runoff hydrograph for subbasin WL67 near the intersection of Thunderbird Park
1963          KM   Road and 67th Avenue
1964          BA   0.103
1965          LG    0.24     0.28     4.70     0.34        6
1966          UC   0.943    1.006
1967          UA       0      5.0     16.0     30.0     65.0     77.0     84.0     90.0     94.0     97.0
1968          UA     100
              *
1                                          HEC-1 INPUT                                          PAGE 52

LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9.....10
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1969          KK  ERWL67  DIVERT
1970          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
1971          KM   retention developed after 1990 in subbasin WL67
1972          DT   XWL67      4.3      0.0
1973          DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
1974          DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *
1975          KK   CWL67 COMBINE
1976          KM   Combine route RWL67 and subbasin WL67
1977          HC       2     0.13
              *
1978          KK  RWL75A    ROUTE
1979          KM   Route runoff hydrograph at combination point CWL67 to combination point CWL75
1980          RS       7     FLOW
1981          RC   0.035    0.015    0.035     5062   0.0072     0.00
1982          RX    0.00     0.00     7.00     7.00    43.00    43.00    50.00    50.00
1983          RY    3.00     0.57     0.50     0.00     0.00     0.50     0.57     3.00
              *
1984          KK    WL75    BASIN
1985          KM   Runoff hydrograph for subbasin WL75 near the intersection of Williams Road
1986          KM   Road and 75th Avenue
1987          BA   0.475
1988          LG    0.29     0.25     4.70     0.31       25
1989          UC   0.903    0.577
1990          UA       0      5.0     16.0     30.0     65.0     77.0     84.0     90.0     94.0     97.0
1991          UA     100
              *
1992          KK  ERWL75  DIVERT
1993          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
1994          KM   retention developed after 1990 in subbasin WL75
1995          DT   XWL75     18.0      0.0
1996          DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
1997          DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *
1998          KK   CWL75 COMBINE
1999          KM   Combine route RWL75A, route RWL75B, and subbasin WL75
2000          HC       3     1.20
              *
2001          KK    WWBR    BASIN
2002          KM   Runoff hydrograph for subbasin WWBR near the intersection of Westwing Parkway
2003          KM   and Black Rock Boulevard
2004          BA   0.184
2005          LG    0.22     0.19     7.00     0.10       25
2006          UC   0.379    0.231
2007          UA       0      5.0     16.0     30.0     65.0     77.0     84.0     90.0     94.0     97.0
2008          UA     100
              *
1                                          HEC-1 INPUT                                          PAGE 53

LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9.....10

2009          KK  ERWWBR  DIVERT
2010          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
2011          KM   retention developed after 1990 in subbasin WWBR
2012          DT   XWWBR     12.2      0.0
2013          DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
2014          DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *
2015          KK   RWWRS    ROUTE
2016          KM   Route runoff hydrograph at subbasin WWBR to combination point CWWRS
2017          RS       2     FLOW
2018          RC   0.045    0.035    0.045     2599   0.0063     0.00
2019          RX    0.00     0.00    19.00    25.00    30.00    36.00    55.00    55.00
2020          RY    4.10     3.10     3.00     0.00     0.00     3.00     3.10     4.10
              *
2021          KK    WWRS    BASIN
2022          KM   Runoff hydrograph for subbasin WWRS near the intersection of Westwing Parkway
2023          KM   and Rock Springs wash
2024          BA   0.144
2025          LG    0.20     0.26     4.30     0.44       32
2026          UC   0.564    0.474
2027          UA       0      5.0     16.0     30.0     65.0     77.0     84.0     90.0     94.0     97.0
2028          UA     100
              *
2029          KK  ERWWRS  DIVERT
2030          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
2031          KM   retention developed after 1990 in subbasin WWRS
2032          DT   XWWRS      7.1      0.0
2033          DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
2034          DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *
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2035          KK   CWWRS COMBINE
2036          KM   Combine route RWWRS and subbasin WWRS
2037          HC       2    0.33
              *

2038          KK   RJMRS    ROUTE
2039          KM   Route runoff hydrograph at combination point CWWRS to combination point CJMRS
2040          RS       2    FLOW
2041          RC  0.045   0.035   0.045    4005  0.0060    0.00
2042          RX   0.00    0.00   40.00   50.00   60.00   70.00  110.00  110.00
2043          RY   6.20    5.20    5.00    0.00    0.00    5.00    5.20    6.20
              *

2044          KK    JMRS    BASIN
2045          KM   Runoff hydrograph for subbasin JMRS near the intersection of Jomax Road and
2046          KM   Rock Springs wash
2047          BA   0.567
2048          LG    0.20    0.31    5.30    0.20      18
2049          UC   0.811   0.530
2050          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

2051          UA     100
              *

2052          KK  ERJMRS  DIVERT
2053          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
2054          KM   retention developed after 1990 in subbasin JMRS
2055          DT   XJMRS    27.7     0.0
2056          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
2057          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

2058          KK   CJMRS COMBINE
2059          KM   Combine route RJMRS and subbasin JMRS
2060          HC       2    0.90
              *

2061          KK  RHVRSB    ROUTE
2062          KM   Route runoff hydrograph at combination point CJMRS to combination point CHVRS
2063          RS       3    FLOW
2064          RC  0.045   0.035   0.045    5791  0.0051    0.00
2065          RX   0.00    0.00   19.00   25.00   30.00   36.00   55.00   55.00
2066          RY   4.10    3.10    3.00    0.00    0.00    3.00    3.10    4.10
              *

2067          KK    83RS    BASIN
2068          KM   Runoff hydrograph for subbasin 83RS near the intersection of 83rd Avenue and
2069          KM   Rock Springs wash
2070          BA   0.638
2071          LG    0.18    0.30    4.50    0.30      38
2072          UC   0.520   0.214
2073          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
2074          UA     100
              *

2075          KK  ER83RS  DIVERT
2076          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
2077          KM   retention developed after 1990 in subbasin 83RS
2078          DT   X83RS    27.5     0.0
2079          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
2080          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

2081          KK  RHVRSA    ROUTE
2082          KM   Route runoff hydrograph at subbasin 83RS to combination point CHVRS
2083          RS       3    FLOW
2084          RC  0.045   0.035   0.045    6390  0.0071    0.00
2085          RX   0.00    0.00   40.00   50.00   60.00   70.00  110.00  110.00
2086          RY   6.20    5.20    5.00    0.00    0.00    5.00    5.20    6.20
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

2087          KK    HVRS    BASIN
2088          KM   Runoff hydrograph for subbasin HVRS near the intersection of Happy Valley
2089          KM   Road and Rock Springs wash
2090          BA   0.630
2091          LG    0.10    0.35    4.10    0.38       1
2092          UC   1.135   0.746
2093          UA       0     3.0     5.0     8.0    12.0    20.0    43.0    75.0    90.0    96.0
2094          UA     100
              *

2095          KK  ERHVRS  DIVERT
2096          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
2097          KM   retention developed after 1990 in subbasin HVRS
2098          DT   XHVRS     1.1     0.0
2099          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
```



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2100          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

2101          KK   CHVRS COMBINE
2102          KM   Combine route RHVRSA, route RHVRSB, and subbasin HVRS
2103          HC       3    2.16
              *

2104          KK  RCL77B    ROUTE
2105          KM   Route runoff hydrograph at combination point CHVRS to combination point CCL77
2106          RS       1    FLOW
2107          RC  0.045   0.035   0.045    2864  0.0057    0.00
2108          RX   0.00  480.00  500.00  518.00  544.00  609.00  900.00 1121.00
2109          RY  11.00   10.00    0.00    0.20   10.00   11.00   12.00   13.00
              *

2110          KK    HV83    BASIN
2111          KM   Runoff hydrograph for subbasin HV83 near the intersection of Happy Valley
2112          KM   Road and 83rd Avenue
2113          BA   0.035
2114          LG    0.10    0.35    4.15    0.37      20
2115          UC   0.339   0.347
2116          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
2117          UA     100
              *

2118          KK  RCL77A    ROUTE
2119          KM   Route runoff hydrograph at subbasin HV83 to combination point CCL77
2120          RS       2    FLOW
2121          RC  0.045   0.035   0.045    3884  0.0111    0.00
2122          RX   0.00    0.00   19.00   25.00   30.00   36.00   55.00   55.00
2123          RY   4.10    3.10    3.00    0.00    0.00    3.00    3.10    4.10
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

2124          KK    CL77    BASIN
2125          KM   Runoff hydrograph for subbasin CL77 near the intersection of Calle Lejos Road
2126          KM   and 77th Avenue
2127          BA   0.316
2128          LG    0.24    0.31    4.40    0.34       6
2129          UC   0.658   0.408
2130          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
2131          UA     100
              *

2132          KK  ERCL77  DIVERT
2133          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
2134          KM   retention developed after 1990 in subbasin CL77
2135          DT   XCL77    12.3     0.0
2136          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
2137          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

2138          KK   CCL77 COMBINE
2139          KM   Combine route RCL77A, route RCL77B, and subbasin CL77
2140          HC       3    2.51
              *

2141          KK   RPP77    ROUTE
2142          KM   Route runoff hydrograph at combination point CCL77 to combination point CPP77
2143          RS       2    FLOW
2144          RC  0.045   0.035   0.045    2947  0.0041    0.00
2145          RX   0.00  480.00  500.00  518.00  544.00  609.00  900.00 1121.00
2146          RY  11.00   10.00    0.00    0.20   10.00   11.00   12.00   13.00
              *

2147          KK    PP77    BASIN
2148          KM   Runoff hydrograph for subbasin PP77 near the intersection of Pinnacle Peak
2149          KM   Road and 77th Avenue
2150          BA   0.270
2151          LG    0.27    0.30    4.20    0.39       7
2152          UC   1.030   0.914
2153          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
2154          UA     100
              *

2155          KK  ERPP77  DIVERT
2156          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
2157          KM   retention developed after 1990 in subbasin PP77
2158          DT   XPP77     0.6     0.0
2159          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
2160          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *
```

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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

2161          KK   CPP77 COMBINE
2162          KM   Combine route RPP77 and subbasin PP77
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2163          HC       2    2.78
              *

2164          KK   RWLNR    ROUTE
2165          KM   Route runoff hydrograph at combination point CPP77 to combination point CNR04
2166          RS       2     FLOW
2167          RC   0.045   0.035   0.045    3822  0.0048    0.00
2168          RX    0.00  256.00  372.00  397.00  407.00  419.00  464.00  800.00
2169          RY   12.00   10.00    8.00    0.00    0.00    6.00    8.00   12.00
              *

2170          KK    WLNR    BASIN
2171          KM   Runoff hydrograph for subbasin WLNR near the intersection of Williams Road
2172          KM   New River
2173          BA   0.390
2174          LG    0.28    0.31    4.70    0.27       7
2175          UC   0.915   0.587
2176          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
2177          UA     100
              *

2178          KK   CNR04 COMBINE
2179          KM   Combine route RWLNR and subbasin WLNR
2180          HC       4    9.84
              *

2181          KK    DV75    BASIN
2182          KM   Runoff hydrograph for subbasin DV75 near the intersection of Deer Valley Road
2183          KM   and 75th Avenue
2184          BA   0.501
2185          LG    0.24    0.25    4.90    0.26       34
2186          UC   1.077   0.815
2187          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
2188          UA     100
              *

2189          KK  ERDV75  DIVERT
2190          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
2191          KM   retention developed after 1990 in subbasin DV75
2192          DT   XDV75     22.6      0.0
2193          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
2194          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

2195          KK  DWDVNR  DIVERT
2196          KM   Divert remaining runoff hydrograph at subbasin DV75 west to combination point
2197          KM   CNR05
2198          DT  DSLO75      0.0      0.0
2199          DI      0.0      1.0     92.0    274.0    365.0    456.0    546.0    700.0    800.0   1000.0
2200          DQ      0.0      0.0     26.0     70.0     87.0    109.0    131.0    167.0    191.0    239.0
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

2201          KK   RDVNR    ROUTE
2202          KM   Route diversion DWDVNR west to combination point CNR05
2203          RS       2     FLOW
2204          RC   0.045   0.015   0.045    2707  0.0015    0.00
2205          RX    0.00    0.00   19.00   25.00   30.00   36.00   55.00   55.00
2206          RY    4.10    3.10    3.00    0.00    0.00    3.00    3.10    4.10
              *

2207          KK    DVNR    BASIN
2208          KM   Runoff hydrograph for subbasin DVNR near the intersection of Deer Valley Road
2209          KM   and New River
2210          BA   0.401
2211          LG    0.23    0.26    4.35    0.34       33
2212          UC   1.095   0.749
2213          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
2214          UA     100
              *

2215          KK   CNR05 COMBINE
2216          KM   Combine route RDVNR and subbasin DVNR
2217          HC       3   10.50
              *

2218          KK    DV67    BASIN
2219          KM   Runoff hydrograph for subbasin DV67 near the intersection of Deer Valley Road
2220          KM   and 67th Avenue
2221          BA   0.503
2222          LG    0.18    0.29    4.55    0.32       38
2223          UC   0.415   0.160
2224          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
2225          UA     100
              *

2226          KK  SRDV67 STORAGE
2227          KM   Storage route runoff hydrograph from combination point CDV67 thru regional
2228          KM     detention basin located in subbasin DV67 (Arrowhead Lakes 6, 7, and 11-13)
2229          KM   Stage-storage-discharge data from Glendale/Peoria ADMPU Arrowhead Lakes
```



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2230          KM     Hydrology Report (Volume AL), 2001
2231          RS       1    STOR
2232          SV            4.49    9.21   14.15   19.27   24.51   29.86   35.24   40.67
2233          SQ           91.00  285.00  566.00  886.00 1243.00 1638.00 2064.00 2523.00
2234          SE            0.50    1.00    1.50    2.00    2.50    3.00    3.50    4.00
              *

2235          KK    LO67    BASIN
2236          KM   Runoff hydrograph for subbasin LO67 near the intersection of SR Loop 101 and
2237          KM   67th Avenue
2238          BA   1.217
2239          LG    0.20    0.25    5.70    0.20       33
2240          UC   1.051   0.489
2241          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
2242          UA     100
              *
```



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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

2243          KK   CLO67 COMBINE
2244          KM   Combine route RLO67 and subbasin LO67
2245          HC       2    1.72
              *

2246          KK  SRLO67 STORAGE
2247          KM   Storage route runoff hydrograph from combination point CLO67 thru regional
2248          KM     detention basin located in subbasin LO67 (Arrowhead Lakes 8-10 and 14-20)
2249          KM   Stage-storage-discharge data from Glendale/Peoria ADMPU Arrowhead Lakes
2250          KM     Hydrology Report (Volume AL), 2001
2251          RS       1    STOR
2252          SV            12.86   26.19   39.86   53.86   69.64   84.08  100.17  114.88  149.69
2253          SV   188.50
2254          SQ        9      41     100     175     245     326     396     502     657     703
2255          SQ      749
2256          SE     0.00    0.50    1.00    1.50    2.00    2.50    3.00    3.50    4.00    4.50
2257          SE     5.00
              *

2258          KK    LO75    BASIN
2259          KM   Runoff hydrograph for subbasin LO75 near the intersection of SR Loop 101 and
2260          KM   75th Avenue
2261          BA   0.970
2262          LG    0.24    0.25    6.00    0.16       34
2263          UC   1.059   0.531
2264          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
2265          UA     100
              *

2266          KK  ERLO75  DIVERT
2267          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
2268          KM   retention developed after 1990 in subbasin LO75
2269          DT   XLO75     34.3      0.0
2270          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
2271          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

2272          KK   CLO75 COMBINE
2273          KM   Combine storage route SRLO67 and subbasin LO75
2274          HC       2    2.69
              *

2275          KK  SRLO75 STORAGE
2276          KM   Storage route runoff hydrograph from combination point CLO75 thru regional
2277          KM     detention basin located in subbasin LO75 (Arrowhead Lakes L21AP1 to L21AP5)
2278          KM   Stage-storage-discharge data from Glendale/Peoria ADMPU Arrowhead Lakes
2279          KM     Hydrology Report (Volume AL), 2001
2280          RS       1    STOR
2281          SV            12.58   31.24   52.02
2282          SQ           46.00  418.00  768.00
2283          SE            0.50    1.00    1.50
              *
```



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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

2284          KK  DRLO75RETRIEVE
2285          KM   Retrieve divert DROL75 from subbasin DV75 and divert to combination point
2286          KM   CLO75
2287          DR  DSLO75
              *

2288          KK   RLO75    ROUTE
2289          KM   Route diversion DRLO75 to combination point CLO75
2290          RS       7     FLOW
2291          RC   0.035   0.015   0.035    7499  0.0047    0.00
2292          RX    0.00    0.00   13.00   13.00   55.00   55.00   68.00   68.00
2293          RY    3.00    0.63    0.50    0.00    0.00    0.50    0.63    3.00
              *

2294          KK  CILO75 COMBINE
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2295          KM   Combine route RLO75A and storage route SRLO75
2296          HC       2    2.94
              *

2297          KK  RBYNRB    ROUTE
2298          KM   Route runoff hydrograph at combination point CLO75 to combination point CBYNR
2299          RS       1     FLOW
2300          RC   0.045   0.015   0.045    3176  0.0058    0.00
2301          RX    0.00    3.00    5.00   29.00   41.00   65.00   67.00   70.00
2302          RY   13.00   12.00   12.00    0.00    0.00   12.00   12.00   13.00
              *

2303          KK    PP81    BASIN
2304          KM   Runoff hydrograph for subbasin PP81 near the intersection of Pinnacle Peak
2305          KM   Road and 81st Avenue
2306          BA   0.197
2307          LG    0.30    0.25    6.00    0.18      15
2308          UC   0.684   0.391
2309          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
2310          UA     100
              *

2311          KK  ERPP81  DIVERT
2312          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
2313          KM   retention developed after 1990 in subbasin PP81
2314          DT   XPP81     12.8      0.0
2315          DI     0.0 50000.0      0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
2316          DQ     0.0 50000.0      0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

2317          KK   RWL83    ROUTE
2318          KM   Route runoff hydrograph at subbasin PP81 to combination point CWL83
2319          RS       4     FLOW
2320          RC   0.045   0.035   0.045    3222  0.0050    0.00
2321          RX    0.00    0.00   19.00   25.00   30.00   36.00   55.00   55.00
2322          RY    4.10    3.10    3.00    0.00    0.00    3.00    3.10    4.10
              *
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LINE          ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

2323          KK    WL83    BASIN
2324          KM   Runoff hydrograph for subbasin WL83 near the intersection of Williams Road
2325          KM   and 83rd Avenue
2326          BA   0.125
2327          LG    0.30    0.10   11.20    0.02      15
2328          UC   0.852   0.797
2329          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
2330          UA     100
              *

2331          KK  ERWL83  DIVERT
2332          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
2333          KM   retention developed after 1990 in subbasin WL83
2334          DT   XWL83      4.3      0.0
2335          DI     0.0 50000.0      0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
2336          DQ     0.0 50000.0      0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

2337          KK   CWL83 COMBINE
2338          KM   Combine route RW183 and subbasin WL83
2339          HC       2    0.32
              *

2340          KK    HV87    BASIN
2341          KM   Runoff hydrograph for subbasin HV87 near the intersection of Happy Valley
2342          KM   Road and 87th Avenue
2343          BA   0.285
2344          LG    0.10    0.35    4.00    0.39      35
2345          UC   0.339   0.135
2346          UA       0     3.0     5.0     8.0    12.0    20.0    43.0    75.0    90.0    96.0
2347          UA     100
              *

2348          KK   RPP87    ROUTE
2349          KM   Route runoff hydrograph at subbasin HV87 to combination point CPP87
2350          RS       1     FLOW
2351          RC   0.045   0.020   0.045    5446  0.0172    0.00
2352          RX    0.00    0.00   40.00   50.00   60.00   70.00  110.00  110.00
2353          RY    6.20    5.20    5.00    0.00    0.00    5.00    5.20    6.20
              *

2354          KK    PP87    BASIN
2355          KM   Runoff hydrograph for subbasin PP87 near the intersection of Pinnacle Peak
2356          KM   Road and 87th Avenue
2357          BA   0.981
2358          LG    0.25    0.28    4.45    0.35      10
2359          UC   0.679   0.249
2360          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
2361          UA     100
              *
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LINE          ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

2362          KK  ERPP87  DIVERT
2363          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
2364          KM   retention developed after 1990 in subbasin PP87
2365          DT   XPP87     29.0      0.0
2366          DI     0.0 50000.0      0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
2367          DQ     0.0 50000.0      0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

2368          KK   CPP87 COMBINE
2369          KM   Combine route RPP87 and subbasin PP87
2370          HC       2    1.27
              *

2371          KK  SRPP87 STORAGE
2372          KM   Storage route runoff hydrograph from combination point CPP87 through the
2373          KM     regional detention basin located near the intersection of Pinnacle Peak Rd
2374          KM     and 87th Avenue
2375          KM   Stage-storage-discharge data from 83rd Avenue/Pinnacle Peak Road Drainage
2376          KM     Improvements Final Drainage Report, 2006
2377          RS       1     STOR
2378          SV            0.81    3.43    7.18   11.20   15.45   19.87   24.47   29.24   32.60
2379          SV   34.10   36.28   38.47
2380          SQ                   34.13   53.39   68.62   81.63   93.17  103.66  113.33  120.0
2381          SQ   208.0   499.0   814.0
2382          SE  1313.0 1314.00 1315.00 1316.00 1317.00 1318.00 1319.00 1320.00 1321.00  1321.7
2383          SE  1322.0  1322.5  1322.9
              *

2384          KK    DPP87  DIVERT
2385          KM   Divert calculated full flow capacity of 128 cfs into 48-inch storm drain
2386          KM   pipe at the intersection of Pinnacle Peak Road and 87th Avenue
2387          DT  DPPP87      0.0    128.0
2388          DI     0.0 50000.0      0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
2389          DQ     0.0 50000.0      0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

2390          KK  PRPP87RETRIEVE
2391          KM   Retrieve full flow capacity of 128 cfs from 48-inch storm drain pipe at the
2392          KM   intersection of Pinnacle Peak Road and 87th Avenue
2393          DR  DPPP87
              *

2394          KK  RP87PP    ROUTE
2395          KM   Route full flow capacity of 128 cfs through 48-inch storm drain pipe in
2396          KM   87th Avenue to the intersection of Pinnacle Peak Road and 87th Avenue
2397          RK    1251  0.0079   0.015            CIRC   4.000
              *

2398          KK    PP91    BASIN
2399          KM   Runoff hydrograph for subbasin PP91 near the intersection of Pinnacle Peak
2400          KM   Road and 91st Avenue
2401          BA   0.161
2402          LG    0.30    0.25    4.20    0.44      15
2403          UC   0.942   0.779
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LINE          ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

2404          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
2405          UA     100
              *

2406          KK  ERPP91  DIVERT
2407          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
2408          KM   retention developed after 1990 in subbasin PP91
2409          DT   XPP91      7.7      0.0
2410          DI     0.0 50000.0      0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
2411          DQ     0.0 50000.0      0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

2412          KK  DPPP91  DIVERT
2413          KM   Divert calculated full flow capacity of 88 cfs into 54-inch storm drain
2414          KM   pipe at the intersection of Pinnacle Peak Road and 91st Avenue
2415          DT   DPP91      0.0      0.0
2416          DI       0.0     88.0    88.1 50000.0      0.0     0.0     0.0     0.0     0.0     0.0
2417          DQ       0.0      0.0     0.1 49912.0      0.0     0.0     0.0     0.0     0.0     0.0
              *
              * KKRPPP87   ROUTE
              * KM Route full flow capacity of 88 cfs through 54-inch storm drain pipe in
              * KM Pinnacle Peak Road to the intersection of Pinnacle Peak Road and 87th Avenu
              * RK  2635  0.0020   0.015            CIRC   4.500
              *

2418          KK  CPPP87 COMBINE
2419          KM   Combine pipe flow DPPP91 with pipe return flow PRPP87 at the intersection of
2420          KM   Pinnacle Peak Road and 87th Avenue
2421          HC       2
              *
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2422          KK  RPPP83   ROUTE
2423          KM   Route full flow capacity of 127 cfs through 72-inch storm drain pipe in
2424          KM   Pinnacle Peak Road to the intersection of Pinnacle Peak Road and 83rd Avenue
2425          RK    1891  0.0009   0.015            CIRC   6.000
              *
2426          KK  CPPP83 COMBINE
2427          KM   Combine pipe flow from combination point CPPP87 with the runoff hydrograph at
2428          KM   combination point CPP87 at the intersection of Pinnacle Peak Road and 83rd
2429          KM   Avenue
2430          HC       2
              *
2431          KK  SRPP83 STORAGE
2432          KM   Storage route runoff hydrograph from combination point CPPP83 through the
2433          KM     regional detention basin located near the intersection of Pinnacle Peak Rd
2434          KM     and 83rd Avenue
2435          KM   Stage-storage-discharge data from 83rd Avenue/Pinnacle Peak Road Drainage
2436          KM     Improvements Final Drainage Report, 2006
2437          RS       1     STOR
2438          SV    0.41    1.96    4.32    6.86    9.60   12.51   15.62   18.93   22.43   26.13
2439          SV   30.04   34.15   38.47   43.00   47.74   52.69
2440          SQ                                    1.03    2.10   11.31   13.59   15.65   17.54
2441          SQ   19.29   20.95   22.51   24.00   25.43   26.79
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

2442          SE  1298.0  1299.0  1300.0  1301.0  1302.0  1303.0  1304.0  1305.0  1306.0  1307.0
2443          SE  1308.0  1309.0  1310.0  1311.0  1312.0  1313.0
              *
2444          KK  DP83PP  DIVERT
2445          KM   Divert calculated full flow capacity of 31 cfs into 36-inch storm drain
2446          KM   pipe at the intersection of Pinnacle Peak Road and 83rd Avenue
2447          DT   D83PP      0.0      0.0
2448          DI     0.0     31.0     31.1 50000.0      0.0      0.0      0.0      0.0      0.0      0.0
2449          DQ     0.0      0.0      0.1 49969.0      0.0      0.0      0.0      0.0      0.0      0.0
              *
2450          KK  RP83WL   ROUTE
2451          KM   Route full flow capacity of 31 cfs through 36-inch storm drain pipe in
2452          KM   83rd Avenue to the intersection of Williams Road and 83rd Avenue
2453          RK    2980  0.0022   0.015            CIRC   3.000
              *
2454          KK  CPWL83 COMBINE
2455          KM   Combine pipe flow DP83PP with the runoff hydrograph at combination point
2456          KM   CWL83 at the intersection of Williams Road and 83rd Avenue
2457          HC       2
              *
2458          KK   RDV83   ROUTE
2459          KM   Route runoff hydrograph at combination point CPWL83 to combination point
2460          KM   CDV83
2461          RS       5     FLOW
2462          RC   0.045   0.015   0.045    2933  0.0051    0.00
2463          RX    0.00    0.00   40.00   50.00   60.00   70.00  110.00  110.00
2464          RY    6.20    5.20    5.00    0.00    0.00    5.00    5.20    6.20
              *
2465          KK    DV83   BASIN
2466          KM   Runoff hydrograph for subbasin DV83 near the intersection of Deer Valley
2467          KM   Road and 83rd Avenue
2468          BA   0.107
2469          LG    0.25    0.10   11.20    0.02      30
2470          UC   0.956   1.052
2471          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
2472          UA     100
              *
2473          KK  ERDV83  DIVERT
2474          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
2475          KM   retention developed after 1990 in subbasin DV83
2476          DT   XDV83      1.7      0.0
2477          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
2478          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

2479          KK   CDV83 COMBINE
2480          KM   Combine route RDV83 and subbasin DV83
2481          HC       2    0.43
              *
2482          KK   RBYNRA   ROUTE
2483          KM   Route runoff hydrograph at combination point CDV83 to combination point CBYNR
2484          RS       6     FLOW
2485          RC   0.045   0.035   0.045    6713  0.0060    0.00
2486          RX    0.00    0.00   19.00   25.00   30.00   36.00   55.00   55.00
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2487          RY    4.10    3.10    3.00    0.00    0.00    3.00    3.10    4.10
              *
2488          KK    BYNR   BASIN
2489          KM   Runoff hydrograph for subbasin BYNR near the intersection of Beardsley Road
2490          KM   Road and New River
2491          BA   1.034
2492          LG    0.22    0.27    5.80    0.17      27
2493          UC   1.112   0.589
2494          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
2495          UA     100
              *
2496          KK  ERBYNR  DIVERT
2497          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
2498          KM   retention developed after 1990 in subbasin BYNR
2499          DT   XBYNR      4.5      0.0
2500          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
2501          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *
2502          KK   CNR06 COMBINE
2503          KM   Combine route RBYNRA, route RBYNRB, and subbasin BYNR
2504          HC       4   14.90
              *
2505          KK  DR83PPRETRIEVE
2506          KM   Retrieve divert DR83PP from combination point CPPP83 and divert to
2507          KM   combination point CDV87
2508          DR   D83PP
              *
2509          KK   RDV87   ROUTE
2510          KM   Route diversion retrieval DR83PP to combination point CDV87
2511          RS       1     FLOW
2512          RC   0.035   0.015   0.035    5316  0.0063    0.00
2513          RX    0.00    0.00   12.50   12.50   62.50   62.50   75.00   75.00
2514          RY    3.00    0.62    0.50    0.00    0.00    0.50    0.62    3.00
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

2515          KK    DV87   BASIN
2516          KM   Runoff hydrograph for subbasin DV87 near the intersection of Deer Valley Road
2517          KM   and 87th Avenue
2518          BA   1.004
2519          LG    0.30    0.17    6.80    0.13      15
2520          UC   0.841   0.307
2521          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
2522          UA     100
              *
2523          KK  ERDV87  DIVERT
2524          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
2525          KM   retention developed after 1990 in subbasin DV87
2526          DT   XDV87      5.3      0.0
2527          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
2528          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *
2529          KK   CDV87 COMBINE
2530          KM   Combine route RDV87 and subbasin DV87
2531          HC       2    2.27
              *
2532          KK   RBY87   ROUTE
2533          KM   Route runoff hydrograph at combination point CDV87 to combination point CBY87
2534          RS       2     FLOW
2535          RC   0.045   0.035   0.045    6699  0.0045    0.00
2536          RX    0.00    0.00   55.00   75.00  100.00  120.00  175.00  175.00
2537          RY   11.20   10.20   10.00    0.00    0.00   10.00   10.20   11.20
              *
2538          KK    BY87   BASIN
2539          KM   Runoff hydrograph for subbasin BY87 near the intersection of Beardsley Road
2540          KM   and 87th Avenue
2541          BA   0.959
2542          LG    0.24    0.15    8.00    0.08      33
2543          UC   1.013   0.500
2544          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
2545          UA     100
              *
2546          KK  ERBY87  DIVERT
2547          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
2548          KM   retention developed after 1990 in subbasin BY87
2549          DT   XBY87     76.7      0.0
2550          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
2551          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

2552          KK   CBY87 COMBINE
2553          KM   Combine route RBY87 and subbasin BY87
2554          HC       2    3.23
              *

2555          KK   RUH87   ROUTE
2556          KM   Route runoff hydrograph at combination point CBY87 to combination point CUH87
2557          RS       3    FLOW
2558          RC   0.045   0.035   0.045    6701  0.0037    0.00
2559          RX    0.00    0.00   40.00   50.00   60.00   70.00  110.00  110.00
2560          RY    6.20    5.20    5.00    0.00    0.00    5.00    5.20    6.20
              *

2561          KK    UH87   BASIN
2562          KM   Runoff hydrograph for subbasin UH87 near the intersection of Union Hills
2563          KM   Drive and 87th Avenue
2564          BA   0.998
2565          LG    0.21    0.15    7.60    0.10      26
2566          UC   0.925   0.435
2567          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
2568          UA     100
              *

2569          KK  ERUH87  DIVERT
2570          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
2571          KM   retention developed after 1990 in subbasin UH87
2572          DT   XUH87    71.9     0.0
2573          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
2574          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

2575          KK   CUH87 COMBINE
2576          KM   Combine route RUH87 and subbasin UH87
2577          HC       2    4.23
              *

2578          KK  DSBLNR  DIVERT
2579          KM   Divert remaining runoff hydrograph from combination point CUH87 south to
2580          KM   combination point CBLNR
2581          DT  DSBL91      0.0     0.0
2582          DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
2583          DQ     0.0    59.0   118.0   295.0   590.0  1180.0  2360.0  5900.0 11800.0 29500.0
              *

2584          KK  DPUHNR  DIVERT
2585          KM   Divert calculated full flow capacity of 50 cfs into 42-inch storm drain
2586          KM   pipe at the intersection of Union Hills Drive and 87th Avenue
2587          DT   DUHNR      0.0     0.0
2588          DI     0.0    50.0    50.1 50000.0     0.0     0.0     0.0     0.0     0.0     0.0
2589          DQ     0.0     0.0     0.1 49950.0     0.0     0.0     0.0     0.0     0.0     0.0
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

2590          KK  RPUHNR   ROUTE
2591          KM   Route full flow capacity of 50 cfs through 42-inch storm drain pipe in
2592          KM   Union Hills Drive to the intersection of Union Hills Drive and New River
2593          RK    1703  0.0025   0.015             CIRC   3.500
              *

2594          KK    UHNR   BASIN
2595          KM   Runoff hydrograph for subbasin UHNR near the intersection of Union Hills
2596          KM   Drive and New River
2597          BA   0.386
2598          LG    0.14    0.29    4.60    0.28      40
2599          UC   0.939   0.701
2600          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
2601          UA     100
              *

2602          KK  ERUHNR  DIVERT
2603          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
2604          KM   retention developed after 1990 in subbasin UHNR
2605          DT   XUHNR      0.1     0.0
2606          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
2607          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

2608          KK   CNR07 COMBINE
2609          KM   Combine route RPUHNR, and subbasin UHNR
2610          HC       3   15.29
              *

2611          KK  DRUHNRRETRIEVE
2612          KM   Retrieve divert DRUHNR from combination point CUH87 and divert to
2613          KM   combination point CNR08
2614          DR   DUHNR
```



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              *

2615          KK   RBLNR    ROUTE
2616          KM   Route diversion retrieval DRUHNR to combination point CNR08
2617          RS       1    FLOW
2618          RC   0.035   0.015   0.035    2700  0.0028    0.00
2619          RX    0.00    0.00    7.00    7.00   43.00   43.00   50.00   50.00
2620          RY    3.00    0.57    0.50    0.00    0.00    0.50    0.57    3.00
              *

2621          KK    BLNR   BASIN
2622          KM   Runoff hydrograph for subbasin BLNR near the intersection of Bell Road and
2623          KM   New River
2624          BA   0.603
2625          LG    0.18    0.27    5.20    0.21      44
2626          UC   0.934   0.616
2627          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
2628          UA     100
              *
1                                        HEC-1 INPUT                                    PAGE 69

LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

2629          KK  ERBLNR  DIVERT
2630          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
2631          KM   retention developed after 1990 in subbasin BLNR
2632          DT   XBLNR      5.1     0.0
2633          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
2634          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

2635          KK   CNR08 COMBINE
2636          KM   Combine route RBLNR and subbasin BLNR
2637          HC       3   17.63
              *

2638          KK  DRPP91RETRIEVE
2639          KM   Retrieve divert DRPP91 from subbasin PP91 and divert to combination point
2640          KM   CRG93
2641          DR   DPP91
              *

2642          KK   RDV91    ROUTE
2643          KM   Route diversion retrieval DRPP91 to combination point CDV91
2644          RS       1    FLOW
2645          RC   0.035   0.015   0.035    5295  0.0064    0.00
2646          RX    0.00    0.00   16.50   16.50  107.50  107.50  124.00  124.00
2647          RY    3.00    0.66    0.50    0.00    0.00    0.50    0.66    3.00
              *

2648          KK   RRG93    ROUTE
2649          KM   Route runoff hydrograph at route RDV91 to combination point CRG93
2650          RS       1    FLOW
2651          RC   0.045   0.015   0.045    4406  0.0036    0.00
2652          RX    0.00    0.00   19.00   25.00   30.00   36.00   55.00   55.00
2653          RY    4.10    3.10    3.00    0.00    0.00    3.00    3.10    4.10
              *

2654          KK    RG93   BASIN
2655          KM   Runoff hydrograph for subbasin RG93 near the intersection of Rose Garden Lane
2656          KM   93rd Avenue
2657          BA   0.248
2658          LG    0.25    0.25    4.60    0.30      30
2659          UC   0.995   0.702
2660          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
2661          UA     100
              *

2662          KK  ERRG93  DIVERT
2663          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
2664          KM   retention developed after 1990 in subbasin RG93
2665          DT   XRG93     20.3     0.0
2666          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
2667          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

2668          KK   CRG93 COMBINE
2669          KM   Combine route RRG93 and subbasin RG93
2670          HC       2    0.41
              *

2671          KK  DSBY91  DIVERT
2672          KM   Divert remaining runoff hydrograph from combination point CRG93 south to
2673          KM   combination point CBY91
2674          DT  DWRGLP      0.0     0.0
2675          DI     0.0     5.0     9.0    50.0    84.0   113.0   140.0   205.0     0.0     0.0
2676          DQ     0.0     0.0     0.0    35.0    66.0    93.0   118.0   182.0     0.0     0.0
              *
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2677          KK   RBY91    ROUTE
2678          KM   Route diversion DSBY91 south to combination point CBY91
2679          RS      9     FLOW
2680          RC   0.045   0.035   0.045    2901  0.0041    0.00
2681          RX    0.00    0.00   19.00   25.00   30.00   36.00   55.00   55.00
2682          RY    4.10    3.10    3.00    0.00    0.00    3.00    3.10    4.10
              *

2683          KK    BY91   BASIN
2684          KM   Runoff hydrograph for subbasin BY91 near the intersection of Beardsley Road
2685          KM   91st Avenue
2686          BA   0.501
2687          LG    0.23    0.25    4.50    0.34      27
2688          UC   0.747   0.335
2689          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
2690          UA     100
              *

2691          KK  ERBY91  DIVERT
2692          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
2693          KM   retention developed after 1990 in subbasin BY91
2694          DT   XBY91    38.6     0.0
2695          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
2696          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

2697          KK   CBY91 COMBINE
2698          KM   Combine route RBY91 and subbasin BY91
2699          HC       2    0.71
              *

2700          KK   RUH91    ROUTE
2701          KM   Route runoff hydrograph at combination point CBY91 to combination point CUH91
2702          RS      9     FLOW
2703          RC   0.045   0.035   0.045    9978  0.0027    0.00
2704          RX    0.00    0.00   19.00   25.00   30.00   36.00   55.00   55.00
2705          RY    4.10    3.10    3.00    0.00    0.00    3.00    3.10    4.10
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

2706          KK    UH91   BASIN
2707          KM   Runoff hydrograph for subbasin UH91 near the intersection of Union Hills
2708          KM   Drive and 91st Avenue
2709          BA   0.929
2710          LG    0.21    0.25    4.80    0.31      27
2711          UC   1.491   1.059
2712          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
2713          UA     100
              *

2714          KK  ERUH91  DIVERT
2715          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
2716          KM   retention developed after 1990 in subbasin UH91
2717          DT   XUH91     4.0     0.0
2718          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
2719          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

2720          KK   CUH91 COMBINE
2721          KM   Combine route RUH91 and subbasin UH91
2722          HC       2    1.63
              *

2723          KK  DRBL91RETRIEVE
2724          KM   Retrieve divert DRBL91 from combination point CBL59 and divert to
2725          KM   combination point CIUH91
2726          DR  DSBL91
              *

2727          KK   DUH91  DIVERT
2728          KM   Capacity of storm drain in 89th Avenue and 91st Avenue diverted together.
2729          KM   Divert combined calculated full flow capacity of 454 cfs in the 78-inch storm
2730          KM   drain pipe in 89th Avenue and 129 cfs in the 54-inch storm drain pipe in
2731          KM   91st Avenue. The total calculated combined full flow capacity diverted at the
2732          KM   intersection of 91st Avenue and Union Hills Drive is 583 cfs in an equivalent
2733          KM   diameter pipe of 96 inches
2734          DT   DPUH91     0.0   583.0
2735          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
2736          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

2737          KK  CIUH91 COMBINE
2738          KM   Combine diversion DUH91 with runoff hydrograph at combination point CUH91
2739          KM   at the intersection of 91st Avenue and Union Hills Drive
2740          HC       2    4.12
              *

2741          KK   RBL91   ROUTE
2742          KM   Route runoff hydrograph at combination point CIUH91 to combination point CBL9
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2743          RS      2     FLOW
2744          RC   0.035   0.015   0.035    5280  0.0045    0.00
2745          RX    0.00    0.00   38.50   38.50  210.50  210.50  249.00  249.00
2746          RY    3.00    0.88    0.50    0.00    0.00    0.50    0.88    3.00
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

2747          KK    BL91   BASIN
2748          KM   Runoff hydrograph for subbasin BL91 near the intersection of Bell Road and
2749          KM   91st Avenue
2750          BA   0.901
2751          LG    0.19    0.16    7.00    0.10      51
2752          UC   0.970   0.491
2753          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
2754          UA     100
              *

2755          KK  ERBL91  DIVERT
2756          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
2757          KM   retention developed after 1990 in subbasin BL91
2758          DT   XBL91    79.1     0.0
2759          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
2760          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

2761          KK   CBL91 COMBINE
2762          KM   Combine route RBL91 and subbasin BL91
2763          HC       2    5.02
              *

2764          KK  PRUH91RETRIEVE
2765          KM   Retrieve combined full flow capacity of 583 cfs from 96-inch equivalent
2766          KM   diameter pipe at the intersection of Union Hills Drive and 91st Avenue
2767          DR  DPUH91
              *

2768          KK  RP91AT   ROUTE
2769          KM   Route the combined full flow capacity of 583 cfs through an equivalent storm
2770          KM   drain pipe diameter of 96 inches in 91st Avenue to the intersection of
2771          KM   91st Avenue and Athens Street
2772          RK    1467  0.0043   0.015            CIRC   8.000
              *

2773          KK  SRAT91 STORAGE
2774          KM   Storage route pipe flow PRUH91 through the regional detention basin located
2775          KM     in subbasin BL91 near the intersection of Athens Street and 91st Avenue
2776          KM   Storage routing ID S-DET in Glendale/Peoria ADMPU, May 2001
2777          KM   Comments from ADMPU:
2778          KM   * PROPOSED DESERT AMETHYST DETENTION BASIN
2779          KM   * **** LTM: Use design-level storage volume/elevation data provided by Wood
2780          KM   *      Patel. Basin size reduced to accommodate potential landscaping req'mts
2781          RS      1     STOR
2782          SV           0.00    0.04    0.38    1.53    3.87    7.06   10.53   14.03   17.61
2783          SV  21.25  24.973  28.766  32.634  36.576  40.594  44.688  44.689    44.8    44.9
2784          SQ      0      60      68      80      96     117     148     188     237     288
2785          SQ    329     333     337     341     345     348     357     500    1000    1500
2786          SE 1201.6  1203.0  1203.5  1204.0  1204.5  1205.0  1205.5  1206.0  1206.5  1207.0
2787          SE 1207.5  1208.0  1208.5  1209.0  1209.5  1210.0  1210.5  1210.6  1211.0  1211.3
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

2788          KK  RP91BL   ROUTE
2789          KM   Route full flow capacity of 311 cfs through 78-inch storm drain pipe in
2790          KM   91st Avenue to the intersection of Bell Road and 91st Avenue
2791          RK    3333  0.0035   0.015            CIRC   6.500
              *

2792          KK  CPBL91 COMBINE
2793          KM   Combine pipe return PRUH91 with the runoff hydrograph at combination point
2794          KM   CBL91 at the intersection of Bell Road and 87th Avenue
2795          HC       2
              *

2796          KK  DSGWNR  DIVERT
2797          KM   Divert remaining runoff hydrograph from combination point CPBL91 south to
2798          KM   combination point CNR09
2799          DT   DSGW91     0.0     0.0
2800          DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
2801          DQ     0.0    58.0   116.0   290.0   580.0  1160.0  2320.0  5800.0 11600.0 29000.0
              *

2802          KK  DPBLNR  DIVERT
2803          KM   Divert calculated full flow capacity of 159 cfs into 72-inch storm drain
2804          KM   pipe at the intersection of Bell Road and 87th Avenue
2805          DT   DBLNR     0.0     0.0
2806          DI     0.0   159.0   159.1 50000.0     0.0     0.0     0.0     0.0     0.0     0.0
2807          DQ     0.0     0.0     0.1 49841.0     0.0     0.0     0.0     0.0     0.0     0.0
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                *
2808            KK  RPBLNR    ROUTE
2809            KM   Route full flow capacity of 159 cfs through 72-inch storm drain pipe in
2810            KM   Bell Road to the intersection of Bell Road and New River
2811            RK    1896  0.0014    0.015             CIRC    6.000
                *
2812            KK  CPNR08 COMBINE
2813            KM   Combine pipe flow DPBLNR with the runoff hydrograph at combination point
2814            KM   CNR08 at the intersection of Bell Road and New River
2815            HC        2   17.63
                *
2816            KK  DRBLNRRETRIEVE
2817            KM   Retrieve divert DRBLNR from combination point CPBL91 and divert to
2818            KM   combination point CNR09
2819            DR   DBLNR
                *
2820            KK  RGWNRB    ROUTE
2821            KM   Route diversion retrieval DRBLNR to combination point CNR09
2822            RS        4     FLOW
2823            RC   0.035    0.015    0.035     9106  0.0029     0.00
2824            RX    0.00     0.00    12.50    12.50   62.50    62.50    75.00    75.00
2825            RY    3.00     0.62     0.50     0.00    0.00     0.50     0.62     3.00
                *
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LINE            ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

2826            KK  DRGW91RETRIEVE
2827            KM   Retrieve divert DRGW91 from combination point CPBL91 and divert to
2828            KM   combination point CGW91
2829            DR  DSGW91
                *
2830            KK   RGW91    ROUTE
2831            KM   Route diversion retrieval DRGW91 to combination point CGW91
2832            RS        3     FLOW
2833            RC   0.035    0.015    0.035     5450  0.0039     0.00
2834            RX    0.00     0.00    16.50    16.50  107.50   107.50   124.00   124.00
2835            RY    3.00     0.66     0.50     0.00    0.00     0.50     0.66     3.00
                *
2836            KK    GW91    BASIN
2837            KM   Runoff hydrograph for subbasin GW91 near the intersection of Greenway Road
2838            KM   91st Avenue
2839            BA   0.477
2840            LG    0.20     0.25     5.60     0.19      42
2841            UC   0.866    0.492
2842            UA        0      5.0     16.0     30.0     65.0     77.0     84.0     90.0     94.0     97.0
2843            UA      100
                *
2844            KK  ERGW91   DIVERT
2845            KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
2846            KM   retention developed after 1990 in subbasin GW91
2847            DT   XGW91     22.0      0.0
2848            DI       0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
2849            DQ       0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
                *
2850            KK   CGW91 COMBINE
2851            KM   Combine route RGW91 and subbasin GW91
2852            HC        2    3.40
                *
2853            KK  DEGWNR   DIVERT
2854            KM   Divert remaining runoff hydrograph at combination point CGW91 east to
2855            KM   combination point CNR09
2856            DT  DSTBNR      0.0      0.0
2857            DI       0.0 1350.0   1350.1 50000.0      0.0      0.0      0.0      0.0      0.0      0.0
2858            DQ       0.0    0.0   1350.1 50000.0      0.0      0.0      0.0      0.0      0.0      0.0
                *
2859            KK  RGWNRA    ROUTE
2860            KM   Route diversion DEGWNR east to combination point CNR09
2861            RS        5     FLOW
2862            RC   0.045    0.015    0.045     6001  0.0010     0.00
2863            RX    0.00     0.00    40.00    50.00   60.00    70.00   110.00   110.00
2864            RY    6.20     5.20     5.00     0.00    0.00     5.00     5.20     6.20
                *
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LINE            ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

2865            KK    GWNR    BASIN
2866            KM   Runoff hydrograph for subbasin GWNR near the intersection of Greenway Road
2867            KM   and New River
2868            BA   0.696
```



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2869            LG    0.18     0.27     4.65     0.29      32
2870            UC   1.085    0.733
2871            UA        0      5.0     16.0     30.0     65.0     77.0     84.0     90.0     94.0     97.0
2872            UA      100
                *
2873            KK  ERGWNR   DIVERT
2874            KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
2875            KM   retention developed after 1990 in subbasin GWNR
2876            DT   XGWNR     26.6      0.0
2877            DI       0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
2878            DQ       0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
                *
2879            KK   CNR09 COMBINE
2880            KM   Combine route RGWNRA, route RGWNRB and subbasin
2881            KM   DV87
2882            HC        5   59.19
                *
2883            KK  DRTBNRRETRIEVE
2884            KM   Retrieve divert DRTBNR from combination point CGW91 and divert to
2885            KM   combination point CNR10
2886            DR  DSTBNR
                *
2887            KK   RTBNR    ROUTE
2888            KM   Route diversion retrieval DRTBNR to combination point CNR10
2889            RS        1     FLOW
2890            RC   0.035    0.015    0.035     6342  0.0031     0.00
2891            RX    0.00     0.00    16.50    16.50  107.50   107.50   124.00   124.00
2892            RY    3.00     0.66     0.50     0.00    0.00     0.50     0.66     3.00
                *
2893            KK    TBNR    BASIN
2894            KM   Runoff hydrograph for subbasin TBNR near the intersection of Thunderbird Road
2895            KM   and New River
2896            BA   1.123
2897            LG    0.19     0.24     4.65     0.30      30
2898            UC   1.172    0.538
2899            UA        0      5.0     16.0     30.0     65.0     77.0     84.0     90.0     94.0     97.0
2900            UA      100
                *
2901            KK  ERTBNR   DIVERT
2902            KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
2903            KM   retention developed after 1990 in subbasin TBNR
2904            DT   XTBNR     15.5      0.0
2905            DI       0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
2906            DQ       0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
                *
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LINE            ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

2907            KK   CNR10 COMBINE
2908            KM   Combine route RTBNR and subbasin TBNR
2909            HC        3   62.01
                *
2910            KK    HV93    BASIN
2911            KM   Runoff hydrograph for subbasin HV93 near the intersection of Happy Valley
2912            KM   Road and 93rd Avenue
2913            BA   0.172
2914            LG    0.24     0.28     4.15     0.42      30
2915            UC   0.433    0.289
2916            UA        0      5.0     16.0     30.0     65.0     77.0     84.0     90.0     94.0     97.0
2917            UA      100
                *
2918            KK  DSPPLP   DIVERT
2919            KM   Divert remaining runoff hydrograph from subbasin HV93 south to combination
2920            KM   point CPPLP
2921            DT  DWHVLP      0.0      0.0
2922            DI       0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0  10000.0  20000.0  50000.0
2923            DQ       0.0     42.0     84.0    210.0    420.0    840.0   1680.0   4200.0   8400.0  21000.0
                *
2924            KK   RPPLP    ROUTE
2925            KM   Route diversion DSPPLP south to combination point CPPLP
2926            RS        4     FLOW
2927            RC   0.035    0.015    0.035     8751  0.0066     0.00
2928            RX    0.00     0.00     9.50     9.50   40.50    40.50    50.00    50.00
2929            RY    3.00     0.60     0.50     0.00    0.00     0.50     0.60     3.00
                *
2930            KK    PPLP    BASIN
2931            KM   Runoff hydrograph for subbasin PPLP near the intersection of Pinnacle Peak
2932            KM   Road and Lake Pleasant Parkway
2933            BA   0.885
2934            LG    0.23     0.28     4.35     0.37      13
2935            UC   1.180    0.830
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2936          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
2937          UA     100
              *

2938          KK  ERPPLP  DIVERT
2939          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
2940          KM   retention developed after 1990 in subbasin PPLP
2941          DT   XPPLP    19.3     0.0
2942          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
2943          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

2944          KK   CPPLP COMBINE
2945          KM   Combine route RPPLP and subbasin PPLP
2946          HC       2    0.98
              *

2947          KK  DSDV99  DIVERT
2948          KM   Divert remaining runoff hydrograph from combination point CPPLP south to
2949          KM   combination point CDV99
2950          DT  DWPP03     0.0     0.0
2951          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
2952          DQ     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

2953          KK   DDV99  DIVERT
2954          KM   Divert portion of diversion DSDV99 south to subbasin DVLP and the
2955          KM   remaining flow follow to subbasin DV99 at combination point CDV99
2956          DT  DSDVLP     0.0     0.0
2957          DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
2958          DQ     0.0    33.0    66.0   165.0   330.0   660.0  1320.0  3300.0  6600.0 16500.0
              *

2959          KK    DV99   BASIN
2960          KM   Runoff hydrograph for subbasin DV99 near the intersection of Deer Valley
2961          KM   Road and 99th Avenue
2962          BA   1.217
2963          LG    0.12    0.34    4.40    0.32       4
2964          UC   0.951   0.338
2965          UA       0     3.0     5.0     8.0    12.0    20.0    43.0    75.0    90.0    96.0
2966          UA     100
              *

2967          KK  ERDV99  DIVERT
2968          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
2969          KM   retention developed after 1990 in subbasin DV99
2970          DT   XDV99     7.9     0.0
2971          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
2972          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

2973          KK   CDV99 COMBINE
2974          KM   Combine divert DDV99 and subbasin DV99
2975          HC       2    1.88
              *

2976          KK  RRGLPA   ROUTE
2977          KM   Route runoff hydrograph at combination point CDV99 to combination point CRGLP
2978          RS       1    FLOW
2979          RC   0.045   0.020   0.045    2633  0.0048    0.00
2980          RX    0.00    0.00   40.00   50.00   60.00   70.00  110.00  110.00
2981          RY    6.20    5.20    5.00    0.00    0.00    5.00    5.20    6.20
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

2982          KK  DRRGLPRETRIEVE
2983          KM   Retrieve divert DRRGLP from combination point CRG93 and divert to
2984          KM   combination point CRGLP
2985          DR  DWRGLP
              *

2986          KK  RRGLPB   ROUTE
2987          KM   Route diversion retrieval DRRGLP to combination point CRGLP
2988          RS       6    FLOW
2989          RC   0.045   0.020   0.045    3160  0.0003    0.00
2990          RX    0.00    0.00   19.00   25.00   30.00   36.00   55.00   55.00
2991          RY    4.10    3.10    3.00    0.00    0.00    3.00    3.10    4.10
              *

2992          KK    RGLP   BASIN
2993          KM   Runoff hydrograph for subbasin RGLP near the intersection of Rose Garden Lane
2994          KM   and Lake Pleasant Parkway
2995          BA   0.410
2996          LG    0.26    0.33    4.35    0.33      19
2997          UC   0.833   0.538
2998          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
```



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2999          UA     100
              *

3000          KK  ERRGLP  DIVERT
3001          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
3002          KM   retention developed after 1990 in subbasin RGLP
3003          DT   XRGLP    28.3     0.0
3004          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
3005          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

3006          KK   CRGLP COMBINE
3007          KM   Combine route RRGLPA, route RRGLPB, and subbasin RGLP
3008          HC       3    2.49
              *

3009          KK  DSBY07  DIVERT
3010          KM   Divert remaining runoff hydrograph from combination point CRGLP south to
3011          KM   combination point CBY07
3012          DT  DWRG07     0.0     0.0
3013          DI     0.0    50.0   100.0   300.0   750.0  1200.0  2000.0     0.0     0.0     0.0
3014          DQ     0.0    40.0    80.0   240.0   600.0  1050.0  1850.0     0.0     0.0     0.0
              *

3015          KK   RBY99   ROUTE
3016          KM   Route diversion DSBY07 south to combination point CBY99
3017          RS       4    FLOW
3018          RC   0.045   0.035   0.045    3939  0.0041    0.00
3019          RX    0.00    1.00   16.00   36.00   51.00  123.00  148.00  648.00
3020          RY   16.00    8.00    0.00    0.00    8.00    8.00    9.00   11.00
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

3021          KK    BY07   BASIN
3022          KM   Runoff hydrograph for subbasin BY07 near the intersection of Beardsley Road
3023          KM   and 87th Avenue
3024          BA   0.513
3025          LG    0.23    0.25    5.10    0.23      34
3026          UC   0.867   0.432
3027          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
3028          UA     100
              *

3029          KK  ERBY07  DIVERT
3030          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
3031          KM   retention developed after 1990 in subbasin BY07
3032          DT   XBY07    36.1     0.0
3033          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
3034          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

3035          KK   CBY07 COMBINE
3036          KM   Combine route RBY99 and subbasin BY07
3037          HC       2    1.76
              *

3038          KK  DSUH99  DIVERT
3039          KM   Divert remaining runoff hydrograph from combination point CBY07 south to
3040          KM   combination point CUH99
3041          DT  DWBYAF     0.0     0.0
3042          DI     0.0    10.0    30.0    50.0   100.0   500.0   700.0  1000.0     0.0     0.0
3043          DQ     0.0    10.0    30.0    50.0   100.0   420.0   450.0   500.0     0.0     0.0
              *

3044          KK   RUH99   ROUTE
3045          KM   Route diversion DSUH99 south to combination point CUH99
3046          RS       3    FLOW
3047          RC   0.045   0.015   0.045    5347  0.0042    0.00
3048          RX    0.00    0.00   19.00   25.00   30.00   36.00   55.00   55.00
3049          RY    4.10    3.10    3.00    0.00    0.00    3.00    3.10    4.10
              *

3050          KK    UH99   BASIN
3051          KM   Runoff hydrograph for subbasin UH99 near the intersection of Union Hills
3052          KM   Drive and 99th Avenue
3053          BA   0.563
3054          LG    0.25    0.15    7.00    0.10      35
3055          UC   1.294   0.945
3056          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
3057          UA     100
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

3058          KK   CUH99 COMBINE
3059          KM   Combine route RUH99 and subbasin UH99
3060          HC       2    1.44
              *
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3061          KK  RDW99A    ROUTE
3062          KM   Route runoff hydrograph at combination point CUH99 to combination point CDW99
3063          RS       1     FLOW
3064          RC   0.045   0.015   0.045    2292  0.0029    0.00
3065          RX    0.00    0.00   40.00   50.00   60.00   70.00  110.00  110.00
3066          RY    6.20    5.20    5.00    0.00    0.00    5.00    5.20    6.20
              *
3067          KK    UH97    BASIN
3068          KM   Runoff hydrograph for subbasin UH97 near the intersection of Happy Valley
3069          KM   Road and Palo Verde Drive
3070          BA   0.272
3071          LG    0.21    0.25    5.60    0.22      28
3072          UC   1.007   0.912
3073          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
3074          UA     100
              *
3075          KK  RDW99B    ROUTE
3076          KM   Route runoff hydrograph at subbasin UH97 to combination point CDW99
3077          RS       4     FLOW
3078          RC   0.045   0.035   0.045    2848  0.0034    0.00
3079          RX    0.00    0.00   19.00   25.00   30.00   36.00   55.00   55.00
3080          RY    4.10    3.10    3.00    0.00    0.00    3.00    3.10    4.10
              *
3081          KK    DW99    BASIN
3082          KM   Runoff hydrograph for subbasin DW99 near the intersection of Del Webb
3083          KM   Boulevard and 99th Avenue
3084          BA   0.155
3085          LG    0.18    0.16    7.00    0.12      35
3086          UC   0.794   0.728
3087          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
3088          UA     100
              *
3089          KK   CDW99 COMBINE
3090          KM   Combine route RDW99 and subbasin DW99
3091          HC       3    1.87
              *
3092          KK  DSBL99   DIVERT
3093          KM   Divert remaining runoff hydrograph from combination point CDW99 south to
3094          KM   combination point CBL99
3095          DT  DWDW07      0.0   550.0
3096          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
3097          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *
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LINE          ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

3098          KK   RBL99    ROUTE
3099          KM   Route diversion DSBL99 south to combination point CBL99
3100          RS       2     FLOW
3101          RC   0.035   0.015   0.035    3206  0.0041    0.00
3102          RX    0.00    0.00   16.50   16.50  107.50  107.50  124.00  124.00
3103          RY    3.00    0.66    0.50    0.00    0.00    0.50    0.66    3.00
              *
3104          KK    BL99    BASIN
3105          KM   Runoff hydrograph for subbasin BL99 near the intersection of Bell Road and
3106          KM   99th Avenue
3107          BA   1.133
3108          LG    0.22    0.21    6.40    0.14      36
3109          UC   1.153   0.588
3110          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
3111          UA     100
              *
3112          KK   CBL99 COMBINE
3113          KM   Combine route RBL99 and subbasin BL99
3114          HC       2    2.07
              *
3115          KK   RBN99    ROUTE
3116          KM   Route runoff hydrograph at combination point CBL99 to combination point CBN99
3117          RS       1     FLOW
3118          RC   0.045   0.015   0.045    3854  0.0052    0.00
3119          RX    0.00    0.00   40.00   50.00   60.00   70.00  110.00  110.00
3120          RY    6.20    5.20    5.00    0.00    0.00    5.00    5.20    6.20
              *
3121          KK    BN99    BASIN
3122          KM   Runoff hydrograph for subbasin BN99 near the intersection of Burns Road and
3123          KM   99th Avenue
3124          BA   1.037
3125          LG    0.21    0.25    6.00    0.17      34
3126          UC   1.119   0.534
3127          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
3128          UA     100
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              *
3129          KK   CBN99 COMBINE
3130          KM   Combine route RBN99 and subbasin BN99
3131          HC       2    3.10
              *
3132          KK   RTB99    ROUTE
3133          KM   Route runoff hydrograph at combination point CBN99 to combination point CTB99
3134          RS       3     FLOW
3135          RC   0.045   0.015   0.045    6842  0.0039    0.00
3136          RX    0.00    0.00   40.00   50.00   60.00   70.00  110.00  110.00
3137          RY    6.20    5.20    5.00    0.00    0.00    5.00    5.20    6.20
              *
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LINE          ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

3138          KK    TB99    BASIN
3139          KM   Runoff hydrograph for subbasin TB99 near the intersection of Thunderbird Road
3140          KM   and 99th Avenue
3141          BA   0.976
3142          LG    0.23    0.25    5.80    0.18      30
3143          UC   1.208   0.694
3144          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
3145          UA     100
              *
3146          KK   CTB99 COMBINE
3147          KM   Combine route RTB99 and subbasin TB99
3148          HC       2    4.08
              *
3149          KK  RGRNRA    ROUTE
3150          KM   Route runoff hydrograph at combination point CTB99 to combination point CNR11
3151          RS       1     FLOW
3152          RC   0.045   0.015   0.045    6205  0.0045    0.00
3153          RX    0.00    0.00   55.00   75.00  100.00  120.00  175.00  175.00
3154          RY   11.20   10.20   10.00    0.00    0.00   10.00   10.20   11.20
              *
3155          KK  DRDW07RETRIEVE
3156          KM   Retrieve divert DRDW07 from combination point CDW99 and divert to
3157          KM   combination point CDW07
3158          DR  DWDW07
              *
3159          KK   RDW07    ROUTE
3160          KM   Route diversion retrieval DRDW07 to combination point CDW07
3161          RS       5     FLOW
3162          RC   0.045   0.015   0.045    4743  0.0007    0.00
3163          RX    0.00    0.00   40.00   50.00   60.00   70.00  110.00  110.00
3164          RY    6.20    5.20    5.00    0.00    0.00    5.00    5.20    6.20
              *
3165          KK    DW07    BASIN
3166          KM   Runoff hydrograph for subbasin DW07 near the intersection of Del Webb
3167          KM   Boulevard and 107th Avenue
3168          BA   0.484
3169          LG    0.19    0.19    6.60    0.16      28
3170          UC   1.258   0.885
3171          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
3172          UA     100
              *
3173          KK   CDW07 COMBINE
3174          KM   Combine route RDW07 and subbasin DW07
3175          HC       2    1.42
              *
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LINE          ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

3176          KK  DSTL07   DIVERT
3177          KM   Divert remaining runoff hydrograph from combination point CDW07 south to
3178          KM   combination point CTL07
3179          DT  DWBL15      0.0   550.0
3180          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
3181          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *
3182          KK   RTL07    ROUTE
3183          KM   Route diversion DSTL07 south to combination point CTL07
3184          RS       6     FLOW
3185          RC   0.035   0.015   0.035    8131  0.0048    0.00
3186          RX    0.00    0.00   16.50   16.50  107.50  107.50  124.00  124.00
3187          RY    3.00    0.66    0.50    0.00    0.00    0.50    0.66    3.00
              *
3188          KK    TL07    BASIN
3189          KM   Runoff hydrograph for subbasin TL07 near the intersection of Talisman Road
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3190          KM   and 107th Avenue
3191          BA   0.580
3192          LG    0.21    0.25    5.00    0.29      27
3193          UC   1.074   0.788
3194          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
3195          UA     100
              *
3196          KK   CTL07 COMBINE
3197          KM   Combine route RTL07 and subbasin TL07
3198          HC       2    1.29
              *
3199          KK  RGR99A   ROUTE
3200          KM   Route runoff hydrograph at combination point CTL07 to combination point CGR99
3201          RS       4    FLOW
3202          RC   0.045   0.020   0.045   12358  0.0025    0.00
3203          RX    0.00    0.00   40.00   50.00   60.00   70.00  110.00  110.00
3204          RY    6.20    5.20    5.00    0.00    0.00    5.00    5.20    6.20
              *
3205          KK    RO99   BASIN
3206          KM   Runoff hydrograph for subbasin RO99 near the intersection of Royal Oak Road
3207          KM   and 99th Avenue
3208          BA   0.414
3209          LG    0.20    0.22    4.70    0.26      38
3210          UC   1.341   1.185
3211          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
3212          UA     100
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10
3213          KK  RGR99B   ROUTE
3214          KM   Route runoff hydrograph at subbasin RO99 to combination point CGR99
3215          RS       1    FLOW
3216          RC   0.045   0.015   0.045    1046  0.0060    0.00
3217          RX    0.00    0.00   19.00   25.00   30.00   36.00   55.00   55.00
3218          RY    4.10    3.10    3.00    0.00    0.00    3.00    3.10    4.10
              *
3219          KK    GR99   BASIN
3220          KM   Runoff hydrograph for subbasin GR99 near the intersection of Grand Avenue
3221          KM   and 99th Avenue
3222          BA   1.309
3223          LG    0.20    0.17    6.80    0.12      41
3224          UC   1.500   1.089
3225          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
3226          UA     100
              *
3227          KK   CGR99 COMBINE
3228          KM   Combine route RGR99A, route RGR99B, and subbasin GR99
3229          HC       3    3.01
              *
3230          KK  RGRNRB   ROUTE
3231          KM   Route runoff hydrograph at combination point CGR99 to combination point CNR11
3232          RS       1    FLOW
3233          RC   0.045   0.015   0.045    3071  0.0051    0.00
3234          RX    0.00    0.00   55.00   75.00  100.00  120.00  175.00  175.00
3235          RY   11.20   10.20   10.00    0.00    0.00   10.00   10.20   11.20
              *
3236          KK    GRNR   BASIN
3237          KM   Runoff hydrograph for subbasin GRNR near the intersection of Grand Avenue
3238          KM   and New River
3239          BA   0.947
3240          LG    0.20    0.29    5.00    0.23      33
3241          UC   0.944   0.458
3242          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
3243          UA     100
              *
3244          KK  ERGRNR  DIVERT
3245          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
3246          KM   retention developed after 1990 in subbasin GRNR
3247          DT   XGRNR      3.0      0.0
3248          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
3249          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10
3250          KK   CNR11 COMBINE
3251          KM   Combine route RGRNRA, route RGRNRB and subbasin GRNR
3252          HC       4   70.05
              *
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3253          KK    PE99   BASIN
3254          KM   Runoff hydrograph for subbasin PE99 near the intersection of Peoria Avenue
3255          KM   and 99th Avenue
3256          BA   0.294
3257          LG    0.21    0.25    4.90    0.28      33
3258          UC   1.362   1.662
3259          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
3260          UA     100
              *
3261          KK  DEPE97  DIVERT
3262          KM   Divert remaining runoff hydrograph at subbasin PE99 east to combination point
3263          KM   CNR12
3264          DT   DSOL99      0.0      0.0
3265          DI     0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0  10000.0  20000.0  50000.0
3266          DQ     0.0     30.0     60.0    150.0    300.0    600.0   1200.0   3000.0   6000.0  15000.0
              *
3267          KK   RPE97   ROUTE
3268          KM   Route diversion DEPE97 east to combination point CNR12
3269          RS       2    FLOW
3270          RC   0.035   0.015   0.035    1508  0.0023    0.00
3271          RX    0.00    0.00   64.00   64.00  310.00  310.00  374.00  374.00
3272          RY    3.00    1.14    0.50    0.00    0.00    0.50    1.14    3.00
              *
3273          KK    PENR   BASIN
3274          KM   Runoff hydrograph for subbasin PENR near the intersection of Peoria Avenue
3275          KM   and New River
3276          BA   0.197
3277          LG    0.10    0.28    4.70    0.26      59
3278          UC   1.142   0.833
3279          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
3280          UA     100
              *
3281          KK  ERPENR  DIVERT
3282          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
3283          KM   retention developed after 1990 in subbasin PENR
3284          DT   XPENR      6.9      0.0
3285          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
3286          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *
1                                        HEC-1 INPUT                                        PAGE 86
LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10
3287          KK  DWPE99  DIVERT
3288          KM   Divert remaining runoff hydrograph at subbasin PENR west to combination point
3289          KM   CNR12
3290          DT   DSOLNR      0.0      0.0
3291          DI     0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0  10000.0  20000.0  50000.0
3292          DQ     0.0     44.0     88.0    220.0    440.0    880.0   1760.0   4400.0   8800.0  22000.0
              *
3293          KK    PE97   BASIN
3294          KM   Runoff hydrograph for subbasin PE97 near the intersection of Peoria Avenue
3295          KM   Road and 97th Avenue
3296          BA   0.560
3297          LG    0.18    0.26    4.65    0.31      29
3298          UC   1.032   0.780
3299          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
3300          UA     100
              *
3301          KK   CNR12 COMBINE
3302          KM   Combine route RPE97, divert DWPE99, and subbasin PE97
3303          HC       4   70.93
              *
3304          KK  DROL99RETRIEVE
3305          KM   Retrieve divert DROL99 from subbasin PE99 and divert to combination point
3306          KM   CNR13
3307          DR   DSOL99
              *
3308          KK  ROL99A   ROUTE
3309          KM   Route diversion retrieval DROL99 to combination point CNR13
3310          RS       7    FLOW
3311          RC   0.035   0.015   0.035    5677  0.0038    0.00
3312          RX    0.00    0.00   16.50   16.50  107.50  107.50  124.00  124.00
3313          RY    3.00    0.66    0.50    0.00    0.00    0.50    0.66    3.00
              *
3314          KK    PE11   BASIN
3315          KM   Runoff hydrograph for subbasin PE11 near the intersection of Peoria Avenue
3316          KM   and 111th Avenue
3317          BA   0.924
3318          LG    0.20    0.25    6.00    0.18      30
3319          UC   1.490   1.095
3320          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
3321          UA     100
```

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                *
3322            KK  ROL03A   ROUTE
3323            KM   Route runoff hydrograph at subbasin PE11 to combination point COL03
3324            RS       2    FLOW
3325            RC   0.045   0.015   0.045    7132  0.0024    0.00
3326            RX    0.00    0.00   40.00   50.00   60.00   70.00  110.00  110.00
3327            RY    6.20    5.20    5.00    0.00    0.00    5.00    5.20    6.20
                *
1                                       HEC-1 INPUT                                    PAGE 87

LINE            ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


3328            KK    PE07   BASIN
3329            KM   Runoff hydrograph for subbasin PE07 near the intersection of Peoria Avenue
3330            KM   and 107th Avenue
3331            BA   0.575
3332            LG    0.18    0.25    5.30    0.27      23
3333            UC   1.238   1.010
3334            UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
3335            UA     100
                *

3336            KK  ROL03B   ROUTE
3337            KM   Route runoff hydrograph at subbasin PE07 to combination point COL03
3338            RS       4    FLOW
3339            RC   0.035   0.015   0.035    6517  0.0026    0.00
3340            RX    0.00    0.00    9.50    9.50   40.50   40.50   50.00   50.00
3341            RY    3.00    0.60    0.50    0.00    0.00    0.50    0.60    3.00
                *

3342            KK    PE03   BASIN
3343            KM   Runoff hydrograph for subbasin PE03 near the intersection of Peoria Avenue
3344            KM   and 103rd Avenue
3345            BA   0.409
3346            LG    0.20    0.25    4.80    0.32      29
3347            UC   1.108   0.940
3348            UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
3349            UA     100
                *

3350            KK  ROL03C   ROUTE
3351            KM   Route runoff hydrograph at subbasin PE03 to combination point COL03
3352            RS       5    FLOW
3353            RC   0.035   0.015   0.035    5865  0.0030    0.00
3354            RX    0.00    0.00   12.50   12.50   62.50   62.50   75.00   75.00
3355            RY    3.00    0.62    0.50    0.00    0.00    0.50    0.62    3.00
                *

3356            KK    OL03   BASIN
3357            KM   Runoff hydrograph for subbasin OL03 near the intersection of Olive Avenue and
3358            KM   103rd Avenue
3359            BA   1.099
3360            LG    0.22    0.25    5.20    0.24      33
3361            UC   1.289   0.731
3362            UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
3363            UA     100
                *

3364            KK   COL03 COMBINE
3365            KM   Combine route ROL03A, route ROL03B, route ROL03C, and subbasin OL03
3366            HC       4    3.01
                *
1                                       HEC-1 INPUT                                    PAGE 88

LINE            ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


3367            KK  ROL99B   ROUTE
3368            KM   Route runoff hydrograph at combination point COL03 to combination point CNR13
3369            RS       1    FLOW
3370            RC   0.045   0.015   0.045    1627  0.0124    0.00
3371            RX    0.00    0.00   40.00   50.00   60.00   70.00  110.00  110.00
3372            RY    6.20    5.20    5.00    0.00    0.00    5.00    5.20    6.20
                *

3373            KK  DROLNRRETRIEVE
3374            KM   Retrieve divert DROLNR from subbasin PENR and divert to combination point
3375            KM   COLNR
3376            DR  DSOLNR
                *

3377            KK   ROLNR   ROUTE
3378            KM   Route diversion retreival DROLNR to combination point COLNR
3379            RS      10    FLOW
3380            RC   0.035   0.015   0.035    8150  0.0031    0.00
3381            RX    0.00    0.00   12.50   12.50   62.50   62.50   75.00   75.00
3382            RY    3.00    0.62    0.50    0.00    0.00    0.50    0.62    3.00
                *

3383            KK    OLNR   BASIN
3384            KM   Runoff hydrograph for subbasin OLNR near the intersection of Olive Avenue
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3385            KM   and New River
3386            BA   0.696
3387            LG    0.24    0.19    6.80    0.11      34
3388            UC   1.389   1.053
3389            UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
3390            UA     100
                *

3391            KK  EROLNR   DIVERT
3392            KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
3393            KM   retention developed after 1990 in subbasin OLNR
3394            DT   XOLNR     24.5      0.0
3395            DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
3396            DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
                *

3397            KK   COLNR COMBINE
3398            KM   Combine route ROLNR and subbasin OLNR
3399            HC       2    0.78
                *

3400            KK  DWOL99  DIVERT
3401            KM   Divert runoff hydrograph at combination point COLNR west to combination point
3402            KM   CNR13
3403            DT  DSNONR      0.0      0.0
3404            DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
3405            DQ     0.0    33.0    66.0   165.0   330.0   660.0  1320.0  3300.0  6600.0 16500.0
                *
1                                       HEC-1 INPUT                                    PAGE 89

LINE            ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


3406            KK    OL99   BASIN
3407            KM   Runoff hydrograph for subbasin OL99 near the intersection of Olive Avenue
3408            KM   and 99th Avenue
3409            BA   0.436
3410            LG    0.21    0.28    4.25    0.36      28
3411            UC   1.083   0.883
3412            UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
3413            UA     100
                *

3414            KK   CNR13 COMBINE
3415            KM   Combine route ROL99A, route ROL99B and subbasin OL99
3416            HC       5   74.98
                *

3417            KK  DRNONRRETRIEVE
3418            KM   Retrieve divert DRNONR from subbasin OLNR and divert to combination point
3419            KM   CNONR
3420            DR  DSNONR
                *

3421            KK   RNONR   ROUTE
3422            KM   Route diversion retrieval DRNONR to combination point CNONR
3423            RS       9    FLOW
3424            RC   0.035   0.015   0.035    8560  0.0031    0.00
3425            RX    0.00    0.00   12.50   12.50   62.50   62.50   75.00   75.00
3426            RY    3.00    0.62    0.50    0.00    0.00    0.50    0.62    3.00
                *

3427            KK    NONR   BASIN
3428            KM   Runoff hydrograph for subbasin NONR near the intersection of Northern Avenue
3429            KM   and New River
3430            BA   0.830
3431            LG    0.27    0.15    7.60    0.10      34
3432            UC   1.358   1.010
3433            UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
3434            UA     100
                *

3435            KK  ERNONR   DIVERT
3436            KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
3437            KM   retention developed after 1990 in subbasin NONR
3438            DT   XNONR     34.6      0.0
3439            DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
3440            DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
                *

3441            KK   CNONR COMBINE
3442            KM   Combine route RNONR and subbasin NONR
3443            HC       2    1.09
                *
1                                       HEC-1 INPUT                                    PAGE 90

LINE            ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


3444            KK    NO99   BASIN
3445            KM   Runoff hydrograph for subbasin NO99 near the intersection of Northern Avenue
3446            KM   and 99th Avenue
3447            BA   0.858
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3448          LG    0.23    0.29    4.25    0.38      19
3449          UC   1.500   0.932
3450          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
3451          UA     100
              *

3452          KK  ERNO99  DIVERT
3453          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
3454          KM   retention developed after 1990 in subbasin NO99
3455          DT   XNO99      7.0      0.0
3456          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
3457          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

3458          KK   CNR14 COMBINE
3459          KM   Combine combination point CNONR, and subbasin NO99
3460          HC       3   76.93
              *

3461          KK    GL03   BASIN
3462          KM   Runoff hydrograph for subbasin GL03 near the intersection of Glendale Avenue
3463          KM   and 103rd Avenue
3464          BA   0.649
3465          LG    0.17    0.30    4.10    0.38      41
3466          UC   0.944   0.591
3467          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
3468          UA     100
              *

3469          KK  ERGL03  DIVERT
3470          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
3471          KM   retention developed after 1990 in subbasin GL03
3472          DT   XGL03     27.6      0.0
3473          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
3474          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

3475          KK   CNR15 COMBINE
3476          KM   Combine subbasin GL03
3477          HC       2   77.58
              *

3478          KK    GLGH   BASIN
3479          KM   Runoff hydrograph for subbasin GLGH near the intersection of Glendale Avenue
3480          KM   and Glen Harbor Boulevard
3481          BA   0.079
3482          LG    0.30    0.35    4.40    0.32      16
3483          UC   0.508   0.419
3484          UA       0     3.0     5.0     8.0    12.0    20.0    43.0    75.0    90.0    96.0
3485          UA     100
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

3486          KK   RGHNR   ROUTE
3487          KM   Route runoff hydrograph at subbasin GLGH to combination point CNR16
3488          RS       5    FLOW
3489          RC   0.045   0.035   0.045    7516  0.0045    0.00
3490          RX    0.00    0.00   19.00   25.00   30.00   36.00   55.00   55.00
3491          RY    4.10    3.10    3.00    0.00    0.00    3.00    3.10    4.10
              *

3492          KK    GHNR   BASIN
3493          KM   Runoff hydrograph for subbasin GHNR near the intersection of Glen Harbor
3494          KM   Boulevard and New River
3495          BA   0.841
3496          LG    0.16    0.30    3.71    0.47      32
3497          UC   1.152   0.765
3498          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
3499          UA     100
              *

3500          KK   CNR16 COMBINE
3501          KM   Combine route RGHNR and subbasin GHNR
3502          HC       3   78.50
              *

3503          KK    AF11   BASIN
3504          KM   Runoff hydrograph for subbasin AF11 near the intersection of the Agua Fria
3505          KM   River and 111th Avenue
3506          BA   0.375
3507          LG    0.14    0.29    3.07    0.74      70
3508          UC   0.567   0.297
3509          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
3510          UA     100
              *

3511          KK    GHAF   BASIN
3512          KM   Runoff hydrograph for subbasin GHAF near the intersection of Glen Harbor
3513          KM   Boulevard and the Agua Fria River
3514          BA   0.563
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3515          LG    0.10    0.34    3.03    0.76       9
3516          UC   1.485   1.054
3517          UA       0     3.0     5.0     8.0    12.0    20.0    43.0    75.0    90.0    96.0
3518          UA     100
              *

3519          KK   CAF06 COMBINE
3520          KM   Combine combination point CNR16, subbasin AF11, and subbasin GHAF
3521          HC       3   79.31
              *

3522          KK    JMAF   BASIN
3523          KM   Runoff hydrograph for subbasin JMAF near the intersection of Jomax Road and
3524          KM   the Agua Fria River
3525          BA   0.147
3526          LG    0.19    0.35    4.90    0.24       5
3527          UC   0.472   0.417
```



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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

3528          UA       0     3.0     5.0     8.0    12.0    20.0    43.0    75.0    90.0    96.0
3529          UA     100
              *

3530          KK  ERJMAF  DIVERT
3531          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
3532          KM   retention developed after 1990 in subbasin JMAF
3533          DT   XJMAF      4.2      0.0
3534          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
3535          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

3536          KK    HV07   BASIN
3537          KM   Runoff hydrograph for subbasin HV07 near the intersection of Happy Valley
3538          KM   Road and 107th Avenue
3539          BA   0.304
3540          LG    0.28    0.32    3.92    0.41      11
3541          UC   0.413   0.186
3542          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
3543          UA     100
              *

3544          KK  ERHV07  DIVERT
3545          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
3546          KM   retention developed after 1990 in subbasin HV07
3547          DT   XHV07     13.1      0.0
3548          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
3549          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

3550          KK   RHVAF   ROUTE
3551          KM   Route runoff hydrograph at subbasin HV07 to combination point CHVAF
3552          RS       1    FLOW
3553          RC   0.045   0.020   0.045    2397  0.0013    0.00
3554          RX    0.00    0.00   19.00   25.00   30.00   36.00   55.00   55.00
3555          RY    4.10    3.10    3.00    0.00    0.00    3.00    3.10    4.10
              *

3556          KK    HVAF   BASIN
3557          KM   Runoff hydrograph for subbasin HVAF near the intersection of Happy Valley
3558          KM   Road and the Agua Fria River
3559          BA   0.215
3560          LG    0.30    0.35    3.92    0.41       0
3561          UC   0.446   0.191
3562          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
3563          UA     100
              *

3564          KK  ERHVAF  DIVERT
3565          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
3566          KM   retention developed after 1990 in subbasin HVAF
3567          DT   XHVAF     12.4      0.0
3568          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
3569          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

3570          KK    JM99   BASIN
3571          KM   Runoff hydrograph for subbasin HV07 near the intersection of Jomax Road and
3572          KM   99th Avenue
3573          BA   0.568
3574          LG    0.23    0.16   10.10    0.03      21
3575          UC   0.748   0.399
3576          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
3577          UA     100
              *

3578          KK  ERJM99  DIVERT
3579          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
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```
3580          KM   retention developed after 1990 in subbasin JM99
3581          DT   XJM99    38.5      0.0
3582          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
3583          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

3584          KK    WWLP   BASIN
3585          KM   Runoff hydrograph for subbasin WWLP near the intersection of Westwing Parkway
3586          KM   and Lake Pleasant Parkway
3587          BA   0.136
3588          LG    0.16     0.27     7.00     0.10       15
3589          UC   0.296    0.138
3590          UA       0      5.0     16.0     30.0     65.0     77.0     84.0     90.0     94.0     97.0
3591          UA     100
              *

3592          KK  ERWWLP  DIVERT
3593          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
3594          KM   retention developed after 1990 in subbasin WWLP
3595          DT   XWWLP      6.7      0.0
3596          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
3597          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

3598          KK   RJMLP   ROUTE
3599          KM   Route runoff hydrograph at subbasin WWLP to combination point CJMLP
3600          RS       4    FLOW
3601          RC   0.045    0.035    0.045     5973   0.0084     0.00
3602          RX    0.00     0.00    40.00    50.00    60.00    70.00   110.00   110.00
3603          RY    6.20     5.20     5.00     0.00     0.00     5.00     5.20     6.20
              *

3604          KK    JMLP   BASIN
3605          KM   Runoff hydrograph for subbasin JMLP near the intersection of Jomax Road and
3606          KM   Lake Pleasant Parkway
3607          BA   0.705
3608          LG    0.22     0.28     6.00     0.16       27
3609          UC   0.790    0.419
3610          UA       0      5.0     16.0     30.0     65.0     77.0     84.0     90.0     94.0     97.0
3611          UA     100
              *
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LINE          ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

3612          KK  ERJMLP  DIVERT
3613          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
3614          KM   retention developed after 1990 in subbasin JMLP
3615          DT   XJMLP     44.9      0.0
3616          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
3617          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

3618          KK   CJMLP COMBINE
3619          KM   Combine route RJMLP, subbasin JM99, and subbasin JMLP
3620          HC       3     1.41
              *

3621          KK  RHV01A   ROUTE
3622          KM   Route runoff hydrograph at combination point CJMLP to combination point CHV01
3623          RS       3    FLOW
3624          RC   0.045    0.035    0.045     5774   0.0093     0.00
3625          RX    0.00     0.00    55.00    75.00   100.00   120.00   175.00   175.00
3626          RY   11.20    10.20    10.00     0.00     0.00    10.00    10.20    11.20
              *

3627          KK    YLLP   BASIN
3628          KM   Runoff hydrograph for subbasin YLLP near the intersection of Yearling Road
3629          KM   and Lake Pleasant Parkway
3630          BA   0.595
3631          LG    0.22     0.28     4.35     0.37       30
3632          UC   0.724    0.488
3633          UA       0      5.0     16.0     30.0     65.0     77.0     84.0     90.0     94.0     97.0
3634          UA     100
              *

3635          KK  ERYLLP  DIVERT
3636          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
3637          KM   retention developed after 1990 in subbasin YLLP
3638          DT   XYLLP      6.0      0.0
3639          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
3640          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

3641          KK  RHV01B   ROUTE
3642          KM   Route runoff hydrograph at subbasin YLLP to combination point CHV01
3643          RS       1    FLOW
3644          RC   0.045    0.035    0.045     2017   0.0107     0.00
3645          RX    0.00     0.00    40.00    50.00    60.00    70.00   110.00   110.00
3646          RY    6.20     5.20     5.00     0.00     0.00     5.00     5.20     6.20
              *
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```
3647          KK  DRHVLPRETRIEVE
3648          KM   Retrieve divert DRHVLP from subbasin HV93 and divert to combination point
3649          KM   CHVLP
3650          DR  DWHVLP
              *
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LINE          ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

3651          KK   RHVLP    ROUTE
3652          KM   Route diversion retrieval DRHVLP to combination point CHVLP
3653          RS       2     FLOW
3654          RC   0.045    0.020    0.045     4021   0.0052     0.00
3655          RX    0.00     0.00    19.00    25.00    30.00    36.00    55.00    55.00
3656          RY    4.10     3.10     3.00     0.00     0.00     3.00     3.10     4.10
              *

3657          KK    HVLP   BASIN
3658          KM   Runoff hydrograph for subbasin HVLP near the intersection of Happy Valley
3659          KM   Road and Lake Pleasant Parkway
3660          BA   0.198
3661          LG    0.19     0.26     4.30     0.36       43
3662          UC   0.642    0.593
3663          UA       0      5.0     16.0     30.0     65.0     77.0     84.0     90.0     94.0     97.0
3664          UA     100
              *

3665          KK  ERHVLP  DIVERT
3666          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
3667          KM   retention developed after 1990 in subbasin HVLP
3668          DT   XHVLP      7.3      0.0
3669          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
3670          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

3671          KK   CHVLP COMBINE
3672          KM   Combine route RHVLP and subbasin HVLP
3673          HC       2     0.27
              *

3674          KK  RHV01C   ROUTE
3675          KM   Route runoff hydrograph at combination point CHVLP to combination point CHV01
3676          RS       1    FLOW
3677          RC   0.045    0.020    0.045     1200   0.0174     0.00
3678          RX    0.00     0.00    40.00    50.00    60.00    70.00   110.00   110.00
3679          RY    6.20     5.20     5.00     0.00     0.00     5.00     5.20     6.20
              *

3680          KK    HV01   BASIN
3681          KM   Runoff hydrograph for subbasin HV01 near the intersection of Happy Valley
3682          KM   Road and 101st Avenue
3683          BA   0.444
3684          LG    0.15     0.30     5.30     0.20       35
3685          UC   0.683    0.412
3686          UA       0      5.0     16.0     30.0     65.0     77.0     84.0     90.0     94.0     97.0
3687          UA     100
              *
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LINE          ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

3688          KK  ERHV01  DIVERT
3689          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
3690          KM   retention developed after 1990 in subbasin HV01
3691          DT   XHV01     18.2      0.0
3692          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
3693          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

3694          KK   CHV01 COMBINE
3695          KM   Combine route RHV01A, route RHV01B, route RHV01C, and subbasin HV01
3696          HC       4     2.72
              *

3697          KK   RCL07   ROUTE
3698          KM   Route runoff hydrograph at combination point CHV01 to combination point CCL07
3699          RS       1    FLOW
3700          RC   0.045    0.035    0.045     5019   0.0120     0.00
3701          RX    0.00     0.00    55.00    75.00   100.00   120.00   175.00   175.00
3702          RY   11.20    10.20    10.00     0.00     0.00    10.00    10.20    11.20
              *

3703          KK  RCLAFA   ROUTE
3704          KM   Route runoff hydrograph from route RCL07 to combination point CCLAF
3705          RS       1    FLOW
3706          RC   0.045    0.020    0.045     2211   0.0045     0.00
3707          RX    0.00     0.00    40.00    50.00    60.00    70.00   110.00   110.00
3708          RY    6.20     5.20     5.00     0.00     0.00     5.00     5.20     6.20
              *

3709          KK    CL07   BASIN
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3710          KM   Runoff hydrograph for subbasin CL07 near the intersection of Calle Lejos Road
3711          KM   and 107th Avenue
3712          BA   0.524
3713          LG    0.19    0.31    4.55    0.29      17
3714          UC  0.852   0.593
3715          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
3716          UA     100
              *

3717          KK  ERCL07  DIVERT
3718          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
3719          KM   retention developed after 1990 in subbasin CL07
3720          DT   XCL07    25.2     0.0
3721          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
3722          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

3723          KK  DWCLAF  DIVERT
3724          KM   Divert remaining runoff hydrograph at subbasin CL07 west to combination point
3725          KM   CCLAF
3726          DT  DSPP03      0.0     0.0
3727          DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
3728          DQ     0.0    12.0    24.0    60.0   120.0   240.0   480.0  1200.0  2400.0  6000.0
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

3729          KK  RCLAFB   ROUTE
3730          KM   Route diversion DWCLAF west to combination point CCLAF
3731          RS       3    FLOW
3732          RC   0.045   0.035   0.045    2215  0.0045    0.00
3733          RX    0.00    0.00   19.00   25.00   30.00   36.00   55.00   55.00
3734          RY    4.10    3.10    3.00    0.00    0.00    3.00    3.10    4.10
              *

3735          KK   CLAF   BASIN
3736          KM   Runoff hydrograph for subbasin CLAF near the intersection of Calle Lejos Road
3737          KM   and the Agua Fria River
3738          BA   0.289
3739          LG    0.18    0.35    3.95    0.40       0
3740          UC  0.782   0.530
3741          UA       0     3.0     5.0     8.0    12.0    20.0    43.0    75.0    90.0    96.0
3742          UA     100
              *

3743          KK  ERCLAF  DIVERT
3744          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
3745          KM   retention developed after 1990 in subbasin CLAF
3746          DT   XCLAF     6.7     0.0
3747          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
3748          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

3749          KK   CCLAF COMBINE
3750          KM   Combine route RCLAFA, route RCLAFB, and subbasin CLAF
3751          HC       3    3.47
              *

3752          KK   CAF01 COMBINE
3753          KM   Combine route RHVAF, subbasin JMAF, subbasin HVAF, and combination point
3754          KM   CCLAF
3755          HC       4    4.13
              *

3756          KK  DR03PPRETRIEVE
3757          KM   Retrieve divert DR03PP from combination point CPPLP and divert to
3758          KM   combination point CPP03
3759          DR  DWPP03
              *

3760          KK  RPP03B   ROUTE
3761          KM   Route diversion retrieval DR03PP to combination point CPP03
3762          RS       1    FLOW
3763          RC   0.035   0.015   0.035    1900  0.0047    0.00
3764          RX    0.00    0.00    9.50    9.50   40.50   40.50   50.00   50.00
3765          RY    3.00    0.60    0.50    0.00    0.00    0.50    0.60    3.00
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

3766          KK  DRPP03RETRIEVE
3767          KM   Retrieve divert DRPP03 from subbasin CL07 and divert to combination point
3768          KM   CPP03
3769          DR  DSPP03
              *

3770          KK  RPP03A   ROUTE
3771          KM   Route diversion retrieval DRPP03 to combination point CPP03
3772          RS       4    FLOW
```



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3773          RC   0.045   0.035   0.045    2970  0.0057    0.00
3774          RX    0.00    0.00   19.00   25.00   30.00   36.00   55.00   55.00
3775          RY    4.10    3.10    3.00    0.00    0.00    3.00    3.10    4.10
              *

3776          KK   PP03   BASIN
3777          KM   Runoff hydrograph for subbasin PP03 near the intersection of Pinnacle Peak
3778          KM   Road and 103rd Avenue
3779          BA   0.325
3780          LG    0.30    0.25    4.45    0.38      15
3781          UC  1.316   1.050
3782          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
3783          UA     100
              *

3784          KK  ERPP03  DIVERT
3785          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
3786          KM   retention developed after 1990 in subbasin PP03
3787          DT   XPP03      3.4     0.0
3788          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
3789          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

3790          KK   CPP03 COMBINE
3791          KM   Combine route RPP03A, route RPP03B, and subbasin PP03
3792          HC       3    0.39
              *

3793          KK  DWPP07  DIVERT
3794          KM   Divert remaining runoff hydrograph at combination point CPP03 west to
3795          KM   combination point CPP07
3796          DT  DSDV07      0.0     0.0
3797          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
3798          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

3799          KK   RPP07   ROUTE
3800          KM   Route diversion DWPP07 west to combination point CPP07
3801          RS       1    FLOW
3802          RC   0.045   0.035   0.045    2508  0.0128    0.00
3803          RX    0.00    0.00   19.00   25.00   30.00   36.00   55.00   55.00
3804          RY    4.10    3.10    3.00    0.00    0.00    3.00    3.10    4.10
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

3805          KK   PP07   BASIN
3806          KM   Runoff hydrograph for subbasin PP07 near the intersection of Pinnacle Peak
3807          KM   Road and 107th Avenue
3808          BA   0.195
3809          LG    0.21    0.31    5.30    0.22       8
3810          UC  0.678   0.495
3811          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
3812          UA     100
              *

3813          KK   CPP07 COMBINE
3814          KM   Combine route RPP07 and subbasin PP07
3815          HC       2    0.20
              *

3816          KK   RDVAF   ROUTE
3817          KM   Route runoff hydrograph at combination point CPP07 to combination point CDVAF
3818          RS       2    FLOW
3819          RC   0.045   0.035   0.045    3702  0.0135    0.00
3820          RX    0.00    0.00   19.00   25.00   30.00   36.00   55.00   55.00
3821          RY    4.10    3.10    3.00    0.00    0.00    3.00    3.10    4.10
              *

3822          KK   DVAF   BASIN
3823          KM   Runoff hydrograph for subbasin DVAF near the intersection of Deer Valley Road
3824          KM   and the Agua Fria River
3825          BA   0.412
3826          LG    0.15    0.34    5.60    0.18       9
3827          UC  0.779   0.454
3828          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
3829          UA     100
              *

3830          KK  ERDVAF  DIVERT
3831          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
3832          KM   retention developed after 1990 in subbasin DVAF
3833          DT   XDVAF     10.3     0.0
3834          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
3835          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

3836          KK   CDVAF COMBINE
3837          KM   Combine route RDVAF and subbasin DVAF
3838          HC       2    0.61
              *
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3839          KK    PPAF   BASIN
3840          KM   Runoff hydrograph for subbasin PPAF near the intersection of Pinnacle Peak
3841          KM   Road and the Agua Fria River
3842          BA   0.270
3843          LG    0.15    0.25    4.20    0.36      80
3844          UC   0.325   0.217
3845          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
3846          UA     100
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


3847          KK   CAF02 COMBINE
3848          KM   Combine combination point CDVAF and subbasin PPAF
3849          HC       2    0.88
              *

3850          KK  DRDV07RETRIEVE
3851          KM   Retrieve divert DRDV07 from combination point CPP03 and divert to
3852          KM   combination point CDV07
3853          DR  DSDV07
              *

3854          KK   RDV07   ROUTE
3855          KM   Route diversion retrieval DRDV07 to combination point CDV07
3856          RS       5    FLOW
3857          RC   0.045   0.035   0.045    6455  0.0071     0.00
3858          RX    0.00    0.00   40.00   50.00   60.00   70.00  110.00  110.00
3859          RY    6.20    5.20    5.00    0.00    0.00    5.00    5.20    6.20
              *

3860          KK    DV07   BASIN
3861          KM   Runoff hydrograph for subbasin DV07 near the intersection of Deer Valley Road
3862          KM   and 107th Avenue
3863          BA   0.645
3864          LG    0.25    0.25    4.65    0.29      27
3865          UC   0.955   0.574
3866          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
3867          UA     100
              *

3868          KK  ERDV07  DIVERT
3869          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
3870          KM   retention developed after 1990 in subbasin DV07
3871          DT   XDV07     44.0      0.0
3872          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
3873          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

3874          KK   CDV07 COMBINE
3875          KM   Combine route RDV07 and subbasin DV07
3876          HC       2    1.03
              *

3877          KK  RRG07A   ROUTE
3878          KM   Route runoff hydrograph at combination point CDV07 to combination point CRG07
3879          RS       2    FLOW
3880          RC   0.045   0.015   0.045    2573  0.0027     0.00
3881          RX    0.00    0.00   19.00   25.00   30.00   36.00   55.00   55.00
3882          RY    4.10    3.10    3.00    0.00    0.00    3.00    3.10    4.10
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


3883          KK  DRRG07RETRIEVE
3884          KM   Retrieve divert DRRG07 from combination point CRGLP and divert to
3885          KM   combination point CRG07
3886          DR  DWRG07
              *

3887          KK  RRG07C   ROUTE
3888          KM   Route diversion retrieval DRRG07 to combination point CRG07
3889          RS       1    FLOW
3890          RC   0.045   0.020   0.045    4816  0.0056     0.00
3891          RX    0.00    0.00   40.00   50.00   60.00   70.00  110.00  110.00
3892          RY    6.20    5.20    5.00    0.00    0.00    5.00    5.20    6.20
              *

3893          KK  DRDVLPRETRIEVE
3894          KM   Retrieve divert DRDVLP from combination point CPPLP and divert to
3895          KM   combination point CDVLP
3896          DR  DSDVLP
              *

3897          KK   RDVLP   ROUTE
3898          KM   Route diversion retrieval DRDVLP to combination point CDVLP
3899          RS       4    FLOW
3900          RC   0.045   0.035   0.045    5616  0.0059     0.00
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3901          RX    0.00    0.00   19.00   25.00   30.00   36.00   55.00   55.00
3902          RY    4.10    3.10    3.00    0.00    0.00    3.00    3.10    4.10
              *

3903          KK    DVLP   BASIN
3904          KM   Runoff hydrograph for subbasin DVLP near the intersection of Deer Valley Road
3905          KM   and Lake Pleasant Parkway
3906          BA   0.136
3907          LG    0.12    0.32    4.45    0.31      21
3908          UC   0.941   1.122
3909          UA       0     3.0     5.0     8.0    12.0    20.0    43.0    75.0    90.0    96.0
3910          UA     100
              *

3911          KK  ERDVLP  DIVERT
3912          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
3913          KM   retention developed after 1990 in subbasin DVLP
3914          DT   XDVLP      1.8      0.0
3915          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
3916          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

3917          KK   CDVLP COMBINE
3918          KM   Combine route RDVLP and subbasin DVLP
3919          HC       2    0.46
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


3920          KK  RRG07B   ROUTE
3921          KM   Route runoff hydrograph at combination point CDVLP to combination point CRG07
3922          RS       2    FLOW
3923          RC   0.045   0.020   0.045    5903  0.0059     0.00
3924          RX    0.00    0.00   40.00   50.00   60.00   70.00  110.00  110.00
3925          RY    6.20    5.20    5.00    0.00    0.00    5.00    5.20    6.20
              *

3926          KK    RG07   BASIN
3927          KM   Runoff hydrograph for subbasin RG07 near the intersection of Rose Garden Lane
3928          KM   and 107th Avenue
3929          BA   0.350
3930          LG    0.28    0.32    4.55    0.29       7
3931          UC   0.999   0.720
3932          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
3933          UA     100
              *

3934          KK  ERRG07  DIVERT
3935          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
3936          KM   retention developed after 1990 in subbasin RG07
3937          DT   XRG07     22.0      0.0
3938          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
3939          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

3940          KK   CRG07 COMBINE
3941          KM   Combine route RRG07A, route RRG07B, route RRG07C, and subbasin RG07
3942          HC       4    3.09
              *

3943          KK   RRGAF   ROUTE
3944          KM   Route runoff hydrograph at combination point CRG07 to combination point CRGAF
3945          RS       1    FLOW
3946          RC   0.045   0.020   0.045    4328  0.0083     0.00
3947          RX    0.00    0.00   40.00   50.00   60.00   70.00  110.00  110.00
3948          RY    6.20    5.20    5.00    0.00    0.00    5.00    5.20    6.20
              *

3949          KK    RGAF   BASIN
3950          KM   Runoff hydrograph for subbasin RGAF near the intersection of Rose Garden Lane
3951          KM   and the Agua Fria River
3952          BA   0.332
3953          LG    0.16    0.33    6.20    0.14      12
3954          UC   1.043   0.897
3955          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
3956          UA     100
              *
1                                        HEC-1 INPUT                                        PAGE103

LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


3957          KK  ERRGAF  DIVERT
3958          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
3959          KM   retention developed after 1990 in subbasin RGAF
3960          DT   XRGAF     10.4      0.0
3961          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
3962          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

3963          KK   CRGAF COMBINE
```

```
3964          KM   Combine route RRGAF and subbasin RGAF
3965          HC       2    3.42
              *

3966          KK  DRBYAFRETRIEVE
3967          KM   Retrieve divert DRBYAF from combination point CBY07 and divert to
3968          KM   combination point CBYAF
3969          DR  DWBYAF
              *

3970          KK   RBY07   ROUTE
3971          KM   Route diversion retrieval DRBYAF to route RBYAF
3972          RS       2    FLOW
3973          RC   0.045   0.020   0.045    3085  0.0019    0.00
3974          RX    0.00    1.00   16.00   36.00   51.00  123.00  148.00  648.00
3975          RY   16.00    8.00    0.00    0.00    8.00    8.00    9.00   11.00
              *

3976          KK   RBYAF   ROUTE
3977          KM   Route runoff hydrograph at route RBY07 to combination point CBYAF
3978          RS       6    FLOW
3979          RC   0.045   0.035   0.045    8144  0.0065    0.00
3980          RX    0.00    0.00   19.00   25.00   30.00   36.00   55.00   55.00
3981          RY    4.10    3.10    3.00    0.00    0.00    3.00    3.10    4.10
              *

3982          KK    BYAF   BASIN
3983          KM   Runoff hydrograph for subbasin BYAF near the intersection of Beardsley Road
3984          KM   and the Agua Fria River
3985          BA   0.609
3986          LG    0.23    0.28    4.70    0.27      24
3987          UC   0.989   0.786
3988          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
3989          UA     100
              *

3990          KK  ERBYAF  DIVERT
3991          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
3992          KM   retention developed after 1990 in subbasin BYAF
3993          DT   XBYAF    13.2     0.0
3994          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
3995          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *
```



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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

3996          KK   CBYAF COMBINE
3997          KM   Combine route RBYAF and subbasin BYAF
3998          HC       2    1.49
              *

3999          KK    UHAF   BASIN
4000          KM   Runoff hydrograph for subbasin UHAF near the intersection of Union Hills
4001          KM   Drive and the Agua Fria River
4002          BA   0.489
4003          LG    0.15    0.30    3.50    0.54      12
4004          UC   1.469   1.260
4005          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
4006          UA     100
              *

4007          KK  ERUHAF  DIVERT
4008          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
4009          KM   retention developed after 1990 in subbasin UHAF
4010          DT   XUHAF    19.8     0.0
4011          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
4012          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

4013          KK   CAF03 COMBINE
4014          KM   Combine combination point CRGAF, combination point CBYAF, and subbasin UHAF
4015          HC       3    5.56
              *

4016          KK    UH07   BASIN
4017          KM   Runoff hydrograph for subbasin UH07 near the intersection of Union Hills
4018          KM   Drive and 107th Avenue
4019          BA   0.252
4020          LG    0.20    0.25    4.80    0.34      22
4021          UC   1.276   1.320
4022          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
4023          UA     100
              *

4024          KK   RUH11   ROUTE
4025          KM   Route runoff hydrograph at subbasin UH07 to route RUH15
4026          RS       1    FLOW
4027          RC   0.045   0.020   0.045    2740  0.0090    0.00
4028          RX    0.00    1.00   13.00   23.00   53.00   83.00  108.00  109.00
4029          RY   14.00    6.00    0.00    0.00    6.00    6.00    7.00   15.00
              *
```



```
4030          KK   RUH15   ROUTE
4031          KM   Route runoff hydrograph at route RUH11 to combination point CUH15
4032          RS       2    FLOW
4033          RC   0.045   0.035   0.045    2598  0.0120    0.00
4034          RX    0.00   50.00   62.00   72.00   84.00  104.00  139.00  640.00
4035          RY    9.00    6.00    0.00    0.00    6.00    7.00    7.00    9.00
              *
```



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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

4036          KK    UH15   BASIN
4037          KM   Runoff hydrograph for subbasin UH15 near the intersection of Union Hills
4038          KM   Drive and 115th Avenue
4039          BA   1.019
4040          LG    0.28    0.31    5.80    0.17      18
4041          UC   0.976   0.501
4042          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
4043          UA     100
              *

4044          KK  ERUH15  DIVERT
4045          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
4046          KM   retention developed after 1990 in subbasin UH15
4047          DT   XUH15    20.8     0.0
4048          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
4049          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

4050          KK   CUH15 COMBINE
4051          KM   Combine route RUH15 and subbasin UH15
4052          HC       2    1.27
              *

4053          KK  RBL15B   ROUTE
4054          KM   Route runoff hydrograph at combination point CUH15 to combination point CBL15
4055          RS       4    FLOW
4056          RC   0.045   0.035   0.045    4894  0.0020    0.00
4057          RX    0.00  100.00  112.00  147.00  159.00  179.00  214.00  580.00
4058          RY    8.00    6.00    0.00    0.00    6.00    7.00    7.00    9.00
              *

4059          KK  DRBL15RETRIEVE
4060          KM   Retrieve divert DRBL15 from combination point CDW07 and divert to
4061          KM   combination point CBL15
4062          DR  DWBL15
              *

4063          KK  RBL15A   ROUTE
4064          KM   Route diversion retrieval DRBL15 to combination point CBL15
4065          RS       2    FLOW
4066          RC   0.045   0.015   0.045    6041  0.0082    0.00
4067          RX    0.00    0.00   40.00   50.00   60.00   70.00  110.00  110.00
4068          RY    6.20    5.20    5.00    0.00    0.00    5.00    5.20    6.20
              *

4069          KK    BL15   BASIN
4070          KM   Runoff hydrograph for subbasin BL15 near the intersection of Bell Road and
4071          KM   115th Avenue
4072          BA   0.962
4073          LG    0.24    0.27    4.60    0.32      24
4074          UC   1.003   0.503
4075          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
4076          UA     100
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

4077          KK  ERBL15  DIVERT
4078          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
4079          KM   retention developed after 1990 in subbasin BL15
4080          DT   XBL15    31.6     0.0
4081          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
4082          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

4083          KK   CBL15 COMBINE
4084          KM   Combine route RBL15A, route RBL15B, and subbasin BL15
4085          HC       3    2.94
              *

4086          KK   RMEAF   ROUTE
4087          KM   Route runoff hydrograph at combination point CBL15 to combination point CMEAF
4088          RS       3    FLOW
4089          RC   0.045   0.020   0.045    5783  0.0053    0.00
4090          RX    0.00    0.00   40.00   50.00   60.00   70.00  110.00  110.00
4091          RY    6.20    5.20    5.00    0.00    0.00    5.00    5.20    6.20
              *
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```
4092          KK    MEAF    BASIN
4093          KM    Runoff hydrograph for subbasin MEAF near the intersection of Meade Drive and
4094          KM    the Agua Fria River
4095          BA    1.369
4096          LG     0.17    0.28    4.65    0.30      22
4097          UC    0.985   0.500
4098          UA        0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
4099          UA      100
              *

4100          KK   ERMEAF   DIVERT
4101          KM    Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
4102          KM    retention developed after 1990 in subbasin MEAF
4103          DT    XMEAF      9.9      0.0
4104          DI      0.0 50000.0      0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
4105          DQ      0.0 50000.0      0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

4106          KK    CMEAF COMBINE
4107          KM    Combine route RMEAF and subbasin MEAF
4108          HC        2    4.31
              *

4109          KK     BLAF    BASIN
4110          KM    Runoff hydrograph for subbasin BLAF near the intersection of Bell Road and
4111          KM    the Agua Fria River
4112          BA    0.283
4113          LG     0.17    0.29    3.55    0.52      16
4114          UC    1.500   1.613
4115          UA        0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
4116          UA      100
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

4117          KK   ERBLAF   DIVERT
4118          KM    Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
4119          KM    retention developed after 1990 in subbasin BLAF
4120          DT    XBLAF      12.5      0.0
4121          DI      0.0 50000.0      0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
4122          DQ      0.0 50000.0      0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

4123          KK     GRAF    BASIN
4124          KM    Runoff hydrograph for subbasin GRAF near the intersection of Grand Avenue and
4125          KM    the Agua Fria River
4126          BA    0.859
4127          LG     0.21    0.17    7.00    0.11      34
4128          UC    1.204   0.915
4129          UA        0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
4130          UA      100
              *

4131          KK     PEAF    BASIN
4132          KM    Runoff hydrograph for subbasin PEAF near the intersection of Kansas Avenue
4133          KM    and the Agua Fria River
4134          BA    0.531
4135          LG     0.19    0.25    4.20    0.36      48
4136          UC    0.710   0.337
4137          UA        0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
4138          UA      100
              *

4139          KK    CAF04 COMBINE
4140          KM    Combine combination point CMEAF, subbasin BLAF, subbasin GRAF, and subbasin
4141          KM    PEAF
4142          HC        4    5.94
              *

4143          KK     OL11    BASIN
4144          KM    Runoff hydrograph for subbasin OL11 near the intersection of Olive Avenue and
4145          KM    111th Avenue
4146          BA    0.339
4147          LG     0.23    0.27    4.25    0.40      21
4148          UC    0.894   0.516
4149          UA        0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
4150          UA      100
              *

4151          KK    RNO11    ROUTE
4152          KM    Route runoff hydrograph at subbasin OL11 to combination point CNO11
4153          RS        3     FLOW
4154          RC    0.045   0.020   0.045    6339  0.0057    0.00
4155          RX     0.00    0.00   19.00   25.00   30.00   36.00   55.00   55.00
4156          RY     4.10    3.10    3.00    0.00    0.00    3.00    3.10    4.10
              *
1                                        HEC-1 INPUT                                    PAGE108

LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10
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4157          KK    NO11    BASIN
4158          KM    Runoff hydrograph for subbasin NO11 near the intersection of Northern Avenue
4159          KM    and 111th Avenue
4160          BA    0.860
4161          LG     0.19    0.26    3.95    0.40      49
4162          UC    0.736   0.352
4163          UA        0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
4164          UA      100
              *

4165          KK   ERNO11   DIVERT
4166          KM    Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
4167          KM    retention developed after 1990 in subbasin NO11
4168          DT    XNO11      16.3      0.0
4169          DI      0.0 50000.0      0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
4170          DQ      0.0 50000.0      0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

4171          KK    CNO11 COMBINE
4172          KM    Combine route RNO11 and subbasin NO11
4173          HC        2    1.20
              *

4174          KK   RGL14A    ROUTE
4175          KM    Route runoff hydrograph at combination point CNO11 to combination point CGL14
4176          RS        7     FLOW
4177          RC    0.045   0.035   0.045    7959  0.0008    0.00
4178          RX     0.00    0.00   55.00   75.00  100.00  120.00  175.00  175.00
4179          RY    11.20   10.20   10.00    0.00    0.00   10.00   10.20   11.20
              *

4180          KK     NO07    BASIN
4181          KM    Runoff hydrograph for subbasin NO07 near the intersection of Northern Avenue
4182          KM    and 107th Avenue
4183          BA    0.340
4184          LG     0.21    0.26    4.55    0.35      27
4185          UC    0.967   0.665
4186          UA        0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
4187          UA      100
              *

4188          KK   ERNO07   DIVERT
4189          KM    Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
4190          KM    retention developed after 1990 in subbasin NO07
4191          DT    XNO07      8.6      0.0
4192          DI      0.0 50000.0      0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
4193          DQ      0.0 50000.0      0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *
1                                        HEC-1 INPUT                                    PAGE109

LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

4194          KK    RGL11    ROUTE
4195          KM    Route runoff hydrograph at subbasin NO07 to combination point CGL11
4196          RS        5     FLOW
4197          RC    0.035   0.015   0.035    5370  0.0041    0.00
4198          RX     0.00    0.00   13.00   13.00   55.00   55.00   68.00   68.00
4199          RY     3.00    0.63    0.50    0.00    0.00    0.50    0.63    3.00
              *

4200          KK     GL11    BASIN
4201          KM    Runoff hydrograph for subbasin GL11 near the intersection of Glendale Avenue
4202          KM    and 111th Avenue
4203          BA    0.426
4204          LG     0.19    0.26    4.35    0.33      57
4205          UC    0.952   0.575
4206          UA        0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
4207          UA      100
              *

4208          KK   ERGL11   DIVERT
4209          KM    Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
4210          KM    retention developed after 1990 in subbasin GL11
4211          DT    XGL11      36.6      0.0
4212          DI      0.0 50000.0      0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
4213          DQ      0.0 50000.0      0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

4214          KK    CGL11 COMBINE
4215          KM    Combine route RGL11 and subbasin GL11
4216          HC        2    0.77
              *

4217          KK   RGL14B    ROUTE
4218          KM    Route runoff hydrograph at combination point CGL11 to combination point CGL14
4219          RS        4     FLOW
4220          RC    0.045   0.035   0.045    4950  0.0021    0.00
4221          RX     0.00    0.00   40.00   50.00   60.00   70.00  110.00  110.00
4222          RY     6.20    5.20    5.00    0.00    0.00    5.00    5.20    6.20
              *

4223          KK     GL14    BASIN
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          4224          KM   Runoff hydrograph for subbasin GL14 near the intersection of Glendale Avenue
          4225          KM   and 114th Avenue
          4226          BA   0.481
          4227          LG    0.30    0.35    3.81    0.44       1
          4228          UC   1.156   0.868
          4229          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
          4230          UA     100
                        *
1                                                HEC-1 INPUT                                                PAGE110

          LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


          4231          KK   CGL14 COMBINE
          4232          KM   Combine route RGL14A, RGL14B, and subbasin GL14
          4233          HC       3    2.45
                        *


          4234          KK   RGLAF   ROUTE
          4235          KM   Route runoff hydrograph at combination point CGL14 to combination point CGLAF
          4236          RS       3    FLOW
          4237          RC   0.045   0.035   0.045    3487  0.0023    0.00
          4238          RX    0.00    0.00   55.00   75.00  100.00  120.00  175.00  175.00
          4239          RY   11.20   10.20   10.00    0.00    0.00   10.00   10.20   11.20
                        *


          4240          KK    GLAF   BASIN
          4241          KM   Runoff hydrograph for subbasin GLAF near the intersection of Glendale Avenue
          4242          KM   and the Agua Fria River
          4243          BA   0.388
          4244          LG    0.18    0.29    3.07    0.74      65
          4245          UC   0.856   0.790
          4246          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
          4247          UA     100
                        *


          4248          KK   CGLAF COMBINE
          4249          KM   Combine route RGLAF and subbasin GLAF
          4250          HC       2    2.83
                        *


          4251          KK    OLAF   BASIN
          4252          KM   Runoff hydrograph for subbasin OLAF near the intersection of Olive Avenue and
          4253          KM   the Agua Fria River
          4254          BA   1.026
          4255          LG    0.18    0.30    3.60    0.50      19
          4256          UC   1.398   0.914
          4257          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
          4258          UA     100
                        *


          4259          KK  EROLAF  DIVERT
          4260          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
          4261          KM   retention developed after 1990 in subbasin OLAF
          4262          DT   XOLAF    22.0     0.0
          4263          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
          4264          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
                        *


          4265          KK    NOAF   BASIN
          4266          KM   Runoff hydrograph for subbasin NOAF near the intersection of Northern Avenue
          4267          KM   and the Agua Fria River
          4268          BA   0.285
          4269          LG    0.11    0.33    2.92    0.82      23
          4270          UC   1.031   0.881
          4271          UA       0     3.0     5.0     8.0    12.0    20.0    43.0    75.0    90.0    96.0
          4272          UA     100
                        *
1                                                HEC-1 INPUT                                                PAGE111

          LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


          4273          KK   CAF05 COMBINE
          4274          KM   Combine combination point CGLAF, subbasin OLAF, and subbasin NOAF
          4275          HC       3    4.15
                        *
          4276          ZZ
1
               SCHEMATIC DIAGRAM OF STREAM NETWORK

 INPUT
  LINE      (V) ROUTING           (--->) DIVERSION OR PUMP FLOW

   NO.      (.) CONNECTOR         (<---) RETURN OF DIVERTED OR PUMPED FLOW

   147        UH35
              .
              .
   158        .------->   XUH35
   155      ERUH35
              .
              .
   164        .------->  DPUH35
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   161        DUH35
                .
                .
   170          .------->  DWUH43
   167      DSBL35
              V
              V
   173      RSBL35
              .
              .
   179          .        BL35
                .          .
                .          .
   190          .        .------->   XBL35
   187          .      ERBL35
                .          .
                .          .
   193       CBL35.............
              .
              .
   199          .------->  DP35BL
   196       D35BL
              .
              .
   205          .------->  DWBL43
   202      DSGW35
              V
              V
   208      RSGW35
              .
              .
   214          .        GW35
                .          .
                .          .
   222       CGW35.............
              .
              .
   228          .              .<-------  DP35BL
   225          .      PR35BL
                .          V
                .          V
   229          .      RP35GW
                .          .
                .          .
   233       CPGW35.............
              .
              .
   240          .------->  DP35GW
   237       D35GW
              .
              .
   246          .------->  DWGW43
   243      DSTB35
              V
              V
   249      RSTB35
              .
              .
   255          .        TB35
                .          .
                .          .
   263       CTB35.............
              .
              .
   269          .              .<-------  DP35GW
   266          .      PR35GW
                .          V
                .          V
   270          .      RP35TB
                .          .
                .          .
   274       CPTB35.............
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              .
   281          .------->  DP35TB
   278       D35TB
              .
              .
   287          .------->  DWTB43
   284      DSCT35
              V
              V
   290      RSCT35
              .
              .
   296          .        CT35
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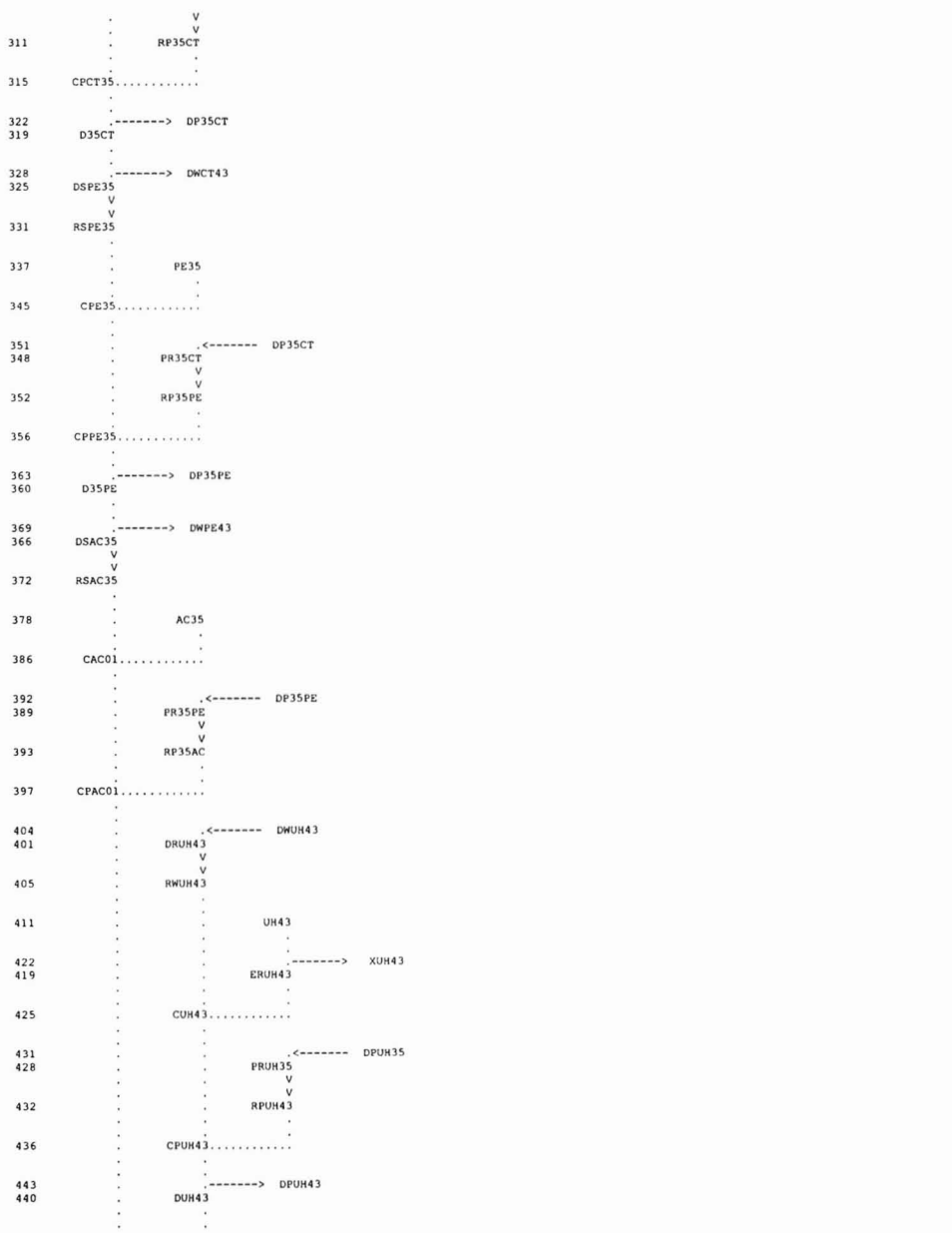
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319 D35CT
328 DWCT43
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352 RP35PE
356 CPPE35
363 DP35PE
360 D35PE
369 DWPE43
366 DSAC35
372 RSAC35
378 AC35
386 CAC01
392 DP35PE
389 PR35PE
393 RP35AC
397 CPAC01
404 DWUH43
401 DRUH43
405 RWUH43
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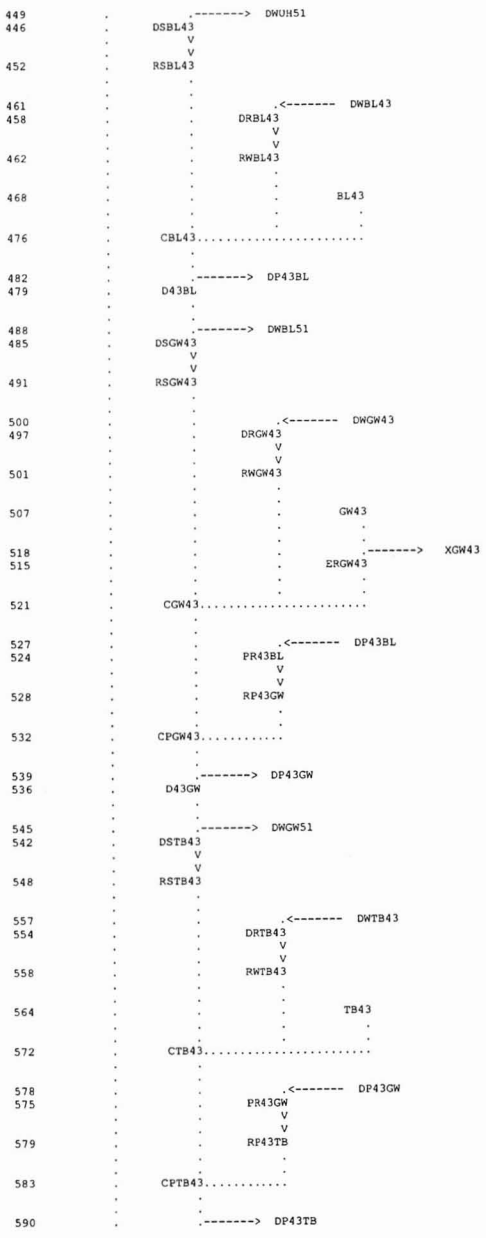
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452 RSBL43
461 DWBL43
458 DRBL43
462 RWBL43
468 BL43
476 CBL43
482 DP43BL
479 D43BL
488 DWBL51
485 DSGW43
491 RSGW43
500 DWGW43
497 DRGW43
501 RWGW43
507 GW43
518 XGW43
515 ERGW43
521 CGW43
527 DP43BL
524 PR43BL
528 RP43GW
532 CPGW43
539 DP43GW
536 D43GW
545 DWGW51
542 DSTB43
548 RSTB43
557 DWTB43
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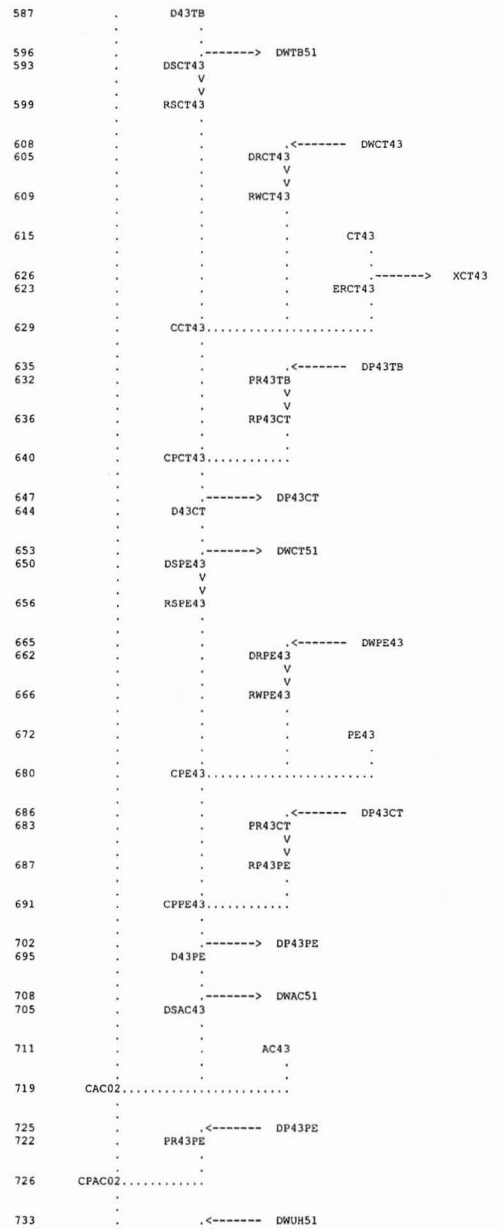
558 RWTB43
564 TB43
572 CTB43
578 DP43GW
575 PR43GW
579 RP43TB
583 CPTB43
590 DP43TB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RWCT43
CT43
XCT43
ERCT43
CCT43
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PR43TB
RP43CT
CPCT43
DP43CT
D43CT
DWCT51
DSPE43
RSPE43
DWPE43
DRPE43
RWPE43
PE43
CPE43
DP43CT
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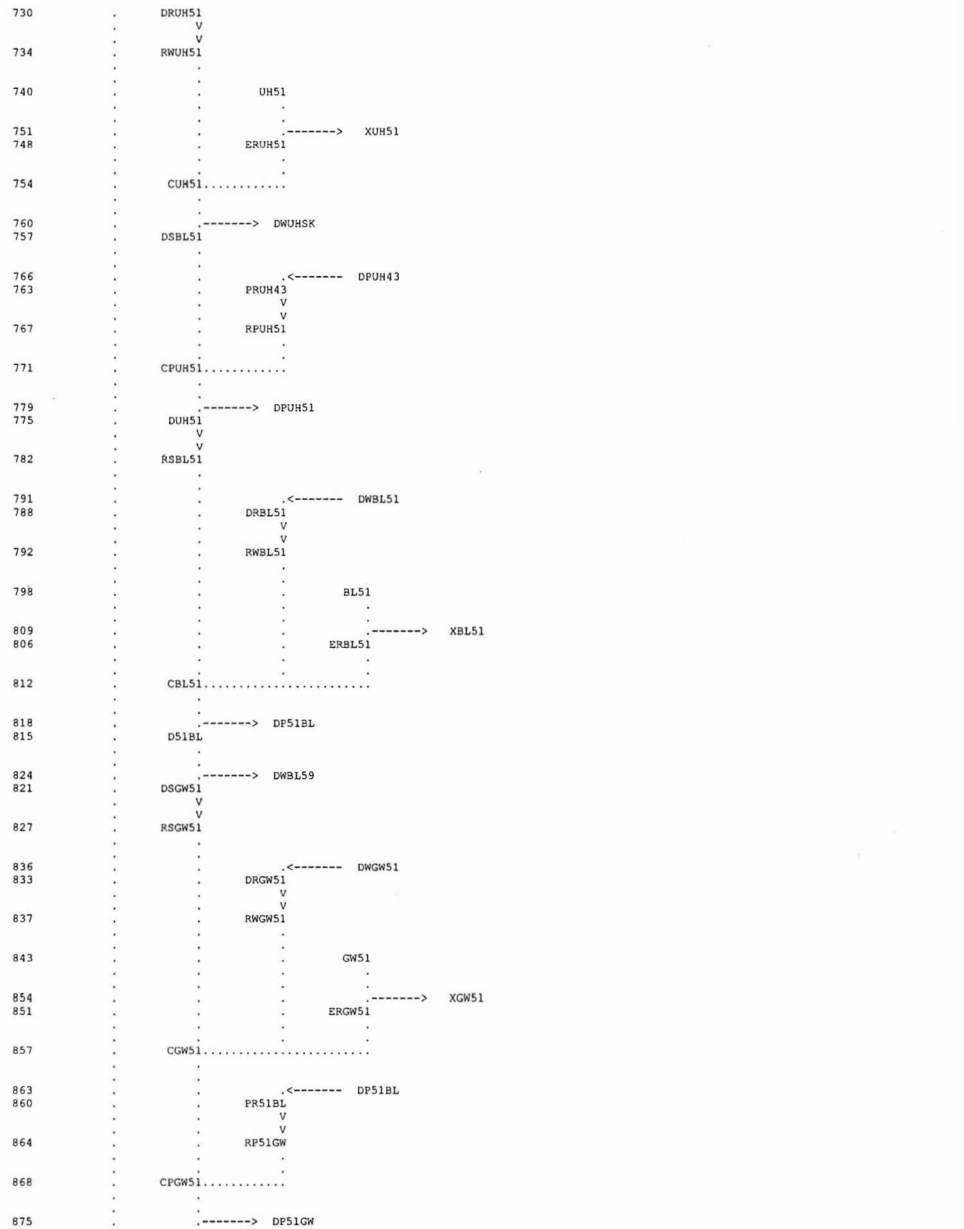
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DPUH51
DUH51
RSBL51
DWBL51
DRBL51
RWBL51
BL51
XBL51
ERBL51
CBL51
DP51BL
D51BL
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RSGW51
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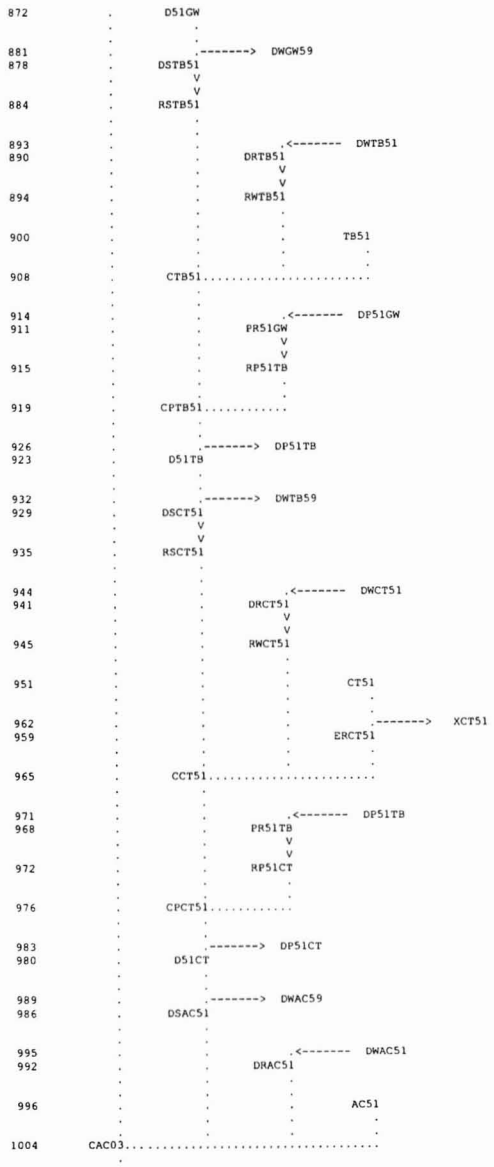
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881 DWGW59
878 DSTB51
884 RSTB51
893 DWTB51
890 DRTB51
894 RWTB51
900 TB51
908 CTB51
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911 PR51GW
915 RP51TB
919 CPTB51
926 DP51TB
923 D51TB
932 DWTB59
929 DSCT51
935 RSCT51
944 DWCT51
941 DRCT51
945 RWCT51
951 CT51
962 XCT51
959 ERCT51
965 CCT51
971 DP51TB
968 PR51TB
972 RP51CT
976 CPCT51
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996 AC51
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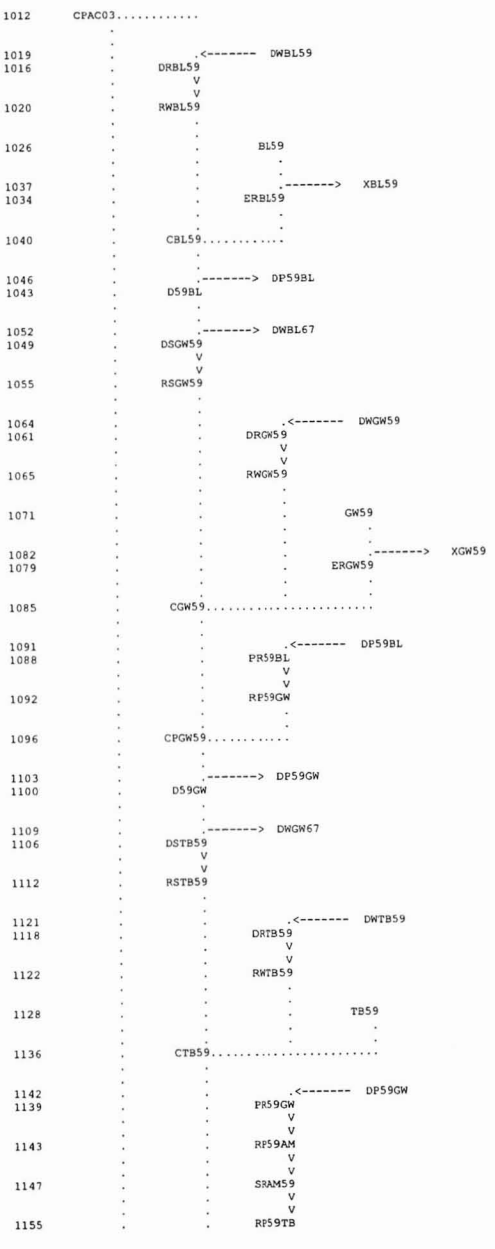
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1043 D59BL
1052 DWBL67
1049 DSGW59
1055 RSGW59
1064 DWGW59
1061 DRGW59
1065 RWGW59
1071 GW59
1082 XGW59
1079 ERGW59
1085 CGW59
1091 DP59BL
1088 PR59BL
1092 RP59GW
1096 CPGW59
1103 DP59GW
1100 D59GW
1109 DWGW67
1106 DSTB59
1112 RSTB59
1121 DWTB59
1118 DRTB59
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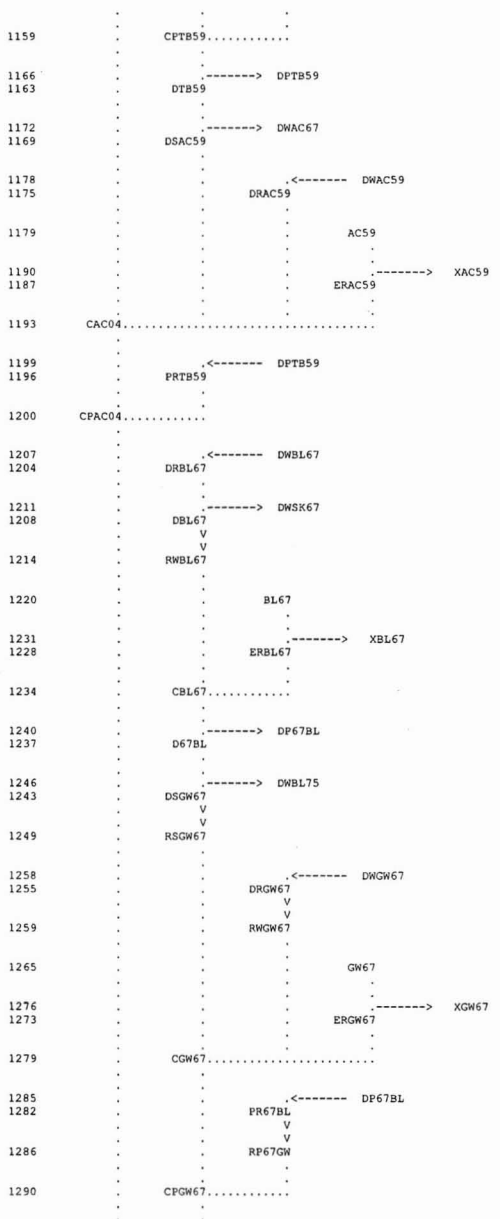
1143 RP59AM
1147 SRAM59
1155 RP59TB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1163 DTB59
1172 DWAC67
1169 DSAC59
1178 DWAC59
1175 DRAC59
1179 AC59
1190 XAC59
1187 ERAC59
1193 CAC04
1199 DPTB59
1196 PRTB59
1200 CPAC04
1207 DWBL67
1204 DRBL67
1211 DWSK67
1208 DBL67
1214 RWBL67
1220 BL67
1231 XBL67
1228 ERBL67
1234 CBL67
1240 DP67BL
1237 D67BL
1246 DWBL75
1243 DSGW67
1249 RSGW67
1258 DWGW67
1255 DRGW67
1259 RWGW67
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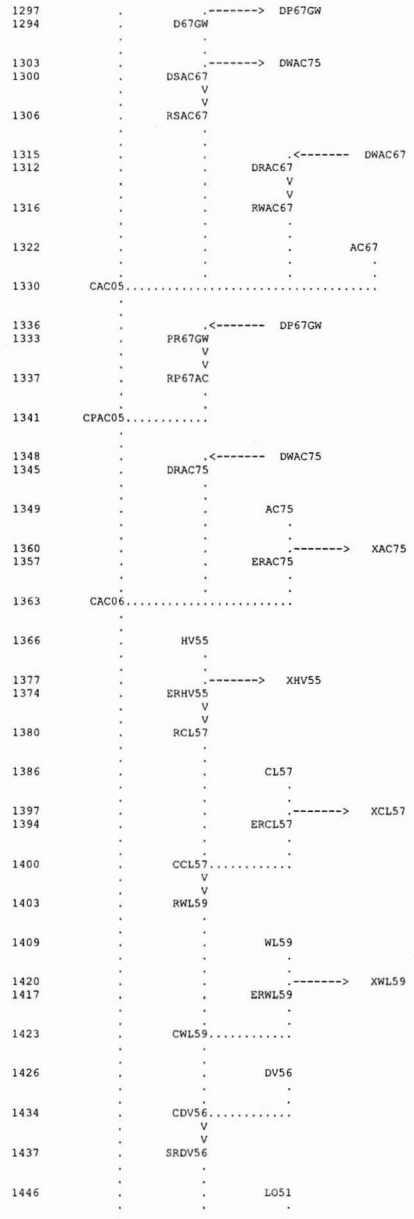
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1312 DRAC67
1316 RWAC67
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1330 CAC05
1336 DP67GW
1333 PR67GW
1337 RP67AC
1341 CPAC05
1348 DWAC75
1345 DRAC75
1349 AC75
1360 XAC75
1357 ERAC75
1363 CAC06
1366 HV55
1377 XHV55
1374 ERHV55
1380 RCL57
1386 CL57
1397 XCL57
1394 ERCL57
1400 CCL57
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1423 CWL59
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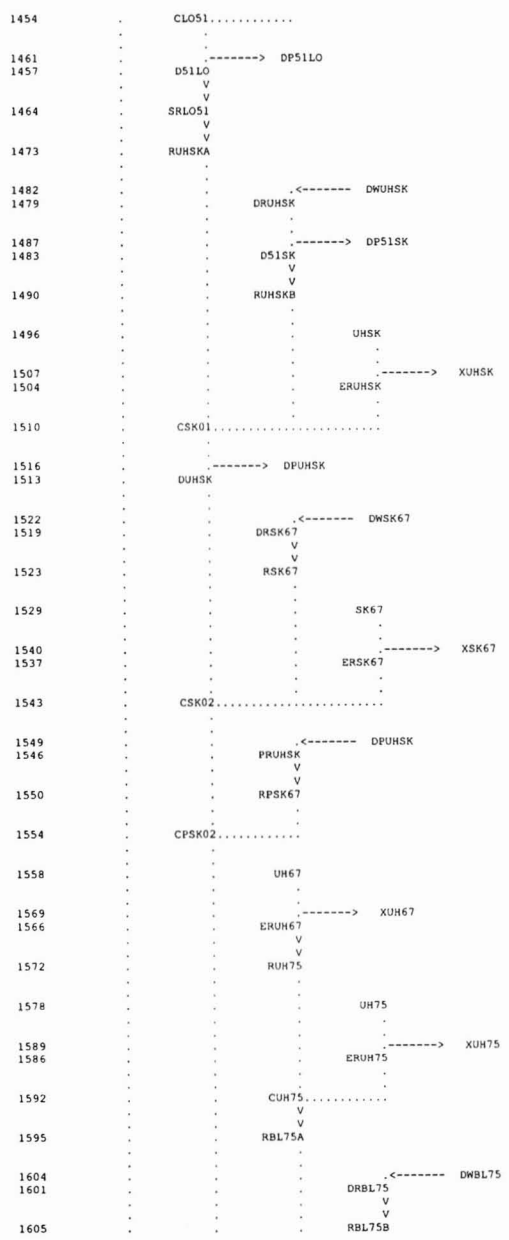
1437 SRDV56
1446 LO51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1479 DRUHSK
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1490 RUHSKB
1496 UHSK
1507 XUHSK
1504 ERUHSK
1510 CSK01
1516 DPUHSK
1513 DUHSK
1522 DWSK67
1519 DRSK67
1523 RSK67
1529 SK67
1540 XSK67
1537 ERSK67
1543 CSK02
1549 DPUHSK
1546 PRUHSK
1550 RPSK67
1554 CPSK02
1558 UH67
1569 XUH67
1566 ERUH67
1572 RUH75
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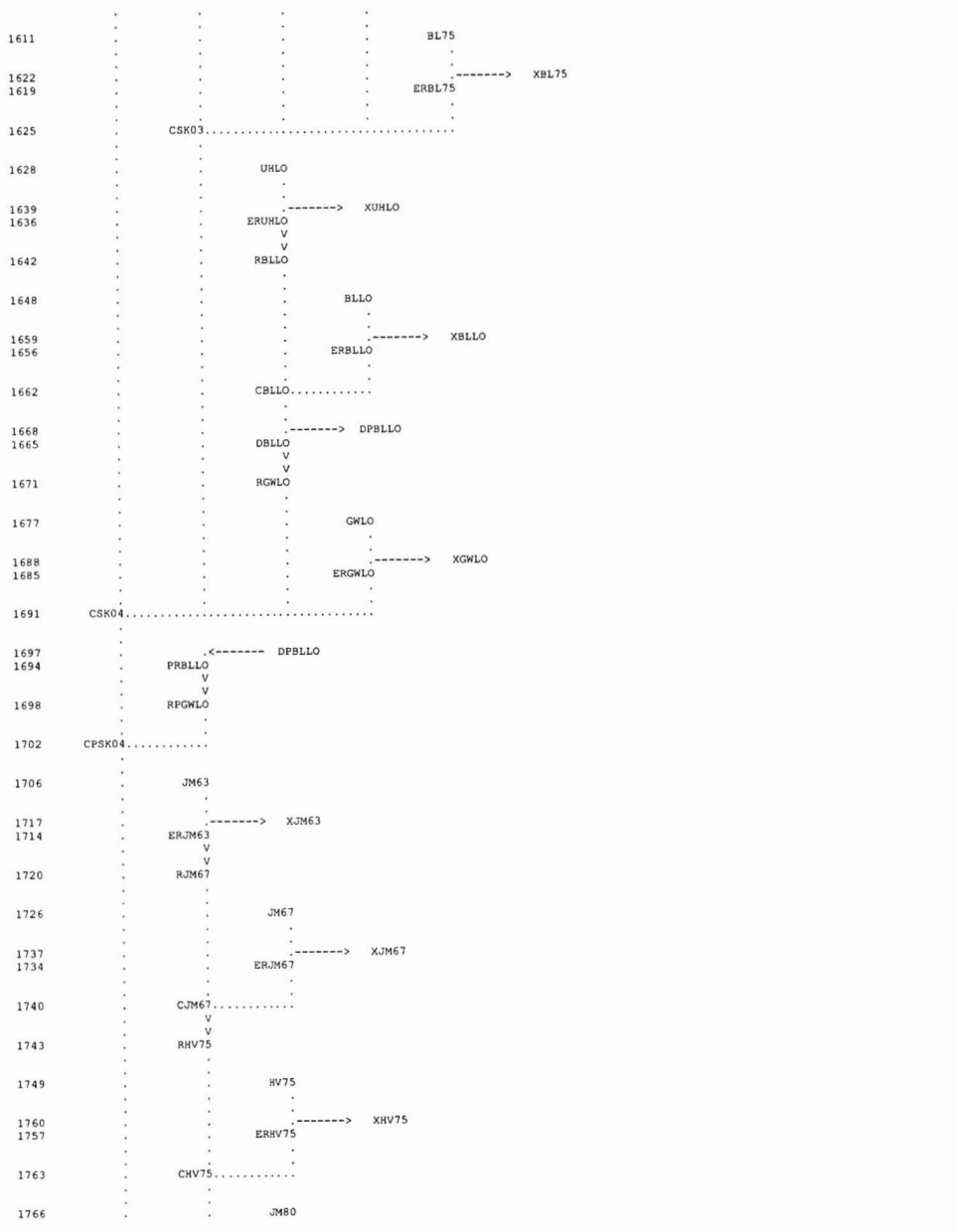
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1659 XBLLO
1656 ERBLLO
1662 CBLLO
1668 DPBLLO
1665 DBLLO
1671 RGWLO
1677 GWLO
1688 XGWLO
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1691 CSK04
1697 DPBLLO
1694 PRBLLO
1698 RPGWLO
1702 CPSK04
1706 JM63
1717 XJM63
1714 ERJM63
1720 RJM67
1726 JM67
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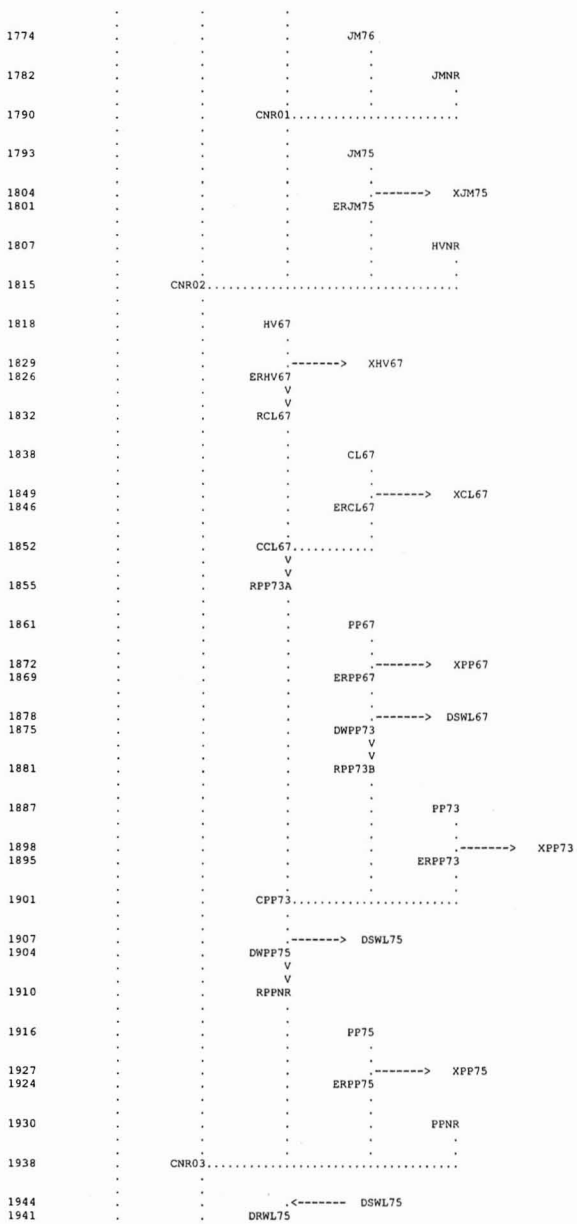
1766 JM80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1790 CNR01
1793 JM75
1804 XJM75
1801 ERJM75
1807 HVNR
1815 CNR02
1818 HV67
1829 XHV67
1826 ERHV67
1832 RCL67
1838 CL67
1849 XCL67
1846 ERCL67
1852 CCL67
1855 RPP73A
1861 PP67
1872 XPP67
1869 ERPP67
1878 DSWL67
1875 DWPP73
1881 RPP73B
1887 PP73
1898 XPP73
1895 ERPP73
1901 CPP73
1907 DSWL75
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1930 PPNR
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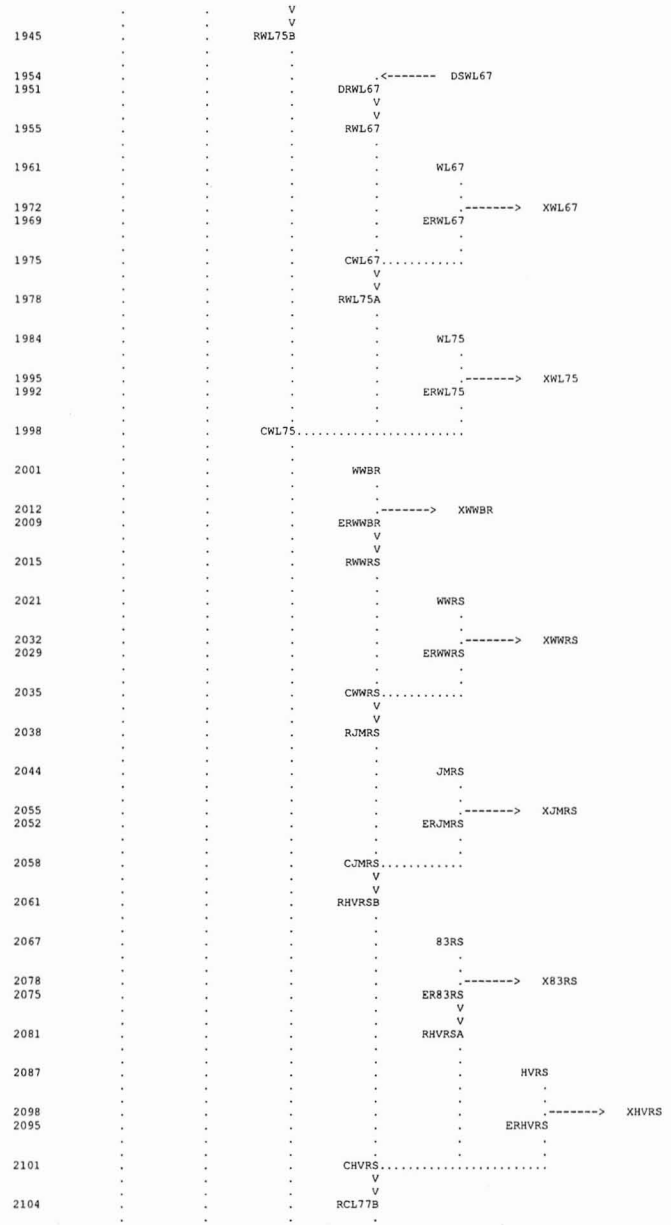
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1961 WL67
1972 XWL67
1969 ERWL67
1975 CWL67
1978 RWL75A
1984 WL75
1995 XWL75
1992 ERWL75
1998 CWL75
2001 WWBR
2012 XWWBR
2009 ERWWBR
2015 RWWRS
2021 WWRS
2032 XWWRS
2029 ERWWRS
2035 CWWRS
2038 RJMRS
2044 JMRS
2055 XJMRS
2052 ERJMRS
2058 CJMRS
2061 RHVRSB
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2075 ER83RS
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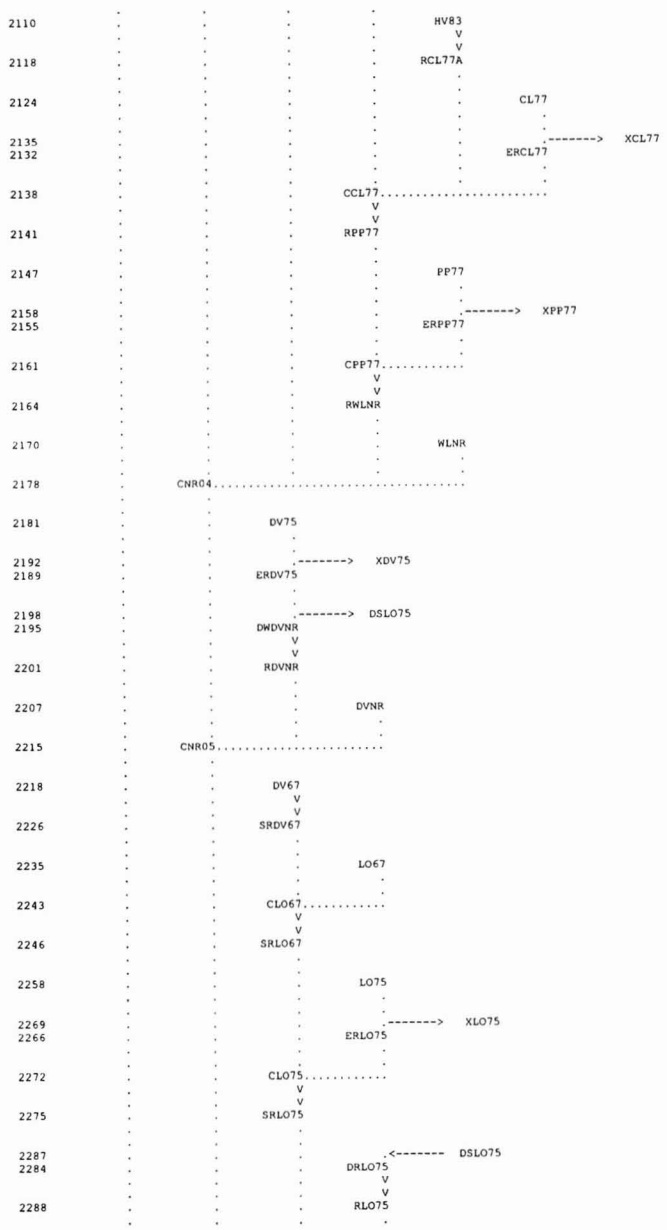
2101 CHVRS
2104 RCL77B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CPP77
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WLNR
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LO75
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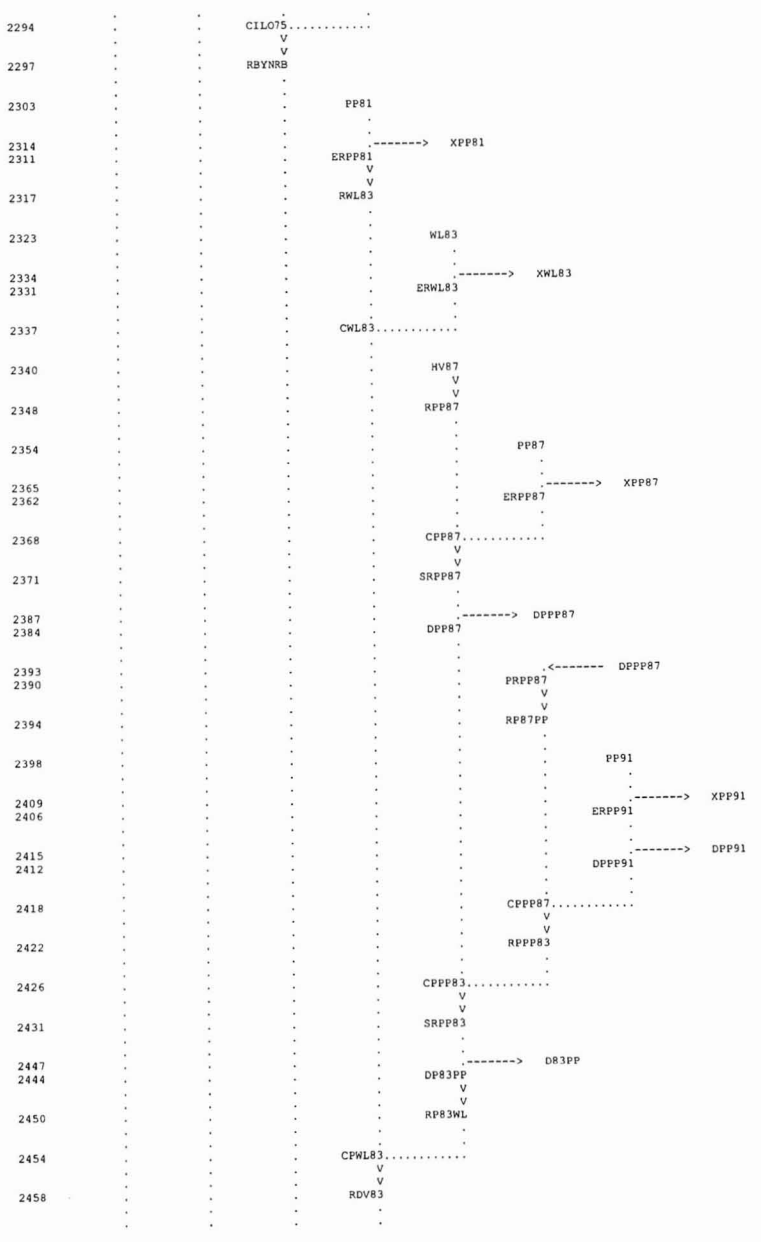
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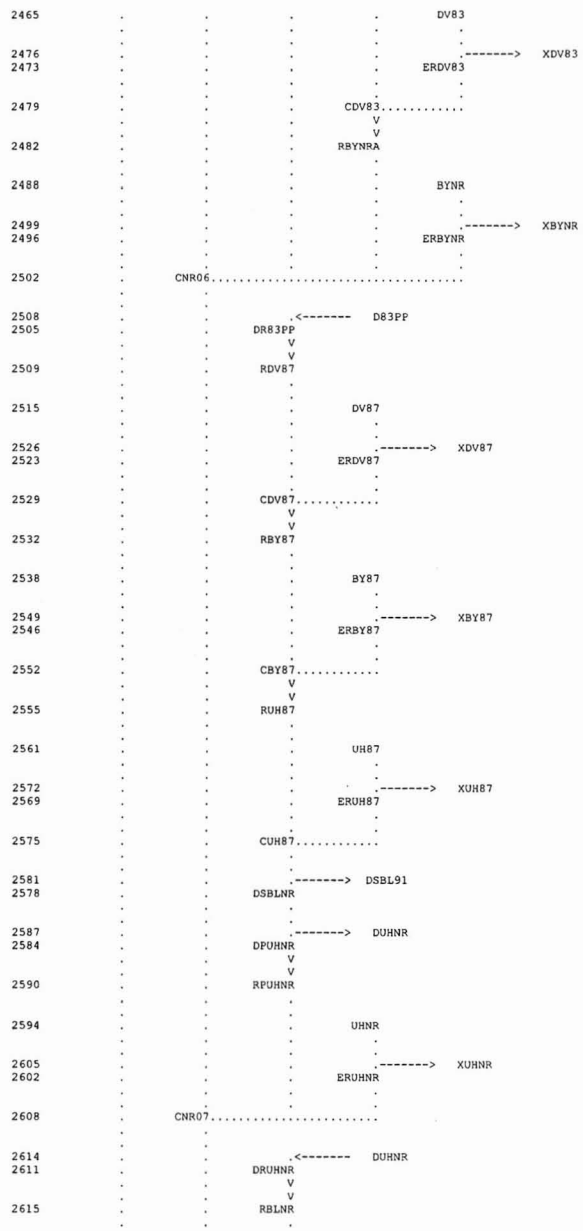
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CNR06
D83PP
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DV87
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ERDV87
CDV87
RBY87
BY87
XBY87
ERBY87
CBY87
RUH87
UH87
XUH87
ERUH87
CUH87
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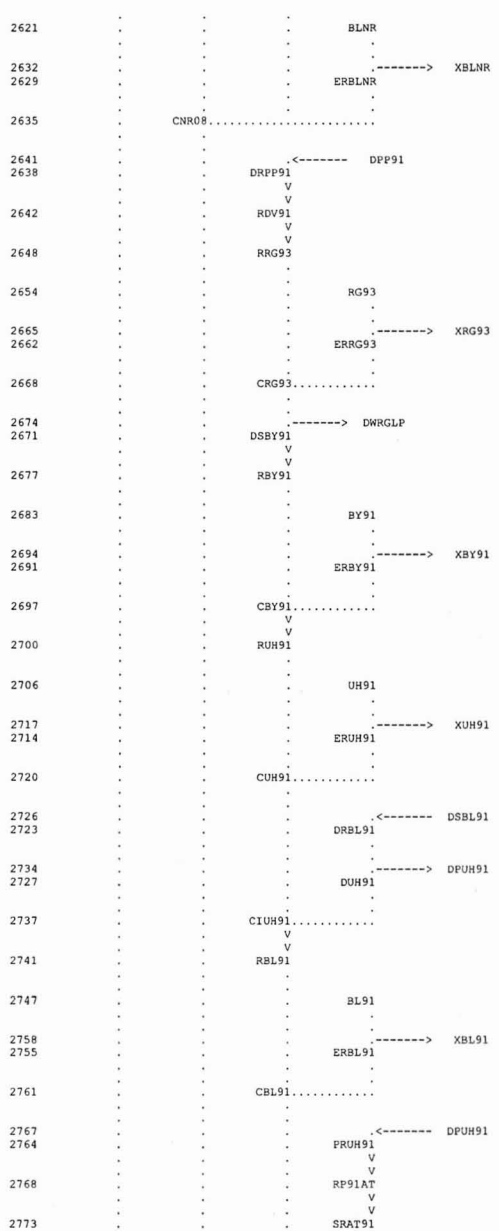
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RG93
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ERRG93
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CBY91
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UH91
XUH91
ERUH91
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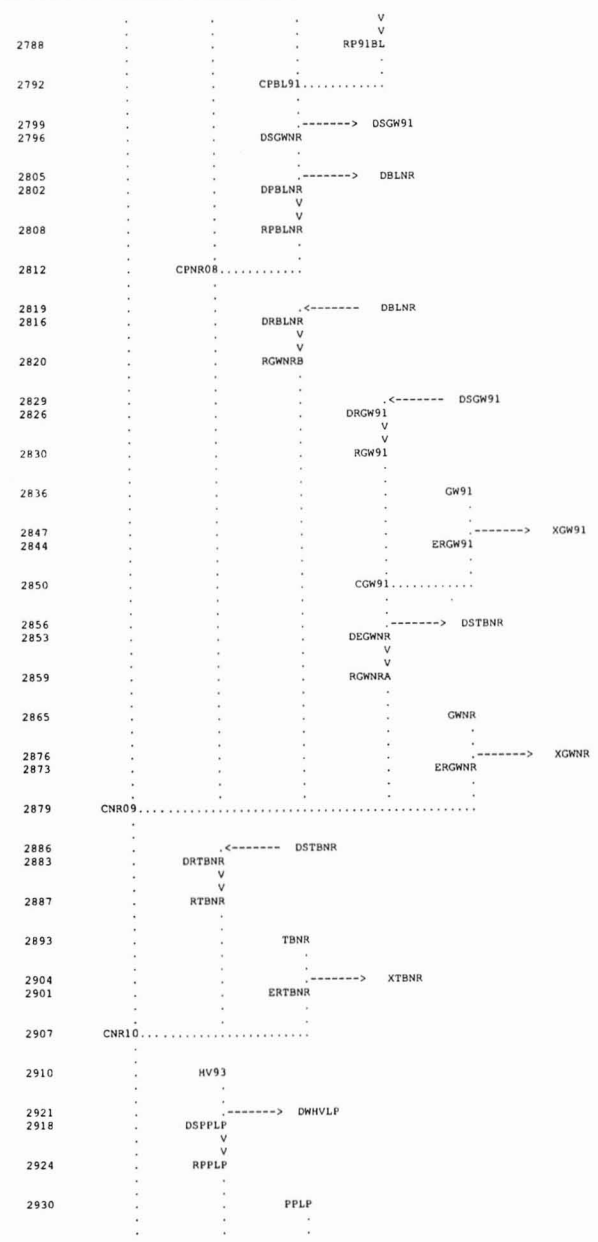
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2847 XGW91
2844 ERGW91
2850 CGW91
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2853 DEGWNR
2859 RGWNRA
2865 GWNR
2876 XGWNR
2873 ERGWNR
2879 CNR09
2886 DSTBNR
2883 DRTBNR
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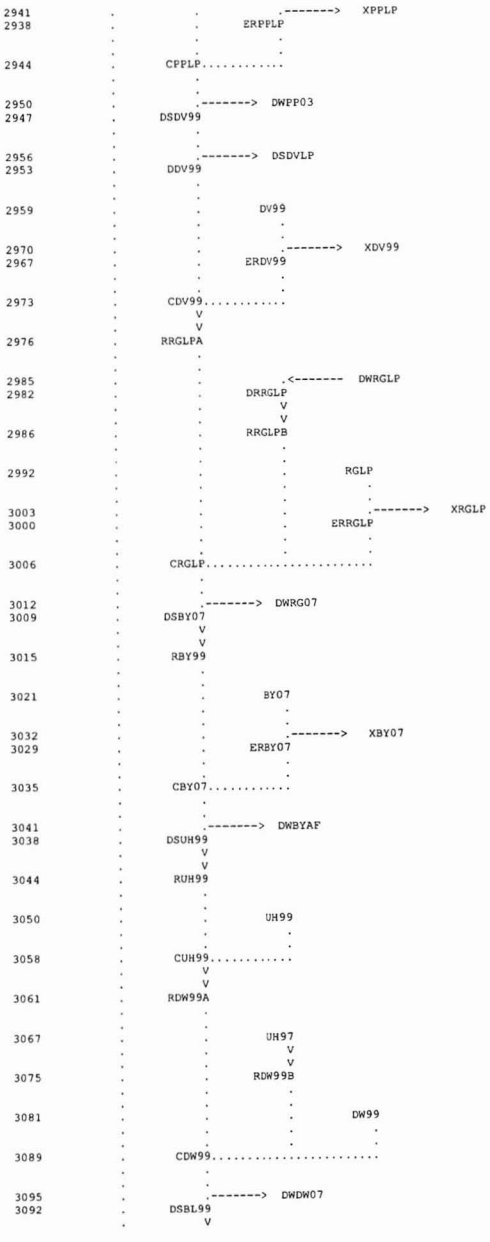
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2944 CPPLP
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2953 DDV99
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2967 ERDV99
2973 CDV99
2976 RRGLPA
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2992 RGLP
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3000 ERRGLP
3006 CRGLP
3012 DWRG07
3009 DSBY07
3015 RBY99
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3032 XBY07
3029 ERBY07
3035 CBY07
3041 DWBYAF
3038 DSUH99
3044 RUH99
3050 UH99
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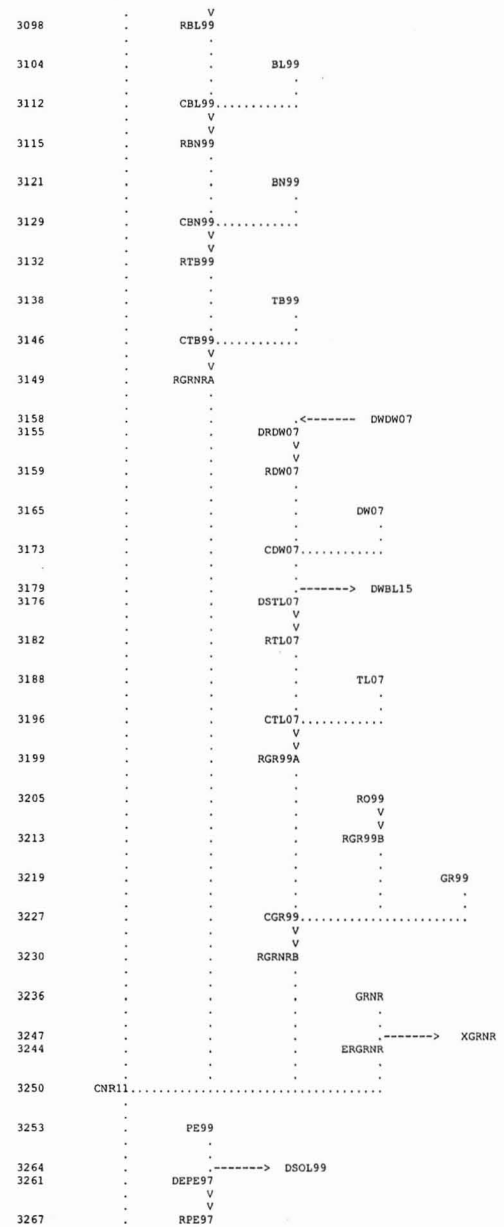
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CDW07
DWBL15
DSTL07
RTL07
TL07
CTL07
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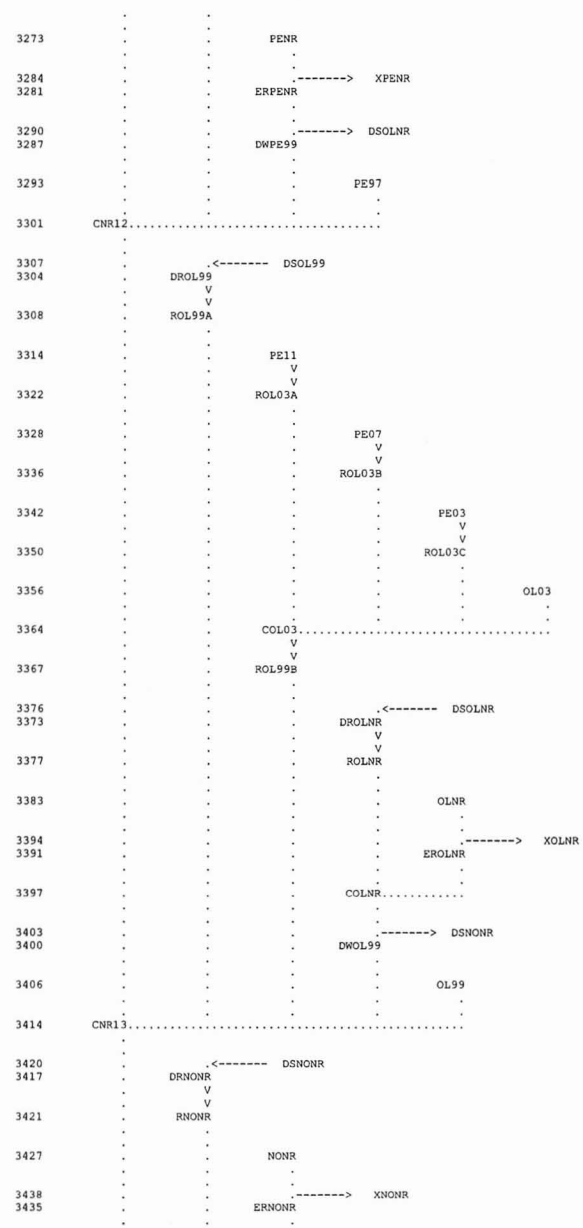
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PE07
ROL03B
PE03
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ROL99B
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OLNR
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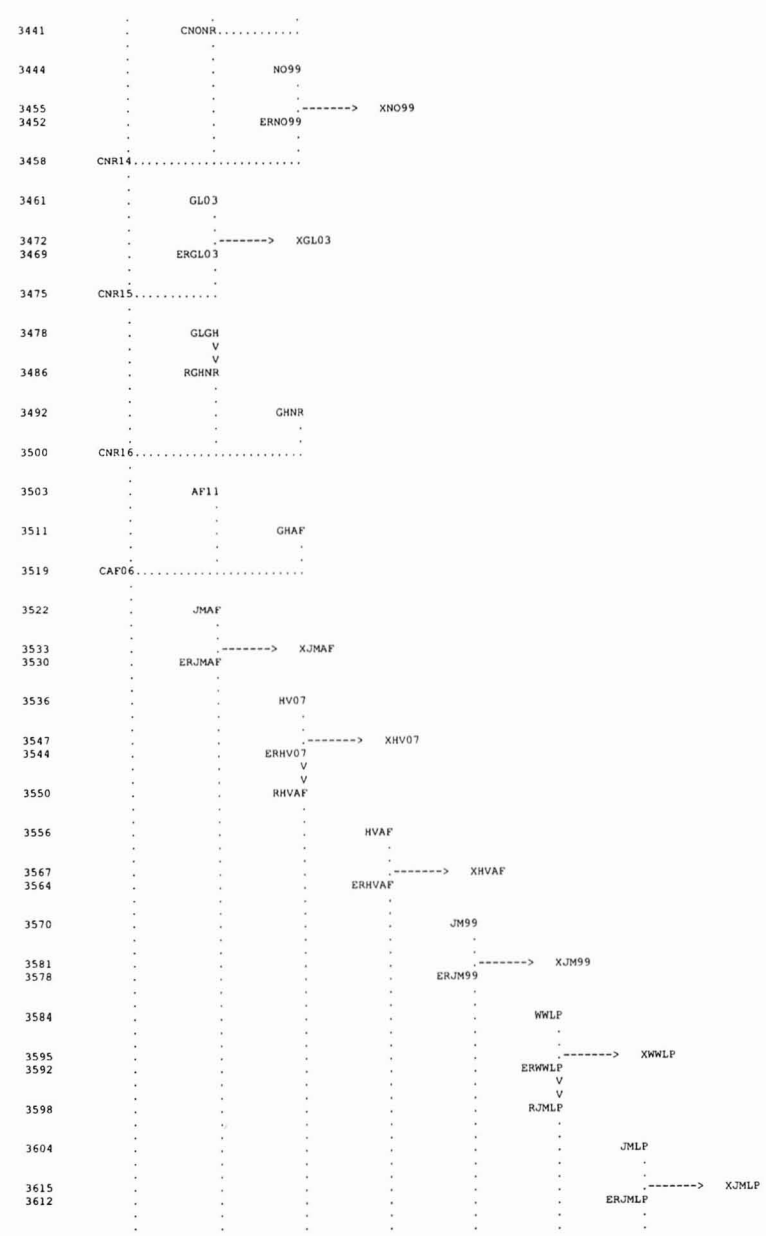
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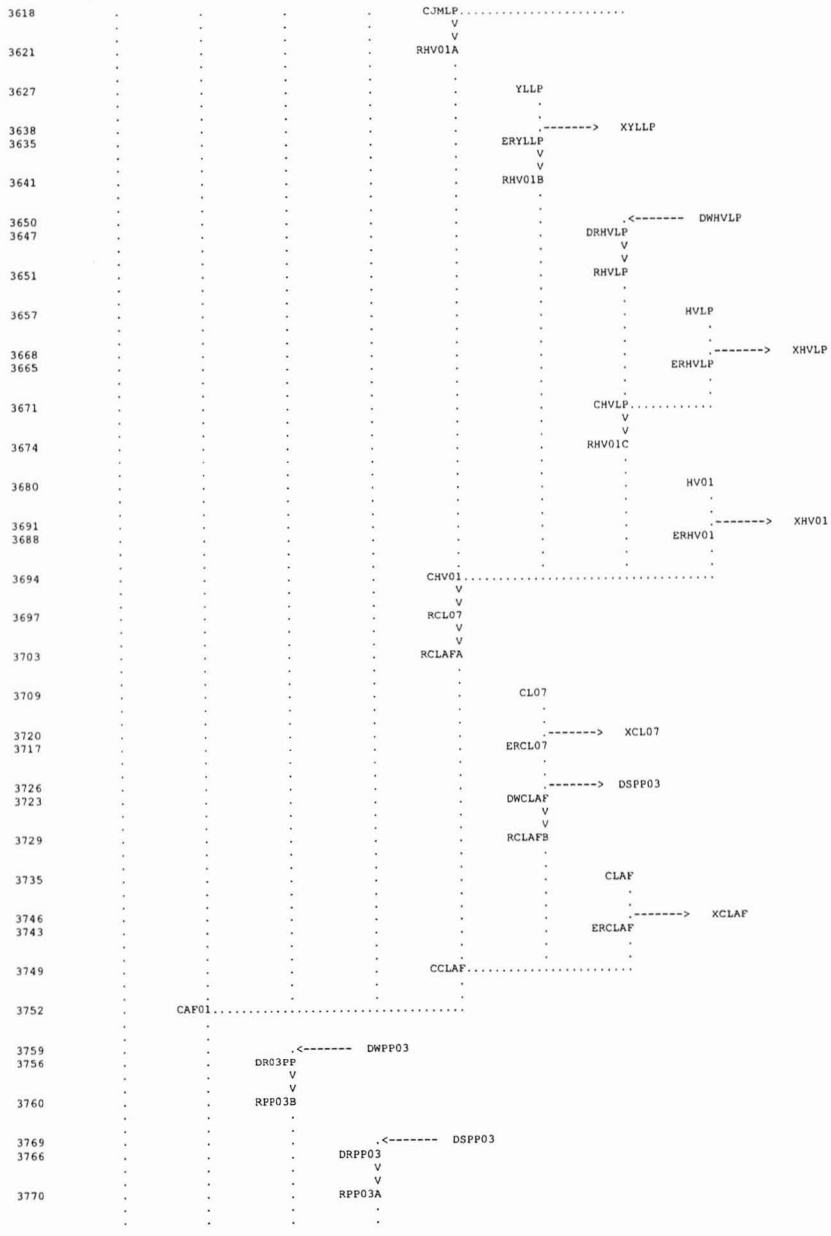
3478 GLGH
3486 RGHNR
3492 GHNR
3500 CNR16
3503 AF11
3511 GHAF
3519 CAF06
3522 JMAF
3533 XJMAF
3530 ERJMAF
3536 HV07
3547 XHV07
3544 ERHV07
3550 RHVAF
3556 HVAF
3567 XHVAF
3564 ERHVAF
3570 JM99
3581 XJM99
3578 ERJM99
3584 WWLP
3595 XWWLP
3592 ERWWLP
3598 RJMLP
3604 JMLP
3615 XJMLP
3612 ERJMLP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3621 RHV01A
3627 YLLP
3638 XYLLP
3635 ERYLLP
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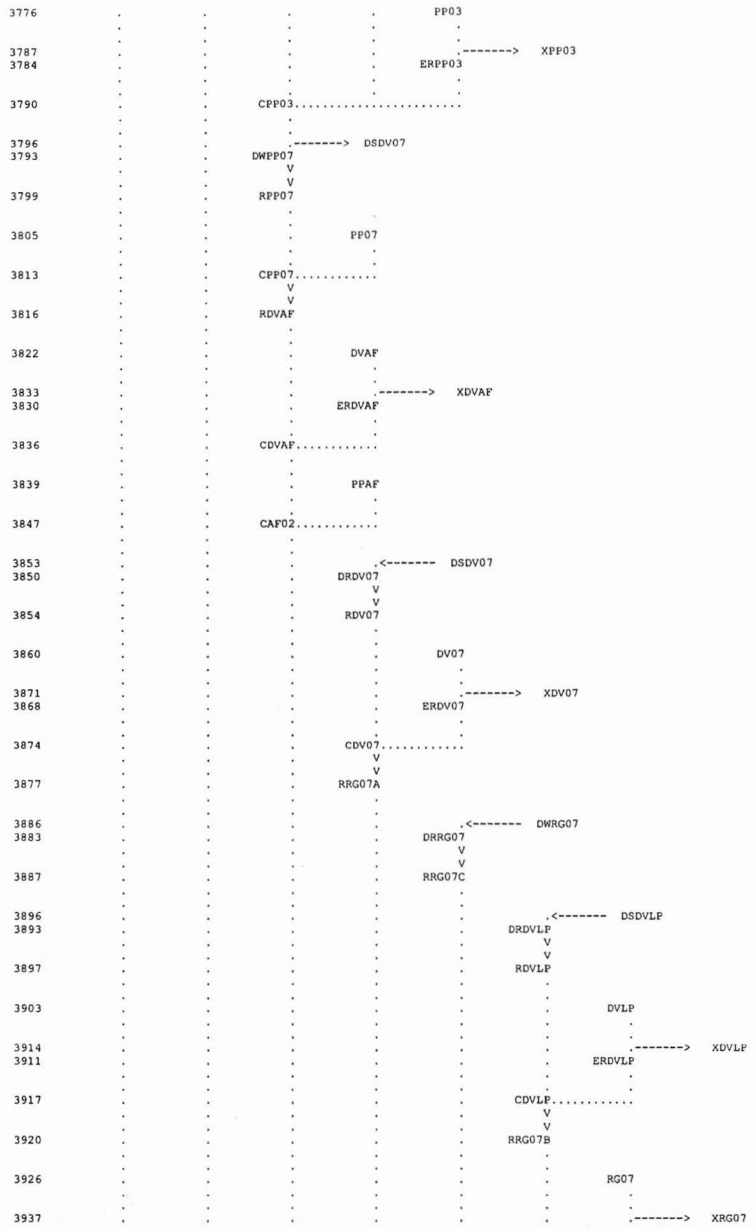
3650 DWHVLP
3647 DRHVLP
3651 RHVLP
3657 HVLP
3668 XHVLP
3665 ERHVLP
3671 CHVLP
3674 RHV01C
3680 HV01
3691 XHV01
3688 ERHV01
3694 CHV01
3697 RCL07
3703 RCLAFA
3709 CL07
3720 XCL07
3717 ERCL07
3726 DSPP03
3723 DWCLAF
3729 RCLAFB
3735 CLAF
3746 XCLAF
3743 ERCLAF
3749 CCLAF
3752 CAF01
3759 DWPP03
3756 DR03PP
3760 RPP03B
3769 DSPP03
3766 DRPP03
3770 RPP03A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XPP03
3784
ERPP03
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CPP03
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DSDV07
3793
DWPP07
3799
RPP07
3805
PP07
3813
CPP07
3816
RDVAF
3822
DVAF
3833
XDVAF
3830
ERDVAF
3836
CDVAF
3839
PPAF
3847
CAF02
3853
DSDV07
3850
DRDV07
3854
RDV07
3860
DV07
3871
XDV07
3868
ERDV07
3874
CDV07
3877
RRG07A
3886
DWRG07
3883
DRRG07
3887
RRG07C
3896
DSDVLP
3893
DRDVLP
3897
RDVLP
3903
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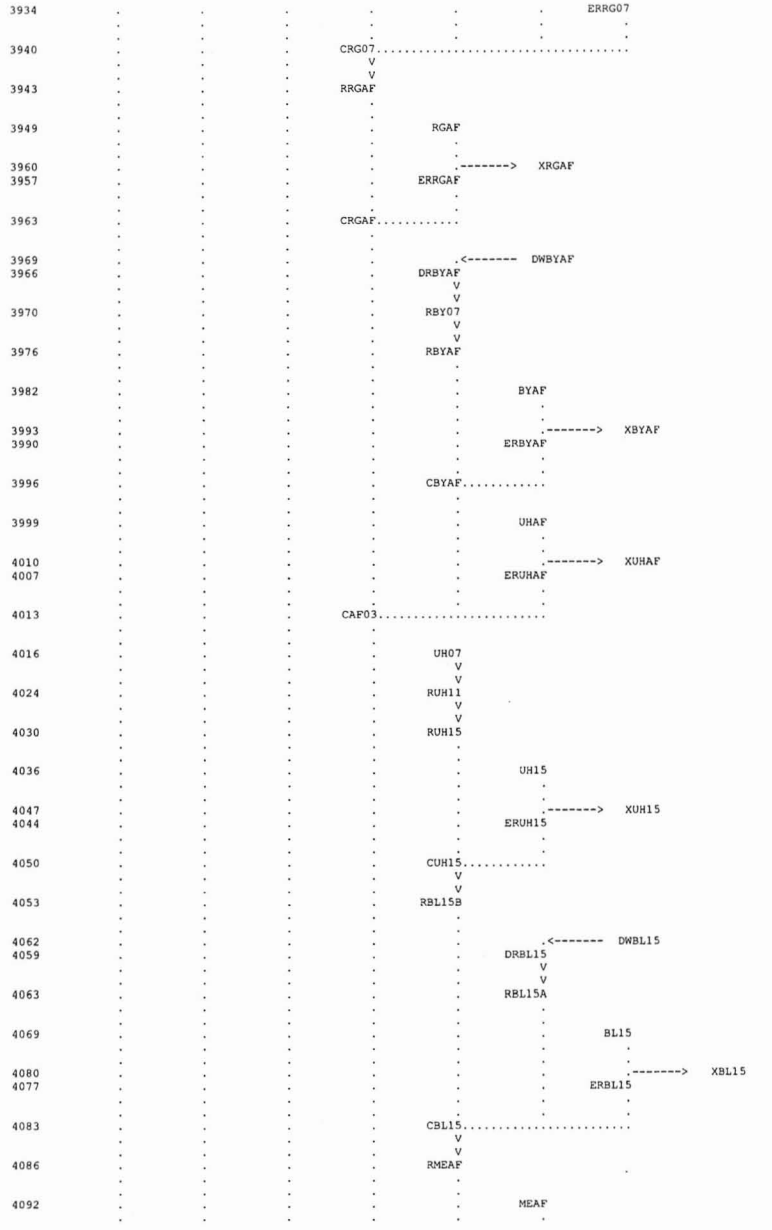
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3966
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RBY07
3976
RBYAF
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BYAF
3993
XBYAF
3990
ERBYAF
3996
CBYAF
3999
UHAF
4010
XUHAF
4007
ERUHAF
4013
CAF03
4016
UH07
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4030
RUH15
4036
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4047
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ERUH15
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DRBL15
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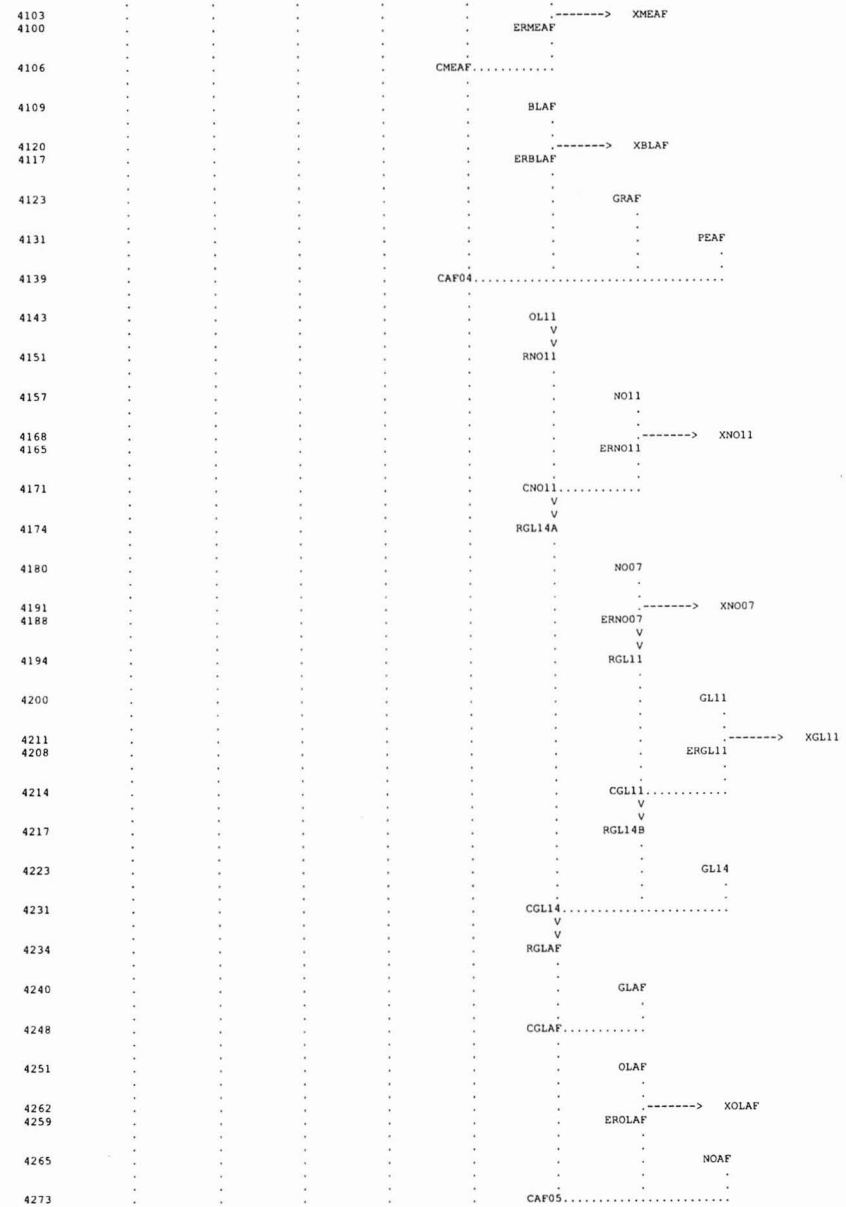


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 (***) RUNOFF ALSO COMPUTED AT THIS LOCATION
1*************************************
*                                   *
*   FLOOD HYDROGRAPH PACKAGE  (HEC-1)   *
*             JUN  1998             *
*           VERSION 4.1             *
*                                   *
*  RUN DATE   01NOV10  TIME  13:42:07   *
*                                   *
*************************************
```

```
*************************************
*                                   *
*    U.S. ARMY CORPS OF ENGINEERS   *
*    HYDROLOGIC ENGINEERING CENTER  *
*         609 SECOND STREET         *
*       DAVIS, CALIFORNIA 95616     *
*           (916) 756-1104          *
*                                   *
*************************************
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GLENDALE STORMWATER MANAGEMENT PLAN
Model for Glendale/Peoria Watershed
Existing Conditions

Prepared for the City of Glendale
In Association with the Flood Control District of Maricopa County
City Project Number 089017

Prepared by Kimley-Horn and Associates, Inc.
KHA Project Number 091910009
October 2010

MODELING PARAMETERS
- 100 Year 6 Hour Storm Event
- NOAA 14 Rainfall Data
- Clark Unit Hydrograph
- Green and Ampt Rainfall Loss Method

Topo data extracted from Flood Control District database July 24, 2009
Land use obtained from City of Glendale General Plan August 2009, City of Phoenix General Plan August 2009, and MAG General Plan Land Use 2007

Storage routing data obtained from As-built Records or Final Drainage Reports where possible
When As-built data/Drainage reports were not available data was obtained from HEC-1 models and checked for accuracy.
Storage routing data obtained from the following HEC-1 models:
- Glendale/Peoria ADMPU, May 2001
- Glendale/Peoria ADMP Northwest Region Update, May 2007
The source of data is identified on each individual storage routing card

****

MODELING NOMENCLATURE
SUBBASIN HYDROGRAPH:
Example: JMRS - the subbasin upstream of Jomax and Rock Springs Wash

STORM DRAIN DIVERSION:
Example: DBL59 - flow from subbasin BL59 is diverted to a storm drain

SUBBASIN DIVERSION:
Example: DWBL59 - flow is diverted west towards Bell and 59th Avenue
Example: DSGW51 - flow is diverted south towards Greenway and 51st Ave

ROUTE HYDROGRAPH:
Example: RWBL51 - flow is routed west towards Bell and 51st Avenue
Example: RSGW59 - flow is routed south towards Greenway and 59th Ave

COMBINE HYDROGRAPH:
Example: CJMRS - combine flow at Jomax and Rock Springs Wash

STREET NAME ABBREVIATIONS

Jomax Road	JM
Happy Valley Road	HV
Pinnacle Peak Road	PP
Deer Valley Road	DV
SR Loop 101	LO
Beardsley Road	BY
Union Hills Drive	UH
Bell Road	BL
Greenway Road	GW
Thunderbird Road	TB
Cactus Road	CT
Peoria Avenue	PE
Olive Avenue	OL
Northern Avenue	NO
Glendale Avenue	GL
Bethany Home Road	BH
Camelback Road	CB
Indian School Road	IS
Thomas Road	TM
McDowell Road	MD
Interstate 10	IN
Grand Avenue	GR
Mountain View Road	MV
Pinnacle Hill Road	PH
Greenbriar Drive	GB
Utopia Road	UT

```
                     Pyramid Peak Boulevard     PY
                     Bent Tree Drive            BT
                     Glen Harbor Boulevard      GH
                     Black Rock Boulevard       BR
                     Rose Garden Lane           RG
                     Calle Lejos                CL
                     Rock Springs Wash          RS
                     Williams Road              WL
                     Del Webb Boulevard         DW
                     Westwing Parkway           WW
                     Lake Pleasant Parkway      LP
                     Thunderbird Park Road      TP
                     Talisman Road              TL
                     Royal Oak Road             RO
                     Yearling Road              YL
                     Meade Drive                ME
                     Acoma Drive                AM
                     Athens Street              AT


                   PREFIXES FOR MODELING OPERATIONS
                     RW      Routing flow in the west direction
                     RS      Routing flow in the south direction
                     RP      Routing storm drain pipe flow
                     C       Combination point
                     CI      Combination point at an intersection
                     CP      Combination point for storm drain pipe flow
                     SR      Storage for detention/retention basins
                     DW      Divert flow to the west
                     DE      Divert flow to the east
                     DS      Divert flow to the south
                     DN      Divert flow to the north
                     ER      Divert flow for existing 100-yr 2-hr retention
                     X       Existing retention diversion does not return to model
                     DR      Divert retrieval from surface flow
                     DI      Divert retrieval from intersection flow
                     D       Divert surface flow (remains after storm drain divert)
                     DP      Divert flow to a storm drain pipe
                     PR      Divert retrieval from a storm drain pipe

                 *********************************************************************

122 IO         OUTPUT CONTROL VARIABLES
                       IPRNT          5  PRINT CONTROL
                       IPLOT          0  PLOT CONTROL
                       QSCAL         0.  HYDROGRAPH PLOT SCALE

    IT         HYDROGRAPH TIME DATA
                        NMIN          5  MINUTES IN COMPUTATION INTERVAL
                       IDATE     1    0  STARTING DATE
                       ITIME       0000  STARTING TIME
                          NQ       1000  NUMBER OF HYDROGRAPH ORDINATES
                      NDDATE     4    0  ENDING DATE
                      NDTIME       1115  ENDING TIME
                       ICENT         19  CENTURY MARK

                 COMPUTATION INTERVAL     .08 HOURS
                      TOTAL TIME BASE   83.25 HOURS

        ENGLISH UNITS
            DRAINAGE AREA            SQUARE MILES
            PRECIPITATION DEPTH      INCHES
            LENGTH, ELEVATION        FEET
            FLOW                     CUBIC FEET PER SECOND
            STORAGE VOLUME           ACRE-FEET
            SURFACE AREA             ACRES
            TEMPERATURE              DEGREES FAHRENHEIT

123 JD         INDEX STORM NO. 1
                      STRM        2.69  PRECIPITATION DEPTH
                      TRDA         .00  TRANSPOSITION DRAINAGE AREA

124 PI           PRECIPITATION PATTERN
                   .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                   .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                   .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                   .00       .00       .00       .01       .01       .01       .01       .01       .01       .03
                   .03       .03       .05       .05       .05       .15       .15       .15       .03       .03
                   .03       .01       .01       .01       .01       .01       .01       .00       .00       .00
                   .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                   .00       .00

127 JD         INDEX STORM NO. 2
                      STRM        2.68  PRECIPITATION DEPTH
                      TRDA         .50  TRANSPOSITION DRAINAGE AREA

128 PI           PRECIPITATION PATTERN
                   .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                   .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                   .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                   .00       .00       .00       .01       .01       .01       .01       .01       .01       .03
                   .03       .03       .05       .05       .05       .15       .15       .15       .03       .03
                   .03       .01       .01       .01       .01       .01       .01       .00       .00       .00
```



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                   .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                   .00       .00

131 JD         INDEX STORM NO. 3
                      STRM        2.63  PRECIPITATION DEPTH
                      TRDA        2.80  TRANSPOSITION DRAINAGE AREA

132 PI           PRECIPITATION PATTERN
                   .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                   .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                   .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                   .00       .00       .00       .01       .01       .01       .01       .01       .01       .03
                   .03       .03       .07       .07       .07       .08       .08       .08       .05       .05
                   .05       .02       .02       .02       .01       .01       .01       .00       .00       .00
                   .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                   .00       .00

135 JD         INDEX STORM NO. 4
                      STRM        2.48  PRECIPITATION DEPTH
                      TRDA       16.00  TRANSPOSITION DRAINAGE AREA

136 PI           PRECIPITATION PATTERN
                   .01       .01       .00       .00       .00       .00       .00       .00       .00       .01
                   .01       .01       .00       .01       .00       .00       .00       .00       .00       .00
                   .00       .00       .01       .00       .00       .00       .00       .01       .01       .01
                   .01       .01       .01       .01       .01       .01       .02       .02       .02       .03
                   .03       .03       .06       .06       .06       .07       .07       .07       .04       .04
                   .04       .02       .02       .02       .01       .01       .01       .01       .01       .01
                   .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                   .00       .00

139 JD         INDEX STORM NO. 5
                      STRM        2.18  PRECIPITATION DEPTH
                      TRDA       90.00  TRANSPOSITION DRAINAGE AREA

140 PI           PRECIPITATION PATTERN
                   .01       .01       .01       .00       .00       .00       .01       .01       .01       .01
                   .01       .01       .01       .01       .01       .01       .01       .01       .01       .01
                   .01       .01       .01       .01       .01       .01       .01       .01       .01       .01
                   .01       .01       .01       .01       .01       .01       .02       .02       .02       .03
                   .03       .03       .05       .05       .05       .05       .05       .05       .04       .04
                   .04       .02       .02       .02       .02       .02       .02       .01       .01       .01
                   .01       .01       .01       .01       .01       .01       .01       .01       .01       .01
                   .01       .01

143 JD         INDEX STORM NO. 6
                      STRM        2.15  PRECIPITATION DEPTH
                      TRDA      100.00  TRANSPOSITION DRAINAGE AREA

144 PI           PRECIPITATION PATTERN
                   .01       .01       .01       .00       .01       .00       .01       .01       .01       .01
                   .01       .01       .01       .01       .01       .01       .01       .01       .01       .01
                   .01       .01       .01       .01       .01       .01       .01       .01       .01       .01
                   .01       .01       .01       .01       .01       .01       .02       .02       .02       .03
                   .03       .03       .04       .04       .04       .05       .05       .05       .04       .04
                   .04       .02       .02       .02       .02       .02       .02       .01       .01       .01
                   .01       .01       .01       .01       .01       .01       .01       .01       .01       .01
                   .01       .01

          *** FDKRUT WARNING TIME STEP CALCULATION FAILED TO CONVERGE. STABILITY PROBLEMS MAY RESULT


          *** Warnings from RHVRSB:

 WARNING --- ROUTED OUTFLOW (     421.) IS GREATER THAN MAXIMUM OUTFLOW (     407.) IN STORAGE-OUTFLOW TABLE

 WARNING --- ROUTED OUTFLOW (     440.) IS GREATER THAN MAXIMUM OUTFLOW (     407.) IN STORAGE-OUTFLOW TABLE

 WARNING --- ROUTED OUTFLOW (     410.) IS GREATER THAN MAXIMUM OUTFLOW (     407.) IN STORAGE-OUTFLOW TABLE

 WARNING --- ROUTED OUTFLOW (     431.) IS GREATER THAN MAXIMUM OUTFLOW (     407.) IN STORAGE-OUTFLOW TABLE


          WARNING EXCESS AT PONDING LESS THAN ZERO FOR PERIOD. EXCESS SET TO ZERO
1
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RUNOFF SUMMARY
FLOW IN CUBIC FEET PER SECOND
TIME IN HOURS, AREA IN SQUARE MILES

	OPERATION	STATION	PEAK FLOW	TIME OF PEAK	AVERAGE FLOW FOR MAXIMUM PERIOD 6-HOUR	24-HOUR	72-HOUR	BASIN AREA	MAXIMUM STAGE	TIME OF MAX STAGE
+	HYDROGRAPH AT	UH35	1037.	4.50	273.	69.	23.	1.14		
+	DIVERSION TO	XUH35	975.	4.33	95.	24.	8.	1.14		
+	HYDROGRAPH AT	ERUH35	1026.	4.58	182.	46.	15.	1.14		

+	DIVERSION TO	DPUH35	875.	4.58	175.	44.	15.	1.14
+	HYDROGRAPH AT	DUH35	151.	4.58	7.	2.	1.	1.14
+	DIVERSION TO	DWUH43	77.	4.58	4.	1.	0.	1.14
+	HYDROGRAPH AT	DSBL35	74.	4.58	3.	1.	0.	1.14
+	ROUTED TO	RSBL35	22.	5.42	3.	1.	0.	1.14
+	HYDROGRAPH AT	BL35	859.	4.58	245.	63.	21.	1.14
+	DIVERSION TO	XBL35	111.	3.75	16.	4.	1.	1.14
+	HYDROGRAPH AT	ERBL35	859.	4.58	234.	59.	20.	1.14
+	2 COMBINED AT	CBL35	824.	4.67	234.	58.	19.	1.70
+	DIVERSION TO	DP35BL	158.	3.92	89.	22.	7.	1.70
+	HYDROGRAPH AT	D35BL	666.	4.67	145.	36.	12.	1.70
+	DIVERSION TO	DWBL43	440.	4.67	96.	24.	8.	1.70
+	HYDROGRAPH AT	DSGW35	226.	4.67	49.	12.	4.	1.70
+	ROUTED TO	RSGW35	213.	5.00	49.	12.	4.	1.70
+	HYDROGRAPH AT	GW35	679.	4.67	213.	55.	18.	1.01
+	2 COMBINED AT	CGW35	844.	4.83	260.	67.	22.	1.58
+	HYDROGRAPH AT	PR35BL	158.	3.92	89.	22.	7.	1.70
+	ROUTED TO	RP35GW	158.	4.08	89.	22.	7.	1.70
+	2 COMBINED AT	CPGW35	1002.	4.83	347.	89.	30.	1.58
+	DIVERSION TO	DP35GW	318.	4.08	193.	50.	17.	1.58
+	HYDROGRAPH AT	D35GW	684.	4.83	155.	39.	13.	1.58
+	DIVERSION TO	DWGW43	397.	4.83	90.	22.	7.	1.58
+	HYDROGRAPH AT	DSTB35	287.	4.83	65.	16.	5.	1.58
+	ROUTED TO	RSTB35	276.	5.17	65.	16.	5.	1.58
+	HYDROGRAPH AT	TB35	617.	4.75	204.	53.	18.	.98
+	2 COMBINED AT	CTB35	824.	5.00	266.	68.	23.	1.65
+	HYDROGRAPH AT	PR35GW	318.	4.08	193.	50.	17.	1.58
+	ROUTED TO	RP35TB	318.	4.25	193.	50.	17.	1.58
+	2 COMBINED AT	CPTB35	1142.	5.00	459.	118.	39.	1.65
+	DIVERSION TO	DP35TB	554.	4.17	334.	87.	29.	1.65
+	HYDROGRAPH AT	D35TB	588.	5.00	125.	31.	10.	1.65

+	DIVERSION TO	DWTB43	306.	5.00	65.	16.	5.	1.65
+	HYDROGRAPH AT	DSCT35	282.	5.00	60.	15.	5.	1.65
+	ROUTED TO	RSCT35	253.	5.42	60.	15.	5.	1.65
+	HYDROGRAPH AT	CT35	619.	4.67	194.	50.	17.	.98
+	2 COMBINED AT	CCT35	692.	5.17	248.	64.	21.	1.76
+	HYDROGRAPH AT	PR35TB	554.	4.17	334.	87.	29.	1.65
+	ROUTED TO	RP35CT	554.	4.25	334.	87.	29.	1.65
+	2 COMBINED AT	CPCT35	1246.	5.17	581.	151.	50.	1.76
+	DIVERSION TO	DP35CT	554.	4.08	368.	97.	32.	1.76
+	HYDROGRAPH AT	D35CT	692.	5.17	213.	53.	18.	1.76
+	DIVERSION TO	DWCT43	402.	5.17	124.	31.	10.	1.76
+	HYDROGRAPH AT	DSPE35	291.	5.17	90.	22.	7.	1.76
+	ROUTED TO	RSPE35	282.	5.50	90.	22.	7.	1.76
+	HYDROGRAPH AT	PE35	526.	4.75	179.	46.	15.	.98
+	2 COMBINED AT	CPE35	706.	5.08	262.	67.	22.	1.71
+	HYDROGRAPH AT	PR35CT	554.	4.08	368.	97.	32.	1.76
+	ROUTED TO	RP35PE	554.	4.25	368.	97.	32.	1.76
+	2 COMBINED AT	CPPE35	1260.	5.08	630.	165.	55.	1.71
+	DIVERSION TO	DP35PE	466.	4.08	349.	94.	31.	1.71
+	HYDROGRAPH AT	D35PE	794.	5.08	281.	70.	23.	1.71
+	DIVERSION TO	DWPE43	556.	5.08	196.	49.	16.	1.71
+	HYDROGRAPH AT	DSAC35	238.	5.08	84.	21.	7.	1.71
+	ROUTED TO	RSAC35	235.	5.33	84.	21.	7.	1.71
+	HYDROGRAPH AT	AC35	747.	4.42	177.	45.	15.	.75
+	2 COMBINED AT	CAC01	787.	4.58	257.	66.	22.	1.27
+	HYDROGRAPH AT	PR35PE	466.	4.08	349.	94.	31.	1.71
+	ROUTED TO	RP35AC	466.	4.17	349.	94.	31.	1.71
+	2 COMBINED AT	CPAC01	1253.	4.58	602.	160.	53.	1.27
+	HYDROGRAPH AT	DRUH43	77.	4.58	4.	1.	0.	1.14
+	ROUTED TO	RWUH43	25.	5.25	4.	1.	0.	1.14
+	HYDROGRAPH AT	UH43	643.	4.67	184.	47.	16.	1.02

+	DIVERSION TO	XUH43	618.	4.50	54.	14.	5.	1.02
+	HYDROGRAPH AT	ERUH43	636.	4.75	133.	33.	11.	1.02
+	2 COMBINED AT	CUH43	612.	4.75	132.	33.	11.	1.60
+	HYDROGRAPH AT	PRUH35	875.	4.58	175.	44.	15.	1.14
+	ROUTED TO	RPUH43	875.	4.67	175.	44.	15.	1.14
+	2 COMBINED AT	CPUH43	1487.	4.75	307.	77.	26.	1.60
+	DIVERSION TO	DPUH43	1268.	4.75	296.	74.	25.	1.60
+	HYDROGRAPH AT	DUH43	219.	4.75	11.	3.	1.	1.60
+	DIVERSION TO	DWUH51	92.	4.75	5.	1.	0.	1.60
+	HYDROGRAPH AT	DSBL43	127.	4.75	7.	2.	1.	1.60
+	ROUTED TO	RSBL43	39.	5.25	7.	2.	1.	1.60
+	HYDROGRAPH AT	DRBL43	440.	4.67	96.	24.	8.	1.70
+	ROUTED TO	RWBL43	419.	4.92	96.	24.	8.	1.70
+	HYDROGRAPH AT	BL43	731.	4.67	219.	56.	19.	1.05
+	3 COMBINED AT	CBL43	1032.	4.92	307.	78.	26.	3.10
+	DIVERSION TO	DP43BL	117.	3.83	82.	22.	7.	3.10
+	HYDROGRAPH AT	D43BL	915.	4.92	225.	56.	19.	3.10
+	DIVERSION TO	DWBL51	421.	4.92	103.	26.	9.	3.10
+	HYDROGRAPH AT	DSGW43	494.	4.92	121.	30.	10.	3.10
+	ROUTED TO	RSGW43	473.	5.17	121.	30.	10.	3.10
+	HYDROGRAPH AT	DRGW43	397.	4.83	90.	22.	7.	1.58
+	ROUTED TO	RWGW43	381.	5.17	90.	22.	7.	1.58
+	HYDROGRAPH AT	GW43	681.	4.58	195.	50.	17.	.99
+	DIVERSION TO	XGW43	62.	3.75	11.	3.	1.	.99
+	HYDROGRAPH AT	ERGW43	681.	4.58	189.	47.	16.	.99
+	3 COMBINED AT	CGW43	1294.	5.08	380.	95.	32.	3.57
+	HYDROGRAPH AT	PR43BL	117.	3.83	82.	22.	7.	3.10
+	ROUTED TO	RP43GW	117.	4.00	82.	22.	7.	3.10
+	2 COMBINED AT	CPGW43	1411.	5.08	461.	117.	39.	3.57
+	DIVERSION TO	DP43GW	155.	3.83	117.	31.	10.	3.57
+	HYDROGRAPH AT	D43GW	1256.	5.08	344.	86.	29.	3.57

+	DIVERSION TO	DWGW51	666.	5.08	182.	46.	15.	3.57
+	HYDROGRAPH AT	DSTB43	590.	5.08	162.	40.	13.	3.57
+	ROUTED TO	RSTB43	561.	5.33	162.	40.	13.	3.57
+	HYDROGRAPH AT	DRTB43	306.	5.00	65.	16.	5.	1.65
+	ROUTED TO	RWTB43	275.	5.42	65.	16.	5.	1.65
+	HYDROGRAPH AT	TB43	635.	4.67	192.	49.	16.	1.00
+	3 COMBINED AT	CTB43	1232.	5.33	402.	102.	34.	3.55
+	HYDROGRAPH AT	PR43GW	155.	3.83	117.	31.	10.	3.57
+	ROUTED TO	RP43TB	155.	4.00	117.	31.	10.	3.57
+	2 COMBINED AT	CPTB43	1387.	5.33	519.	133.	44.	3.55
+	DIVERSION TO	DP43TB	312.	4.00	231.	61.	20.	3.55
+	HYDROGRAPH AT	D43TB	1075.	5.33	288.	72.	24.	3.55
+	DIVERSION TO	DWTB51	677.	5.33	182.	45.	15.	3.55
+	HYDROGRAPH AT	DSCT43	398.	5.33	107.	27.	9.	3.55
+	ROUTED TO	RSCT43	384.	5.58	107.	27.	9.	3.55
+	HYDROGRAPH AT	DRCT43	402.	5.17	124.	31.	10.	1.76
+	ROUTED TO	RWCT43	392.	5.50	124.	31.	10.	1.76
+	HYDROGRAPH AT	CT43	707.	4.67	212.	54.	18.	1.00
+	DIVERSION TO	XCT43	707.	4.67	83.	21.	7.	1.00
+	HYDROGRAPH AT	ERCT43	679.	4.83	134.	34.	11.	1.00
+	3 COMBINED AT	CCT43	1179.	5.33	351.	88.	29.	3.35
+	HYDROGRAPH AT	PR43TB	312.	4.00	231.	61.	20.	3.55
+	ROUTED TO	RP43CT	312.	4.17	231.	61.	20.	3.55
+	2 COMBINED AT	CPCT43	1491.	5.33	582.	148.	49.	3.35
+	DIVERSION TO	DP43CT	380.	4.67	280.	73.	24.	3.35
+	HYDROGRAPH AT	D43CT	1111.	5.33	302.	75.	25.	3.35
+	DIVERSION TO	DWCT51	700.	5.33	190.	48.	16.	3.35
+	HYDROGRAPH AT	DSPE43	411.	5.33	112.	28.	9.	3.35
+	ROUTED TO	RSPE43	403.	5.67	112.	28.	9.	3.35
+	HYDROGRAPH AT	DRPE43	556.	5.08	196.	49.	16.	1.71
+	ROUTED TO	RWPE43	544.	5.42	196.	49.	16.	1.71

+	HYDROGRAPH AT	PE43	546.	4.75	177.	46.	15.	1.00
+	3 COMBINED AT	CPE43	1242.	5.50	460.	117.	39.	3.42
+	HYDROGRAPH AT	PR43CT	380.	4.67	280.	73.	24.	3.35
+	ROUTED TO	RP43PE	380.	4.75	280.	73.	24.	3.35
+	2 COMBINED AT	CPPE43	1622.	5.50	740.	190.	63.	3.42
+	DIVERSION TO	DP43PE	520.	4.25	399.	104.	35.	3.42
+	HYDROGRAPH AT	D43PE	1102.	5.50	341.	85.	28.	3.42
+	DIVERSION TO	DWAC51	419.	5.50	130.	32.	11.	3.42
+	HYDROGRAPH AT	DSAC43	683.	5.50	212.	53.	18.	3.42
+	HYDROGRAPH AT	AC43	172.	4.67	63.	17.	6.	.36
+	3 COMBINED AT	CAC02	1724.	5.33	856.	225.	75.	3.75
+	HYDROGRAPH AT	PR43PE	520.	4.25	399.	104.	35.	3.42
+	2 COMBINED AT	CPAC02	2244.	5.33	1252.	329.	110.	3.75
+	HYDROGRAPH AT	DRUH51	92.	4.75	5.	1.	0.	1.60
+	ROUTED TO	RWUH51	29.	5.50	5.	1.	0.	1.60
+	HYDROGRAPH AT	UH51	528.	4.75	172.	44.	15.	.99
+	DIVERSION TO	XUH51	528.	4.75	98.	25.	8.	.99
+	HYDROGRAPH AT	ERUH51	380.	5.42	80.	20.	7.	.99
+	2 COMBINED AT	CUH51	394.	5.42	78.	20.	7.	1.66
+	DIVERSION TO	DWUHSK	240.	5.42	48.	12.	4.	1.66
+	HYDROGRAPH AT	DSBL51	154.	5.42	31.	8.	3.	1.66
+	HYDROGRAPH AT	PRUH43	1268.	4.75	296.	74.	25.	1.60
+	ROUTED TO	RPUH51	1268.	4.83	295.	74.	25.	1.60
+	2 COMBINED AT	CPUH51	1278.	5.17	326.	81.	27.	1.66
+	DIVERSION TO	DPUH51	1278.	5.17	326.	81.	27.	1.66
+	HYDROGRAPH AT	DUH51	0.	.00	0.	0.	0.	1.66
+	ROUTED TO	RSBL51	0.	.00	0.	0.	0.	1.66
+	HYDROGRAPH AT	DRBL51	421.	4.92	103.	26.	9.	3.10
+	ROUTED TO	RWBL51	408.	5.17	103.	26.	9.	3.10
+	HYDROGRAPH AT	BL51	684.	4.67	198.	51.	17.	1.04
+	DIVERSION TO	XBL51	547.	4.33	46.	12.	4.	1.04

+	HYDROGRAPH AT	ERBL51	684.	4.67	157.	39.	13.	1.04
+	3 COMBINED AT	CBL51	948.	5.00	249.	62.	21.	3.12
+	DIVERSION TO	DP51BL	38.	4.50	26.	7.	2.	3.12
+	HYDROGRAPH AT	D51BL	910.	5.00	223.	56.	19.	3.12
+	DIVERSION TO	DWBL59	473.	5.00	116.	29.	10.	3.12
+	HYDROGRAPH AT	DSGW51	437.	5.00	107.	27.	9.	3.12
+	ROUTED TO	RSGW51	421.	5.25	107.	27.	9.	3.12
+	HYDROGRAPH AT	DRGW51	666.	5.08	182.	46.	15.	3.57
+	ROUTED TO	RWGW51	639.	5.33	182.	46.	15.	3.57
+	HYDROGRAPH AT	GW51	549.	4.67	162.	41.	14.	.96
+	DIVERSION TO	XGW51	11.	2.58	3.	1.	0.	.96
+	HYDROGRAPH AT	ERGW51	549.	4.67	162.	41.	14.	.96
+	3 COMBINED AT	CGW51	1381.	5.25	424.	106.	35.	4.34
+	HYDROGRAPH AT	PR51BL	38.	4.50	26.	7.	2.	3.12
+	ROUTED TO	RP51GW	38.	4.67	26.	7.	2.	3.12
+	2 COMBINED AT	CPGW51	1419.	5.25	450.	113.	38.	4.34
+	DIVERSION TO	DP51GW	150.	4.08	116.	30.	10.	4.34
+	HYDROGRAPH AT	D51GW	1269.	5.25	334.	83.	28.	4.34
+	DIVERSION TO	DWGW59	825.	5.25	217.	54.	18.	4.34
+	HYDROGRAPH AT	DSTB51	444.	5.25	117.	29.	10.	4.34
+	ROUTED TO	RSTB51	429.	5.50	117.	29.	10.	4.34
+	HYDROGRAPH AT	DRTB51	677.	5.33	182.	45.	15.	3.55
+	ROUTED TO	RWTB51	657.	5.50	182.	45.	15.	3.55
+	HYDROGRAPH AT	TB51	577.	4.67	172.	44.	15.	.99
+	3 COMBINED AT	CTB51	1367.	5.50	442.	112.	37.	4.70
+	HYDROGRAPH AT	PR51GW	150.	4.08	116.	30.	10.	4.34
+	ROUTED TO	RP51TB	150.	4.25	116.	30.	10.	4.34
+	2 COMBINED AT	CPTB51	1517.	5.50	558.	141.	47.	4.70
+	DIVERSION TO	DP51TB	244.	4.08	193.	50.	17.	4.70
+	HYDROGRAPH AT	D51TB	1273.	5.50	365.	91.	30.	4.70
+	DIVERSION TO	DWTB59	776.	5.50	223.	56.	19.	4.70

+	HYDROGRAPH AT	DSCT51	496.	5.50	142.	36.	12.	4.70
+	ROUTED TO	RSCT51	481.	5.75	142.	36.	12.	4.70
+	HYDROGRAPH AT	DRCT51	700.	5.33	190.	48.	16.	3.35
+	ROUTED TO	RWCT51	691.	5.58	190.	48.	16.	3.35
+	HYDROGRAPH AT	CT51	669.	4.58	185.	47.	16.	.99
+	DIVERSION TO	XCT51	661.	4.50	60.	15.	5.	.99
+	HYDROGRAPH AT	ERCT51	664.	4.67	129.	32.	11.	.99
+	3 COMBINED AT	CCT51	1404.	5.58	433.	108.	36.	4.94
+	HYDROGRAPH AT	PR51TB	244.	4.08	193.	50.	17.	4.70
+	ROUTED TO	RP51CT	244.	4.25	193.	50.	17.	4.70
+	2 COMBINED AT	CPCT51	1648.	5.58	626.	158.	53.	4.94
+	DIVERSION TO	DP51CT	244.	4.25	201.	52.	17.	4.94
+	HYDROGRAPH AT	D51CT	1404.	5.58	425.	106.	35.	4.94
+	DIVERSION TO	DWAC59	463.	5.58	140.	35.	12.	4.94
+	HYDROGRAPH AT	DSAC51	941.	5.58	285.	71.	24.	4.94
+	HYDROGRAPH AT	DRAC51	419.	5.50	130.	32.	11.	3.42
+	HYDROGRAPH AT	AC51	285.	4.83	119.	32.	11.	.58
+	4 COMBINED AT	CAC03	3500.	5.50	1688.	443.	148.	8.95
+	HYDROGRAPH AT	PR51CT	244.	4.25	201.	52.	17.	4.94
+	2 COMBINED AT	CPAC03	3744.	5.50	1886.	495.	165.	8.95
+	HYDROGRAPH AT	DRBL59	473.	5.00	116.	29.	10.	3.12
+	ROUTED TO	RWBL59	464.	5.25	116.	29.	10.	3.12
+	HYDROGRAPH AT	BL59	756.	4.58	218.	56.	19.	1.08
+	DIVERSION TO	XBL59	756.	4.58	147.	37.	12.	1.08
+	HYDROGRAPH AT	ERBL59	437.	5.42	76.	19.	6.	1.08
+	2 COMBINED AT	CBL59	885.	5.42	186.	47.	16.	2.71
+	DIVERSION TO	DP59BL	108.	4.92	60.	15.	5.	2.71
+	HYDROGRAPH AT	D59BL	777.	5.42	127.	32.	11.	2.71
+	DIVERSION TO	DWBL67	241.	5.42	39.	10.	3.	2.71
+	HYDROGRAPH AT	DSGW59	536.	5.42	87.	22.	7.	2.71
+	ROUTED TO	RSGW59	456.	5.75	87.	22.	7.	2.71

+	HYDROGRAPH AT	DRGW59	825.	5.25	217.	54.	18.	4.34
+	ROUTED TO	RWGW59	805.	5.50	217.	54.	18.	4.34
+	HYDROGRAPH AT	GW59	666.	4.67	199.	51.	17.	.94
+	DIVERSION TO	XGW59	665.	4.58	71.	18.	6.	.94
+	HYDROGRAPH AT	ERGW59	656.	4.75	133.	33.	11.	.94
+	3 COMBINED AT	CGW59	1359.	5.67	402.	101.	34.	5.64
+	HYDROGRAPH AT	PR59BL	108.	4.92	60.	15.	5.	2.71
+	ROUTED TO	RP59GW	108.	5.08	60.	15.	5.	2.71
+	2 COMBINED AT	CPGW59	1467.	5.67	461.	115.	38.	5.64
+	DIVERSION TO	DP59GW	273.	4.83	162.	40.	13.	5.64
+	HYDROGRAPH AT	D59GW	1194.	5.67	299.	75.	25.	5.64
+	DIVERSION TO	DWGW67	537.	5.67	135.	34.	11.	5.64
+	HYDROGRAPH AT	DSTB59	657.	5.67	165.	41.	14.	5.64
+	ROUTED TO	RSTB59	633.	5.92	165.	41.	14.	5.64
+	HYDROGRAPH AT	DRTB59	776.	5.50	223.	56.	19.	4.70
+	ROUTED TO	RWTB59	748.	5.67	223.	56.	19.	4.70
+	HYDROGRAPH AT	TB59	625.	4.67	185.	48.	16.	1.00
+	3 COMBINED AT	CTB59	1523.	5.75	526.	134.	45.	6.96
+	HYDROGRAPH AT	PR59GW	273.	4.83	162.	40.	13.	5.64
+	ROUTED TO	RP59AM	273.	4.92	162.	40.	13.	5.64
+	ROUTED TO	SRAM59	273.	6.00	161.	40.	13.	5.64
+	ROUTED TO	RP59TB	273.	6.08	161.	40.	13.	5.64
+	2 COMBINED AT	CPTB59	1719.	5.83	683.	174.	58.	6.96
+	DIVERSION TO	DPTB59	578.	4.83	408.	105.	35.	6.96
+	HYDROGRAPH AT	DTB59	1141.	5.83	275.	69.	23.	6.96
+	DIVERSION TO	DWAC67	468.	5.83	113.	28.	9.	6.96
+	HYDROGRAPH AT	DSAC59	673.	5.83	162.	41.	14.	6.96
+	HYDROGRAPH AT	DRAC59	463.	5.58	140.	35.	12.	4.94
+	HYDROGRAPH AT	AC59	402.	4.75	155.	41.	14.	.74
+	DIVERSION TO	XAC59	402.	4.75	114.	28.	9.	.74
+	HYDROGRAPH AT	ERAC59	181.	6.25	50.	12.	4.	.74

+	4 COMBINED AT	CAC04	4408.	5.58	2094.	550.	183.	15.39
+	HYDROGRAPH AT	PRTB59	578.	4.83	408.	105.	35.	6.96
+	2 COMBINED AT	CPAC04	4986.	5.58	2489.	653.	218.	15.39
+	HYDROGRAPH AT	DRBL67	241.	5.42	39.	10.	3.	2.71
+	DIVERSION TO	DWSK67	178.	5.42	29.	7.	2.	2.71
+	HYDROGRAPH AT	DBL67	63.	5.42	10.	3.	1.	2.71
+	ROUTED TO	RWBL67	50.	6.00	10.	3.	1.	2.71
+	HYDROGRAPH AT	BL67	189.	4.42	49.	12.	4.	.23
+	DIVERSION TO	XBL67	189.	4.42	26.	7.	2.	.23
+	HYDROGRAPH AT	ERBL67	149.	4.83	24.	6.	2.	.23
+	2 COMBINED AT	CBL67	149.	4.83	36.	9.	3.	.46
+	DIVERSION TO	DP67BL	32.	4.83	16.	4.	1.	.46
+	HYDROGRAPH AT	D67BL	117.	4.83	20.	5.	2.	.46
+	DIVERSION TO	DWBL75	72.	4.83	12.	3.	1.	.46
+	HYDROGRAPH AT	DSGW67	46.	4.83	8.	2.	1.	.46
+	ROUTED TO	RSGW67	27.	6.58	8.	2.	1.	.46
+	HYDROGRAPH AT	DRGW67	537.	5.67	135.	34.	11.	5.64
+	ROUTED TO	RWGW67	518.	5.92	135.	34.	11.	5.64
+	HYDROGRAPH AT	GW67	665.	4.58	190.	49.	16.	.89
+	DIVERSION TO	XGW67	665.	4.58	97.	24.	8.	.89
+	HYDROGRAPH AT	ERGW67	531.	5.00	98.	24.	8.	.89
+	3 COMBINED AT	CGW67	820.	5.83	241.	60.	20.	3.63
+	HYDROGRAPH AT	PR67BL	32.	4.83	16.	4.	1.	.46
+	ROUTED TO	RP67GW	32.	5.08	16.	4.	1.	.46
+	2 COMBINED AT	CPGW67	852.	5.83	256.	64.	21.	3.63
+	DIVERSION TO	DP67GW	608.	5.58	223.	56.	19.	3.63
+	HYDROGRAPH AT	D67GW	244.	5.83	33.	8.	3.	3.63
+	DIVERSION TO	DWAC75	205.	5.83	28.	7.	2.	3.63
+	HYDROGRAPH AT	DSAC67	39.	5.83	5.	1.	0.	3.63
+	ROUTED TO	RSAC67	36.	5.92	5.	1.	0.	3.63
+	HYDROGRAPH AT	DRAC67	468.	5.83	113.	28.	9.	6.96

+	ROUTED TO	RWAC67	467.	5.83	113.	28.	9.	6.96
+	HYDROGRAPH AT	AC67	397.	4.75	142.	37.	12.	.70
+	4 COMBINED AT	CAC05	5298.	5.67	2615.	687.	229.	19.52
+	HYDROGRAPH AT	PR67GW	608.	5.58	223.	56.	19.	3.63
+	ROUTED TO	RP67AC	608.	5.67	223.	56.	19.	3.63
+	2 COMBINED AT	CPAC05	5865.	5.67	2797.	733.	244.	19.55
+	HYDROGRAPH AT	DRAC75	205.	5.83	28.	7.	2.	3.63
+	HYDROGRAPH AT	AC75	440.	4.67	147.	38.	13.	.84
+	DIVERSION TO	XAC75	308.	4.33	22.	5.	2.	.84
+	HYDROGRAPH AT	ERAC75	440.	4.67	130.	33.	11.	.84
+	3 COMBINED AT	CAC06	5858.	5.67	2811.	737.	246.	23.43
+	HYDROGRAPH AT	HV55	1265.	4.50	310.	78.	26.	2.05
+	DIVERSION TO	XHV55	1265.	4.50	191.	48.	16.	2.05
+	HYDROGRAPH AT	ERHV55	915.	5.00	122.	31.	10.	2.05
+	ROUTED TO	RCL57	771.	5.25	122.	31.	10.	2.05
+	HYDROGRAPH AT	CL57	636.	4.33	121.	30.	10.	.75
+	DIVERSION TO	XCL57	636.	4.33	83.	21.	7.	.75
+	HYDROGRAPH AT	ERCL57	323.	4.83	39.	10.	3.	.75
+	2 COMBINED AT	CCL57	908.	5.25	139.	35.	12.	2.80
+	ROUTED TO	RWL59	761.	5.67	138.	35.	12.	2.80
+	HYDROGRAPH AT	WL59	333.	4.50	89.	23.	8.	.56
+	DIVERSION TO	XWL59	324.	4.42	22.	6.	2.	.56
+	HYDROGRAPH AT	ERWL59	331.	4.58	68.	17.	6.	.56
+	2 COMBINED AT	CWL59	795.	5.67	184.	46.	15.	3.36
+	HYDROGRAPH AT	DV56	410.	4.33	55.	14.	5.	.29
+	2 COMBINED AT	CDV56	780.	5.67	225.	57.	19.	3.65
+	ROUTED TO	SRDV56	643.	5.92	223.	57.	19.	3.65
+	HYDROGRAPH AT	LO51	722.	4.58	209.	54.	18.	1.13
+	2 COMBINED AT	CLO51	849.	4.83	391.	103.	34.	4.78
+	DIVERSION TO	DP51LO	38.	3.08	38.	14.	5.	4.78
+	HYDROGRAPH AT	D51LO	811.	4.83	353.	88.	29.	4.78

+	ROUTED TO	SRLO51	303.	7.00	219.	86.	29.	4.78
+	ROUTED TO	RUHSKA	302.	7.25	219.	86.	29.	4.78
+	HYDROGRAPH AT	DRUHSK	240.	5.42	48.	12.	4.	1.66
+	DIVERSION TO	DP51SK	24.	5.33	14.	3.	1.	1.66
+	HYDROGRAPH AT	D51SK	216.	5.42	34.	8.	3.	1.66
+	ROUTED TO	RUHSKB	155.	6.00	34.	8.	3.	1.66
+	HYDROGRAPH AT	UHSK	624.	4.50	154.	39.	13.	.93
+	DIVERSION TO	XUHSK	474.	4.25	31.	8.	3.	.93
+	HYDROGRAPH AT	ERUHSK	624.	4.50	126.	32.	11.	.93
+	3 COMBINED AT	CSK01	476.	4.67	308.	111.	38.	6.73
+	DIVERSION TO	DPUHSK	10.	4.33	10.	10.	4.	6.73
+	HYDROGRAPH AT	DUHSK	466.	4.67	298.	102.	34.	6.73
+	HYDROGRAPH AT	DRSK67	178.	5.42	29.	7.	2.	2.71
+	ROUTED TO	RSK67	141.	6.00	29.	7.	2.	2.71
+	HYDROGRAPH AT	SK67	691.	4.50	157.	40.	13.	.94
+	DIVERSION TO	XSK67	632.	4.33	51.	13.	4.	.94
+	HYDROGRAPH AT	ERSK67	678.	4.58	108.	27.	9.	.94
+	3 COMBINED AT	CSK02	939.	4.67	388.	123.	41.	8.30
+	HYDROGRAPH AT	PRUHSK	10.	4.33	10.	10.	4.	6.73
+	ROUTED TO	RPSK67	10.	4.75	10.	10.	4.	6.73
+	2 COMBINED AT	CPSK02	948.	4.67	397.	133.	45.	8.30
+	HYDROGRAPH AT	UH67	589.	4.50	153.	39.	13.	.78
+	DIVERSION TO	XUH67	589.	4.50	133.	33.	11.	.78
+	HYDROGRAPH AT	ERUH67	134.	5.75	23.	6.	2.	.78
+	ROUTED TO	RUH75	99.	6.92	23.	6.	2.	.78
+	HYDROGRAPH AT	UH75	485.	4.75	161.	41.	14.	.81
+	DIVERSION TO	XUH75	485.	4.75	131.	33.	11.	.81
+	HYDROGRAPH AT	ERUH75	147.	6.42	34.	8.	3.	.81
+	2 COMBINED AT	CUH75	176.	6.50	47.	12.	4.	1.60
+	ROUTED TO	RBL75A	162.	6.92	47.	12.	4.	1.60
+	HYDROGRAPH AT	DRBL75	72.	4.83	12.	3.	1.	.46

+	ROUTED TO	RBL75B	63.	5.17	12.	3.	1.	.46
+	HYDROGRAPH AT	BL75	649.	4.58	180.	46.	15.	1.06
+	DIVERSION TO	XBL75	344.	4.17	27.	7.	2.	1.06
+	HYDROGRAPH AT	ERBL75	649.	4.58	157.	39.	13.	1.06
+	4 COMBINED AT	CSK03	1373.	4.67	513.	161.	54.	11.24
+	HYDROGRAPH AT	UHLO	758.	4.42	151.	38.	13.	.82
+	DIVERSION TO	XUHLO	758.	4.42	134.	34.	11.	.82
+	HYDROGRAPH AT	ERUHLO	154.	5.33	18.	4.	1.	.82
+	ROUTED TO	RBLLO	86.	6.08	18.	4.	1.	.82
+	HYDROGRAPH AT	BLLO	585.	4.50	158.	40.	13.	.76
+	DIVERSION TO	XBLLO	585.	4.50	143.	36.	12.	.76
+	HYDROGRAPH AT	ERBLLO	117.	5.92	19.	5.	2.	.76
+	2 COMBINED AT	CBLLO	97.	6.58	25.	6.	2.	1.59
+	DIVERSION TO	DPBLLO	97.	6.58	24.	6.	2.	1.59
+	HYDROGRAPH AT	DBLLO	27.	6.08	2.	0.	0.	1.59
+	ROUTED TO	RGWLO	9.	6.67	2.	0.	0.	1.59
+	HYDROGRAPH AT	GWLO	975.	4.25	173.	44.	15.	.81
+	DIVERSION TO	XGWLO	975.	4.25	107.	27.	9.	.81
+	HYDROGRAPH AT	ERGWLO	574.	4.50	67.	17.	6.	.81
+	4 COMBINED AT	CSK04	5916.	5.67	2974.	805.	269.	37.07
+	HYDROGRAPH AT	PRBLLO	97.	6.58	24.	6.	2.	1.59
+	ROUTED TO	RPGWLO	91.	6.75	24.	6.	2.	1.59
+	2 COMBINED AT	CPSK04	5916.	5.67	2974.	805.	269.	37.07
+	HYDROGRAPH AT	JM63	783.	4.33	136.	34.	11.	.84
+	DIVERSION TO	XJM63	783.	4.33	101.	25.	8.	.84
+	HYDROGRAPH AT	ERJM63	316.	4.83	35.	9.	3.	.84
+	ROUTED TO	RJM67	246.	5.00	35.	9.	3.	.84
+	HYDROGRAPH AT	JM67	359.	4.33	68.	17.	6.	.38
+	DIVERSION TO	XJM67	359.	4.33	41.	10.	3.	.38
+	HYDROGRAPH AT	ERJM67	238.	4.75	28.	7.	2.	.38
+	2 COMBINED AT	CJM67	320.	4.92	54.	14.	5.	1.22

+	ROUTED TO	RHV75	294.	5.17	54.	14.	5.	1.22
+	HYDROGRAPH AT	HV75	658.	4.42	144.	37.	12.	.96
+	DIVERSION TO	XHV75	658.	4.42	136.	34.	11.	.96
+	HYDROGRAPH AT	ERHV75	74.	5.83	9.	2.	1.	.96
+	2 COMBINED AT	CHV75	256.	5.42	54.	14.	5.	2.18
+	HYDROGRAPH AT	JM80	147.	4.25	19.	5.	2.	.16
+	HYDROGRAPH AT	JM76	108.	4.33	18.	5.	2.	.17
+	HYDROGRAPH AT	JMNR	54.	4.83	15.	4.	1.	.15
+	3 COMBINED AT	CNR01	258.	4.25	52.	13.	4.	.48
+	HYDROGRAPH AT	JM75	1061.	4.50	143.	36.	12.	1.11
+	DIVERSION TO	XJM75	184.	4.00	11.	3.	1.	1.11
+	HYDROGRAPH AT	ERJM75	1061.	4.50	132.	33.	11.	1.11
+	HYDROGRAPH AT	HVNR	74.	4.92	21.	5.	2.	.20
+	4 COMBINED AT	CNR02	1061.	4.50	225.	56.	19.	3.98
+	HYDROGRAPH AT	HV67	726.	4.25	116.	29.	10.	.54
+	DIVERSION TO	XHV67	701.	4.17	47.	12.	4.	.54
+	HYDROGRAPH AT	ERHV67	677.	4.33	70.	17.	6.	.54
+	ROUTED TO	RCL67	588.	4.50	70.	17.	6.	.54
+	HYDROGRAPH AT	CL67	164.	4.42	42.	11.	4.	.28
+	DIVERSION TO	XCL67	164.	4.42	33.	8.	3.	.28
+	HYDROGRAPH AT	ERCL67	62.	5.58	10.	2.	1.	.28
+	2 COMBINED AT	CCL67	587.	4.50	79.	20.	7.	.82
+	ROUTED TO	RPP73A	465.	4.75	75.	19.	6.	.82
+	HYDROGRAPH AT	PP67	45.	4.50	12.	3.	1.	.10
+	DIVERSION TO	XPP67	45.	4.50	12.	3.	1.	.10
+	HYDROGRAPH AT	ERPP67	0.	9.42	0.	0.	0.	.10
+	DIVERSION TO	DSWL67	0.	9.42	0.	0.	0.	.10
+	HYDROGRAPH AT	DWPP73	0.	9.42	0.	0.	0.	.10
+	ROUTED TO	RPP73B	0.	9.67	0.	0.	0.	.10
+	HYDROGRAPH AT	PP73	405.	4.42	83.	21.	7.	.55
+	DIVERSION TO	XPP73	340.	4.25	21.	5.	2.	.55

+	HYDROGRAPH AT	ERPP73	402.	4.42	63.	16.	5.	.55
+	3 COMBINED AT	CPP73	697.	4.75	126.	31.	10.	1.43
+	DIVERSION TO	DSWL75	286.	4.75	51.	13.	4.	1.43
+	HYDROGRAPH AT	DWPP75	411.	4.75	74.	19.	6.	1.43
+	ROUTED TO	RPPNR	412.	4.83	74.	19.	6.	1.43
+	HYDROGRAPH AT	PP75	348.	4.33	60.	15.	5.	.42
+	DIVERSION TO	XPP75	348.	4.33	25.	6.	2.	.42
+	HYDROGRAPH AT	ERPP75	309.	4.50	35.	9.	3.	.42
+	HYDROGRAPH AT	PPNR	94.	4.92	25.	6.	2.	.24
+	4 COMBINED AT	CNR03	1131.	4.67	266.	67.	22.	5.47
+	HYDROGRAPH AT	DRWL75	286.	4.75	51.	13.	4.	1.43
+	ROUTED TO	RWL75B	278.	4.92	51.	13.	4.	1.43
+	HYDROGRAPH AT	DRWL67	0.	9.42	0.	0.	0.	.10
+	ROUTED TO	RWL67	0.	9.50	0.	0.	0.	.10
+	HYDROGRAPH AT	WL67	50.	4.50	13.	3.	1.	.10
+	DIVERSION TO	XWL67	50.	4.50	9.	2.	1.	.10
+	HYDROGRAPH AT	ERWL67	26.	5.33	5.	1.	0.	.10
+	2 COMBINED AT	CWL67	26.	5.33	5.	1.	0.	.13
+	ROUTED TO	RWL75A	20.	5.92	5.	1.	0.	.13
+	HYDROGRAPH AT	WL75	387.	4.42	78.	20.	7.	.47
+	DIVERSION TO	XWL75	387.	4.42	36.	9.	3.	.47
+	HYDROGRAPH AT	ERWL75	328.	4.67	43.	11.	4.	.47
+	3 COMBINED AT	CWL75	534.	4.83	93.	23.	8.	1.20
+	HYDROGRAPH AT	WWBR	329.	4.08	37.	9.	3.	.18
+	DIVERSION TO	XWWBR	329.	4.08	25.	6.	2.	.18
+	HYDROGRAPH AT	ERWWBR	226.	4.33	12.	3.	1.	.18
+	ROUTED TO	RWWRS	156.	4.50	12.	3.	1.	.18
+	HYDROGRAPH AT	WWRS	147.	4.25	24.	6.	2.	.14
+	DIVERSION TO	XWWRS	147.	4.25	14.	4.	1.	.14
+	HYDROGRAPH AT	ERWWRS	98.	4.58	10.	3.	1.	.14
+	2 COMBINED AT	CWWRS	236.	4.58	22.	6.	2.	.33

+	ROUTED TO	RJMRS	173.	4.75	22.	6.	2.	.33
+	HYDROGRAPH AT	JMRS	510.	4.33	94.	24.	8.	.57
+	DIVERSION TO	XJMRS	510.	4.33	56.	14.	5.	.57
+	HYDROGRAPH AT	ERJMRS	331.	4.75	38.	10.	3.	.57
+	2 COMBINED AT	CJMRS	394.	4.92	55.	14.	5.	.90
+	ROUTED TO	RHVRSB	291.	5.25	55.	14.	5.	.90
+	HYDROGRAPH AT	83RS	981.	4.17	118.	30.	10.	.64
+	DIVERSION TO	X83RS	878.	4.08	55.	14.	5.	.64
+	HYDROGRAPH AT	ER83RS	890.	4.25	63.	16.	5.	.64
+	ROUTED TO	RHVRSA	623.	4.50	63.	16.	5.	.64
+	HYDROGRAPH AT	HVRS	351.	4.83	72.	18.	6.	.63
+	DIVERSION TO	XHVRS	41.	4.17	2.	1.	0.	.63
+	HYDROGRAPH AT	ERHVRS	351.	4.83	70.	18.	6.	.63
+	3 COMBINED AT	CHVRS	669.	4.67	155.	39.	13.	2.16
+	ROUTED TO	RCL77B	623.	4.75	155.	39.	13.	2.16
+	HYDROGRAPH AT	HV83	44.	4.17	5.	1.	0.	.04
+	ROUTED TO	RCL77A	37.	4.33	5.	1.	0.	.04
+	HYDROGRAPH AT	CL77	296.	4.25	41.	10.	3.	.32
+	DIVERSION TO	XCL77	296.	4.25	25.	6.	2.	.32
+	HYDROGRAPH AT	ERCL77	197.	4.58	16.	4.	1.	.32
+	3 COMBINED AT	CCL77	660.	4.92	161.	40.	13.	2.51
+	ROUTED TO	RPP77	646.	5.00	161.	40.	13.	2.51
+	HYDROGRAPH AT	PP77	130.	4.50	33.	8.	3.	.27
+	DIVERSION TO	XPP77	26.	4.00	1.	0.	0.	.27
+	HYDROGRAPH AT	ERPP77	130.	4.50	32.	8.	3.	.27
+	2 COMBINED AT	CPP77	704.	5.00	182.	46.	15.	2.78
+	ROUTED TO	RWLNR	678.	5.08	182.	46.	15.	2.78
+	HYDROGRAPH AT	WLNR	283.	4.42	53.	13.	4.	.39
+	4 COMBINED AT	CNR04	1626.	5.00	454.	114.	38.	9.84
+	HYDROGRAPH AT	DV75	349.	4.50	92.	23.	8.	.50
+	DIVERSION TO	XDV75	349.	4.50	46.	11.	4.	.50

+	HYDROGRAPH AT	ERDV75	286.	4.92	48.	12.	4.	.50
+	DIVERSION TO	DSLO75	72.	4.92	13.	3.	1.	.50
+	HYDROGRAPH AT	DWDVNR	214.	4.92	36.	9.	3.	.50
+	ROUTED TO	RDVNR	193.	5.08	36.	9.	3.	.50
+	HYDROGRAPH AT	DVNR	280.	4.50	70.	18.	6.	.40
+	3 COMBINED AT	CNR05	1749.	5.00	518.	131.	44.	10.50
+	HYDROGRAPH AT	DV67	935.	4.08	94.	24.	8.	.50
+	ROUTED TO	SRDV67	673.	4.25	93.	24.	8.	.50
+	HYDROGRAPH AT	LO67	1015.	4.42	220.	55.	18.	1.22
+	2 COMBINED AT	CLO67	1423.	4.42	300.	76.	25.	1.72
+	ROUTED TO	SRLO67	444.	5.33	250.	78.	32.	1.72
+	HYDROGRAPH AT	LO75	825.	4.42	183.	46.	15.	.97
+	DIVERSION TO	XLO75	815.	4.42	69.	17.	6.	.97
+	HYDROGRAPH AT	ERLO75	799.	4.58	116.	29.	10.	.97
+	2 COMBINED AT	CLO75	999.	4.67	347.	102.	40.	2.69
+	ROUTED TO	SRLO75	632.	5.58	329.	101.	40.	2.69
+	HYDROGRAPH AT	DRLO75	72.	4.92	13.	3.	1.	.50
+	ROUTED TO	RLO75	56.	5.50	13.	3.	1.	.50
+	2 COMBINED AT	CILO75	662.	5.67	337.	103.	40.	2.94
+	ROUTED TO	RBYNRB	660.	5.75	336.	103.	40.	2.94
+	HYDROGRAPH AT	PP81	220.	4.25	32.	8.	3.	.20
+	DIVERSION TO	XPP81	220.	4.25	26.	6.	2.	.20
+	HYDROGRAPH AT	ERPP81	85.	4.83	7.	2.	1.	.20
+	ROUTED TO	RWL83	59.	5.17	7.	2.	1.	.20
+	HYDROGRAPH AT	WL83	112.	4.42	28.	7.	2.	.13
+	DIVERSION TO	XWL83	110.	4.33	9.	2.	1.	.13
+	HYDROGRAPH AT	ERWL83	111.	4.50	19.	5.	2.	.13
+	2 COMBINED AT	CWL83	122.	5.08	26.	6.	2.	.32
+	HYDROGRAPH AT	HV87	588.	4.17	50.	13.	4.	.28
+	ROUTED TO	RPP87	526.	4.25	50.	13.	4.	.28
+	HYDROGRAPH AT	PP87	1010.	4.25	123.	31.	10.	.98

+	DIVERSION TO	XPP87	953.	4.17	58.	15.	5.	.98
+	HYDROGRAPH AT	ERPP87	817.	4.42	64.	16.	5.	.98
+	2 COMBINED AT	CPP87	1058.	4.42	106.	27.	9.	1.27
+	ROUTED TO	SRPP87	352.	4.67	97.	26.	9.	1.27
+	DIVERSION TO	DPPP87	123.	5.08	83.	23.	8.	1.27
+	HYDROGRAPH AT	DPP87	236.	4.67	14.	4.	1.	1.27
+	HYDROGRAPH AT	PRPP87	123.	5.08	83.	23.	8.	1.27
+	ROUTED TO	RP87PP	123.	5.17	83.	23.	8.	1.27
+	HYDROGRAPH AT	PP91	94.	4.42	22.	6.	2.	.16
+	DIVERSION TO	XPP91	94.	4.42	16.	4.	1.	.16
+	HYDROGRAPH AT	ERPP91	46.	5.25	7.	2.	1.	.16
+	DIVERSION TO	DPP91	0.	.00	0.	0.	0.	.16
+	HYDROGRAPH AT	DPPP91	46.	5.25	7.	2.	1.	.16
+	2 COMBINED AT	CPPP87	174.	5.25	92.	25.	8.	.16
+	ROUTED TO	RPPP83	170.	5.33	92.	25.	8.	.16
+	2 COMBINED AT	CPPP83	311.	4.67	99.	27.	9.	1.43
+	ROUTED TO	SRPP83	24.	10.58	23.	18.	7.	1.43
+	DIVERSION TO	D83PP	0.	.00	0.	0.	0.	1.43
+	HYDROGRAPH AT	DP83PP	24.	10.58	23.	18.	7.	1.43
+	ROUTED TO	RP83WL	24.	10.67	23.	18.	7.	1.43
+	2 COMBINED AT	CPWL83	114.	5.08	43.	25.	10.	1.75
+	ROUTED TO	RDV83	103.	4.75	38.	23.	9.	1.75
+	HYDROGRAPH AT	DV83	81.	4.50	25.	6.	2.	.11
+	DIVERSION TO	XDV83	53.	4.17	3.	1.	0.	.11
+	HYDROGRAPH AT	ERDV83	81.	4.50	22.	5.	2.	.11
+	2 COMBINED AT	CDV83	202.	4.67	67.	33.	13.	.43
+	ROUTED TO	RBYNRA	174.	5.58	66.	33.	13.	.43
+	HYDROGRAPH AT	BYNR	787.	4.50	182.	46.	15.	1.03
+	DIVERSION TO	XBYNR	47.	3.67	9.	2.	1.	1.03
+	HYDROGRAPH AT	ERBYNR	787.	4.50	175.	44.	15.	1.03
+	4 COMBINED AT	CNR06	2431.	5.00	913.	258.	93.	14.90

+	HYDROGRAPH AT	DR83PP	0.	.00	0.	0.	0.	1.43
+	ROUTED TO	RDV87	0.	.00	0.	0.	0.	1.43
+	HYDROGRAPH AT	DV87	1142.	4.33	174.	44.	15.	1.00
+	DIVERSION TO	XDV87	145.	3.83	11.	3.	1.	1.00
+	HYDROGRAPH AT	ERDV87	1142.	4.33	164.	41.	14.	1.00
+	2 COMBINED AT	CDV87	961.	4.33	156.	39.	13.	2.27
+	ROUTED TO	RBY87	874.	4.58	156.	39.	13.	2.27
+	HYDROGRAPH AT	BY87	938.	4.42	201.	51.	17.	.96
+	DIVERSION TO	XBY87	938.	4.42	155.	39.	13.	.96
+	HYDROGRAPH AT	ERBY87	371.	5.25	48.	12.	4.	.96
+	2 COMBINED AT	CBY87	875.	4.58	204.	51.	17.	3.23
+	ROUTED TO	RUH87	708.	5.08	192.	48.	16.	3.23
+	HYDROGRAPH AT	UH87	1025.	4.42	199.	50.	17.	1.00
+	DIVERSION TO	XUH87	1025.	4.42	145.	36.	12.	1.00
+	HYDROGRAPH AT	ERUH87	453.	5.00	55.	14.	5.	1.00
+	2 COMBINED AT	CUH87	1035.	5.08	228.	57.	19.	4.23
+	DIVERSION TO	DSBL91	611.	5.08	134.	34.	11.	4.23
+	HYDROGRAPH AT	DSBLNR	424.	5.08	93.	23.	8.	4.23
+	DIVERSION TO	DUHNR	374.	5.08	67.	17.	6.	4.23
+	HYDROGRAPH AT	DPUHNR	50.	4.42	26.	7.	2.	4.23
+	ROUTED TO	RPUHNR	50.	4.50	26.	7.	2.	4.23
+	HYDROGRAPH AT	UHNR	312.	4.42	74.	19.	6.	.39
+	DIVERSION TO	XUHNR	3.	.75	0.	0.	0.	.39
+	HYDROGRAPH AT	ERUHNR	312.	4.42	74.	19.	6.	.39
+	3 COMBINED AT	CNR07	2615.	5.00	987.	278.	100.	15.29
+	HYDROGRAPH AT	DRUHNR	374.	5.08	67.	17.	6.	4.23
+	ROUTED TO	RBLNR	348.	5.17	67.	17.	6.	4.23
+	HYDROGRAPH AT	BLNR	537.	4.42	122.	31.	10.	.60
+	DIVERSION TO	XBLNR	67.	3.75	10.	3.	1.	.60
+	HYDROGRAPH AT	ERBLNR	537.	4.42	114.	28.	9.	.60
+	3 COMBINED AT	CNR08	2925.	5.00	1088.	303.	108.	17.63

+	HYDROGRAPH AT	DRPP91	0.	.00	0.	0.	0.	.16
+	ROUTED TO	RDV91	0.	.00	0.	0.	0.	.16
+	ROUTED TO	RRG93	0.	.00	0.	0.	0.	.16
+	HYDROGRAPH AT	RG93	185.	4.42	43.	11.	4.	.25
+	DIVERSION TO	XRG93	185.	4.42	41.	10.	3.	.25
+	HYDROGRAPH AT	ERRG93	25.	6.25	3.	1.	0.	.25
+	2 COMBINED AT	CRG93	25.	6.25	3.	1.	0.	.41
+	DIVERSION TO	DWRGLP	14.	6.25	1.	0.	0.	.41
+	HYDROGRAPH AT	DSBY91	11.	6.25	2.	1.	0.	.41
+	ROUTED TO	RBY91	11.	6.75	2.	1.	0.	.41
+	HYDROGRAPH AT	BY91	575.	4.25	84.	21.	7.	.50
+	DIVERSION TO	XBY91	575.	4.25	78.	19.	6.	.50
+	HYDROGRAPH AT	ERBY91	88.	5.17	7.	2.	1.	.50
+	2 COMBINED AT	CBY91	71.	5.17	7.	2.	1.	.71
+	ROUTED TO	RUH91	26.	6.25	7.	2.	1.	.71
+	HYDROGRAPH AT	UH91	437.	4.75	147.	38.	13.	.93
+	DIVERSION TO	XUH91	60.	3.92	8.	2.	1.	.93
+	HYDROGRAPH AT	ERUH91	437.	4.75	144.	36.	12.	.93
+	2 COMBINED AT	CUH91	406.	4.75	139.	35.	12.	1.63
+	HYDROGRAPH AT	DRBL91	611.	5.08	134.	34.	11.	4.23
+	DIVERSION TO	DPUH91	528.	5.00	132.	33.	11.	4.23
+	HYDROGRAPH AT	DUH91	84.	5.08	3.	1.	0.	4.23
+	2 COMBINED AT	CIUH91	509.	5.08	140.	35.	12.	4.12
+	ROUTED TO	RBL91	385.	5.25	126.	32.	11.	4.12
+	HYDROGRAPH AT	BL91	936.	4.42	205.	52.	17.	.90
+	DIVERSION TO	XBL91	936.	4.42	160.	40.	13.	.90
+	HYDROGRAPH AT	ERBL91	352.	5.25	48.	12.	4.	.90
+	2 COMBINED AT	CBL91	617.	5.25	159.	40.	13.	5.02
+	HYDROGRAPH AT	PRUH91	528.	5.00	132.	33.	11.	4.23
+	ROUTED TO	RP91AT	527.	5.08	132.	33.	11.	4.23
+	ROUTED TO	SRAT91	313.	5.83	132.	33.	11.	4.23

+	ROUTED TO	RP91BL	313.	5.92	132.	33.	11.	4.23
+	2 COMBINED AT	CPBL91	852.	5.25	287.	73.	24.	5.02
+	DIVERSION TO	DSGW91	494.	5.25	167.	42.	14.	5.02
+	HYDROGRAPH AT	DSGWNR	358.	5.25	121.	30.	10.	5.02
+	DIVERSION TO	DBLNR	199.	5.25	33.	8.	3.	5.02
+	HYDROGRAPH AT	DPBLNR	159.	4.92	88.	22.	7.	5.02
+	ROUTED TO	RPBLNR	159.	5.00	88.	22.	7.	5.02
+	2 COMBINED AT	CPNR08	3081.	5.00	1169.	324.	115.	17.63
+	HYDROGRAPH AT	DRBLNR	199.	5.25	33.	8.	3.	5.02
+	ROUTED TO	RGWNRB	144.	6.00	33.	8.	3.	5.02
+	HYDROGRAPH AT	DRGW91	494.	5.25	167.	42.	14.	5.02
+	ROUTED TO	RGW91	457.	5.58	166.	42.	14.	5.02
+	HYDROGRAPH AT	GW91	503.	4.33	98.	25.	8.	.48
+	DIVERSION TO	XGW91	503.	4.33	44.	11.	4.	.48
+	HYDROGRAPH AT	ERGW91	438.	4.58	54.	14.	5.	.48
+	2 COMBINED AT	CGW91	611.	5.50	221.	56.	19.	3.40
+	DIVERSION TO	DSTBNR	0.	.00	0.	0.	0.	3.40
+	HYDROGRAPH AT	DEGWNR	611.	5.50	221.	56.	19.	3.40
+	ROUTED TO	RGWNRA	598.	5.75	220.	56.	19.	3.40
+	HYDROGRAPH AT	GWNR	481.	4.50	122.	31.	10.	.70
+	DIVERSION TO	XGWNR	481.	4.50	54.	13.	4.	.70
+	HYDROGRAPH AT	ERGWNR	414.	4.83	70.	18.	6.	.70
+	5 COMBINED AT	CNR09	7248.	5.58	3648.	999.	340.	59.19
+	HYDROGRAPH AT	DRTBNR	0.	.00	0.	0.	0.	3.40
+	ROUTED TO	RTBNR	0.	.00	0.	0.	0.	3.40
+	HYDROGRAPH AT	TBNR	831.	4.50	189.	48.	16.	1.12
+	DIVERSION TO	XTBNR	422.	4.17	31.	8.	3.	1.12
+	HYDROGRAPH AT	ERTBNR	831.	4.50	160.	40.	13.	1.12
+	3 COMBINED AT	CNR10	7303.	5.58	3692.	1009.	344.	62.01
+	HYDROGRAPH AT	HV93	235.	4.17	28.	7.	2.	.17
+	DIVERSION TO	DWHVLP	99.	4.17	12.	3.	1.	.17

+	HYDROGRAPH AT	DSPPLP	136.	4.17	16.	4.	1.	.17
+	ROUTED TO	RPPLP	104.	4.50	16.	4.	1.	.17
+	HYDROGRAPH AT	PPLP	434.	4.58	114.	29.	10.	.88
+	DIVERSION TO	XPPLP	433.	4.50	39.	10.	3.	.88
+	HYDROGRAPH AT	ERPPLP	396.	4.83	77.	19.	6.	.88
+	2 COMBINED AT	CPPLP	455.	4.83	90.	23.	8.	.98
+	DIVERSION TO	DWPP03	0.	.00	0.	0.	0.	.98
+	HYDROGRAPH AT	DSDV99	455.	4.83	90.	23.	8.	.98
+	DIVERSION TO	DSDVLP	150.	4.83	30.	7.	2.	.98
+	HYDROGRAPH AT	DDV99	305.	4.83	61.	15.	5.	.98
+	HYDROGRAPH AT	DV99	996.	4.58	140.	35.	12.	1.22
+	DIVERSION TO	XDV99	359.	4.25	16.	4.	1.	1.22
+	HYDROGRAPH AT	ERDV99	996.	4.58	125.	31.	10.	1.22
+	2 COMBINED AT	CDV99	1056.	4.75	169.	42.	14.	1.88
+	ROUTED TO	RRGLPA	1040.	4.83	169.	42.	14.	1.88
+	HYDROGRAPH AT	DRRGLP	14.	6.25	1.	0.	0.	.41
+	ROUTED TO	RRGLPB	5.	7.08	1.	0.	0.	.41
+	HYDROGRAPH AT	RGLP	334.	4.33	61.	15.	5.	.41
+	DIVERSION TO	XRGLP	334.	4.33	57.	14.	5.	.41
+	HYDROGRAPH AT	ERRGLP	37.	5.83	4.	1.	0.	.41
+	3 COMBINED AT	CRGLP	1031.	4.83	169.	42.	14.	2.49
+	DIVERSION TO	DWRG07	814.	4.83	130.	33.	11.	2.49
+	HYDROGRAPH AT	DSBY07	150.	4.58	30.	8.	3.	2.49
+	ROUTED TO	RBY99	150.	5.00	30.	8.	3.	2.49
+	HYDROGRAPH AT	BY07	549.	4.33	97.	24.	8.	.51
+	DIVERSION TO	XBY07	549.	4.33	73.	18.	6.	.51
+	HYDROGRAPH AT	ERBY07	259.	4.92	25.	6.	2.	.51
+	2 COMBINED AT	CBY07	278.	5.17	48.	12.	4.	1.76
+	DIVERSION TO	DWBYAF	243.	5.17	45.	11.	4.	1.76
+	HYDROGRAPH AT	DSUH99	36.	5.17	3.	1.	0.	1.76
+	ROUTED TO	RUH99	28.	5.42	3.	1.	0.	1.76

+	HYDROGRAPH AT	UH99	386.	4.67	117.	30.	10.	.56
+	2 COMBINED AT	CUH99	354.	4.67	117.	30.	10.	1.44
+	ROUTED TO	RDW99A	353.	4.75	117.	30.	10.	1.44
+	HYDROGRAPH AT	UH97	178.	4.50	48.	12.	4.	.27
+	ROUTED TO	RDW99B	171.	4.83	48.	12.	4.	.27
+	HYDROGRAPH AT	DW99	140.	4.42	32.	8.	3.	.16
+	3 COMBINED AT	CDW99	589.	4.75	190.	49.	16.	1.87
+	DIVERSION TO	DWDW07	550.	4.67	188.	48.	16.	1.87
+	HYDROGRAPH AT	DSBL99	39.	4.75	3.	1.	0.	1.87
+	ROUTED TO	RBL99	27.	4.92	3.	1.	0.	1.87
+	HYDROGRAPH AT	BL99	916.	4.50	222.	56.	19.	1.13
+	2 COMBINED AT	CBL99	846.	4.58	219.	55.	18.	2.07
+	ROUTED TO	RBN99	840.	4.67	218.	55.	18.	2.07
+	HYDROGRAPH AT	BN99	858.	4.50	194.	49.	16.	1.04
+	2 COMBINED AT	CBN99	1515.	4.58	394.	100.	33.	3.10
+	ROUTED TO	RTB99	1481.	4.83	393.	100.	33.	3.10
+	HYDROGRAPH AT	TB99	678.	4.58	175.	44.	15.	.98
+	2 COMBINED AT	CTB99	1982.	4.75	544.	138.	46.	4.08
+	ROUTED TO	RGRNRA	1964.	4.83	542.	138.	46.	4.08
+	HYDROGRAPH AT	DRDW07	550.	4.67	188.	48.	16.	1.87
+	ROUTED TO	RDW07	548.	5.08	188.	48.	16.	1.87
+	HYDROGRAPH AT	DW07	325.	4.58	92.	24.	8.	.48
+	2 COMBINED AT	CDW07	823.	4.75	275.	71.	24.	1.42
+	DIVERSION TO	DWBL15	550.	4.42	236.	61.	20.	1.42
+	HYDROGRAPH AT	DSTL07	273.	4.75	40.	10.	3.	1.42
+	ROUTED TO	RTL07	257.	5.25	40.	10.	3.	1.42
+	HYDROGRAPH AT	TL07	382.	4.50	98.	25.	8.	.58
+	2 COMBINED AT	CTL07	483.	5.17	132.	33.	11.	1.29
+	ROUTED TO	RGR99A	441.	5.50	131.	33.	11.	1.29
+	HYDROGRAPH AT	RO99	226.	4.67	78.	20.	7.	.41
+	ROUTED TO	RGR99B	226.	4.67	78.	20.	7.	.41

+	HYDROGRAPH AT	GR99	742.	4.83	266.	69.	23.	1.31
+	3 COMBINED AT	CGR99	1142.	5.00	445.	116.	39.	3.01
+	ROUTED TO	RGRNRB	1141.	5.00	445.	116.	39.	3.01
+	HYDROGRAPH AT	GRNR	852.	4.42	169.	43.	14.	.95
+	DIVERSION TO	XGRNR	20.	2.75	6.	2.	1.	.95
+	HYDROGRAPH AT	ERGRNR	852.	4.42	165.	41.	14.	.95
+	4 COMBINED AT	CNR11	8604.	5.00	4330.	1181.	401.	70.05
+	HYDROGRAPH AT	PE99	120.	4.75	51.	14.	5.	.29
+	DIVERSION TO	DSOL99	36.	4.75	15.	4.	1.	.29
+	HYDROGRAPH AT	DEPE97	84.	4.75	35.	10.	3.	.29
+	ROUTED TO	RPE97	83.	4.92	35.	10.	3.	.29
+	HYDROGRAPH AT	PENR	152.	4.50	43.	11.	4.	.20
+	DIVERSION TO	XPENR	147.	4.42	14.	3.	1.	.20
+	HYDROGRAPH AT	ERPENR	151.	4.58	31.	8.	3.	.20
+	DIVERSION TO	DSOLNR	67.	4.58	14.	3.	1.	.20
+	HYDROGRAPH AT	DWPE99	85.	4.58	17.	4.	1.	.20
+	HYDROGRAPH AT	PE97	379.	4.50	96.	24.	8.	.56
+	4 COMBINED AT	CNR12	8777.	5.00	4396.	1199.	407.	70.93
+	HYDROGRAPH AT	DROL99	36.	4.75	15.	4.	1.	.29
+	ROUTED TO	ROL99A	35.	5.33	15.	4.	1.	.29
+	HYDROGRAPH AT	PE11	474.	4.75	163.	42.	14.	.92
+	ROUTED TO	ROL03A	465.	5.00	163.	42.	14.	.92
+	HYDROGRAPH AT	PE07	310.	4.58	94.	24.	8.	.57
+	ROUTED TO	ROL03B	303.	4.92	94.	24.	8.	.57
+	HYDROGRAPH AT	PE03	244.	4.50	69.	18.	6.	.41
+	ROUTED TO	ROL03C	237.	4.83	69.	18.	6.	.41
+	HYDROGRAPH AT	OL03	704.	4.58	193.	49.	16.	1.10
+	4 COMBINED AT	COL03	1395.	4.92	467.	121.	40.	3.01
+	ROUTED TO	ROL99B	1395.	4.92	467.	121.	40.	3.01
+	HYDROGRAPH AT	DROLNR	67.	4.58	14.	3.	1.	.20
+	ROUTED TO	ROLNR	54.	5.42	14.	3.	1.	.20

+	HYDROGRAPH AT	OLNR	420.	4.75	139.	36.	12.	.70
+	DIVERSION TO	XOLNR	420.	4.67	49.	12.	4.	.70
+	HYDROGRAPH AT	EROLNR	404.	4.92	94.	24.	8.	.70
+	2 COMBINED AT	COLNR	401.	4.92	107.	27.	9.	.78
+	DIVERSION TO	DSNONR	132.	4.92	35.	9.	3.	.78
+	HYDROGRAPH AT	DWOL99	269.	4.92	71.	18.	6.	.78
+	HYDROGRAPH AT	OL99	263.	4.50	71.	18.	6.	.44
+	5 COMBINED AT	CNR13	9503.	5.00	4711.	1284.	435.	74.98
+	HYDROGRAPH AT	DRNONR	132.	4.92	35.	9.	3.	.78
+	ROUTED TO	RNONR	119.	5.67	35.	9.	3.	.78
+	HYDROGRAPH AT	NONR	516.	4.67	167.	43.	14.	.83
+	DIVERSION TO	XNONR	516.	4.67	70.	17.	6.	.83
+	HYDROGRAPH AT	ERNONR	476.	5.00	103.	26.	9.	.83
+	2 COMBINED AT	CNONR	470.	5.00	135.	34.	11.	1.09
+	HYDROGRAPH AT	NO99	385.	4.67	118.	30.	10.	.86
+	DIVERSION TO	XNO99	190.	4.25	14.	4.	1.	.86
+	HYDROGRAPH AT	ERNO99	385.	4.67	106.	27.	9.	.86
+	3 COMBINED AT	CNR14	9565.	5.50	4788.	1304.	442.	76.93
+	HYDROGRAPH AT	GL03	531.	4.42	118.	30.	10.	.65
+	DIVERSION TO	XGL03	531.	4.42	56.	14.	5.	.65
+	HYDROGRAPH AT	ERGL03	429.	4.75	64.	16.	5.	.65
+	2 COMBINED AT	CNR15	9639.	5.50	4795.	1306.	443.	77.58
+	HYDROGRAPH AT	GLGH	85.	4.33	11.	3.	1.	.08
+	ROUTED TO	RGHNR	61.	4.83	11.	3.	1.	.08
+	HYDROGRAPH AT	GHNR	494.	4.50	132.	34.	11.	.84
+	3 COMBINED AT	CNR16	9734.	5.50	4851.	1322.	448.	78.50
+	HYDROGRAPH AT	AF11	552.	4.25	85.	21.	7.	.38
+	HYDROGRAPH AT	GHAF	207.	5.08	59.	15.	5.	.56
+	3 COMBINED AT	CAF06	9773.	5.50	4901.	1337.	453.	79.31
+	HYDROGRAPH AT	JMAF	165.	4.33	21.	5.	2.	.15
+	DIVERSION TO	XJMAF	157.	4.25	8.	2.	1.	.15

+	HYDROGRAPH AT	ERJMAF	147.	4.42	12.	3.	1.	.15
+	HYDROGRAPH AT	HV07	449.	4.17	39.	10.	3.	.30
+	DIVERSION TO	XHV07	449.	4.17	26.	7.	2.	.30
+	HYDROGRAPH AT	ERHV07	265.	4.33	13.	3.	1.	.30
+	ROUTED TO	RHVAF	145.	4.50	13.	3.	1.	.30
+	HYDROGRAPH AT	HVAF	289.	4.17	23.	6.	2.	.22
+	DIVERSION TO	XHVAF	289.	4.17	23.	6.	2.	.22
+	HYDROGRAPH AT	ERHVAF	0.	.00	0.	0.	0.	.22
+	HYDROGRAPH AT	JM99	737.	4.33	123.	31.	10.	.57
+	DIVERSION TO	XJM99	737.	4.33	78.	19.	6.	.57
+	HYDROGRAPH AT	ERJM99	470.	4.67	46.	12.	4.	.57
+	HYDROGRAPH AT	WWLP	302.	4.08	25.	6.	2.	.14
+	DIVERSION TO	XWWLP	267.	4.00	14.	3.	1.	.14
+	HYDROGRAPH AT	ERWWLP	257.	4.17	12.	3.	1.	.14
+	ROUTED TO	RJMLP	137.	4.50	12.	3.	1.	.14
+	HYDROGRAPH AT	JMLP	744.	4.33	128.	32.	11.	.70
+	DIVERSION TO	XJMLP	744.	4.33	91.	23.	8.	.70
+	HYDROGRAPH AT	ERJMLP	374.	4.75	38.	10.	3.	.70
+	3 COMBINED AT	CJMLP	675.	4.75	86.	22.	7.	1.41
+	ROUTED TO	RHV01A	555.	5.08	86.	22.	7.	1.41
+	HYDROGRAPH AT	YLLP	546.	4.33	98.	25.	8.	.60
+	DIVERSION TO	XYLLP	147.	3.92	12.	3.	1.	.60
+	HYDROGRAPH AT	ERYLLP	546.	4.33	87.	22.	7.	.60
+	ROUTED TO	RHV01B	535.	4.33	87.	22.	7.	.60
+	HYDROGRAPH AT	DRHVLP	99.	4.17	12.	3.	1.	.17
+	ROUTED TO	RHVLP	88.	4.33	12.	3.	1.	.17
+	HYDROGRAPH AT	HVLP	187.	4.25	38.	10.	3.	.20
+	DIVERSION TO	XHVLP	187.	4.25	15.	4.	1.	.20
+	HYDROGRAPH AT	ERHVLP	179.	4.42	24.	6.	2.	.20
+	2 COMBINED AT	CHVLP	260.	4.42	36.	9.	3.	.27
+	ROUTED TO	RHV01C	254.	4.50	36.	9.	3.	.27

+	HYDROGRAPH AT	HV01	522.	4.25	86.	22.	7.	.44
+	DIVERSION TO	XHV01	522.	4.25	37.	9.	3.	.44
+	HYDROGRAPH AT	ERHV01	478.	4.42	50.	12.	4.	.44
+	4 COMBINED AT	CHV01	925.	5.08	224.	56.	19.	2.72
+	ROUTED TO	RCL07	899.	5.17	224.	56.	19.	2.72
+	ROUTED TO	RCLAFA	894.	5.17	224.	56.	19.	2.72
+	HYDROGRAPH AT	CL07	412.	4.33	81.	20.	7.	.52
+	DIVERSION TO	XCL07	412.	4.33	51.	13.	4.	.52
+	HYDROGRAPH AT	ERCL07	267.	4.83	30.	8.	3.	.52
+	DIVERSION TO	DSPP03	32.	4.83	4.	1.	0.	.52
+	HYDROGRAPH AT	DWCLAF	235.	4.83	27.	7.	2.	.52
+	ROUTED TO	RCLAFB	184.	5.08	27.	7.	2.	.52
+	HYDROGRAPH AT	CLAF	218.	4.58	33.	8.	3.	.29
+	DIVERSION TO	XCLAF	218.	4.58	14.	3.	1.	.29
+	HYDROGRAPH AT	ERCLAF	175.	4.75	19.	5.	2.	.29
+	3 COMBINED AT	CCLAF	935.	5.25	238.	60.	20.	3.47
+	4 COMBINED AT	CAF01	914.	5.25	239.	60.	20.	4.13
+	HYDROGRAPH AT	DRO3PP	0.	.00	0.	0.	0.	.98
+	ROUTED TO	RPP03B	0.	.00	0.	0.	0.	.98
+	HYDROGRAPH AT	DRPP03	32.	4.83	4.	1.	0.	.52
+	ROUTED TO	RPP03A	23.	5.17	4.	1.	0.	.52
+	HYDROGRAPH AT	PP03	147.	4.58	45.	11.	4.	.32
+	DIVERSION TO	XPP03	106.	4.33	7.	2.	1.	.32
+	HYDROGRAPH AT	ERPP03	147.	4.58	39.	10.	3.	.32
+	3 COMBINED AT	CPP03	147.	4.58	43.	11.	4.	.39
+	DIVERSION TO	DSDV07	147.	4.58	43.	11.	4.	.39
+	HYDROGRAPH AT	DWPP07	0.	.00	0.	0.	0.	.39
+	ROUTED TO	RPP07	0.	.00	0.	0.	0.	.39
+	HYDROGRAPH AT	PP07	179.	4.25	29.	7.	2.	.19
+	2 COMBINED AT	CPP07	179.	4.25	29.	7.	2.	.20
+	ROUTED TO	RDVAF	173.	4.42	29.	7.	2.	.20

+	HYDROGRAPH AT	DVAF	406.	4.33	64.	16.	5.	.41
+	DIVERSION TO	XDVAF	390.	4.25	21.	5.	2.	.41
+	HYDROGRAPH AT	ERDVAF	387.	4.42	44.	11.	4.	.41
+	2 COMBINED AT	CDVAF	535.	4.42	71.	18.	6.	.61
+	HYDROGRAPH AT	PPAF	541.	4.08	69.	17.	6.	.27
+	2 COMBINED AT	CAF02	733.	4.42	134.	34.	11.	.88
+	HYDROGRAPH AT	DRDV07	147.	4.58	43.	11.	4.	.39
+	ROUTED TO	RDV07	141.	5.08	43.	11.	4.	.39
+	HYDROGRAPH AT	DV07	520.	4.42	109.	28.	9.	.64
+	DIVERSION TO	XDV07	520.	4.42	89.	22.	7.	.64
+	HYDROGRAPH AT	ERDV07	174.	5.25	21.	5.	2.	.64
+	2 COMBINED AT	CDV07	244.	5.25	56.	14.	5.	1.03
+	ROUTED TO	RRG07A	219.	5.42	55.	14.	5.	1.03
+	HYDROGRAPH AT	DRRG07	814.	4.83	130.	33.	11.	2.49
+	ROUTED TO	RRG07C	772.	4.92	130.	33.	11.	2.49
+	HYDROGRAPH AT	DRDVLP	150.	4.83	30.	7.	2.	.98
+	ROUTED TO	RDVLP	132.	5.17	30.	7.	2.	.98
+	HYDROGRAPH AT	DVLP	76.	4.67	21.	5.	2.	.14
+	DIVERSION TO	XDVLP	60.	4.50	4.	1.	0.	.14
+	HYDROGRAPH AT	ERDVLP	76.	4.67	18.	5.	2.	.14
+	2 COMBINED AT	CDVLP	216.	5.08	52.	13.	4.	.46
+	ROUTED TO	RRG07B	205.	5.25	51.	13.	4.	.46
+	HYDROGRAPH AT	RG07	214.	4.42	47.	12.	4.	.35
+	DIVERSION TO	XRG07	214.	4.42	44.	11.	4.	.35
+	HYDROGRAPH AT	ERRG07	21.	6.42	3.	1.	0.	.35
+	4 COMBINED AT	CRG07	813.	5.00	202.	51.	17.	3.09
+	ROUTED TO	RRGAF	798.	5.08	202.	51.	17.	3.09
+	HYDROGRAPH AT	RGAF	210.	4.50	55.	14.	5.	.33
+	DIVERSION TO	XRGAF	210.	4.50	21.	5.	2.	.33
+	HYDROGRAPH AT	ERRGAF	195.	4.75	35.	9.	3.	.33
+	2 COMBINED AT	CRGAF	905.	5.08	224.	56.	19.	3.42

+	HYDROGRAPH AT	DRBYAF	243.	5.17	45.	11.	4.	1.76
+	ROUTED TO	RBY07	227.	5.33	45.	11.	4.	1.76
+	ROUTED TO	RBYAF	197.	5.83	45.	11.	4.	1.76
+	HYDROGRAPH AT	BYAF	401.	4.50	100.	25.	8.	.61
+	DIVERSION TO	XBYAF	378.	4.33	27.	7.	2.	.61
+	HYDROGRAPH AT	ERBYAF	395.	4.50	75.	19.	6.	.61
+	2 COMBINED AT	CBYAF	349.	4.58	114.	28.	9.	1.49
+	HYDROGRAPH AT	UHAF	174.	4.75	61.	16.	5.	.49
+	DIVERSION TO	XUHAF	174.	4.75	40.	10.	3.	.49
+	HYDROGRAPH AT	ERUHAF	100.	5.83	23.	6.	2.	.49
+	3 COMBINED AT	CAF03	1006.	5.08	296.	75.	25.	5.56
+	HYDROGRAPH AT	UH07	109.	4.67	39.	10.	3.	.25
+	ROUTED TO	RUH11	108.	4.75	39.	10.	3.	.25
+	ROUTED TO	RUH15	108.	4.92	39.	10.	3.	.25
+	HYDROGRAPH AT	UH15	810.	4.42	160.	40.	13.	1.02
+	DIVERSION TO	XUH15	690.	4.25	42.	10.	3.	1.02
+	HYDROGRAPH AT	ERUH15	810.	4.42	119.	30.	10.	1.02
+	2 COMBINED AT	CUH15	827.	4.50	152.	38.	13.	1.27
+	ROUTED TO	RBL15B	763.	4.83	151.	38.	13.	1.27
+	HYDROGRAPH AT	DRBL15	550.	4.42	236.	61.	20.	1.42
+	ROUTED TO	RBL15A	550.	4.75	236.	61.	20.	1.42
+	HYDROGRAPH AT	BL15	730.	4.42	148.	37.	12.	.96
+	DIVERSION TO	XBL15	730.	4.42	64.	16.	5.	.96
+	HYDROGRAPH AT	ERBL15	635.	4.67	85.	21.	7.	.96
+	3 COMBINED AT	CBL15	1680.	4.83	441.	113.	38.	2.94
+	ROUTED TO	RMEAF	1595.	5.08	441.	113.	38.	2.94
+	HYDROGRAPH AT	MEAF	991.	4.42	205.	52.	17.	1.37
+	DIVERSION TO	XMEAF	254.	3.92	20.	5.	2.	1.37
+	HYDROGRAPH AT	ERMEAF	991.	4.42	186.	47.	16.	1.37
+	2 COMBINED AT	CMEAF	2007.	5.00	589.	150.	50.	4.31
+	HYDROGRAPH AT	BLAF	89.	4.83	37.	10.	3.	.28

+	DIVERSION TO HYDROGRAPH AT	XBLAF	89.	4.83	25.	6.	2.	.28
+	HYDROGRAPH AT	ERBLAF	48.	6.25	13.	3.	1.	.28
+	HYDROGRAPH AT	GRAF	578.	4.58	173.	45.	15.	.86
+	HYDROGRAPH AT	PEAF	674.	4.25	107.	27.	9.	.53
+	4 COMBINED AT	CAF04	2543.	4.92	813.	210.	70.	5.94
+	HYDROGRAPH AT	OL11	275.	4.33	51.	13.	4.	.34
+	ROUTED TO	RNO11	264.	4.58	51.	13.	4.	.34
+	HYDROGRAPH AT	NO11	954.	4.25	168.	42.	14.	.86
+	DIVERSION TO	XNO11	357.	3.92	33.	8.	3.	.86
+	HYDROGRAPH AT	ERNO11	954.	4.25	136.	34.	11.	.86
+	2 COMBINED AT	CNO11	1050.	4.33	180.	45.	15.	1.20
+	ROUTED TO	RGL14A	908.	4.92	179.	45.	15.	1.20
+	HYDROGRAPH AT	NO07	252.	4.42	56.	14.	5.	.34
+	DIVERSION TO	XNO07	242.	4.33	17.	4.	1.	.34
+	HYDROGRAPH AT	ERNO07	248.	4.50	40.	10.	3.	.34
+	ROUTED TO	RGL11	217.	4.92	40.	10.	3.	.34
+	HYDROGRAPH AT	GL11	409.	4.42	92.	23.	8.	.43
+	DIVERSION TO	XGL11	409.	4.42	74.	18.	6.	.43
+	HYDROGRAPH AT	ERGL11	160.	5.25	19.	5.	2.	.43
+	2 COMBINED AT	CGL11	274.	5.25	55.	14.	5.	.77
+	ROUTED TO	RGL14B	225.	5.58	55.	14.	5.	.77
+	HYDROGRAPH AT	GL14	205.	4.50	51.	13.	4.	.48
+	3 COMBINED AT	CGL14	925.	4.92	248.	63.	21.	2.45
+	ROUTED TO	RGLAF	913.	5.17	247.	63.	21.	2.45
+	HYDROGRAPH AT	GLAF	310.	4.42	83.	21.	7.	.39
+	2 COMBINED AT	CGLAF	1058.	5.08	311.	81.	27.	2.83
+	HYDROGRAPH AT	OLAF	436.	4.67	131.	33.	11.	1.03
+	DIVERSION TO	XOLAF	432.	4.58	44.	11.	4.	1.03
+	HYDROGRAPH AT	EROLAF	409.	4.92	89.	22.	7.	1.03
+	HYDROGRAPH AT	NOAF	153.	4.75	37.	10.	3.	.28
+	3 COMBINED AT	CAF05	1357.	5.08	386.	100.	33.	4.15

1

SUMMARY OF KINEMATIC WAVE - MUSKINGUM-CUNGE ROUTING
(FLOW IS DIRECT RUNOFF WITHOUT BASE FLOW)

ISTAQ	ELEMENT	DT	PEAK	TIME TO PEAK	VOLUME	INTERPOLATED TO COMPUTATION INTERVAL DT	PEAK	TIME TO PEAK	VOLUME
		(MIN)	(CFS)	(MIN)	(IN)	(MIN)	(CFS)	(MIN)	(IN)
FOR STORM = 1 STORM AREA (SQ MI) =				.00					
RP35GW	MANE	1.66	158.00	243.05	.47	5.00	158.00	245.00	.47

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4302E+02 EXCESS= .0000E+00 OUTFLOW= .4300E+02 BASIN STORAGE= .7205E-10 PERCENT ERROR= .0

FOR STORM = 2 STORM AREA (SQ MI) =				.50					
RP35GW	MANE	1.60	158.00	245.34	.47	5.00	158.00	250.00	.47

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4289E+02 EXCESS= .0000E+00 OUTFLOW= .4288E+02 BASIN STORAGE= .7149E-10 PERCENT ERROR= .0

FOR STORM = 3 STORM AREA (SQ MI) =				2.80					
RP35GW	MANE	1.60	158.00	240.75	.49	5.00	158.00	245.00	.49

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4440E+02 EXCESS= .0000E+00 OUTFLOW= .4442E+02 BASIN STORAGE= .7156E-10 PERCENT ERROR= .0

FOR STORM = 4 STORM AREA (SQ MI) =				16.00					
RP35GW	MANE	2.73	158.00	237.29	.51	5.00	158.00	240.00	.51

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4654E+02 EXCESS= .0000E+00 OUTFLOW= .4654E+02 BASIN STORAGE= .1256E-09 PERCENT ERROR= .0

FOR STORM = 5 STORM AREA (SQ MI) =				90.00					
RP35GW	MANE	2.77	158.00	242.56	.51	5.00	158.00	245.00	.51

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4647E+02 EXCESS= .0000E+00 OUTFLOW= .4650E+02 BASIN STORAGE= .1175E-09 PERCENT ERROR= -.1

FOR STORM = 6 STORM AREA (SQ MI) =				100.00					
RP35GW	MANE	2.69	158.00	241.24	.51	5.00	158.00	245.00	.51

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4630E+02 EXCESS= .0000E+00 OUTFLOW= .4629E+02 BASIN STORAGE= .1185E-09 PERCENT ERROR= .0

FOR STORM = 1 STORM AREA (SQ MI) =				.00					
RP35TB	MANE	2.40	318.00	249.97	1.16	5.00	318.00	250.00	1.16

CONTINUITY SUMMARY (AC-FT) - INFLOW= .9779E+02 EXCESS= .0000E+00 OUTFLOW= .9781E+02 BASIN STORAGE= .3959E-09 PERCENT ERROR= .0

FOR STORM = 2 STORM AREA (SQ MI) =				.50					
RP35TB	MANE	2.38	318.00	250.04	1.16	5.00	318.00	255.00	1.16

CONTINUITY SUMMARY (AC-FT) - INFLOW= .9755E+02 EXCESS= .0000E+00 OUTFLOW= .9757E+02 BASIN STORAGE= .4264E-09 PERCENT ERROR= .0

FOR STORM = 3 STORM AREA (SQ MI) =				2.80					
RP35TB	MANE	2.33	318.00	245.82	1.19	5.00	318.00	250.00	1.19

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1001E+03 EXCESS= .0000E+00 OUTFLOW= .1001E+03 BASIN STORAGE= .4283E-09 PERCENT ERROR= .0

FOR STORM = 4 STORM AREA (SQ MI) =				16.00					
RP35TB	MANE	2.32	318.00	245.07	1.23	5.00	318.00	250.00	1.23

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1036E+03 EXCESS= .0000E+00 OUTFLOW= .1036E+03 BASIN STORAGE= .3662E-09 PERCENT ERROR= .0

FOR STORM = 5 STORM AREA (SQ MI) =				90.00					
RP35TB	MANE	2.25	318.00	250.35	1.22	5.00	318.00	255.00	1.22

*** The remainder of the continuity summary has been deleted for brevity, but the entire output is included on the CD ***

*** NORMAL END OF HEC-1 ***

```
1*************************************
*                                   *
*   FLOOD HYDROGRAPH PACKAGE  (HEC-1)   *
*         JUN  1998                 *
*       VERSION 4.1                 *
*                                   *
*  RUN DATE   01NOV10  TIME  11:05:28   *
*                                   *
*************************************
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*************************************
*                                   *
*    U.S. ARMY CORPS OF ENGINEERS   *
*    HYDROLOGIC ENGINEERING CENTER  *
*         609 SECOND STREET         *
*      DAVIS, CALIFORNIA 95616      *
*          (916) 756-1104           *
*                                   *
*************************************
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X     X  XXXXXXX   XXXXX          X
X     X  X        X     X        XX
X     X  X        X              X
XXXXXXX  XXXX     X        XXXXX  X
X     X  X        X              X
X     X  X        X     X        X
X     X  XXXXXXX   XXXXX          XXX
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THIS PROGRAM REPLACES ALL PREVIOUS VERSIONS OF HEC-1 KNOWN AS HEC1 (JAN 73), HEC1GS, HEC1DB, AND HEC1KW.

THE DEFINITIONS OF VARIABLES -RTIMP- AND -RTIOR- HAVE CHANGED FROM THOSE USED WITH THE 1973-STYLE INPUT STRUCTURE.
THE DEFINITION OF -AMSKK- ON RM-CARD WAS CHANGED WITH REVISIONS DATED 28 SEP 81. THIS IS THE FORTRAN77 VERSION
NEW OPTIONS: DAMBREAK OUTFLOW SUBMERGENCE , SINGLE EVENT DAMAGE CALCULATION, DSS:WRITE STAGE FREQUENCY,
DSS:READ TIME SERIES AT DESIRED CALCULATION INTERVAL LOSS RATE:GREEN AND AMPT INFILTRATION
KINEMATIC WAVE: NEW FINITE DIFFERENCE ALGORITHM

1 HEC-1 INPUT PAGE 1

```
LINE          ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10
    1         ID      GLENDALE STORMWATER MANAGEMENT PLAN
    2         ID      Model for Maryvale Watershed
    3         ID      Existing Conditions
    4         ID
    5         ID      Prepared for the City of Glendale
    6         ID      In Association with the Flood Control District of Maricopa County
    7         ID      City Project Number 089017
    8         ID
    9         ID      Prepared by Kimley-Horn and Associates, Inc.
   10         ID      KHA Project Number 091910009
   11         ID      October 2010
   12         ID
   13         ID      MODELING PARAMETERS
   14         ID      - 100 Year 24 Hour Storm Event
   15         ID      - NOAA 14 Rainfall Data
   16         ID      - Clark Unit Hydrograph
   17         ID      - Green and Ampt Rainfall Loss Method
   18         ID
   19         ID      Topo data extracted from Flood Control District database July 24, 2009
   20         ID      Land use obtained from City of Glendale General Plan August 2009, City of
   21         ID            Phoenix General Plan August 2009, and MAG General Plan Land Use 2007
   22         ID
   23         ID      Storage routing data obtained from As-built records where possible
   24         ID      When As-built data was not available data was obtained from HEC-1 models
   25         ID            and checked for accuracy. HEC-1 models used include:
   26         ID            - Maryvale ADMS, February 1997
   27         ID            - Maryvale model modified by DMJM for improvements along the Bethany
   28         ID              Home Outfall Channel, file BHGC00C6.dat, November 2004
   29         ID            - Update to ponding areas along Grand Canal in the City of Glendale
   30         ID              for a CLOMR by PEC, February 2008
   31         ID      The source of data is identified on each individual storage routing card
   32         ID
   33         ID  ************************************************************************
   34         ID
   35         ID      MODELING NOMENCLATURE
   36         ID      SUBBASIN HYDROGRAPH:
   37         ID         Example: OL51    - the subbasin northeast of Olive and 51st Avenue
   38         ID
   39         ID      STORM DRAIN DIVERSION:
   40         ID         Example: DOL51   - flow from subbasin OL51 is diverted to a storm drain
   41         ID
   42         ID      SUBBASIN DIVERSION:
   43         ID         Example: DWOL59 - flow is diverted west towards Olive and 59th Avenue
   44         ID         Example: DSNO51 - flow is diverted south towards Northern and 51st Ave
   45         ID
   46         ID      ROUTE HYDROGRAPH:
   47         ID         Example: RWOL59 - flow is routed west towards Olive and 59th Avenue
   48         ID         Example: RSNO59 - flow is routed south towards Northern and 59th Ave
   49         ID
   50         ID      COMBINE HYDROGRAPH:
   51         ID         Example: COL59   - combine flow at Olive and 59th Avenue
   52         ID
   53         ID      NAME ABBREVIATIONS
   54         ID         Jomax Road             JM
   55         ID         Happy Valley Road      HV
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1 HEC-1 INPUT PAGE 2

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LINE          ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10
   56         ID         Pinnacle Peak Road     PP
   57         ID         Deer Valley Road       DV
   58         ID         Loop 101               LO
   59         ID         Beardsley Road         BY
   60         ID         Union Hills Drive      UH
   61         ID         Bell Road              BL
   62         ID         Greenway Road          GW
   63         ID         Thunderbird Road       TB
   64         ID         Cactus Road            CT
   65         ID         Peoria Avenue          PE
   66         ID         Olive Avenue           OL
   67         ID         Northern Avenue        NO
   68         ID         Glendale Avenue        GL
   69         ID         Bethany Home Road      BH
   70         ID         Camelback Road         CB
   71         ID         Indian School Road     IS
   72         ID         Thomas Road            TM
   73         ID         McDowell Road          MD
   74         ID         Interstate 10          IN
   75         ID         Van Buren Street       VB
   76         ID         Avondale Boulevard     AV
   77         ID         Grand Avenue           GR
   78         ID         Grand Canal            GC
   79         ID         Brown Street           BR
   80         ID         Mountain View Road     MV
   81         ID         Orangewood Avenue      OW
   82         ID         Mitchell Drive         ML
   83         ID         Agua Fria River        AF
   84         ID         New River              NR
   85         ID         Skunk Creek            SK
   86         ID         Roosevelt Irrigation   RI
   87         ID
   88         ID      PREFIXES FOR MODELING OPERATIONS
   89         ID         RW     Routing flow in the west direction
   90         ID         RS     Routing flow in the south direction
   91         ID         RP     Routing storm drain pipe flow
   92         ID         C      Combination point
   93         ID         CI     Combination point at an intersection
   94         ID         CP     Combination point for storm drain pipe flow
   95         ID         SR     Storage for detention/retention basins
   96         ID         DW     Divert flow to the west
   97         ID         DE     Divert flow to the east
   98         ID         DS     Divert flow to the south
   99         ID         DN     Divert flow to the north
  100         ID         ER     Divert flow for existing 100-yr 2-hr retention
  101         ID         X      Existing retention divertion does not return to model
  102         ID         DR     Divert retrieval from surface flow
  103         ID         DI     Divert retrieval from intersection flow
  104         ID         D      Divert surface flow (remains after storm drain divert)
  105         ID         DP     Divert flow to a storm drain pipe
  106         ID         PR     Divert retrieval from a storm drain pipe
  107         ID
  108         ID  ************************************************************************
  109         IT      5       0       0    1000
  110         IN     15
```

1 HEC-1 INPUT PAGE 3

```
LINE          ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10
  111         IO      5
              *DIAGRAM
              *
  112         JD   3.450  0.0001
  113         PC   0.000  0.002  0.005  0.008  0.011  0.014  0.017  0.020  0.023  0.026
  114         PC   0.029  0.032  0.035  0.038  0.041  0.044  0.048  0.052  0.056  0.060
  115         PC   0.064  0.068  0.072  0.076  0.080  0.085  0.090  0.095  0.100  0.105
  116         PC   0.110  0.115  0.120  0.126  0.133  0.140  0.147  0.155  0.163  0.172
  117         PC   0.181  0.191  0.203  0.218  0.236  0.257  0.283  0.387  0.663  0.707
  118         PC   0.735  0.758  0.776  0.791  0.804  0.815  0.825  0.834  0.842  0.849
  119         PC   0.856  0.863  0.869  0.875  0.881  0.887  0.893  0.898  0.903  0.908
  120         PC   0.913  0.918  0.922  0.926  0.930  0.934  0.938  0.942  0.946  0.950
  121         PC   0.953  0.956  0.959  0.962  0.965  0.968  0.971  0.974  0.977  0.980
  122         PC   0.983  0.986  0.989  0.992  0.995  0.998  1.000
  123         JD   3.278   10.0
  124         JD   3.105   30.0
  125         JD   3.002   60.0
  126         JD   2.939   90.0
  127         JD   2.901  120.0
              *
  128         KK    GW83   BASIN
  129         KM   Runoff hydrograph for subbasin GW83 northeast of the intersection of Greenway
  130         KM   Road and 83rd Avenue
  131         BA   0.291
  132         LG    0.30    0.25    4.70    0.31      24
  133         UC   1.062   1.010
  134         UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
  135         UA     100
              *
```

```
          KK  DGW83  DIVERT
          KM  Divert calculated full flow capapcity of 45 cfs into 42-inch storm drain
          KM  pipe at the intersection of Greenway Road and 83rd Avenue
          DT DPGW83      0.0     45.0
          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
          *

          KK DSTB83  DIVERT
          KM  Divert portion of runoff hydrograph from subbasin GW83 south to the
          KM  intersection of Thunderbird Road and 83rd Avenue and the remaining flow west
          KM  to Skunk Creek. The diversion is based on topography
          DT DWSK01      0.0      0.0
          DI     0.0   100.0    200.0    500.0   1000.0   2000.0   4000.0  10000.0  20000.0  50000.0
          DQ     0.0    57.0    114.0    285.0    570.0   1140.0   2280.0   5700.0  11400.0  28500.0
          *

          KK  RSTB83   ROUTE
          KM  Route diversion DSTB83 south to combination point CTB83
          RS      10     FLOW
          RC   0.035   0.015   0.035    5280   0.0023     0.00
          RX    0.00    0.00   48.00   48.00   251.00   251.00   299.00   299.00
          RY    3.00    0.98    0.50    0.00     0.00     0.50     0.98     3.00
          *
1                                        HEC-1 INPUT                                        PAGE  4
     LINE      ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

          KK    TB67   BASIN
          KM  Runoff hydrograph for subbasin TB67 northeast of the intersection of
          KM  Thunderbird Road and 67th Avenue
          BA   0.265
          LG    0.23    0.16    9.70    0.05      17
          UC   0.694   0.405
          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
          UA     100
          *

          KK  DWTB75  DIVERT
          KM  Divert remaining runoff hydrograph from subbasin TB67 west to combination
          KM  point CTB75
          DT DSCT67      0.0      0.0
          DI     0.0   100.0    200.0    500.0   1000.0   2000.0   4000.0  10000.0  20000.0  50000.0
          DQ     0.0    40.0     80.0    200.0    400.0    800.0   1600.0   4000.0   8000.0  20000.0
          *

          KK  RWTB75   ROUTE
          KM  Route diversion DWTB75 west to combination point CTB75
          RS       7     FLOW
          RC   0.035   0.015   0.035    5280   0.0027     0.00
          RX    0.00    0.00   48.00   48.00   251.00   251.00   299.00   299.00
          RY    3.00    0.98    0.50    0.00     0.00     0.50     0.98     3.00
          *

          KK    TB75   BASIN
          KM  Runoff hydrograph for subbasin TB75 northeast of the intersection of
          KM  Thunderbird Road and 75th Avenue
          BA   1.026
          LG    0.23    0.15    7.00    0.10      32
          UC   1.114   0.584
          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
          UA     100
          *

          KK  ERTB75  DIVERT
          KM  Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
          KM  retention developed after 1990 in subbasin TB75
          DT   XTB75      8.7      0.0
          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
          *

          KK   CTB75 COMBINE
          KM  Combine route RWTB75 and subbasin TB75
          HC       2    1.18
          *
1                                        HEC-1 INPUT                                        PAGE  5
     LINE      ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

          KK   DTB75  DIVERT
          KM  Divert calculated full flow capapcity of 161 cfs into 66-inch storm drain
          KM  pipe at the intersection of Thunderbird Road and 75th Avenue
          DT DPTB75      0.0    161.0
          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
          *

          KK DWTB83  DIVERT
          KM  Divert remaining runoff hydrograph from subbasin TB83 west to combination
```



```
          KM  point CTB83
          DT DSCT75      0.0      0.0
          DI     0.0   100.0    200.0    500.0   1000.0   2000.0   4000.0  10000.0  20000.0  50000.0
          DQ     0.0    45.0     90.0    225.0    450.0    900.0   1800.0   4500.0   9000.0  22500.0
          *

          KK  RWTB83   ROUTE
          KM  Route diversion DWTB83 west to combination point CTB83
          RS       4     FLOW
          RC   0.035   0.015   0.035    5280   0.0034     0.00
          RX    0.00    0.00   76.50   76.50   372.50   372.50   449.00   449.00
          RY    3.00    1.27    0.50    0.00     0.00     0.50     1.27     3.00
          *

          KK    TB83   BASIN
          KM  Runoff hydrograph for square mile subbasin TB83 northeast of the intersection
          KM  Thunderbird Road and 83rd Avenue
          BA   0.994
          LG    0.25    0.21    6.40    0.14      31
          UC   1.342   0.899
          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
          UA     100
          *

          KK  ERTB83  DIVERT
          KM  Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
          KM  retention developed after 1990 in subbasin TB83
          DT   XTB83     19.4      0.0
          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
          *

          KK   CTB83 COMBINE
          KM  Combine route RWTB83, route south RSTB83, and subbasin TB83
          HC       3    1.77
          *

          KK  PRTB75RETRIEVE
          KM  Retrieve full flow capacity of 161 cfs from 66-inch storm drain pipe at the
          KM  intersection of Thunderbird Road and 75th Avenue
          DR  DPTB75
          *
1                                        HEC-1 INPUT                                        PAGE  6
     LINE      ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

          KK  RPTB83   ROUTE
          KM  Route full flow capacity of 161 cfs through 66-inch storm drain pipe in
          KM  Thunderbird Road to the intersection of Thunderbird Road and 83rd Avenue
          RK    5194  0.0023   0.015             CIRC   5.500
          *

          KK  CPTB83 COMBINE
          KM  Combine pipe return PRTB75 with the runoff hydrograph at combination point
          KM  CTB83 at the intersection of Thunderbird Road and 83rd Avenue
          HC       2
          *

          KK   DTB83  DIVERT
          KM  Divert calculated full flow capapcity of 247 cfs into 72-inch storm drain
          KM  pipe at the intersection of Thunderbird Road and 83rd Avenue
          DT DPTB83      0.0    247.0
          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
          *

          KK  DWTBLO  DIVERT
          KM  Divert remaining runoff hydrograph from subbasin TB83 west to combination
          KM  point CTBLO
          DT DSCT83      0.0      0.0
          DI     0.0   100.0    200.0    500.0   1000.0   2000.0   4000.0  10000.0  20000.0  50000.0
          DQ     0.0    71.0    142.0    355.0    710.0   1420.0   2840.0   7100.0  14200.0  35500.0
          *

          KK  RWTBLO   ROUTE
          KM  Route diversion DWTBLO west to combination point CTBLO
          RS       1     FLOW
          RC   0.035   0.015   0.035    2002   0.0030     0.00
          RX    0.00    0.00   16.50   16.50   107.50   107.50   124.00   124.00
          RY    3.00    0.66    0.50    0.00     0.00     0.50     0.66     3.00
          *

          KK    TBLO   BASIN
          KM  Runoff hydrograph for subbasin TBLO northeast of the intersection of
          KM  Thunderbird Road and SR Loop 101
          BA   0.099
          LG    0.15    0.15    8.80    0.05      71
          UC   0.772   0.937
          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
          UA     100
          *
```

```
  265          KK  ERTBLO  DIVERT
  266          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
  267          KM   retention developed after 1990 in subbasin TBLO
  268          DT   XTBLO     10.8      0.0
  269          DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
  270          DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
               *
1                                        HEC-1 INPUT                                                    PAGE  7

 LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9.....10

  271          KK   CTBLO COMBINE
  272          KM   Combine route RWTBLO and subbasin TBLO
  273          HC        2     0.62
               *

  274          KK  PRTB83RETRIEVE
  275          KM   Retrieve full flow capacity of 247 cfs from 72-inch storm drain pipe at the
  276          KM   intersection of Thunderbird Road and 83rd Avenue
  277          DR  DPTB83
               *

  278          KK  RPTBLO   ROUTE
  279          KM   Route full flow capacity of 247 cfs through 72-inch storm drain pipe in
  280          KM   Thunderbird Road to the intersection of Thunderbird Road and 83rd Avenue
  281          RK    1532  0.0034    0.015             CIRC    6.000
               *

  282          KK  CPTBLO COMBINE
  283          KM   Combine pipe return PRTBLO with the runoff hydrograph at combination point
  284          KM   CTBLO at the intersection of Thunderbird Road and SR Loop 101
  285          HC        2
               *

  286          KK  RSCTLO   ROUTE
  287          KM   Route runoff hydrograph at combination point CPTBLO south to combination
  288          KM   point CCTLO
  289          RS        2     FLOW
  290          RC    0.035    0.015    0.035     4816  0.0016     0.00
  291          RX     0.00     3.00    13.00    29.00    39.00    55.00    65.00    68.00
  292          RY     9.00     8.00     8.00     0.00     0.00     8.00     8.00     9.00
               *

  293          KK    CT59   BASIN
  294          KM   Runoff hydrograph for subbasin CT59 northeast of the intersection of
  295          KM   Cactus Road and 59th Avenue
  296          BA    0.296
  297          LG     0.24     0.15     8.80     0.06       30
  298          UC    0.867    0.581
  299          UA        0      5.0     16.0     30.0     65.0     77.0     84.0     90.0     94.0     97.0
  300          UA      100
               *

  301          KK  ERCT59  DIVERT
  302          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
  303          KM   retention developed after 1990 in subbasin CT59
  304          DT   XCT59     24.6      0.0
  305          DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
  306          DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
               *
1                                        HEC-1 INPUT                                                    PAGE  8

 LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9.....10

  307          KK   D59CT  DIVERT
  308          KM   Divert calculated full flow capapcity of 18 cfs into 30-inch storm drain
  309          KM   pipe at the intersection of Cactus Road and 59th Avenue
  310          DT  DP59CT      0.0      18.0
  311          DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
  312          DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
               *

  313          KK  DWCT67  DIVERT
  314          KM   Divert remaining runoff hydrograph from subbasin CT59 west to combination
  315          KM   point CCT67
  316          DT  DSPE59      0.0      0.0
  317          DI      0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0  10000.0  20000.0  50000.0
  318          DQ      0.0     68.0    136.0    340.0    680.0   1360.0   2720.0   6800.0  13600.0  34000.0
               *

  319          KK  RWCT67   ROUTE
  320          KM   Route diversion DWCT67 west to combination point CCT67
  321          RS       10     FLOW
  322          RC    0.035    0.015    0.035     5280  0.0041     0.00
  323          RX     0.00     0.00    33.50    33.50   144.50   144.50   178.00   178.00
  324          RY     3.00     0.84     0.50     0.00     0.00     0.50     0.84     3.00
               *

  325          KK  DRCT67RETRIEVE
  326          KM   Retrieve divert DRCT67 from subbasin TB67 and divert south to combination
  327          KM   point CCT67
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```
  328          DR  DSCT67
               *

  329          KK  RSCT67   ROUTE
  330          KM   Route retrieval DRCT67 south to combination point CCT67
  331          RS        6     FLOW
  332          RC    0.035    0.015    0.035     5280  0.0035     0.00
  333          RX     0.00     0.00    24.50    24.50   155.50   155.50   180.00   180.00
  334          RY     3.00     0.74     0.50     0.00     0.00     0.50     0.74     3.00
               *

  335          KK    CT67   BASIN
  336          KM   Runoff hydrograph for subbasin CT67 northeast of the intersection of Cactus
  337          KM   Road and 67th Avenue
  338          BA    0.910
  339          LG     0.28     0.15     7.30     0.11       26
  340          UC    1.033    0.595
  341          UA        0      5.0     16.0     30.0     65.0     77.0     84.0     90.0     94.0     97.0
  342          UA      100
               *

  343          KK  ERCT67  DIVERT
  344          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
  345          KM   retention developed after 1990 in subbasin CT67
  346          DT   XCT67     20.9      0.0
  347          DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
  348          DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
               *
1                                        HEC-1 INPUT                                                    PAGE  9

 LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9.....10

  349          KK   CCT67 COMBINE
  350          KM   Combine route RWCT67, route RSCT67, and subbasin CT67
  351          HC        3     1.11
               *

  352          KK   DCT67  DIVERT
  353          KM   Divert calculated full flow capapcity of 268 cfs into 78-inch storm drain
  354          KM   pipe at the intersection of Cactus Road and 67th Avenue
  355          DT  DPCT67      0.0    268.0
  356          DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
  357          DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
               *

  358          KK  DWCT75  DIVERT
  359          KM   Divert remaining runoff hydrograph from combination point CCT67 west to
  360          KM   combination point CCT75
  361          DT  DSPE67      0.0      0.0
  362          DI      0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0  10000.0  20000.0  50000.0
  363          DQ      0.0     43.0     86.0    215.0    430.0    860.0   1720.0   4300.0   8600.0  21500.0
               *

  364          KK  RWCT75   ROUTE
  365          KM   Route diversion DWCT75 west to combination point CCT75
  366          RS        6     FLOW
  367          RC    0.035    0.015    0.035     5280  0.0030     0.00
  368          RX     0.00     0.00    76.50    76.50   372.50   372.50   449.00   449.00
  369          RY     3.00     1.27     0.50     0.00     0.00     0.50     1.27     3.00
               *

  370          KK  DRCT75RETRIEVE
  371          KM   Retrieve divert DRCT75 from combination point CTB75 and divert south to
  372          KM   combination point CCT75
  373          DR  DSCT75
               *

  374          KK  RSCT75   ROUTE
  375          KM   Route retrieval DRCT75 south to combination point CCT75
  376          RS        4     FLOW
  377          RC    0.035    0.015    0.035     5280  0.0038     0.00
  378          RX     0.00     0.00    57.50    57.50   291.50   291.50   349.00   349.00
  379          RY     3.00     1.08     0.50     0.00     0.00     0.50     1.08     3.00
               *

  380          KK    CT75   BASIN
  381          KM   Runoff hydrograph for square mile subbasin CT75 northeast of the intersection
  382          KM   of Cactus Road and 75th Avenue
  383          BA    1.003
  384          LG     0.28     0.15     8.80     0.06       25
  385          UC    1.329    0.882
  386          UA        0      5.0     16.0     30.0     65.0     77.0     84.0     90.0     94.0     97.0
  387          UA      100
               *
1                                        HEC-1 INPUT                                                    PAGE 10

 LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9.....10

  388          KK  ERCT75  DIVERT
  389          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
  390          KM   retention developed after 1990 in subbasin CT75
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391          DT   XCT75     23.7      0.0
392          DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
393          DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
             *

394          KK   CCT75 COMBINE
395          KM   Combine route RWCT75, route RSCT75, and subbasin CT75
396          HC        3    2.17
             *

397          KK  PRCT67RETRIEVE
398          KM   Retrieve full flow capacity of 268 cfs from 78-inch storm drain pipe at the
399          KM   intersection of Cactus Road and 67th Avenue
400          DR  DPCT67
             *

401          KK  RPCT75   ROUTE
402          KM   Route full flow capacity of 268 cfs through 78-inch storm drain pipe in
403          KM   Cactus Road to the intersection of Cactus Road and 75th Avenue
404          RK    5321  0.0026   0.015             CIRC   6.500
             *

405          KK  CPCT75 COMBINE
406          KM   Combine pipe return PRCT67 with the runoff hydrograph at combination point
407          KM   CCT75 at the intersection of Cactus Road and 75th Avenue
408          HC        2
             *

409          KK   DCT75  DIVERT
410          KM   Divert calculated full flow capapcity of 651 cfs into 108-inch storm drain
411          KM   pipe at the intersection of Cactus Road and 75th Avenue
412          DT  DPCT75      0.0   651.0
413          DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
414          DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
             *

415          KK  DWCT83  DIVERT
416          KM   Divert remaining runoff hydrograph from combination point CCT75 west to
417          KM   combination point CCT83
418          DT  DSPE75      0.0      0.0
419          DI     0.0   100.0    200.0    500.0   1000.0   2000.0   4000.0  10000.0  20000.0  50000.0
420          DQ     0.0    50.0    100.0    250.0    500.0   1000.0   2000.0   5000.0  10000.0  25000.0
             *

421          KK  RWCT83   ROUTE
422          KM   Route diversion DWCT83 west to combination point CCT83
423          RS        5    FLOW
424          RC    0.035    0.015    0.035     5280   0.0026     0.00
425          RX     0.00     0.00    57.50    57.50   291.50   291.50   349.00   349.00
426          RY     3.00     1.08     0.50     0.00     0.00     0.50     1.08     3.00
             *
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LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

427          KK  DRCT83RETRIEVE
428          KM   Retrieve divert DRCT83 from combination point CPTB83 and divert south to
429          KM   combination point CCT83
430          DR  DSCT83
             *

431          KK  RSCT83   ROUTE
432          KM   Route retrieval DRCT83 south to combination point CCT83
433          RS        3    FLOW
434          RC    0.035    0.015    0.035     5280   0.0030     0.00
435          RX     0.00     0.00    48.00    48.00   251.00   251.00   299.00   299.00
436          RY     3.00     0.98     0.50     0.00     0.00     0.50     0.98     3.00
             *

437          KK   CT83   BASIN
438          KM   Runoff hydrograph for square mile subbasin CT83 northeast of the intersection
439          KM   of Cactus Road and 83rd Avenue
440          BA   1.008
441          LG    0.25     0.15     8.40     0.06       30
442          UC   1.348    0.897
443          UA       0      5.0     16.0     30.0     65.0     77.0     84.0     90.0     94.0     97.0
444          UA     100
             *

445          KK  ERCT83  DIVERT
446          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
447          KM   retention developed after 1990 in subbasin CT83
448          DT  XCT83     28.8      0.0
449          DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
450          DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
             *

451          KK   CCT83 COMBINE
452          KM   Combine route RWCT83, route RSCT83, and subbasin CT83
453          HC        3    3.34
             *
```



```
454          KK  PRCT75RETRIEVE
455          KM   Retrieve full flow capacity of 651 cfs from 108-inch storm drain pipe at the
456          KM   intersection of Cactus Road and 75th Avenue
457          DR  DPCT75
             *

458          KK  RPCT83   ROUTE
459          KM   Route full flow capacity of 651 cfs through 108-inch storm drain pipe in
460          KM   Cactus Road to the intersection of Cactus Road and 83rd Avenue
461          RK    5246  0.0027   0.015             CIRC   9.000
             *
```



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LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

462          KK  CPCT83 COMBINE
463          KM   Combine pipe return PRCT75 with the runoff hydrograph at combination point
464          KM   CCT83 at the intersection of Cactus Road and 83rd Avenue
465          HC        2
             *

466          KK   DCT83  DIVERT
467          KM   Divert calculated full flow capapcity of 663 cfs into 120-inch storm drain
468          KM   pipe at the intersection of Cactus Road and 83rd Avenue
469          DT  DPCT83      0.0   663.0
470          DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
471          DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
             *

472          KK  DWCTLO  DIVERT
473          KM   Divert remaining runoff hydrograph from combination point CCT83 west to
474          KM   combination point CCTLO
475          DT  DSPE83      0.0      0.0
476          DI     0.0   100.0    200.0    500.0   1000.0   2000.0   4000.0  10000.0  20000.0  50000.0
477          DQ     0.0    41.0     82.0    205.0    410.0    820.0   1640.0   4100.0   8200.0  20500.0
             *

478          KK  RWCTLO   ROUTE
479          KM   Route diversion DWCTLO west to combination point CCTLO
480          RS        3    FLOW
481          RC    0.035    0.015    0.035     6650   0.0048     0.00
482          RX     0.00     0.00    76.50    76.50   372.50   372.50   449.00   449.00
483          RY     3.00     1.27     0.50     0.00     0.00     0.50     1.27     3.00
             *

484          KK   CTLO   BASIN
485          KM   Runoff hydrograph for subbasin CTLO northeast of the intersection of Cactus
486          KM   Road and SR Loop 101
487          BA   0.865
488          LG    0.20     0.15     7.30     0.09       47
489          UC   1.262    0.999
490          UA       0      5.0     16.0     30.0     65.0     77.0     84.0     90.0     94.0     97.0
491          UA     100
             *

492          KK  ERCTLO  DIVERT
493          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
494          KM   retention developed after 1990 in subbasin CTLO
495          DT  XCTLO     46.0      0.0
496          DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
497          DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
             *

498          KK   CCTLO COMBINE
499          KM   Combine route RWCTLO, route RSCTLO, and subbasin CTLO
500          HC        3    3.46
             *
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LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

501          KK  PRCT83RETRIEVE
502          KM   Retrieve full flow capacity of 663 cfs from 120-inch storm drain pipe at the
503          KM   intersection of Cactus Road and 83rd Avenue
504          DR  DPCT83
             *

505          KK  RPCTLO   ROUTE
506          KM   Route full flow capacity of 663 cfs through 120-inch storm drain pipe in
507          KM   Cactus Road to the intersection of Cactus Road and SR Loop 101
508          RK    6334  0.0016   0.015             CIRC  10.000
             *

509          KK  CPCTLO COMBINE
510          KM   Combine pipe return PRCT83 with the runoff hydrograph at combination point
511          KM   CCTLO at the intersection of Cactus Road and SR Loop 101
512          HC        2
             *

513          KK  DSCTLO  DIVERT
514          KM   Divert portion of runoff hydrograph from combination point CPCTLO south to
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515          KM   combination point CGRLO
516          DT  DWNR01      0.0  1927.0
517          DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
518          DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
             *

519          KK  DSPELO  DIVERT
520          KM   Divert remainder of runoff hydrograph from divert DSCTLO south to
521          KM   combination point CGRLO
522          DT  DSGR91      0.0      0.0
523          DI      0.0  1299.0  1299.1 50000.0      0.0      0.0      0.0      0.0      0.0      0.0
524          DQ      0.0      0.0  1299.1 50000.0      0.0      0.0      0.0      0.0      0.0      0.0
             *

525          KK    PE51   BASIN
526          KM   Runoff hydrograph for subbasin PE51 northeast of the intersection of Peoria
527          KM   Avenue and 51st Avenue
528          BA   0.419
529          LG    0.22    0.15    8.80    0.05      37
530          UC   0.910   0.552
531          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
532          UA     100
             *

533          KK  DWPE59  DIVERT
534          KM   Divert remaining runoff hydrograph from subbasin PE59 west to combination
535          KM   point CPE59
536          DT  DSOL51      0.0      0.0
537          DI      0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
538          DQ      0.0    40.0    80.0   200.0   400.0   800.0  1600.0  4000.0  8000.0 20000.0
             *
```



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LINE         ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

539          KK  RWPE59   ROUTE
540          KM   Route diversion DWPE59 west to combination point CPE59
541          RS       6    FLOW
542          RC   0.035   0.015   0.035    5280  0.0042    0.00
543          RX    0.00    0.00   79.50   79.50  468.50  468.50  548.00  548.00
544          RY    3.00    1.30    0.50    0.00    0.00    0.50    1.30    3.00
             *

545          KK  DRPE59RETRIEVE
546          KM   Retrieve divert DRPE59 from subbasin CPCT59 and divert south to combination
547          KM   point CPE59
548          DR  DSPE59
             *

549          KK  RSPE59   ROUTE
550          KM   Route diversion retrieval DRPE59 south to combination point CPE59
551          RS      10    FLOW
552          RC   0.035   0.015   0.035    5280  0.0037    0.00
553          RX    0.00    0.00   58.50   58.50  339.50  339.50  398.00  398.00
554          RY    3.00    1.08    0.50    0.00    0.00    0.50    1.08    3.00
             *

555          KK    PE59   BASIN
556          KM   Runoff hydrograph for square mile subbasin PE59 northeast of the intersection
557          KM   of Peoria Avenue and 59th Avenue
558          BA   0.989
559          LG    0.25    0.15    8.80    0.05      31
560          UC   1.221   0.786
561          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
562          UA     100
             *

563          KK  ERPE59  DIVERT
564          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
565          KM   retention developed after 1990 in subbasin PE59
566          DT   XPE59      8.6      0.0
567          DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
568          DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
             *

569          KK   CPE59 COMBINE
570          KM   Combine route RWPE59, route RSPE59, and subbasin PE59
571          HC       3    1.44
             *

572          KK  PR59CTRETRIEVE
573          KM   Retrieve full flow capacity of 18 cfs from 30-inch storm drain pipe at the
574          KM   intersection of Cactus Road and 59th Avenue
575          DR  DP59CT
             *
             * KKRP59PE   ROUTE
             * KM Route full flow capacity of 18 cfs through 30-inch storm drain pipe in
             * KM 59th Avenue to the intersection of Peoria Avenue and 59th Avenue
             * RK  5358  0.0020   0.015          CIRC   2.500
             *
```



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LINE         ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

576          KK  CPPE59 COMBINE
577          KM   Combine pipe return PR59CT with the runoff hydrograph at combination point
578          KM   CPE59 at the intersection of Peoria Avenue and 59th Avenue
579          HC       2
             *

580          KK   D59PE  DIVERT
581          KM   Divert calculated full flow capapcity of 235 cfs into 78-inch storm drain
582          KM   pipe at the intersection of Peoria Avenue and 59th Avenue
583          DT  DP59PE      0.0    235.0
584          DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
585          DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
             *

586          KK  DWPE67  DIVERT
587          KM   Divert remaining runoff hydrograph from combination point CPPE59 west to
588          KM   combination point CPE67
589          DT  DSOL59      0.0      0.0
590          DI      0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0  10000.0  20000.0  50000.0
591          DQ      0.0     57.0    114.0    285.0    570.0   1140.0   2280.0   5700.0  11400.0  28500.0
             *

592          KK  RWPE67   ROUTE
593          KM   Route diversion DWPE67 west to combination point CPE67
594          RS       4    FLOW
595          RC   0.035   0.015   0.035    5280  0.0026    0.00
596          RX    0.00    0.00   51.50   51.50  296.50  296.50  348.00  348.00
597          RY    3.00    1.02    0.50    0.00    0.00    0.50    1.02    3.00
             *

598          KK  DRPE67RETRIEVE
599          KM   Retrieve divert DRPE67 from combination point CCT67 and divert south to
600          KM   combination point CPE67
601          DR  DSPE67
             *

602          KK  RSPE67   ROUTE
603          KM   Route diversion retrieval DRPE67 south to combination point CPE67
604          RS       7    FLOW
605          RC   0.035   0.015   0.035    5280  0.0022    0.00
606          RX    0.00    0.00   58.50   58.50  339.50  339.50  398.00  398.00
607          RY    3.00    1.08    0.50    0.00    0.00    0.50    1.08    3.00
             *

608          KK    PE67   BASIN
609          KM   Runoff hydrograph for square mile subbasin PE67 northeast of the intersection
610          KM   of Peoria Avenue and 67th Avenue
611          BA   0.962
612          LG    0.23    0.15    7.60    0.09      36
613          UC   1.246   0.827
614          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
615          UA     100
             *
```



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LINE         ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

616          KK  ERPE67  DIVERT
617          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
618          KM   retention developed after 1990 in subbasin PE67
619          DT   XPE67     55.4      0.0
620          DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
621          DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
             *

622          KK   CPE67 COMBINE
623          KM   Combine route RWPE67, route RSPE67, and subbasin PE67
624          HC       3    2.06
             *

625          KK  SRPE67 STORAGE
626          KM   Storage route runoff hydrograph from combination point CPE67 through
627          KM     regional detention basin located in subbasin PE67
628          KM   Stage-storage data from Sunnyside Park As-built records, 1991
629          RS       1     STOR
630          SV            5.24    11.27    12.67    18.77    26.81    35.20
631          SQ                  217.00 2430.00 6873.0012627.00
632          SE   87.00   88.00   89.00   89.20   90.00   91.00   92.00
             *

633          KK   D67PE  DIVERT
634          KM   Divert calculated full flow capapcity of 162 cfs into 60-inch storm drain
635          KM   pipe at the intersection of Peoria Avenue and 67th Avenue
636          DT  DP67PE      0.0    162.0
637          DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
638          DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
             *

639          KK  DWPE75  DIVERT
```

```
640          KM   Divert remaining runoff hydrograph from combination point CPE67 west to
641          KM   combination point CPE75
642          DT  DSOL67      0.0      0.0
643          DI     0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0 10000.0 20000.0 50000.0
644          DQ     0.0     38.0     76.0    190.0    380.0    760.0   1520.0  3800.0  7600.0 19000.0
             *

645          KK  RWPE75    ROUTE
646          KM   Route diversion DWPE75 west to combination point CPE75
647          RS       7     FLOW
648          RC   0.035    0.015    0.035     5280   0.0035     0.00
649          RX    0.00     0.00    86.00    86.00   413.00   413.00   499.00   499.00
650          RY    3.00     1.36     0.50     0.00     0.00     0.50     1.36     3.00
             *

651          KK  DRPE75RETRIEVE
652          KM   Retrieve divert DRPE75 from combination point CPCT75 and divert south to
653          KM   combination point CPE75
654          DR  DSPE75
             *
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LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

655          KK  RSPE75    ROUTE
656          KM   Route diversion retrieval DRPE75 south to combination point CPE75
657          RS       5     FLOW
658          RC   0.035    0.015    0.035     5280   0.0027     0.00
659          RX    0.00     0.00    57.50    57.50   291.50   291.50   349.00   349.00
660          RY    3.00     1.08     0.50     0.00     0.00     0.50     1.08     3.00
             *

661          KK    PE75    BASIN
662          KM   Runoff hydrograph for square mile subbasin PE75 northeast of the intersection
663          KM   of Peoria Avenue and 75th Avenue
664          BA   1.007
665          LG    0.24     0.15     8.00     0.07       33
666          UC   1.356    0.903
667          UA       0      5.0     16.0     30.0     65.0     77.0     84.0     90.0     94.0     97.0
668          UA     100
             *

669          KK  ERPE75   DIVERT
670          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
671          KM   retention developed after 1990 in subbasin PE75
672          DT   XPE75      9.4      0.0
673          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
674          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
             *

675          KK   CPE75 COMBINE
676          KM   Combine route RWPE75, route RSPE75, and subbasin PE75
677          HC       3     3.36
             *

678          KK   D75PE   DIVERT
679          KM   Divert calculated full flow capapcity of 179 cfs into 60-inch storm drain
680          KM   pipe at the intersection of Peoria Avenue and 75th Avenue
681          DT  DP75PE      0.0    179.0
682          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
683          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
             *

684          KK  DWPE83   DIVERT
685          KM   Divert remaining runoff hydrograph from combination point CPE75 west to
686          KM   combination point CPE83
687          DT  DSOL75      0.0      0.0
688          DI     0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0 10000.0 20000.0 50000.0
689          DQ     0.0     52.0    104.0    260.0    520.0   1040.0   2080.0  5200.0 10400.0 26000.0
             *

690          KK  RWPE83    ROUTE
691          KM   Route diversion DWPE83 west to combination point CPE83
692          RS       4     FLOW
693          RC   0.035    0.015    0.035     5280   0.0023     0.00
694          RX    0.00     0.00    57.50    57.50   291.50   291.50   349.00   349.00
695          RY    3.00     1.08     0.50     0.00     0.00     0.50     1.08     3.00
             *
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LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

696          KK  DRPE83RETRIEVE
697          KM   Retrieve divert DRPE83 from combination point CPCT83 and divert south to
698          KM   combination point CPE83
699          DR  DSPE83
             *

700          KK  RSPE83    ROUTE
701          KM   Route diversion retrieval DRPE83 south to combination point CPE83
702          RS       4     FLOW
```



```
703          RC   0.035    0.015    0.035     5280   0.0023     0.00
704          RX    0.00     0.00    76.50    76.50   372.50   372.50   449.00   449.00
705          RY    3.00     1.27     0.50     0.00     0.00     0.50     1.27     3.00
             *

706          KK    PE83    BASIN
707          KM   Runoff hydrograph for square mile subbasin PE83 northeast of the intersection
708          KM   of Peoria Avenue, 83rd Avenue, and Grand Avenue
709          BA   1.000
710          LG    0.24     0.13    10.10     0.03       34
711          UC   1.400    0.936
712          UA       0      5.0     16.0     30.0     65.0     77.0     84.0     90.0     94.0     97.0
713          UA     100
             *

714          KK  ERPE83   DIVERT
715          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
716          KM   retention developed after 1990 in subbasin PE83
717          DT   XPE83     34.6      0.0
718          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
719          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
             *

720          KK   CPE83 COMBINE
721          KM   Combine route RWPE83, route RSPE83, and subbasin PE83
722          HC       3     3.97
             *

723          KK   DPE83   DIVERT
724          KM   Divert calculated full flow capapcity of 112 cfs into 48-inch storm drain
725          KM   pipe at the intersection of Peoria Avenue and 83rd Avenue
726          DT  DPPE83      0.0    112.0
727          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
728          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
             *

729          KK  DWGR91   DIVERT
730          KM   Divert portion of runoff hydrograph from subbasin CPE83 west through subbasin
731          KM   GR91 using the ratio of the widths and slopes od the streets going west and
732          KM   the widths and slopes of the streets going south. The remaining flow is
733          KM   diverted south through subbasin GR83
734          DT  DSGR83      0.0      0.0
735          DI     0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0 10000.0 20000.0 50000.0
736          DQ     0.0     48.0     96.0    240.0    480.0    960.0   1920.0  4800.0  9600.0 24000.0
             *
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LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

737          KK   DGR91   DIVERT
738          KM   Divert portion of DWGR91 west to subbasin GR91 using the ratio of the width
739          KM   of the collector and local streets and the width of the arterial street. The
740          KM   remaining flow is diverted west to subbasin PE91 along Peoria Avenue
741          DT  DWPE91      0.0      0.0
742          DI     0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0 10000.0 20000.0 50000.0
743          DQ     0.0     36.0     72.0    180.0    360.0    720.0   1440.0  3600.0  7200.0 18000.0
             *

744          KK  DRGR91RETRIEVE
745          KM   Retrieve divert DRGR91 from combination point CPCTLO and divert south to
746          KM   combination point CGR91
747          DR  DSGR91
             *

748          KK  RSGR91    ROUTE
749          KM   Route diversion retrieval DRGR91 south to combination point CGR91
750          RS       3     FLOW
751          RC   0.035    0.015    0.035     4969   0.0024     0.00
752          RX    0.00     0.00    57.50    57.50   291.50   291.50   349.00   349.00
753          RY    3.00     1.08     0.50     0.00     0.00     0.50     1.08     3.00
             *

754          KK    GR91    BASIN
755          KM   Runoff hydrograph for subbasin GR91 north of Grand Avenue and east of 91st
756          KM   Avenue
757          BA   0.514
758          LG    0.25     0.13    10.10     0.03       37
759          UC   0.907    0.462
760          UA       0      5.0     16.0     30.0     65.0     77.0     84.0     90.0     94.0     97.0
761          UA     100
             *

762          KK  ERGR91   DIVERT
763          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
764          KM   retention developed after 1990 in subbasin GR91
765          DT   XGR91     25.5      0.0
766          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
767          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
             *

768          KK   CGR91 COMBINE
769          KM   Combine divert DGR91, route RSGR91, and subbasin GR91
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 770          HC       3    3.58
              *


 771          KK  DWGRLO  DIVERT
 772          KM   Divert portion of runoff hydrograph from combination point CGR91 west to the
 773          KM   intersection of Grand Avenue and SR Loop 101 and the remaining flow south to
 774          KM   the intersection of Peoria Avenue and Grand Avenue. The diversion is based on
 775          KM   topography
 776          DT  DSPE91      0.0      0.0
 777          DI     0.0   100.0    200.0    500.0   1000.0   2000.0   4000.0 10000.0 20000.0 50000.0
 778          DQ     0.0    67.0    134.0    335.0    670.0   1340.0   2680.0  6700.0 13400.0 33500.0
              *
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 LINE         ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10


 779          KK   CGRLO COMBINE
 780          KM   Combine divert DWGRLO and divert DSPELO
 781          HC       2    2.91
              *


 782          KK  RSPELO   ROUTE
 783          KM   Route hydrograph at combination point CGRLO south to combination point CIPEGR
 784          RS       1    FLOW
 785          RC  0.035   0.015   0.035    2704  0.0018    0.00
 786          RX    0.00    3.00   13.00   25.00   35.00   47.00   57.00   60.00
 787          RY    7.00    6.00    6.00    0.00    0.00    6.00    6.00    7.00
              *


 788          KK  DSOLLO  DIVERT
 789          KM   Divert remaining runoff hydrograph from combination point CPPELO south to
 790          KM   combination point COLLO
 791          DT  DWNR02      0.0  7462.0
 792          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
 793          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *


 794          KK  DRPE91RETRIEVE
 795          KM   Retrieve divert DRPE91 from combination point CPE83 and divert west to
 796          KM   combination point CIPEGR
 797          DR  DSPE91
              *


 798          KK  SRGR91 STORAGE
 799          KM   Storage route runoff hydrograph from divert retrieval DRPE91 through ponding
 800          KM     area at Grand Avenue near the intersection of Peoria Avenue and 83rd Avenue
 801          KM   Storage routing ID RES22 in Maryvale ADMS, Feb 1997 - comments from ADMS:
 802          KM   PONDING AREA RESERVOIR ROUTE
 803          KM   SUB-BASIN 22-31E
 804          KM   PONDING AREA NORTHEAST OF GRAND AVENUE/RR EMBANKMENT
 805          RS       1    STOR
 806          SV            5.40    9.60   39.75
 807          SQ            0.10  970.0010990.00
 808          SE  1134.0 1136.00 1136.50 1138.00
              *


 809          KK  DIPE91RETRIEVE
 810          KM   Retrieve arterial street flow diverted to Peoria Avenue at the intersection
 811          KM   of Peoria Avenue and Grand Avenue
 812          DR  DWPE91
              *


 813          KK  CIPEGR COMBINE
 814          KM   Combine arterial street flow from Peoria Avenue DIPE91 with runoff hydrograph
 815          KM   DRPE91 at the intersection of Peoria Avenue and Grand Avenue
 816          HC       2    3.14
              *
1                                        HEC-1 INPUT                                          PAGE 21

 LINE         ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10


 817          KK  RWPE91   ROUTE
 818          KM   Route hydrograph at combination point CIPEGR at the intersection of Peoria
 819          KM   Avenue and Grand Avenue west to combination point CPE91
 820          RS       3    FLOW
 821          RC  0.035   0.015   0.035    5280  0.0037    0.00
 822          RX    0.00    0.00   67.00   67.00  332.00  332.00  399.00  399.00
 823          RY    3.00    1.17    0.50    0.00    0.00    0.50    1.17    3.00
              *


 824          KK   PE91   BASIN
 825          KM   Runoff hydrograph for subbasin PE91 northeast of the intersection of Peoria
 826          KM   Avenue and 91st Avenue
 827          BA  0.509
 828          LG   0.21    0.16    9.70    0.04      45
 829          UC  0.842   0.449
 830          UA      0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
 831          UA    100
              *


 832          KK  ERPE91  DIVERT
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```
 833          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
 834          KM   retention developed after 1990 in subbasin PE91
 835          DT   XPE91    13.1      0.0
 836          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
 837          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *


 838          KK   CPE91 COMBINE
 839          KM   Combine route RWPE91 and subbasin PE91
 840          HC       2    3.65
              *


 841          KK  PRPE83RETRIEVE
 842          KM   Retrieve full flow capacity of 112 cfs from 48-inch storm drain pipe at the
 843          KM   intersection of Peoria Avenue and 83rd Avenue
 844          DR  DPPE83
              *


 845          KK  RPPE91   ROUTE
 846          KM   Route full flow capacity of 112 cfs through 48-inch storm drain pipe in
 847          KM   Peoria Avenue to the intersection of Peoria Avenue and 91st Avenue
 848          RK    5350  0.0061   0.015             CIRC   4.000
              *


 849          KK  CPPE91 COMBINE
 850          KM   Combine pipe return PRPE83 with the runoff hydrograph at combination point
 851          KM   CPE91 at the intersection of Peoria Avenue and 91st Avenue
 852          HC       2
              *
1                                        HEC-1 INPUT                                          PAGE 22

 LINE         ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10


 853          KK   DPE91  DIVERT
 854          KM   Divert calculated full flow capapcity of 147 cfs into 72-inch storm drain
 855          KM   pipe at the intersection of Peoria Avenue and 91st Avenue
 856          DT  DPPE91      0.0    147.0
 857          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
 858          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *


 859          KK  DWPELO  DIVERT
 860          KM   Divert remaining runoff hydrograph from combination point CPPE91 west to
 861          KM   combination point CPELO
 862          DT  DSOL91      0.0      0.0
 863          DI     0.0   100.0    200.0    500.0   1000.0   2000.0   4000.0 10000.0 20000.0 50000.0
 864          DQ     0.0    55.0    110.0    275.0    550.0   1100.0   2200.0  5500.0 11000.0 27500.0
              *


 865          KK  RWPELO   ROUTE
 866          KM   Route diversion DWPELO west to combination point CPELO
 867          RS       1    FLOW
 868          RC  0.035   0.015   0.035    1289  0.0017    0.00
 869          RX    0.00    0.00   73.50   73.50  350.50  350.50  424.00  424.00
 870          RY    3.00    1.23    0.50    0.00    0.00    0.50    1.23    3.00
              *


 871          KK    PELO   BASIN
 872          KM   Runoff hydrograph for subbasin PELO northeast of the intersection of Peoria
 873          KM   Avenue and SR Loop 101
 874          BA  0.271
 875          LG   0.19    0.24    6.40    0.13      39
 876          UC  1.004   0.826
 877          UA      0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
 878          UA    100
              *


 879          KK  ERPELO  DIVERT
 880          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
 881          KM   retention developed after 1990 in subbasin PELO
 882          DT   XPELO     8.3      0.0
 883          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
 884          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *


 885          KK   CPELO COMBINE
 886          KM   Combine route RWPELO, divert DSPELO, and subbasin PELO
 887          HC       3    4.81
              *


 888          KK  PRPE91RETRIEVE
 889          KM   Retrieve full flow capacity of 147 cfs from 72-inch storm drain pipe at the
 890          KM   intersection of Peoria Avenue and 91st Avenue
 891          DR  DPPE91
              *
1                                        HEC-1 INPUT                                          PAGE 23

 LINE         ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10


 892          KK  RPPELO   ROUTE
 893          KM   Route full flow capacity of 147 cfs through 72-inch storm drain pipe in
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 894          KM   Peoria Avenue to the intersection of Peoria Avenue and St Loop 101
 895          RK    1594  0.0012   0.015            CIRC   6.000
              *

 896          KK  CPPELO COMBINE
 897          KM   Combine pipe return PRPE91 with the runoff hydrograph at combination point
 898          KM   CPELO at the intersection of Peoria Avenue and SR Loop 101
 899          HC       2
              *

 900          KK   DPELO  DIVERT
 901          KM   Divert calculated full flow capapcity of 255 cfs into 72-inch storm drain
 902          KM   pipe at the intersection of Peoria Avenue and Loop 101
 903          DT  DPPELO      0.0   255.0
 904          DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
 905          DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

 906          KK  RSOLLO   ROUTE
 907          KM   Route diversion DSOLLO south to combination point COLLO
 908          RS       1    FLOW
 909          RC   0.035    0.015    0.035     5324  0.0018     0.00
 910          RX    0.00     3.00    13.00    33.00    63.00    83.00    93.00    96.00
 911          RY   11.00    10.00    10.00     0.00     0.00    10.00    10.00    11.00
              *

 912          KK    OL35   BASIN
 913          KM   Runoff hydrograph for subbasin OL35 northeast of the intersection of Olive
 914          KM   Avenue and 35th Avenue
 915          BA   0.214
 916          LG    0.10     0.25     5.40     0.23       58
 917          UC   0.687    0.689
 918          UA       0      5.0     16.0     30.0     65.0     77.0     84.0     90.0     94.0     97.0
 919          UA     100
              *

 920          KK   D35OL  DIVERT
 921          KM   Divert calculated full flow capapcity of 61 cfs into 42-inch storm drain
 922          KM   pipe at the intersection of Olive Avenue and 35th Avenue
 923          DT  DP35OL      0.0    61.0
 924          DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
 925          DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

 926          KK  DWOL43  DIVERT
 927          KM   Divert remaining runoff hydrograph from subbasin OL35 west to combination
 928          KM   point COL43
 929          DT  DSNO35      0.0      0.0
 930          DI      0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0  10000.0  20000.0  50000.0
 931          DQ      0.0     70.0    140.0    350.0    700.0   1400.0   2800.0   7000.0  14000.0  35000.0
              *
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LINE          ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

 932          KK  RWOL43   ROUTE
 933          KM   Route diversion DWOL43 west to combination point COL43
 934          RS      10    FLOW
 935          RC   0.035    0.015    0.035     5280  0.0022     0.00
 936          RX    0.00     0.00    35.50    35.50   188.50   188.50   224.00   224.00
 937          RY    3.00     0.86     0.50     0.00     0.00     0.50     0.86     3.00
              *

 938          KK    OL43   BASIN
 939          KM   Runoff hydrograph for subbasin OL43 northeast of the intersection of Olive
 940          KM   Avenue and 43rd Avenue
 941          BA   0.635
 942          LG    0.25     0.25     5.40     0.20       33
 943          UC   1.208    0.738
 944          UA       0      5.0     16.0     30.0     65.0     77.0     84.0     90.0     94.0     97.0
 945          UA     100
              *

 946          KK   COL43 COMBINE
 947          KM   Combine route RWOL43 and subbasin OL43
 948          HC       2    0.70
              *

 949          KK   D43OL  DIVERT
 950          KM   Divert calculated full flow capapcity of 85 cfs into 48-inch storm drain
 951          KM   pipe at the intersection of Olive Avenue and 43rd Avenue
 952          DT  DP43OL      0.0    85.0
 953          DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
 954          DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

 955          KK  DWOL51  DIVERT
 956          KM   Divert remaining runoff hydrograph from combination point COL43 west to
 957          KM   combination point COL51
 958          DT  DSNO43      0.0      0.0
 959          DI      0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0  10000.0  20000.0  50000.0
 960          DQ      0.0     59.0    118.0    295.0    590.0   1180.0   2360.0   5900.0  11800.0  29500.0
```



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              *

 961          KK  RWOL51   ROUTE
 962          KM   Route diversion DWOL51 west to combination point COL51
 963          RS       7    FLOW
 964          RC   0.035    0.015    0.035     5280  0.0035     0.00
 965          RX    0.00     0.00    47.50    47.50   230.50   230.50   278.00   278.00
 966          RY    3.00     0.98     0.50     0.00     0.00     0.50     0.98     3.00
              *

 967          KK  DROL51RETRIEVE
 968          KM   Retrieve divert DROL51 from subbasin CPE51 and divert south to combination
 969          KM   point COL51
 970          DR  DSOL51
              *
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LINE          ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

 971          KK  RSOL51   ROUTE
 972          KM   Route diversion retrieval DROL51 south to combination point COL51
 973          RS       7    FLOW
 974          RC   0.035    0.015    0.035     5280  0.0031     0.00
 975          RX    0.00     0.00    68.50    68.50   359.50   359.50   428.00   428.00
 976          RY    3.00     1.18     0.50     0.00     0.00     0.50     1.18     3.00
              *

 977          KK    OL51   BASIN
 978          KM   Runoff hydrograph for square mile subbasin OL51 northeast of the intersection
 979          KM   of Olive Avenue and 51st Avenue
 980          BA   0.993
 981          LG    0.23     0.15     7.30     0.10       35
 982          UC   1.249    0.828
 983          UA       0      5.0     16.0     30.0     65.0     77.0     84.0     90.0     94.0     97.0
 984          UA     100
              *

 985          KK  EROL51  DIVERT
 986          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
 987          KM   retention developed after 1990 in subbasin OL51
 988          DT   XOL51      6.0      0.0
 989          DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
 990          DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

 991          KK   COL51 COMBINE
 992          KM   Combine route RWOL51, route RSOL51, and subbasin OL51
 993          HC       3    1.45
              *

 994          KK   DOL51  DIVERT
 995          KM   Divert calculated full flow capapcity of 297 cfs into 78-inch storm drain
 996          KM   pipe at the intersection of Olive Avenue and 51st Avenue
 997          DT  DPOL51      0.0    297.0
 998          DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
 999          DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

1000          KK  DWOL59  DIVERT
1001          KM   Divert remaining runoff hydrograph from combination point COL51 west to
1002          KM   combination point COL59
1003          DT  DSNO51      0.0      0.0
1004          DI      0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0  10000.0  20000.0  50000.0
1005          DQ      0.0     34.0     68.0    170.0    340.0    680.0   1360.0   3400.0   6800.0  17000.0
              *

1006          KK  RWOL59   ROUTE
1007          KM   Route diversion DWOL59 west to combination point COL59
1008          RS       5    FLOW
1009          RC   0.035    0.015    0.035     5280  0.0034     0.00
1010          RX    0.00     0.00    75.50    75.50   402.50   402.50   478.00   478.00
1011          RY    3.00     1.25     0.50     0.00     0.00     0.50     1.25     3.00
              *
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LINE          ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

1012          KK  DROL59RETRIEVE
1013          KM   Retrieve divert DROL59 from combination point CPPE59 and divert south to
1014          KM   combination point COL59
1015          DR  DSOL59
              *

1016          KK  RSOL59   ROUTE
1017          KM   Route diversion retrieval DROL59 south to combination point COL59
1018          RS       5    FLOW
1019          RC   0.035    0.015    0.035     5280  0.0023     0.00
1020          RX    0.00     0.00    72.50    72.50   425.50   425.50   498.00   498.00
1021          RY    3.00     1.23     0.50     0.00     0.00     0.50     1.23     3.00
              *
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1022          KK    OL59   BASIN
1023          KM   Runoff hydrograph for square mile subbasin OL59 northeast of the intersection
1024          KM   of Olive Avenue and 59th Avenue
1025          BA   0.990
1026          LG    0.24    0.15    8.80    0.05      34
1027          UC   1.289   0.856
1028          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
1029          UA     100
              *

1030          KK  EROL59  DIVERT
1031          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
1032          KM   retention developed after 1990 in subbasin OL59
1033          DT   XOL59    21.9     0.0
1034          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
1035          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

1036          KK   COL59 COMBINE
1037          KM   Combine route RWOL59, route RSOL59, and subbasin OL59
1038          HC       3    2.78
              *

1039          KK  PR59PERETRIEVE
1040          KM   Retrieve full flow capacity of 235 cfs from 78-inch storm drain pipe at the
1041          KM   intersection of Peoria Avenue and 59th Avenue
1042          DR  DP59PE
              *

1043          KK  RP59BR   ROUTE
1044          KM   Route full flow capacity of 235 cfs through 78-inch storm drain pipe in
1045          KM   59th Avenue to the intersection of Brown Street and 59th Avenue
1046          RK    1231  0.0020   0.015            CIRC   6.500
              *
1                                        HEC-1 INPUT                                        PAGE 27

LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1047          KK   DBR59  DIVERT
1048          KM   Divert calculated full flow capapcity of 161 cfs into 60-inch storm drain
1049          KM   pipe at the intersection of Brown Street and 59th Avenue
1050          DT  DPBR59      0.0    161.0
1051          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
1052          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

1053          KK  RP59OL   ROUTE
1054          KM   Route full flow capacity of 161 cfs through 60-inch storm drain pipe in
1055          KM   59th Avenue to the intersection of Olive Avenue and 59th Avenue
1056          RK    1446  0.0031   0.015            CIRC   3.500
              *

1057          KK  PROL51RETRIEVE
1058          KM   Retrieve full flow capacity of 297 cfs from 78-inch storm drain pipe at the
1059          KM   intersection of Olive Avenue and 51st Avenue
1060          DR  DPOL51
              *

1061          KK  RPOL59   ROUTE
1062          KM   Route full flow capacity of 297 cfs through 78-inch storm drain pipe in
1063          KM   Olive Avenue to the intersection of Olive Avenue and 59th Avenue
1064          RK    5117  0.0032   0.015            CIRC   6.500
              *

1065          KK  CPOL59 COMBINE
1066          KM   Combine pipe return PROL51 and the remainder of pipe return PR59PE with the
1067          KM   runoff hydrograph at combination point COL59 at the intersection of Olive
1068          KM   Avenue and 59th Avenue
1069          HC       3
              *

1070          KK   DOL59  DIVERT
1071          KM   Divert calculated full flow capapcity of 475 cfs into 90-inch storm drain
1072          KM   pipe at the intersection of Olive Avenue and 59th Avenue
1073          DT  DPOL59      0.0    475.0
1074          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
1075          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

1076          KK  DWOL67  DIVERT
1077          KM   Divert remaining runoff hydrograph from combination point CPOL59 west to
1078          KM   combination point COL67
1079          DT  DSNO59      0.0     0.0
1080          DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
1081          DQ     0.0    61.0   122.0   305.0   610.0  1220.0  2440.0  6100.0 12200.0 30500.0
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1082          KK  RWOL67   ROUTE
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1083          KM   Route diversion DWOL67 west to combination point COL67
1084          RS       4    FLOW
1085          RC   0.035   0.015   0.035    5280  0.0034    0.00
1086          RX    0.00    0.00   54.50   54.50  273.50  273.50  328.00  328.00
1087          RY    3.00    1.04    0.50    0.00    0.00    0.50    1.04    3.00
              *

1088          KK  DROL67RETRIEVE
1089          KM   Retrieve divert DROL67 from combination point CPE67 and divert south to
1090          KM   combination point COL67
1091          DR  DSOL67
              *

1092          KK  RSOL67   ROUTE
1093          KM   Route diversion retrieval DROL67 south to combination point COL67
1094          RS       7    FLOW
1095          RC   0.035   0.015   0.035    5280  0.0031    0.00
1096          RX    0.00    0.00   45.50   45.50  284.50  284.50  330.00  330.00
1097          RY    3.00    0.96    0.50    0.00    0.00    0.50    0.96    3.00
              *

1098          KK   OL67   BASIN
1099          KM   Runoff hydrograph for square mile subbasin OL67 northeast of the intersection
1100          KM   of Olive Avenue and 67th Avenue
1101          BA   0.960
1102          LG    0.23    0.15    8.40    0.07      36
1103          UC   1.116   0.733
1104          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
1105          UA     100
              *

1106          KK  EROL67  DIVERT
1107          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
1108          KM   retention developed after 1990 in subbasin OL67
1109          DT   XOL67    39.8     0.0
1110          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
1111          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

1112          KK   COL67 COMBINE
1113          KM   Combine route RWOL67, route RSOL67, and subbasin OL67
1114          HC       3    2.84
              *

1115          KK  PRBR59RETRIEVE
1116          KM   Retrieve full flow capacity of 161 cfs from 60-inch storm drain pipe at the
1117          KM   intersection of Brown Street and 59th Avenue
1118          DR  DPBR59
              *
1                                        HEC-1 INPUT                                        PAGE 29

LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1119          KK  RPBR63   ROUTE
1120          KM   Route full flow capacity of 161 cfs through 60-inch storm drain pipe in
1121          KM   63rd Avenue to the intersection of Brown Street and 63rd Avenue
1122          RK     528  0.0038   0.015            CIRC   5.000
              *

1123          KK  SRBR63 STORAGE
1124          KM   Storage route pipe flow PRBR59 from the storm drain in Brown Street
1125          KM     through regional detention basin located near the intersection of Brown
1126          KM     Street and 63rd Avenue
1127          KM   Stage-storage from Sahuaro Ranch Park - Phase VI Civil Survey, 1988
1128          RS       1    STOR
1129          SV            0.83    1.95    7.59    8.05    8.59
1130          SQ            9.00   25.00   52.00  201.00  474.00
1131          SE   57.00   58.00   59.00   63.00   63.30   63.50
              *

1132          KK  RP63OL   ROUTE
1133          KM   Route full flow capacity of 161 cfs through 60-inch storm drain pipe in
1134          KM   63rd Avenue to the intersection of Olive Avenue and 63rd Avenue
1135          RK    3878  0.0040   0.015            CIRC   2.500
              *

1136          KK  PROL59RETRIEVE
1137          KM   Retrieve full flow capacity of 475 cfs from 90-inch diameter pipe at the
1138          KM   intersection of Olive Avenue and 59th Avenue
1139          DR  DPOL59
              *

1140          KK  RPOL63   ROUTE
1141          KM   Route full flow capacity of 475 cfs through 90-inch storm drain pipe in
1142          KM   in Olive Avenue to the intersection of Olive Avenue and 63rd Avenue
1143          RK    2835  0.0038   0.015            CIRC   7.500
              *

1144          KK  CPOL63 COMBINE
1145          KM   Combine pipe return PROL67 with pipe return PRBR59 at the intersection of
1146          KM   Olive Avenue and 63rd Avenue
1147          HC       2    2.84
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                *
1148            KK  RPOL67   ROUTE
1149            KM   Route full flow capacity of 161 cfs through 60inch storm drain pipe in
1150            KM   59th Avenue to the intersection of Olive Avenue and 59th Avenue
1151            RK    2409  0.0033   0.015            CIRC   7.500
                *
1152            KK  PR67PERETRIEVE
1153            KM   Retrieve full flow capacity of 161 cfs from 60-inch storm drain pipe at the
1154            KM   intersection of Olive Avenue and 67th Avenue
1155            DR  DP67PE
                *
1                                        HEC-1 INPUT                                    PAGE 30

            LINE        ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1156            KK  RP67MV   ROUTE
1157            KM   Route full flow capacity of 162 cfs through 60-inch storm drain pipe in
1158            KM   67th Avenue to the intersection of Mountain View Road and 67th Avenue
1159            RK    2679  0.0039   0.015            CIRC   5.000
                *
1160            KK  SR67MV STORAGE
1161            KM   Storage route pipe flow PR67PE from storm drain in 67th Avenue through
1162            KM     regional detention basin located near the intersection of Mountain View
1163            KM     Road and 67th Avenue
1164            KM   Stage-storage from Chaparral Ranch Retention Basin Plans, 1984
1165            RS       1    STOR
1166            SV            2.29    2.93    3.65    5.28
1167            SQ           17.00  201.00  531.00 1457.00
1168            SE  1170.0 1171.00 1171.30 1171.50 1172.00
                *
1169            KK  RP67OL   ROUTE
1170            KM   Route full flow capacity of 175 cfs through 66-inch storm drain pipe in
1171            KM   67th Avenue to the intersection of Olive Avenue and 67th Avenue
1172            RK    2627  0.0027   0.015            CIRC   5.500
                *
1173            KK  CPOL67 COMBINE
1174            KM   Combine pipe return PR67PE with the runoff hydrograph at combination point
1175            KM   COL67 at the intersection of Olive Avenue and 67th Avenue
1176            HC       3
                *
1177            KK   DOL67  DIVERT
1178            KM   Divert calculated full flow capapcity of 662 cfs into 72-inch storm drain
1179            KM   pipe at the intersection of Olive Avenue and 67th Avenue
1180            DT  DPOL67      0.0    662.0
1181            DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
1182            DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
                *
1183            KK  DWOL75  DIVERT
1184            KM   Divert remaining runoff hydrograph from combination point CPOL67 west to
1185            KM   combination point COL75
1186            DT  DSNO67      0.0      0.0
1187            DI      0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0  10000.0  20000.0  50000.0
1188            DQ      0.0     44.0     88.0    220.0    440.0    880.0   1760.0   4400.0   8800.0  22000.0
                *
1189            KK  RWOL75   ROUTE
1190            KM   Route diversion DWOL75 west to combination point COL75
1191            RS       2     FLOW
1192            RC   0.035    0.015    0.035     5280   0.0031     0.00
1193            RX    0.00     0.00    67.00    67.00   332.00   332.00   399.00   399.00
1194            RY    3.00     1.17     0.50     0.00     0.00     0.50     1.17     3.00
                *
1                                        HEC-1 INPUT                                    PAGE 31

            LINE        ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1195            KK  DROL75RETRIEVE
1196            KM   Retrieve divert DROL75 from combination point CPE75 and divert south to
1197            KM   combination point COL75
1198            DR  DSOL75
                *
1199            KK  RSOL75   ROUTE
1200            KM   Route diversion retrieval DROL75 south to combination point COL75
1201            RS       4     FLOW
1202            RC   0.035    0.015    0.035     5280   0.0027     0.00
1203            RX    0.00     0.00    57.50    57.50   291.50   291.50   349.00   349.00
1204            RY    3.00     1.08     0.50     0.00     0.00     0.50     1.08     3.00
                *
1205            KK    OL75   BASIN
1206            KM   Runoff hydrograph for square mile subbasin OL75 northeast of the intersection
1207            KM   of Olive Avenue and 75th Avenue
1208            BA   1.004
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1209            LG    0.23    0.15    8.80    0.06      32
1210            UC   1.295   0.860
1211            UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
1212            UA     100
                *
1213            KK  EROL75  DIVERT
1214            KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
1215            KM   retention developed after 1990 in subbasin OL75
1216            DT   XOL75     40.4      0.0
1217            DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
1218            DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
                *
1219            KK   COL75 COMBINE
1220            KM   Combine route RWOL75, route RSOL75, and subbasin OL75
1221            HC       3     4.34
                *
1222            KK  PROL67RETRIEVE
1223            KM   Retrieve full flow capacity of 662 cfs from 72-inch storm drain pipe at the
1224            KM   intersection of Olive Avenue and 67th Avenue
1225            DR  DPOL67
                *
1226            KK  RPOL71   ROUTE
1227            KM   Route full flow capacity of 662 cfs through 72-inch storm drain pipe in
1228            KM   Olive Avenue to the intersection of Olive Avenue and 71st Avenue
1229            RK    2746  0.0243   0.015            CIRC   6.000
                *
1                                        HEC-1 INPUT                                    PAGE 32

            LINE        ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1230            KK  CPOL71 COMBINE
1231            KM   Combine pipe return PROL67 with the runoff hydrograph at combination point
1232            KM   COL71 at the intersection of Olive Avenue and 71st Avenue
1233            HC       2
                *
1234            KK  SROL71 STORAGE
1235            KM   Storage route runoff hydrograph from combination point CPOL71 through
1236            KM     regional detention basin located near the intersection of Olive Avenue
1237            KM     and 71st Avenue
1238            KM   Stage-storage data from topography provided by FCDMC dated 3/28/1994
1239            RS       1    STOR
1240            SV            8.78   27.11   47.24   69.15   92.94  105.55  118.61
1241            SQ           57.00  147.00  148.00  184.00  213.00 2792.00 7494.00
1242            SE  1128.0 1130.00 1132.00 1134.00 1136.00 1138.00 1139.00 1140.00
                *
1243            KK   DOL71  DIVERT
1244            KM   Divert calculated full flow capapcity of 386 cfs into 78-inch storm drain
1245            KM   pipe at the intersection of Olive Avenue and 71st Avenue
1246            DT  DPOL71      0.0    386.0
1247            DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
1248            DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
                *
1249            KK  PR75PERETRIEVE
1250            KM   Retrieve full flow capacity of 179 cfs from 60-inch storm drain pipe at the
1251            KM   intersection of Peoria Avenue and 75th Avenue
1252            DR  DP75PE
                *
1253            KK  RP75OL   ROUTE
1254            KM   Route full flow capacity of 179 cfs through 60-inch storm drain pipe in
1255            KM   75th Avenue to the intersection of Olive Avenue and 75th Avenue
1256            RK    5035  0.0047   0.015            CIRC   5.000
                *
1257            KK  PROL71RETRIEVE
1258            KM   Retrieve full flow capacity of 386 cfs from 78-inch storm drain pipe at the
1259            KM   intersection of Olive Avenue and 71st Avenue
1260            DR  DPOL71
                *
1261            KK  RPOL75   ROUTE
1262            KM   Route full flow capacity of 386 cfs through 78-inch storm drain pipe in
1263            KM   Olive Avenue to the intersection of Olive Avenue and 75th Avenue
1264            RK    2971  0.0054   0.015            CIRC   6.500
                *
1                                        HEC-1 INPUT                                    PAGE 33

            LINE        ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1265            KK  CPOL75 COMBINE
1266            KM   Combine pipe return PROL71 with the runoff hydrograph at combination point
1267            KM   COL75 at the intersection of Olive Avenue and 75th Avenue
1268            HC       3
                *
```

```
1269          KK   DOL75  DIVERT
1270          KM   Divert calculated full flow capapcity of 239 cfs into 90-inch storm drain
1271          KM   pipe at the intersection of Olive Avenue and 75th Avenue
1272          DT  DPOL75      0.0   239.0
1273          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
1274          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

1275          KK  DWGR83  DIVERT
1276          KM   Divert remaining runoff hydrograph from combination point CPOL75 west to
1277          KM   combination point CGR83
1278          DT  DSGR75      0.0     0.0
1279          DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
1280          DQ     0.0    51.0   102.0   255.0   510.0  1020.0  2040.0  5100.0 10200.0 25500.0
              *

1281          KK  DRGR83RETRIEVE
1282          KM   Retrieve divert DRGR83 from combination point CPE83 and divert south to
1283          KM   combination point CGR83
1284          DR  DSGR83
              *

1285          KK   D83GR  DIVERT
1286          DT  DSOL83      0.0     0.0
1287          DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
1288          DQ     0.0    28.0    56.0   140.0   280.0   560.0  1120.0  2800.0  5600.0 14000.0
              *

1289          KK  RSGR83   ROUTE
1290          KM   Route diversion D83GR south to combination point CGR83
1291          RS       10    FLOW
1292          RC   0.035   0.015   0.035    7145  0.0003    0.00
1293          RX    0.00    0.00   67.00   67.00  332.00  332.00  399.00  399.00
1294          RY    3.00    1.17    0.50    0.00    0.00    0.50    1.17    3.00
              *

1295          KK    GR83   BASIN
1296          KM   Runoff hydrograph for subbasin GR83 southeast of the intersection of Grand
1297          KM   Avenue and 83rd Avenue
1298          BA   0.468
1299          LG    0.18    0.14   10.10    0.03      53
1300          UC   0.874   0.483
1301          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
1302          UA     100
              *
```



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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9.....10

1303          KK  ERGR83  DIVERT
1304          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
1305          KM   retention developed after 1990 in subbasin GR83
1306          DT  XGR83      29.7     0.0
1307          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
1308          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

1309          KK   CGR83 COMBINE
1310          KM   Combine divert DWGR83, route RSGR83, and subbasin GR83
1311          HC       3    3.99
              *

1312          KK  SRGR83 STORAGE
1313          KM   Storage routing ID RES26S in Maryvale ADMS, Feb 1997 - comments from ADMS:
1314          KM   PONDING AREA RESERVOIR ROUTE
1315          KM   SUB-BASIN 26-31E
1316          KM   PONDING AREA NORTHEAST OF GRAND AVENUE/RR EMBANKMENT
1317          KM   OUTFLOW REPRESENTS BOTH FLOW WEST (OVER THE RR EMBANKEMENT) AND
1318          KM   FLOW SOUTH OVER OLIVE AVENUE
1319          KM   ================================================================================
1320          KM   REVISION TO MARYVALE ADMS MODEL KHA --> COMBINED STORAGE AT 75TH AND 83RD AVE
1321          KM
1322          KM   Storage route runoff hydrograph from combination point CGR83 through ponding
1323          KM     area at Grand Avenue between 75th Avenue and 83rd Avenue
1324          KM   ================================================================================
1325          RS       1    STOR
1326          SV            3.40   27.60   58.20  102.60  145.28  278.39  315.39  329.41  339.52
1327          SV  350.22  367.41
1328          SQ       0     0.1     0.2    0.35  2170.1 4810.15  51070.  51070.  51070.    5117
1329          SQ   51230.  52040.
1330          SE    1132.   1134.   1136.   1137.   1138.  1138.5   1140.   1141.  1141.3    1141
1331          SE   1141.7   1142.
              *

1332          KK  DWOL83  DIVERT
1333          KM   Divert ID D26AW in Maryvale ADMS, Feb 1997
1334          KM   Divert remaining runoff hydrograph from combination point CGR83 west to
1335          KM   combination point COL83
1336          DT  DS75NO      0.0     0.0
1337          DI     0.0  2170.0  4810.0 52040.0     0.0     0.0     0.0     0.0     0.0     0.0
1338          DQ     0.0  2170.0  4160.0 51390.0     0.0     0.0     0.0     0.0     0.0     0.0
```



```
              *

1339          KK  RWOL83   ROUTE
1340          KM   Route diversion DWOL83 west to combination point COL83
1341          RS       1    FLOW
1342          RC   0.035   0.015   0.035    5280  0.0027    0.00
1343          RX    0.00    0.00   26.00   26.00  148.00  148.00  174.00  174.00
1344          RY    3.00    0.76    0.50    0.00    0.00    0.50    0.76    3.00
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9.....10

1345          KK  DIOL83RETRIEVE
1346          KM   Retrieve arterial street flow diverted to 83rd Avenue at the intersection
1347          KM   of 83rd Avenue and Grand Avenue
1348          DR  DSOL83
              *

1349          KK  RSOL83   ROUTE
1350          KM   Route diversion retrieval DIOL83 south to combination point COL83
1351          RS       5    FLOW
1352          RC   0.035   0.015   0.035    5280  0.0031    0.00
1353          RX    0.00    0.00   67.00   67.00  332.00  332.00  399.00  399.00
1354          RY    3.00    1.17    0.50    0.00    0.00    0.50    1.17    3.00
              *

1355          KK    OL83   BASIN
1356          KM   Runoff hydrograph for subbasin OL83 northeast of the intersection
1357          KM   of Olive Avenue and 83rd Avenue
1358          BA   0.537
1359          LG    0.30    0.15   10.10    0.04      28
1360          UC   0.895   0.477
1361          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
1362          UA     100
              *

1363          KK  EROL83  DIVERT
1364          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
1365          KM   retention developed after 1990 in subbasin OL83
1366          DT  XOL83     13.9     0.0
1367          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
1368          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

1369          KK   COL83 COMBINE
1370          KM   Combine route RWOL83, route RSOL83, and subbasin OL83
1371          HC       3    1.06
              *

1372          KK    NO27   BASIN
1373          KM   Runoff hydrograph for subbasin NO27 northeast of the intersection of Northern
1374          KM   Avenue and 27th Avenue
1375          BA   0.126
1376          LG    0.18    0.15    8.80    0.05      63
1377          UC   0.752   0.976
1378          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
1379          UA     100
              *

1380          KK   D27NO  DIVERT
1381          KM   Divert calculated full flow capapcity of 114 cfs into 54-inch storm drain
1382          KM   pipe at the intersection of Northern Avenue and 27th Avenue
1383          DT  DP27NO      0.0   114.0
1384          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
1385          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *
```



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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9.....10

1386          KK  DWNO35  DIVERT
1387          KM   Divert remaining runoff hydrograph from subbasin NO27 west to combination
1388          KM   point CNO35
1389          DT  DSGL27      0.0     0.0
1390          DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
1391          DQ     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
              *

1392          KK  RWNO35   ROUTE
1393          KM   Route diversion DWNO35 west to combination point CNO35
1394          RS       1    FLOW
1395          RC   0.035   0.015   0.035    5280  0.0001    0.00
1396          RX    0.00    0.00   76.50   76.50  372.50  372.50  449.00  449.00
1397          RY    3.00    1.27    0.50    0.00    0.00    0.50    1.27    3.00
              *

1398          KK  DRNO35RETRIEVE
1399          KM   Retrieve divert DRNO35 from subbasin OL35 and divert south to
1400          KM   combination point CNO35
1401          DR  DSNO35
```

```
                *
1402            KK  RSNO35   ROUTE
1403            KM   Route diversion retrieval DRNO35 south to combination point CNO35
1404            RS      10    FLOW
1405            RC   0.035   0.015   0.035    5280  0.0036    0.00
1406            RX    0.00    0.00   67.00   67.00  332.00  332.00  399.00  399.00
1407            RY    3.00    1.17    0.50    0.00    0.00    0.50    1.17    3.00
                *
1408            KK   NO35   BASIN
1409            KM   Runoff hydrograph for square mile subbasin NO35 northeast of the intersection
1410            KM   of Norhtern Avenue and 35th Avenue
1411            BA  0.991
1412            LG   0.24    0.25    5.80    0.17      38
1413            UC  1.394   0.849
1414            UA      0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
1415            UA    100
                *
1416            KK   CNO35 COMBINE
1417            KM   Combine route RWNO35, route RSNO35, and subbasin NO35
1418            HC       3    1.14
                *
1419            KK  PR27NORETRIEVE
1420            KM   Retrieve full flow capacity of 114 cfs from 54-inch diameter pipe at the
1421            KM   intersection of Northern Avenue and 27th Avenue
1422            DR  DP27NO
                *
1                                        HEC-1 INPUT                                    PAGE 37

LINE            ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1423            KK  CPNO29 COMBINE
1424            KM   Combine pipe return PR27NO with the runoff hydrograph at combination point
1425            KM   CNO29 at the intersection of Northern Avenue and 29th Avenue
1426            HC       2
                *
1427            KK   D29NO  DIVERT
1428            KM   Divert calculated full flow capapcity of 114 cfs into 54-inch storm drain
1429            KM   pipe at the intersection of Northern Avenue and 29th Avenue
1430            DT  DP29NO     0.0   114.0
1431            DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
1432            DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
                *
1433            KK  PR35OLRETRIEVE
1434            KM   Retrieve full flow capacity of 61 cfs from 42-inch diameter pipe at the
1435            KM    intersection of Northern Avenue and 35th Avenue
1436            DR  DP35OL
                *
1437            KK  RP35NO   ROUTE
1438            KM   Route full flow capacity of 61 cfs through 42-inch storm drain pipe in
1439            KM   35th Avenue to the intersection of Northern Avenue and 35th Avenue
1440            RK    5191  0.0037   0.015            CIRC   3.500
                *
1441            KK  CPNO35 COMBINE
1442            KM   Combine pipe return PR35OL with the runoff hydrograph at combination point
1443            KM   CNO35 at the intersection of Northern Avenue and 35th Avenue
1444            HC       2
                *
1445            KK   D35NO  DIVERT
1446            KM   Capacity of storm drain in 31st Avenue and 35th Avenue diverted together.
1447            KM   Divert combined calculated full flow capacity of 26 cfs in the 30-inch storm
1448            KM   drain pipe in 31st Avenue and 87 cfs in the 48-inch storm drain pipe in
1449            KM   35th Avenue. The total calculated combined full flow capacity diverted at the
1450            KM   intersection of 35th Avenue and Northern Avenue is 113 cfs in an equivalent
1451            KM   diameter pipe of 53 inches
1452            DT  DP35NO     0.0   113.0
1453            DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
1454            DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
                *
1455            KK  DWNO43  DIVERT
1456            KM   Divert remaining runoff hydrograph from combination point CPNO353 west to
1457            KM   combination point CNO43
1458            DT  DSGL35     0.0     0.0
1459            DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
1460            DQ     0.0    46.0    92.0   230.0   460.0   920.0  1840.0  4600.0  9200.0 23000.0
                *
1                                        HEC-1 INPUT                                    PAGE 38

LINE            ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1461            KK  RWNO43   ROUTE
1462            KM   Route diversion DWNO43 west to combination point CNO43
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1463            RS      8     FLOW
1464            RC   0.035   0.015   0.035    5280  0.0021    0.00
1465            RX    0.00    0.00  114.50  114.50  534.50  534.50  649.00  649.00
1466            RY    3.00    1.64    0.50    0.00    0.00    0.50    1.64    3.00
                *
1467            KK  DRNO43RETRIEVE
1468            KM   Retrieve divert DRNO43 from combination point COL43 and divert south to
1469            KM   combination point CNO43
1470            DR  DSNO43
                *
1471            KK  RSNO43   ROUTE
1472            KM   Route diversion retrieval DRNO43 south to combination point CNO43
1473            RS      7     FLOW
1474            RC   0.035   0.015   0.035    5280  0.0035    0.00
1475            RX    0.00    0.00   67.00   67.00  332.00  332.00  399.00  399.00
1476            RY    3.00    1.17    0.50    0.00    0.00    0.50    1.17    3.00
                *
1477            KK   NO43   BASIN
1478            KM   Runoff hydrograph for square mile subbasin NO43 northeast of the intersection
1479            KM   of Norhtern Avenue and 43rd Avenue
1480            BA  0.995
1481            LG   0.24    0.21    6.40    0.14      33
1482            UC  1.383   0.922
1483            UA      0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
1484            UA    100
                *
1485            KK   CNO43 COMBINE
1486            KM   Combine route RWNO43, route RSNO43, and subbasin NO43
1487            HC       3    2.02
                *
1488            KK  PR43OLRETRIEVE
1489            KM   Retrieve full flow capacity of 85 cfs from 48-inch storm drain pipe at the
1490            KM   intersection of Olive Avenue and 43rd Avenue
1491            DR  DP43OL
                *
1492            KK  RP43NO   ROUTE
1493            KM   Route full flow capacity of 85 cfs through 48-inch storm drain pipe in
1494            KM   43rd Avenue to the intersection of Northern Avenue and 43rd Avenue
1495            RK    5100  0.0035   0.015            CIRC   4.000
                *
1                                        HEC-1 INPUT                                    PAGE 39

LINE            ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1496            KK  CPNO43 COMBINE
1497            KM   Combine pipe return PR43OL with the runoff hydrograph at combination point
1498            KM   CPNO43 at the intersection of Northern Avenue and 43rd Avenue
1499            HC       2
                *
1500            KK   D43NO  DIVERT
1501            KM   Capacity of storm drain in 43rd Avenue and 39th Avenue diverted together.
1502            KM   Divert combined calculated full flow capacity of 124 cfs in the 54-inch storm
1503            KM   drain pipe in 39th AVenue and 117 cfs in the 54-inch storm drain pipe in
1504            KM   43rd Avenue. The total calculated combined full flow capacity diverted at the
1505            KM   intersection of 43rd Avenue and Northern Avenue is 241 cfs in an equivalent
1506            KM   diameter pipe of 71 inches
1507            DT  DP43NO     0.0   241.0
1508            DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
1509            DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
                *
1510            KK  DWNO51  DIVERT
1511            KM   Divert remaining runoff hydrograph from combination point CPNO43 west to
1512            KM   combination point CNO51
1513            DT  DSGL43     0.0     0.0
1514            DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
1515            DQ     0.0    51.0   102.0   255.0   510.0  1020.0  2040.0  5100.0 10200.0 25500.0
                *
1516            KK  RWNO51   ROUTE
1517            KM   Route diversion DWNO51 west to combination point CNO51
1518            RS      5     FLOW
1519            RC   0.035   0.015   0.035    5280  0.0019    0.00
1520            RX    0.00    0.00   65.50   65.50  382.50  382.50  448.00  448.00
1521            RY    3.00    1.16    0.50    0.00    0.00    0.50    1.16    3.00
                *
1522            KK  DRNO51RETRIEVE
1523            KM   Retrieve divert DRNO51 from combination point COL51 and divert south to
1524            KM   combination point CNO51
1525            DR  DSNO51
                *
1526            KK  RSNO51   ROUTE
1527            KM   Route diversion retrieval DRNO51 south to combination point CNO51
```

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1528          RS       7    FLOW
1529          RC   0.035   0.015   0.035    5280  0.0019    0.00
1530          RX    0.00    0.00   54.50   54.50  273.50  273.50  328.00  328.00
1531          RY    3.00    1.04    0.50    0.00    0.00    0.50    1.04    3.00
              *
1532          KK    NO51    BASIN
1533          KM   Runoff hydrograph for square mile subbasin NO51 northeast of the intersection
1534          KM   of Norhtern Avenue and 51st Avenue
1535          BA   0.993
1536          LG    0.24    0.25    6.00    0.16      36
1537          UC   1.342   0.893
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1538          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
1539          UA     100
              *
1540          KK   CNO51 COMBINE
1541          KM   Combine route RWNO51, route RSNO51, and subbasin NO51
1542          HC       3    2.47
              *
1543          KK   DNO51  DIVERT
1544          KM   Divert calculated full flow capapcity of 168 cfs into 66-inch storm drain
1545          KM   pipe at the intersection of Northern Avenue and 51st Avenue
1546          DT  DPNO51     0.0   168.0
1547          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
1548          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *
1549          KK  DWNO59  DIVERT
1550          KM   Divert remaining runoff hydrograph from combination point CNO51 west to
1551          KM   combination point CNO59
1552          DT  DSGL51     0.0     0.0
1553          DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
1554          DQ     0.0    44.0    88.0   220.0   440.0   880.0  1760.0  4400.0  8800.0 22000.0
              *
1555          KK  RWNO59   ROUTE
1556          KM   Route diversion DWNO59 west to combination point CNO59
1557          RS       3    FLOW
1558          RC   0.035   0.015   0.035    5280  0.0040    0.00
1559          RX    0.00    0.00   58.50   58.50  339.50  339.50  398.00  398.00
1560          RY    3.00    1.08    0.50    0.00    0.00    0.50    1.08    3.00
              *
1561          KK  DRNO59RETRIEVE
1562          KM   Retrieve divert DRNO59 from combination point CPOL59 and divert south to
1563          KM   combination point CNO59
1564          DR  DSNO59
              *
1565          KK  RSNO59   ROUTE
1566          KM   Route diversion retrieval DRNO59 south to combination point CNO59
1567          RS       4    FLOW
1568          RC   0.035   0.015   0.035    5280  0.0024    0.00
1569          RX    0.00    0.00   86.50   86.50  511.50  511.50  598.00  598.00
1570          RY    3.00    1.36    0.50    0.00    0.00    0.50    1.36    3.00
              *
1571          KK    NO59   BASIN
1572          KM   Runoff hydrograph for square mile subbasin NO59 northeast of the intersection
1573          KM   of Norhtern Avenue and 59th Avenue
1574          BA   0.992
1575          LG    0.25    0.15    7.60    0.09      28
1576          UC   1.311   0.871
1577          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
1578          UA     100
              *
```



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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1579          KK  ERNO59  DIVERT
1580          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
1581          KM   retention developed after 1990 in subbasin NO59
1582          DT   XNO59     16.5      0.0
1583          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
1584          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *
1585          KK   CNO59 COMBINE
1586          KM   Combine route RWNO59, route RSNO59, and subbasin NO59
1587          HC       3    4.06
              *
1588          KK  SRNO59 STORAGE
1589          KM   Storage route runoff hydrograph from combination point CNO59 through
1590          KM     regional detention basin located in subbasin NO59
```



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1591          KM   Combined storage from two retention basins
1592          KM   Stage-storage data from Butler Park Detention Basin As-built record, 1991 and
1593          KM     Butler Park Street Improvements Retention Basin As-built record, 1990
1594          RS       1    STOR
1595          SV            1.87    4.65    7.68   15.59
1596          SQ                                 2430.00
1597          SE    96.00   97.00   98.00   99.00  100.00
              *
1598          KK  PRNO51RETRIEVE
1599          KM   Retrieve full flow capacity of 168 cfs from 66-inch storm drain pipe at the
1600          KM   intersection of Northern Avenue and 51st Avenue
1601          DR  DPNO51
              *
1602          KK  RPNO59   ROUTE
1603          KM   Route full flow capacity of 168 cfs through 66-inch storm drain pipe in
1604          KM   Northern Avenue to the intersection of Northern Avenue and 51st Avenue
1605          RK    5146  0.0025   0.015             CIRC   5.500
              *
1606          KK  CPNO59 COMBINE
1607          KM   Combine pipe return PRNO51 with the runoff hydrograph at combination point
1608          KM   CNO59 at the intersection of Northern Avenue and 59th Avenue
1609          HC       2
              *
1610          KK   DNO59  DIVERT
1611          KM   Divert calculated full flow capapcity of 134 cfs into 72-inch storm drain
1612          KM   pipe at the intersection of Northern Avenue and 59th Avenue
1613          DT  DPNO59     0.0   134.0
1614          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
1615          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *
```



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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1616          KK  DWNO67  DIVERT
1617          KM   Divert remaining runoff hydrograph from combination point CPNO59 west to
1618          KM   combination point CNO67
1619          DT  DSGL59     0.0     0.0
1620          DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
1621          DQ     0.0    33.0    66.0   165.0   330.0   660.0  1320.0  3300.0  6600.0 16500.0
              *
1622          KK  RWNO67   ROUTE
1623          KM   Route diversion DWNO67 west to combination point CNO67
1624          RS       3    FLOW
1625          RC   0.035   0.015   0.035    5280  0.0029    0.00
1626          RX    0.00    0.00   58.50   58.50  339.50  339.50  398.00  398.00
1627          RY    3.00    1.08    0.50    0.00    0.00    0.50    1.08    3.00
              *
1628          KK  DRNO67RETRIEVE
1629          KM   Retrieve divert DRNO67 from combination point CPOL67 and divert south to
1630          KM   combination point CNO67
1631          DR  DSNO67
              *
1632          KK  RSNO67   ROUTE
1633          KM   Route diversion retrieval DRNO67 south to combination point CNO67
1634          RS       3    FLOW
1635          RC   0.035   0.015   0.035    5280  0.0019    0.00
1636          RX    0.00    0.00   58.50   58.50  339.50  339.50  398.00  398.00
1637          RY    3.00    1.08    0.50    0.00    0.00    0.50    1.08    3.00
              *
1638          KK    NO67   BASIN
1639          KM   Runoff hydrograph for square mile subbasin NO67 northeast of the intersection
1640          KM   of Norhtern Avenue and 67th Avenue
1641          BA   0.956
1642          LG    0.27    0.15    8.80    0.06      37
1643          UC   1.262   0.842
1644          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
1645          UA     100
              *
1646          KK  ERNO67  DIVERT
1647          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
1648          KM   retention developed after 1990 in subbasin NO67
1649          DT   XNO67     39.4      0.0
1650          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
1651          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *
1652          KK   CNO67 COMBINE
1653          KM   Combine route RWNO67, route RSNO67, and subbasin NO67
1654          HC       3    4.93
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1655          KK  DWGR75  DIVERT
1656          KM   Divert portion of runoff hydrograph from subbasin CNO67 west through subbasin
1657          KM   GR75 using the ratio of the widths and slopes of the streets going west and
1658          KM   the widths and slopes of the streets going south. The remaining flow is
1659          KM   diverted south through subbasin GR67
1660          DT  DSGR67      0.0      0.0
1661          DI     0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0 10000.0 20000.0 50000.0
1662          DQ     0.0     65.0    130.0    325.0    650.0   1300.0   2600.0  6500.0 13000.0 32500.0
              *

1663          KK   DGR75  DIVERT
1664          KM   Divert portion of DWGR75 west to subbasin GR75 using the ratio of the width
1665          KM   of the collector and local streets and the width of the arterial street. The
1666          KM   remaining flow is diverted west to subbasin NO75 along Northern Avenue
1667          DT  DWNO75      0.0      0.0
1668          DI     0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0 10000.0 20000.0 50000.0
1669          DQ     0.0     33.0     66.0    165.0    330.0    660.0   1320.0  3300.0  6600.0 16500.0
              *

1670          KK  RWGR75   ROUTE
1671          KM   Route diversion DGR75 west to combination point CGR75
1672          RS       8    FLOW
1673          RC   0.035   0.015    0.035     7409   0.0008     0.00
1674          RX    0.00    0.00    44.50    44.50   253.50   253.50   298.00   298.00
1675          RY    3.00    0.94     0.50     0.00     0.00     0.50     0.94     3.00
              *

1676          KK  DRGR75RETRIEVE
1677          KM   Retrieve divert DRGR75 from combination point CPOL75 and divert south to
1678          KM   combination point CGR75
1679          DR  DSGR75
              *

1680          KK   D75GR  DIVERT
1681          KM   Divert portion of divert retrieval DRGR75 south to subbasin NO75 along
1682          KM   collector and local streets. The remaining flow is diverted south to subbasin
1683          KM   GR75 along 75th Avenue to combination point CGR75
1684          DT  DSNO75      0.0      0.0
1685          DI     0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0 10000.0 20000.0 50000.0
1686          DQ     0.0     36.0     72.0    180.0    360.0    720.0   1440.0  3600.0  7200.0 18000.0
              *

1687          KK    GR75   BASIN
1688          KM   Runoff hydrograph for subbasin GR75 southeast of the intersection of Grand
1689          KM   Avenue and 75th Avenue
1690          BA   0.496
1691          LG    0.25    0.17    8.80    0.05      42
1692          UC   0.787   0.416
1693          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
1694          UA     100
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1695          KK  ERGR75  DIVERT
1696          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
1697          KM   retention developed after 1990 in subbasin GR75
1698          DT   XGR75     18.0      0.0
1699          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
1700          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

1701          KK   CGR75 COMBINE
1702          KM   Combine runoff hydrographs from route RWGR75, divert D75GR, and subbasin GR75
1703          HC       3    3.09
              *

1704          KK  SRGR75 STORAGE
1705          KM   Storage route runoff hydrograph from combination point CGR75 through regional
1706          KM     detention basin located near the intersection of Grand Avenue and Olive
1707          KM     Avenue
1708          KM   Stage-storage-discharge data from State Highway Wickenburg-Phoenix Highway
1709          KM     (US 60), Grand Ave: 75th Ave-Olive Ave As-builts, ADOT, August 2004
1710          RS       1    STOR
1711          SV     0.0     0.4      2.1      4.8      7.7     14.0     21.0     28.7     37.2     46.3
1712          SV    56.2    66.9     72.6     75.5     78.4
1713          SQ     0.0     8.0     20.0     25.0     29.0     36.0     42.0     47.0     52.0     56.0
1714          SQ    60.0    64.0     66.0    305.0   1417.0
1715          SE  1118.0  1119.0  1120.0  1121.0  1122.0  1124.0  1126.0  1128.0  1130.0  1132.0
1716          SE  1134.0  1136.0  1137.0  1137.5  1138.0
              *

1717          KK  PROL75RETRIEVE
1718          KM   Retrieve full flow capacity of 239 cfs from 90-inch storm drain pipe at the
1719          KM   intersection of Olive Avenue and 75th Avenue
1720          DR  DPOL75
              *
```



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1721          KK  CPOLGR COMBINE
1722          KM   Combine pipe return PROL75 with storage route SRGR75 at combination point
1723          KM   CPOLGR at the intersection of Olive Avenue and Grand Avenue
1724          HC       2
              *

1725          KK  DPOLGR  DIVERT
1726          KM   Divert calculated full flow capapcity of 239 cfs into 90-inch storm drain
1727          KM   pipe at the intersection of Olive Avenue and Grand Avenue. The pipe flow is
1728          KM   followed to combination point CPOL83 and the remaining surface flow is
1729          KM   diverted to combination point CIGR75 at the intersection of Grand Avenue and
1730          KM   75th Avenue
1731          DT   DOLGR      0.0      0.0
1732          DI     0.0    239.0    239.1 50000.0      0.0      0.0      0.0      0.0      0.0      0.0
1733          DQ     0.0      0.0      0.1 49761.0      0.0      0.0      0.0      0.0      0.0      0.0
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1734          KK  RPOL83   ROUTE
1735          KM   Route full flow capacity of 239 cfs through 90-inch storm drain pipe in
1736          KM   Olive Avenue to the intersection of Olive Avenue and 83rd Avenue
1737          RK    4974  0.0010   0.015            CIRC   7.500
              *

1738          KK  CPOL83 COMBINE
1739          KM   Combine pipe return PROL75 with the runoff hydrograph at combination point
1740          KM   COL83 at the intersection of Olive Avenue and 83rd Avenue
1741          HC       2
              *

1742          KK  SROL83 STORAGE
1743          KM   Storage route runoff hydrograph from combination point CPOL83 through
1744          KM     regional detention basin located near the intersection of Olive Avenue
1745          KM     and 83rd Avenue
1746          KM   Stage-storage data from topography provided by FCDMC dated 3/28/1994
1747          RS       1    STOR
1748          SV            5.45   13.07   21.61   23.90   26.31   31.42
1749          SQ           57.00  147.00  148.00  635.00 1517.00 4002.00
1750          SE  1118.0 1120.00 1122.00 1124.00 1124.50 1125.00 1126.00
              *

1751          KK   DOL83  DIVERT
1752          KM   Divert calculated full flow capapcity of 243 cfs into 90-inch storm drain
1753          KM   pipe at the intersection of Olive Avenue and 83rd Avenue
1754          DT  DPOL83      0.0    243.0
1755          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
1756          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

1757          KK  DWOL91  DIVERT
1758          KM   Divert remaining runoff hydrograph from combination point CPOL83 west to
1759          KM   combination point COL91
1760          DT  DSNO83      0.0      0.0
1761          DI     0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0 10000.0 20000.0 50000.0
1762          DQ     0.0     39.0     78.0    195.0    390.0    780.0   1560.0  3900.0  7800.0 19500.0
              *

1763          KK  RWOL91   ROUTE
1764          KM   Route diversion DWOL91 west to combination point COL91
1765          RS       8    FLOW
1766          RC   0.035   0.015    0.035     5280   0.0025     0.00
1767          RX    0.00    0.00    76.50    76.50   372.50   372.50   449.00   449.00
1768          RY    3.00    1.27     0.50     0.00     0.00     0.50     1.27     3.00
              *

1769          KK  DROL91RETRIEVE
1770          KM   Retrieve divert DROL91 from combination point CPPE91 and divert south to
1771          KM   combination point COL91
1772          DR  DSOL91
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1773          KK  RSOL91   ROUTE
1774          KM   Route diversion retrieval DROL91 south to combination point COL91
1775          RS       4    FLOW
1776          RC   0.035   0.015    0.035     5280   0.0019     0.00
1777          RX    0.00    0.00    86.00    86.00   413.00   413.00   499.00   499.00
1778          RY    3.00    1.36     0.50     0.00     0.00     0.50     1.36     3.00
              *

1779          KK    OL91   BASIN
1780          KM   Runoff hydrograph for square mile subbasin OL91 northeast of the intersection
1781          KM   of Olive Avenue and 91st Avenue
1782          BA   1.016
1783          LG    0.22    0.15    9.70    0.04      40
1784          UC   1.255   0.831
1785          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
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1786          UA     100
              *

1787          KK  EROL91  DIVERT
1788          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
1789          KM   retention developed after 1990 in subbasin OL91
1790          DT   XOL91     44.9      0.0
1791          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
1792          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

1793          KK   COL91 COMBINE
1794          KM   Combine route RWOL91, route RSOL91, and subbasin OL91
1795          HC        3    3.68
              *

1796          KK  PROL83RETRIEVE
1797          KM   Retrieve full flow capacity of 243 cfs from 90-inch storm drain pipe at the
1798          KM   intersection of Olive Avenue and 83rd Avenue
1799          DR  DPOL83
              *

1800          KK  RPOL91   ROUTE
1801          KM   Route full flow capacity of 243 cfs through 90-inch storm drain pipe in
1802          KM   Olive Avenue to the intersection of Olive Avenue and 91st Avenue
1803          RK    5184  0.0010   0.015            CIRC    7.500
              *

1804          KK  CPOL91 COMBINE
1805          KM   Combine pipe return PROL83 with the runoff hydrograph at combination point
1806          KM   COL91 at the intersection of Olive Avenue and 91st Avenue
1807          HC        2
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9.....10

1808          KK  DWOLLO  DIVERT
1809          KM   Divert remaining runoff hydrograph from combination point CPOL91 west to
1810          KM   combination point COLLO
1811          DT  DSNO91      0.0      0.0
1812          DI     0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0  10000.0  20000.0  50000.0
1813          DQ     0.0     67.0    134.0    335.0    670.0   1340.0   2680.0   6700.0  13400.0  33500.0
              *

1814          KK  RWOLLO   ROUTE
1815          KM   Route diversion DWOLLO west to combination point COLLO
1816          RS        1    FLOW
1817          RC   0.035    0.015    0.035      600   0.0039     0.00
1818          RX    0.00     0.00    16.50    16.50   107.50   107.50   124.00   124.00
1819          RY    3.00     0.66     0.50     0.00     0.00     0.50     0.66     3.00
              *

1820          KK   OLLO   BASIN
1821          KM   Runoff hydrograph for subbasin OLLO northeast of the intersection of Olive
1822          KM   Avenue and SR Loop 101
1823          BA   0.160
1824          LG    0.10     0.15     8.80     0.05       85
1825          UC   0.668    0.736
1826          UA       0      5.0     16.0     30.0     65.0     77.0     84.0     90.0     94.0     97.0
1827          UA     100
              *

1828          KK  EROLLO  DIVERT
1829          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
1830          KM   retention developed after 1990 in subbasin OLLO
1831          DT   XOLLO     11.4      0.0
1832          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
1833          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

1834          KK   COLLO COMBINE
1835          KM   Combine route RWOLLO, route RSOLLO, and subbasin OLLO
1836          HC        3    6.18
              *

1837          KK  RSNOLO   ROUTE
1838          KM   Route hydrograph at combination point COLLO south to combination point CNOLO
1839          RS        2    FLOW
1840          RC   0.035    0.015    0.035     6136   0.0023     0.00
1841          RX    0.00     4.00    16.00    26.00    34.00    44.00    56.00    59.00
1842          RY    6.24     5.24     5.00     0.00     0.20     5.20     5.44     6.44
              *

1843          KK  DROLGRRETRIEVE
1844          KM   Retrieve remaining surface flow runoff hydrograph DROLGR following pipe
1845          KM   diversion DPOLGR after combination point CPOLGR at the intersection of Grand
1846          KM   Avenue and Olive Avenue
1847          DR   DOLGR
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9.....10

1848          KK  DI75NORETRIEVE
1849          KM   Retrieve arterial street flow diverted to 75th Avenue at the intersection
1850          KM   of 75th Avenue and Grand Avenue
1851          DR  DSNO75
              *

1852          KK  DR75NORETRIEVE
1853          KM   Retrieve divert DR75NO from combination point CGR83 and divert south to
1854          KM   combination point CIGR75
1855          DR  DS75NO
              *

1856          KK  CIGR75 COMBINE
1857          KM   Combine arterial street flow from 75th Avenue DI75NO, divert retrieval DR75NO
1858          KM   and storage route SRGR75 at the intersection of 75th Avenue and Grand Avenue
1859          HC        3    7.85
              *

1860          KK  RSNO75   ROUTE
1861          KM   Route hydrograph at intersection combination point CIGR75
1862          KM   south to combination point CNO75
1863          RS        2    FLOW
1864          RC    0.035    0.015    0.035     5280   0.0019     0.00
1865          RX     0.00     0.00    29.00    29.00   170.00   170.00   199.00   199.00
1866          RY     3.00     0.79     0.50     0.00     0.00     0.50     0.79     3.00
              *

1867          KK  DINO75RETRIEVE
1868          KM   Retrieve arterial street flow diverted to Northern Avenue and 75th Avenue
1869          KM   from the intersection of Northern Avenue and 67th Avenue
1870          DR  DWNO75
              *

1871          KK  RWNO75   ROUTE
1872          KM   Route diversion retrieval DINO75 at the intersection of Norhtern Avenue
1873          KM   and 75th Avenue west to combination point CNO75
1874          RS        3    FLOW
1875          RC    0.035    0.015    0.035     5280   0.0030     0.00
1876          RX     0.00     0.00    16.50    16.50   107.50   107.50   124.00   124.00
1877          RY     3.00     0.66     0.50     0.00     0.00     0.50     0.66     3.00
              *

1878          KK   NO75   BASIN
1879          KM   Runoff hydrograph for subbasin NO75 northeast of the intersection of
1880          KM   Norhtern Avenue and 75th Avenue
1881          BA   0.506
1882          LG    0.21     0.15     8.40     0.07       58
1883          UC   0.732    0.383
1884          UA       0      5.0     16.0     30.0     65.0     77.0     84.0     90.0     94.0     97.0
1885          UA     100
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9.....10

1886          KK  ERNO75  DIVERT
1887          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
1888          KM   retention developed after 1990 in subbasin NO75
1889          DT   XNO75      6.6      0.0
1890          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
1891          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

1892          KK   CNO75 COMBINE
1893          KM   Combine route RWNO75, route RSNO75, and subbasin NO75
1894          HC        3    8.93
              *

1895          KK   DNO75  DIVERT
1896          KM   Divert calculated full flow capapcity of 161 cfs into 60-inch storm drain
1897          KM   pipe at the intersection of Northern Avenue and 75th Avenue
1898          DT  DPNO75      0.0    161.0
1899          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
1900          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

1901          KK  DWNO83  DIVERT
1902          KM   Divert remaining runoff hydrograph from combination point CNO75 west to
1903          KM   combination point CNO83
1904          DT  DSOW75      0.0      0.0
1905          DI     0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0  10000.0  20000.0  50000.0
1906          DQ     0.0     48.0     96.0    240.0    480.0    960.0   1920.0   4800.0   9600.0  24000.0
              *

1907          KK  RWNO83   ROUTE
1908          KM   Route diversion DWNO83 west to combination point CNO83
1909          RS        2    FLOW
1910          RC    0.035    0.015    0.035     5280   0.0048     0.00
1911          RX     0.00     0.00    35.50    35.50   188.50   188.50   224.00   224.00
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1912          RY    3.00    0.86    0.50    0.00    0.00    0.50    0.86    3.00
              *

1913          KK  DRNO83RETRIEVE
1914          KM   Retrieve divert DRNO83 from combination point COL83 and divert south to
1915          KM   combination point CNO83
1916          DR  DSNO83
              *

1917          KK  RSNO83    ROUTE
1918          KM   Route diversion retrieval DRNO83 south to combination point CNO83
1919          RS      6     FLOW
1920          RC   0.035   0.015   0.035    5280  0.0040    0.00
1921          RX    0.00    0.00   35.50   35.50  188.50  188.50  224.00  224.00
1922          RY    3.00    0.86    0.50    0.00    0.00    0.50    0.86    3.00
              *
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LINE          ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

1923          KK    NO83    BASIN
1924          KM   Runoff hydrograph for square mile subbasin NO83 northeast of the intersection
1925          KM   of Norhtern Avenue and 83rd Avenue
1926          BA   1.005
1927          LG    0.33    0.15    8.80    0.07      35
1928          UC   1.094   0.713
1929          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
1930          UA     100
              *

1931          KK  ERNO83   DIVERT
1932          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
1933          KM   retention developed after 1990 in subbasin NO83
1934          DT   XNO83     22.2      0.0
1935          DI     0.0 50000.0      0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
1936          DQ     0.0 50000.0      0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

1937          KK   CNO83 COMBINE
1938          KM   Combine route RWNO83, route RSNO83, and subbasin NO83
1939          HC        3    6.05
              *

1940          KK  PRNO75RETRIEVE
1941          KM   Retrieve full flow capacity of 161 cfs from 60-inch storm drain pipe at the
1942          KM   intersection of Thunderbird Road and 75th Avenue
1943          DR  DPNO75
              *

1944          KK  RPNO83    ROUTE
1945          KM   Route full flow capacity of 161 cfs through 60-inch storm drain pipe in
1946          KM   Northern Avenue to the intersection of Northern Avenue and 83rd Avenue
1947          RK    5291  0.0038   0.015            CIRC   5.000
              *

1948          KK  CPNO83 COMBINE
1949          KM   Combine pipe return PRNO75 with the runoff hydrograph at combination point
1950          KM   CNO83 at the intersection of Northern Avenue and 83rd Avenue
1951          HC        2
              *

1952          KK   DNO83   DIVERT
1953          KM   Divert calculated full flow capapcity of 233 cfs into 72-inch storm drain
1954          KM   pipe at the intersection of Northern Avenue and 83rd Avenue
1955          DT  DPNO83      0.0   233.0
1956          DI     0.0 50000.0      0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
1957          DQ     0.0 50000.0      0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *
1                                        HEC-1 INPUT                                    PAGE 51

LINE          ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

1958          KK  RWNO91    ROUTE
1959          KM   Route diversion DWNO91 west to combination point CNO91
1960          RS        3    FLOW
1961          RC   0.035   0.015   0.035    5280  0.0014    0.00
1962          RX    0.00    0.00   45.00   45.00  229.00  229.00  274.00  274.00
1963          RY    3.00    0.95    0.50    0.00    0.00    0.50    0.95    3.00
              *

1964          KK  DRNO91RETRIEVE
1965          KM   Retrieve divert DRNO91 from combination point CPOL91 and divert south to
1966          KM   combination point CNO91
1967          DR  DSNO91
              *

1968          KK  RSNO91    ROUTE
1969          KM   Route diversion retrieval DRNO91 south to combination point CNO91
1970          RS        3    FLOW
1971          RC   0.035   0.015   0.035    5280  0.0029    0.00
1972          RX    0.00    0.00   48.00   48.00  251.00  251.00  299.00  299.00
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1973          RY    3.00    0.98    0.50    0.00    0.00    0.50    0.98    3.00
              *

1974          KK    NO91    BASIN
1975          KM   Runoff hydrograph for square mile subbasin NO91 northeast of the intersection
1976          KM   of Norhtern Avenue and 91st Avenue
1977          BA   0.993
1978          LG    0.29    0.17    8.00    0.08      23
1979          UC   1.338   0.894
1980          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
1981          UA     100
              *

1982          KK  ERNO91   DIVERT
1983          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
1984          KM   retention developed after 1990 in subbasin NO91
1985          DT   XNO91     35.1      0.0
1986          DI     0.0 50000.0      0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
1987          DQ     0.0 50000.0      0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

1988          KK   CNO91 COMBINE
1989          KM   Combine route RWNO91, route RSNO91, and subbasin NO91
1990          HC        3    9.52
              *

1991          KK  PRNO83RETRIEVE
1992          KM   Retrieve full flow capacity of 233 cfs from 72-inch storm drain pipe at the
1993          KM   intersection of Northern Avenue and 83rd Avenue
1994          DR  DPNO83
              *
1                                        HEC-1 INPUT                                    PAGE 52

LINE          ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

1995          KK  RPNO91    ROUTE
1996          KM   Route full flow capacity of 233 cfs through 72-inch storm drain pipe in
1997          KM   Northern Avenue to the intersection of Northern Avenue and 91st Avenue
1998          RK     6941  0.0030   0.015            CIRC   6.000
              *

1999          KK  CPNO91 COMBINE
2000          KM   Combine pipe return PRNO83 with the runoff hydrograph at combination point
2001          KM   CNO91 at the intersection of Northern Avenue and 91st Avenue
2002          HC        2
              *

2003          KK  SRNO91 STORAGE
2004          KM   Storage route runoff hydrograph from combination point CPNO91 through
2005          KM     regional detention basin located near the intersection of Northern Avenue
2006          KM     and 87th Avenue
2007          KM   Stage-storage data from Northern and Butler Storm Drains Sub-Phase "A"
2008          KM     As-built records, 2001
2009          RS        1    STOR
2010          SV             7.00    21.80    62.20    67.50    72.90    84.00  107.20
2011          SQ            18.00    26.00    38.00 1526.00 4245.0011934.0033681.00
2012          SE  1089.2 1090.90 1092.50 1095.80 1096.20 1096.60 1097.50 1099.10
              *

2013          KK   DNO91   DIVERT
2014          KM   Divert calculated full flow capapcity of 69 cfs into 60-inch storm drain
2015          KM   pipe at the intersection of Northern Avenue and 29th Avenue
2016          DT  DPNO91      0.0     69.0
2017          DI     0.0 50000.0      0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
2018          DQ     0.0 50000.0      0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

2019          KK  DWNOLO  DIVERT
2020          KM   Divert remaining runoff hydrograph from combination point CPNO91 west to
2021          KM   combination point CNOLO
2022          DT  DSGL91      0.0     0.0
2023          DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
2024          DQ     0.0    53.0   106.0   265.0   530.0  1060.0  2120.0  5300.0 10600.0 26500.0
              *

2025          KK  RWNOLO   ROUTE
2026          KM   Route diversion DWNOLO west to combination point CNOLO
2027          RS        2    FLOW
2028          RC   0.035   0.015   0.035    3480  0.0026    0.00
2029          RX    0.00    0.00   45.00   45.00  229.00  229.00  274.00  274.00
2030          RY    3.00    0.95    0.50    0.00    0.00    0.50    0.95    3.00
              *

2031          KK    NOLO    BASIN
2032          KM   Runoff hydrograph for subbasin NOLO northeast of the intersection of Northern
2033          KM   Avenue and SR Loop 101
2034          BA   0.280
2035          LG    0.10    0.15    7.30    0.09      85
2036          UC   0.764   0.850
1                                        HEC-1 INPUT                                    PAGE 53

LINE          ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10
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2037          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
2038          UA     100
              *

2039          KK  ERNOLO  DIVERT
2040          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
2041          KM   retention developed after 1990 in subbasin NOLO
2042          DT   XNOLO     19.9      0.0
2043          DI     0.0 50000.0      0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
2044          DQ     0.0 50000.0      0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

2045          KK   CNOLO COMBINE
2046          KM   Combine route RWNOLO, route RSNOLO, and subbasin NOLO
2047          HC        3   10.91
              *

2048          KK  PRNO91RETRIEVE
2049          KM   Retrieve full flow capacity of 69 cfs from 60-inch storm drain pipe at the
2050          KM   intersection of Northern Avenue and 91st Avenue
2051          DR  DPNO91
              *

2052          KK  RPNOLO   ROUTE
2053          KM   Route full flow capacity of 69cfs through 60-inch storm drain pipe in
2054          KM   Northern Avenue to the intersection of Northern Avenue and SR Loop 101
2055          RK    2827  0.0007   0.015            CIRC   5.000
              *

2056          KK  CPNOLO COMBINE
2057          KM   Combine pipe return PRNO91 with the runoff hydrograph at combination point
2058          KM   CNOLO at the intersection of Northern Avenue and SR Loop 101
2059          HC        2
              *

2060          KK   DNOLO  DIVERT
2061          KM   Divert calculated full flow capapcity of 15 cfs into 24-inch storm drain
2062          KM   pipe at the intersection of Northern Avenue and SR Loop 101
2063          DT  DPNOLO      0.0     15.0
2064          DI     0.0 50000.0      0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
2065          DQ     0.0 50000.0      0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

2066          KK  DSGLLO  DIVERT
2067          KM   Divert remaining runoff hydrograph from combination point CPNOLO south to
2068          KM   combination point CGLLO
2069          DT  DWNR03     0.0   917.0
2070          DI     0.0 50000.0      0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
2071          DQ     0.0 50000.0      0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *
1                                        HEC-1 INPUT                                    PAGE 54

LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9.....10

2072          KK  RSGLLO   ROUTE
2073          KM   Route diversion DSGLLO south to combination point CGLLO
2074          RS        1    FLOW
2075          RC   0.035   0.015   0.035    2381  0.0023    0.00
2076          RX    0.00    4.00   16.00   26.00   34.00   44.00   56.00   59.00
2077          RY    6.24    5.24    5.00    0.00    0.20    5.20    5.44    6.44
              *

2078          KK  DRGL43RETRIEVE
2079          KM   Retrieve divert DRGL43 from combination point CPNO43 and divert south to
2080          KM   combination point CGL43
2081          DR  DSGL43
              *

2082          KK  RSGL43   ROUTE
2083          KM   Route diversion retrieval DRGL43 south to combination point CGL43
2084          RS        3    FLOW
2085          RC   0.035   0.015   0.035    5280  0.0034    0.00
2086          RX    0.00    0.00   57.50   57.50  291.50  291.50  349.00  349.00
2087          RY    3.00    1.08    0.50    0.00    0.00    0.50    1.08    3.00
              *

2088          KK    GL43   BASIN
2089          KM   Runoff hydrograph for square mile subbasin GL43 northeast of the intersection
2090          KM   of Glendale Avenue and 43rd Avenue
2091          BA   0.998
2092          LG    0.24    0.15    7.30    0.09      36
2093          UC   1.333   0.883
2094          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
2095          UA     100
              *

2096          KK   CGL43 COMBINE
2097          KM   Combine route RSGL43, and subbasin GL43
2098          HC        2    2.03
              *
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2099          KK  PR43NORETRIEVE
2100          KM   Retrieve combined full flow capacity of 241 cfs from 71-inch equivalent
2101          KM   diameter pipe at the intersection of Northern Avenue and 43rd Avenue
2102          DR  DP43NO
              *

2103          KK  RP43GL   ROUTE
2104          KM   Route the combined full flow capacity of 241 cfs through an equivalent storm
2105          KM   drain pipe diameter of 71 inches in 43rd Avenue to the intersection of
2106          KM   43rd Avenue and Glendale Avenue
2107          RK    5336  0.0035   0.015            CIRC   5.917
              *
1                                        HEC-1 INPUT                                    PAGE 55

LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9.....10

2108          KK  CPGL43 COMBINE
2109          KM   Combine pipe return PR43NO with the runoff hydrograph at combination point
2110          KM   CGL43 at the intersection of Glendale Avenue and 43rd Avenue
2111          HC        2
              *

2112          KK   D43GL  DIVERT
2113          KM   Capacity of storm drain in 39th Avenue and 43rd Avenue diverted together.
2114          KM   Divert combined calculated full flow capacity of 268 cfs in the 72-inch storm
2115          KM   drain pipe in 39th Avenue and 117 cfs in the 54-inch storm drain pipe in
2116          KM   43rd Avenue. The total calculated combined full flow capacity diverted at the
2117          KM   intersection of 43rd Avenue and Glendale Avenue is 385 cfs in an equivalent
2118          KM   diameter pipe of 85 inches
2119          DT  DP43GL      0.0   385.0
2120          DI     0.0 50000.0      0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
2121          DQ     0.0 50000.0      0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

2122          KK  DWGL51  DIVERT
2123          KM   Divert remaining runoff hydrograph from combination point CPGL43 west to
2124          KM   combination point CGL51
2125          DT  DSBH43      0.0     0.0
2126          DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
2127          DQ     0.0    59.0   118.0   295.0   590.0  1180.0  2360.0  5900.0 11800.0 29500.0
              *

2128          KK  RWGL51   ROUTE
2129          KM   Route diversion DWGL51 west to combination point CGL51
2130          RS        5    FLOW
2131          RC   0.035   0.015   0.035    5280  0.0011    0.00
2132          RX    0.00    0.00   61.50   61.50  316.50  316.50  378.00  378.00
2133          RY    3.00    1.12    0.50    0.00    0.00    0.50    1.12    3.00
              *

2134          KK  DRGL51RETRIEVE
2135          KM   Retrieve divert DRGL51 from combination point CNO51 and divert south to
2136          KM   combination point CGL51
2137          DR  DSGL51
              *

2138          KK  RSGL51   ROUTE
2139          KM   Route diversion retrieval DRGL51 south to combination point CGL51
2140          RS        4    FLOW
2141          RC   0.035   0.015   0.035    5280  0.0027    0.00
2142          RX    0.00    0.00   61.50   61.50  316.50  316.50  378.00  378.00
2143          RY    3.00    1.12    0.50    0.00    0.00    0.50    1.12    3.00
              *

2144          KK    GL51   BASIN
2145          KM   Runoff hydrograph for square mile subbasin GL51 northeast of the intersection
2146          KM   of Glendale Avenue and 51st Avenue
2147          BA   1.002
2148          LG    0.23    0.25    5.40    0.20      41
2149          UC   1.431   0.958
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9.....10

2150          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
2151          UA     100
              *

2152          KK   CGL51 COMBINE
2153          KM   Combine route RWGL51, route RSGL51, and subbasin GL51
2154          HC        3    2.91
              *

2155          KK  DWGL59  DIVERT
2156          KM   Divert remaining runoff hydrograph from combination point CGL51 west to
2157          KM   combination point CGL59
2158          DT  DSBH51      0.0     0.0
2159          DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
2160          DQ     0.0    47.0    94.0   235.0   470.0   940.0  1880.0  4700.0  9400.0 23500.0
              *

2161          KK  RWGL59   ROUTE
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2162          KM   Route diversion DWGL59 west to combination point CGL59
2163          RS      4     FLOW
2164          RC   0.035   0.015   0.035    5280  0.0031     0.00
2165          RX    0.00    0.00   68.50   68.50  359.50  359.50  428.00  428.00
2166          RY    3.00    1.18    0.50    0.00    0.00    0.50    1.18    3.00
              *

2167          KK  DRGL59RETRIEVE
2168          KM   Retrieve divert DRGL59 from combination point CPNO59 and divert south to
2169          KM   combination point CGL59
2170          DR  DSGL59
              *

2171          KK  RSGL59   ROUTE
2172          KM   Route diversion retrieval DRGL59 south to combination point CGL59
2173          RS      4     FLOW
2174          RC   0.035   0.015   0.035    5280  0.0018     0.00
2175          RX    0.00    0.00   37.50   37.50  210.50  210.50  248.00  248.00
2176          RY    3.00    0.88    0.50    0.00    0.00    0.50    0.88    3.00
              *

2177          KK    GL59   BASIN
2178          KM   Runoff hydrograph for square mile subbasin GL59 northeast of the intersection
2179          KM   of Glendale Avenue and 59th Avenue
2180          BA   1.015
2181          LG    0.20    0.25    5.20    0.22      46
2182          UC   1.244   0.824
2183          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
2184          UA     100
              *

2185          KK  ERGL59  DIVERT
2186          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
2187          KM   retention developed after 1990 in subbasin GL59
2188          DT  XGL59     22.1     0.0
2189          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
2190          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

2191          KK   CGL59 COMBINE
2192          KM   Combine route RWGL59, route RSGL59, and subbasin GL59
2193          HC       3    3.91
              *

2194          KK   D59GL  DIVERT
2195          KM   Divert calculated full flow capapcity of 217 cfs into 72-inch storm drain
2196          KM   pipe at the intersection of Glendale Avenue and 59th Avenue
2197          DT  DP59GL     0.0   217.0
2198          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
2199          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

2200          KK  DWGR67  DIVERT
2201          KM   Divert portion of runoff hydrograph from combination point CGL59 west through
2202          KM   subbasin GR67 using the ratio of the widths and slopes of the streets going
2203          KM   west and the widths and slopes of the streets going south. The remaining flow
2204          KM   is diverted south through subbasin GR59
2205          DT  DSGR59     0.0     0.0
2206          DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
2207          DQ     0.0    46.0    92.0   230.0   460.0   920.0  1840.0  4600.0  9200.0 23000.0
              *

2208          KK   DGR67  DIVERT
2209          KM   Divert portion of DWGR67 west to subbasin GR67 using the ratio of the width
2210          KM   of the collector and local streets and the width of the arterial street. The
2211          KM   remaining flow is diverted west to subbasin GL67 along Glendale Avenue
2212          DT  DWGL67     0.0     0.0
2213          DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
2214          DQ     0.0    26.0    52.0   130.0   260.0   520.0  1040.0  2600.0  5200.0 13000.0
              *

2215          KK  DRGL35RETRIEVE
2216          KM   Retrieve divert DRGL35 from combination point CPNO35 and divert south to
2217          KM   combination point CGL35
2218          DR  DSGL35
              *

2219          KK  RSGL35   ROUTE
2220          KM   Route diversion retrieval DRGL35 south to combination point CGL35
2221          RS       6     FLOW
2222          RC   0.035   0.015   0.035    5280  0.0032     0.00
2223          RX    0.00    0.00   76.50   76.50  372.50  372.50  449.00  449.00
2224          RY    3.00    1.27    0.50    0.00    0.00    0.50    1.27    3.00
              *

2225          KK    GL35   BASIN
2226          KM   Runoff hydrograph for square mile subbasin GL35 northeast of the intersection
2227          KM   of Glendale Avenue and 35th Avenue
2228          BA   1.004
```



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2229          LG    0.23    0.23    6.20    0.15      34
2230          UC   1.500   1.012
2231          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
2232          UA     100
              *
1                                    HEC-1 INPUT                                          PAGE 58

LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

2233          KK   CGL35 COMBINE
2234          KM   Combine route RSGL35, and subbasin GL35
2235          HC       2    1.53
              *

2236          KK  PR35NORETRIEVE
2237          KM   Retrieve combined full flow capacity of 113 cfs from 53-inch equivalent
2238          KM   diameter pipe at the intersection of Northern Avenue and 35th Avenue
2239          DR  DP35NO
              *

2240          KK  RP35GL   ROUTE
2241          KM   Route the combined full flow capacity of 113 cfs through an equivalent storm
2242          KM   drain pipe diameter of 53 inches in 35th Avenue to the intersection of
2243          KM   35th Avenue and Glendale Avenue
2244          RK    5335  0.0037   0.015            CIRC   4.417
              *

2245          KK  CPGL35 COMBINE
2246          KM   Combine pipe return PR35NO with the runoff hydrograph at combination point
2247          KM   CGL35 at the intersection of Glendale Avenue and 35th Avenue
2248          HC       2
              *

2249          KK   D35GL  DIVERT
2250          KM   Capacity of storm drain in 31st Avenue and 35th Avenue diverted together.
2251          KM   Divert combined calculated full flow capacity of 165 cfs in the 60-inch storm
2252          KM   drain pipe in 31st Avenue and 61 cfs in the 42-inch storm drain pipe in
2253          KM   49th Avenue. The total calculated combined full flow capacity diverted at the
2254          KM   intersection of 35th Avenue and Glendale Avenue is 226 cfs in an equivalent
2255          KM   diameter pipe of 69 inches
2256          DT  DP35GL     0.0   226.0
2257          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
2258          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

2259          KK  DEGL27  DIVERT
2260          KM   Divert remaining runoff hydrograph from combination point CPGL35 east to
2261          KM   combination point CGL27
2262          DT  DSBH35     0.0     0.0
2263          DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
2264          DQ     0.0    61.0   122.0   305.0   610.0  1220.0  2440.0  6100.0 12200.0 30500.0
              *

2265          KK  DRGL27RETRIEVE
2266          KM   Retrieve divert DRGL27 from subbasin NO27 and divert south to combination
2267          KM   point CGL27
2268          DR  DSGL27
              *
1                                    HEC-1 INPUT                                          PAGE 59

LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

2269          KK  RSGL27   ROUTE
2270          KM   Route diversion retrieval DRGL27 south to combination point CGL27
2271          RS       1     FLOW
2272          RC   0.035   0.015   0.035    5280  0.0040     0.00
2273          RX    0.00    0.00   26.00   26.00  148.00  148.00  174.00  174.00
2274          RY    3.00    0.76    0.50    0.00    0.00    0.50    0.76    3.00
              *

2275          KK    GL27   BASIN
2276          KM   Runoff hydrograph for subbasin GL27 northeast of the intersection of Glendale
2277          KM   Avenue and 27th Avenue
2278          BA   0.258
2279          LG    0.23    0.17    6.80    0.11      45
2280          UC   0.915   0.726
2281          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
2282          UA     100
              *

2283          KK   CGL27 COMBINE
2284          KM   Combine divert DEGL27, route RSGL27, and subbasin GL27
2285          HC       3    0.98
              *

2286          KK  PR29NORETRIEVE
2287          KM   Retrieve full flow capacity of 114 cfs from 54-inch diameter pipe at the
2288          KM   intersection of Northern Avenue and 29th Avenue
2289          DR  DP29NO
              *
```

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2290          KK  RP27GL    ROUTE
2291          KM   Route full flow capacity of 114 cfs through 54-inch storm drain pipe in
2292          KM   in 27th Avenue to the intersection of 27th Avenue and Glendale Avenue
2293          RK    5260  0.0034   0.015            CIRC   4.500
              *

2294          KK  CPGL27 COMBINE
2295          KM   Combine pipe return PR29NO with the runoff hydrograph at combination point
2296          KM   CGL27 at the intersection of Glendale Avenue and 27th Avenue
2297          HC       2
              *

2298          KK   D27GL  DIVERT
2299          KM   Divert calculated full flow capapcity of 132 cfs into 57-inch storm drain
2300          KM   pipe at the intersection of Glendale Avenue and 27th Avenue
2301          DT  DP27GL     0.0   132.0
2302          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
2303          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

1                                        HEC-1 INPUT                                        PAGE 60

LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

2304          KK  RSBH27    ROUTE
2305          KM   Route remainder of divert D27GL south to combination point CBH27
2306          RS       2    FLOW
2307          RC   0.035   0.015   0.035    5280  0.0039    0.00
2308          RX    0.00    0.00   26.00   26.00  148.00  148.00  174.00  174.00
2309          RY    3.00    0.76    0.50    0.00    0.00    0.50    0.76    3.00
              *

2310          KK    BH27    BASIN
2311          KM   Runoff hydrograph for subbasin BH27 northeast of the intersection of Bethany
2312          KM   Home Road and 27th Avenue
2313          BA   0.258
2314          LG    0.21    0.25    4.80    0.25      55
2315          UC   0.818   0.641
2316          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
2317          UA     100
              *

2318          KK    CBH27 COMBINE
2319          KM   Combine route RSBH27, and subbasin BH27
2320          HC       2    1.24
              *

2321          KK  PR27GLRETRIEVE
2322          KM   Retrieve full flow capacity of 132 cfs from 57-inch storm drain pipe at the
2323          KM   intersection of Glendale Avenue and 27th Avenue
2324          DR  DP27GL
              *

2325          KK  RP27BH    ROUTE
2326          KM   Route full flow capacity of 132 cfs through 57-inch storm drain pipe in
2327          KM   27th Avenue to the intersection of Bethany Home Road and 27th Avenue
2328          RK    5221  0.0034   0.015            CIRC   4.750
              *

2329          KK  CPBH27 COMBINE
2330          KM   Combine pipe return PR27GL with the runoff hydrograph at combination point
2331          KM   CBH27 at the intersection of Bethany Home Road and 27th Avenue
2332          HC       2
              *

2333          KK   D27BH  DIVERT
2334          KM   Divert calculated full flow capapcity of 132 cfs into 57-inch storm drain
2335          KM   pipe at the intersection of Bethany Home Road and 27th Avenue
2336          DT  DP27BH     0.0   132.0
2337          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
2338          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

1                                        HEC-1 INPUT                                        PAGE 61

LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

2339          KK  DWBH35  DIVERT
2340          KM   Divert remaining runoff hydrograph from combination point CPBH27 west to
2341          KM   combination point CBH35
2342          DT  DSCB27     0.0     0.0
2343          DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
2344          DQ     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
              *

2345          KK  RWBH35    ROUTE
2346          KM   Route diversion DWBH35 west to combination point CBH35
2347          RS       1    FLOW
2348          RC   0.035   0.015   0.035    5280  0.0002    0.00
2349          RX    0.00    0.00   86.00   86.00  413.00  413.00  499.00  499.00
2350          RY    3.00    1.36    0.50    0.00    0.00    0.50    1.36    3.00
              *
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2351          KK  DRBH35RETRIEVE
2352          KM   Retrieve divert DRBH35 from combination point CGL35 and divert south to
2353          KM   combination point CBH35
2354          DR  DSBH35
              *

2355          KK  RSBH35    ROUTE
2356          KM   Route diversion retrieval DRBH35 south to combination point CBH35
2357          RS       4    FLOW
2358          RC   0.035   0.015   0.035    5280  0.0049    0.00
2359          RX    0.00    0.00   67.00   67.00  332.00  332.00  399.00  399.00
2360          RY    3.00    1.17    0.50    0.00    0.00    0.50    1.17    3.00
              *

2361          KK    BH35    BASIN
2362          KM   Runoff hydrograph for square mile subbasin BH35 northeast of the intersection
2363          KM   of Bethany Home Road and 35th Avenue
2364          BA   1.005
2365          LG    0.24    0.25    5.20    0.22      36
2366          UC   0.860   0.312
2367          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
2368          UA     100
              *

2369          KK    CBH35 COMBINE
2370          KM   Combine route RWBH35, route RSBH35, and subbasin BH35
2371          HC       3    1.94
              *

2372          KK  PR35GLRETRIEVE
2373          KM   Retrieve combined full flow capacity of 226 cfs from 69-inch equivalent
2374          KM   diameter pipe at the intersection of Glendale Avenue and 35th Avenue
2375          DR  DP35GL
              *

1                                        HEC-1 INPUT                                        PAGE 62

LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

2376          KK  RP35BH    ROUTE
2377          KM   Route the combined full flow capacity of 226 cfs through an equivalent storm
2378          KM   drain pipe diameter of 69 inches in 35th Avenue to the intersection of
2379          KM   35th Avenue and Bethany Home Road
2380          RK    5147  0.0037   0.015            CIRC   5.750
              *

2381          KK  CPBH35 COMBINE
2382          KM   Combine pipe return PR35GL with the runoff hydrograph at combination point
2383          KM   CBH35 at the intersection of Bethany Home Road and 35th Avenue
2384          HC       2
              *

2385          KK   D35BH  DIVERT
2386          KM   Capacity of storm drain in 31st Avenue and 35th Avenue diverted together.
2387          KM   Divert combined calculated full flow capacity of 165 cfs in the 60-inch storm
2388          KM   drain pipe in 31st Avenue and 61 cfs in the 42-inch storm drain pipe in
2389          KM   49th Avenue. The total calculated combined full flow capacity diverted at the
2390          KM   intersection of 35th Avenue and Bethany Home Road is 226 cfs in an equivalent
2391          KM   diameter pipe of 69 inches
2392          DT  DP35BH     0.0   226.0
2393          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
2394          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

2395          KK  DWBH43  DIVERT
2396          KM   Divert remaining runoff hydrograph from combination point CPBH35 west to
2397          KM   combination point CBH43
2398          DT  DSCB35     0.0     0.0
2399          DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
2400          DQ     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
              *

2401          KK  RWBH43    ROUTE
2402          KM   Route diversion DWBH43 west to combination point CBH43
2403          RS       1    FLOW
2404          RC   0.035   0.015   0.035    5280  0.0001    0.00
2405          RX    0.00    0.00  133.50  133.50  615.50  615.50  749.00  749.00
2406          RY    3.00    1.84    0.50    0.00    0.00    0.50    1.84    3.00
              *

2407          KK  DRBH43RETRIEVE
2408          KM   Retrieve divert DRBH43 from combination point CGL43 and divert south to
2409          KM   combination point CBH43
2410          DR  DSBH43
              *

2411          KK  RSBH43    ROUTE
2412          KM   Route diversion retrieval DRBH43 south to combination point CBH43
2413          RS       3    FLOW
2414          RC   0.035   0.015   0.035    5280  0.0028    0.00
2415          RX    0.00    0.00   57.50   57.50  291.50  291.50  349.00  349.00
2416          RY    3.00    1.08    0.50    0.00    0.00    0.50    1.08    3.00
              *
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LINE          ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

2417          KK    BH43   BASIN
2418          KM   Runoff hydrograph for square mile subbasin BH43 northeast of the intersection
2419          KM   of Bethany Home Road and 43rd Avenue
2420          BA   0.993
2421          LG    0.23    0.25    5.20    0.24      32
2422          UC   1.415   0.951
2423          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
2424          UA     100
              *

2425          KK   CBH43 COMBINE
2426          KM   Combine route RWBH43, route RSBH43, and subbasin BH43
2427          HC       3    2.19
              *

2428          KK  PR43GLRETRIEVE
2429          KM   Retrieve combined full flow capacity of 385 cfs from 85-inch equivalent
2430          KM   diameter pipe at the intersection of Glendale Avenue and 43rd Avenue
2431          DR  DP43GL
              *

2432          KK  RP43BH   ROUTE
2433          KM   Route the combined full flow capacity of 385 cfs through an equivalent storm
2434          KM   drain pipe diameter of 85 inches in 43rd Avenue to the intersection of
2435          KM   43rd Avenue and Bethany Home Road
2436          RK    5295  0.0035   0.015           CIRC   7.083
              *

2437          KK  CPBH43 COMBINE
2438          KM   Combine pipe return PR43GL with the runoff hydrograph at combination point
2439          KM   CBH43 at the intersection of Bethany Home Road and 43rd Avenue
2440          HC       2
              *

2441          KK   D43BH  DIVERT
2442          KM   Capacity of storm drain in 39th Avenue and 43rd Avenue diverted together.
2443          KM   Divert combined calculated full flow capacity of 268 cfs in the 72-inch storm
2444          KM   drain pipe in 39th Avenue and 117 cfs in the 54-inch storm drain pipe in
2445          KM   43rd Avenue. The total calculated combined full flow capacity diverted at the
2446          KM   intersection of 43rd Avenue and Glendale Avenue is 385 cfs in an equivalent
2447          KM   diameter pipe of 85 inches
2448          DT  DP43BH     0.0   385.0
2449          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
2450          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

2451          KK  DWBH51  DIVERT
2452          KM   Divert remaining runoff hydrograph from combination point CPBH43 west to
2453          KM   combination point CBH51
2454          DT  DSCB43     0.0     0.0
2455          DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
2456          DQ     0.0    51.0   102.0   255.0   510.0  1020.0  2040.0  5100.0 10200.0 25500.0
              *
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LINE          ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

2457          KK  RWBH51   ROUTE
2458          KM   Route diversion DWBH51 west to combination point CBH51
2459          RS       5    FLOW
2460          RC   0.035   0.015   0.035    5280  0.0016    0.00
2461          RX    0.00    0.00   75.50   75.50  402.50  402.50  478.00  478.00
2462          RY    3.00    1.25    0.50    0.00    0.00    0.50    1.25    3.00
              *

2463          KK  DRBH51RETRIEVE
2464          KM   Retrieve divert DRBH51 from combination point CGL51 and divert south to
2465          KM   combination point CBH51
2466          DR  DSBH51
              *

2467          KK   D47GL  DIVERT
2468          KM   Capacity of storm drain in 47th Avenue and 49th Avenue diverted together.
2469          KM   Divert combined calculated full flow capacity of 284 cfs in the 60-inch storm
2470          KM   drain pipe in 47th Avenue and 96 cfs in the 48-inch storm drain pipe in
2471          KM   49th Avenue. The total calculated combined full flow capacity diverted at the
2472          KM   intersection of 47rd Avenue and Glendale Avenue is 379 cfs in an equivalent
2473          KM   diameter pipe of 85 inches
2474          DT  DP47GL     0.0   379.0
2475          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
2476          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

2477          KK  RSBH51   ROUTE
2478          KM   Route diversion retrieval DRBH51 south to combination point CBH51
2479          RS       4    FLOW
2480          RC   0.035   0.015   0.035    5280  0.0030    0.00
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2481          RX    0.00    0.00   61.50   61.50  316.50  316.50  378.00  378.00
2482          RY    3.00    1.12    0.50    0.00    0.00    0.50    1.12    3.00
              *

2483          KK    BH51   BASIN
2484          KM   Runoff hydrograph for square mile subbasin BH51 northeast of the intersection
2485          KM   of Bethany Home Road and 51st Avenue
2486          BA   0.995
2487          LG    0.22    0.23    6.20    0.15      43
2488          UC   1.433   0.975
2489          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
2490          UA     100
              *

2491          KK   CBH51 COMBINE
2492          KM   Combine route RWBH51, route RSBH51, and subbasin BH51
2493          HC       3    3.42
              *
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LINE          ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

2494          KK  PR47GLRETRIEVE
2495          KM   Retrieve combined full flow capacity of 379 cfs from 85-inch equivalent
2496          KM   diameter pipe at the intersection of Glendale Avenue and 47th Avenue
2497          DR  DP47GL
              *

2498          KK  RP51BH   ROUTE
2499          KM   Route the combined full flow capacity of 379 cfs through an equivalent storm
2500          KM   drain pipe diameter of 85 inches in 51st Avenue to the intersection of
2501          KM   51st Avenue and Bethany Home Road
2502          RK    2773  0.0118   0.015           CIRC   7.083
              *

2503          KK  CPBH51 COMBINE
2504          KM   Combine pipe return PR47GL with the runoff hydrograph at combination point
2505          KM   CBH51 at the intersection of Bethany Home Road and 51st Avenue
2506          HC       2
              *

2507          KK  SRBH51 STORAGE
2508          KM   Storage route runoff hydrograph from combination point CPBH51 through the
2509          KM     regional detention basin located near the intersection of Bethany Home Road
2510          KM     and 51st Avenue
2511          KM   Combined storage from two retention basins
2512          KM   Stage-storage data from topography provided by FCDMC dated 3/28/1994
2513          RS       1    STOR
2514          SV            1.99   12.41   22.30   22.30   31.52   42.36   53.20
2515          SQ            8.00   24.00 1649.00 1649.00 1649.00 1649.00 4349.00
2516          SE  1146.0 1148.00 1150.00 1151.00 1152.00 1154.00 1156.00 1157.00
              *

2517          KK  DWGR59  DIVERT
2518          KM   Divert portion of runoff hydrograph from combination point CPBH51 west
2519          KM   through subbasin GR59 using the ratio of the widths and slopes of the streets
2520          KM   going west and the widths and slopes of the streets going south. The
2521          KM   remaining flow is diverted south through subbasin GR43
2522          DT  DSGR43     0.0     0.0
2523          DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
2524          DQ     0.0    32.0    64.0   160.0   320.0   640.0  1280.0  3200.0  6400.0 16000.0
              *

2525          KK   DGR59  DIVERT
2526          KM   Divert portion of DWGR59 west to subbasin GR59 using the ratio of the width
2527          KM   of the collector and local streets and the width of the arterial street. The
2528          KM   remaining flow is diverted west to subbasin BH59 along Bethany Home Road
2529          DT  DWBH59     0.0     0.0
2530          DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
2531          DQ     0.0    23.0    46.0   115.0   230.0   460.0   920.0  2300.0  4600.0 11500.0
              *
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LINE          ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

2532          KK  DRGR59RETRIEVE
2533          KM   Retrieve divert DRGR59 from combination point CGL59 and divert south to
2534          KM   combination point CGR59
2535          DR  DSGR59
              *

2536          KK   D59GR  DIVERT
2537          KM   Divert portion of divert retrieval DRGR59 south to subbasin BH59 along 59th
2538          KM   Avenue. Divert remaining runoff hydrograph south to combination point CGR59
2539          DT  DSBH59     0.0     0.0
2540          DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
2541          DQ     0.0    52.0   104.0   260.0   520.0  1040.0  2080.0  5200.0 10400.0 26000.0
              *

2542          KK    GR59   BASIN
2543          KM   Runoff hydrograph for subbasin GR59 southeast of the intersection of Grand
```

```
2544          KM   Avenue and 59th Avenue
2545          BA   0.518
2546          LG    0.16    0.25    4.80    0.25      62
2547          UC   0.609   0.308
2548          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
2549          UA     100
              *

2550          KK   CGR59 COMBINE
2551          KM   Combine remainder of divert retrieval DRGR59, divert DGR59, and subbasin GR59
2552          HC       3    3.18
              *

2553          KK  DNGR67  DIVERT
2554          KM   Divert portion of runoff hydrograph from combination point CGR59 north to the
2555          KM   intersection of 67th Avenue and Grand Avenue and the remaining flow south
2556          KM   to the intersection of Bethany Home Road and Grand Avenue. The diversion is
2557          KM   based on topography
2558          DT   DBH59      0.0     0.0
2559          DI       0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
2560          DQ       0.0    50.0   100.0   250.0   500.0  1000.0  2000.0  5000.0 10000.0 25000.0
              *

2561          KK   DGRGL  DIVERT
2562          KM   Divert calculated full flow capapcity of 234 cfs into 60-inch storm drain
2563          KM   pipe at the intersection of Grand Avenue and Glendale Avenue
2564          DT  DPGRGL      0.0   234.0
2565          DI       0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
2566          DQ       0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

2567          KK  CIGR59 COMBINE
2568          KM   Combine diverts DRGL and DGR67 at the intersection of Grand Avenue and 59th
2569          KM   Avenue
2570          HC       2    3.15
              *
```



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LINE          ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

2571          KK  RWGR67   ROUTE
2572          KM   Route diversion DGR67 west to combination point CGR67
2573          RS       8    FLOW
2574          RC   0.035   0.015   0.035    7222  0.0008    0.00
2575          RX    0.00    0.00   75.50   75.50  402.50  402.50  478.00  478.00
2576          RY    3.00    1.25    0.50    0.00    0.00    0.50    1.25    3.00
              *

2577          KK  DRGR67RETRIEVE
2578          KM   Retrieve divert DRGR67 from combination point CNO67 and divert south to
2579          KM   combination point CGR67
2580          DR  DSGR67
              *

2581          KK    GR67   BASIN
2582          KM   Runoff hydrograph for subbasin GR67 southeast of the intersection of Grand
2583          KM   Avenue and 67th Avenue
2584          BA   0.497
2585          LG    0.18    0.16    7.60    0.09      43
2586          UC   0.764   0.406
2587          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
2588          UA     100
              *

2589          KK  ERGR67  DIVERT
2590          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
2591          KM   retention developed after 1990 in subbasin GR67
2592          DT   XGR67      1.0     0.0
2593          DI       0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
2594          DQ       0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

2595          KK   CGR67 COMBINE
2596          KM   Combine route RWGR67, divert retrieval DRGR67, and subbasin GR67
2597          HC       3    6.83
              *

2598          KK  PRNO59RETRIEVE
2599          KM   Retrieve full flow capacity of 134 cfs from 72-inch storm drain pipe at the
2600          KM   intersection of Northern Avenue and 59th Avenue
2601          DR  DPNO59
              *

2602          KK  RPNO67   ROUTE
2603          KM   Route full flow capacity of 134 cfs through 72-inch storm drain pipe in
2604          KM   Grand Avenue to the intersection of Grand Avenue and 67th Avenue
2605          RK    2688  0.0010   0.015            CIRC   6.000
              *
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LINE          ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10
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2606          KK  PR59GLRETRIEVE
2607          KM   Retrieve full flow capacity of 217 cfs from 72-inch storm drain pipe at the
2608          KM   intersection of Glendale Avenue and 59th Avenue
2609          DR  DP59GL
              *

2610          KK  PRGRGLRETRIEVE
2611          KM   Retrieve full flow capacity of 234 cfs from 60-inch storm drain pipe at the
2612          KM   intersection of Grand Avenue and Glendale Avenue
2613          DR  DPGRGL
              *

2614          KK  CPGL59 COMBINE
2615          KM   Combine pipe return PR59GL with pipe return PRGRGL at combination point
2616          KM   CGL59 near the intersection of Glendale Avenue and 59th Avenue
2617          HC       2    1.42
              *

2618          KK  RPGR67   ROUTE
2619          KM   Route combined full flow capacity of 451 cfs through 108-inch storm drain pip
2620          KM   Grand Avenue to the intersection of Grand Avenue and 67th Avenue
2621          RK    4247  0.0018   0.015            CIRC   9.000
              *

2622          KK  CPGR67 COMBINE
2623          KM   Combine pipe return PRNO59, pipe route RPGR67 and the runoff hydrograph at
2624          KM   combination point CGR67 at the intersection of Grand Avenue and 67th Avenue
2625          HC       3
              *

2626          KK  SRGR67 STORAGE
2627          KM   Storage route runoff hydrograph from combination point CPGR67 through
2628          KM     regional detention basin located near the intersection of Grand Avenue
2629          KM     and 67th Avenue
2630          KM   Stage-storage data from Orangewood Ave Storm Drain Sub-Phase "C" As-builts
2631          RS       1    STOR
2632          SV            2.25   11.38   31.32   57.76  140.64  378.04  409.71  478.76
2633          SQ           24.00   62.00  105.00  133.00  189.00  299.00 1529.00 6654.00
2634          SE  1130.0 1131.00 1132.00 1133.00 1134.00 1136.00 1142.00 1143.00 1145.00
              *

2635          KK   D67GR  DIVERT
2636          KM   Divert calculated full flow capapcity of 546 cfs into 108-inch storm drain
2637          KM   pipe at the intersection of Grand Avenue and 67th Avenue
2638          DT  DP67GR      0.0   546.0
2639          DI       0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
2640          DQ       0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *
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LINE          ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

2641          KK  RSOW67   ROUTE
2642          KM   Route remainder of divert D67GR south to combination point COW67
2643          RS       1    FLOW
2644          RC   0.035   0.015   0.035    2640  0.0035    0.00
2645          RX    0.00    0.00   17.50   17.50  112.50  112.50  130.00  130.00
2646          RY    3.00    0.68    0.50    0.00    0.00    0.50    0.68    3.00
              *

2647          KK    OW67   BASIN
2648          KM   Runoff hydrograph for subbasin OW67 northeast of the intersection of
2649          KM   Orangewood Avenue and 67th Avenue
2650          BA   0.119
2651          LG    0.23    0.15    8.00    0.08      62
2652          UC   0.436   0.298
2653          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
2654          UA     100
              *

2655          KK   COW67 COMBINE
2656          KM   Combine route RWOW67 and subbasin OW67
2657          HC       2    6.95
              *

2658          KK  PRGR67RETRIEVE
2659          KM   Retrieve full flow capacity of 546 cfs from 108-inch storm drain pipe at the
2660          KM   intersection of Grand Avenue and 67th Avenue
2661          DR  DP67GR
              *

2662          KK  RPOW67   ROUTE
2663          KM   Route full flow capacity of 546 cfs through 108-inch storm drain pipe in
2664          KM   Orangewood Avenue to the intersection of Orangewood Avenue and 67th Avenue
2665          RK    2517  0.0019   0.015            CIRC   9.000
              *

2666          KK  CPOW67 COMBINE
2667          KM   Combine pipe return PRGR67 with the runoff hydrograph at combination point
2668          KM   COW67 at the intersection of Orangewood Avenue and 67th Avenue
2669          HC       2
```

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                *
2670            KK   DOW67  DIVERT
2671            KM   Divert calculated full flow capapcity of 181 cfs into 66-inch storm drain
2672            KM   pipe at the intersection of Orangewood Avenue and 67th Avenue
2673            DT  DPOW67      0.0    181.0
2674            DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
2675            DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
                *
1                                          HEC-1 INPUT                                                    PAGE 70

          LINE  ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

2676            KK  DWOW75  DIVERT
2677            KM   Divert remaining runoff hydrograph from combination point CPOW67 west to
2678            KM   combination point COW75
2679            DT  DSGL67      0.0      0.0
2680            DI      0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0  10000.0  20000.0  50000.0
2681            DQ      0.0     51.0    102.0    255.0    510.0   1020.0   2040.0   5100.0  10200.0  25500.0
                *

2682            KK  RWOW75   ROUTE
2683            KM   Route diversion DWOW75 west to combination point COW75
2684            RS       5     FLOW
2685            RC   0.035    0.015    0.035     5280   0.0025     0.00
2686            RX    0.00     0.00    34.00    34.00   184.00   184.00   218.00   218.00
2687            RY    3.00     0.84     0.50     0.00     0.00     0.50     0.84     3.00
                *

2688            KK  DROW75RETRIEVE
2689            KM   Retrieve divert DROW75 from combination point CNO75 and divert south to
2690            KM   combination point COW75
2691            DR  DSOW75
                *

2692            KK  RSOW75   ROUTE
2693            KM   Route diversion retrieval DROW75 south to combination point COW75
2694            RS       2     FLOW
2695            RC   0.035    0.015    0.035     2640   0.0025     0.00
2696            RX    0.00     0.00    47.50    47.50   240.50   240.50   288.00   288.00
2697            RY    3.00     0.98     0.50     0.00     0.00     0.50     0.98     3.00
                *

2698            KK   OW75   BASIN
2699            KM   Runoff hydrograph for half square mile subbasin OW75 northeast of the
2700            KM   intersection of Orangewood Avenue and 75th Avenue
2701            BA   0.498
2702            LG    0.24     0.17     8.80     0.05       48
2703            UC   0.804    0.598
2704            UA       0      5.0     16.0     30.0     65.0     77.0     84.0     90.0     94.0     97.0
2705            UA     100
                *

2706            KK  EROW75  DIVERT
2707            KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
2708            KM   retention developed after 1990 in subbasin OW75
2709            DT   XOW75     19.1      0.0
2710            DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
2711            DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
                *

2712            KK   COW75 COMBINE
2713            KM   Combine route RWOW75, route RSOW75, and subbasin OW75
2714            HC       3     8.17
                *
1                                          HEC-1 INPUT                                                    PAGE 71

          LINE  ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

2715            KK  PROW67RETRIEVE
2716            KM   Retrieve full flow capacity of 181 cfs from 66-inch storm drain pipe at the
2717            KM   intersection of Orangewood Avenue and 67th Avenue
2718            DR  DPOW67
                *

2719            KK  RPOW71   ROUTE
2720            KM   Route full flow capacity of 181 cfs through 66-inch storm drain pipe in
2721            KM   Orangewood Avenue to the intersection of Orangewood Avenue and 71st Avenue
2722            RK    2145  0.0029   0.015            CIRC   5.500
                *

2723            KK  CPOW71 COMBINE
2724            KM   Combine pipe return PROW67 with the runoff hydrograph at combination point
2725            KM   COW71 at the intersection of Orangewood Avenue and 71st Avenue
2726            HC       2
                *

2727            KK  SROW75 STORAGE
2728            KM   Storage route runoff hydrograph from combination point CPOW71 through
2729            KM     regional detention basin located near the intersection of Orangewood Avenue
2730            KM     and 71st Avenue
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2731            KM   Stage-storage data from Orangewood Avenue Storm Drain As-builts, 1980
2732            RS       1     STOR
2733            SV              8.74    20.36    34.36    49.53    65.12    97.58   118.22
2734            SQ                       42.00   400.00  1044.00  2459.00  3812.00
2735            SE  1121.0 1122.00 1123.00 1124.00 1125.00 1126.00 1128.00 1129.00
                *

2736            KK   DOW71  DIVERT
2737            KM   Divert calculated full flow capapcity of 44 cfs into 42-inch storm drain
2738            KM   pipe at the intersection of Orangewood Avenue and 71st Avenue
2739            DT  DPOW71      0.0     44.0
2740            DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
2741            DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
                *

2742            KK  PROW71RETRIEVE
2743            KM   Retrieve full flow capacity of 44 cfs from 42-inch storm drain pipe at the
2744            KM   intersection of Orangewood Avenue and 71st Avenue
2745            DR  DPOW71
                *

2746            KK  RPOW75   ROUTE
2747            KM   Route full flow capacity of 44 cfs through 42-inch storm drain pipe in
2748            KM   Orangewood Avenue to the intersection of Orangewood Avenue and 75th Avenue
2749            RK    3391  0.0019   0.015            CIRC   3.500
                *
1                                          HEC-1 INPUT                                                    PAGE 72

          LINE  ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

2750            KK  CPOW75 COMBINE
2751            KM   Combine pipe return PROW71 with the runoff hydrograph at combination point
2752            KM   COW75 at the intersection of Orangewood Avenue and 75th Avenue
2753            HC       2
                *

2754            KK   DOW75  DIVERT
2755            KM   Divert calculated full flow capapcity of 66 cfs into 48-inch storm drain
2756            KM   pipe at the intersection of Orangewood Avenue and 75th Avenue
2757            DT  DPOW75      0.0     66.0
2758            DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
2759            DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
                *

2760            KK  DWOW83  DIVERT
2761            KM   Divert remaining runoff hydrograph from combination point CPOW75 west to
2762            KM   combination point COW83
2763            DT  DSGL75      0.0      0.0
2764            DI      0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0  10000.0  20000.0  50000.0
2765            DQ      0.0     76.0    152.0    380.0    760.0   1520.0   3040.0   7600.0  15200.0  38000.0
                *

2766            KK  RWOW83   ROUTE
2767            KM   Route diversion DWOW83 west to combination point COW83
2768            RS       3     FLOW
2769            RC   0.035    0.015    0.035     5280   0.0029     0.00
2770            RX    0.00     0.00    20.00    20.00    98.00    98.00   118.00   118.00
2771            RY    3.00     0.70     0.50     0.00     0.00     0.50     0.70     3.00
                *

2772            KK   OW83   BASIN
2773            KM   Runoff hydrograph for half square mile subbasin OW83 northeast of the
2774            KM   intersection of Orangewood Avenue and 83rd Avenue
2775            BA   0.496
2776            LG    0.29     0.17     8.40     0.07       21
2777            UC   1.195    0.930
2778            UA       0      5.0     16.0     30.0     65.0     77.0     84.0     90.0     94.0     97.0
2779            UA     100
                *

2780            KK  EROW83  DIVERT
2781            KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
2782            KM   retention developed after 1990 in subbasin OW83
2783            DT   XOW83      8.7      0.0
2784            DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
2785            DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
                *

2786            KK   COW83 COMBINE
2787            KM   Combine route RWOW83 and subbasin OW83
2788            HC       2     2.46
                *
1                                          HEC-1 INPUT                                                    PAGE 73

          LINE  ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

2789            KK  PROW75RETRIEVE
2790            KM   Retrieve full flow capacity of 66 cfs from 48-inch storm drain pipe at the
2791            KM   intersection of Orangewood Avenue and 75th Avenue
2792            DR  DPOW75
                *
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2793          KK  RPOW83    ROUTE
2794          KM   Route full flow capacity of 66 cfs through 48-inch storm drain pipe in
2795          KM   Orangewood Avenue to the intersection of Orangewood Avenue and 67th Avenue
2796          RK    5178  0.0021    0.015            CIRC   4.000
              *

2797          KK  CPOW83 COMBINE
2798          KM   Combine pipe return PROW75 with the runoff hydrograph at combination point
2799          KM   COW83 at the intersection of Orangewood Avenue and 83rd Avenue
2800          HC       2
              *

2801          KK   D83OW  DIVERT
2802          KM   Divert calculated full flow capapcity of 255 cfs into 72-inch storm drain
2803          KM   pipe at the intersection of Orangewood Avenue and 83rd Avenue
2804          DT  DP83OW      0.0   255.0
2805          DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
2806          DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

2807          KK  DWOW91  DIVERT
2808          KM   Divert remaining runoff hydrograph from combination point CPOW83 west to
2809          KM   combination point CGL91
2810          DT  DSGL83      0.0      0.0
2811          DI      0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0  10000.0  20000.0  50000.0
2812          DQ      0.0     85.0    170.0    425.0    850.0   1700.0   3400.0   8500.0  17000.0  42500.0
              *

2813          KK  RWOW91    ROUTE
2814          KM   Route diversion DWOW91 west to combination point COW91
2815          RS       10     FLOW
2816          RC   0.035    0.015    0.035     5280   0.0038     0.00
2817          RX    0.00     0.00     7.00     7.00    43.00    43.00    50.00    50.00
2818          RY    3.00     0.57     0.50     0.00     0.00     0.50     0.57     3.00
              *

2819          KK  DIGL67RETRIEVE
2820          KM   Retrieve arterial street flow diverted to Glendale Avenue at the intersection
2821          KM   of Glendale Avenue and 67th Avenue
2822          DR  DWGL67
              *

2823          KK  RWGL67    ROUTE
2824          KM   Route diversion retrieval DIGL67 at the intersection of Glendale Avenue
2825          KM   and 67th Avenue west to combination point CGL67
2826          RS        4     FLOW
2827          RC   0.035    0.015    0.035     5280   0.0037     0.00
2828          RX    0.00     0.00    41.50    41.50   218.50   218.50   260.00   260.00
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

2829          RY    3.00     0.92     0.50     0.00     0.00     0.50     0.92     3.00
              *

2830          KK    GL67    BASIN
2831          KM   Runoff hydrograph for square mile subbasin GL67 northeast of the intersection
2832          KM   of Glendale Avenue and 67th Avenue
2833          BA   0.359
2834          LG    0.19     0.25     5.40     0.19       63
2835          UC   0.660    0.405
2836          UA       0      5.0     16.0     30.0     65.0     77.0     84.0     90.0     94.0     97.0
2837          UA     100
              *

2838          KK  DRGL67RETRIEVE
2839          KM   Retrieve divert DRGL67 from combination point CPOW67 and divert south to
2840          KM   combination point CGL67
2841          DR  DSGL67
              *

2842          KK  RSGL67    ROUTE
2843          KM   Route diversion retrieval DRGL67 south to combination point CGL67
2844          RS        2     FLOW
2845          RC   0.035    0.015    0.035     2640   0.0052     0.00
2846          RX    0.00     0.00    27.50    27.50   132.50   132.50   160.00   160.00
2847          RY    3.00     0.78     0.50     0.00     0.00     0.50     0.78     3.00
              *

2848          KK    CGL67 COMBINE
2849          KM   Combine route RWGL67, route RSGL67, and subbasin GL67
2850          HC        3     4.47
              *

2851          KK  DWGL75  DIVERT
2852          KM   Divert remaining runoff hydrograph from combination point CGL67 west to
2853          KM   combination point CGL75
2854          DT  DSBH67      0.0      0.0
2855          DI      0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0  10000.0  20000.0  50000.0
2856          DQ      0.0     49.0     98.0    245.0    490.0    980.0   1960.0   4900.0   9800.0  24500.0
              *
```



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2857          KK  RWGL75    ROUTE
2858          KM   Route diversion DWGL75 west to combination point CGL75
2859          RS        6     FLOW
2860          RC   0.035    0.015    0.035     5280   0.0034     0.00
2861          RX    0.00     0.00    47.00    47.00   283.00   283.00   330.00   330.00
2862          RY    3.00     0.97     0.50     0.00     0.00     0.50     0.97     3.00
              *

2863          KK  DRGL75RETRIEVE
2864          KM   Retrieve divert DRGL75 from combination point CPOW75 and divert south to
2865          KM   combination point CGL75
2866          DR  DSGL75
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

2867          KK  RSGL75    ROUTE
2868          KM   Route diversion retrieval DRGL75 south to combination point CGL75
2869          RS        1     FLOW
2870          RC   0.035    0.015    0.035     2640   0.0035     0.00
2871          RX    0.00     0.00    54.50    54.50   283.50   283.50   338.00   338.00
2872          RY    3.00     1.04     0.50     0.00     0.00     0.50     1.04     3.00
              *

2873          KK    GL75    BASIN
2874          KM   Runoff hydrograph for half square mile subbasin GL75 northeast of the
2875          KM   intersection of Glendale Avenue and 75th Avenue
2876          BA   0.499
2877          LG    0.26     0.15     8.80     0.05       42
2878          UC   1.190    0.923
2879          UA       0      5.0     16.0     30.0     65.0     77.0     84.0     90.0     94.0     97.0
2880          UA     100
              *

2881          KK  ERGL75  DIVERT
2882          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
2883          KM   retention developed after 1990 in subbasin GL75
2884          DT   XGL75     38.5      0.0
2885          DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
2886          DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

2887          KK    CGL75 COMBINE
2888          KM   Combine route RWGL75, route RSGL75, and subbasin GL75
2889          HC        3     8.97
              *

2890          KK  DWGL83  DIVERT
2891          KM   Divert remaining runoff hydrograph from combination point CGL75 west to
2892          KM   combination point CGL83
2893          DT  DSBH75      0.0      0.0
2894          DI      0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0  10000.0  20000.0  50000.0
2895          DQ      0.0     50.0    100.0    250.0    500.0   1000.0   2000.0   5000.0  10000.0  25000.0
              *

2896          KK  RWGL83    ROUTE
2897          KM   Route diversion DWGL83 west to combination point CGL83
2898          RS        3     FLOW
2899          RC   0.035    0.015    0.035     5280   0.0032     0.00
2900          RX    0.00     0.00    47.00    47.00   283.00   283.00   330.00   330.00
2901          RY    3.00     0.97     0.50     0.00     0.00     0.50     0.97     3.00
              *

2902          KK  DRGL83RETRIEVE
2903          KM   Retrieve divert DRGL83 from combination point CPOW83 and divert south to
2904          KM   combination point CGL83
2905          DR  DSGL83
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

2906          KK  RSGL83    ROUTE
2907          KM   Route diversion retrieval DRGL83 south to combination point CGL83
2908          RS       10     FLOW
2909          RC   0.035    0.015    0.035     2640   0.0041     0.00
2910          RX    0.00     0.00    38.50    38.50   241.50   241.50   280.00   280.00
2911          RY    3.00     0.88     0.50     0.00     0.00     0.50     0.88     3.00
              *

2912          KK    GL83    BASIN
2913          KM   Runoff hydrograph for half square mile subbasin GL83 northeast of the
2914          KM   intersection of Glendale Avenue and 83rd Avenue
2915          BA   0.495
2916          LG    0.27     0.16     7.00     0.11       28
2917          UC   1.161    0.897
2918          UA       0      5.0     16.0     30.0     65.0     77.0     84.0     90.0     94.0     97.0
2919          UA     100
              *
```

```
2920          KK  ERGL83  DIVERT
2921          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
2922          KM   retention developed after 1990 in subbasin GL83
2923          DT   XGL83    16.3     0.0
2924          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
2925          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

2926          KK   CGL83 COMBINE
2927          KM   Combine route RWGL83, route RSGL83, and subbasin GL83
2928          HC       3    7.11
              *

2929          KK  PR83OWRETRIEVE
2930          KM   Retrieve full flow capacity of 255 cfs from 72-inch storm drain pipe at the
2931          KM   intersection of Orangewood Avenue and 83rd Avenue
2932          DR  DP83OW
              *

2933          KK  RP83GL   ROUTE
2934          KM   Route full flow capacity of 255 cfs through 72-inch storm drain pipe in
2935          KM   83rd Avenue to the intersection of Glendale Avenue and 83rd Avenue
2936          RK    2644  0.0036   0.015            CIRC   6.000
              *

2937          KK  CPGL83 COMBINE
2938          KM   Combine pipe return PR83OW with the runoff hydrograph at combination point
2939          KM   CGL83 at the intersection of Glendale Avenue and 83rd Avenue
2940          HC       2
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

2941          KK   DGL83  DIVERT
2942          KM   Divert calculated full flow capapcity of 374 cfs into 84-inch storm drain
2943          KM   pipe at the intersection of Glendale Avenue and 83rd Avenue
2944          DT  DPGL83      0.0   374.0
2945          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
2946          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

2947          KK  DWGL91  DIVERT
2948          KM   Divert remaining runoff hydrograph from combination point CPGL83 west to
2949          KM   combination point CGL91
2950          DT  DSBH83      0.0     0.0
2951          DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
2952          DQ     0.0    63.0   126.0   315.0   630.0  1260.0  2520.0  6300.0 12600.0 31500.0
              *

2953          KK  RWGL91   ROUTE
2954          KM   Route diversion DWGL91 west to combination point CGL92
2955          RS       3    FLOW
2956          RC   0.035   0.015   0.035    5280  0.0032     0.00
2957          RX    0.00    0.00   33.00   33.00  197.00  197.00  230.00  230.00
2958          RY    3.00    0.83    0.50    0.00    0.00    0.50    0.83    3.00
              *

2959          KK  DRGL91RETRIEVE
2960          KM   Retrieve divert DRGL91 from combination point CCPNO91 and divert south to
2961          KM   combination point CGL91
2962          DR  DSGL91
              *

2963          KK  RSGL91   ROUTE
2964          KM   Route diversion retrieval DRGL91 south to combination point CGL91
2965          RS       3    FLOW
2966          RC   0.035   0.015   0.035    5280  0.0032     0.00
2967          RX    0.00    0.00   38.50   38.50  241.50  241.50  280.00  280.00
2968          RY    3.00    0.88    0.50    0.00    0.00    0.50    0.88    3.00
              *

2969          KK    GL91   BASIN
2970          KM   Runoff hydrograph for square mile subbasin GL91 northeast of the intersection
2971          KM   of Glendale Avenue and 91st Avenue
2972          BA   0.979
2973          LG    0.28    0.19    6.80    0.13      25
2974          UC   1.385   0.932
2975          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
2976          UA     100
              *

2977          KK  ERGL91  DIVERT
2978          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
2979          KM   retention developed after 1990 in subbasin GL91
2980          DT   XGL91    51.6     0.0
2981          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
2982          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10
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2983          KK   CGL91 COMBINE
2984          KM   Combine route RWGL91, route RSGL91, route RWoW91, and subbasin GL91
2985          HC       4    9.02
              *

2986          KK  PRGL83RETRIEVE
2987          KM   Retrieve full flow capacity of 374 cfs from 84-inch storm drain pipe at the
2988          KM   intersection of Glendale Avenue and 83rd Avenue
2989          DR  DPGL83
              *

2990          KK  RPGL91   ROUTE
2991          KM   Route full flow capacity of 374 cfs through 84-inch storm drain pipe in
2992          KM   Glendale Avenue to the intersection of Glendale Avenue and 91st Avenue
2993          RK    5306  0.0034   0.015            CIRC   7.000
              *

2994          KK  CPGL91 COMBINE
2995          KM   Combine pipe return PRGL83 with the runoff hydrograph at combination point
2996          KM   CGL91 at the intersection of Glendale Avenue and 91st Avenue
2997          HC       2
              *

2998          KK   DGL91  DIVERT
2999          KM   Divert calculated full flow capapcity of 449 cfs into 90-inch storm drain
3000          KM   pipe at the intersection of Glendale Avenue and 91st Avenue
3001          DT  DPGL91      0.0   449.0
3002          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
3003          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

3004          KK  DWGLLO  DIVERT
3005          KM   Divert remaining runoff hydrograph from combination point CPGL91 west to
3006          KM   combination point CGLLO
3007          DT  DSBH91      0.0     0.0
3008          DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
3009          DQ     0.0    62.0   124.0   310.0   620.0  1240.0  2480.0  6200.0 12400.0 31000.0
              *

3010          KK  RWGLLO   ROUTE
3011          KM   Route diversion DWGLLO west to combination point CGLLO
3012          RS       3    FLOW
3013          RC   0.035   0.015   0.035    4441  0.0027     0.00
3014          RX    0.00    0.00   19.00   19.00  111.00  111.00  130.00  130.00
3015          RY    3.00    0.69    0.50    0.00    0.00    0.50    0.69    3.00
              *

3016          KK    GLLO   BASIN
3017          KM   Runoff hydrograph for subbasin GLLO northeast of the intersection of Glendale
3018          KM   Avenue and SR Loop 101
3019          BA   0.848
3020          LG    0.37    0.21    6.60    0.18      21
3021          UC   1.070   0.704
3022          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
1                                          HEC-1 INPUT                                    PAGE 79

LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

3023          UA     100
              *

3024          KK  ERGLLO  DIVERT
3025          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
3026          KM   retention developed after 1990 in subbasin GLLO
3027          DT   XGLLO    17.5     0.0
3028          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
3029          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

3030          KK   CGLLO COMBINE
3031          KM   Combine route RWGLLO, route RSGLLO, and subbasin GLLO
3032          HC       3   15.23
              *

3033          KK  PRGL91RETRIEVE
3034          KM   Retrieve full flow capacity of 449 cfs from 90-inch storm drain pipe at the
3035          KM   intersection of Glendale Avenue and 91st Avenue
3036          DR  DPGL91
              *

3037          KK  RPGLLO   ROUTE
3038          KM   Route full flow capacity of 449 cfs through 90-inch storm drain pipe in
3039          KM   Glendale Avenue to the intersection of Glendale Avenue and SR Loop 101
3040          RK    4160  0.0034   0.015            CIRC   7.500
              *

3041          KK  CPGLLO COMBINE
3042          KM   Combine pipe return PRGL91 with the runoff hydrograph at combination point
3043          KM   CGLLO at the intersection of Glendale Avenue and SR Loop 101
3044          HC       2
              *
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3045          KK  RSBHLO    ROUTE
3046          KM   Route hydrograph at combination point CPGLLO south to combination point CBHLO
3047          RS       2     FLOW
3048          RC  0.035   0.015   0.035    5165  0.0005     0.00
3049          RX   0.00    4.00   16.00   34.00   57.00   74.00   86.00   89.00
3050          RY  10.24    9.24    9.00    0.00    0.20    8.70    8.97    9.94
              *

3051          KK  DIBH59RETRIEVE
3052          KM   Retrieve arterial street flow diverted to Bethany Home Road at the intersecti
3053          KM   of Bethany Home Road and Grand Avenue
3054          DR  DWBH59
              *

3055          KK  DRBH59RETRIEVE
3056          KM   Retrieve divert DRBH59 from combination point CGR59 and divert south to
3057          KM   combination point CIBHGR
3058          DR   DBH59
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

3059          KK  SRGR59 STORAGE
3060          KM   Storage route runoff hydrograph from divert retrieval DRBH59 through ponding
3061          KM     area at Grand Avenue between 51st and 59th Avenues
3062          KM   Storage routing ID RES8 in DMJM HEC-1 revision (model BHGC00C6, Nov 2004)
3063          KM   Comments from DMJM model:
3064          KM   PONDING AREA RESERVOIR ROUTE
3065          KM   PONDING AREA NORTHEAST OF GRAND AVENUE/RR EMBANKMENT
3066          KM   SUB-BASIN 8-22E
3067          RS       1     STOR
3068          SV           14.95   50.65   78.30  116.78  220.43
3069          SQ            0.10    0.20  310.00 1070.00 4090.00
3070          SE  1148.0 1149.00 1150.00 1150.50 1151.00 1152.00
              *

3071          KK  CIBHGR COMBINE
3072          KM   Combine arterial street flow from Bethany Home Road DIBH59 with runoff
3073          KM   hydrograph DRBH59 at the intersection of Bethany Home Road and Grand Avenue
3074          HC       2    2.13
              *

3075          KK  RWBH59    ROUTE
3076          KM   Route hydrograph at combination point CIBHGR at the intersection of Bethany
3077          KM   Home Road and Grand Avenue west to combination point CBH59
3078          RS       4     FLOW
3079          RC  0.035   0.015   0.035    5280  0.0025     0.00
3080          RX   0.00    0.00   47.50   47.50  230.50  230.50  278.00  278.00
3081          RY   3.00    0.98    0.50    0.00    0.00    0.50    0.98    3.00
              *

3082          KK  DI59BHRETRIEVE
3083          KM   Retrieve arterial street flow diverted to 59th Avenue at the intersection
3084          KM   of Bethany Home Road and Grand Avenue
3085          DR  DSBH59
              *

3086          KK  RSBH59    ROUTE
3087          KM   Route diversion retrieval DI59HB at the intersection of Bethany Home Road and
3088          KM   59th Avenue south to combination point CBH59
3089          RS       4     FLOW
3090          RC  0.035   0.015   0.035    5280  0.0024     0.00
3091          RX   0.00    0.00   30.50   30.50  167.50  167.50  198.00  198.00
3092          RY   3.00    0.80    0.50    0.00    0.00    0.50    0.80    3.00
              *

3093          KK    BH59    BASIN
3094          KM   Runoff hydrograph for subbasin BH59 northeast of the intersection of Bethany
3095          KM   Home Road and 59th Avenue
3096          BA  0.493
3097          LG   0.17    0.26    5.00    0.23      66
3098          UC  0.681   0.361
3099          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
3100          UA     100
              *
1                                        HEC-1 INPUT                                    PAGE 81

LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

3101          KK   CBH59 COMBINE
3102          KM   Combine route RWBH59, route RSBH59, and subbasin BH59
3103          HC       3    3.58
              *

3104          KK  DWBH67  DIVERT
3105          KM   Divert remaining runoff hydrograph from combination point CBH59 west to
3106          KM   combination point CBH67
3107          DT  DSCB59      0.0      0.0
3108          DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
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3109          DQ     0.0    42.0    84.0   210.0   420.0   840.0  1680.0  4200.0  8400.0 21000.0
              *

3110          KK  RWBH67    ROUTE
3111          KM   Route diversion DWBH67 west to combination point CBH67
3112          RS       4     FLOW
3113          RC  0.035   0.015   0.035    5280  0.0028     0.00
3114          RX   0.00    0.00   68.50   68.50  359.50  359.50  428.00  428.00
3115          RY   3.00    1.18    0.50    0.00    0.00    0.50    1.18    3.00
              *

3116          KK  DRBH67RETRIEVE
3117          KM   Retrieve divert DRBH67 from combination point CGL75 and divert south to
3118          KM   combination point CBH67
3119          DR  DSBH67
              *

3120          KK  RSBH67    ROUTE
3121          KM   Route diversion retrieval DRBH67 south to combination point CBH67
3122          RS       9     FLOW
3123          RC  0.035   0.015   0.035    5280  0.0015     0.00
3124          RX   0.00    0.00   75.50   75.50  402.50  402.50  478.00  478.00
3125          RY   3.00    1.25    0.50    0.00    0.00    0.50    1.25    3.00
              *

3126          KK    BH67    BASIN
3127          KM   Runoff hydrograph for square mile subbasin BH67 northeast of the intersection
3128          KM   of Bethany Home Road and 67th Avenue
3129          BA  0.971
3130          LG   0.23    0.26    5.60    0.19      38
3131          UC  1.389   0.932
3132          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
3133          UA     100
              *

3134          KK   CBH67 COMBINE
3135          KM   Combine route RWBH67, route RSBH67, and subbasin BH67
3136          HC       3    5.24
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

3137          KK  DWBH75  DIVERT
3138          KM   Divert remaining runoff hydrograph from combination point CBH67 west to
3139          KM   combination point CBH75
3140          DT  DSCB67      0.0      0.0
3141          DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
3142          DQ     0.0    44.0    88.0   220.0   440.0   880.0  1760.0  4400.0  8800.0 22000.0
              *

3143          KK  RWBH75    ROUTE
3144          KM   Route diversion DWBH75 west to combination point CBH75
3145          RS       4     FLOW
3146          RC  0.035   0.015   0.035    5280  0.0038     0.00
3147          RX   0.00    0.00   61.50   61.50  316.50  316.50  378.00  378.00
3148          RY   3.00    1.12    0.50    0.00    0.00    0.50    1.12    3.00
              *

3149          KK  DRBH75RETRIEVE
3150          KM   Retrieve divert DRBH75 from combination point CGL75 and divert south to
3151          KM   combination point CBH75
3152          DR  DSBH75
              *

3153          KK  RSBH75    ROUTE
3154          KM   Route diversion retrieval DRBH75 south to combination point CBH75
3155          RS       4     FLOW
3156          RC  0.035   0.015   0.035    5280  0.0019     0.00
3157          RX   0.00    0.00   68.50   68.50  359.50  359.50  428.00  428.00
3158          RY   3.00    1.18    0.50    0.00    0.00    0.50    1.18    3.00
              *

3159          KK    BH75    BASIN
3160          KM   Runoff hydrograph for square mile subbasin BH75 northeast of the intersection
3161          KM   of Bethany Home Road and 75th Avenue
3162          BA  1.003
3163          LG   0.27    0.15    9.70    0.05      32
3164          UC  1.333   0.885
3165          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
3166          UA     100
              *

3167          KK  ERBH75  DIVERT
3168          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
3169          KM   retention developed after 1990 in subbasin BH75
3170          DT  XBH75     60.1      0.0
3171          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
3172          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

3173          KK   CBH75 COMBINE
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3174          KM   Combine route RWBH75, route RSBH75, and subbasin BH75
3175          HC       3    8.42
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

3176          KK  DWBH83  DIVERT
3177          KM   Divert remaining runoff hydrograph from combination point CBH75 west to
3178          KM   combination point CBH83
3179          DT  DSCB75      0.0      0.0
3180          DI     0.0   100.0    200.0    500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
3181          DQ     0.0    53.0    106.0    265.0   530.0  1060.0  2120.0  5300.0 10600.0 26500.0
              *

3182          KK  RWBH83   ROUTE
3183          KM   Route diversion DWBH83 west to combination point CBH83
3184          RS       4    FLOW
3185          RC   0.035   0.015   0.035    5280  0.0034     0.00
3186          RX    0.00    0.00   47.50   47.50  230.50  230.50  278.00  278.00
3187          RY    3.00    0.98    0.50    0.00    0.00    0.50    0.98    3.00
              *

3188          KK  DRBH83RETRIEVE
3189          KM   Retrieve divert DRBH83 from combination point CGL83 and divert south to
3190          KM   combination point CBH83
3191          DR  DSBH83
              *

3192          KK  RSBH83   ROUTE
3193          KM   Route diversion retrieval DRBH83 south to combination point CBH83
3194          RS       4    FLOW
3195          RC   0.035   0.015   0.035    5280  0.0021     0.00
3196          RX    0.00    0.00   72.50   72.50  425.50  425.50  498.00  498.00
3197          RY    3.00    1.23    0.50    0.00    0.00    0.50    1.23    3.00
              *

3198          KK    BH83   BASIN
3199          KM   Runoff hydrograph for square mile subbasin BH83 northeast of the intersection
3200          KM   of Bethany Home Road and 83rd Avenue
3201          BA   0.998
3202          LG    0.27    0.19    7.60    0.09      24
3203          UC   1.285   0.855
3204          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
3205          UA     100
              *

3206          KK  ERBH83  DIVERT
3207          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
3208          KM   retention developed after 1990 in subbasin BH83
3209          DT  XBH83      57.0      0.0
3210          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
3211          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

3212          KK   CBH83 COMBINE
3213          KM   Combine route RWBH83, route RSBH83, and subbasin BH83
3214          HC       3    9.47
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

3215          KK  DWBH91  DIVERT
3216          KM   Divert remaining runoff hydrograph from combination point CBH83 west to
3217          KM   combination point CIBH83
3218          DT  DSGC83      0.0      0.0
3219          DI     0.0   100.0    200.0    500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
3220          DQ     0.0    34.0     68.0    170.0    340.0   680.0  1360.0  3400.0  6800.0 17000.0
              *

3221          KK  DRCB27RETRIEVE
3222          KM   Retrieve divert DRCB27 from combination point CPBH27 and divert south to
3223          KM   combination point CCB27
3224          DR  DSCB27
              *

3225          KK  RSCB27   ROUTE
3226          KM   Route diversion retrieval DRCB27 south to combination point CCB27
3227          RS       4    FLOW
3228          RC   0.035   0.015   0.035    5280  0.0037     0.00
3229          RX    0.00    0.00   26.00   26.00  148.00  148.00  174.00  174.00
3230          RY    3.00    0.76    0.50    0.00    0.00    0.50    0.76    3.00
              *

3231          KK    CB27   BASIN
3232          KM   Runoff hydrograph for subbasin CB27 northeast of the intersection of
3233          KM   Camelback Road and 27th Avenue
3234          BA   0.262
3235          LG    0.20    0.25    5.10    0.22      54
3236          UC   0.839   0.659
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3237          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
3238          UA     100
              *

3239          KK   CCB27 COMBINE
3240          KM   Combine route RSCB27, and subbasin CB27
3241          HC       2    1.50
              *

3242          KK  PR27BHRETRIEVE
3243          KM   Retrieve full flow capacity of 132 cfs from 57-inch diameter pipe at the
3244          KM   intersection of Bethany Home Road and 27th Avenue
3245          DR  DP27BH
              *

3246          KK  RP27CB   ROUTE
3247          KM   Route full flow capacity of 132 cfs through 57-inch storm drain pipe in
3248          KM   27th Avenue to the intersection of 27th Avenue and Camelback Road
3249          RK    5336  0.0034   0.015            CIRC   4.750
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

3250          KK  CPCB27 COMBINE
3251          KM   Combine pipe return PR27BH with the runoff hydrograph at combination point
3252          KM   CGL83 at the intersection of Camelback Road and 27th Avenue
3253          HC       2
              *

3254          KK   D27CB  DIVERT
3255          KM   Divert calculated full flow capapcity of 132 cfs into 57-inch storm drain
3256          KM   pipe at the intersection of Camelback Road and 27th Avenue
3257          DT  DP27CB      0.0    132.0
3258          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
3259          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

3260          KK  DWCB35  DIVERT
3261          KM   Divert remaining runoff hydrograph from combination point CPCB27 west to
3262          KM   combination point CCB35
3263          DT  DSIS27      0.0      0.0
3264          DI     0.0   100.0    200.0    500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
3265          DQ     0.0   100.0    200.0    500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
              *

3266          KK  RWCB35   ROUTE
3267          KM   Route diversion DWCB35 west to combination point CCB35
3268          RS       1    FLOW
3269          RC   0.035   0.015   0.035    5280  0.0006     0.00
3270          RX    0.00    0.00  105.00  105.00  494.00  494.00  599.00  599.00
3271          RY    3.00    1.55    0.50    0.00    0.00    0.50    1.55    3.00
              *

3272          KK  DRCB35RETRIEVE
3273          KM   Retrieve divert DRCB35 from combination point CPBH35 and divert south to
3274          KM   combination point CCB35
3275          DR  DSCB35
              *

3276          KK  RSCB35   ROUTE
3277          KM   Route diversion retrieval DRCB35 south to combination point CCB35
3278          RS       3    FLOW
3279          RC   0.035   0.015   0.035    5280  0.0040     0.00
3280          RX    0.00    0.00   95.50   95.50  453.50  453.50  549.00  549.00
3281          RY    3.00    1.46    0.50    0.00    0.00    0.50    1.46    3.00
              *

3282          KK    CB35   BASIN
3283          KM   Runoff hydrograph for square mile subbasin CB35 northeast of the intersection
3284          KM   of Camelback Road and 35th Avenue
3285          BA   1.000
3286          LG    0.24    0.25    5.00    0.25      39
3287          UC   1.400   0.936
3288          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
3289          UA     100
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

3290          KK   CCB35 COMBINE
3291          KM   Combine route RWCB35, route RSCB35, and subbasin CB35
3292          HC       3    2.94
              *

3293          KK  PR27CBRETRIEVE
3294          KM   Retrieve combined full flow capacity of 132 cfs from 57-inch equivalent
3295          KM   diameter pipe at the intersection of Camelback Road and 27th Avenue
3296          DR  DP27CB
              *
```

```
3297          KK  CPCB29 COMBINE
3298          KM   Combine pipe return PR27CB with the runoff hydrograph at combination point
3299          KM   CCB29 at the intersection of Camelback Road and 29thth Avenue
3300          HC       2
              *
3301          KK   D29CB  DIVERT
3302          KM   Divert calculated full flow capapcity of 132 cfs into 57-inch storm drain
3303          KM   pipe at the intersection of Camelback Road and 29th Avenue
3304          DT  DP29CB      0.0   132.0
3305          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
3306          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *
3307          KK  PR35BHRETRIEVE
3308          KM   Retrieve combined full flow capacity of 226 cfs from 69-inch equivalent
3309          KM   diameter pipe at the intersection of Bethany Home Road and 35th Avenue
3310          DR  DP35BH
              *
3311          KK  RP35CB    ROUTE
3312          KM   Route the combined full flow capacity of 226 cfs through an equivalent storm
3313          KM   drain pipe diameter of 69 inches in 35th Avenue to the intersection of
3314          KM   35th Avenue and Camelback Road
3315          RK    5249  0.0037    0.015            CIRC   5.750
              *
3316          KK  CPCB35 COMBINE
3317          KM   Combine pipe return PR35BH with the runoff hydrograph at combination point
3318          KM   CCB35 at the intersection of Camelback Road and 35th Avenue
3319          HC       2
              *
3320          KK   D35CB  DIVERT
3321          KM   Capacity of storm drain in 31st Avenue and 35th Avenue diverted together.
3322          KM   Divert combined calculated full flow capacity of 213 cfs in the 66-inch storm
3323          KM   drain pipe in 31st Avenue and 40 cfs in the 36-inch storm drain pipe in
3324          KM   35th Avenue. The total calculated combined full flow capacity diverted at the
3325          KM   intersection of 35th Avenue and Camelback Road is 253 cfs in an equivalent
3326          KM   diameter pipe of 73 inches
3327          DT  DP35CB      0.0   253.0
3328          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
3329          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

3330          KK  DWCB43  DIVERT
3331          KM   Divert remaining runoff hydrograph from combination point CPCB35 west to
3332          KM   combination point CCB43
3333          DT  DSIS35      0.0       0.0
3334          DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
3335          DQ     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
              *
3336          KK  RWCB43   ROUTE
3337          KM   Route diversion DWCB43 west to combination point CCB43
3338          RS       1    FLOW
3339          RC   0.035   0.015   0.035    5280  0.0001    0.00
3340          RX    0.00    0.00   86.00   86.00  413.00  413.00  499.00  499.00
3341          RY    3.00    1.36    0.50    0.00    0.00    0.50    1.36    3.00
              *
3342          KK  DRCB43RETRIEVE
3343          KM   Retrieve divert DRCB43 from combination point CPBH43 and divert south to
3344          KM   combination point CCB43
3345          DR  DSCB43
              *
3346          KK  RSCB43   ROUTE
3347          KM   Route diversion retrieval DRCB43 south to combination point CCB43
3348          RS       4    FLOW
3349          RC   0.035   0.015   0.035    5280  0.0032    0.00
3350          RX    0.00    0.00   57.50   57.50  291.50  291.50  349.00  349.00
3351          RY    3.00    1.08    0.50    0.00    0.00    0.50    1.08    3.00
              *
3352          KK   CB43   BASIN
3353          KM   Runoff hydrograph for square mile subbasin CB43 northeast of the intersection
3354          KM   of Camelback Road and 43rd Avenue
3355          BA   0.999
3356          LG    0.24    0.25    4.80    0.26      35
3357          UC   0.905   0.331
3358          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
3359          UA     100
              *
3360          KK   CCB43 COMBINE
3361          KM   Combine route RWCB43, route RSCB43, and subbasin CB43
3362          HC       3    2.12
```



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              *
3363          KK  PR43BHRETRIEVE
3364          KM   Retrieve combined full flow capacity of 385 cfs from 85-inch equivalent
3365          KM   diameter pipe at the intersection of Bethany Home Road and 43rd Avenue
3366          DR  DP43BH
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

3367          KK  RP43CB    ROUTE
3368          KM   Route the combined full flow capacity of 385 cfs through an equivalent storm
3369          KM   drain pipe diameter of 85 inches in 43rd Avenue to the intersection of
3370          KM   43rd Avenue and Camelback Road
3371          RK    5172  0.0035    0.015            CIRC   7.083
              *
3372          KK  CPCB43 COMBINE
3373          KM   Combine pipe return PR43BH with the runoff hydrograph at combination point
3374          KM   CCB43 at the intersection of Camelback Road and 43rd Avenue
3375          HC       2
              *
3376          KK   D39CB  DIVERT
3377          KM   Divert calculated full flow capapcity of 268 cfs into 72-inch storm drain
3378          KM   pipe at the intersection of Camelback Road and 39th Avenue
3379          DT  DP39CB      0.0   268.0
3380          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
3381          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *
3382          KK   D43CB  DIVERT
3383          KM   Divert calculated full flow capapcity of 155 cfs into 60-inch storm drain
3384          KM   pipe at the intersection of Camelback Road and 43rd Avenue
3385          DT  DP43CB      0.0   155.0
3386          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
3387          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *
3388          KK  DWGR43  DIVERT
3389          KM   Divert portion of runoff hydrograph from combination point CPCB43 west
3390          KM   through subbasin GR43 using the ratio of the widths and slopes of the streets
3391          KM   going west and the widths and slopes of the streets going south. The
3392          KM   remaining flow is diverted south through subbasin IS43
3393          DT  DSGR35      0.0       0.0
3394          DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
3395          DQ     0.0    57.0   114.0   285.0   570.0  1140.0  2280.0  5700.0 11400.0 28500.0
              *
3396          KK   DGR43  DIVERT
3397          KM   Divert portion of DWGR43 west to subbasin GR43 using the ratio of the width
3398          KM   of the collector and local streets and the width of the arterial street. The
3399          KM   remaining flow is diverted west to subbasin CB51 along Camelback Road
3400          DT   DCB51      0.0       0.0
3401          DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
3402          DQ     0.0    25.0    50.0   125.0   250.0   500.0  1000.0  2500.0  5000.0 12500.0
              *
3403          KK  DRGR43RETRIEVE
3404          KM   Retrieve divert DRGR43 from combination point CPBH51 and divert south to
3405          KM   combination point CGR43
3406          DR  DSGR43
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

3407          KK  RSGR43   ROUTE
3408          KM   Route diversion retrieval DRGR43 south to combination point CGR43
3409          RS       6    FLOW
3410          RC   0.035   0.015   0.035    7370  0.0013    0.00
3411          RX    0.00    0.00   31.50   31.50  143.50  143.50  175.00  175.00
3412          RY    3.00    0.82    0.50    0.00    0.00    0.50    0.82    3.00
              *
3413          KK    GR43   BASIN
3414          KM   Runoff hydrograph for subbasin GR43 northwest of the intersection of Grand
3415          KM   Avenue and 43rd Avenue
3416          BA   0.514
3417          LG    0.22    0.26    4.90    0.24      44
3418          UC   0.771   0.408
3419          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
3420          UA     100
              *
3421          KK  ERGR43  DIVERT
3422          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
3423          KM   retention developed after 1990 in subbasin GR43
3424          DT   XGR43      2.4       0.0
3425          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
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3426          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

3427          KK   CGR43 COMBINE
3428          KM   Combine route RSGR43, remainder of combination point CPCB43, and subbasin
3429          KM   GR43
3430          HC       3    2.28
              *

3431          KK  SRGR43 STORAGE
3432          KM   Combined storage routing IDs BCm1 and BCm2 from PEC model, Feb 2008
3433          KM   Storage routing through two basins along Grand Avenue between 51st Avenue and
3434          KM     Bethany Home and 43rd Avenue and Camelback
3435          RS       1    STOR
3436          SV           20.40   65.70  122.40  136.72  212.40  323.58  339.80
3437          SE  1126.0  1131.0  1136.0  1141.0  1142.0  1146.0  1150.0  1151.0
3438          SQ     0.0     0.0     0.0    10.0    17.0    40.0    80.0   100.0   160.0     200
3439          SQ   300.0   400.0   500.0   600.0   700.0   800.0   900.0  1000.0  1100.0
3440          SE  1126.0  1140.0  1142.5 1142.67  1142.7  1142.8 1142.91 1142.95 1143.05   1143.
3441          SE  1143.2 1143.38 1143.48 1143.58 1143.67 1143.75 1143.83 1143.91 1143.98
              *

3442          KK   DGR35  DIVERT
3443          KM   Divert portion of runoff hydrograph from combination point CGR43 west to
3444          KM   combination point CICBGR using the ratio of the widths and slopes of the
3445          KM   streets going east and the widths and slopes of the streets going south. The
3446          KM   remaining flow is diverted east through subbasin GR35 along Grand Avenue.
3447          DT  DEGR35     0.0     0.0
3448          DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
3449          DQ     0.0    35.0    70.0   175.0   350.0   700.0  1400.0  3500.0  7000.0 17500.0
              *

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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

3450          KK  DWCB51  DIVERT
3451          KM   Divert portion of DGR35 south to subbasin IS43 using the ratio of the width
3452          KM   of the collector and local streets and the width of the arterial street. The
3453          KM   remaining flow is diverted west to combination point CICBGR at the
3454          KM   intersection of Camelback Road and 51st Avenue
3455          DT  DSIS43     0.0     0.0
3456          DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
3457          DQ     0.0    65.0   130.0   325.0   650.0  1300.0  2600.0  6500.0 13000.0 32500.0
              *

3458          KK  DICB51RETRIEVE
3459          KM   Retrieve arterial street flow diverted to Camelback Road at the intersection
3460          KM   of Bethany Home Road and 51st Avenue
3461          DR   DCB51
              *

3462          KK  CICBGR COMBINE
3463          KM   Combine arterial street flow from Camelback Rd DICB51 with runoff hydrograph
3464          KM   DWCB51 at the intersection of Camelback Road and 51st Avenue
3465          HC       2    0.74
              *

3466          KK  RWCB51   ROUTE
3467          KM   Route hydrograph at combination point CICBGR at the intersection of Camelback
3468          KM   Road and 51st Avenue west to combination point CCB51
3469          RS       5    FLOW
3470          RC   0.035   0.015   0.035    5280  0.0014    0.00
3471          RX    0.00    0.00   16.50   16.50  107.50  107.50  124.00  124.00
3472          RY    3.00    0.66    0.50    0.00    0.00    0.50    0.66    3.00
              *

3473          KK    CB51   BASIN
3474          KM   Runoff hydrograph for subbasin CB51 northeast of the intersection
3475          KM   of Camelback Road and 51st Avenue
3476          BA   0.483
3477          LG    0.15    0.25    5.00    0.23      80
3478          UC   0.455   0.230
3479          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
3480          UA     100
              *

3481          KK   CCB51 COMBINE
3482          KM   Combine hydrograph at combination point CICBGR and subbasin CB51
3483          HC       2    1.23
              *

3484          KK  DWCB59  DIVERT
3485          KM   Divert remaining runoff hydrograph from combination point CCB51 west to
3486          KM   combination point CCB59
3487          DT  DSIS51     0.0     0.0
3488          DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
3489          DQ     0.0    51.0   102.0   255.0   510.0  1020.0  2040.0  5100.0 10200.0 25500.0
              *

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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10
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3490          KK  RWCB59   ROUTE
3491          KM   Route diversion DWCB59 west to combination point CCB59
3492          RS       4    FLOW
3493          RC   0.035   0.015   0.035    5280  0.0023    0.00
3494          RX    0.00    0.00   48.00   48.00  251.00  251.00  299.00  299.00
3495          RY    3.00    0.98    0.50    0.00    0.00    0.50    0.98    3.00
              *

3496          KK  DRCB59RETRIEVE
3497          KM   Retrieve divert DRCB59 from combination point CBH59 and divert south to
3498          KM   combination point CCB59
3499          DR  DSCB59
              *

3500          KK  RSCB59   ROUTE
3501          KM   Route diversion retrieval DRCB59 south to combination point CCB59
3502          RS       3    FLOW
3503          RC   0.035   0.015   0.035    5280  0.0030    0.00
3504          RX    0.00    0.00   48.00   48.00  251.00  251.00  299.00  299.00
3505          RY    3.00    0.98    0.50    0.00    0.00    0.50    0.98    3.00
              *

3506          KK    CB59   BASIN
3507          KM   Runoff hydrograph for square mile subbasin CB59 northeast of the intersection
3508          KM   of Camelback Road and 59th Avenue
3509          BA   1.010
3510          LG    0.18    0.27    5.10    0.22      60
3511          UC   1.023   0.662
3512          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
3513          UA     100
              *

3514          KK  ERCB59  DIVERT
3515          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
3516          KM   retention developed after 1990 in subbasin CB59
3517          DT   XCB59     2.9     0.0
3518          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
3519          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

3520          KK   CCB59 COMBINE
3521          KM   Combine route RWCB59, route RSCB59, and subbasin CB59
3522          HC       3    3.11
              *

3523          KK  DWCB67  DIVERT
3524          KM   Divert remaining runoff hydrograph from combination point CCB59 west to
3525          KM   combination point CCB67
3526          DT  DSIS59     0.0     0.0
3527          DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
3528          DQ     0.0    53.0   106.0   265.0   530.0  1060.0  2120.0  5300.0 10600.0 26500.0
              *

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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

3529          KK  RWCB67   ROUTE
3530          KM   Route diversion DWCB67 west to combination point CCB67
3531          RS       4    FLOW
3532          RC   0.035   0.015   0.035    5280  0.0025    0.00
3533          RX    0.00    0.00   67.00   67.00  332.00  332.00  399.00  399.00
3534          RY    3.00    1.17    0.50    0.00    0.00    0.50    1.17    3.00
              *

3535          KK  DRCB67RETRIEVE
3536          KM   Retrieve divert DRCB67 from combination point CBH67 and divert south to
3537          KM   combination point CCB67
3538          DR  DSCB67
              *

3539          KK  RSCB67   ROUTE
3540          KM   Route diversion retrieval DRCB67 south to combination point CCB67
3541          RS       4    FLOW
3542          RC   0.035   0.015   0.035    5280  0.0027    0.00
3543          RX    0.00    0.00   57.50   57.50  291.50  291.50  349.00  349.00
3544          RY    3.00    1.08    0.50    0.00    0.00    0.50    1.08    3.00
              *

3545          KK    CB67   BASIN
3546          KM   Runoff hydrograph for square mile subbasin CB67 northeast of the intersection
3547          KM   of Camelback Road and 67th Avenue
3548          BA   0.970
3549          LG    0.24    0.15    7.60    0.08      35
3550          UC   1.341   0.897
3551          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
3552          UA     100
              *

3553          KK  ERCB67  DIVERT
3554          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
3555          KM   retention developed after 1990 in subbasin CB67
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3556          DT   XCB67     1.8      0.0
3557          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
3558          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

3559          KK   CCB67 COMBINE
3560          KM   Combine route RWCB67, route RSCB67, and subbasin CB67
3561          HC       3    4.73
              *

3562          KK  DWCB75  DIVERT
3563          KM   Divert remaining runoff hydrograph from combination point CCB67 west to
3564          KM   combination point CCB75
3565          DT  DSGC67      0.0      0.0
3566          DI     0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0 10000.0 20000.0 50000.0
3567          DQ     0.0     43.0     86.0    215.0    430.0    860.0   1720.0   4300.0   8600.0 21500.0
              *

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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

3568          KK  RWCB75   ROUTE
3569          KM   Route diversion DWCB75 west to combination point CCB75
3570          RS       4    FLOW
3571          RC   0.035    0.015    0.035     5280   0.0024     0.00
3572          RX    0.00     0.00    86.00    86.00   413.00   413.00   499.00   499.00
3573          RY    3.00     1.36     0.50     0.00     0.00     0.50     1.36     3.00
              *

3574          KK  DRCB75RETRIEVE
3575          KM   Retrieve divert DRCB75 from combination point CBH75 and divert south to
3576          KM   combination point CCB75
3577          DR  DSCB75
              *

3578          KK  RSCB75   ROUTE
3579          KM   Route diversion retrieval DRCB75 south to combination point CCB75
3580          RS       7    FLOW
3581          RC   0.035    0.015    0.035     5280   0.0013     0.00
3582          RX    0.00     0.00    86.00    86.00   413.00   413.00   499.00   499.00
3583          RY    3.00     1.36     0.50     0.00     0.00     0.50     1.36     3.00
              *

3584          KK   CB75   BASIN
3585          KM   Runoff hydrograph for square mile subbasin CB75 northeast of the intersection
3586          KM   of Camelback Road and 75th Avenue
3587          BA   0.998
3588          LG    0.25     0.15     7.30     0.10       32
3589          UC   1.411    0.945
3590          UA       0      5.0     16.0     30.0     65.0     77.0     84.0     90.0     94.0     97.0
3591          UA     100
              *

3592          KK  ERCB75  DIVERT
3593          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
3594          KM   retention developed after 1990 in subbasin CB75
3595          DT   XCB75    23.2      0.0
3596          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
3597          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

3598          KK   CCB75 COMBINE
3599          KM   Combine RWCB75, route RSCB75, and subbasin CB75
3600          HC       3    8.14
              *

3601          KK  DWGC83  DIVERT
3602          KM   Divert remaining runoff hydrograph from combination point CCB75 west to
3603          KM   combination point CICB75
3604          DT  DSGC75      0.0      0.0
3605          DI     0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0 10000.0 20000.0 50000.0
3606          DQ     0.0     44.0     88.0    220.0    440.0    880.0   1760.0   4400.0   8800.0 22000.0
              *

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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

3607          KK  DRIS27RETRIEVE
3608          KM   Retrieve divert DRIS27 from combination point CPCB27 and divert south to
3609          KM   combination point CIS27
3610          DR  DSIS27
              *

3611          KK  RSIS27   ROUTE
3612          KM   Route diversion retrieval DRIS27 south to combination point CIS27
3613          RS       3    FLOW
3614          RC   0.035    0.015    0.035     5280   0.0038     0.00
3615          RX    0.00     0.00    26.00    26.00   148.00   148.00   174.00   174.00
3616          RY    3.00     0.76     0.50     0.00     0.00     0.50     0.76     3.00
              *
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3617          KK   IS27   BASIN
3618          KM   Runoff hydrograph for subbasin IS27 northeast of the intersection of Indian
3619          KM   School Road and 27th Avenue
3620          BA   0.239
3621          LG    0.20     0.15     7.30     0.09       58
3622          UC   1.048    0.881
3623          UA       0      5.0     16.0     30.0     65.0     77.0     84.0     90.0     94.0     97.0
3624          UA     100
              *

3625          KK   CIS27 COMBINE
3626          KM   Combine route RSIS27 and subbasin IS27
3627          HC       2    1.74
              *

3628          KK  PR29CBRETRIEVE
3629          KM   Retrieve full flow capacity of 132 cfs from 57-inch storm drain pipe at the
3630          KM   intersection of Camelback Road and 29th Avenue
3631          DR  DP29CB
              *

3632          KK  RP27IS   ROUTE
3633          KM   Route full flow capacity of 132 cfs through 57-inch storm drain pipe in
3634          KM   27th Avenue to the intersection of Indian School Road and 43rd Avenue
3635          RK    5210  0.0034   0.015             CIRC   4.750
              *

3636          KK  CPIS27 COMBINE
3637          KM   Combine pipe return PR29CB with the runoff hydrograph at combination point
3638          KM   CIS27 at the intersection of Indian School Road and 27th Avenue
3639          HC       2
              *

3640          KK   D27IS  DIVERT
3641          KM   Divert calculated full flow capapcity of 151 cfs into 60-inch storm drain
3642          KM   pipe at the intersection of Indian School Road and 27th Avenue
3643          DT  DP27IS      0.0    151.0
3644          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
3645          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

3646          KK  DWIS35  DIVERT
3647          KM   Divert remaining runoff hydrograph from combination point CIS27 west to
3648          KM   combination point CIS35
3649          DT  DSGC27      0.0      0.0
3650          DI     0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0 10000.0 20000.0 50000.0
3651          DQ     0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0 10000.0 20000.0 50000.0
              *

3652          KK  RWIS35   ROUTE
3653          KM   Route diversion DWIS35 west to combination point CIS35
3654          RS       1    FLOW
3655          RC   0.035    0.015    0.035     5280   0.0006     0.00
3656          RX    0.00     0.00    95.50    95.50   453.50   453.50   549.00   549.00
3657          RY    3.00     1.46     0.50     0.00     0.00     0.50     1.46     3.00
              *

3658          KK  DRIS35RETRIEVE
3659          KM   Retrieve divert DRIS35 from combination point CPCB35 and divert south to
3660          KM   combination point CIS35
3661          DR  DSIS35
              *

3662          KK  RSIS35   ROUTE
3663          KM   Route diversion retrieval DRIS35 south to combination point CIS35
3664          RS       3    FLOW
3665          RC   0.035    0.015    0.035     5280   0.0038     0.00
3666          RX    0.00     0.00    86.00    86.00   413.00   413.00   499.00   499.00
3667          RY    3.00     1.36     0.50     0.00     0.00     0.50     1.36     3.00
              *

3668          KK   IS35   BASIN
3669          KM   Runoff hydrograph for square mile subbasin IS35 northeast of the intersection
3670          KM   Indian School Road and 35th Avenue
3671          BA   0.990
3672          LG    0.24     0.15     7.60     0.09       31
3673          UC   0.849    0.310
3674          UA       0      5.0     16.0     30.0     65.0     77.0     84.0     90.0     94.0     97.0
3675          UA     100
              *

3676          KK   CIS35 COMBINE
3677          KM   Combine route RWIS35, route RSIS35, and subbasin IS35
3678          HC       3    3.93
              *

3679          KK  PR35CBRETRIEVE
3680          KM   Retrieve combined full flow capacity of 253 cfs from 73-inch equivalent
3681          KM   diameter pipe at the intersection of Camelback Road and 35th Avenue
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3682          DR  DP35CB
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


3683          KK  RP35IS   ROUTE
3684          KM   Route the combined full flow capacity of 253 cfs through an equivalent storm
3685          KM   drain pipe diameter of 73 inches in 35th Avenue to the intersection of
3686          KM   35th Avenue and Indian School Road
3687          RK    2083  0.0037   0.015            CIRC   6.083
              *

3688          KK  CPIS35 COMBINE
3689          KM   Combine pipe return PR35CB with the runoff hydrograph at combination point
3690          KM   CIS35 at the intersection of Indian School Road and 35th Avenue
3691          HC       2
              *

3692          KK   D31IS  DIVERT
3693          KM   Divert calculated full flow capapcity of 268 cfs into 72-inch storm drain
3694          KM   pipe at the intersection of Indian School Road and 31st Avenue
3695          DT  DP31IS      0.0   268.0
3696          DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
3697          DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

3698          KK   D35IS  DIVERT
3699          KM   Divert calculated full flow capapcity of 40 cfs into 36-inch storm drain
3700          KM   pipe at the intersection of Indian School Road and 35th Avenue
3701          DT  DP35IS      0.0     40.0
3702          DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
3703          DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

3704          KK  DWGR35  DIVERT
3705          KM   Divert remaining runoff hydrograph from combination point CIS35 west to
3706          KM   combination point CGR35
3707          DT  DSGC35      0.0      0.0
3708          DI      0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0 10000.0 20000.0 50000.0
3709          DQ      0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0 10000.0 20000.0 50000.0
              *

3710          KK  DIGR35RETRIEVE
3711          KM   Retrieve arterial street flow diverted to Grand Avenue at the intersection
3712          KM   of Grand Avenue and 35th Avenue
3713          DR  DEGR35
              *

3714          KK  DRGR35RETRIEVE
3715          KM   Retrieve subbasin flow diverted to the intersection of 43rd Avenue and
3716          KM   Grand Avenue
3717          DR  DSGR35
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


3718          KK   D35GR  DIVERT
3719          KM   Divert portion of divert return DRGR35 south to subbasin GR35 using the ratio
3720          KM   of the width of the collector and local streets and the width of the arterial
3721          KM   street. The remaining flow is diverted south to combination point CICB43
3722          KM   along 43rd Avenue
3723          DT  DS43IS      0.0      0.0
3724          DI      0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0 10000.0 20000.0 50000.0
3725          DQ      0.0     36.0     72.0    180.0    360.0    720.0   1440.0  3600.0  7200.0 18000.0
              *

3726          KK  CIGR43 COMBINE
3727          KM   Combine arterial street flow from Grand Avenue DIGR35 with runoff hydrograph
3728          KM   D35GR at the intersection of 43rd Avenue and Grand Avenue
3729          HC       2    1.58
              *

3730          KK  RSGR35   ROUTE
3731          KM   Route hydrograph at combination point CIGR43 at the intersection of Grand
3732          KM   Avenue and 43rd Avenue south to combination point CGR35
3733          RS       5    FLOW
3734          RC   0.035    0.015    0.035     7095   0.0033     0.00
3735          RX    0.00     0.00    48.00    48.00   251.00   251.00   299.00   299.00
3736          RY    3.00     0.98     0.50     0.00     0.00     0.50     0.98     3.00
              *

3737          KK    GR35   BASIN
3738          KM   Runoff hydrograph for subbasin GR35 northwest of the intersection of Grand
3739          KM   Avenue, 35th Avenue, and Indian School Road
3740          BA   0.531
3741          LG    0.21     0.26     4.80     0.26       49
3742          UC   0.769    0.412
3743          UA       0      5.0     16.0     30.0     65.0     77.0     84.0     90.0     94.0     97.0
3744          UA     100
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              *
3745          KK   CGR35 COMBINE
3746          KM   Combine divert DWGR35, route RSGR35, and subbasin GR35
3747          HC       3    2.11
              *

3748          KK  PR39CBRETRIEVE
3749          KM   Retrieve full flow capacity of 268 cfs from 72-inch diameter pipe at the
3750          KM   intersection of Camelback Road and 39th Avenue
3751          DR  DP39CB
              *

3752          KK  RP39GR   ROUTE
3753          KM   Route the full flow capacity of 268 cfs through 72-inch storm drain pipe
3754          KM   diameter in 39th Avenue to the intersection of 39th Avenue and Indian School
3755          KM   Road
3756          RK    2846  0.0040   0.015            CIRC   6.000
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


3757          KK  CPGR35 COMBINE
3758          KM   Combine pipe return PR39CB with the runoff hydrograph at combination point
3759          KM   CGC35 at the intersection of Grand Avenue and 35th Avenue
3760          HC       2
              *

3761          KK  DP39GR  DIVERT
3762          KM   Divert calculated full flow capapcity of 251 cfs into 72-inch storm drain
3763          KM   pipe at the intersection of Grand Avenue and 39th Avenue. The pipe flow is
3764          KM   followed to combination point CPIS43 and the remaining surface flow is
3765          KM   diverted to combination point CIIS53 at the intersection of Indian School
3766          KM   Road and 35th Avenue
3767          DT  D39GR      0.0      0.0
3768          DI      0.0    251.0    251.1 50000.0      0.0      0.0      0.0      0.0      0.0      0.0
3769          DQ      0.0      0.0      0.1 49749.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

3770          KK  RP39IS   ROUTE
3771          KM   Route the full flow capacity of 251 cfs through 72-inch storm drain pipe
3772          KM   diameter in 39th Avenue to the intersection of 39th Avenue and Indian School
3773          KM   Road
3774          RK    2428  0.0035   0.015            CIRC   6.000
              *

3775          KK  DRIS43RETRIEVE
3776          KM   Retrieve divert DRIS43 in 43rd Avenue from combination point CGR43 and divert
3777          KM   south to intersection combination point CICB43
3778          DR  DSIS43
              *

3779          KK  DI43ISRETRIEVE
3780          KM   Retrieve subbasin flow diverted to the intersection of Camelback Road and
3781          KM   43rd Avenue
3782          DR  DS43IS
              *

3783          KK  CICB43 COMBINE
3784          KM   Combine arterial street flow from 43rd Avenue DRIS43 with arterial street
3785          KM   flow DI43IS at the intersection of 43rd Avenue and Camelback Road
3786          HC       2    1.40
              *

3787          KK  RSIS43   ROUTE
3788          KM   Route hydrograph at intersection combination point CICB43 at the intersection
3789          KM   of Camelback Road and 43rd Avenue south to combination point CIS43
3790          RS       3    FLOW
3791          RC   0.035    0.015    0.035     5280   0.0048     0.00
3792          RX    0.00     0.00    16.50    16.50   107.50   107.50   124.00   124.00
3793          RY    3.00     0.66     0.50     0.00     0.00     0.50     0.66     3.00
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


3794          KK    IS43   BASIN
3795          KM   Runoff hydrograph for subbasin IS43 northeast of the intersection of Indian
3796          KM   School Road and 43rd Avenue
3797          BA   0.467
3798          LG    0.15     0.25     4.80     0.25       80
3799          UC   0.462    0.228
3800          UA       0      5.0     16.0     30.0     65.0     77.0     84.0     90.0     94.0     97.0
3801          UA     100
              *

3802          KK   CIS43 COMBINE
3803          KM   Combine route RSIS43 and subbasin IS43
3804          HC       2    1.87
              *
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3805          KK  PR43CBRETRIEVE
3806          KM   Retrieve full flow capacity of 155 cfs from 60-inch storm drain pipe at the
3807          KM   intersection of Camelback Road and 43rd Avenue
3808          DR  DP43CB
              *

3809          KK  RP43IS   ROUTE
3810          KM   Route full flow capacity of 155 cfs through 60-inch storm drain pipe in
3811          KM   43rd Avenue to the intersection of Indian School Road and 43rd Avenue
3812          RK    5374  0.0035   0.015            CIRC   5.000
              *

3813          KK  CPIS43 COMBINE
3814          KM   Combine pipe return PR43CB with the runoff hydrograph at combination point
3815          KM   CIS43 at the intersection of Indian School Road and 43rd Avenue
3816          HC       3
              *

3817          KK   D43IS  DIVERT
3818          KM   Capacity of storm drain in 39th Avenue and 43rd Avenue diverted together.
3819          KM   Divert combined calculated full flow capacity of 251 cfs in the 72-inch storm
3820          KM   drain pipe in 39th Avenue and 154 cfs in the 60-inch storm drain pipe in
3821          KM   43rd Avenue. The total calculated combined full flow capacity diverted at the
3822          KM   intersection of 43rd Avenue and Indian School Road is 406 cfs in an
3823          KM   equivalent diameter pipe of 87 inches
3824          DT  DP43IS     0.0   406.0
3825          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
3826          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

3827          KK  DWIS51  DIVERT
3828          KM   Divert runoff hydrograph from combination point CPIS43 west to combination
3829          KM   point CIS51
3830          DT  DSGC43     0.0     0.0
3831          DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
3832          DQ     0.0    83.0   166.0   415.0   830.0  1660.0  3320.0  8300.0 16600.0 41500.0
              *

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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9.....10

3833          KK  RWIS51   ROUTE
3834          KM   Route diversion DWIS51 west to combination point CIS51
3835          RS       10    FLOW
3836          RC   0.035   0.015   0.035    5280  0.0003    0.00
3837          RX    0.00    0.00   45.00   45.00  229.00  229.00  274.00  274.00
3838          RY    3.00    0.95    0.50    0.00    0.00    0.50    0.95    3.00
              *

3839          KK  DRIS51RETRIEVE
3840          KM   Retrieve divert DRIS51 from combination point CCB51 and divert south to
3841          KM   combination point CIS51
3842          DR  DSIS51
              *

3843          KK  RSIS51   ROUTE
3844          KM   Route diversion retrieval DRIS51 south to combination point CIS51
3845          RS       3    FLOW
3846          RC   0.035   0.015   0.035    5280  0.0037    0.00
3847          RX    0.00    0.00   38.50   38.50  210.50  210.50  249.00  249.00
3848          RY    3.00    0.88    0.50    0.00    0.00    0.50    0.88    3.00
              *

3849          KK    IS51   BASIN
3850          KM   Runoff hydrograph for square mile subbasin IS51 northeast of the intersection
3851          KM   of Indian School Road and 51st Avenue
3852          BA   0.994
3853          LG    0.21    0.27    5.00    0.23      47
3854          UC   1.168   0.765
3855          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
3856          UA     100
              *

3857          KK  ERIS51  DIVERT
3858          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
3859          KM   retention developed after 1990 in subbasin IS51
3860          DT  XIS51     36.7      0.0
3861          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
3862          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

3863          KK   CIS51 COMBINE
3864          KM   Combine route RWIS51, route RSIS51, and subbasin IS51
3865          HC       3    1.94
              *

3866          KK   D51IS  DIVERT
3867          KM   Divert calculated full flow capapcity of 244 cfs into 72-inch storm drain
3868          KM   pipe at the intersection of Indian School Road and 51st Avenue
3869          DT  DP51IS     0.0   244.0
3870          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
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3871          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9.....10

3872          KK  DWIS59  DIVERT
3873          KM   Divert remaining runoff hydrograph from combination point CIS51 west to
3874          KM   combination point CIS59
3875          DT  DSGC51     0.0     0.0
3876          DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
3877          DQ     0.0    62.0   124.0   310.0   620.0  1240.0  2480.0  6200.0 12400.0 31000.0
              *

3878          KK  RWIS59   ROUTE
3879          KM   Route diversion DWIS59 west to combination point CIS59
3880          RS       10    FLOW
3881          RC   0.035   0.015   0.035    5280  0.0016    0.00
3882          RX    0.00    0.00   67.00   67.00  332.00  332.00  399.00  399.00
3883          RY    3.00    1.17    0.50    0.00    0.00    0.50    1.17    3.00
              *

3884          KK  DRIS59RETRIEVE
3885          KM   Retrieve divert DRIS59 from combination point CCB59 and divert south to
3886          KM   combination point CIS59
3887          DR  DSIS59
              *

3888          KK  RSIS59   ROUTE
3889          KM   Route diversion retrieval DRIS59 south to combination point CIS59
3890          RS       3    FLOW
3891          RC   0.035   0.015   0.035    5280  0.0030    0.00
3892          RX    0.00    0.00   67.00   67.00  332.00  332.00  399.00  399.00
3893          RY    3.00    1.17    0.50    0.00    0.00    0.50    1.17    3.00
              *

3894          KK    IS59   BASIN
3895          KM   Runoff hydrograph for square mile subbasin IS59 northeast of the intersection
3896          KM   of Indian School Road and 59th Avenue
3897          BA   1.014
3898          LG    0.22    0.25    5.30    0.21      43
3899          UC   1.338   0.887
3900          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
3901          UA     100
              *

3902          KK   CIS59 COMBINE
3903          KM   Combine route RWIS59, route RSIS59, and subbasin IS59
3904          HC       3    3.38
              *

3905          KK   D59IS  DIVERT
3906          KM   Divert calculated full flow capapcity of 353 cfs into 81-inch storm drain
3907          KM   pipe at the intersection of Indian School Road and 59th Avenue
3908          DT  DP59IS     0.0   353.0
3909          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
3910          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9.....10

3911          KK  DWGC67  DIVERT
3912          KM   Divert remaining runoff hydrograph from combination point CIS59 west to
3913          KM   combination point CGC67
3914          DT  DSGC59     0.0     0.0
3915          DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
3916          DQ     0.0    60.0   120.0   300.0   600.0  1200.0  2400.0  6000.0 12000.0 30000.0
              *

3917          KK  RWGC67   ROUTE
3918          KM   Route diversion DWGC67 west to combination point CGC67
3919          RS       4    FLOW
3920          RC   0.035   0.015   0.035    3841  0.0016    0.00
3921          RX    0.00    0.00   48.00   48.00  251.00  251.00  299.00  299.00
3922          RY    3.00    0.98    0.50    0.00    0.00    0.50    0.98    3.00
              *

3923          KK  DRGC67RETRIEVE
3924          KM   Retrieve divert DRGC67 from combination point CCB67 and divert south to
3925          KM   combination point CGC67
3926          DR  DSGC67
              *

3927          KK  RSGC67   ROUTE
3928          KM   Route diversion retrieval DRGC67 south to combination point CGC67
3929          RS       5    FLOW
3930          RC   0.035   0.015   0.035    5280  0.0017    0.00
3931          RX    0.00    0.00   76.50   76.50  372.50  372.50  449.00  449.00
3932          RY    3.00    1.27    0.50    0.00    0.00    0.50    1.27    3.00
              *
```

```
3933          KK    GC67   BASIN
3934          KM   Runoff hydrograph for subbasin GC67 northeast of the intersection of the
3935          KM   Grand Canal and 67th Avenue
3936          BA   0.936
3937          LG    0.21    0.15    7.30    0.11      28
3938          UC   1.212   0.738
3939          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
3940          UA     100
              *

3941          KK   CGC67 COMBINE
3942          KM   Combine route RWGC67, route RSGC67, and subbasin GC67
3943          HC       3    4.34
              *

3944          KK   D67IS  DIVERT
3945          KM   Divert calculated full flow capapcity of 175 cfs into 66-inch storm drain
3946          KM   pipe at the intersection of Indian School Road and 67th Avenue
3947          DT  DP67IS      0.0   175.0
3948          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
3949          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

3950          KK  DWGC75  DIVERT
3951          KM   Divert remaining runoff hydrograph from combination point CGC67 west to
3952          KM   combination point CGC75
3953          DT  DSISGC      0.0     0.0
3954          DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
3955          DQ     0.0    51.0   102.0   255.0   510.0  1020.0  2040.0  5100.0 10200.0 25500.0
              *

3956          KK  DRGR39RETRIEVE
3957          KM   Retrieve remaining surface flow runoff hydrograph DRGR39 following pipe
3958          KM   diversion DP39GR after combination point CPGR35 at the intersection of 39th
3959          KM   Avenue and Grand Avenue
3960          DR   D39GR
              *

3961          KK   DGC35  DIVERT
3962          KM   Divert runoff hydrograph DRGR39 along Grand Avenue.  Remaining hydrograph
3963          KM   flows along 35th Avenue to the intersection of 35th Avenue and the Grand
3964          KM   Canal
3965          DT  DEGCGR      0.0     0.0
3966          DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
3967          DQ     0.0    48.0    96.0   240.0   480.0   960.0  1920.0  4800.0  9600.0 24000.0
              *

3968          KK  DRGC35RETRIEVE
3969          KM   Retrieve remaining runoff hydrograph DRGC35 coming south from combination
3970          KM   point CPIS35 at the intersection of 35th Avenue and Grand Avenue
3971          DR   DSGC35
              *

3972          KK  DS35GC  DIVERT
3973          KM   Divert runoff hydrograph DRGC35 along Grand Avenue. Remaining hydrograph
3974          KM   flows along 35th Avenue to the intersection of 35th Avenue and the Grand
3975          KM   Canal
3976          DT  DSGCGR      0.0     0.0
3977          DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
3978          DQ     0.0    25.0    50.0   125.0   250.0   500.0  1000.0  2500.0  5000.0 12500.0
              *

3979          KK  CIIS35 COMBINE
3980          KM   Combine arterial street flow from 35th Avenue DIGC35 with areterial street
3981          KM   flow from 35th Avenue DRGC35 at the intersection of 35th Avenue and Indian
3982          KM   School Road
3983          HC       2    2.06
              *

3984          KK  RSGC35   ROUTE
3985          KM   Route hydrograph at combination point CIIS35 at the intersection of Indian
3986          KM   School Road and 35th Avenue south to combination point CGC35
3987          RS       1    FLOW
3988          RC   0.035   0.015   0.035    1973  0.0033    0.00
3989          RX    0.00    0.00   16.50   16.50  107.50  107.50  124.00  124.00
3990          RY    3.00    0.66    0.50    0.00    0.00    0.50    0.66    3.00
              *

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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

3991          KK    GC35   BASIN
3992          KM   Runoff hydrograph for subbasin GC35 northeast of the intersection of the
3993          KM   Grand Canal and 35th Avenue
3994          BA   0.077
3995          LG    0.15    0.25    4.25    0.35      80
3996          UC   0.346   0.222
```



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3997          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
3998          UA     100
              *

3999          KK   CGC35 COMBINE
4000          KM   Combine route RSGC35 and subbasin GC35
4001          HC       2    2.14
              *

4002          KK  PR35ISRETRIEVE
4003          KM   Retrieve full flow capacity of 40 cfs from 36-inch diameter pipe at the
4004          KM   intersection of Indian School Road and 35th Avenue
4005          DR  DP35IS
              *

4006          KK  RP35GC   ROUTE
4007          KM   Route the full flow capacity of 40 cfs through 36-inch storm drain pipe
4008          KM   diameter in 35th Avenue to the intersection of 35th Avenue and the Grand
4009          KM   Canal
4010          RK    2327  0.0035   0.015            CIRC   3.000
              *

4011          KK  CPGC35 COMBINE
4012          KM   Combine pipe return PR35IS with the runoff hydrograph at combination point
4013          KM   CGC35 at the intersection of the Grand Canal and 35th Avenue
4014          HC       2
              *

4015          KK   D35GC  DIVERT
4016          KM   Divert calculated full flow capapcity of 40 cfs into 36-inch storm drain
4017          KM   pipe at the intersection of the Grand Canal and 35th Avenue
4018          DT  DP35GC      0.0    40.0
4019          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
4020          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

4021          KK  DWGC43  DIVERT
4022          KM   Divert runoff hydrograph from combination point CGC35 west to combination
4023          KM   point CGC35
4024          DT  DSTM35      0.0     0.0
4025          DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
4026          DQ     0.0    85.0   170.0   425.0   850.0  1700.0  3400.0  8500.0 17000.0 42500.0
              *

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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

4027          KK  RWGC43   ROUTE
4028          KM   Route hydrograph at combination point CGC35 at the intersection of the Grand
4029          KM   Canal and 35th Avenue west to combination point CGC43
4030          RS       5    FLOW
4031          RC   0.035   0.015   0.035    6627  0.0009    0.00
4032          RX    0.00    0.00    9.50    9.50   40.50   40.50   50.00   50.00
4033          RY    3.00    0.60    0.50    0.00    0.00    0.50    0.60    3.00
              *

4034          KK  DRGC43RETRIEVE
4035          KM   Retrieve divert DRGC43 from combination point CPIS43 and divert south to
4036          KM   combination point CGC43
4037          DR  DSGC43
              *

4038          KK  RSGC43   ROUTE
4039          KM   Route diversion retrieval DRGC43 south to combination point CGC43
4040          RS       1    FLOW
4041          RC   0.035   0.015   0.035    2155  0.0038    0.00
4042          RX    0.00    0.00   57.50   57.50  291.50  291.50  349.00  349.00
4043          RY    3.00    1.08    0.50    0.00    0.00    0.50    1.08    3.00
              *

4044          KK    GC43   BASIN
4045          KM   Runoff hydrograph for subbasin GC43 northeast of the intersection of the
4046          KM   Grand Canal and 43rd Avenue
4047          BA   0.370
4048          LG    0.15    0.25    6.00    0.15      80
4049          UC   0.843   0.734
4050          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
4051          UA     100
              *

4052          KK   CGC43 COMBINE
4053          KM   Combine route RWGC43, route RSGC43, and subbasin GC43
4054          HC       3    2.23
              *

4055          KK  PR43ISRETRIEVE
4056          KM   Retrieve combined full flow capacity of 406 cfs from 87-inch equivalent
4057          KM   diameter pipe at the intersection of Indian School Road and 43rd Avenue
4058          DR  DP43IS
              *

4059          KK  RP43GC   ROUTE
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4060       KM   Route the combined full flow capacity of 406 cfs through an equivalent storm
4061       KM   drain pipe diameter of 87 inches in 43rd Avenue to the intersection of
4062       KM   43rd Avenue and the Grand Canal
4063       RK     2347  0.0035   0.015             CIRC    6.083
                *
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LINE       ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

4064       KK  CPGC43 COMBINE
4065       KM   Combine pipe return PR43IS with the runoff hydrograph at combination point
4066       KM   CGC43 at the intersection of the Grand Canal and 43rd Avenue
4067       HC        2
                *

4068       KK   D43GC  DIVERT
4069       KM   Capacity of storm drain in 39th Avenue and 43rd Avenue diverted together.
4070       KM   Divert combined calculated full flow capacity of 251 cfs in the 72-inch storm
4071       KM   drain pipe in 39th Avenue and 154 cfs in the 60-inch storm drain pipe in
4072       KM   43rdAvenue. The total calculated combined full flow capacity diverted at the
4073       KM   intersection of 43rd Avenue and the Grand Canal is 406 cfs in an
4074       KM   equivalent diameter pipe of 87 inches
4075       DT  DP43GC      0.0   406.0
4076       DI      0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
4077       DQ      0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
                *

4078       KK  SRGC43 STORAGE
4079       KM    Storage routing ID PA43 in Maryvale ADMS, Feb 1997 - comments from ADMS:
4080       KM    STORAGE ROUTING
4081       KM    PONDING AREA IN THE VICINITY OF 43RD AVE
4082       KM    PRELIMINARY COMPUTATIONS BY WPA 6/96
4083       KM    CAPACITY OF SURFACE FLOW NORTH OF CANAL = 200 CFS
4084       KM    DIVERSION OF FLOW UNDER THE GRAND CANAL BY AN EXISTING STORM DRAIN SYSTEM
4085       KM    ESTIMATED STORM DRAIN CAPACITY(63") = 89 CFS
4086       KM    TOP OF CANAL BANK ELEVATION = 1108
4087       KM
4088       KM   ==========================================================================
4089       KM   REVISED BY KHA ---> storm drain flows diverted previously. Subtracted out
4090       KM                       pipe capacity from SQ cards
4091       KM                       Confirmed capacity of surface flow on north side of bank
4092       KM
4093       KM   Storage route runoff hydrograph from divert D43GC through ponding
4094       KM     area at the Grand Canal between 35th and 43rd Avenues
4095       KM   ==========================================================================
4096       RS        1    STOR      -1   1104.
4097       SV             0.01    0.10    0.64    4.77    6.79   29.76   33.00
4098       SQ                                           200.00  200.00 2200.00
4099       SE   1104.0 1104.10 1105.00 1106.00 1106.80 1107.00 1108.00 1109.00
                *

4100       KK  DWGC51  DIVERT
4101       KM    Divert ID D43 in Maryvale ADMS, Feb 1997 - comments from ADMS:
4102       KM    FLOW DIVERSION AT 43RD AVE
4103       KM    DIVERSION TO SOUTH
4104       KM    PRELIMINARY COMPUTATIONS BY WPA 6/96
4105       KM    CAPACITY OF SURFACE FLOW NORTH OF CANAL = 200 CFS
4106       KM    DIVERSION OF FLOW SOUTH UNDER THE GRAND CANAL BY EXIST. STORM DRAIN SYSTEM
4107       KM    ESTIMATED STORM DRAIN CAPACITY(63") = 89 CFS
4108       KM   ==========================================================================
4109       KM   Divert runoff hydrograph from combination point CGC43 west to combination
4110       KM   point CGC51
4111       KM   ==========================================================================
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LINE       ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

4112       DT  DSTM43      0.0     0.0
4113       DI      0.0   200.0  2200.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
4114       DQ      0.0     0.0  2000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
                *

4115       KK  RWGC51   ROUTE
4116       KM   Route diversion DWGC51 west to combination point CGC51
4117       RS      10    FLOW
4118       RC   0.035   0.015   0.035    5614  0.0005    0.00
4119       RX    0.00    0.00   19.00   19.00   81.00   81.00  100.00  100.00
4120       RY    3.00    0.69    0.50    0.00    0.00    0.50    0.69    3.00
                *

4121       KK  DRGC51RETRIEVE
4122       KM   Retrieve divert DRGC51 from combination point CIS51 and divert south to
4123       KM   combination point CGC51
4124       DR  DSGC51
                *

4125       KK  RSGC51   ROUTE
4126       KM   Route diversion retrieval DRGC51 south to combination point CGC51
4127       RS       3    FLOW
4128       RC   0.035   0.015   0.035    2155  0.0045    0.00
4129       RX    0.00    0.00   67.00   67.00  332.00  332.00  399.00  399.00
4130       RY    3.00    1.17    0.50    0.00    0.00    0.50    1.17    3.00
```



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                *

4131       KK    GC51   BASIN
4132       KM   Runoff hydrograph for subbasin GC51 northeast of the intersection of the
4133       KM   Grand Canal and 51st Avenue
4134       BA   0.448
4135       LG    0.24    0.25    5.00    0.24      36
4136       UC   1.500   1.228
4137       UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
4138       UA     100
                *

4139       KK   CGC51 COMBINE
4140       KM   Combine route RWGC51, route RSGC51, and subbasin GC51
4141       HC       3    2.04
                *

4142       KK  PR51ISRETRIEVE
4143       KM   Retrieve full flow capacity of 244 cfs from 72-inch storm drain pipe at the
4144       KM   intersection of Indian School Road and 51st Avenue
4145       DR  DP51IS
                *

4146       KK  RP51ML   ROUTE
4147       KM   Route full flow capacity of 244 cfs through 72-inch storm drain pipe in
4148       KM   51st Avenue to the intersection of Mitchell Drive and 51st Avenue
4149       RK     2089  0.0033   0.015             CIRC    6.000
                *
1                                   HEC-1 INPUT                                          PAGE108

LINE       ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

4150       KK  CPML51 COMBINE
4151       KM   Combine pipe return PR51IS with the runoff hydrograph at combination point
4152       KM   CGC51 at the intersection of the Grand Canal and 51st Avenue
4153       HC        2
                *

4154       KK   DML51  DIVERT
4155       KM   Divert calculated full flow capapcity of 136 cfs into 72-inch storm drain
4156       KM   pipe at the intersection of Mitchell Drive and 51st Avenue
4157       DT  DPML51      0.0   136.0
4158       DI      0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
4159       DQ      0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
                *

4160       KK   D51GC  DIVERT
4161       KM   Divert calculated full flow capapcity of 113 cfs into 54-inch storm drain
4162       KM   pipe near the intersection of the Grand Canal and 51st Avenue
4163       DT  DP51GC      0.0   113.0
4164       DI      0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
4165       DQ      0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
                *

4166       KK  SRGC51 STORAGE
4167       KM    Storage routing ID PA47 in Maryvale ADMS, Feb 1997 - comments from ADMS:
4168       KM    PONDING AREA IN THE VICINITY OF 47TH  AND 51ST AVE
4169       KM
4170       KM    PRELIMINARY COMPUTATIONS BY WPA 6/96
4171       KM    CAPACITY OF FLOW NORTH OF CANAL = 300 CFS+(STORM DRAIN CAP)105CFS PER CVL
4172       KM    DIVERSION OF FLOW OVER THE CANAL BANKS
4173       KM    TOP OF CANAL BANK ELEV = 1105
4174       KM   ==========================================================================
4175       KM   REVISION TO MARYVALE ADMS MODEL BY KHA --> COMBINE DIVERTS AT 47TH & 51ST AVE
4176       KM                        SUBTRACTED OUT STORM DRAIN CAPACITY FROM SQ CARDS
4177       KM                        CONFIRMED CAPACITY OF SURFACE FLOW ON NORTH SIDE OF BANK
4178       KM
4179       KM   Storage route runoff hydrograph from divert D51GC through ponding
4180       KM     area at the Grand Canal between 43rd 51st Avenues
4181       KM   ==========================================================================
4182       RS        1    STOR      -1
4183       SV             4.82   23.64   29.62   63.89   86.57
4184       SQ            25.00  275.00  350.00 1350.00 4250.00
4185       SE   1103.0 1104.00 1104.80 1105.00 1105.50 1106.00
                *

4186       KK  DWGC53  DIVERT
4187       KM    Divert ID D47 in Maryvale ADMS, Feb 1997 - comments from ADMS:
4188       KM    DIVERSION AT 47TH AVE
4189       KM    PRELIMINARY COMPUTATIONS BY WPA 6/96
4190       KM    AN EXISTING STORM DRAIN SYSTEM CONVEYS FLOW TO THE WEST ONLY
4191       KM    CAPACITY OF FLOW NORTH OF CANAL = 300 CFS+(STORM DRAIN CAP)105CFS PER CVL
4192       KM    DIVERSION OF FLOW OVER THE CANAL BANKS
4193       KM   ==========================================================================
4194       KM   REVISION TO MARYVALE ADMS MODEL BY KHA --> COMBINE DIVERTS AT 47TH & 51ST AVE
4195       KM                        SUBTRACTED OUT STORM DRAIN CAPACITY FROM SQ CARDS
1                                   HEC-1 INPUT                                          PAGE109

LINE       ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

4196       KM                        CONFIRMED CAPACITY OF SURFACE FLOW ON NORTH SIDE OF BANK
4197       KM
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4198          KM   Divert remaining runoff hydrograph from combination point CPGC51 west to
4199          KM   combination point CGC59
4200          KM   ============================================================================
4201          DT  DSTM51      0.0     0.0
4202          DI     0.0   300.0  2300.0  4250.0     0.0     0.0     0.0     0.0     0.0     0.0
4203          DQ     0.0     0.1  2000.0  3950.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

4204          KK  RWGC53   ROUTE
4205          KM   Route diversion DWGC53 west to combination point CGC53
4206          RS       4    FLOW
4207          RC   0.035   0.015   0.035    1296  0.0012    0.00
4208          RX    0.00    0.00    9.50    9.50   40.50   40.50   50.00   50.00
4209          RY    3.00    0.60    0.50    0.00    0.00    0.50    0.60    3.00
              *

4210          KK  DRGC59RETRIEVE
4211          KM   Retrieve divert DRGC59 from combination point CIS59 and divert south to
4212          KM   combination point CGC59
4213          DR  DSGC59
              *

4214          KK  RSGC59   ROUTE
4215          KM   Route diversion retrieval DRGC59 south to combination point CGC59
4216          RS       2    FLOW
4217          RC   0.035   0.015   0.035    2502  0.0025    0.00
4218          RX    0.00    0.00   57.50   57.50  291.50  291.50  349.00  349.00
4219          RY    3.00    1.08    0.50    0.00    0.00    0.50    1.08    3.00
              *

4220          KK    GC59   BASIN
4221          KM   Runoff hydrograph for subbasin GC59 northeast of the intersection of the
4222          KM   Grand Canal and 59th Avenue
4223          BA   0.410
4224          LG    0.24    0.23    6.20    0.16      42
4225          UC   0.981   0.701
4226          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
4227          UA     100
              *

4228          KK   CGC55 COMBINE
4229          KM   Combine route RSGC59 and subbasin GC59
4230          HC       2    2.42
              *

4231          KK  DEGC53  DIVERT
4232          KM   Divert portion of runoff hydrograph from combination point CGC55  to
4233          KM   combination point CGC53 where it will be routed through the Maryvale Ball
4234          KM   Park basin near the intersection of the Grand Canal and 53rd Avenue.  The
4235          KM   remaining flow is diverted to combination point CPGC59. The diversion is
4236          KM   based on topography
4237          DT  DWGC59      0.0     0.0
4238          DI     0.0   173.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0     0.0
1                                      HEC-1 INPUT                                        PAGE110

LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

4239          DQ     0.0     0.0    14.0   167.0   422.0   932.0  1952.0  5012.0 10112.0     0.0
              *

4240          KK  PRML51RETRIEVE
4241          KM   Retrieve full flow capacity of 136 cfs from 72-inch storm drain pipe at the
4242          KM   intersection of Mitchell Drive and 51st Avenue
4243          DR  DPML51
              *

4244          KK  RPML53   ROUTE
4245          KM   Route full flow capacity of 136 cfs through 72-inch storm drain pipe in
4246          KM   Mitchell Drive to the intersection of Mitchell Drive and 53rd Avenue
4247          RK    1084  0.0010   0.015            CIRC   6.000
              *

4248          KK   CGC53 COMBINE
4249          KM   Combine route RWGC53, route RPML53, and divert DGC53
4250          HC       3    2.27
              *

4251          KK  SRGC53 STORAGE
4252          KM   Storage route runoff hydrograph from combination point CPGC59 thru detention
4253          KM    basin at Grand Avenue near the intersection of Grand Avenue and 59th Avenue
4254          KM   Stage-storage data from Maryvale Baseball Park Grading and Drainage As-built
4255          KM     Record, 1997
4256          RS       1    STOR
4257          SV            1.90    5.90   10.00   15.20   22.20   31.70   44.60   59.50   75.60
4258          SV    93.0
4259          SQ     0.0    10.0    28.0    44.0    56.0    65.0    73.0    81.0    88.0      94
4260          SQ  1358.0
4261          SE  1094.0  1095.0  1096.0  1097.0  1098.0  1099.0  1100.0  1101.0  1102.0    1103
4262          SE  1104.0
              *

4263          KK   DGC53  DIVERT
4264          KM   Storm drain outflow from Maryvale Baseball Park basin. Divert calculated full
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4265          KM   flow capapcity of 20 cfs into 36-inch storm drain pipe at the intersection of
4266          KM   the Grand Canal and 53rd Avenue
4267          DT  DPGC53      0.0    20.0
4268          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
4269          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

4270          KK  PR59ISRETRIEVE
4271          KM   Retrieve full flow capacity of 353 cfs from 81-inch storm drain pipe at the
4272          KM   intersection of Indian School Road and 59th Avenue
4273          DR  DP59IS
              *

4274          KK  RP59GC   ROUTE
4275          KM   Route full flow capacity of 353 cfs through 81-inch storm drain pipe in
4276          KM   59th Avenue to the intersection of the Grand Canal and 59th Avenue
4277          RK    1243  0.0037   0.015            CIRC   6.750
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

4278          KK  DRGC59RETRIEVE
4279          KM   Retrieve divert DRGC59 from combination point CGC55 and divert to
4280          KM   combination point CPGC59
4281          DR  DWGC59
              *

4282          KK  CPGC59 COMBINE
4283          KM   Combine pipe return PR59IS with the runoff hydrograph at combination point
4284          KM   CGC59 at the intersection of the Grand Canal and 59th Avenue
4285          HC       2    1.24
              *

4286          KK   D59GC  DIVERT
4287          KM   Divert calculated full flow capapcity of 258 cfs into 72-inch storm drain
4288          KM   pipe at the intersection of the Grand Canal and 59th Avenue
4289          DT  DP59GC      0.0   258.0
4290          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
4291          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

4292          KK   CGC59 COMBINE
4293          KM   Combine divert DGC53 and divert D59GC
4294          HC       2    3.50
              *

4295          KK  DWISGC  DIVERT
4296          KM    Divert ID D55 in Maryvale ADMS, Feb 1997 - comments from ADMS:
4297          KM    FLOW DIVERSION TO SOUTH
4298          KM    PRELIMINARY COMPUTATIONS BY WPA 6/96
4299          KM    CAPACITY OF SURFACE FLOW NORTH OF CANAL =  50 CFS
4300          KM    AN EXISTING STORM DRAIN SYSTEM CONVEYS FLOW TO THE WEST ONLY
4301          KM    DIVERSION OF FLOW OVER THE GRAND CANAL
4302          KM    STORM DRAIN CAPACITY WEST = 74 CFS PER CVL
4303          KM    TOP OF CANAL BANK ELEV = 1103
4304          KM   ============================================================================
4305          KM   REVISION TO MARYVALE ADMS MODEL BY KHA --> COMBINE DIVERTS AT 55TH & 59TH AVE
4306          KM                        SUBTRACTED OUT STORM DRAIN CAPACITY FROM SQ CARDS
4307          KM                        CONFIRMED CAPACITY OF SURFACE FLOW ON NORTH SIDE OF BANK
4308          KM
4309          KM   Divert remaining runoff hydrograph from combination point CPGC59 west to
4310          KM   combination point CISGC
4311          KM   ============================================================================
4312          DT  DSTM59      0.0     0.0
4313          DI     0.0    50.0   555.0  2689.0     0.0     0.0     0.0     0.0     0.0     0.0
4314          DQ     0.0     0.2   505.0  1030.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

4315          KK  RWISGC   ROUTE
4316          KM   Route diversion DWISGC west to combination point CISGC
4317          RS       2    FLOW
4318          RC   0.035   0.015   0.035    4300  0.0009    0.00
4319          RX    0.00    0.00    9.50    9.50   40.50   40.50   50.00   50.00
4320          RY    3.00    0.60    0.50    0.00    0.00    0.50    0.60    3.00
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

4321          KK  DRISGCRETRIEVE
4322          KM   Retrieve divert DRISGC from combination point CGC67 and divert south to
4323          KM   combination point CISGC
4324          DR  DSISGC
              *

4325          KK  RSISGC   ROUTE
4326          KM   Route diversion retrieval DRISGC south to combination point CISGC
4327          RS       1    FLOW
4328          RC   0.035   0.015   0.035    1231  0.0022    0.00
4329          RX    0.00    0.00   31.50   31.50  143.50  143.50  175.00  175.00
```

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4330          RY   3.00    0.82    0.50    0.00    0.00    0.50    0.82    3.00
              *

4331          KK    ISGC   BASIN
4332          KM   Runoff hydrograph for subbasin ISGC southeast of the intersection of Indian
4333          KM   School Road and the Grand Canal
4334          BA   0.159
4335          LG    0.25    0.15    7.00    0.11      32
4336          UC   1.421   1.608
4337          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
4338          UA     100
              *

4339          KK   CISGC COMBINE
4340          KM   Combine route RWISGC, route RSISGC, and subbasin ISGC
4341          HC       3    3.33
              *

4342          KK  PR59GCRETRIEVE
4343          KM   Retrieve full flow capacity of 258 cfs from 72-inch storm drain pipe at the
4344          KM   intersection of the Grand Canal and 59th Avenue
4345          DR  DP59GC
              *

4346          KK  CPISGC COMBINE
4347          KM   Combine pipe return PR59GC with the runoff hydrograph at combination point
4348          KM   CISGC at the intersection of Indian School Road and the Grand Canal
4349          HC       2
              *

4350          KK   DGC63  DIVERT
4351          KM   Divert calculated full flow capapcity of 258 cfs into 72-inch storm drain
4352          KM   pipe at the intersection of the Grand Canal and 63rd Avenue
4353          DT  DPGC63      0.0   258.0
4354          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
4355          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

4356          KK  SRISGC STORAGE
4357          KM   Storage route runoff hydrograph from combination point CPISGC through
4358          KM     regional detention basin located near the intersection of the Grand Canal
4359          KM     and Indian School Road (Sunset Basin).
4360          KM   Stage-storage data from Bethany Home Outfall Channel TDN for CLOMR, Jan 2003
4361          KM   Discharge data for 96-in outlet pipe under construction Dec 2009
4362          RS       1    STOR
4363          SV            1.52    4.61   12.85   22.46   33.32   45.48   48.72   52.06
4364          SQ            3.00   12.00   46.00   83.00   91.00  593.00 1600.00 3421.00
4365          SE   85.00   86.00   87.00   89.00   91.00   93.00   95.00   95.50   96.00
              *

4366          KK  DPGC67  DIVERT
4367          KM   Divert excess flow that overtops the subbasin to the south.  The calculated
4368          KM   full flow capapcity in the 96-inch storm drain pipe leaving the basin is
4369          KM   is diverted north to combination point CGC75
4370          DT  DSTM67      0.0     0.0
4371          DI     0.0     3.0    12.0    46.0    83.0    91.0   593.0  1600.0  3421.0     0.0
4372          DQ     0.0     0.0     0.0     0.0     0.0     0.0     0.0   983.0  2781.0     0.0
              *

4373          KK  DRGC75RETRIEVE
4374          KM   Retrieve divert DRGC75 from combination point CCB75 and divert south to
4375          KM   combination point CGC75
4376          DR  DSGC75
              *

4377          KK    GC75   BASIN
4378          KM   Runoff hydrograph for subbasin GC75 southeast of the intersection of the
4379          KM   Grand Canal and 75th Avenue
4380          BA   0.410
4381          LG    0.24    0.15    8.00    0.07      33
4382          UC   1.500   1.585
4383          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
4384          UA     100
              *

4385          KK   CGC75 COMBINE
4386          KM   Combine divert DWGC75, pipe diversion DPGC67, divert retrieval DRGC75, and
4387          KM   subbasin GC75
4388          HC       4    9.44
              *

4389          KK  SRGC75 STORAGE
4390          KM   Storage route runoff hydrograph from combination point CGC75 through regional
4391          KM     detention basin along the Grand Canal between 67th and 75th Avenues
4392          KM   Vol/Elev data taken from DMJM HEC-1 revision (model BHGC00C6, Nov 2004)
4393          KM     confirmd by comparing with Bethany Home Outfall Channel Reach B As-builts
4394          KM   Discharge data calculated from discharge channel in As-builts (Bethany Home
4395          KM     Outfall Channel Reach C - 83rd Ave to 73rd Ave, June 2007)
4396          KM     Rect concrete channel, width = 14 ft, slope = 0.000992 ft/ft
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4397          RS       1    STOR
4398          SV            0.00    0.00    0.07    0.73    2.73    6.42   12.25   20.32   29.62
4399          SV  40.248  52.049  65.081  79.346  94.800  103.1   111.4
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4400          SQ     0.0     0.0     0.0    36.0   120.0   230.0   356.0   493.0   639.0     790
4401          SQ   947.0  1107.0  1270.0  1436.0  1604.0  1689.0  1774.0
4402          SE  1074.7  1078.0  1081.0  1083.0  1084.0  1085.0  1086.0  1087.0  1088.0    1089
4403          SE  1090.0  1091.0  1092.0  1093.0  1094.0  1094.5  1095.0
              *

4404          KK  CICB75 COMBINE
4405          KM   Combine runoff hydrograph DWGC83 with runoff hydrograph from combination
4406          KM   point CGC75 at the intersection of Camelback Road and 75th Avenue
4407          HC       2   14.03
              *

4408          KK  RWGC83   ROUTE
4409          KM   Route hydrograph at combination point CICB75 at the intersection of Camelback
4410          KM   Road and 75th Avenue west to combination point CGC83
4411          RS       4    FLOW
4412          RC   0.035   0.015   0.035    6563  0.0010    0.00
4413          RX    0.00    3.00   13.00   13.00   31.00   31.00   41.00   44.00
4414          RY   10.00    9.00    9.00    0.00    0.00    9.00    9.00   10.00
              *

4415          KK  DRGC83RETRIEVE
4416          KM   Retrieve divert DRGC83 from combination point CBH83 and divert south to
4417          KM   combination point CGC83
4418          DR  DSGC83
              *

4419          KK    GC83   BASIN
4420          KM   Runoff hydrograph for subbasin GC83 southeast of the intersection of the
4421          KM   Grand Canal and 83rd Avenue
4422          BA   0.426
4423          LG    0.25    0.15    8.40    0.07      26
4424          UC   1.500   1.722
4425          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
4426          UA     100
              *

4427          KK  ERGC83  DIVERT
4428          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
4429          KM   retention developed after 1990 in subbasin GC83
4430          DT   XGC83    28.0     0.0
4431          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
4432          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

4433          KK   CGC83 COMBINE
4434          KM   Combine route RWGC83, divert retrieval DRGC83, and subbasin GC83
4435          HC       3   17.67
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

4436          KK  CIBH83 COMBINE
4437          KM   Combine runoff hydrograph DWBH91 with runoff hydrograph from combination
4438          KM   point CGC83 at the intersection of 83rd Avenue and Bethany Home Road
4439          HC       2   23.92
              *

4440          KK  RWBH91   ROUTE
4441          KM   Route hydrograph at combination point CIBH83 at the intersection of Bethany
4442          KM   Home Road and 91st Avenue west to combination point CBH91
4443          RS       2    FLOW
4444          RC   0.035   0.015   0.035    6508  0.0008    0.00
4445          RX    0.00    4.00   18.00   66.00  126.00  162.00  172.00  176.00
4446          RY   13.14   12.14   12.00    0.00    0.60    9.15    9.25   10.25
              *

4447          KK  DRBH91RETRIEVE
4448          KM   Retrieve divert DRBH91 from combination point CPGL91 and divert south to
4449          KM   combination point CBH91
4450          DR  DSBH91
              *

4451          KK  RSBH91   ROUTE
4452          KM   Route diversion retrieval DRBH91 south to combination point CBH91
4453          RS       3    FLOW
4454          RC   0.035   0.015   0.035    5280  0.0019    0.00
4455          RX    0.00    0.00   37.50   37.50  210.50  210.50  248.00  248.00
4456          RY    3.00    0.88    0.50    0.00    0.00    0.50    0.88    3.00
              *

4457          KK    BH91   BASIN
4458          KM   Runoff hydrograph for square mile subbasin BH91 northeast of the intersection
4459          KM   of Bethany Home Road and 91st Avenue
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4460          BA   1.032
4461          LG    0.27    0.16    7.60    0.10      21
4462          UC   1.371   0.934
4463          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
4464          UA     100
              *
4465          KK  ERBH91   DIVERT
4466          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
4467          KM   retention developed after 1990 in subbasin BH91
4468          DT   XBH91      3.8      0.0
4469          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
4470          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *
4471          KK   CBH91 COMBINE
4472          KM   Combine route RWBH91, route RSBH91, and subbasin BH91
4473          HC        3   30.54
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9.....10

4474          KK  RWBHLO    ROUTE
4475          KM   Route hydrograph at combination point CBH91 west to combination point CBHLO
4476          RS        2     FLOW
4477          RC   0.035   0.015   0.035    4110  0.0011     0.00
4478          RX    0.00    4.00   18.00   46.50  135.50  153.40  167.40  171.40
4479          RY    8.26    7.26    7.12    0.00    0.85    5.32    5.46    6.46
              *
4480          KK    BHLO    BASIN
4481          KM   Runoff hydrograph for subbasin BHLO northeast of the intersection of Bethany
4482          KM   Home Road and SR Loop 101
4483          BA   0.788
4484          LG    0.10    0.15    7.30    0.09      81
4485          UC   0.763   0.491
4486          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
4487          UA     100
              *
4488          KK  ERBHLO   DIVERT
4489          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
4490          KM   retention developed after 1990 in subbasin BHLO
4491          DT   XBHLO     41.5      0.0
4492          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
4493          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *
4494          KK   CBHLO COMBINE
4495          KM   Combine route RWBHLO, route RSBHLO, and subbasin BHLO
4496          HC        3   46.47
              *
4497          KK  RWBH99    ROUTE
4498          KM   Route hydrograph at combination point CBHLO west to combination point CBH99
4499          RS        1     FLOW
4500          RC   0.035   0.015   0.035    1075  0.0011     0.00
4501          RX    0.00    4.00   18.00   46.50  135.50  153.40  167.40  171.40
4502          RY    8.26    7.26    7.12    0.00    0.85    5.32    5.46    6.46
              *
4503          KK    BH99    BASIN
4504          KM   Runoff hydrograph for subbasin BH99 northeast of the intersection of Bethany
4505          KM   Home Road and 99th Avenue
4506          BA   0.184
4507          LG    0.39    0.19    6.60    0.19      20
4508          UC   0.973   1.016
4509          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
4510          UA     100
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9.....10

4511          KK   CBH99 COMBINE
4512          KM   Combine route RWBH99 and subbasin BH99
4513          HC        2   46.65
              *
4514          KK  RWBHRI    ROUTE
4515          KM   Route hydrograph at combination point CBH99 west to combination point CGLNR
4516          RS        1     FLOW
4517          RC   0.035   0.015   0.035    2392  0.0010     0.00
4518          RX    0.00    4.00   18.00   46.50  135.50  153.40  167.40  171.40
4519          RY    8.26    7.26    7.12    0.00    0.85    5.32    5.46    6.46
              *
4520          KK    GLNR    BASIN
4521          KM   Runoff hydrograph for subbasin GLNR north of Glendale Avenue and east of New
4522          KM   River
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4523          BA   0.483
4524          LG    0.32    0.25    6.40    0.17      25
4525          UC   1.145   1.070
4526          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
4527          UA     100
              *
4528          KK  ERGLNR   DIVERT
4529          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
4530          KM   retention developed after 1990 in subbasin GLNR
4531          DT   XGLNR      2.9      0.0
4532          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
4533          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *
4534          KK  DSBHRI   DIVERT
4535          KM   Divert portion of runoff hydrograph from subbasin GLNR south to the
4536          KM   intersection of Bethany Home Road and the Roosevelt Irrigation District canal
4537          KM   and the remaining flow west to New River. The diversion is based on
4538          KM   topography
4539          KM   Divert remaining runoff hydrograph from subbasin GLNR south to combination
4540          KM   point CBHRI
4541          DT   DWNR04      0.0      0.0
4542          DI      0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0  10000.0  20000.0  50000.0
4543          DQ      0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0  10000.0  20000.0  50000.0
              *
4544          KK  RSBHRI    ROUTE
4545          KM   Route subbasin diversion DSBHRI south to combination point CBHRI
4546          RS        1     FLOW
4547          RC   0.035   0.015   0.035    5280  0.0015     0.00
4548          RX    0.00    0.00    7.00    7.00   43.00   43.00   50.00   50.00
4549          RY    3.00    0.57    0.50    0.00    0.00    0.50    0.57    3.00
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9.....10

4550          KK    BHRI    BASIN
4551          KM   Runoff hydrograph for subbasin BHRI north of Bethany Home Road and east of
4552          KM   the Roosevelt Irrigation District canal
4553          BA   0.512
4554          LG    0.48    0.24    6.20    0.25       0
4555          UC   1.108   0.790
4556          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
4557          UA     100
              *
4558          KK   DBHNR   DIVERT
4559          KM   Divert portion of runoff hydrograph from subbasin BHRI west to the
4560          KM   intersection of Bethany Home Road and New River and the remaining flow
4561          KM   west to New River. The diversion is based on topography.
4562          DT   DWBHAF      0.0      0.0
4563          DI      0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0  10000.0  20000.0  50000.0
4564          DQ      0.0     79.0    158.0    395.0    790.0   1580.0   3160.0   7900.0  15800.0  39500.0
              *
4565          KK   CBHRI COMBINE
4566          KM   Combine route RWBHRI, route RSBHRI, and and divert DBHNR
4567          HC        3   47.17
              *
4568          KK  RWBHNR    ROUTE
4569          KM   Route remaining hydrograph at combination point CBHRI west to combination
4570          KM   point CBHNR
4571          RS        1     FLOW
4572          RC   0.035   0.015   0.035    3231  0.0010     0.00
4573          RX    0.00    4.00   18.00   46.50  135.50  153.40  167.40  171.40
4574          RY    8.26    7.26    7.12    0.00    0.85    5.32    5.46    6.46
              *
4575          KK    BHNR    BASIN
4576          KM   Runoff hydrograph for subbasin BHNR north of Bethany Home Road and east of
4577          KM   New River
4578          BA   0.258
4579          LG    0.45    0.25    6.20    0.24       0
4580          UC   0.941   0.595
4581          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
4582          UA     100
              *
4583          KK   CBHNR COMBINE
4584          KM   Combine route RWBHNR and subbasin BHNR
4585          HC        2   47.42
              *
4586          KK    CB99    BASIN
4587          KM   Runoff hydrograph for subbasin CB99 northeast of the intersection of
4588          KM   Camelback Road and 99th Avenue
4589          BA   0.201
4590          LG    0.21    0.25    7.30    0.09      35
4591          UC   0.871   0.905
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 4592       UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
 4593       UA     100
            *

 4594       KK  ERCB99   DIVERT
 4595       KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
 4596       KM   retention developed after 1990 in subbasin CB99
 4597       DT   XCB99      4.6      0.0
 4598       DI     0.0 50000.0      0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
 4599       DQ     0.0 50000.0      0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
            *

 4600       KK  DWCBRI   DIVERT
 4601       KM   Divert remaining runoff hydrograph from subbasin CB99 west to combination
 4602       KM   point CCBRI
 4603       DT   DSIS99      0.0      0.0
 4604       DI     0.0   100.0    200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
 4605       DQ     0.0    49.0     98.0   245.0   490.0   980.0  1960.0  4900.0  9800.0 24500.0
            *

 4606       KK  RWCBRI    ROUTE
 4607       KM   Route diversion DWCBRI west to combination point CCBRI
 4608       RS       7     FLOW
 4609       RC   0.035    0.015    0.035    3883  0.0021     0.00
 4610       RX    0.00     0.00    16.50   16.50  107.50  107.50  124.00  124.00
 4611       RY    3.00     0.66     0.50    0.00    0.00    0.50    0.66    3.00
            *

 4612       KK    CBRI    BASIN
 4613       KM   Runoff hydrograph for subbasin CBRI north of Camelback Road and east of the
 4614       KM   Roosevelt Irrigation District canal
 4615       BA   0.698
 4616       LG    0.34     0.15     7.00     0.13      21
 4617       UC   1.426    1.182
 4618       UA       0      5.0     16.0     30.0    65.0    77.0    84.0    90.0    94.0    97.0
 4619       UA     100
            *

 4620       KK  ERCBRI   DIVERT
 4621       KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
 4622       KM   retention developed after 1990 in subbasin CBRI
 4623       DT   XCBRI     41.4      0.0
 4624       DI     0.0 50000.0      0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
 4625       DQ     0.0 50000.0      0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
            *

 4626       KK   CCBRI COMBINE
 4627       KM   Combine route RWCBRI and subbasin CBRI
 4628       HC       2     0.80
            *

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  LINE      ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

 4629       KK  DWCB07   DIVERT
 4630       KM   Divert runoff hydrograph from combination point CCBRI west to combination
 4631       KM   point CCB07
 4632       DT   DSIS07      0.0      0.0
 4633       DI     0.0   100.0    200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
 4634       DQ     0.0    69.0    138.0   345.0   690.0  1380.0  2760.0  6900.0 13800.0 34500.0
            *

 4635       KK    CB07    BASIN
 4636       KM   Runoff hydrograph for subbasin CB07 northeast of the intersection of
 4637       KM   Camelback Road and 107th Avenue
 4638       BA   0.317
 4639       LG    0.31     0.26     6.00     0.22       4
 4640       UC   1.488    1.099
 4641       UA       0      5.0     16.0     30.0    65.0    77.0    84.0    90.0    94.0    97.0
 4642       UA     100
            *

 4643       KK   CCB07 COMBINE
 4644       KM   Combine divert DWCB07 and subbasin CB07
 4645       HC       2     0.56
            *

 4646       KK  DWCBNR   DIVERT
 4647       KM   Divert runoff hydrograph from combination point CCB07 west to combination
 4648       KM   point CCBNR
 4649       DT   DIS07      0.0      0.0
 4650       DI     0.0   100.0    200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
 4651       DQ     0.0    69.0    138.0   345.0   690.0  1380.0  2760.0  6900.0 13800.0 34500.0
            *

 4652       KK  RWCBNR    ROUTE
 4653       KM   Route diversion DWCBNR west to combination point CCBNR
 4654       RS       8     FLOW
```



```
 4655       RC   0.035    0.015    0.035    3883  0.0010     0.00
 4656       RX    0.00     0.00    16.50   16.50  107.50  107.50  124.00  124.00
 4657       RY    3.00     0.66     0.50    0.00    0.00    0.50    0.66    3.00
            *

 4658       KK    CBNR    BASIN
 4659       KM   Runoff hydrograph for subbasin CBNR north of Camelback Road and east of New
 4660       KM   River
 4661       BA   0.466
 4662       LG    0.13     0.30     5.80     0.24       3
 4663       UC   1.184    1.064
 4664       UA       0      5.0     16.0     30.0    65.0    77.0    84.0    90.0    94.0    97.0
 4665       UA     100
            *

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  LINE      ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

 4666       KK   CCBNR COMBINE
 4667       KM   Combine route RWCBNR and subbasin CBNR
 4668       HC       2     0.64
            *

 4669       KK  DRIS99RETRIEVE
 4670       KM   Retrieve divert DRIS99 from subbasin CB99 and divert south to
 4671       KM   combination point CIS99
 4672       DR   DSIS99
            *

 4673       KK  RSIS99    ROUTE
 4674       KM   Route diversion retrieval DRIS99 south to combination point CIS99
 4675       RS       9     FLOW
 4676       RC   0.035    0.015    0.035     5280  0.0020     0.00
 4677       RX    0.00     0.00    16.50   16.50  107.50  107.50  124.00  124.00
 4678       RY    3.00     0.66     0.50    0.00    0.00    0.50    0.66    3.00
            *

 4679       KK    IS99    BASIN
 4680       KM   Runoff hydrograph for subbasin IS99 northeast of the intersection of Indian
 4681       KM   School Road and 99th Avenue
 4682       BA   0.323
 4683       LG    0.44     0.15     9.70     0.07      12
 4684       UC   0.943    0.764
 4685       UA       0      5.0     16.0     30.0    65.0    77.0    84.0    90.0    94.0    97.0
 4686       UA     100
            *

 4687       KK   CIS99 COMBINE
 4688       KM   Combine route RSIS99 and subbasin IS99
 4689       HC       2     0.42
            *

 4690       KK  DWIS07   DIVERT
 4691       KM   Divert runoff hydrograph from combination point CIS99 west to combination
 4692       KM   point CIS07
 4693       DT   DSTM99      0.0      0.0
 4694       DI     0.0   100.0    200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
 4695       DQ     0.0    26.0     52.0   130.0   260.0   520.0  1040.0  2600.0  5200.0 13000.0
            *

 4696       KK  RWIS07    ROUTE
 4697       KM   Route diversion DWIS07 west to combination point CIS07
 4698       RS       7     FLOW
 4699       RC   0.035    0.015    0.035     5280  0.0022     0.00
 4700       RX    0.00     0.00    35.50   35.50  188.50  188.50  224.00  224.00
 4701       RY    3.00     0.86     0.50    0.00    0.00    0.50    0.86    3.00
            *

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  LINE      ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

 4702       KK  DI07ISRETRIEVE
 4703       KM   Retrieve arterial street flow diverted to 107th Avenue at the intersection
 4704       KM   of 107th Avenue and Camelback Road
 4705       DR   DIS07
            *

 4706       KK  DRIS07RETRIEVE
 4707       KM   Retrieve divert DRIS07 from combination point CCBRI and divert south to
 4708       KM   combination point CICB07
 4709       DR   DSIS07
            *

 4710       KK  CICB07 COMBINE
 4711       KM   Combine arterial street flow from 107th Avenue DI07IS with runoff hydrograph
 4712       KM   DSIS07 at the intersection of 107th Avenue and Camelback Road
 4713       HC       2     0.94
            *

 4714       KK  RSIS07    ROUTE
 4715       KM   Route hydrograph at combination point CICB07 at the intersection of Camelback
```

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4716          KM   Road and 107th Avenue south to combination point CIS07
4717          RS     6    FLOW
4718          RC  0.035   0.015   0.035    5280  0.0026    0.00
4719          RX   0.00    0.00   26.00   26.00  148.00  148.00  174.00  174.00
4720          RY   3.00    0.76    0.50    0.00    0.00    0.50    0.76    3.00
              *

4721          KK    IS07   BASIN
4722          KM   Runoff hydrograph for square mile subbasin IS07 northeast of the intersection
4723          KM   of Indian Schhol Road and 107th Avenue
4724          BA   1.021
4725          LG    0.22    0.16    8.00    0.08      27
4726          UC   1.367   0.912
4727          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
4728          UA     100
              *

4729          KK  ERIS07  DIVERT
4730          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
4731          KM   retention developed after 1990 in subbasin IS07
4732          DT   XIS07    10.5     0.0
4733          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
4734          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

4735          KK   CIS07 COMBINE
4736          KM   Combine route RWIS07, route RSIS07 and subbasin IS07
4737          HC       3    2.28
              *

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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

4738          KK  DWISAF  DIVERT
4739          KM   Divert runoff hydrograph from combination point CIS07 west to combination
4740          KM   point CISAF
4741          DT  DSRI07     0.0     0.0
4742          DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
4743          DQ     0.0    25.0    50.0   125.0   250.0   500.0  1000.0  2500.0  5000.0 12500.0
              *

4744          KK  RWISAF   ROUTE
4745          KM   Route diversion DWISAF west to combination point CISAF
4746          RS       6    FLOW
4747          RC  0.035   0.015   0.035    6868  0.0013    0.00
4748          RX   0.00    0.00   67.00   67.00  332.00  332.00  399.00  399.00
4749          RY   3.00    1.17    0.50    0.00    0.00    0.50    1.17    3.00
              *

4750          KK    ISAF   BASIN
4751          KM   Runoff hydrograph for subbasin ISAF north of Indian School Road and east of
4752          KM   the Agua Fria River
4753          BA   0.989
4754          LG    0.23    0.25    4.80    0.26      45
4755          UC   1.500   1.137
4756          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
4757          UA     100
              *

4758          KK   CISAF COMBINE
4759          KM   Combine route RWISAF and subbasin ISAF
4760          HC       2    2.69
              *

4761          KK  DRTM99RETRIEVE
4762          KM   Retrieve divert DRTM99 from combination point CIS99 and divert south to
4763          KM   combination point CTM99
4764          DR  DSTM99
              *

4765          KK  RSTM99   ROUTE
4766          KM   Route diversion retrieval DRTM99 south to combination point CTM99
4767          RS      10    FLOW
4768          RC  0.035   0.015   0.035    5280  0.0009    0.00
4769          RX   0.00    0.00   16.50   16.50  107.50  107.50  124.00  124.00
4770          RY   3.00    0.66    0.50    0.00    0.00    0.50    0.66    3.00
              *

4771          KK    TM99   BASIN
4772          KM   Runoff hydrograph for subbasin TM99 northeast of the intersection of Thomas
4773          KM   Road and 99th Avenue
4774          BA   0.505
4775          LG    0.46    0.15    8.80    0.09       8
4776          UC   1.216   0.938
4777          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
4778          UA     100
              *

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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10
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4779          KK   CTM99 COMBINE
4780          KM   Combine route RSTM99 and subbasin TM99
4781          HC       2    0.62
              *

4782          KK  DWRI07  DIVERT
4783          KM   Divert runoff hydrograph from combination point CTM99 west to combination
4784          KM   point CRI07
4785          DT  DSMD99     0.0     0.0
4786          DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
4787          DQ     0.0    46.0    92.0   230.0   460.0   920.0  1840.0  4600.0  9200.0 23000.0
              *

4788          KK  RWRI07   ROUTE
4789          KM   Route diversion DWRI07 west to combination point CRI07
4790          RS       7    FLOW
4791          RC  0.035   0.015   0.035    5402  0.0013    0.00
4792          RX   0.00    0.00   16.50   16.50  107.50  107.50  124.00  124.00
4793          RY   3.00    0.66    0.50    0.00    0.00    0.50    0.66    3.00
              *

4794          KK  DRRI07RETRIEVE
4795          KM   Retrieve divert DRRI07 from combination point CIS07 and divert south to
4796          KM   combination point CRI07
4797          DR  DSRI07
              *

4798          KK  RSRI07   ROUTE
4799          KM   Route diversion retrieval DRRI07 south to combination point CRI07
4800          RS       3    FLOW
4801          RC  0.035   0.015   0.035    2640  0.0008    0.00
4802          RX   0.00    0.00   26.00   26.00  148.00  148.00  174.00  174.00
4803          RY   3.00    0.76    0.50    0.00    0.00    0.50    0.76    3.00
              *

4804          KK    RI07   BASIN
4805          KM   Runoff hydrograph for subbasin RI07 northeast of the intersection of the
4806          KM   Roosevelt Irrigation District Canal and 107th Avenue
4807          BA   0.759
4808          LG    0.41    0.15    8.80    0.08      12
4809          UC   1.134   0.696
4810          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
4811          UA     100
              *

4812          KK  ERRI07  DIVERT
4813          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
4814          KM   retention developed after 1990 in subbasin RI07
4815          DT   XRI07    21.1     0.0
4816          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
4817          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

4818          KK   CRI07 COMBINE
4819          KM   Combine route RWRI07, route RSRI07 and subbasin RI07
4820          HC       3    1.67
              *

4821          KK   DRIAF  DIVERT
4822          KM   Divert portion of runoff hydrograph from combination point CRIAF south to the
4823          KM   intersection of Thomas Road and 107th Avenue and the remaining flow
4824          KM   west to the intersection of the Roosevelt Irrigation District canal and the
4825          KM   Agua Fria River. The diversion is based on topography
4826          DT  DTM07     0.0     0.0
4827          DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
4828          DQ     0.0    49.0    98.0   245.0   490.0   980.0  1960.0  4900.0  9800.0 24500.0
              *

4829          KK  DWRIAF  DIVERT
4830          KM   Divert runoff hydrograph from combination point CRI07 west to combination
4831          KM   point CRIAF
4832          DT  DSTM07     0.0     0.0
4833          DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
4834          DQ     0.0    62.0   124.0   310.0   620.0  1240.0  2480.0  6200.0 12400.0 31000.0
              *

4835          KK  RWRIAF   ROUTE
4836          KM   Route diversion DWRIAF west to combination point CRIAF
4837          RS      10    FLOW
4838          RC  0.035   0.015   0.035   10904  0.0007    0.00
4839          RX   0.00    0.00   22.00   22.00  103.00  103.00  125.00  125.00
4840          RY   3.00    0.72    0.50    0.00    0.00    0.50    0.72    3.00
              *

4841          KK    RIAF   BASIN
4842          KM   Runoff hydrograph for subbasin RIAF north of the Roosevelt Irrigation
4843          KM   District Canal and east of the Agua Fria River
4844          BA   0.659
4845          LG    0.22    0.18    6.60    0.13      41
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4846          UC   1.500   1.317
4847          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
4848          UA     100
              *


4849          KK   CRIAF COMBINE
4850          KM   Combine route RWRIAF and subbasin RIAF
4851          HC       2    0.98
              *


4852          KK  DRBHAFRETRIEVE
4853          DR  DWBHAF
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


4854          KK  SRBHRI STORAGE
4855          KM   Storage route runoff hydrograph from combination point CRIAF through ponding
4856          KM     area at the Roosevelt Irrigation District Canal and the Agua Fria River
4857          KM   Stage-storage-discharge data from Maryvale ADMS, Feb 1997
4858          RS       1    STOR
4859          SV           15.00   34.70   63.80  107.60
4860          SQ            0.10    0.20 4536.0013441.00
4861          SE  1050.0 1052.00 1053.00 1054.00 1055.00
              *


4862          KK   CAF01 COMBINE
4863          KM   Combine combination point CCBNR, combination point CISAF, and combination
4864          KM   point CRIAF
4865          HC       5    4.31
              *


4866          KK    CB83   BASIN
4867          KM   Runoff hydrograph for subbasin CB83 northeast of the intersection of
4868          KM   Camelback Road and 83rd Avenue
4869          BA   0.554
4870          LG    0.27    0.15    8.00    0.08      20
4871          UC   0.947   0.495
4872          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
4873          UA     100
              *


4874          KK  ERCB83  DIVERT
4875          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
4876          KM   retention developed after 1990 in subbasin CB83
4877          DT   XCB83     18.0      0.0
4878          DI       0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
4879          DQ       0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *


4880          KK   D83CB  DIVERT
4881          KM   Divert calculated full flow capapcity of 10 cfs into 24-inch storm drain
4882          KM   pipe at the intersection of Camelback Road and 83rd Avenue
4883          DT  DP83CB      0.0     10.0
4884          DI       0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
4885          DQ       0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *


4886          KK  DWCB91  DIVERT
4887          KM   Divert remaining runoff hydrograph from subbasin CB83 west to combination
4888          KM   point CCB91
4889          DT  DSIS83      0.0      0.0
4890          DI       0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
4891          DQ       0.0    44.0    88.0   220.0   440.0   880.0  1760.0  4400.0  8800.0 22000.0
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


4892          KK  RWCB91   ROUTE
4893          KM   Route diversion DWCB91 west to combination point CCB91
4894          RS       7    FLOW
4895          RC   0.035   0.015   0.035    5280  0.0036    0.00
4896          RX    0.00    0.00   57.50   57.50  291.50  291.50  349.00  349.00
4897          RY    3.00    1.08    0.50    0.00    0.00    0.50    1.08    3.00
              *


4898          KK    CB91   BASIN
4899          KM   Runoff hydrograph for square mile subbasin CB91 northeast of the intersection
4900          KM   of Camelback Road and 91st Avenue
4901          BA   0.961
4902          LG    0.41    0.17    8.80    0.08       6
4903          UC   1.147   0.752
4904          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
4905          UA     100
              *


4906          KK  ERCB91  DIVERT
4907          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
4908          KM   retention developed after 1990 in subbasin CB91
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4909          DT   XCB91     16.4      0.0
4910          DI       0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
4911          DQ       0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *


4912          KK   CCB91 COMBINE
4913          KM   Combine route RWCB91 and subbasin CB91
4914          HC       2    1.32
              *


4915          KK  DWCBLO  DIVERT
4916          KM   Divert remaining runoff hydrograph from combination point CCB91 west to
4917          KM   combination point CCBLO
4918          DT  DSIS91      0.0      0.0
4919          DI       0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
4920          DQ       0.0    47.0    94.0   235.0   470.0   940.0  1880.0  4700.0  9400.0 23500.0
              *


4921          KK  RWCBLO   ROUTE
4922          KM   Route diversion DWCBLO west to combination point CCBLO
4923          RS       3    FLOW
4924          RC   0.035   0.015   0.035    4287  0.0028    0.00
4925          RX    0.00    0.00   48.00   48.00  251.00  251.00  299.00  299.00
4926          RY    3.00    0.98    0.50    0.00    0.00    0.50    0.98    3.00
              *


4927          KK    CBLO   BASIN
4928          KM   Runoff hydrograph for subbasin CBLO northeast of the intersection of
4929          KM   Camelback Road and SR Loop 101
4930          BA   0.818
4931          LG    0.39    0.15    8.80    0.08       14
4932          UC   1.076   0.726
4933          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

4934          UA     100
              *


4935          KK  ERCBLO  DIVERT
4936          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
4937          KM   retention developed after 1990 in subbasin CBLO
4938          DT   XCBLO     13.0      0.0
4939          DI       0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
4940          DQ       0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *


4941          KK   CCBLO COMBINE
4942          KM   Combine route RWCBLO and subbasin CBLO
4943          HC       2    1.52
              *


4944          KK  RSISLO   ROUTE
4945          KM   Route hydrograph at combination point CCBLO south to combination point CISLO
4946          RS       2    FLOW
4947          RC   0.035   0.015   0.035    5583  0.0010    0.00
4948          RX    0.00    4.00   14.00   29.00   49.00   64.00   94.00   97.00
4949          RY   11.20   10.20   10.00    0.00    0.40   10.40   11.84   12.84
              *


4950          KK    IS75   BASIN
4951          KM   Runoff hydrograph for subbasin IS75 northeast of the intersection of Indian
4952          KM   School Road and 75th Avenue
4953          BA   0.615
4954          LG    0.23    0.15    7.60    0.08       41
4955          UC   1.038   0.623
4956          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
4957          UA     100
              *


4958          KK  ERIS75  DIVERT
4959          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
4960          KM   retention developed after 1990 in subbasin IS75
4961          DT   XIS75      0.8      0.0
4962          DI       0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
4963          DQ       0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *


4964          KK   D75IS  DIVERT
4965          KM   Divert calculated full flow capapcity of 123 cfs into 60-inch storm drain
4966          KM   pipe at the intersection of Indian School Road and 75th Avenue
4967          DT  DP75IS      0.0     123.0
4968          DI       0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
4969          DQ       0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


4970          KK  DWIS83  DIVERT
4971          KM   Divert remaining runoff hydrograph from combination point CPIS75 west to
```

```
4972          KM   combination point CIS83
4973          DT  DSTM75      0.0      0.0
4974          DI      0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0  10000.0  20000.0  50000.0
4975          DQ      0.0     35.0     70.0    175.0    350.0    700.0   1400.0   3500.0   7000.0  17500.0
              *

4976          KK  RWIS83   ROUTE
4977          KM   Route diversion DWIS83 west to combination point CIS83
4978          RS       7    FLOW
4979          RC   0.035    0.015    0.035     5280   0.0028     0.00
4980          RX    0.00     0.00    76.50    76.50   372.50   372.50   449.00   449.00
4981          RY    3.00     1.27     0.50     0.00     0.00     0.50     1.27     3.00
              *

4982          KK  DRIS83RETRIEVE
4983          KM   Retrieve divert DRIS83 from subbasin CB83 and divert south to combination
4984          KM   point CIS83
4985          DR  DSIS83
              *

4986          KK  RSIS83   ROUTE
4987          KM   Route diversion retrieval DRIS83 south to combination point CIS83
4988          RS       9    FLOW
4989          RC   0.035    0.015    0.035     5280   0.0022     0.00
4990          RX    0.00     0.00    57.50    57.50   291.50   291.50   349.00   349.00
4991          RY    3.00     1.08     0.50     0.00     0.00     0.50     1.08     3.00
              *

4992          KK    IS83   BASIN
4993          KM   Runoff hydrograph for square mile subbasin IS83 northeast of the intersection
4994          KM   Indian School Road and 83rd Avenue
4995          BA   0.991
4996          LG    0.24     0.17     6.80     0.12       34
4997          UC   1.328    0.880
4998          UA       0      5.0     16.0     30.0     65.0     77.0     84.0     90.0     94.0     97.0
4999          UA     100
              *

5000          KK   CIS83 COMBINE
5001          KM   Combine route RWIS83, route RSIS83 and subbasin IS83
5002          HC       3     1.64
              *

5003          KK  PR83CBRETRIEVE
5004          KM   Retrieve full flow capacity of 10 cfs from 24-inch storm drain pipe at the
5005          KM   intersection of Camelback Road and 83rd Avenue
5006          DR  DP83CB
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9.....10

5007          KK  RP83IS   ROUTE
5008          KM   Route full flow capacity of 10 cfs through 24-inch storm drain pipe in
5009          KM   83rd Avenue to the intersection of Indian School Road and 83rd Avenue
5010          RK    5208  0.0019   0.015            CIRC   2.000
              *

5011          KK  CPIS83 COMBINE
5012          KM   Combine pipe return PR83CB with the runoff hydrograph at combination point
5013          KM   CIS83 at the intersection of Indian School Road and 83rd Avenue
5014          HC       2
              *

5015          KK   D83IS  DIVERT
5016          KM   Divert calculated full flow capapcity of 187 cfs into 72-inch storm drain
5017          KM   pipe at the intersection of Indian School Road and 83rd Avenue
5018          DT  DP83IS      0.0    187.0
5019          DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
5020          DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

5021          KK  DWIS91  DIVERT
5022          KM   Divert remaining runoff hydrograph from combination point CPIS83 west to
5023          KM   combination point CIS91
5024          DT  DSTM83      0.0      0.0
5025          DI      0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0  10000.0  20000.0  50000.0
5026          DQ      0.0     55.0    110.0    275.0    550.0   1100.0   2200.0   5500.0  11000.0  27500.0
              *

5027          KK  RWIS91   ROUTE
5028          KM   Route diversion DWIS91 west to combination point CIS91
5029          RS       4    FLOW
5030          RC   0.035    0.015    0.035     5280   0.0030     0.00
5031          RX    0.00     0.00    54.50    54.50   269.50   269.50   324.00   324.00
5032          RY    3.00     1.04     0.50     0.00     0.00     0.50     1.04     3.00
              *

5033          KK  DRIS91RETRIEVE
5034          KM   Retrieve divert DRIS91 from combination point CCB91 and divert south to
5035          KM   combination point CIS91
5036          DR  DSIS91
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              *

5037          KK  RSIS91   ROUTE
5038          KM   Route diversion retrieval DRIS91 south to combination point CIS91
5039          RS       5    FLOW
5040          RC   0.035    0.015    0.035     5280   0.0017     0.00
5041          RX    0.00     0.00    57.50    57.50   291.50   291.50   349.00   349.00
5042          RY    3.00     1.08     0.50     0.00     0.00     0.50     1.08     3.00
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9.....10

5043          KK    IS91   BASIN
5044          KM   Runoff hydrograph for square mile subbasin IS91 northeast of the intersection
5045          KM   Indian School Road and 91st Avenue
5046          BA   0.999
5047          LG    0.25     0.15     9.70     0.04       37
5048          UC   1.366    0.911
5049          UA       0      5.0     16.0     30.0     65.0     77.0     84.0     90.0     94.0     97.0
5050          UA     100
              *

5051          KK  ERIS91  DIVERT
5052          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
5053          KM   retention developed after 1990 in subbasin IS91
5054          DT   XIS91     24.3      0.0
5055          DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
5056          DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

5057          KK   CIS91 COMBINE
5058          KM   Combine route RWIS91, route RSIS91 and subbasin IS91
5059          HC       3     2.36
              *

5060          KK   D91IS  DIVERT
5061          KM   Divert calculated full flow capapcity of 190 cfs into 72-inch storm drain
5062          KM   pipe at the intersection of Indian School Road and 91st Avenue
5063          DT  DP91IS      0.0    190.0
5064          DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
5065          DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

5066          KK  DWISLO  DIVERT
5067          KM   Divert remaining runoff hydrograph from combination point CIS91 west to
5068          KM   combination point CISLO
5069          DT  DSTM91      0.0      0.0
5070          DI      0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0  10000.0  20000.0  50000.0
5071          DQ      0.0     57.0    114.0    285.0    570.0   1140.0   2280.0   5700.0  11400.0  28500.0
              *

5072          KK  RWISLO   ROUTE
5073          KM   Route diversion DWISLO west to combination point CISLO
5074          RS       2    FLOW
5075          RC   0.035    0.015    0.035     2651   0.0039     0.00
5076          RX    0.00     0.00    35.50    35.50   188.50   188.50   224.00   224.00
5077          RY    3.00     0.86     0.50     0.00     0.00     0.50     0.86     3.00
              *

5078          KK    ISLO   BASIN
5079          KM   Runoff hydrograph for subbasin ISLO northeast of the intersection of Indian
5080          KM   School Road and SR Loop 101
5081          BA   0.684
5082          LG    0.34     0.15     9.70     0.06       21
5083          UC   1.121    0.725
5084          UA       0      5.0     16.0     30.0     65.0     77.0     84.0     90.0     94.0     97.0
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9.....10

5085          UA     100
              *

5086          KK  ERISLO  DIVERT
5087          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
5088          KM   retention developed after 1990 in subbasin ISLO
5089          DT   XISLO     29.8      0.0
5090          DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
5091          DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

5092          KK   CISLO COMBINE
5093          KM   Combine route RWISLO, route RSISLO and subbasin ISLO
5094          HC       3     3.22
              *

5095          KK  RSTMLO   ROUTE
5096          KM   Route hydrograph at combination point CISLO south to combination point CTMLO
5097          RS       2    FLOW
5098          RC   0.035    0.015    0.035     5309   0.0010     0.00
5099          RX    0.00     4.00    14.00    29.00    44.00    59.00    73.00    76.00
```

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5100          RY   11.20   10.20   10.00    0.00    0.30   10.30   10.58   11.58
              *

5101          KK  DRGCGRRETRIEVE
5102          KM   Retrieve divert DRGCGR from combination point CGR35 and divert south to
5103          KM   combination point CIGR35
5104          DR  DEGCGR
              *

5105          KK  DIGCGRRETRIEVE
5106          KM   Retrieve divert DIGCGR from combination point CPIS35 and divert south to
5107          KM   combination point CIGR35
5108          DR  DSGCGR
              *

5109          KK  CIGR35 COMBINE
5110          KM   Combine arterial street flow from Grand Avenue DEGCGR with runoff hydrograph
5111          KM   DGRGC at the intersection of 35th Avenue and Grand Avenue
5112          HC       2    3.97
              *

5113          KK  RSGCGR   ROUTE
5114          KM   Route hydrograph at combination point CIGR35 at the intersection of Grand
5115          KM   Avenue and 35th Avenue south to combination point CGCGR
5116          RS       2    FLOW
5117          RC  0.035   0.015   0.035    3104  0.0029    0.00
5118          RX   0.00    0.00   48.00   48.00  251.00  251.00  299.00  299.00
5119          RY   3.00    0.98    0.50    0.00    0.00    0.50    0.98    3.00
              *

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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9.....10

5120          KK  DRGC27RETRIEVE
5121          KM   Retrieve divert DRGC27 from combination point CPIS27 and divert south to
5122          KM   combination point CGCGR
5123          DR  DSGC27
              *

5124          KK  RSGC27   ROUTE
5125          KM   Route diversion retrieval DRGC27 south to combination point CGC27
5126          RS       1    FLOW
5127          RC  0.035   0.015   0.035    1755  0.0028    0.00
5128          RX   0.00    0.00   16.50   16.50  107.50  107.50  124.00  124.00
5129          RY   3.00    0.66    0.50    0.00    0.00    0.50    0.66    3.00
              *

5130          KK   GCGR   BASIN
5131          KM   Runoff hydrograph for subbasin GCGR northeast of the intersection of Grand
5132          KM   Avenue and the Grand Canal
5133          BA   0.376
5134          LG    0.15    0.25    5.00    0.23      77
5135          UC   0.282   0.065
5136          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
5137          UA     100
              *

5138          KK   CGCGR COMBINE
5139          KM   Combine route RSGCGR, route RSGC27, and subbasin GCGR
5140          HC       3    6.09
              *

5141          KK  PR31ISRETRIEVE
5142          KM   Retrieve full flow capacity of 268 cfs from 72-inch diameter pipe at the
5143          KM   intersection of Indian School Road and 31st Avenue
5144          DR  DP31IS
              *

5145          KK  RP31GC   ROUTE
5146          KM   Route full flow capacity of 268 cfs through 72-inch storm drain pipe
5147          KM   in 31st Avenue to the intersection of 31st Avenue and the Grand Canal
5148          RK    2506  0.0040   0.015            CIRC   6.000
              *

5149          KK  PR27ISRETRIEVE
5150          KM   Retrieve full flow capacity of 151 cfs from 60-inch diameter pipe at the
5151          KM   intersection of Indian School Road and 27th Avenue
5152          DR  DP27IS
              *

5153          KK  RP27GC   ROUTE
5154          KM   Route full flow capacity of 151 cfs through 60-inch storm drain pipe in
5155          KM   in 27th Avenue to the intersection of 27th Avenue and the Grand Canal
5156          RK    1763  0.0034   0.015            CIRC   5.000
              *

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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9.....10

5157          KK  CPGCGR COMBINE
5158          KM   Combine pipe return PR27IS and pipe return PR35IS with the runoff hydrograph
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5159          KM   at combination point CGCGR at the intersection of the Grand Canal and Grand
5160          KM   Avenue
5161          HC       3
              *

5162          KK   DGCGR  DIVERT
5163          KM   Capacity of storm drain in 27th Avenue and 29th Avenue diverted together.
5164          KM   Divert combined calculated full flow capacity of 257 cfs in the 72-inch storm
5165          KM   drain pipe in 27th Avenue and 165 cfs in the 60-inch storm drain pipe in
5166          KM   29th Avenue. The total calculated combined full flow capacity diverted at the
5167          KM   intersection of the Grand Canal and Grand Avenue is 422 cfs in an equivalent
5168          KM   diameter pipe of 87 inches
5169          DT  DPGCGR      0.0    422.0
5170          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
5171          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

5172          KK  SRGCGR STORAGE
5173          KM   Storage route runoff hydrograph from divert DGCGR through ponding
5174          KM     area at the Grand Canal between I-17 and Grand Avenue
5175          KM   Storage routing ID RES26E in Maryvale ADMS, Feb 1997 - comments from ADMS:
5176          KM   PONDING AREA RESERVOIR ROUTE
5177          KM   PONDING AREA NORTHEAST OF GRAND AVENUE/RR EMBANKMENT
5178          KM   SUB-BASIN 26-22E
5179          RS       1     STOR       0.
5180          SV            0.10    13.20    45.92    91.09   149.48
5181          SQ          160.00   160.00   376.00  1056.00  6078.00
5182          SE  1095.0 1096.00 1097.00 1098.00 1099.00 1100.00
              *

5183          KK  RSGR27   ROUTE
5184          KM   Route diversion retrieval DRGR27 south to combination point CGR27
5185          RS       2    FLOW
5186          RC  0.035   0.015   0.035    4632  0.0019    0.00
5187          RX   0.00    0.00   33.00   33.00  215.00  215.00  248.00  248.00
5188          RY   3.00    0.83    0.50    0.00    0.00    0.50    0.83    3.00
              *

5189          KK   GR27   BASIN
5190          KM   Runoff hydrograph for subbasin GR27 northwest of the intersection of Grand
5191          KM   Avenue and 27th Avenue
5192          BA   0.407
5193          LG    0.18    0.15    8.40    0.06      66
5194          UC   0.604   0.327
5195          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
5196          UA     100
              *

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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9.....10

5197          KK   CTM27 COMBINE
5198          KM   Combine route RSGR27 and subbasin GR27
5199          HC       2    6.50
              *

5200          KK   DTM27  DIVERT
5201          KM   Divert portion of runoff hydrograph from combination point CTM27  to storage
5202          KM   route SRTM27 where it will be routed through the Verde Basin near the
5203          KM   intersection of Thomas and 27th Avenue.  The remaining flow is diverted to
5204          KM   combination point CGR27. The diversion is based on topography
5205          DT  DGR27      0.0      0.0
5206          DI     0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0  10000.0  20000.0  50000.0
5207          DQ     0.0     50.0    100.0    250.0    500.0   1000.0   2000.0   5000.0  10000.0  25000.0
              *

5208          KK  SRTM27 STORAGE
5209          KM   Storage route runoff hydrograph from storm drain route RP27TM thru regional
5210          KM     detention basin near the intersection of Thomas Road and 27th Avenue
5211          KM   Stage-storage-discharge data from 26th Avenue and Verde Lane Drainage
5212          KM     Improvement Project Phase II Plans, November 2005 (Verde Basin)
5213          RS       1     STOR
5214          SV            0.50     1.40     3.10     5.70     9.00    12.50    16.30    20.00    22.00
5215          SV    24.1
5216          SQ     0.0     49.0     20.0     25.0     29.0     33.0     36.0     39.0     42.0    521.0
5217          SQ  1395.0
5218          SE  1088.0  1089.0  1090.0  1091.0  1092.0  1093.0  1094.0  1095.0  1096.0  1096.5
5219          SE  1097.0
              *

5220          KK  PRGCGRRETRIEVE
5221          KM   Retrieve combined full flow capacity of 422 cfs from 87-inch equivalent
5222          KM   diameter pipe at the intersection of the Grand Canal and Grand Avenue
5223          DR  DPGCGR
              *

5224          KK   D31GR  DIVERT
5225          KM   Divert calculated full flow capapcity of 257 cfs into 72-inch storm drain
5226          KM   pipe at the intersection of Grand Avenue and 31st Avenue
5227          DT  DP31GR      0.0    257.0
5228          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
5229          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
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5230            KK  RP27TM   ROUTE
5231            KM   Route full flow capacity of 151 cfs through 60-inch storm drain pipe in
5232            KM   27th Avenue to the intersection of Thomas Road and 27th Avenue
5233            RK    3088  0.0034   0.015            CIRC   5.000
                *
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LINE            ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


5234            KK  CPGR27 COMBINE
5235            KM   Combine remainder of pipe return PRGCGR with the runoff hydrograph at
5236            KM   storage route SRTM27 at the intersection of Grand Avenue and 27th Avenue
5237            HC       2
                *

5238            KK   D27GR  DIVERT
5239            KM   Divert calculated full flow capapcity of 195 cfs into 66-inch storm drain
5240            KM   pipe at the intersection of Grand Avenue and 27th Avenue
5241            DT  DP27GR     0.0   195.0
5242            DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
5243            DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
                *

5244            KK  DRGR27RETRIEVE
5245            KM   Retrieve divert DRGR27 from combination point CRM27 and divert south to
5246            KM   combination point CGR27
5247            DR   DGR27
                *

5248            KK   CGR27 COMBINE
5249            KM   Combine divert D27GR and divert retrieval DRGR27
5250            HC       2    6.50
                *

5251            KK  SRGR27 STORAGE
5252            KM   Storage route runoff hydrograph from divert D27GR through regional detention
5253            KM     basin near the intersection of Grand Avenue and 27th Avenue.
5254            KM   Stage-storage-discharge data from State Highway Wickenburg-Phoenix Highway
5255            KM     (US 60), 27th Avnue/Thomas Road As-builts, ADOT, August 2006
5256            RS       1    STOR
5257            SV            0.30    2.10    8.50   15.80   23.90   32.70   42.20   47.30   49.93
5258            SV    52.6    57.8
5259            SQ       0       2       7      14      19      22      25      28      29       3
5260            SQ     813    1469
5261            SE  1084.0  1085.0  1086.0  1088.0  1090.0  1092.0  1094.0  1096.0  1097.0    1097
5262            SE  1098.0  1098.5
                *

5263            KK  DWTM35  DIVERT
5264            KM   Divert remaining runoff hydrograph from combination point CPGR27 west to
5265            KM   combination point CTM35
5266            DT  DSMD27      0.0     0.0
5267            DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
5268            DQ     0.0    68.0   136.0   340.0   680.0  1360.0  2720.0  6800.0 13600.0 34000.0
                *

5269            KK  RWTM35   ROUTE
5270            KM   Route diversion DWTM35 west to combination point CTM35
5271            RS       6    FLOW
5272            RC   0.035   0.015   0.035    5280  0.0008     0.00
5273            RX    0.00    0.00   16.50   16.50  107.50  107.50  124.00  124.00
5274            RY    3.00    0.66    0.50    0.00    0.00    0.50    0.66    3.00
                *
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LINE            ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


5275            KK  DRTM35RETRIEVE
5276            KM   Retrieve divert DRTM35 from combination point CGC35 and divert south to
5277            KM   combination point CTM35
5278            DR   DSTM35
                *

5279            KK  RSTM35   ROUTE
5280            KM   Route diversion retrieval DRTM35 south to combination point CTM35
5281            RS       1    FLOW
5282            RC   0.035   0.015   0.035    3050  0.0051     0.00
5283            RX    0.00    0.00   16.50   16.50  107.50  107.50  124.00  124.00
5284            RY    3.00    0.66    0.50    0.00    0.00    0.50    0.66    3.00
                *

5285            KK    TM35   BASIN
5286            KM   Runoff hydrograph for subbasin TM35 northeast of the intersection of Thomas
5287            KM   Road and 35th Avenue
5288            BA   0.393
5289            LG    0.14    0.15    7.60    0.08      80
5290            UC   0.557   0.321
5291            UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
5292            UA     100
```



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                *
5293            KK   CTM35 COMBINE
5294            KM   Combine route RWTM35, route RSTM35, and subbasin TM35
5295            HC       3    4.31
                *

5296            KK  PR31GRRETRIEVE
5297            KM   Retrieve full flow capacity of 257 cfs from 72-inch storm drain pipe at the
5298            KM   intersection of Grand Avenue and 31st Avenue
5299            DR  DP31GR
                *

5300            KK  RP31TM   ROUTE
5301            KM   Route full flow capacity of 257 cfs through 72-inch storm drain pipe in
5302            KM   31st Avenue to the intersection of Thomas Road and 31st Avenue
5303            RK    3862  0.0037   0.015            CIRC   6.000
                *

5304            KK  PR35GCRETRIEVE
5305            KM   Retrieve full flow capacity of 40 cfs from 36-inch storm drain pipe at the
5306            KM   intersection of the Grand Canal and 35th Avenue
5307            DR  DP35GC
                *

5308            KK  RP35TM   ROUTE
5309            KM   Route full flow capacity of 40 cfs through 36-inch storm drain pipe in
5310            KM   35th Avenue to the intersection of Thomas Road and 35th Avenue
5311            RK    3051  0.0035   0.015            CIRC   3.000
                *
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LINE            ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


5312            KK  CPTM35 COMBINE
5313            KM   Combine pipe returns PR31GR and PR35GC with the runoff hydrograph at
5314            KM   combination point CTM35 at the intersection of Thomas Road and 35th Avenue
5315            HC       3
                *

5316            KK   D35TM  DIVERT
5317            KM   Capacity of storm drain in 31st Avenue and 35th Avenue diverted together.
5318            KM   Divert combined calculated full flow capacity of 213 cfs in the 66-inch storm
5319            KM   drain pipe in 31st AVenue and 87 cfs in the 48-inch storm drain pipe in
5320            KM   35th Avenue. The total calculated combined full flow capacity diverted at the
5321            KM   intersection of 35th Avenue and Thomas Road is 300 cfs in an equivalent
5322            KM   diameter pipe of 77 inches
5323            DT  DP35TM     0.0   300.0
5324            DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
5325            DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
                *

5326            KK  DWTM43  DIVERT
5327            KM   Divert remaining runoff hydrograph from combination point CPTM35 west to
5328            KM   combination point CTM43
5329            DT  DSMD35      0.0     0.0
5330            DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
5331            DQ     0.0    84.0   168.0   420.0   840.0  1680.0  3360.0  8400.0 16800.0 42000.0
                *

5332            KK  RWTM43   ROUTE
5333            KM   Route diversion DWTM43 west to combination point CTM43
5334            RS       9    FLOW
5335            RC   0.035   0.015   0.035    5280  0.0003     0.00
5336            RX    0.00    0.00   38.50   38.50  210.50  210.50  249.00  249.00
5337            RY    3.00    0.88    0.50    0.00    0.00    0.50    0.88    3.00
                *

5338            KK  DRTM43RETRIEVE
5339            KM   Retrieve divert DRTM43 from combination point CGC43 and divert south to
5340            KM   combination point CTM43
5341            DR   DSTM43
                *

5342            KK  RSTM43   ROUTE
5343            KM   Route diversion retrieval DRTM43 south to combination point CTM43
5344            RS       1    FLOW
5345            RC   0.035   0.015   0.035    3050  0.0045     0.00
5346            RX    0.00    0.00   16.50   16.50  107.50  107.50  124.00  124.00
5347            RY    3.00    0.66    0.50    0.00    0.00    0.50    0.66    3.00
                *

5348            KK    TM43   BASIN
5349            KM   Runoff hydrograph for subbasin TM43 northeast of the intersection of Thomas
5350            KM   Road and 43rd Avenue
5351            BA   0.636
5352            LG    0.23    0.15    8.80    0.05      37
5353            UC   1.371   0.980
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LINE            ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10
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5354          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
5355          UA     100
              *

5356          KK  ERTM43  DIVERT
5357          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
5358          KM   retention developed after 1990 in subbasin TM43
5359          DT   XTM43      1.7      0.0
5360          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
5361          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

5362          KK   CTM43 COMBINE
5363          KM   Combine route RWTM43, route RSTM43, and subbasin TM43
5364          HC       3    3.16
              *

5365          KK  PR43GCRETRIEVE
5366          KM   Retrieve combined full flow capacity of 406 cfs from 87-inch equivalent
5367          KM   diameter pipe at the intersection of the Grand Canal and 43rd Avenue
5368          DR  DP43GC
              *

5369          KK  RP43TM   ROUTE
5370          KM   Route the combined full flow capacity of 406 cfs through an equivalent storm
5371          KM   drain pipe diameter of 87 inches in 43rd Avenue to the intersection of
5372          KM   43rd Avenue and Thomas Road
5373          RK    2924  0.0035   0.015             CIRC   7.250
              *

5374          KK  CPTM43 COMBINE
5375          KM   Combine pipe return PR43GC with the runoff hydrograph at combination point
5376          KM   CTM43 at the intersection of the Grand Canal and 43rd Avenue
5377          HC       2
              *

5378          KK   D43TM  DIVERT
5379          KM   Capacity of storm drain in 39th Avenue and 43rd Avenue diverted together.
5380          KM   Divert combined calculated full flow capacity of 404 cfs in the 84-inch storm
5381          KM   drain pipe in 39th AVenue and 225 cfs in the 69-inch storm drain pipe in
5382          KM   43rd Avenue. The total calculated combined full flow capacity diverted at the
5383          KM   intersection of 43rd Avenue and Thomas Road is 629 cfs in an equivalent
5384          KM   diameter pipe of 102 inches
5385          DT  DP43TM     0.0    629.0
5386          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
5387          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

5388          KK  DWTM51  DIVERT
5389          KM   Divert remaining runoff hydrograph from combination point CTM43 west to
5390          KM   combination point CTM51
5391          DT  DSMD43      0.0      0.0
5392          DI     0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0  10000.0  20000.0  50000.0
5393          DQ     0.0     79.0    158.0    395.0    790.0   1580.0   3160.0   7900.0  15800.0  39500.0
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

5394          KK  RWTM51   ROUTE
5395          KM   Route diversion DWTM51 west to combination point CTM51
5396          RS       9    FLOW
5397          RC   0.035   0.015   0.035    5280  0.0004     0.00
5398          RX    0.00    0.00   48.00   48.00  251.00  251.00  299.00  299.00
5399          RY    3.00    0.98    0.50    0.00    0.00    0.50    0.98    3.00
              *

5400          KK  DRTM51RETRIEVE
5401          KM   Retrieve divert DRTM51 from combination point CPGC51 and divert south to
5402          KM   combination point CTM51
5403          DR  DSTM51
              *

5404          KK  RSTM51   ROUTE
5405          KM   Route diversion retrieval DRTM51 south to combination point CTM51
5406          RS       2    FLOW
5407          RC   0.035   0.015   0.035    2916  0.0044     0.00
5408          RX    0.00    0.00   29.00   29.00  170.00  170.00  199.00  199.00
5409          RY    3.00    0.79    0.50    0.00    0.00    0.50    0.79    3.00
              *

5410          KK    TM51   BASIN
5411          KM   Runoff hydrograph for subbasin TM51 northeast of the intersection of Thomas
5412          KM   Road and 51st Avenue
5413          BA   0.545
5414          LG    0.24    0.19    6.60    0.13      33
5415          UC   1.418   1.094
5416          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
5417          UA     100
              *

5418          KK   CTM51 COMBINE
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5419          KM   Combine route RWTM51, route RSTM51, and subbasin TM51
5420          HC       3    2.15
              *

5421          KK  PR51GCRETRIEVE
5422          KM   Retrieve full flow capacity of 113 cfs from 54-inch storm drain pipe near the
5423          KM   intersection of the Grand Canal and 51st Avenue
5424          DR  DP51GC
              *

5425          KK  PRGC53RETRIEVE
5426          KM   Retrieve full flow capacity of 20 cfs from 36-inch storm drain pipe at the
5427          KM   intersection of the Grand Canal and 53rd Avenue
5428          DR  DPGC53
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

5429          KK  RPGC51   ROUTE
5430          KM   Route full flow capacity of 20 cfs through 36-inch storm drain near the
5431          KM   Grand Canal to the intersection of the Grand Canal and 51st Avenue
5432          RK    1038  0.0009   0.015             CIRC   3.000
              *

5433          KK  CPGC51 COMBINE
5434          KM   Combine pipe return PR51GC with pipe route RPGC51 at the intersection of
5435          KM   the Grand Canal and 51st Avenue
5436          HC       2    2.15
              *

5437          KK  RP51TM   ROUTE
5438          KM   Route combined full flow capacity of 133 cfs through a 72-inch storm drain
5439          KM   pipe in 51st Avenue to the intersection of Thomas Road and 51st Avenue
5440          RK    2803  0.0033   0.015             CIRC   6.000
              *

5441          KK  CPTM51 COMBINE
5442          KM   Combine the runoff hydrograph at combination point CTM51 with pipe route
5443          KM   RP51TM at the intersection of Thomas Road and 51st Avenue
5444          HC       2
              *

5445          KK   D51TM  DIVERT
5446          KM   Divert calculated full flow capapcity of 244 cfs into 72-inch storm drain
5447          KM   pipe at the intersection of Thomas Road and 51st Avenue
5448          DT  DP51TM     0.0    244.0
5449          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
5450          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

5451          KK  DWTM59  DIVERT
5452          KM   Divert remaining runoff hydrograph from combination point CPTM51 west to
5453          KM   combination point CTM59
5454          DT  DSMD51      0.0      0.0
5455          DI     0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0  10000.0  20000.0  50000.0
5456          DQ     0.0     64.0    128.0    320.0    640.0   1280.0   2560.0   6400.0  12800.0  32000.0
              *

5457          KK  RWTM59   ROUTE
5458          KM   Route diversion DWTM59 west to combination point CTM59
5459          RS       5    FLOW
5460          RC   0.035   0.015   0.035    5280  0.0013     0.00
5461          RX    0.00    0.00   48.00   48.00  251.00  251.00  299.00  299.00
5462          RY    3.00    0.98    0.50    0.00    0.00    0.50    0.98    3.00
              *

5463          KK  DRTM59RETRIEVE
5464          KM   Retrieve divert DRTM59 from combination point CPGC59 and divert south to
5465          KM   combination point CTM59
5466          DR  DSTM59
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

5467          KK  RSTM59   ROUTE
5468          KM   Route diversion retrieval DRTM59 south to combination point CTM59
5469          RS       1    FLOW
5470          RC   0.035   0.015   0.035    2752  0.0054     0.00
5471          RX    0.00    0.00   29.00   29.00  170.00  170.00  199.00  199.00
5472          RY    3.00    0.79    0.50    0.00    0.00    0.50    0.79    3.00
              *

5473          KK    TM59   BASIN
5474          KM   Runoff hydrograph for subbasin TM59 northeast of the intersection of Thomas
5475          KM   Road and 59th Avenue
5476          BA   0.599
5477          LG    0.24    0.21    6.60    0.13      31
5478          UC   1.243   0.887
5479          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
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5480          UA     100
              *

5481          KK   CTM59 COMBINE
5482          KM   Combine route RWTM59, route RSTM59, and subbasin TM59
5483          HC       3    3.90
              *

5484          KK  PRGC63RETRIEVE
5485          KM   Retrieve full flow capacity of 258 cfs from 72-inch storm drain pipe at the
5486          KM   intersection of the Grand Canal and 63rd Avenue
5487          DR  DPGC63
              *

5488          KK  RP59TM   ROUTE
5489          KM   Route full flow capacity of 258 cfs through 72-inch storm drain pipe in
5490          KM   59th Avenue to the intersection of Thomas Road and 59th Avenue
5491          RK    4111  0.0037   0.015            CIRC   6.000
              *

5492          KK  CPTM59 COMBINE
5493          KM   Combine pipe return PRGC63 with the runoff hydrograph at combination point
5494          KM   CTM59 at the intersection of Thomas Road and 59th Avenue
5495          HC       2
              *

5496          KK   D59TM  DIVERT
5497          KM   Divert calculated full flow capapcity of 389 cfs into 84-inch storm drain
5498          KM   pipe at the intersection of Thomas Road and 59th Avenue
5499          DT  DP59TM      0.0   389.0
5500          DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
5501          DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

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LINE          ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

5502          KK  DWTM67  DIVERT
5503          KM   Divert remaining runoff hydrograph from combination point CPTM59 west to
5504          KM   combination point CTM67
5505          DT  DSMD59      0.0      0.0
5506          DI      0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
5507          DQ      0.0    41.0    82.0   205.0   410.0   820.0  1640.0  4100.0  8200.0 20500.0
              *

5508          KK  RWTM67   ROUTE
5509          KM   Route diversion DWTM67 west to combination point CTM67
5510          RS       4    FLOW
5511          RC   0.035   0.015   0.035    5280  0.0015     0.00
5512          RX    0.00    0.00   95.50   95.50  453.50  453.50  549.00  549.00
5513          RY    3.00    1.46    0.50    0.00    0.00    0.50    1.46    3.00
              *

5514          KK  DRTM67RETRIEVE
5515          KM   Retrieve divert DRTM67 from combination point CPISGC and divert south to
5516          KM   combination point CTM67
5517          DR  DSTM67
              *

5518          KK  RSTM67   ROUTE
5519          KM   Route diversion DRTM67 south to combination point CTM67
5520          RS       3    FLOW
5521          RC   0.035   0.015   0.035    5280  0.0029     0.00
5522          RX    0.00    0.00    9.50    9.50   40.50   40.50   50.00   50.00
5523          RY    3.00    0.60    0.50    0.00    0.00    0.50    0.60    3.00
              *

5524          KK    TM67   BASIN
5525          KM   Runoff hydrograph for subbasin TM67 northeast of the intersection of Thomas
5526          KM   Road and 67th Avenue
5527          BA   0.813
5528          LG    0.24    0.15    8.00    0.07      36
5529          UC   1.291   0.849
5530          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
5531          UA     100
              *

5532          KK  ERTM67  DIVERT
5533          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
5534          KM   retention developed after 1990 in subbasin TM67
5535          DT  XTM67      1.1      0.0
5536          DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
5537          DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

5538          KK   CTM67 COMBINE
5539          KM   Combine route RWTM67, route RSTM67, and subbasin TM67
5540          HC       3    3.12
              *

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5541          KK  PR67ISRETRIEVE
5542          KM   Retrieve full flow capacity of 175 cfs from 66-inch storm drain pipe at the
5543          KM   intersection of Indian School Road and 67th Avenue
5544          DR  DP67IS
              *

5545          KK  RP67TM   ROUTE
5546          KM   Route full flow capacity of 175 cfs through 66-inch storm drain pipe in
5547          KM   67th Avenue to the intersection of Thomas Road and 67th Avenue
5548          RK    5268  0.0027   0.015            CIRC   5.500
              *

5549          KK  CPTM67 COMBINE
5550          KM   Combine pipe flow at combination point CPIS67 with runoff hydrograph at
5551          KM   combination point CTM67 at the intersection of Thomas Road and 67th Avenue
5552          HC       2
              *

5553          KK   D67TM  DIVERT
5554          KM   Divert calculated full flow capapcity of 273 cfs into 78-inch storm drain
5555          KM   pipe at the intersection of Thomas Road and 67th Avenue
5556          DT  DP67TM      0.0   273.0
5557          DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
5558          DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

5559          KK  DWTM75  DIVERT
5560          KM   Divert remaining runoff hydrograph from combination point CPTM67 west to
5561          KM   combination point CTM75
5562          DT  DSMD67      0.0      0.0
5563          DI      0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
5564          DQ      0.0    45.0    90.0   225.0   450.0   900.0  1800.0  4500.0  9000.0 22500.0
              *

5565          KK  RWTM75   ROUTE
5566          KM   Route diversion DWTM75 west to combination point CTM75
5567          RS       4    FLOW
5568          RC   0.035   0.015   0.035    5280  0.0023     0.00
5569          RX    0.00    0.00   76.50   76.50  372.50  372.50  449.00  449.00
5570          RY    3.00    1.27    0.50    0.00    0.00    0.50    1.27    3.00
              *

5571          KK  DRTM75RETRIEVE
5572          KM   Retrieve divert DRTM75 from combination point CPIS75 and divert south to
5573          KM   combination point CTM75
5574          DR  DSTM75
              *

5575          KK  RSTM75   ROUTE
5576          KM   Route diversion retrieval DRTM75 south to combination point CTM75
5577          RS       8    FLOW
5578          RC   0.035   0.015   0.035    5280  0.0027     0.00
5579          RX    0.00    0.00   38.50   38.50  210.50  210.50  249.00  249.00
5580          RY    3.00    0.88    0.50    0.00    0.00    0.50    0.88    3.00
              *

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LINE          ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

5581          KK    TM75   BASIN
5582          KM   Runoff hydrograph for square mile subbasin TM75 northeast of the intersection
5583          KM   of Thomas Road and 75th Avenue
5584          BA   0.997
5585          LG    0.23    0.15    9.70    0.04      41
5586          UC   1.233   0.814
5587          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
5588          UA     100
              *

5589          KK  ERTM75  DIVERT
5590          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
5591          KM   retention developed after 1990 in subbasin TM75
5592          DT  XTM75      0.9      0.0
5593          DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
5594          DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

5595          KK   CTM75 COMBINE
5596          KM   Combine route RWTM75, route RSTM75, and subbasin TM75
5597          HC       3    2.92
              *

5598          KK  PR75ISRETRIEVE
5599          KM   Retrieve full flow capacity of 123 cfs from 60-inch storm drain pipe at the
5600          KM   intersection of Indian School Road and 75th Avenue
5601          DR  DP75IS
              *

5602          KK  RP75TM   ROUTE
5603          KM   Route full flow capacity of 123 cfs through 60-inch storm drain pipe in
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5604          KM   75th Avenue to the intersection of Thomas Road and 75th Avenue
5605          RK    5256  0.0022    0.015            CIRC   5.000
              *

5606          KK  CPTM75 COMBINE
5607          KM   Combine pipe return PR75IS with the runoff hydrograph at combination point
5608          KM   CTM75 at the intersection of Thomas Road and 75th Avenue
5609          HC       2
              *

5610          KK   D75TM  DIVERT
5611          KM   Divert calculated full flow capapcity of 303 cfs into 84-inch storm drain
5612          KM   pipe at the intersection of Thomas Road and 75th Avenue
5613          DT  DP75TM      0.0   303.0
5614          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
5615          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

5616          KK  DWTM83  DIVERT
5617          KM   Divert remaining runoff hydrograph from combination point CPTM75 west to
5618          KM   combination point CTM83
5619          DT  DSMD75      0.0     0.0
5620          DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
5621          DQ     0.0    48.0    96.0   240.0   480.0   960.0  1920.0  4800.0  9600.0 24000.0
              *

5622          KK  RWTM83   ROUTE
5623          KM   Route diversion DWTM83 west to combination point CTM83
5624          RS       4    FLOW
5625          RC   0.035   0.015   0.035    5280  0.0025    0.00
5626          RX    0.00    0.00   76.50   76.50  372.50  372.50  449.00  449.00
5627          RY    3.00    1.27    0.50    0.00    0.00    0.50    1.27    3.00
              *

5628          KK  DRTM83RETRIEVE
5629          KM   Retrieve divert DRTM83 from combination point CPIS83 and divert south to
5630          KM   combination point CTM83
5631          DR  DSTM83
              *

5632          KK  RSTM83   ROUTE
5633          KM   Route diversion retrieval DRTM83 south to combination point CTM83
5634          RS       4    FLOW
5635          RC   0.035   0.015   0.035    5280  0.0023    0.00
5636          RX    0.00    0.00   76.50   76.50  372.50  372.50  449.00  449.00
5637          RY    3.00    1.27    0.50    0.00    0.00    0.50    1.27    3.00
              *

5638          KK    TM83   BASIN
5639          KM   Runoff hydrograph for square mile subbasin TM83 northeast of the intersection
5640          KM   of Thomas Road and 83rd Avenue
5641          BA   0.992
5642          LG    0.24    0.15    7.30    0.10      34
5643          UC   1.375   0.918
5644          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
5645          UA     100
              *

5646          KK   CTM83 COMBINE
5647          KM   Combine route RWTM83, route RSTM83, and subbasin TM83
5648          HC       3    3.41
              *

5649          KK  PR83ISRETRIEVE
5650          KM   Retrieve full flow capacity of 187 cfs from 72-inch storm drain pipe at the
5651          KM   intersection of Indian School Road and 83rd Avenue
5652          DR  DP83IS
              *

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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

5653          KK  RP83TM   ROUTE
5654          KM   Route full flow capacity of 187 cfs through 72-inch storm drain pipe in
5655          KM   83rd Avenue to the intersection of Thomas Road and 83rd Avenue
5656          RK    5330  0.0019    0.015            CIRC   6.000
              *

5657          .KK  CPTM83 COMBINE
5658          KM   Combine pipe return PR83IS with the runoff hydrograph at combination point
5659          KM   CTM83 at the intersection of Thomas Road and 83rd Avenue
5660          HC       2
              *

5661          KK   D83TM  DIVERT
5662          KM   Divert calculated full flow capapcity of 283 cfs into 84-inch storm drain
5663          KM   pipe at the intersection of Thomas Road and 83rd Avenue
5664          DT  DP83TM      0.0   283.0
```



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5665          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
5666          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

5667          KK  DWTM91  DIVERT
5668          KM   Divert remaining runoff hydrograph from combination point CPTM83 west to
5669          KM   combination point CTM91
5670          DT  DSMD83      0.0     0.0
5671          DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
5672          DQ     0.0    23.0    46.0   115.0   230.0   460.0   920.0  2300.0  4600.0 11500.0
              *

5673          KK  RWTM91   ROUTE
5674          KM   Route diversion DWTM91 west to combination point CTM91
5675          RS       4    FLOW
5676          RC   0.035   0.015   0.035    5280  0.0028    0.00
5677          RX    0.00    0.00  114.50  114.50  534.50  534.50  649.00  649.00
5678          RY    3.00    1.64    0.50    0.00    0.00    0.50    1.64    3.00
              *

5679          KK  DRTM91RETRIEVE
5680          KM   Retrieve divert DRTM91 from combination point CIS91 and divert south to
5681          KM   combination point CTM91
5682          DR  DSTM91
              *

5683          KK  RSTM91   ROUTE
5684          KM   Route diversion retrieval DRTM91 south to combination point CTM91
5685          RS       4    FLOW
5686          RC   0.035   0.015   0.035    5280  0.0021    0.00
5687          RX    0.00    0.00   67.00   67.00  332.00  332.00  399.00  399.00
5688          RY    3.00    1.17    0.50    0.00    0.00    0.50    1.17    3.00
              *

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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

5689          KK    TM91   BASIN
5690          KM   Runoff hydrograph for square mile subbasin TM91 northeast of the intersection
5691          KM   of Thomas Road and 91st Avenue
5692          BA   1.003
5693          LG    0.24    0.15    7.30    0.09      36
5694          UC   1.386   0.924
5695          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
5696          UA     100
              *

5697          KK  ERTM91  DIVERT
5698          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
5699          KM   retention developed after 1990 in subbasin TM91
5700          DT   XTM91    14.8     0.0
5701          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
5702          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

5703          KK   CTM91 COMBINE
5704          KM   Combine route RWTM91, route RSTM91, and subbasin TM91
5705          HC       3    4.96
              *

5706          KK  PR91ISRETRIEVE
5707          KM   Retrieve full flow capacity of 190 cfs from 72-inch storm drain pipe at the
5708          KM   intersection of Indian School Road and 91st Avenue
5709          DR  DP91IS
              *

5710          KK  RP91TM   ROUTE
5711          KM   Route full flow capacity of 190 cfs through 72-inch storm drain pipe in
5712          KM   91st Avenue to the intersection of Thomas Road and 91st Avenue
5713          RK    5130  0.0020    0.015            CIRC   6.000
              *

5714          KK   CPTM91 COMBINE
5715          KM   Combine pipe return PR91IS with the runoff hydrograph at combination point
5716          KM   CTM91 at the intersection of Thomas Road and 91st Avenue
5717          HC       2
              *

5718          KK   D91TM  DIVERT
5719          KM   Divert calculated full flow capapcity of 287 cfs into 84-inch storm drain
5720          KM   pipe at the intersection of Thomas Road and 91st Avenue
5721          DT  DP91TM      0.0   287.0
5722          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
5723          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

5724          KK  DWTMLO  DIVERT
5725          KM   Divert remaining runoff hydrograph from combination point CPTM91 west to
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5726          KM   combination point CTMLO
5727          DT  DSMD91      0.0      0.0
5728          DI     0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0 10000.0 20000.0 50000.0
5729          DQ     0.0     77.0    154.0    385.0    770.0   1540.0   3080.0  7700.0 15400.0 38500.0
              *

5730          KK  RWTMLO    ROUTE
5731          KM   Route diversion DWTMLO west to combination point CTMLO
5732          RS       2     FLOW
5733          RC   0.035    0.015    0.035     2623   0.0015     0.00
5734          RX    0.00     0.00    16.50    16.50   107.50   107.50   124.00   124.00
5735          RY    3.00     0.66     0.50     0.00     0.00     0.50     0.66     3.00
              *

5736          KK    TMLO    BASIN
5737          KM   Runoff hydrograph for subbasin TMLO northeast of the intersection of Thomas
5738          KM   Road and SR Loop 101
5739          BA   0.496
5740          LG    0.45     0.15     8.80     0.09        8
5741          UC   1.095    0.844
5742          UA       0      5.0     16.0     30.0     65.0     77.0     84.0     90.0     94.0     97.0
5743          UA     100
              *

5744          KK  ERTMLO   DIVERT
5745          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
5746          KM   retention developed after 1990 in subbasin TMLO
5747          DT   XTMLO      0.4      0.0
5748          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
5749          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

5750          KK   CTMLO COMBINE
5751          KM   Combine route RWTMLO, route RSTMLO, and subbasin TMLO
5752          HC       3     4.87
              *

5753          KK  RSMDLO    ROUTE
5754          KM   Route hydrograph at combination point CTMLO south to combination point CMDLO
5755          RS       2     FLOW
5756          RC   0.035    0.015    0.035     5729   0.0012     0.00
5757          RX    0.00     3.00     5.00    39.00    47.00    51.00    65.00    68.00
5758          RY   18.00    17.00    17.00     0.00     0.16    17.16    17.44    18.44
              *

5759          KK  DRMD27RETRIEVE
5760          KM   Retrieve divert DRMD27 from combination point CPGR27 and divert south to
5761          KM   combination point CMD27
5762          DR  DSMD27
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

5763          KK  RSMD27    ROUTE
5764          KM   Route diversion retrieval DRMD27 south to combination point CMD27
5765          RS       3     FLOW
5766          RC   0.035    0.015    0.035     5280   0.0034     0.00
5767          RX    0.00     0.00    16.50    16.50   107.50   107.50   124.00   124.00
5768          RY    3.00     0.66     0.50     0.00     0.00     0.50     0.66     3.00
              *

5769          KK    MD27    BASIN
5770          KM   Runoff hydrograph for subbasin MD27 northeast of the intersection of McDowell
5771          KM   Road and 27th Avenue
5772          BA   0.241
5773          LG    0.15     0.15     8.00     0.07       80
5774          UC   0.510    0.385
5775          UA       0      5.0     16.0     30.0     65.0     77.0     84.0     90.0     94.0     97.0
5776          UA     100
              *

5777          KK   CMD27 COMBINE
5778          KM   Combine route RSMD27 and subbasin MD27
5779          HC       2     4.65
              *

5780          KK  PR27GRRETRIEVE
5781          KM   Retrieve full flow capacity of 195 cfs from 66-inch storm drain pipe at the
5782          KM   intersection of Grand Avenue and 27th Avenue
5783          DR  DP27GR
              *

5784          KK  RP27MD    ROUTE
5785          KM   Route full flow capacity of 195 cfs through 66-inch storm drain pipe in
5786          KM   27th Avenue to the intersection of McDowell Road and 27th Avenue
5787          RK     5006  0.0034    0.015            CIRC    5.500
              *

5788          KK  CPMD27 COMBINE
5789          KM   Combine pipe return PR27GR with the runoff hydrograph at combination point
5790          KM   CMD27 at the intersection of McDowell Road and 27th Avenue
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5791          HC       2
              *

5792          KK   D27MD  DIVERT
5793          KM   Divert calculated full flow capapcity of 246 cfs into 72-inch storm drain
5794          KM   pipe at the intersection of McDowell Road and 27th Avenue
5795          DT  DP27MD      0.0    246.0
5796          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
5797          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

5798          KK  RWMD35    ROUTE
5799          KM   Route remainder of diversion D27MD west to combination point CMD35
5800          RS       6     FLOW
5801          RC   0.035    0.015    0.035     5280   0.0009     0.00
5802          RX    0.00     0.00    48.00    48.00   251.00   251.00   299.00   299.00
5803          RY    3.00     0.98     0.50     0.00     0.00     0.50     0.98     3.00
              *

5804          KK  DRMD35RETRIEVE
5805          KM   Retrieve divert DRMD35 from combination point CPTM35 and divert south to
5806          KM   combination point CMD35
5807          DR  DSMD35
              *

5808          KK  RSMD35    ROUTE
5809          KM   Route diversion retrieval DRMD35 south to combination point CMD35
5810          RS       2     FLOW
5811          RC   0.035    0.015    0.035     5280   0.0036     0.00
5812          RX    0.00     0.00    67.00    67.00   332.00   332.00   399.00   399.00
5813          RY    3.00     1.17     0.50     0.00     0.00     0.50     1.17     3.00
              *

5814          KK    MD35    BASIN
5815          KM   Runoff hydrograph for square mile subbasin MD35 northeast of the intersection
5816          KM   of McDowell Road and 35th Avenue
5817          BA   0.999
5818          LG    0.19     0.13    10.10     0.03       58
5819          UC   1.189    0.771
5820          UA       0      5.0     16.0     30.0     65.0     77.0     84.0     90.0     94.0     97.0
5821          UA     100
              *

5822          KK   CMD35 COMBINE
5823          KM   Combine route RWMD35, route RSMD35, and subbasin MD35
5824          HC       3     9.29
              *

5825          KK  PR35TMRETRIEVE
5826          KM   Retrieve combined full flow capacity of 300 cfs from 77-inch equivalent
5827          KM   diameter pipe at the intersection of Thomas Road and 35th Avenue
5828          DR  DP35TM
              *

5829          KK  RP35MD    ROUTE
5830          KM   Route the combined full flow capacity of 300 cfs through an equivalent storm
5831          KM   drain pipe diameter of 77 inches in 35th Avenue to the intersection of
5832          KM   McDowell Road and 35th Avenue
5833          RK     5093  0.0037    0.015            CIRC    6.417
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

5834          KK  CPMD35 COMBINE
5835          KM   Combine pipe return PR35TM with the runoff hydrograph at combination point
5836          KM   CMD35 at the intersection of McDowell Road and 35th Avenue
5837          HC       2
              *

5838          KK   D35MD  DIVERT
5839          KM   Capacity of storm drain in 31st Avenue and 35th Avenue diverted together.
5840          KM   Divert combined calculated full flow capacity of 405 cfs in the 84-inch storm
5841          KM   drain pipe in 31st AVenue and 102 cfs in the 51-inch storm drain pipe in
5842          KM   35th Avenue. The total calculated combined full flow capacity diverted at the
5843          KM   intersection of 35th Avenue and McDowell Road is 507 cfs in an equivalent
5844          KM   diameter pipe of 93 inches
5845          DT  DP35MD      0.0    507.0
5846          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
5847          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

5848          KK  DWMD43  DIVERT
5849          KM   Divert remaining runoff hydrograph from combination point CPMD35 west to
5850          KM   combination point CMD43
5851          DT  DSIN35      0.0      0.0
5852          DI     0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0 10000.0 20000.0 50000.0
5853          DQ     0.0     63.0    126.0    315.0    630.0   1260.0   2520.0  6300.0 12600.0 31500.0
```

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                *
5854            KK  RWMD43    ROUTE
5855            KM   Route diversion DWMD43 west to combination point CMD43
5856            RS       7     FLOW
5857            RC   0.035   0.015   0.035    5280  0.0004    0.00
5858            RX    0.00    0.00   95.50   95.50  453.50  453.50  549.00  549.00
5859            RY    3.00    1.46    0.50    0.00    0.00    0.50    1.46    3.00
                *
5860            KK  DRMD43RETRIEVE
5861            KM   Retrieve divert DRMD43 from combination point CTM43 and divert south to
5862            KM   combination point CMD43
5863            DR  DSMD43
                *
5864            KK  RSMD43    ROUTE
5865            KM   Route diversion retrieval DRMD43 south to combination point CMD43
5866            RS       3     FLOW
5867            RC   0.035   0.015   0.035    5280  0.0037    0.00
5868            RX    0.00    0.00   67.00   67.00  332.00  332.00  399.00  399.00
5869            RY    3.00    1.17    0.50    0.00    0.00    0.50    1.17    3.00
                *
5870            KK    MD43    BASIN
5871            KM   Runoff hydrograph for square mile subbasin MD43 northeast of the intersection
5872            KM   of McDowell Road and 43rd Avenue
5873            BA   0.999
5874            LG    0.22    0.15    9.70    0.04      41
5875            UC   0.887   0.324
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5876            UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
5877            UA     100
                *
5878            KK   CMD43 COMBINE
5879            KM   Combine route RWMD43, route RSMD43, and subbasin MD43
5880            HC       3    6.96
                *
5881            KK  PR43TMRETRIEVE
5882            KM   Retrieve combined full flow capacity of 629 cfs from 102-inch equivalent
5883            KM   diameter pipe at the intersection of Thomas Road and 43rd Avenue
5884            DR  DP43TM
                *
5885            KK  RP43MD    ROUTE
5886            KM   Route the combined full flow capacity of 629 cfs through an equivalent storm
5887            KM   drain pipe diameter of 102 inches in 43rd Avenue to the intersection of
5888            KM   43rd Avenue and McDowell Road
5889            RK    5212  0.0035   0.015            CIRC   8.500
                *
5890            KK  CPMD43 COMBINE
5891            KM   Combine pipe return PR43TM with the runoff hydrograph at combination point
5892            KM   CMD43 at the intersection of McDowell Road and 43rd Avenue
5893            HC       2
                *
5894            KK   D43MD  DIVERT
5895            KM   Capacity of storm drain in 39th Avenue and 43rd Avenue diverted together.
5896            KM   Divert combined calculated full flow capacity of 404 cfs in the 84-inch storm
5897            KM   drain pipe in 39th AVenue and 225 cfs in the 69-inch storm drain pipe in
5898            KM   43rd Avenue. The total calculated combined full flow capacity diverted at the
5899            KM   intersection of 35th Avenue and McDowell Road is 629 cfs in an equivalent
5900            KM   diameter pipe of 102 inches
5901            DT  DP43MD      0.0    629.0
5902            DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
5903            DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
                *
5904            KK  DWMD51  DIVERT
5905            KM   Divert remaining runoff hydrograph from combination point CPMD43 west to
5906            KM   combination point CMD51
5907            DT  DSIN43      0.0      0.0
5908            DI      0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0  10000.0  20000.0  50000.0
5909            DQ      0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0  10000.0  20000.0  50000.0
                *
5910            KK  RWMD51    ROUTE
5911            KM   Route diversion DWMD51 west to combination point CMD51
5912            RS       1     FLOW
5913            RC   0.035   0.015   0.035    5280  0.0002    0.00
5914            RX    0.00    0.00   57.50   57.50  291.50  291.50  349.00  349.00
5915            RY    3.00    1.08    0.50    0.00    0.00    0.50    1.08    3.00
                *
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LINE            ID.......1.......2.......3.......4.......5.......6.......7.......8.......9.....10
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5916            KK  DRMD51RETRIEVE
5917            KM   Retrieve divert DRMD51 from combination point CPTM51 and divert south to
5918            KM   combination point CMD51
5919            DR  DSMD51
                *
5920            KK  RSMD51    ROUTE
5921            KM   Route diversion retrieval DRMD51 south to combination point CMD51
5922            RS       3     FLOW
5923            RC   0.035   0.015   0.035    5280  0.0035    0.00
5924            RX    0.00    0.00   54.50   54.50  269.50  269.50  324.00  324.00
5925            RY    3.00    1.04    0.50    0.00    0.00    0.50    1.04    3.00
                *
5926            KK    MD51    BASIN
5927            KM   Runoff hydrograph for square mile subbasin MD51 northeast of the intersection
5928            KM   of McDowell Road and 51st Avenue
5929            BA   1.001
5930            LG    0.23    0.15    8.40    0.07      35
5931            UC   1.474   0.991
5932            UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
5933            UA     100
                *
5934            KK   CMD51 COMBINE
5935            KM   Combine route RWMD51, route RSMD51, and subbasin MD51
5936            HC       3    2.37
                *
5937            KK  PR51TMRETRIEVE
5938            KM   Retrieve full flow capacity of 244 cfs from 72-inch storm drain pipe at the
5939            KM   intersection of Thomas Road and 51st Avenue
5940            DR  DP51TM
                *
5941            KK  RP51MD    ROUTE
5942            KM   Route full flow capacity of 244 cfs through 72-inch storm drain pipe in
5943            KM   51st Avenue to the intersection of McDowell Road and 51st Avenue
5944            RK    5322  0.0033   0.015            CIRC   6.000
                *
5945            KK  CPMD51 COMBINE
5946            KM   Combine pipe return PR51TM with the runoff hydrograph at combination point
5947            KM   CMD51 at the intersection of McDowell Road and 51st Avenue
5948            HC       2
                *
5949            KK   D51MD  DIVERT
5950            KM   Divert calculated full flow capapcity of 368 cfs into 84-inch storm drain
5951            KM   pipe at the intersection of McDowell Road and 51st Avenue
5952            DT  DP51MD      0.0    368.0
5953            DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
5954            DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
                *
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LINE            ID.......1.......2.......3.......4.......5.......6.......7.......8.......9.....10

5955            KK  DWMD59  DIVERT
5956            KM   Divert remaining runoff hydrograph from combination point CPMD43 west to
5957            KM   combination point CMD51
5958            DT  DSIN51      0.0      0.0
5959            DI      0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0  10000.0  20000.0  50000.0
5960            DQ      0.0     39.0     78.0    195.0    390.0    780.0   1560.0   3900.0   7800.0  19500.0
                *
5961            KK  RWMD59    ROUTE
5962            KM   Route diversion DWMD59 west to combination point CMD59
5963            RS       9     FLOW
5964            RC   0.035   0.015   0.035    5280  0.0014    0.00
5965            RX    0.00    0.00   57.50   57.50  291.50  291.50  349.00  349.00
5966            RY    3.00    1.08    0.50    0.00    0.00    0.50    1.08    3.00
                *
5967            KK  DRMD59RETRIEVE
5968            KM   Retrieve divert DRMD59 from combination point CPTM59 and divert south to
5969            KM   combination point CMD59
5970            DR  DSMD59
                *
5971            KK  RSMD59    ROUTE
5972            KM   Route diversion retrieval DRMD59 south to combination point CMD59
5973            RS       3     FLOW
5974            RC   0.035   0.015   0.035    5280  0.0035    0.00
5975            RX    0.00    0.00   38.50   38.50  210.50  210.50  249.00  249.00
5976            RY    3.00    0.88    0.50    0.00    0.00    0.50    0.88    3.00
                *
5977            KK    MD59    BASIN
5978            KM   Runoff hydrograph for square mile subbasin MD59 northeast of the intersection
5979            KM   of McDowell Road and 59th Avenue
```

```
5980          BA   1.005
5981          LG    0.25    0.15    7.60    0.08      33
5982          UC   1.424   0.951
5983          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
5984          UA     100
              *

5985          KK   CMD59 COMBINE
5986          KM   Combine route RWMD59, route RSMD59, and subbasin MD59
5987          HC       3    4.05
              *

5988          KK  PR59TMRETRIEVE
5989          KM   Retrieve full flow capacity of 389 cfs from 84-inch storm drain pipe at the
5990          KM   intersection of Thomas Road and 59th Avenue
5991          DR  DP59TM
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

5992          KK  RP59MD   ROUTE
5993          KM   Route full flow capacity of 389 cfs through 84-inch storm drain pipe in
5994          KM   59th Avenue to the intersection of McDowell Road and 59th Avenue
5995          RK    5206  0.0037   0.015            CIRC   7.000
              *

5996          KK  CPMD59 COMBINE
5997          KM   Combine pipe return PR59TM with the runoff hydrograph at combination point
5998          KM   CMD59 at the intersection of McDowell Road and 59th Avenue
5999          HC       2
              *

6000          KK   D59MD  DIVERT
6001          KM   Divert calculated full flow capapcity of 468 cfs into 90-inch storm drain
6002          KM   pipe at the intersection of McDowell Road and 59th Avenue
6003          DT  DP59MD      0.0    468.0
6004          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
6005          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

6006          KK  DWMD67  DIVERT
6007          KM   Divert remaining runoff hydrograph from combination point CPMD59 west to
6008          KM   combination point CMD67
6009          DT  DSIN59      0.0     0.0
6010          DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
6011          DQ     0.0    50.0   100.0   250.0   500.0  1000.0  2000.0  5000.0 10000.0 25000.0
              *

6012          KK  RWMD67   ROUTE
6013          KM   Route diversion DWMD67 west to combination point CMD67
6014          RS       4    FLOW
6015          RC   0.035   0.015   0.035    5280  0.0015    0.00
6016          RX    0.00    0.00   67.00   67.00  332.00  332.00  399.00  399.00
6017          RY    3.00    1.17    0.50    0.00    0.00    0.50    1.17    3.00
              *

6018          KK  DRMD67RETRIEVE
6019          KM   Retrieve divert DRMD67 from combination point CPTM67 and divert south to
6020          KM   combination point CMD67
6021          DR  DSMD67
              *

6022          KK  RSMD67   ROUTE
6023          KM   Route diversion retrieval DRMD67 south to combination point CMD67
6024          RS       3    FLOW
6025          RC   0.035   0.015   0.035    5280  0.0035    0.00
6026          RX    0.00    0.00   48.00   48.00  251.00  251.00  299.00  299.00
6027          RY    3.00    0.98    0.50    0.00    0.00    0.50    0.98    3.00
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

6028          KK    MD67   BASIN
6029          KM   Runoff hydrograph for square mile subbasin MD67 northeast of the intersection
6030          KM   of McDowell Road and 67th Avenue
6031          BA   0.978
6032          LG    0.22    0.15    8.40    0.07      29
6033          UC   1.302   0.867
6034          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
6035          UA     100
              *

6036          KK  ERMD67  DIVERT
6037          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
6038          KM   retention developed after 1990 in subbasin MD67
6039          DT   XMD67     11.6     0.0
6040          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
6041          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *
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6042          KK   CMD67 COMBINE
6043          KM   Combine route RWMD67, route RSMD67, and subbasin MD67
6044          HC       3    4.41
              *

6045          KK  PR67TMRETRIEVE
6046          KM   Retrieve full flow capacity of 273 cfs from 78-inch storm drain pipe at the
6047          KM   intersection of Thomas Road and 67th Avenue
6048          DR  DP67TM
              *

6049          KK  RP67MD   ROUTE
6050          KM   Route full flow capacity of 273 cfs through 78-inch storm drain pipe in
6051          KM   67th Avenue to the intersection of McDowell Road and 67th Avenue
6052          RK    5218  0.0027   0.015            CIRC   6.500
              *

6053          KK  CPMD67 COMBINE
6054          KM   Combine pipe return PR67TM with the runoff hydrograph at combination point
6055          KM   CMD67 at the intersection of McDowell Road and 67th Avenue
6056          HC       2
              *

6057          KK   D67MD  DIVERT
6058          KM   Divert calculated full flow capapcity of 400 cfs into 90-inch storm drain
6059          KM   pipe at the intersection of McDowell Road and 67th Avenue
6060          DT  DP67MD      0.0    400.0
6061          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
6062          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

6063          KK  DWMD75  DIVERT
6064          KM   Divert remaining runoff hydrograph from combination point CPMD67 west to
6065          KM   combination point CMD75
6066          DT  DSIN67      0.0     0.0
6067          DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
6068          DQ     0.0    15.0    30.0    75.0   150.0   300.0   600.0  1500.0  3000.0  7500.0
              *

6069          KK  RWMD75   ROUTE
6070          KM   Route diversion DWMD75 west to combination point CMD75
6071          RS       4    FLOW
6072          RC   0.035   0.015   0.035    5280  0.0015    0.00
6073          RX    0.00    0.00   95.50   95.50  453.50  453.50  549.00  549.00
6074          RY    3.00    1.46    0.50    0.00    0.00    0.50    1.46    3.00
              *

6075          KK  DRMD75RETRIEVE
6076          KM   Retrieve divert DRMD75 from combination point CPTM75 and divert south to
6077          KM   combination point CMD75
6078          DR  DSMD75
              *

6079          KK  RSMD75   ROUTE
6080          KM   Route diversion retrieval DRMD75 south to combination point CMD75
6081          RS       3    FLOW
6082          RC   0.035   0.015   0.035    5280  0.0027    0.00
6083          RX    0.00    0.00   67.00   67.00  332.00  332.00  399.00  399.00
6084          RY    3.00    1.17    0.50    0.00    0.00    0.50    1.17    3.00
              *

6085          KK    MD75   BASIN
6086          KM   Runoff hydrograph for square mile subbasin MD75 northeast of the intersection
6087          KM   of McDowell Road and 75th Avenue
6088          BA   1.002
6089          LG    0.23    0.15    7.60    0.08      38
6090          UC   1.326   0.877
6091          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
6092          UA     100
              *

6093          KK  ERMD75  DIVERT
6094          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
6095          KM   retention developed after 1990 in subbasin MD75
6096          DT   XMD75      6.7     0.0
6097          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
6098          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

6099          KK   CMD75 COMBINE
6100          KM   Combine route RWMD75, route RSMD75, and subbasin MD75
6101          HC       3    6.14
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10
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KK  PR75TMRETRIEVE
KM   Retrieve full flow capacity of 303 cfs from 84-inch storm drain pipe at the
KM   intersection of Thomas Road and 75th Avenue
DR  DP75TM
*

KK  RP75MD    ROUTE
KM   Route full flow capacity of 303 cfs through 84-inch storm drain pipe in
KM   75th Avenue to the intersection of McDowell Road and 75th Avenue
RK    5222  0.0022    0.015             CIRC    7.000
*

KK  CPMD75 COMBINE
KM   Combine pipe return PR75TM with the runoff hydrograph at combination point
KM   CMD75 at the intersection of McDowell Road and 75th Avenue
HC       2
*

KK   D75MD  DIVERT
KM   Divert calculated full flow capapcity of 364 cfs into 90-inch storm drain
KM   pipe at the intersection of McDowell Road and 75th Avenue
DT  DP75MD      0.0    364.0
DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
*

KK  DWMD83  DIVERT
KM   Divert remaining runoff hydrograph from combination point CPMD75 west to
KM   combination point CMD83
DT  DSIN75      0.0      0.0
DI      0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0  10000.0  20000.0  50000.0
DQ      0.0     35.0     70.0    175.0    350.0    700.0   1400.0   3500.0   7000.0  17500.0
*

KK  RWMD83    ROUTE
KM   Route diversion DWMD83 west to combination point CMD83
RS        3     FLOW
RC   0.035    0.015    0.035     5280   0.0026     0.00
RX    0.00     0.00    57.50    57.50   291.50   291.50   349.00   349.00
RY    3.00     1.08     0.50     0.00     0.00     0.50     1.08     3.00
*

KK  DRMD83RETRIEVE
KM   Retrieve divert DRMD83 from combination point CPTM83 and divert south to
KM   combination point CMD83
DR  DSMD83
*

KK  RSMD83    ROUTE
KM   Route diversion retrieval DRMD83 south to combination point CMD83
RS        4     FLOW
RC   0.035    0.015    0.035     5280   0.0028     0.00
RX    0.00     0.00    29.00    29.00   170.00   170.00   199.00   199.00
RY    3.00     0.79     0.50     0.00     0.00     0.50     0.79     3.00
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LINE  ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

KK    MD83    BASIN
KM   Runoff hydrograph for square mile subbasin MD83 northeast of the intersection
KM   of McDowell Road and 83rd Avenue
BA   0.992
LG    0.23     0.17     8.80     0.06       47
UC   0.917    0.590
UA       0      5.0     16.0     30.0     65.0     77.0     84.0     90.0     94.0     97.0
UA     100
*

KK  ERMD83  DIVERT
KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
KM   retention developed after 1990 in subbasin MD83
DT  XMD83     28.9      0.0
DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
*

KK   CMD83 COMBINE
KM   Combine route RWMD83, route RSMD83, and subbasin MD83
HC        3     5.80
*

KK  PR83TMRETRIEVE
KM   Retrieve full flow capacity of 283 cfs from 84-inch storm drain pipe at the
KM   intersection of Thomas Road and 83rd Avenue
DR  DP83TM
*

KK  RP83MD    ROUTE
KM   Route full flow capacity of 283 cfs through 84-inch storm drain pipe in
KM   83rd Avenue to the intersection of McDowell Road and 83rd Avenue
RK    5059  0.0019    0.015             CIRC    7.000
```



```
*

KK  CPMD83 COMBINE
KM   Combine pipe return PR83TM with the runoff hydrograph at combination point
KM   CMD83 at the intersection of McDowell Road and 83rd Avenue
HC       2
*

KK   D83MD  DIVERT
KM   Divert calculated full flow capapcity of 340 cfs into 90-inch storm drain
KM   pipe at the intersection of McDowell Road and 83rd Avenue
DT  DP83MD      0.0    340.0
DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
*
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LINE  ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

KK  RWMD91    ROUTE
KM   Route remainder of diversion D83MD west to combination point CMD91
RS        3     FLOW
RC   0.035    0.015    0.035     5280   0.0021     0.00
RX    0.00     0.00    57.50    57.50   291.50   291.50   349.00   349.00
RY    3.00     1.08     0.50     0.00     0.00     0.50     1.08     3.00
*

KK  DRMD91RETRIEVE
KM   Retrieve divert DRMD91 from combination point CPTM91 and divert south to
KM   combination point CMD91
DR  DSMD91
*

KK  RSMD91    ROUTE
KM   Route diversion retrieval DRMD91 south to combination point CMD91
RS        3     FLOW
RC   0.035    0.015    0.035     5280   0.0021     0.00
RX    0.00     0.00    57.50    57.50   291.50   291.50   349.00   349.00
RY    3.00     1.08     0.50     0.00     0.00     0.50     1.08     3.00
*

KK    MD91    BASIN
KM   Runoff hydrograph for square mile subbasin MD91 northeast of the intersection
KM   of McDowell Road and 91st Avenue
BA   1.007
LG    0.23     0.15     8.80     0.05       39
UC   1.334    0.884
UA       0      5.0     16.0     30.0     65.0     77.0     84.0     90.0     94.0     97.0
UA     100
*

KK  ERMD91  DIVERT
KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
KM   retention developed after 1990 in subbasin MD91
DT  XMD91     21.4      0.0
DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
*

KK   CMD91 COMBINE
KM   Combine route RWMD91, route RSMD91, and subbasin MD91
HC        3    10.61
*

KK  PR91TMRETRIEVE
KM   Retrieve full flow capacity of 287 cfs from 84-inch storm drain pipe at the
KM   intersection of Thomas Road and 91st Avenue
DR  DP91TM
*
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LINE  ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

KK  RP91MD    ROUTE
KM   Route full flow capacity of 287 cfs through 84-inch storm drain pipe in
KM   91st Avenue to the intersection of McDowell Road and 91st Avenue
RK    5271  0.0020    0.015             CIRC    7.000
*

KK  CPMD91 COMBINE
KM   Combine pipe return PR91TM with the runoff hydrograph at combination point
KM   CMD91 at the intersection of McDowell Road and 91st Avenue
HC       2
*

KK   D91MD  DIVERT
KM   Divert calculated full flow capapcity of 345 cfs into 90-inch storm drain
KM   pipe at the intersection of McDowell Road and 83rd Avenue
DT  DP91MD      0.0    345.0
DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
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                *
6228            KK  DWMDLO  DIVERT
6229            KM   Divert remaining runoff hydrograph from combination point CPMD91 west to
6230            KM   combination point CMDLO
6231            DT  DSIN91      0.0      0.0
6232            DI      0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0 10000.0 20000.0 50000.0
6233            DQ      0.0     20.0     40.0    100.0    200.0    400.0    800.0  2000.0  4000.0 10000.0
                *
6234            KK  RWMDLO   ROUTE
6235            KM   Route diversion DWMDLO west to combination point CMDLO
6236            RS        3    FLOW
6237            RC   0.035    0.015    0.035     4061   0.0010     0.00
6238            RX    0.00     0.00    45.00    45.00   229.00   229.00   274.00  274.00
6239            RY    3.00     0.95     0.50     0.00     0.00     0.50     0.95    3.00
                *
6240            KK    MDLO   BASIN
6241            KM   Runoff hydrograph for subbasin MDLO northeast of the intersection of McDowell
6242            KM   Road and SR Loop 101
6243            BA   0.671
6244            LG    0.21     0.16     9.70     0.04       44
6245            UC   0.963    0.449
6246            UA        0      5.0     16.0     30.0     65.0     77.0     84.0     90.0     94.0     97.0
6247            UA      100
                *
6248            KK  ERMDLO  DIVERT
6249            KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
6250            KM   retention developed after 1990 in subbasin MDLO
6251            DT   XMDLO     56.3      0.0
6252            DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
6253            DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
                *
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LINE            ID.......1.......2.......3.......4.......5.......6.......7.......8.......9.....10

6254            KK   CMDLO COMBINE
6255            KM   Combine route RWMDLO, route RSMDLO, and subbasin MDLO
6256            HC        3   14.07
                *
6257            KK  RSINLO   ROUTE
6258            KM   Route hydrograph at combination point CMDLO south to combination point CINLO
6259            RS        1    FLOW
6260            RC   0.035    0.015    0.035     1374   0.0019     0.00
6261            RX    0.00     3.00     5.00    39.00    47.00    51.00    65.00   68.00
6262            RY   18.00    17.00    17.00     0.00     0.16    17.16    17.44   18.44
                *
6263            KK  DSINLO  DIVERT
6264            KM   Divert route RSINLO to detention basin northeast of L101 and I-10 Freeways.
6265            KM   Only the flow greater than the channel capacity is diverted to the basin.
6266            DT  DEIN95      0.0      0.0
6267            DI      0.0 10390.0 11211.0 12070.0 13910.0      0.0      0.0      0.0      0.0      0.0
6268            DQ      0.0      0.0    286.0    810.0   2291.0      0.0      0.0      0.0      0.0      0.0
                *
6269            KK    IN27   BASIN
6270            KM   Runoff hydrograph for subbasin IN27 northeast of the intersection of
6271            KM   Interstate 10 and 27th Avenue
6272            BA   0.105
6273            LG    0.14     0.25     5.60     0.18       80
6274            UC   0.475    0.404
6275            UA        0      5.0     16.0     30.0     65.0     77.0     84.0     90.0     94.0     97.0
6276            UA      100
                *
6277            KK  PR27MDRETRIEVE
6278            KM   Retrieve full flow capacity of 246 cfs from 72-inch diameter pipe at the
6279            KM   intersection of McDowell Road and 27th Avenue
6280            DR  DP27MD
                *
6281            KK  RP27IN   ROUTE
6282            KM   Route full flow capacity of 246 cfs through 72-inch storm drain pipe in
6283            KM   in 27th Avenue to the intersection of 27th Avenue and Interstate 10
6284            RK      959  0.0034   0.015             CIRC   6.000
                *
6285            KK  CPIN27 COMBINE
6286            KM   Combine pipe return PR27MD with the runoff hydrograph at combination point
6287            KM   CIN27 at the intersection of Interstate 10 and 27th Avenue
6288            HC        2
                *
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LINE            ID.......1.......2.......3.......4.......5.......6.......7.......8.......9.....10
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6289            KK  DWIN35  DIVERT
6290            KM   Divert remaining runoff hydrograph from combination point CPIN27 west to
6291            KM   combination point CIN35
6292            DT  DSVB27      0.0      0.0
6293            DI      0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0 10000.0 20000.0 50000.0
6294            DQ      0.0     72.0    144.0    360.0    720.0   1440.0   2880.0  7200.0 14400.0 36000.0
                *
6295            KK  RWIN35   ROUTE
6296            KM   Route diversion DWIN35 west to combination point CIN35
6297            RS        7    FLOW
6298            RC   0.035    0.015    0.035     5280   0.0005     0.00
6299            RX    0.00     0.00     9.50     9.50    40.50    40.50    50.00   50.00
6300            RY    3.00     0.60     0.50     0.00     0.00     0.50     0.60    3.00
                *
6301            KK  DRIN35RETRIEVE
6302            KM   Retrieve divert DRIN35 from combination point CPMD35 and divert south to
6303            KM   combination point CIN35
6304            DR  DSIN35
                *
6305            KK  RSIN35   ROUTE
6306            KM   Route diversion retrieval DRIN35 south to combination point CIN35
6307            RS        1    FLOW
6308            RC   0.035    0.015    0.035     1116   0.0019     0.00
6309            RX    0.00     0.00    76.50    76.50   372.50   372.50   449.00  449.00
6310            RY    3.00     1.27     0.50     0.00     0.00     0.50     1.27    3.00
                *
6311            KK    IN35   BASIN
6312            KM   Runoff hydrograph for subbasin IN35 northeast of the intersection of
6313            KM   Interstate 10 and 35th Avenue
6314            BA   0.242
6315            LG    0.17     0.13    10.10     0.03       64
6316            UC   0.359    0.073
6317            UA        0      5.0     16.0     30.0     65.0     77.0     84.0     90.0     94.0     97.0
6318            UA      100
                *
6319            KK   CIN35 COMBINE
6320            KM   Combine route RWIN35, route RSIN35, and subbasin IN35
6321            HC        3    6.11
                *
6322            KK  PR35MDRETRIEVE
6323            KM   Retrieve combined full flow capacity of 507 cfs from 93-inch equivalent
6324            KM   diameter pipe at the intersection of McDowell Road and 35th Avenue
6325            DR  DP35MD
                *
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LINE            ID.......1.......2.......3.......4.......5.......6.......7.......8.......9.....10

6326            KK  RP35IN   ROUTE
6327            KM   Route the combined full flow capacity of 507 cfs through an equivalent storm
6328            KM   drain pipe diameter of 93 inches in 35th Avenue to the intersection of
6329            KM   35th Avenue and Interstate 10
6330            RK      937  0.0037   0.015             CIRC   7.750
                *
6331            KK  CPIN35 COMBINE
6332            KM   Combine pipe return PR35MD with the runoff hydrograph at combination point
6333            KM   CIN35 at the intersection of Interstate 10 and 35th Avenue
6334            HC        2
                *
6335            KK  DWIN43  DIVERT
6336            KM   Divert remaining runoff hydrograph from combination point CPIN35 west to
6337            KM   combination point CIN43
6338            DT  DSVB35      0.0      0.0
6339            DI      0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0 10000.0 20000.0 50000.0
6340            DQ      0.0     87.0    174.0    435.0    870.0   1740.0   3480.0  8700.0 17400.0 43500.0
                *
6341            KK  RWIN43   ROUTE
6342            KM   Route diversion DWIN43 west to combination point CIN43
6343            RS        4    FLOW
6344            RC   0.035    0.015    0.035     5280   0.0008     0.00
6345            RX    0.00     0.00     9.50     9.50    40.50    40.50    50.00   50.00
6346            RY    3.00     0.60     0.50     0.00     0.00     0.50     0.60    3.00
                *
6347            KK  DRIN43RETRIEVE
6348            KM   Retrieve divert DRIN43 from combination point CPMD43 and divert south to
6349            KM   combination point CIN43
6350            DR  DSIN43
                *
6351            KK  RSIN43   ROUTE
6352            KM   Route diversion retrieval DRIN43 south to combination point CIN43
6353            RS        1    FLOW
```

```
6354          RC   0.035   0.015   0.035     900  0.0042    0.00
6355          RX    0.00    0.00   57.50   57.50  291.50  291.50  349.00  349.00
6356          RY    3.00    1.08    0.50    0.00    0.00    0.50    1.08    3.00
              *

6357          KK    IN43    BASIN
6358          KM   Runoff hydrograph for subbasin IN43 northeast of the intersection of
6359          KM   Interstate 10 and 43rd Avenue
6360          BA   0.256
6361          LG    0.20    0.15    9.70    0.04      49
6362          UC   0.553   0.146
6363          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
6364          UA     100
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

6365          KK   CIN43 COMBINE
6366          KM   Combine route RWIN43, route RSIN43, and subbasin IN43
6367          HC       3    7.99
              *

6368          KK  PR43MDRETRIEVE
6369          KM   Retrieve combined full flow capacity of 629 cfs from 102-inch equivalent
6370          KM   diameter pipe at the intersection of McDowell Road and 43rd Avenue
6371          DR  DP43MD
              *

6372          KK  RP43IN   ROUTE
6373          KM   Route the combined full flow capacity of 629 cfs through an equivalent storm
6374          KM   drain pipe diameter of 102 inches in 43rd Avenue to the intersection of
6375          KM   35th Avenue and Interstate 10
6376          RK    1217  0.0035   0.015            CIRC   8.500
              *

6377          KK  CPIN43 COMBINE
6378          KM   Combine pipe return PR43MD with the runoff hydrograph at combination point
6379          KM   CIN43 at the intersection of Interstate 10 and 43rd Avenue
6380          HC       2
              *

6381          KK  DWIN51  DIVERT
6382          KM   Divert remaining runoff hydrograph from combination point CPIN43 west to
6383          KM   combination point CIN51
6384          DT  DSVB43      0.0     0.0
6385          DI      0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
6386          DQ      0.0    81.0   162.0   405.0   810.0  1620.0  3240.0  8100.0 16200.0 40500.0
              *

6387          KK  RWIN51   ROUTE
6388          KM   Route diversion DWIN51 west to combination point CIN51
6389          RS       1    FLOW
6390          RC   0.035   0.015   0.035    5290  0.0027    0.00
6391          RX    0.00    0.10   18.00   36.00   66.00   84.00  102.00  102.10
6392          RY   18.00   17.05    9.00    0.00    0.00    9.00   17.05   18.00
              *

6393          KK  DRIN51RETRIEVE
6394          KM   Retrieve divert DRIN51 from combination point CPMD51 and divert south to
6395          KM   combination point CIN51
6396          DR  DSIN51
              *

6397          KK  RSIN51   ROUTE
6398          KM   Route diversion retrieval DRIN51 south to combination point CIN51
6399          RS       3    FLOW
6400          RC   0.035   0.015   0.035    1143  0.0007    0.00
6401          RX    0.00    0.00   54.50   54.50  269.50  269.50  324.00  324.00
6402          RY    3.00    1.04    0.50    0.00    0.00    0.50    1.04    3.00
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

6403          KK    IN51    BASIN
6404          KM   Runoff hydrograph for subbasin IN51 northeast of the intersection of
6405          KM   Interstate 10 and 51st Avenue
6406          BA   0.232
6407          LG    0.13    0.16    9.70    0.04      75
6408          UC   0.626   0.594
6409          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
6410          UA     100
              *

6411          KK   CIN51 COMBINE
6412          KM   Combine route RWIN51, route RSIN51, and subbasin IN51
6413          HC       3    2.68
              *

6414          KK  PR51MDRETRIEVE
```



```
6415          KM   Retrieve full flow capacity of 368 cfs from 84-inch storm drain pipe at the
6416          KM   intersection of McDowell Road and 51st Avenue
6417          DR  DP51MD
              *

6418          KK  RP51IN   ROUTE
6419          KM   Route full flow capacity of 368 cfs through 84-inch storm drain pipe in
6420          KM   51st Avenue to the intersection of Interstate 10 and 51st Avenue
6421          RK     731  0.0033   0.015            CIRC   7.000
              *

6422          KK  CPIN51 COMBINE
6423          KM   Combine pipe return PR51MD with the runoff hydrograph at combination point
6424          KM   CIN51 at the intersection of Interstate 10 and 51st Avenue
6425          HC       2
              *

6426          KK  DWIN59  DIVERT
6427          KM   Divert remaining runoff hydrograph from combination point CPIN51 west to
6428          KM   combination point CIN59
6429          DT  DSVB51      0.0     0.0
6430          DI      0.0 26494.0 26494.1 50000.0     0.0     0.0     0.0     0.0     0.0     0.0
6431          DQ      0.0     0.0 26494.1 50000.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

6432          KK  RWIN59   ROUTE
6433          KM   Route diversion DWIN59 west to combination point CIN59
6434          RS       1    FLOW
6435          RC   0.035   0.015   0.035    5297  0.0017    0.00
6436          RX    0.00    0.10   18.00   36.00   66.00   84.00  102.00  102.10
6437          RY   18.00   17.05    9.00    0.00    0.00    9.00   17.05   18.00
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

6438          KK  DRIN59RETRIEVE
6439          KM   Retrieve divert DRIN59 from combination point CPMD59 and divert south to
6440          KM   combination point CIN59
6441          DR  DSIN59
              *

6442          KK  RSIN59   ROUTE
6443          KM   Route diversion retrieval DRIN59 south to combination point CIN59
6444          RS       1    FLOW
6445          RC   0.035   0.015   0.035     730  0.0047    0.00
6446          RX    0.00    0.00   35.50   35.50  188.50  188.50  224.00  224.00
6447          RY    3.00    0.86    0.50    0.00    0.00    0.50    0.86    3.00
              *

6448          KK    IN59    BASIN
6449          KM   Runoff hydrograph for subbasin IN59 northeast of the intersection of
6450          KM   Interstate 10 and 59th Avenue
6451          BA   0.202
6452          LG    0.20    0.16    9.70    0.04      54
6453          UC   1.081   1.115
6454          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
6455          UA     100
              *

6456          KK   CIN59 COMBINE
6457          KM   Combine route RWIN59, route RSIN59, and subbasin IN59
6458          HC       3    4.90
              *

6459          KK  PR59MDRETRIEVE
6460          KM   Retrieve full flow capacity of 468 cfs from 90-inch storm drain pipe at the
6461          KM   intersection of McDowell Road and 59th Avenue
6462          DR  DP59MD
              *

6463          KK  RP59IN   ROUTE
6464          KM   Route full flow capacity of 468 cfs through 90-inch storm drain pipe in
6465          KM   59th Avenue to the intersection of Interstate 10 and 59th Avenue
6466          RK     846  0.0037   0.015            CIRC   7.500
              *

6467          KK  CPIN59 COMBINE
6468          KM   Combine pipe return PR59MD with the runoff hydrograph at combination point
6469          KM   CIN59 at the intersection of Interstate 10 and 59th Avenue
6470          HC       2
              *

6471          KK  DWIN67  DIVERT
6472          KM   Divert remaining runoff hydrograph from combination point CPIN59 west to
6473          KM   combination point CIN67
6474          DT  DSVB59      0.0     0.0
6475          DI      0.0 21022.0 21022.1 50000.0     0.0     0.0     0.0     0.0     0.0     0.0
6476          DQ      0.0     0.0 21022.1 50000.0     0.0     0.0     0.0     0.0     0.0     0.0
              *
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      LINE          ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

      6477          KK  RWIN67   ROUTE
      6478          KM   Route diversion DWIN67 west to combination point CIN67
      6479          RS       1    FLOW
      6480          RC   0.035   0.015   0.035    5145  0.0012    0.00
      6481          RX    0.00    0.10   18.00   36.00   66.00   84.00  102.00  102.10
      6482          RY   18.00   17.05    9.00    0.00    0.00    9.00   17.05   18.00
                    *
      6483          KK  DRIN67RETRIEVE
      6484          KM   Retrieve divert DRIN67 from combination point CPMD67 and divert south to
      6485          KM   combination point CIN67
      6486          DR  DSIN67
                    *
      6487          KK  RSIN67   ROUTE
      6488          KM   Route diversion retrieval DRIN67 south to combination point CIN67
      6489          RS       1    FLOW
      6490          RC   0.035   0.015   0.035     741  0.0027    0.00
      6491          RX    0.00    0.00   12.50   12.50   62.50   62.50   75.00   75.00
      6492          RY    3.00    0.62    0.50    0.00    0.00    0.50    0.62    3.00
                    *
      6493          KK   IN67   BASIN
      6494          KM   Runoff hydrograph for subbasin IN67 northeast of the intersection of
      6495          KM   Interstate 10 and 67th Avenue
      6496          BA   0.197
      6497          LG    0.21    0.16    9.70    0.04      53
      6498          UC   1.274   1.338
      6499          UA        0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
      6500          UA      100
                    *
      6501          KK  ERIN67  DIVERT
      6502          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
      6503          KM   retention developed after 1990 in subbasin IN67
      6504          DT   XIN67     9.1     0.0
      6505          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
      6506          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
                    *
      6507          KK   CIN67 COMBINE
      6508          KM   Combine route RWIN67, route RSIN67, and subbasin IN67
      6509          HC       3    5.78
                    *
      6510          KK  PR67MDRETRIEVE
      6511          KM   Retrieve full flow capacity of 400 cfs from 90-inch storm drain pipe at the
      6512          KM   intersection of McDowell Road and 67th Avenue
      6513          DR  DP67MD
                    *
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      LINE          ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

      6514          KK  RP67IN   ROUTE
      6515          KM   Route full flow capacity of 400 cfs through 90-inch storm drain pipe in
      6516          KM   67th Avenue to the intersection of Interstate 10 and 67th Avenue
      6517          RK     824  0.0027   0.015            CIRC   7.500
                    *
      6518          KK  CPIN67 COMBINE
      6519          KM   Combine pipe return PR67MD with the runoff hydrograph at combination point
      6520          KM   CIN67 at the intersection of Interstate 10 and 67th Avenue
      6521          HC       2
                    *
      6522          KK  DWIN75  DIVERT
      6523          KM   Divert remaining runoff hydrograph from combination point CPIN67 west to
      6524          KM   combination point CIN75
      6525          DT  DSVB67      0.0     0.0
      6526          DI     0.0 17662.0 17662.1 50000.0     0.0     0.0     0.0     0.0     0.0     0.0
      6527          DQ     0.0     0.0 17662.1 50000.0     0.0     0.0     0.0     0.0     0.0     0.0
                    *
      6528          KK  RWIN75   ROUTE
      6529          KM   Route diversion DWIN75 west to combination point CIN75
      6530          RS       2    FLOW
      6531          RC   0.035   0.015   0.035    5237  0.0020    0.00
      6532          RX    0.00    0.10   18.00   36.00   66.00   84.00  102.00  102.10
      6533          RY   18.00   17.05    9.00    0.00    0.00    9.00   17.05   18.00
                    *
      6534          KK  DRIN75RETRIEVE
      6535          KM   Retrieve divert DRIN75 from combination point CPMD75 and divert south to
      6536          KM   combination point CIN75
      6537          DR  DSIN75
                    *
      6538          KK  RSIN75   ROUTE
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      6539          KM   Route diversion retrieval DRIN75 south to combination point CIN75
      6540          RS       1    FLOW
      6541          RC   0.035   0.015   0.035     731  0.0022    0.00
      6542          RX    0.00    0.00   29.00   29.00  170.00  170.00  199.00  199.00
      6543          RY    3.00    0.79    0.50    0.00    0.00    0.50    0.79    3.00
                    *
      6544          KK   IN75   BASIN
      6545          KM   Runoff hydrograph for subbasin IN75 northeast of the intersection of
      6546          KM   Interstate 10 and 75th Avenue
      6547          BA   0.199
      6548          LG    0.19    0.21    6.60    0.12      55
      6549          UC   1.101   1.139
      6550          UA        0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
      6551          UA      100
                    *
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      LINE          ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

      6552          KK  ERIN75  DIVERT
      6553          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
      6554          KM   retention developed after 1990 in subbasin IN75
      6555          DT   XIN75     2.8     0.0
      6556          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
      6557          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
                    *
      6558          KK   CIN75 COMBINE
      6559          KM   Combine route RWIN75, route RSIN75, and subbasin IN75
      6560          HC       3    8.11
                    *
      6561          KK  PR75MDRETRIEVE
      6562          KM   Retrieve full flow capacity of 364 cfs from 90-inch storm drain pipe at the
      6563          KM   intersection of McDowell Road and 75th Avenue
      6564          DR  DP75MD
                    *
      6565          KK  RP75IN   ROUTE
      6566          KM   Route full flow capacity of 364 cfs through 90-inch storm drain pipe in
      6567          KM   75th Avenue to the intersection of Interstate 10 and 75th Avenue
      6568          RK     811  0.0022   0.015            CIRC   7.500
                    *
      6569          KK  CPIN75 COMBINE
      6570          KM   Combine pipe return PR75MD with the runoff hydrograph at combination point
      6571          KM   CIN75 at the intersection of Interstate 10 and 75th Avenue
      6572          HC       2
                    *
      6573          KK  DWIN83  DIVERT
      6574          KM   Divert remaining runoff hydrograph from combination point CPIN75 west to
      6575          KM   combination point CIN83
      6576          DT  DSVB75      0.0     0.0
      6577          DI     0.0 22802.0 22802.1 50000.0     0.0     0.0     0.0     0.0     0.0     0.0
      6578          DQ     0.0     0.0 22802.1 50000.0     0.0     0.0     0.0     0.0     0.0     0.0
                    *
      6579          KK  RWIN83   ROUTE
      6580          KM   Route diversion DWIN83 west to combination point CIN83
      6581          RS       1    FLOW
      6582          RC   0.035   0.015   0.035    5396  0.0016    0.00
      6583          RX    0.00    0.10   18.00   36.00   66.00   84.00  102.00  102.10
      6584          RY   18.00   17.05    9.00    0.00    0.00    9.00   17.05   18.00
                    *
      6585          KK   IN83   BASIN
      6586          KM   Runoff hydrograph for subbasin IN83 northeast of the intersection of
      6587          KM   Interstate 10 and 83rd Avenue
      6588          BA   0.196
      6589          LG    0.18    0.15    7.00    0.10      64
      6590          UC   1.028   1.087
      6591          UA        0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
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      LINE          ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

      6592          UA      100
                    *
      6593          KK  ERIN83  DIVERT
      6594          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
      6595          KM   retention developed after 1990 in subbasin IN83
      6596          DT   XIN83     12.2     0.0
      6597          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
      6598          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
                    *
      6599          KK   CIN83 COMBINE
      6600          KM   Combine route RWIN83, route RSIN83, and subbasin IN83
      6601          HC       2    8.31
```

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                *
6602            KK  PR83MDRETRIEVE
6603            KM   Retrieve full flow capacity of 340 cfs from 90-inch storm drain pipe at the
6604            KM   intersection of McDowell Road and 83rd Avenue
6605            DR  DP83MD
                *
6606            KK  RP83IN   ROUTE
6607            KM   Route full flow capacity of 340 cfs through 90-inch storm drain pipe in
6608            KM   83rd Avenue to the intersection of Interstate 10 and 83rd Avenue
6609            RK     824  0.0019   0.015            CIRC   7.500
                *
6610            KK  CPIN83 COMBINE
6611            KM   Combine pipe return PR83MD with the runoff hydrograph at combination point
6612            KM   CIN83 at the intersection of Interstate 10 and 83rd Avenue
6613            HC       2
                *
6614            KK  DWIN91  DIVERT
6615            KM   Divert remaining runoff hydrograph from combination point CPIN83 west to
6616            KM   combination point CIN91
6617            DT  DSVB83      0.0      0.0
6618            DI      0.0 20395.0 20395.1 50000.0      0.0      0.0      0.0      0.0      0.0      0.0
6619            DQ      0.0      0.0 20395.1 50000.0      0.0      0.0      0.0      0.0      0.0      0.0
                *
6620            KK  RWIN91   ROUTE
6621            KM   Route diversion DWIN91 west to combination point CIN91
6622            RS       1    FLOW
6623            RC   0.035    0.015    0.035     5217  0.0016     0.00
6624            RX    0.00     0.10    18.00    36.00    66.00    84.00   102.00   102.10
6625            RY   18.00    17.05     9.00     0.00     0.00     9.00    17.05    18.00
                *

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LINE            ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

6626            KK  DRIN91RETRIEVE
6627            KM   Retrieve divert DRIN91 from combination point CPMD91 and divert south to
6628            KM   combination point CIN91
6629            DR  DSIN91
                *
6630            KK  RSIN91   ROUTE
6631            KM   Route diversion retrieval DRIN91 south to combination point CIN91
6632            RS       1    FLOW
6633            RC   0.035    0.015    0.035      535  0.0019     0.00
6634            RX    0.00     0.00     9.50     9.50    40.50    40.50    50.00    50.00
6635            RY    3.00     0.60     0.50     0.00     0.00     0.50     0.60     3.00
                *
6636            KK    IN91   BASIN
6637            KM   Runoff hydrograph for subbasin IN91 northeast of the intersection of
6638            KM   Interstate 10 and 91st Avenue
6639            BA   0.185
6640            LG    0.11     0.17     9.70     0.04       64
6641            UC   0.634    0.644
6642            UA       0      5.0     16.0     30.0     65.0     77.0     84.0     90.0     94.0     97.0
6643            UA     100
                *
6644            KK   CIN91 COMBINE
6645            KM   Combine route RWIN91, route RSIN91, and subbasin IN91
6646            HC       3   10.57
                *
6647            KK  PR91MDRETRIEVE
6648            KM   Retrieve full flow capacity of 345 cfs from 90-inch storm drain pipe at the
6649            KM   intersection of McDowell Road and 91st Avenue
6650            DR  DP91MD
                *
6651            KK  RP91IN   ROUTE
6652            KM   Route full flow capacity of 345 cfs through 90-inch storm drain pipe in
6653            KM   91st Avenue to the intersection of Interstate 10 and 91st Avenue
6654            RK     729  0.0020   0.015            CIRC   7.500
                *
6655            KK  CPIN91 COMBINE
6656            KM   Combine pipe return PR91MD with the runoff hydrograph at combination point
6657            KM   CIN91 at the intersection of Interstate 10 and 91st Avenue
6658            HC       2
                *
6659            KK  DWINLO  DIVERT
6660            KM   Divert remaining runoff hydrograph from combination point CPIN91 west to
6661            KM   combination point CINLO
6662            DT  DSVB91      0.0      0.0
6663            DI      0.0 11110.0 11110.1 50000.0      0.0      0.0      0.0      0.0      0.0      0.0
6664            DQ      0.0      0.0 11110.1 50000.0      0.0      0.0      0.0      0.0      0.0      0.0
```



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                *
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LINE            ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

6665            KK  RWINLO   ROUTE
6666            KM   Route diversion DWINLO west to combination point CINLO
6667            RS       1    FLOW
6668            RC   0.035    0.015    0.035     4153  0.0008     0.00
6669            RX    0.00     0.10    18.00    36.00    66.00    84.00   102.00   102.10
6670            RY   18.00    17.05     9.00     0.00     0.00     9.00    17.05    18.00
                *
6671            KK  DWINO7  DIVERT
6672            KM   Divert route RWINLO to detention basin northeast of L101 and I-10 Freeways.
6673            KM   Only the flow greater than the channel capacity is diverted to the basin.
6674            DT  DNINLO      0.0      0.0
6675            DI      0.0  9505.0 10216.0 10958.0 12536.0      0.0      0.0      0.0      0.0      0.0
6676            DQ      0.0      0.0    620.0   1755.0   4964.0      0.0      0.0      0.0      0.0      0.0
                *
6677            KK    INLO   BASIN
6678            KM   Runoff hydrograph for subbasin INLO northeast of the intersection of
6679            KM   Interstate 10 and SR Loop 101
6680            BA   0.147
6681            LG    0.10     0.21     9.70     0.04       35
6682            UC   0.730    0.709
6683            UA       0      5.0     16.0     30.0     65.0     77.0     84.0     90.0     94.0     97.0
6684            UA     100
                *
6685            KK  ERINLO  DIVERT
6686            KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
6687            KM   retention developed after 1990 in subbasin INLO
6688            DT  XINLO      0.3      0.0
6689            DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
6690            DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
                *
6691            KK  DRINLORETRIEVE
6692            KM   Retrieve divert DRINLO from route RWINLO and route north to combination point
6693            KM   CIN95 to route thru the detention basin northeast of L101 and I-10 Freeways
6694            DR  DNINLO
                *
6695            KK  DRIN95RETRIEVE
6696            KM   Retrieve divert DRIN95 from route RSINLO and route east to combination point
6697            KM   CIN95 to route thru the detention basin northeast of L101 and I-10 Freeways
6698            DR  DEIN95
                *
6699            KK   CIN95 COMBINE
6700            KM   Combine retrieve DRINLO, retreive DRIN95, and subbasin INLO
6701            HC       3   24.79
                *

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LINE            ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

6702            KK  SRINLO STORAGE
6703            KM   Storage route runoff hydrograph from combination CIN95 through detention
6704            KM     basin northeast of L101 and I-10 freeways
6705            KM   Stage-storage-discharge data from Agua Fria Freeway (101L) RAM-600-0-526
6706            KM     As-built Records, ADOT, October 2001
6707            RS       1    STOR
6708            SV            15.50   206.50   210.50   220.50   251.20   293.90
6709            SQ            33.00   159.00   367.00  1534.00  8123.0022263.00
6710            SE  1002.3 1004.50 1015.80 1016.00 1016.50 1018.00 1020.00
                *
6711            KK   CINLO COMBINE
6712            KM   Combine route RSINLO, route RWINLO, and storage route SRINLO
6713            HC       3   24.79
                *
6714            KK  RWINO7   ROUTE
6715            KM   Route diversion DWIN07 west to combination point CIN07
6716            RS       1    FLOW
6717            RC   0.035    0.015    0.035     6475  0.0017     0.00
6718            RX    0.00     0.10    18.00    36.00    66.00    84.00   102.00   102.10
6719            RY   18.00    17.05     9.00     0.00     0.00     9.00    17.05    18.00
                *
6720            KK  DITM07RETRIEVE
6721            KM   Retrieve divert DITM07 from combination point CRI07 and divert south to
6722            KM   combination point CTM07
6723            DR   DTM07
                *
6724            KK  SRRI03 STORAGE
6725            KM   Storage route runoff hydrograph from divert retrieval DITM07 through ponding
```

```
KM     area at the Roosevelt Irrigation District Canal near the intersection of
KM     canal and 103rd Avenue.
KM   Stage-storage-discharge data from Maryvale ADMS, February 1997
RS       1    STOR
SV           16.40   50.70   71.40   77.20  109.70
SQ            0.10    0.20    0.30   96.00 1160.00
SE  1019.0 1020.00 1021.00 1021.40 1021.50 1022.00
*

KK  RWTM07    ROUTE
KM   Route diversion retrieval DRRIAF west to combination point CTM07
RS       6    FLOW
RC   0.035   0.015   0.035    2719  0.0029    0.00
RX    0.00    0.00   16.50   16.50  107.50  107.50  124.00  124.00
RY    3.00    0.66    0.50    0.00    0.00    0.50    0.66    3.00
*
```



```
LINE  ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

KK  DRTM07RETRIEVE
KM   Retrieve divert DRTM07 from combination point CRI07 and divert south to
KM   combination point CTM07
DR  DSTM07
*

KK  RSTM07    ROUTE
KM   Route diversion retrieval DRTM07 south to combination point CTM07
RS       2    FLOW
RC   0.035   0.015   0.035    2640  0.0019    0.00
RX    0.00    0.00   16.50   16.50  107.50  107.50  124.00  124.00
RY    3.00    0.66    0.50    0.00    0.00    0.50    0.66    3.00
*

KK    TM07    BASIN
KM   Runoff hydrograph for subbasin TM07 northeast of the intersection of Thomas
KM   Road and 107th Avenue
BA   0.265
LG    0.29    0.16    9.70    0.05      13
UC   1.392   1.111
UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
UA     100
*

KK   CTM07 COMBINE
KM   Combine route RWTM07, route RSTM07, and subbasin TM07
HC       3    1.61
*

KK  DSMD07   DIVERT
DT  DWTMAF       0.0       0.0
DI       0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
DQ       0.0    65.0   130.0   325.0   650.0  1300.0  2600.0  6500.0 13000.0 32500.0
*

KK  RSMD07    ROUTE
KM   Route diversion DSMD07 south to combination point CMD07
RS       8    FLOW
RC   0.035   0.015   0.035    5280  0.0006    0.00
RX    0.00    0.00   26.00   26.00  148.00  148.00  174.00  174.00
RY    3.00    0.76    0.50    0.00    0.00    0.50    0.76    3.00
*

KK  DRMD99RETRIEVE
KM   Retrieve divert DRMD99 from combination point CTM99 and divert south to
KM   combination point CMD99
DR  DSMD99
*
```



```
LINE  ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

KK  RSMD99    ROUTE
KM   Route diversion retrieval DRMD99 south to combination point CMD99
RS       8    FLOW
RC   0.035   0.015   0.035    5508  0.0010    0.00
RX    0.00    0.00   16.50   16.50  107.50  107.50  124.00  124.00
RY    3.00    0.66    0.50    0.00    0.00    0.50    0.66    3.00
*

KK    MD99    BASIN
KM   Runoff hydrograph for subbasin MD99 northeast of the intersection of McDowell
KM   Road and 99th Avenue
BA   0.319
LG    0.43    0.15    9.70    0.07      13
UC   1.167   1.153
UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
UA     100
*

KK   CMD99 COMBINE
```



```
KM   Combine route RSMD99 and subbasin MD99
HC       2    0.60
*

KK  DWTMRI   DIVERT
KM   Divert portion of runoff hydrograph from combination point CMD99 west to the
KM   intersection of Thomas Road and the Roosevelt Irrigation Distric canal and
KM   the remaining flow west to the intersection of McDowell Road and 107th
KM   Avenue. The diversion is based on topography
DT  DMD99       0.0       0.0
DI       0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
DQ       0.0    56.0   112.0   280.0   560.0  1120.0  2240.0  5600.0 11200.0 28000.0
*

KK  RWTMRI    ROUTE
KM   Route diversion DWTMRI west to combination point CTMRI
RS       2    FLOW
RC   0.035   0.015   0.035    2601  0.0023    0.00
RX    0.00    0.00    9.50    9.50   40.50   40.50   50.00   50.00
RY    3.00    0.60    0.50    0.00    0.00    0.50    0.60    3.00
*

KK    TMRI    BASIN
KM   Runoff hydrograph for subbasin TMRI southeast of the intersection of Thomas
KM   Road and the Roosevelt Irrigation District canal
BA   0.240
LG    0.30    0.15    9.70    0.07       2
UC   0.514   0.225
UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
UA     100
*
```



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LINE  ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

KK   CTMRI COMBINE
KM   Combine route RWTMRI and subbasin TMRI
HC       2    0.51
*

KK  SRTMRI STORAGE
KM   Storage route runoff hydrograph from combination point CTMRI through ponding
KM     area at the Roosevelt Irrigation District canal near the intersection of th
KM     canal and Thomas Road.
KM   Stage-storage-discharge data from Maryvale ADMS, February 1997
RS       1    STOR
SV           15.73   25.07   35.38   85.58
SQ            0.10 1069.00 3077.0011170.00
SE  1020.0 1021.00 1021.50 1022.00 1023.00
*

KK  RMD07    ROUTE
KM   Route runoff hydrograph from combination point CTMRI south to combination
KM   point CMD07
RS      10    FLOW
RC   0.035   0.015   0.035    6743  0.0013    0.00
RX    0.00    0.00   12.50   12.50   62.50   62.50   75.00   75.00
RY    3.00    0.62    0.50    0.00    0.00    0.50    0.62    3.00
*

KK  DIMD99RETRIEVE
KM   Retrieve subbasin flow diverted at the intersection of McDowell Road and 99th
KM   Avenue
DR  DMD99
*

KK  DWMD07   DIVERT
KM   Divert remaining runoff hydrograph from combination point CTMRI west to
KM   combination point CMD07
DT  DSIN99       0.0       0.0
DI       0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
DQ       0.0    50.0   100.0   250.0   500.0  1000.0  2000.0  5000.0 10000.0 25000.0
*

KK  SRMD99 STORAGE
KM   Storage route runoff hydrograph from divert DWMD07 through ponding area at
KM     the Roosevelt Irrigation District canal near the intersection of the canal
KM     and McDowell Road.
KM   Stage-storage-discharge data from Maryvale ADMS, Feb 1997
RS       1    STOR
SV           11.90   27.50   38.50   54.00   98.80
SQ                 1604.00 7290.0028409.00
SE  1022.0 1023.00 1024.00 1024.50 1025.00 1026.00
*
```



```
LINE  ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

KK  RWMD07    ROUTE
KM   Route diversion retrieval DRMD07 west to combination point CMD07
RS       1    FLOW
```

```
6854          RC   0.035   0.015   0.035    5792  0.0019    0.00
6855          RX    0.00    0.00   16.50   16.50  107.50  107.50  124.00  124.00
6856          RY    3.00    0.66    0.50    0.00    0.00    0.50    0.66    3.00
              *

6857          KK    MD07   BASIN
6858          KM   Runoff hydrograph for subbasin MD07 northeast of the intersection of McDowell
6859          KM   Road and 107th Avenue
6860          BA   0.783
6861          LG    0.24    0.15    8.80    0.05      36
6862          UC   1.432   0.899
6863          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
6864          UA     100
              *

6865          KK  ERMD07  DIVERT
6866          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
6867          KM   retention developed after 1990 in subbasin MD07
6868          DT   XMD07     49.9      0.0
6869          DI     0.0 50000.0      0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
6870          DQ     0.0 50000.0      0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

6871          KK   CMD07 COMBINE
6872          KM   Combine route RWMD07, route RSMD07, route RMD07 and subbasin MD07
6873          HC        4    2.50
              *

6874          KK  DSIN07  DIVERT
6875          KM   Divert runoff hydrograph from combination point CMD07 sout to combination
6876          KM   point CIN07
6877          DT   DWMDAV      0.0      0.0
6878          DI      0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0 10000.0 20000.0 50000.0
6879          DQ      0.0     75.0    150.0    375.0    750.0   1500.0   3000.0   7500.0 15000.0 37500.0
              *

6880          KK  RSIN07   ROUTE
6881          KM   Route diversion DSIN07 south to combination point CIN07
6882          RS        1    FLOW
6883          RC   0.035   0.015   0.035     844  0.0008    0.00
6884          RX    0.00    0.00   16.50   16.50  107.50  107.50  124.00  124.00
6885          RY    3.00    0.66    0.50    0.00    0.00    0.50    0.66    3.00
              *

6886          KK  DRIN99RETRIEVE
6887          KM   Retrieve divert DRIN99 from combination point CTMRI and divert south to
6888          KM   combination point CIN07
6889          DR  DSIN99
              *
```



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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

6890          KK  RSIN99   ROUTE
6891          KM   Route divert retrieveal DRIN99 south to combination point CIN07
6892          RS        8    FLOW
6893          RC   0.035   0.015   0.035    6080  0.0019    0.00
6894          RX    0.00    0.00   16.50   16.50  107.50  107.50  124.00  124.00
6895          RY    3.00    0.66    0.50    0.00    0.00    0.50    0.66    3.00
              *

6896          KK    IN07   BASIN
6897          KM   Runoff hydrograph for subbasin IN07 northeast of the intersection of
6898          KM   Interstate 10 and 107th Avenue
6899          BA   0.256
6900          LG    0.26    0.15    8.40    0.08      50
6901          UC   0.655   0.609
6902          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
6903          UA     100
              *

6904          KK  ERIN07  DIVERT
6905          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
6906          KM   retention developed after 1990 in subbasin IN07
6907          DT   XIN07      8.1      0.0
6908          DI     0.0 50000.0      0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
6909          DQ     0.0 50000.0      0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

6910          KK   CIN07 COMBINE
6911          KM   Combine route RWIN07, route RSIN99, route RSIN07, and subbasin IN07
6912          HC        4   27.09
              *

6913          KK  DWINAV  DIVERT
6914          KM   Divert remaining runoff hydrograph from combination point CIN07 west to
6915          KM   combination point CINAV
6916          DT   DSVB07      0.0      0.0
6917          DI     0.0 21022.0 21022.1 50000.0     0.0     0.0     0.0     0.0     0.0     0.0
6918          DQ     0.0     0.0 21022.1 50000.0     0.0     0.0     0.0     0.0     0.0     0.0
              *
```



```
6919          KK  RWINAV   ROUTE
6920          KM   Route diversion DWINAV west to combination point CINAV
6921          RS        1    FLOW
6922          RC   0.035   0.015   0.035    5174  0.0019    0.00
6923          RX    0.00    0.10   18.00   36.00   66.00   84.00  102.00  102.10
6924          RY   18.00   17.05    9.00    0.00    0.00    9.00   17.05   18.00
              *

6925          KK  DRTMAFRETRIEVE
6926          KM   Retrieve divert DRTMAF from combination point CTM07 and divert south to
6927          KM   combination point CTMAF
6928          DR  DWTMAF
              *
```



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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

6929          KK  RWTMAF   ROUTE
6930          KM   Route diversion retrieval DRTMAF west to combination point CTMAF
6931          RS        7    FLOW
6932          RC   0.035   0.015   0.035    8219  0.0020    0.00
6933          RX    0.00    0.00   26.00   26.00  148.00  148.00  174.00  174.00
6934          RY    3.00    0.76    0.50    0.00    0.00    0.50    0.76    3.00
              *

6935          KK    TMAF   BASIN
6936          KM   Runoff hydrograph for subbasin TMAF north of Thomas Road and east of the Agua
6937          KM   Fria River
6938          BA   0.762
6939          LG    0.22    0.16    6.80    0.11      38
6940          UC   1.471   1.182
6941          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
6942          UA     100
              *

6943          KK   CTMAF COMBINE
6944          KM   Combine route RWTMAF and subbasin TMAF
6945          HC        2    1.33
              *

6946          KK  DSMDAV  DIVERT
6947          KM   Divert portion of runoff hydrograph from combination point CTMAF south to the
6948          KM   intersection of McDowell Road and Avondale Boulevard and the remaining flow
6949          KM   west to the Agua Fria River. The diversion is based on topography
6950          DT   DWAF02      0.0      0.0
6951          DI      0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0 10000.0 20000.0 50000.0
6952          DQ      0.0     89.0    178.0    445.0    890.0   1780.0   3560.0   8900.0 17800.0 44500.0
              *

6953          KK  RSMDAV   ROUTE
6954          KM   Route diversion DSMDAV south to combination point CMDAV
6955          RS        7    FLOW
6956          RC   0.035   0.015   0.035    5280  0.0017    0.00
6957          RX    0.00    0.00   38.50   38.50  210.50  210.50  249.00  249.00
6958          RY    3.00    0.88    0.50    0.00    0.00    0.50    0.88    3.00
              *

6959          KK  DRMDAVRETRIEVE
6960          KM   Retrieve divert DRMDAV from combination point CMD07 and divert south to
6961          KM   combination point CMDAV
6962          DR  DWMDAV
              *

6963          KK  RWMDAV   ROUTE
6964          KM   Route diversion retrieval DRMDAV west to combination point CMDAV
6965          RS        5    FLOW
6966          RC   0.035   0.015   0.035    5280  0.0023    0.00
6967          RX    0.00    0.00   35.50   35.50  188.50  188.50  224.00  224.00
6968          RY    3.00    0.86    0.50    0.00    0.00    0.50    0.86    3.00
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

6969          KK    MDAV   BASIN
6970          KM   Runoff hydrograph for square mile subbasin MDAV northeast of the intersection
6971          KM   McDowell Road and Avondale Boulevard
6972          BA   0.954
6973          LG    0.23    0.14    7.60    0.09      25
6974          UC   1.500   1.038
6975          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
6976          UA     100
              *

6977          KK  ERMDAV  DIVERT
6978          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
6979          KM   retention developed after 1990 in subbasin MDAV
6980          DT   XMDAV     75.6      0.0
6981          DI     0.0 50000.0      0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
6982          DQ     0.0 50000.0      0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *
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```
6983          KK   CMDAV COMBINE
6984          KM   Combine route RWMDAV, route RSMDAV, and subbasin MDAV
6985          HC       3    1.72
              *

6986          KK  DSINAV  DIVERT
6987          KM   Divert remaining runoff hydrograph from combination point CMDAV south to
6988          KM   combination point CINAV
6989          DT  DWMDAF      0.0      0.0
6990          DI     0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0 10000.0 20000.0 50000.0
6991          DQ     0.0     73.0    146.0    365.0    730.0   1460.0   2920.0  7300.0 14600.0 36500.0
              *

6992          KK  RSINAV   ROUTE
6993          KM   Route diversion DSINAV south to combination point CINAV
6994          RS       2    FLOW
6995          RC   0.035   0.015   0.035    1317  0.0022     0.00
6996          RX    0.00    0.00   16.50   16.50  107.50  107.50  124.00  124.00
6997          RY    3.00    0.66    0.50    0.00    0.00    0.50    0.66    3.00
              *

6998          KK    INAV   BASIN
6999          KM   Runoff hydrograph for subbasin INAV north of Interstate 10 and east of the
7000          KM   Agua Fria River
7001          BA   0.235
7002          LG    0.32    0.15    8.00    0.10      37
7003          UC   0.632   0.563
7004          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
7005          UA     100
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9.....10

7006          KK  ERINAV  DIVERT
7007          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
7008          KM   retention developed after 1990 in subbasin INAV
7009          DT   XINAV     3.6     0.0
7010          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
7011          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

7012          KK   CINAV COMBINE
7013          KM   Combine route RWINAV, route RSINAV, and subbasin INAV
7014          HC       3   28.58
              *

7015          KK  DWINAF  DIVERT
7016          KM   Divert remaining runoff hydrograph from combination point CINAV west to
7017          KM   combination point CINAF
7018          DT  DSVBAF      0.0      0.0
7019          DI     0.0 22225.0 22225.1 50000.0     0.0     0.0     0.0     0.0     0.0     0.0
7020          DQ     0.0     0.0 22225.1 50000.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

7021          KK  RWINAF   ROUTE
7022          KM   Route diversion DWINAF west to combination point CINAF
7023          RS       1    FLOW
7024          RC   0.035   0.015   0.035    7360  0.0009     0.00
7025          RX    0.00    0.10   18.00   36.00   66.00   84.00  102.00  102.10
7026          RY   18.00   17.05    9.00    0.00    0.00    9.00   17.05   18.00
              * Need to re-evaluate divert, flow is greater than channel capacity
              *

7027          KK  DRMDAFRETRIEVE
7028          KM   Retrieve divert DRMDAF from combination point CMDAV and divert south to
7029          KM   combination point CMDAF
7030          DR  DWMDAF
              *

7031          KK  RWMDAF   ROUTE
7032          KM   Route diversion retrieval DRMDAF west to combination point CMDAF
7033          RS       9    FLOW
7034          RC   0.035   0.015   0.035    6890  0.0027     0.00
7035          RX    0.00    0.00   48.00   48.00  251.00  251.00  299.00  299.00
7036          RY    3.00    0.98    0.50    0.00    0.00    0.50    0.98    3.00
              *

7037          KK    MDAF   BASIN
7038          KM   Runoff hydrograph for subbasin MDAF north of McDowell Road and east of the
7039          KM   Interstate 10 and east of the Agua Fria River
7040          BA   0.834
7041          LG    0.25    0.29    5.20    0.23      19
7042          UC   1.500   1.253
7043          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
7044          UA     100
              *
1                                        HEC-1 INPUT                                        PAGE184

LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9.....10
```



```
7045          KK   CMDAF COMBINE
7046          KM   Combine route RWMDAF and subbasin MDAF
7047          HC       2    1.30
              *

7048          KK  DSINAF  DIVERT
7049          KM   Divert portion of runoff hydrograph from combination point CMDAF south to the
7050          KM   intersection of Interstate 10 and the Agua Fria River and the remaining flow
7051          KM   west to the Agua Fria River. The diversion is based on topography
7052          DT  DWAF03      0.0      0.0
7053          DI     0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0 10000.0 20000.0 50000.0
7054          DQ     0.0     76.0    152.0    380.0    760.0   1520.0   3040.0  7600.0 15200.0 38000.0
              *

7055          KK  RSINAF   ROUTE
7056          KM   Route diversion DSINAF south to combination point CINAF
7057          RS       1    FLOW
7058          RC   0.035   0.015   0.035    1317  0.0022     0.00
7059          RX    0.00    0.00   22.00   22.00  103.00  103.00  125.00  125.00
7060          RY    3.00    0.72    0.50    0.00    0.00    0.50    0.72    3.00
              *

7061          KK    INAF   BASIN
7062          KM   Runoff hydrograph for subbasin INAf north of Interstate 10 and east of the
7063          KM   Agua Fria River
7064          BA   0.472
7065          LG    0.23    0.30    6.20    0.16      20
7066          UC   1.211   1.048
7067          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
7068          UA     100
              *

7069          KK  ERINAF  DIVERT
7070          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
7071          KM   retention developed after 1990 in subbasin INAF
7072          DT   XINAF     8.4     0.0
7073          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
7074          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

7075          KK   CINAF COMBINE
7076          KM   Combine route RWINAF, route RSINAF, and subbasin INAF
7077          HC       3   29.36
              *
7078          ZZ
1
        SCHEMATIC DIAGRAM OF STREAM NETWORK
INPUT
 LINE     (V) ROUTING          (--->) DIVERSION OR PUMP FLOW

  NO.     (.) CONNECTOR        (<---) RETURN OF DIVERTED OR PUMPED FLOW

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              .
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              .
              .
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              V
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              .
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              .           .
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              .           V
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              .           .
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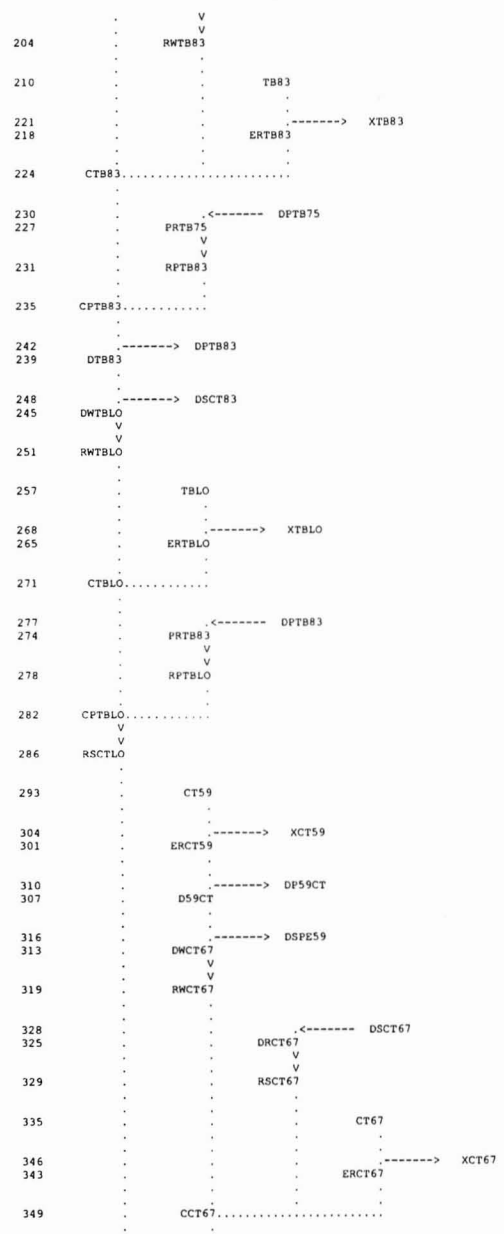
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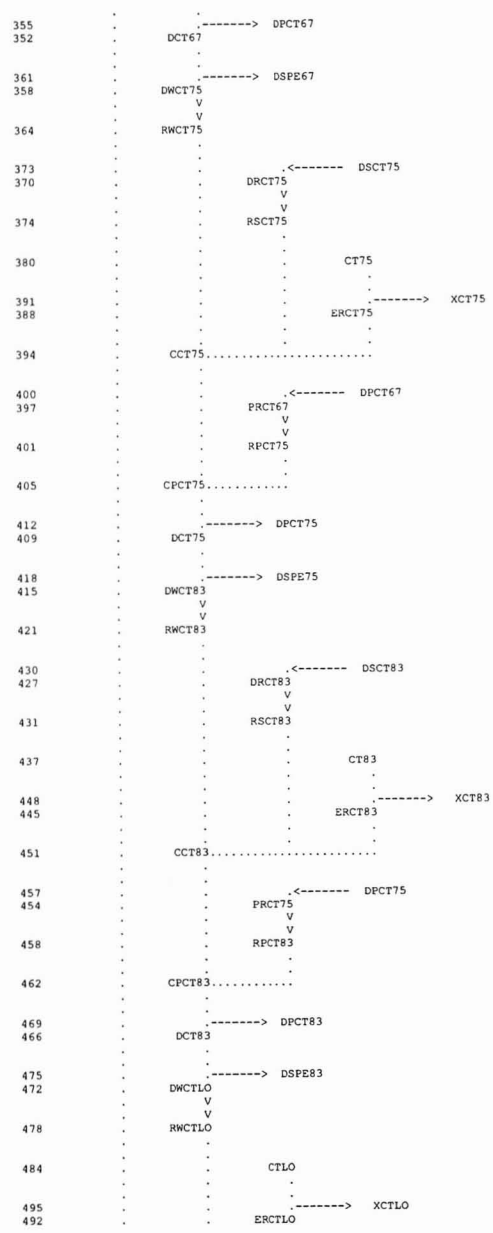
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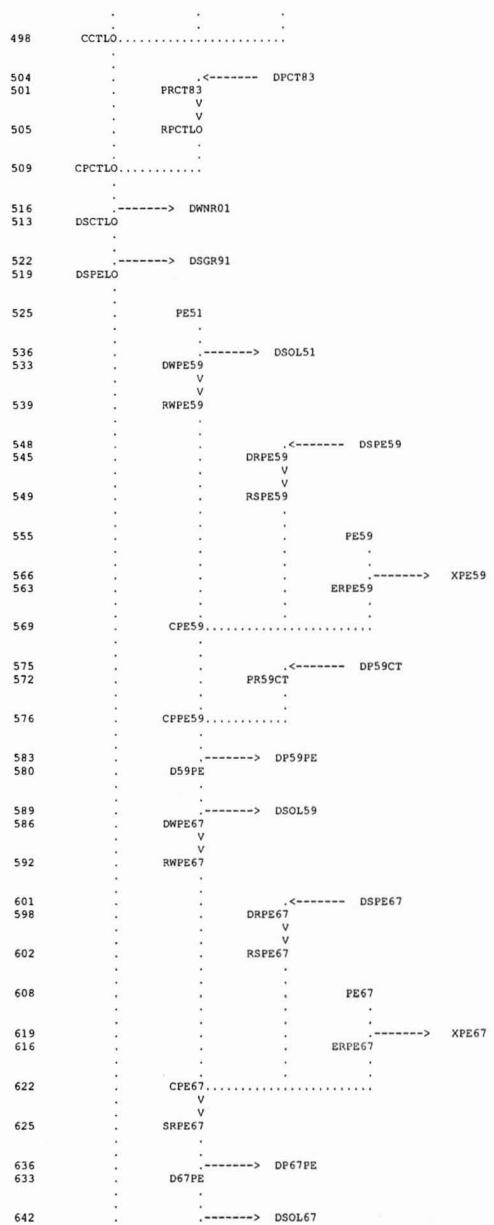
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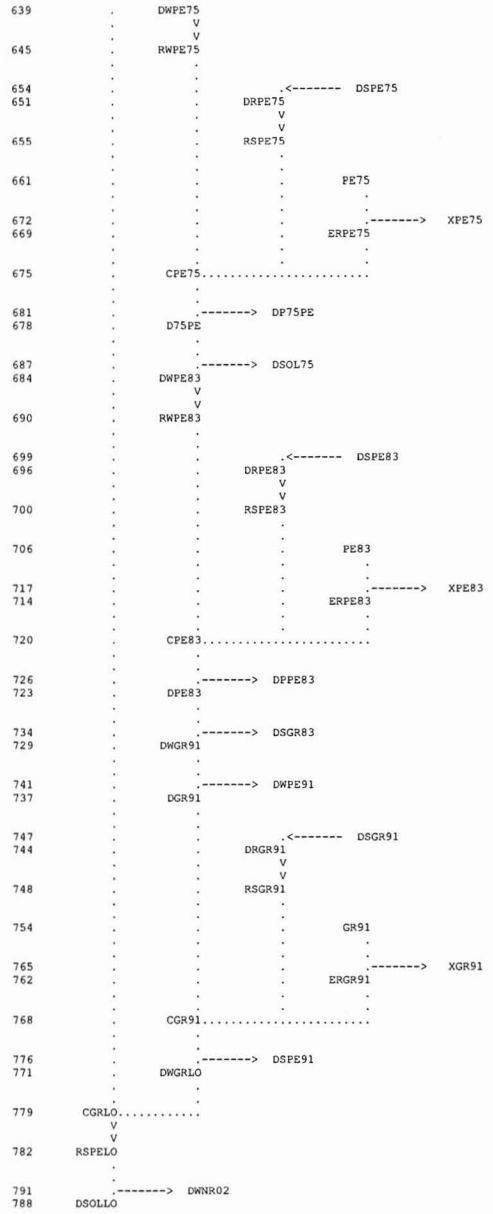
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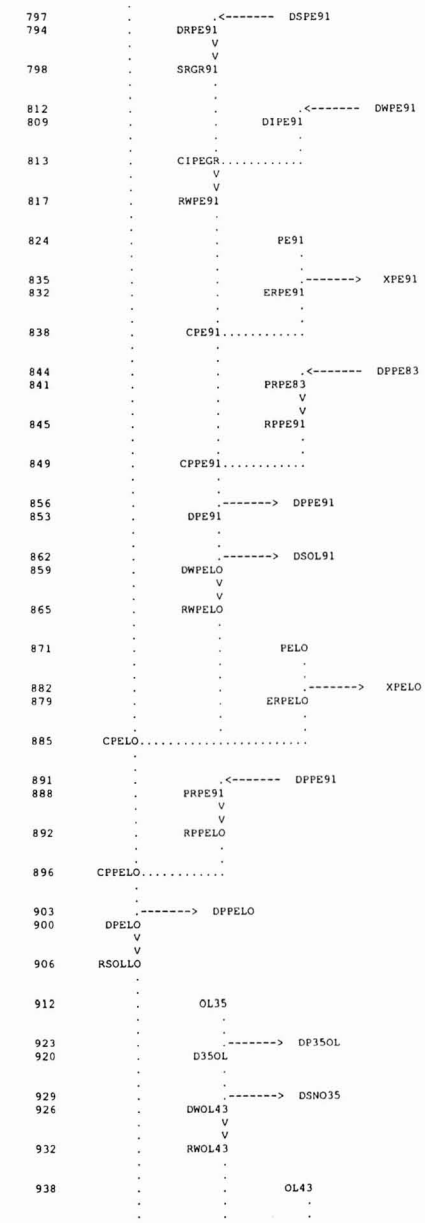
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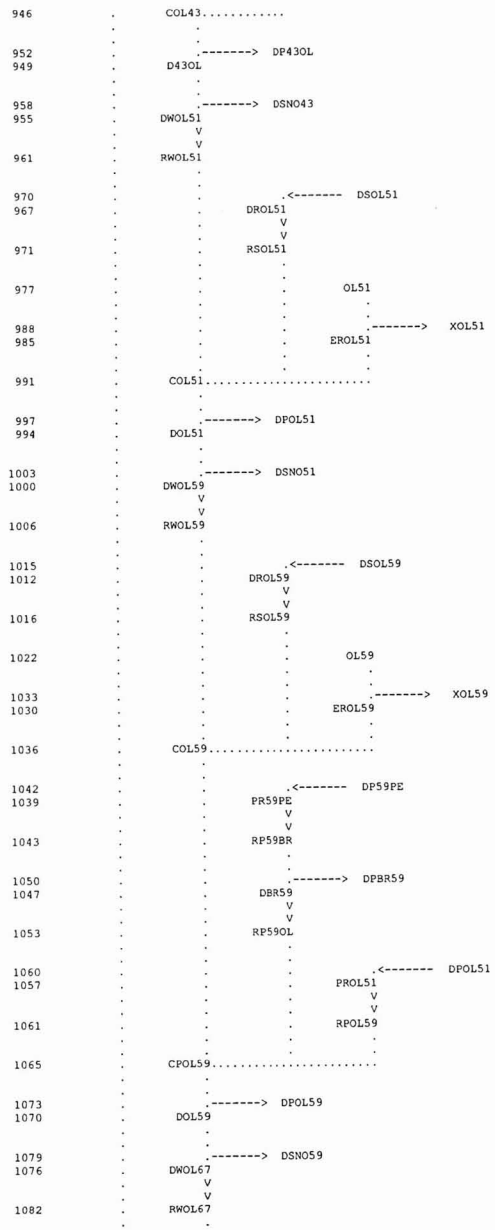
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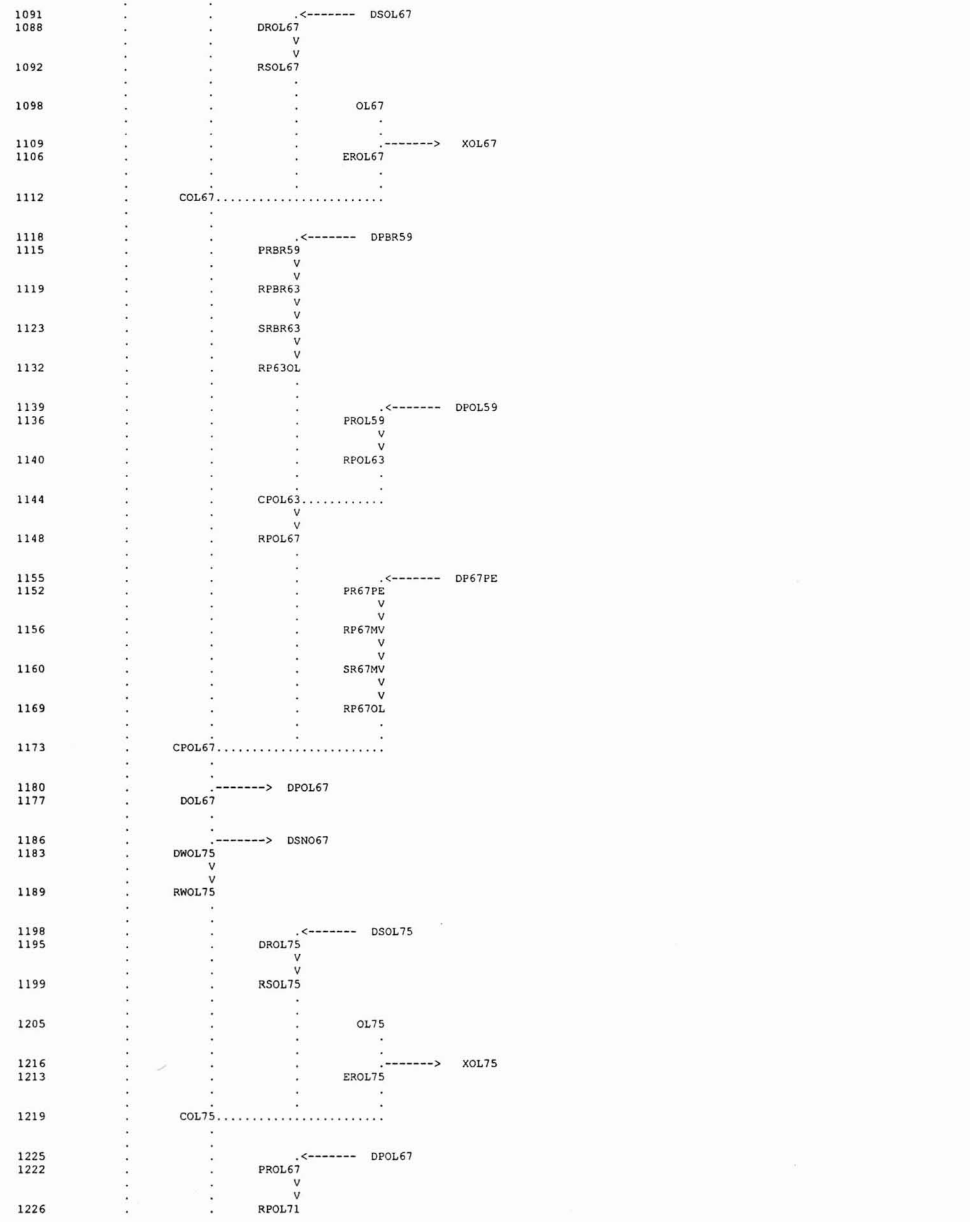
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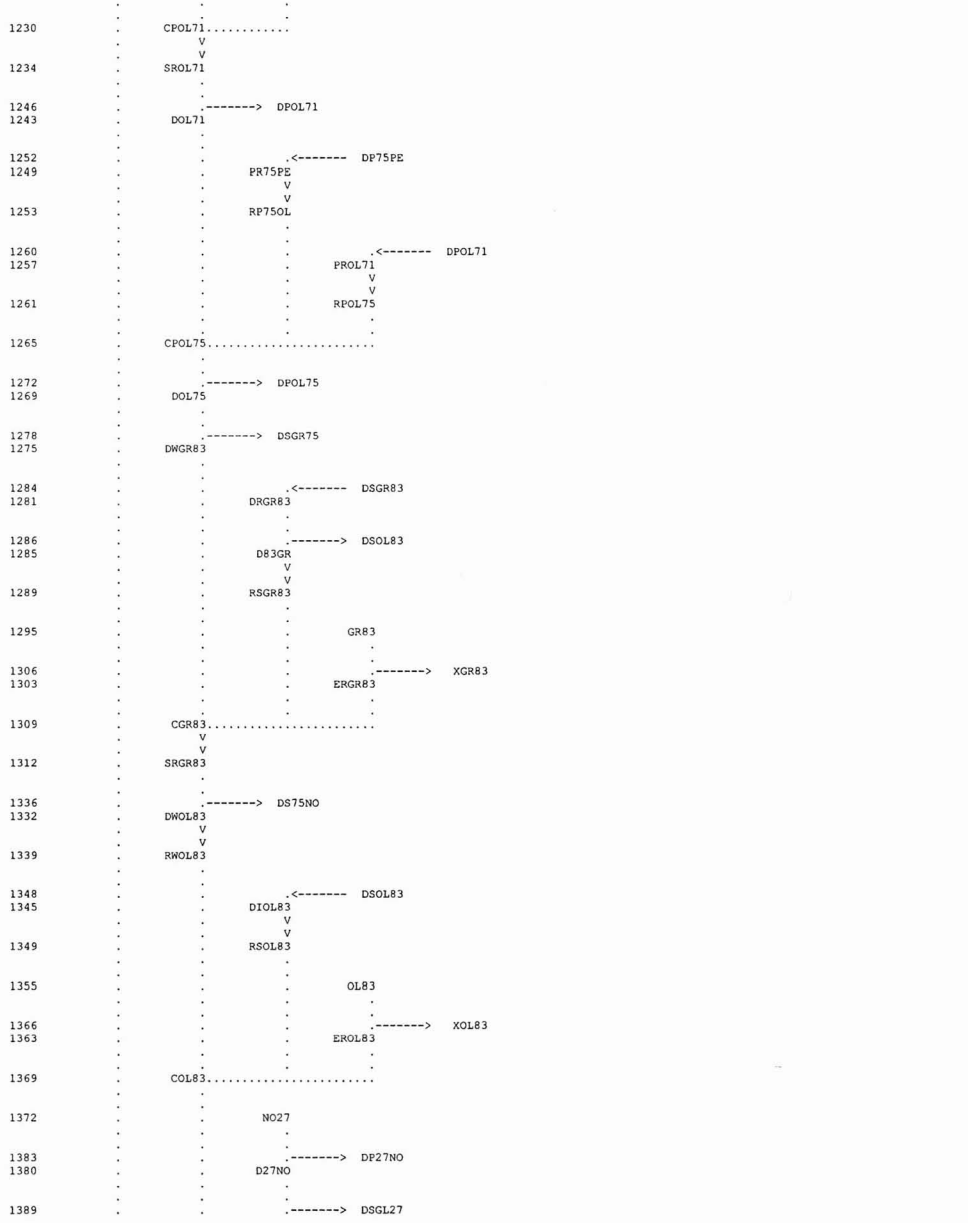
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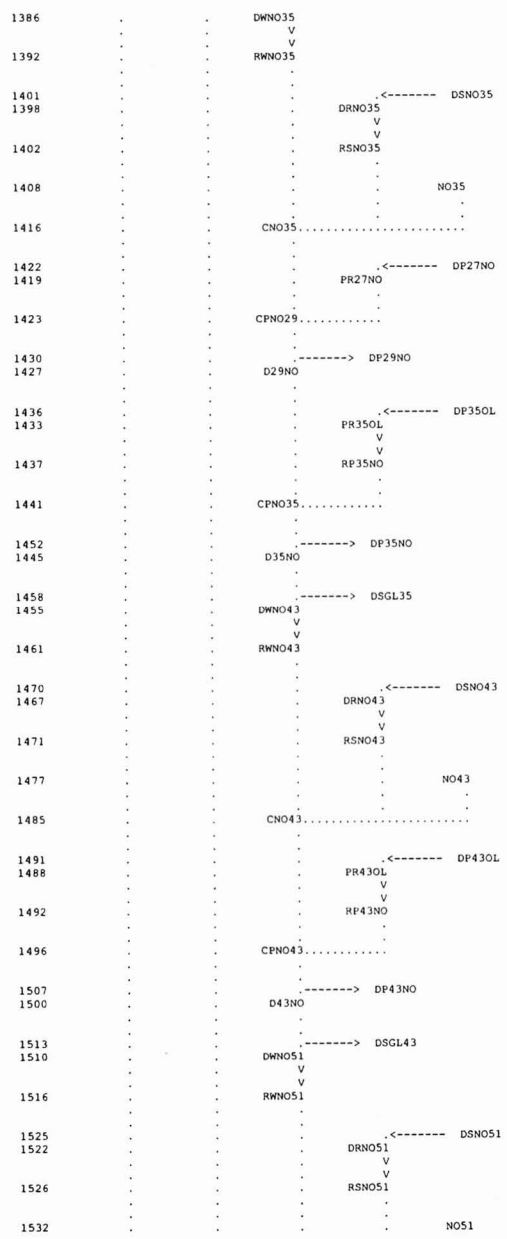
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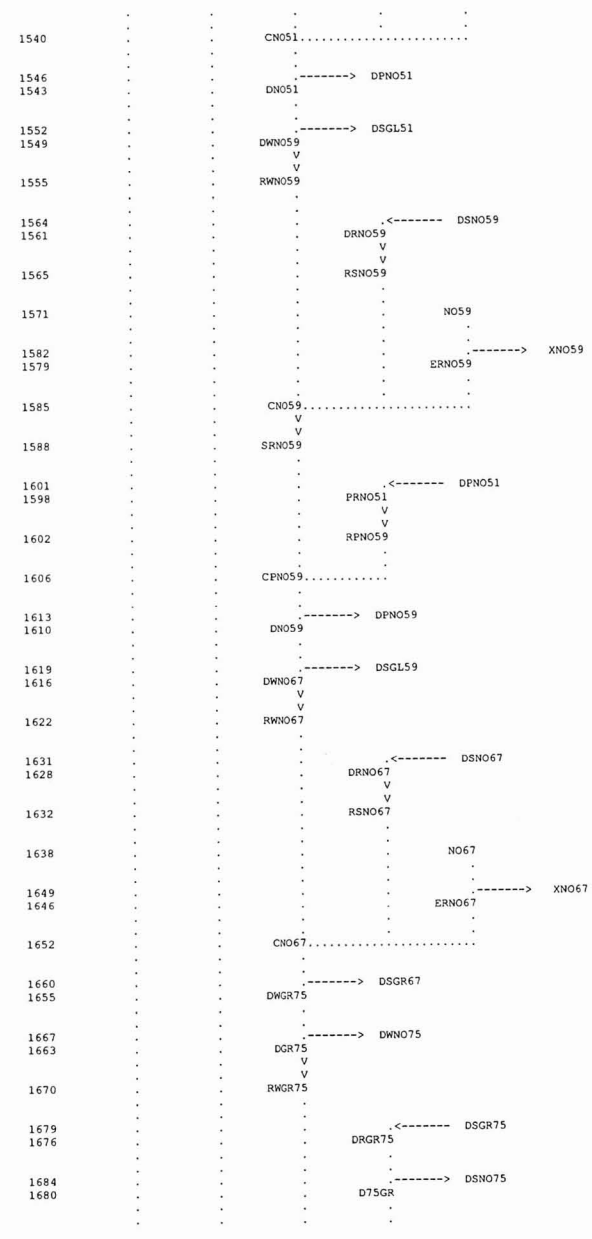
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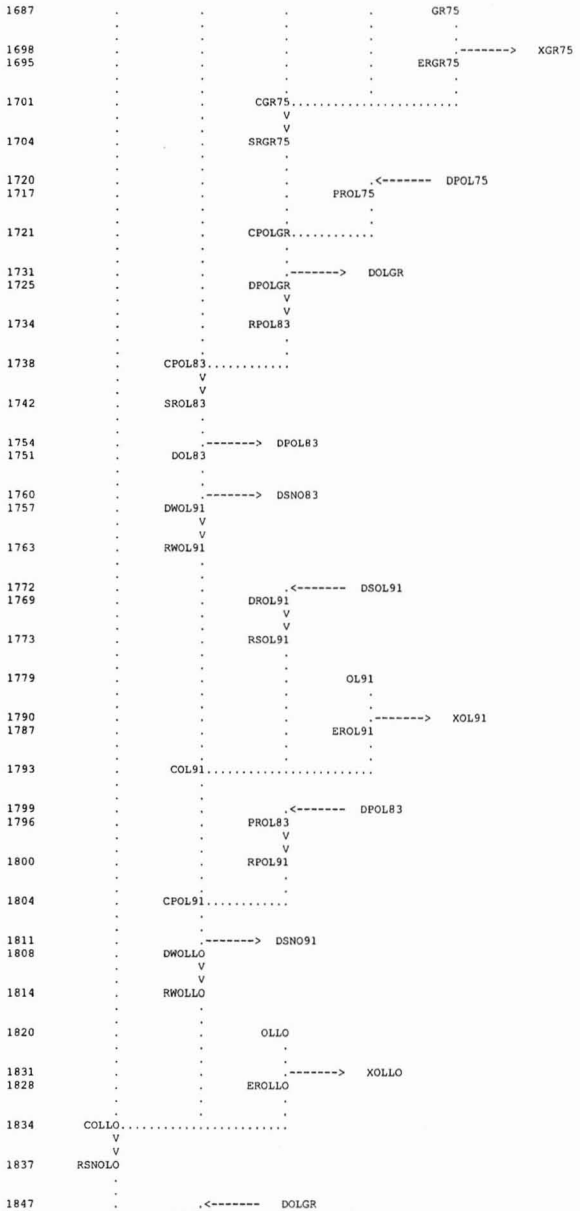
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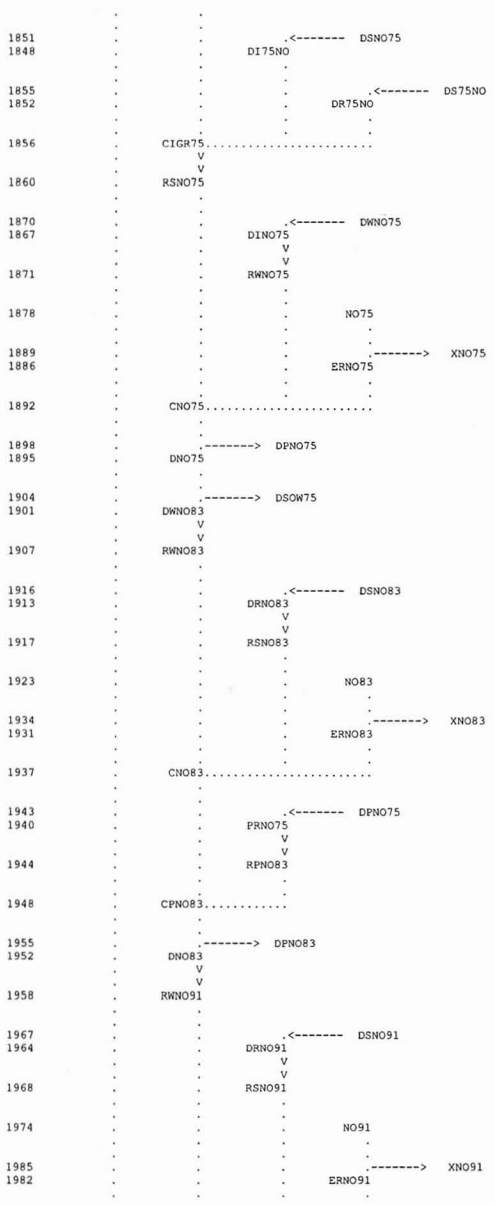
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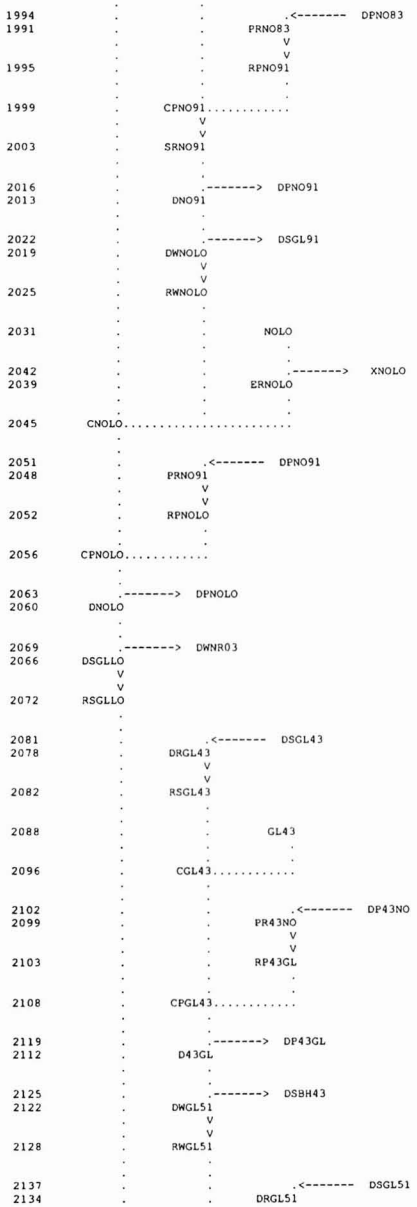
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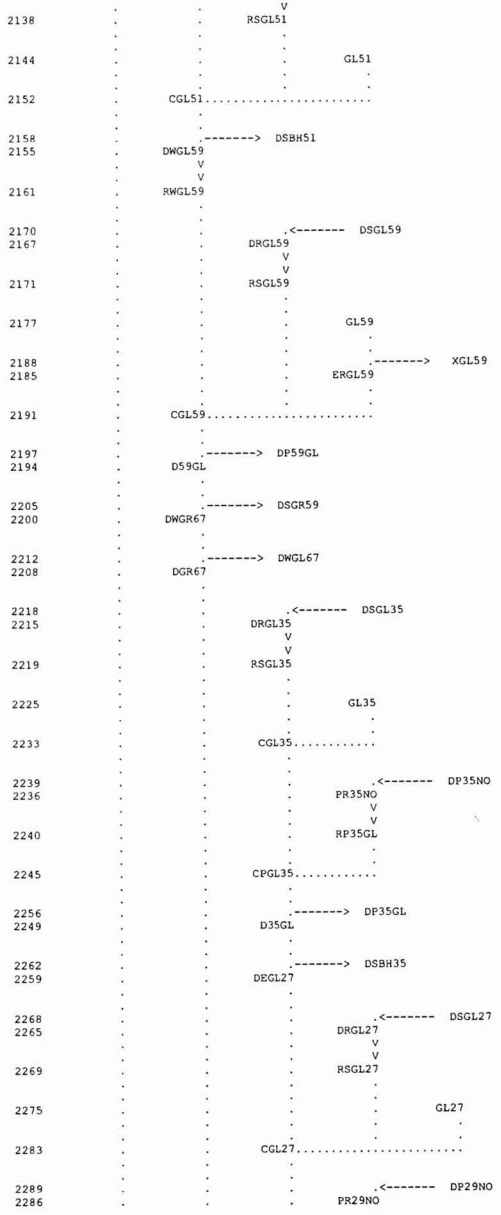
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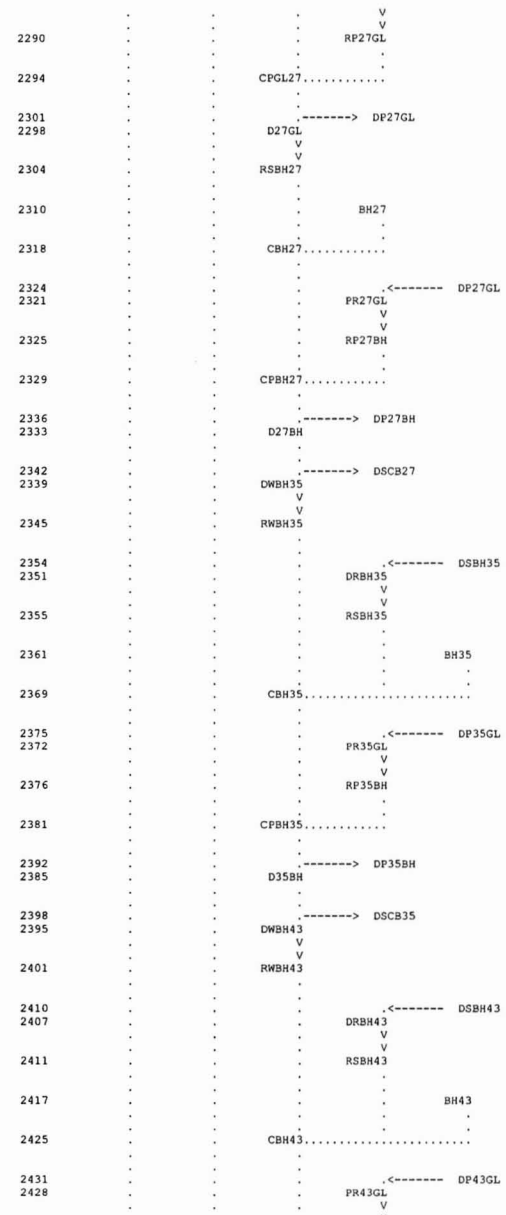
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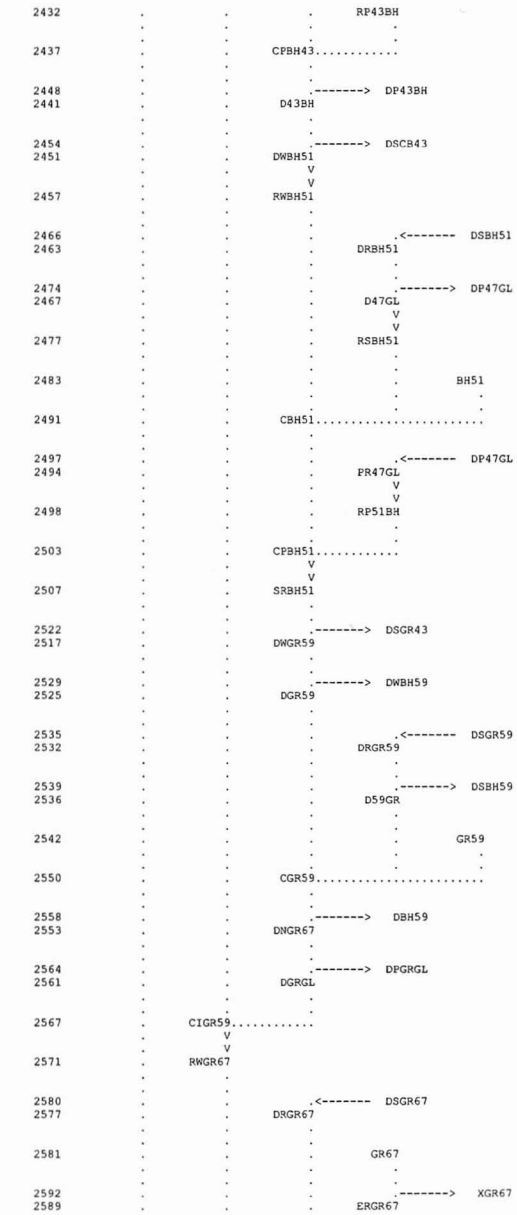
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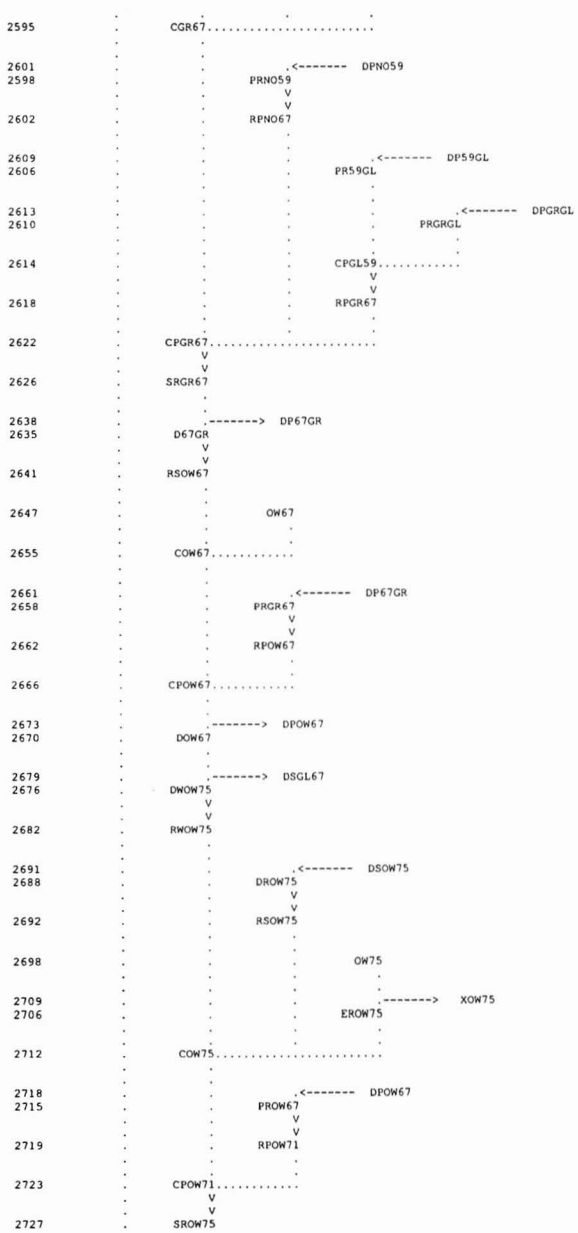
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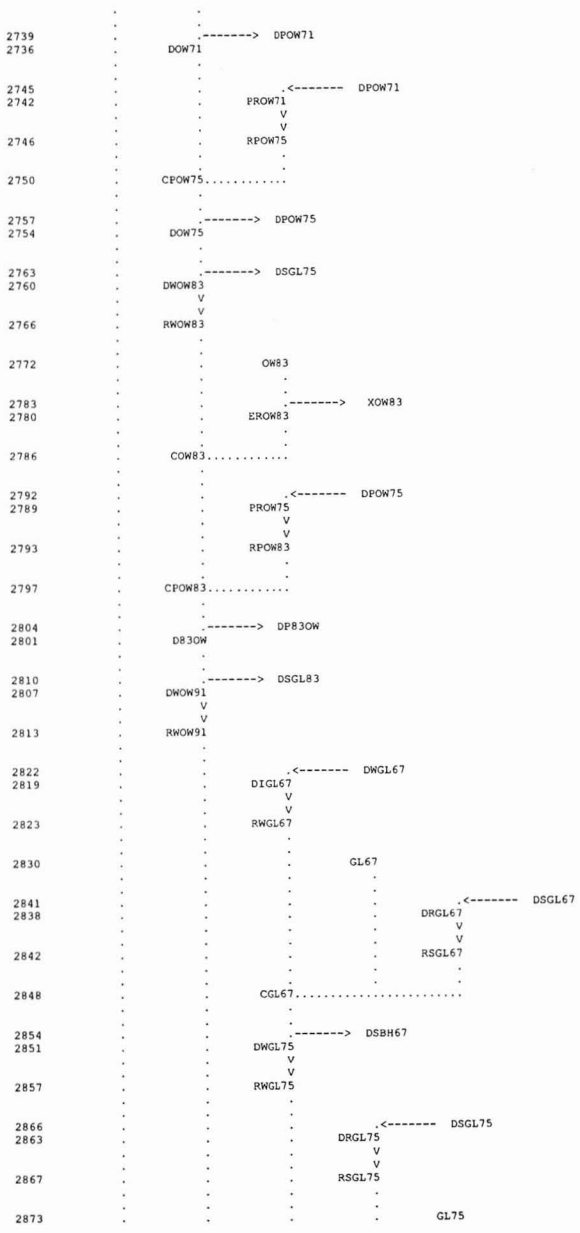
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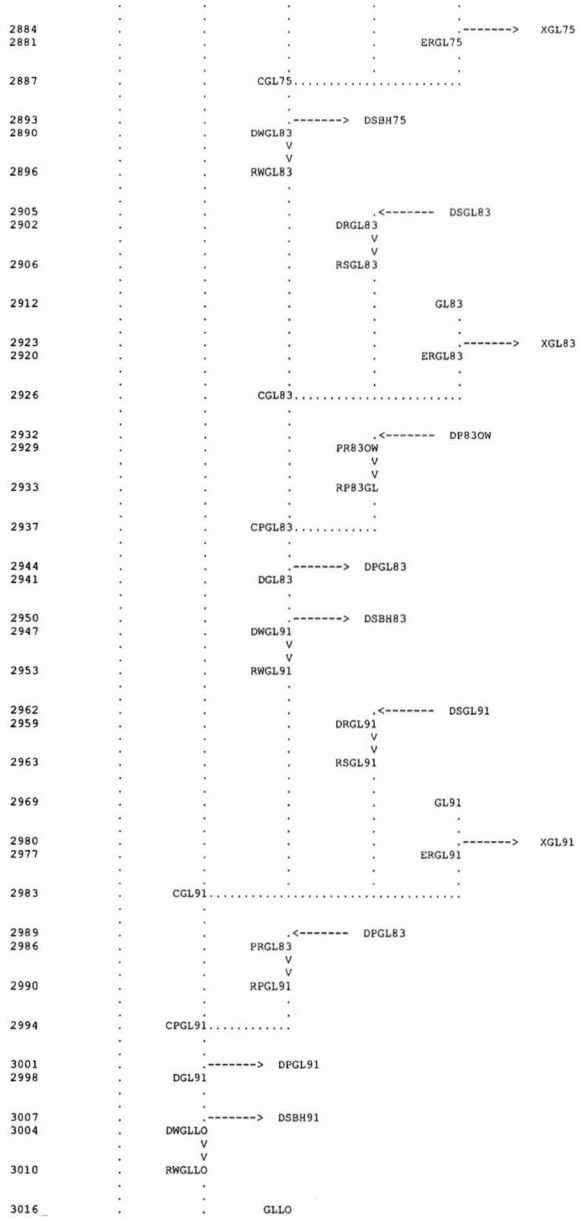
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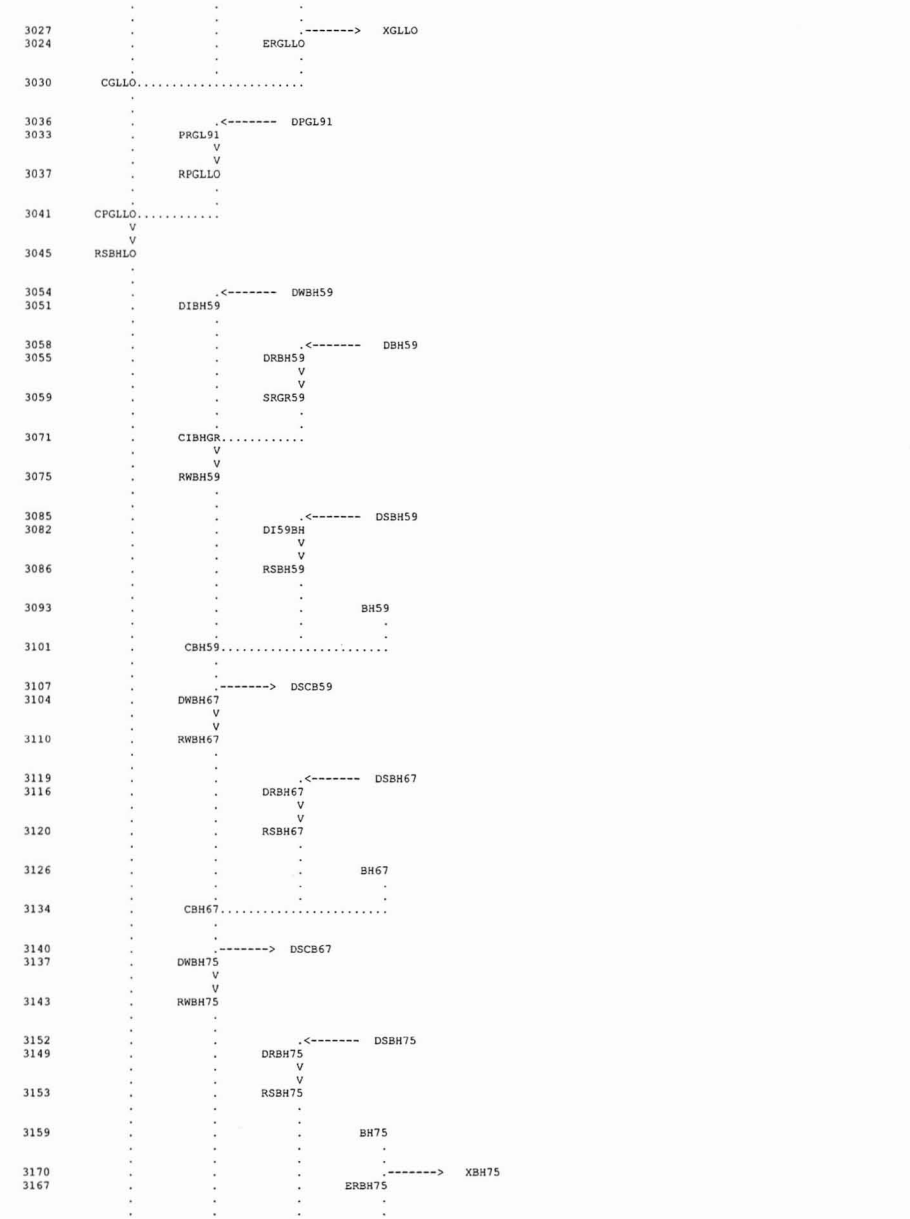
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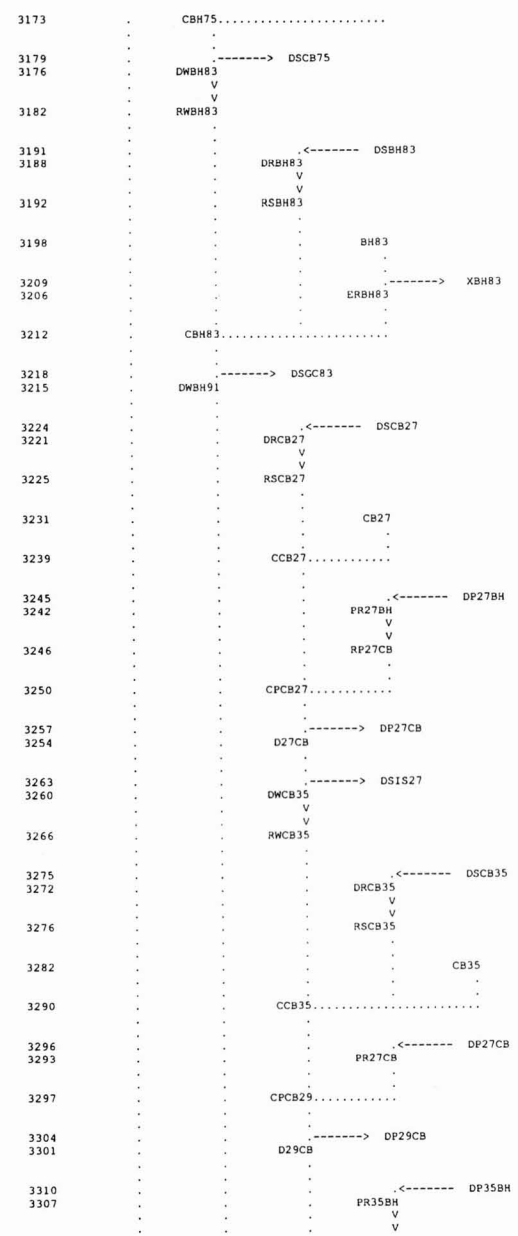
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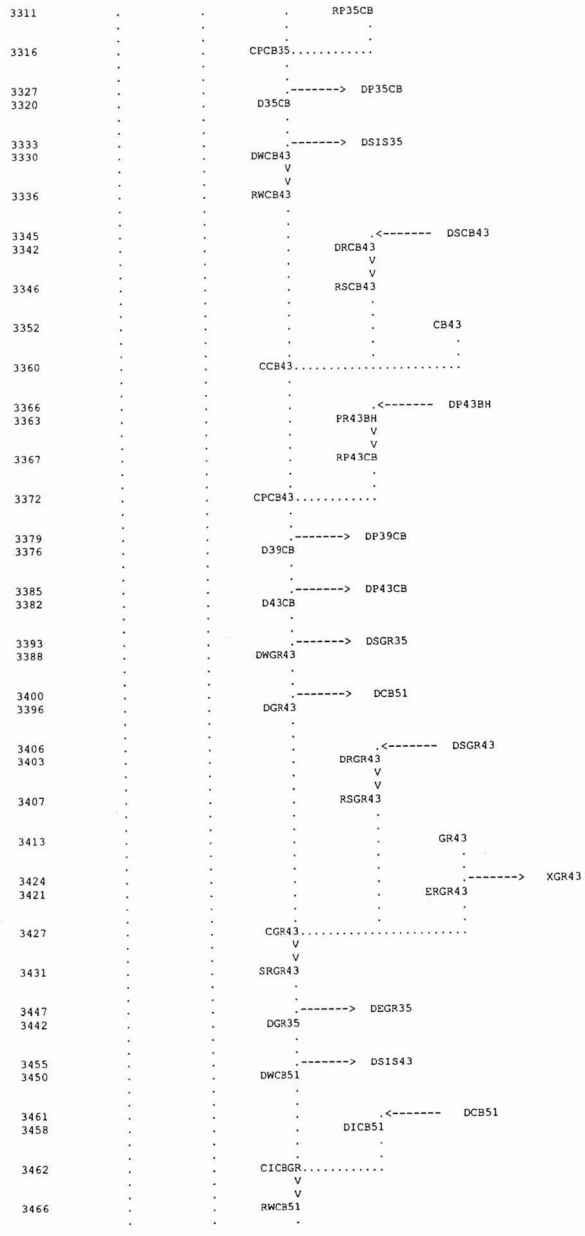
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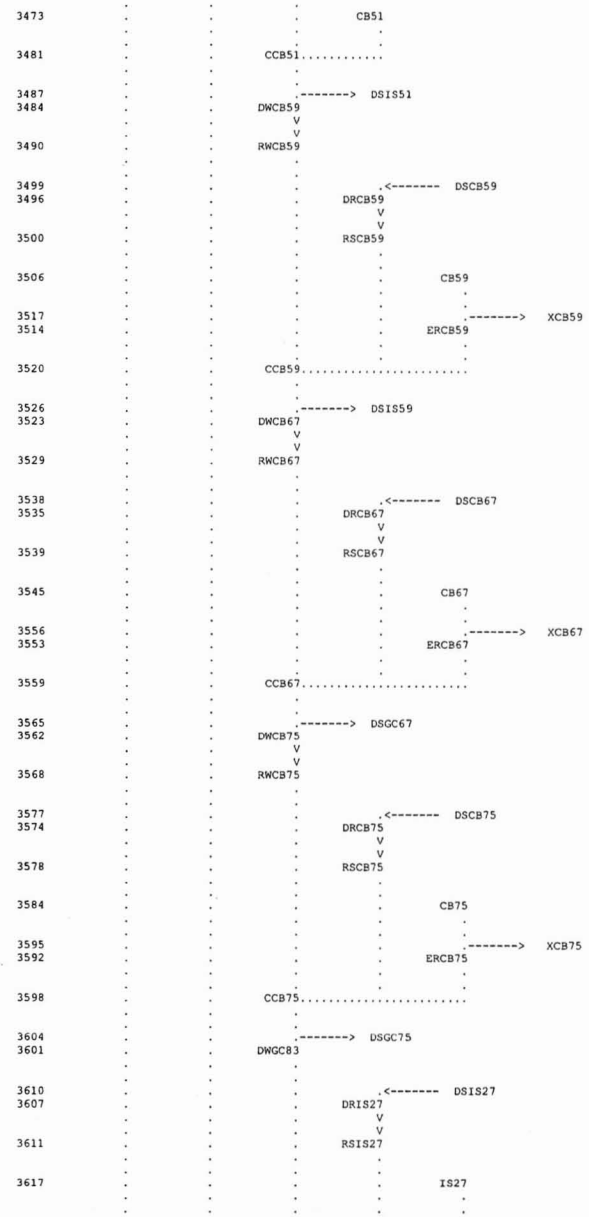
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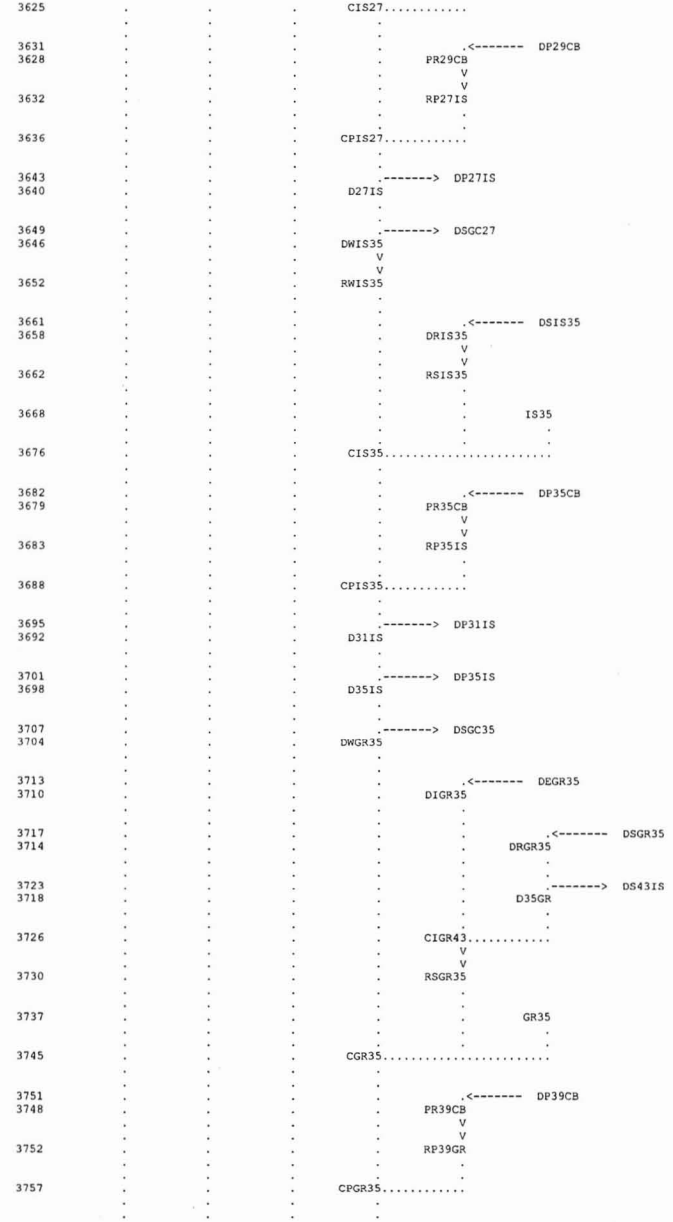
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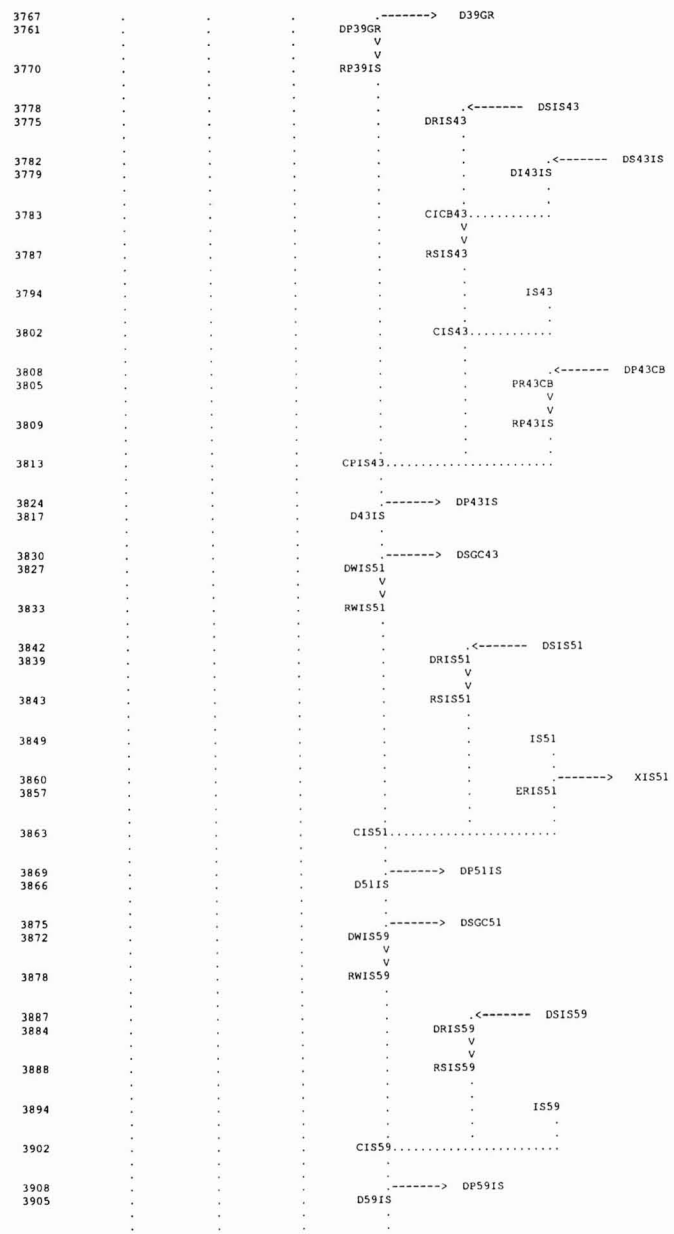
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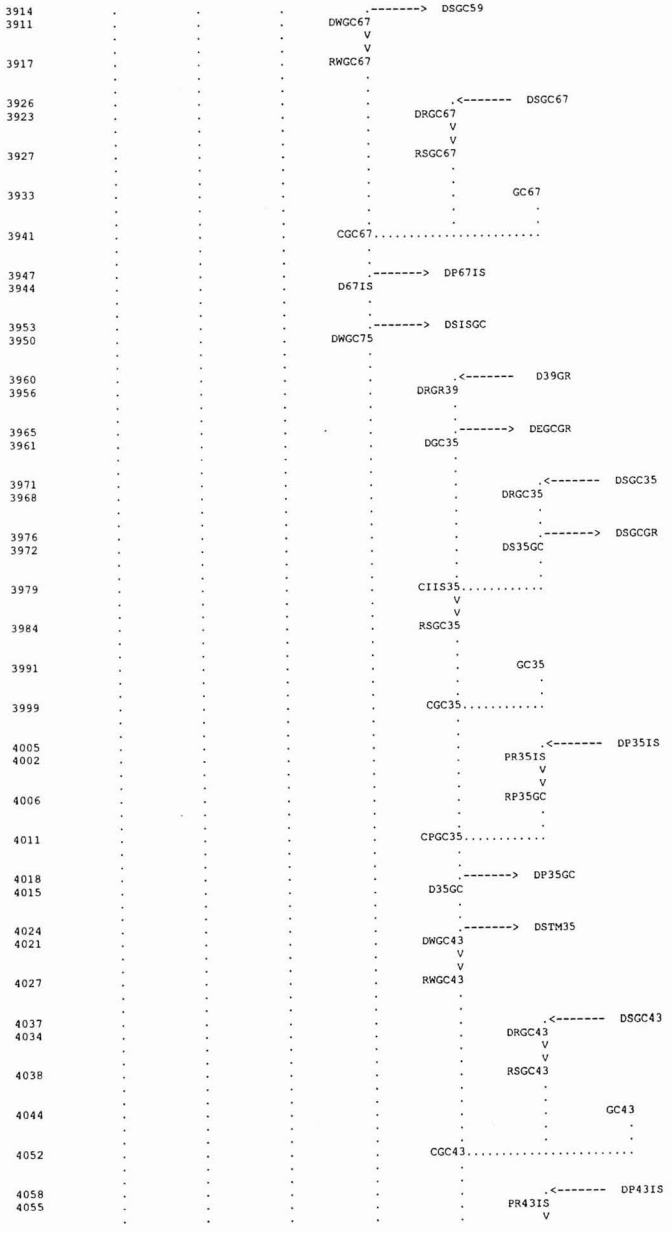
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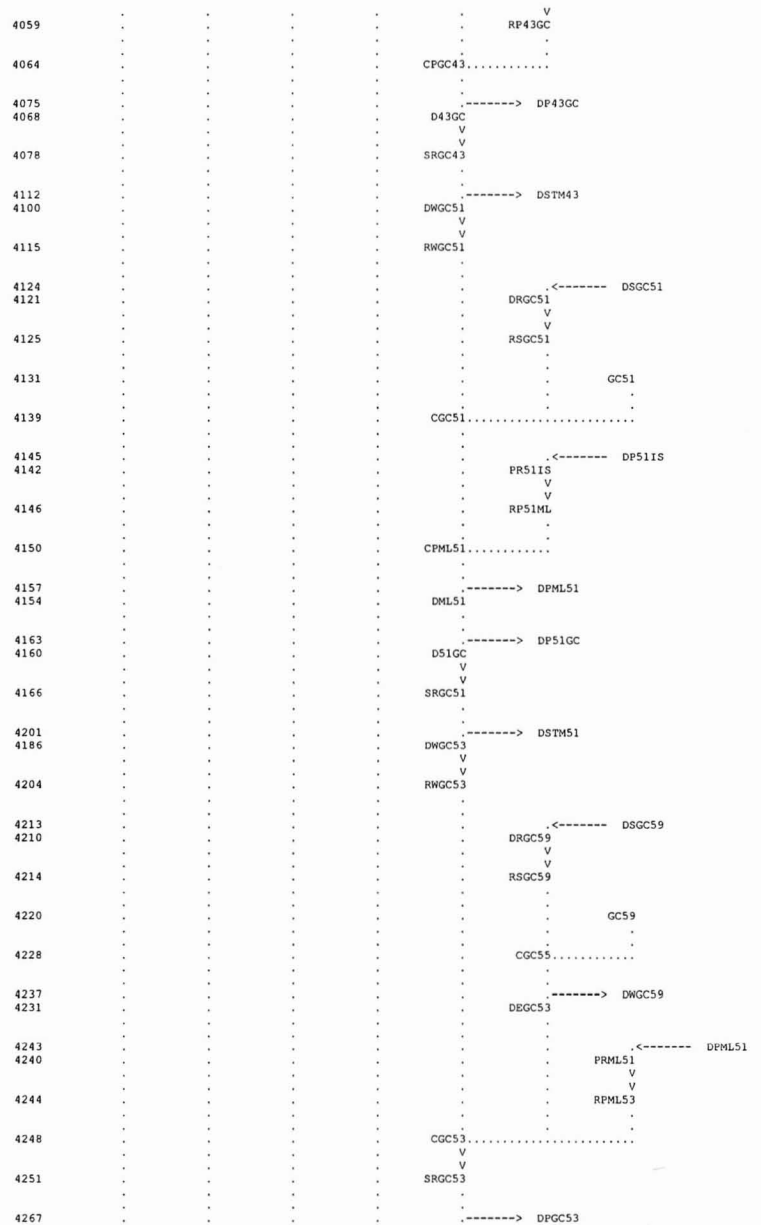
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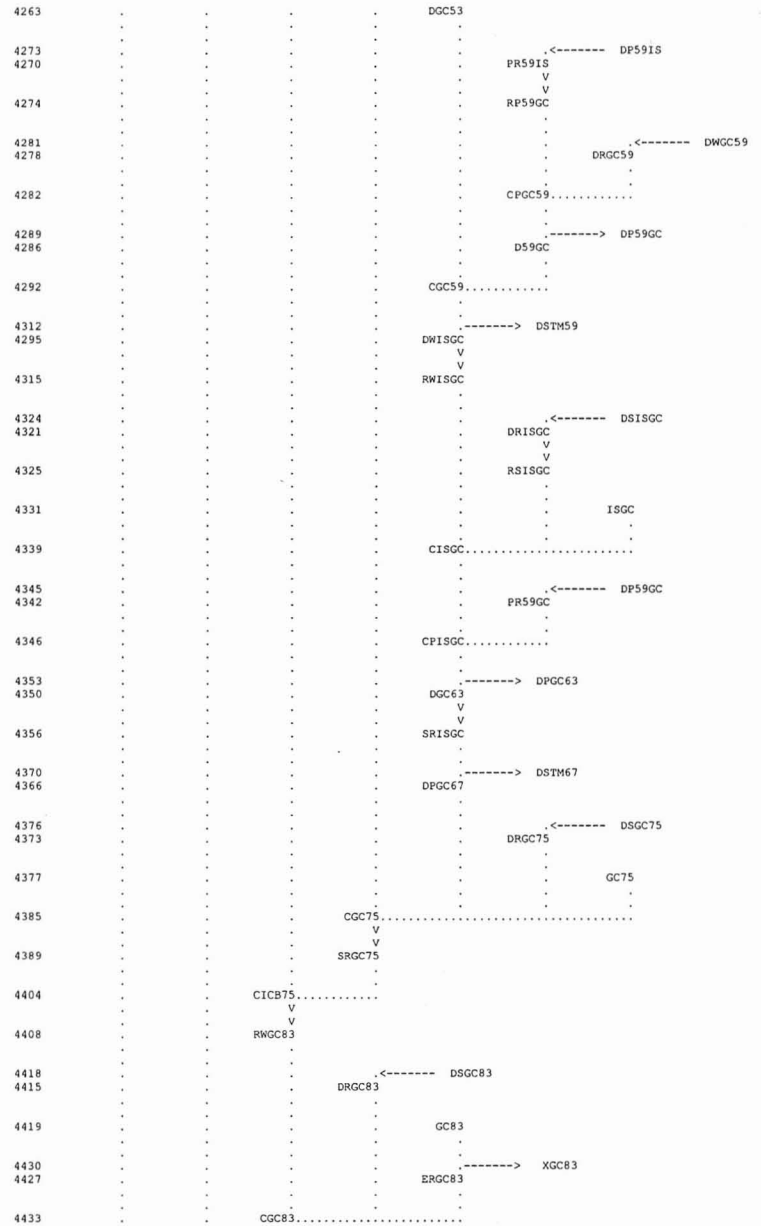
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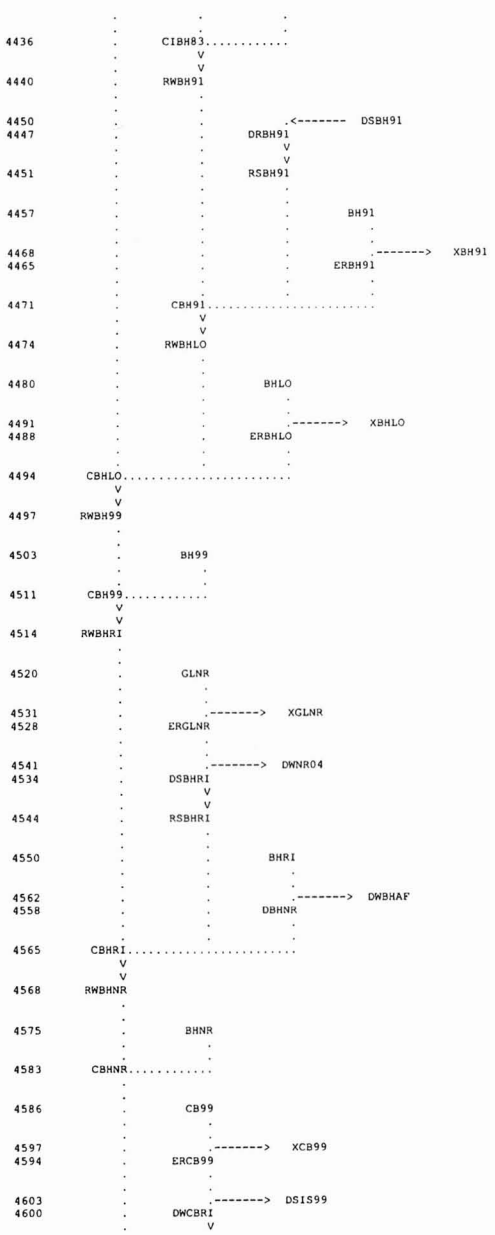
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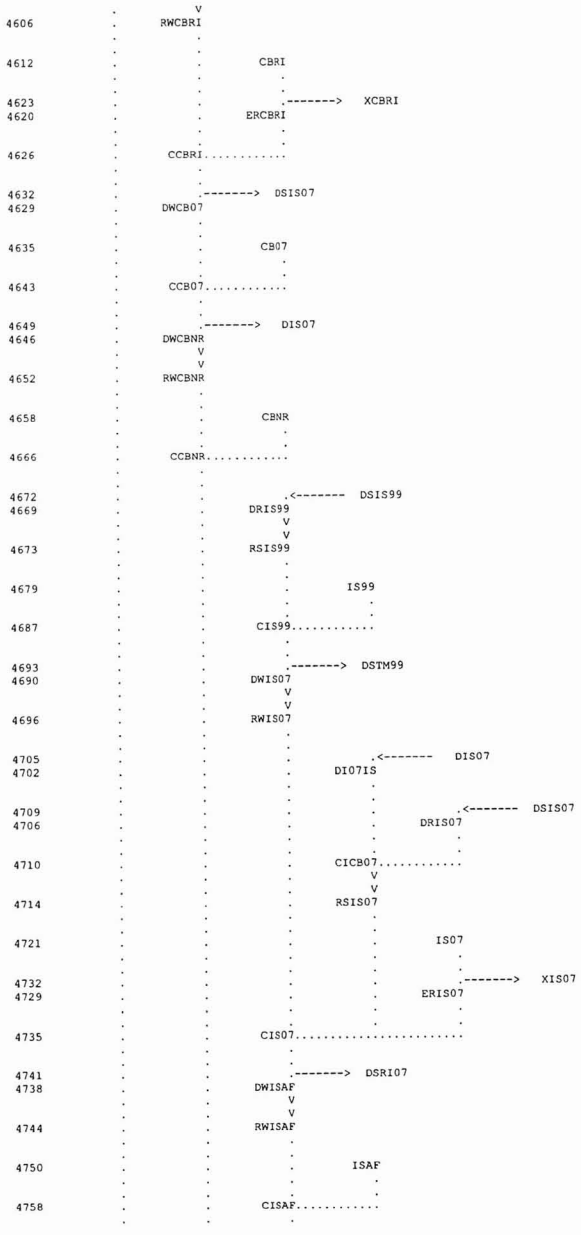
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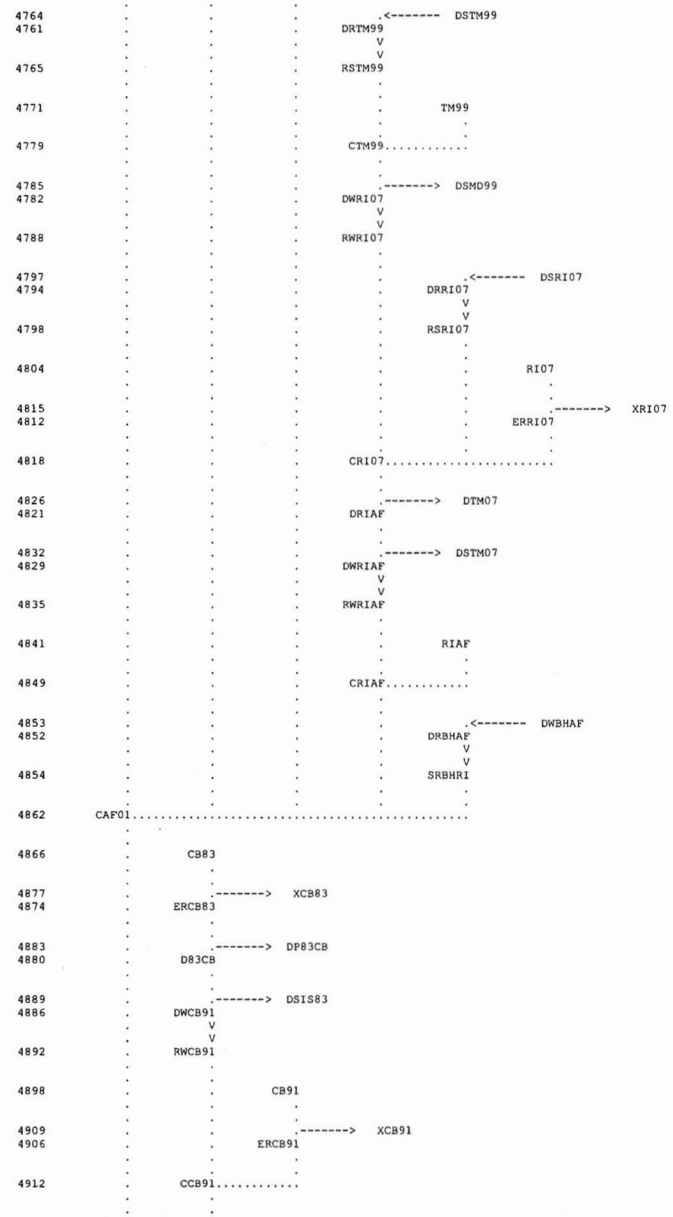
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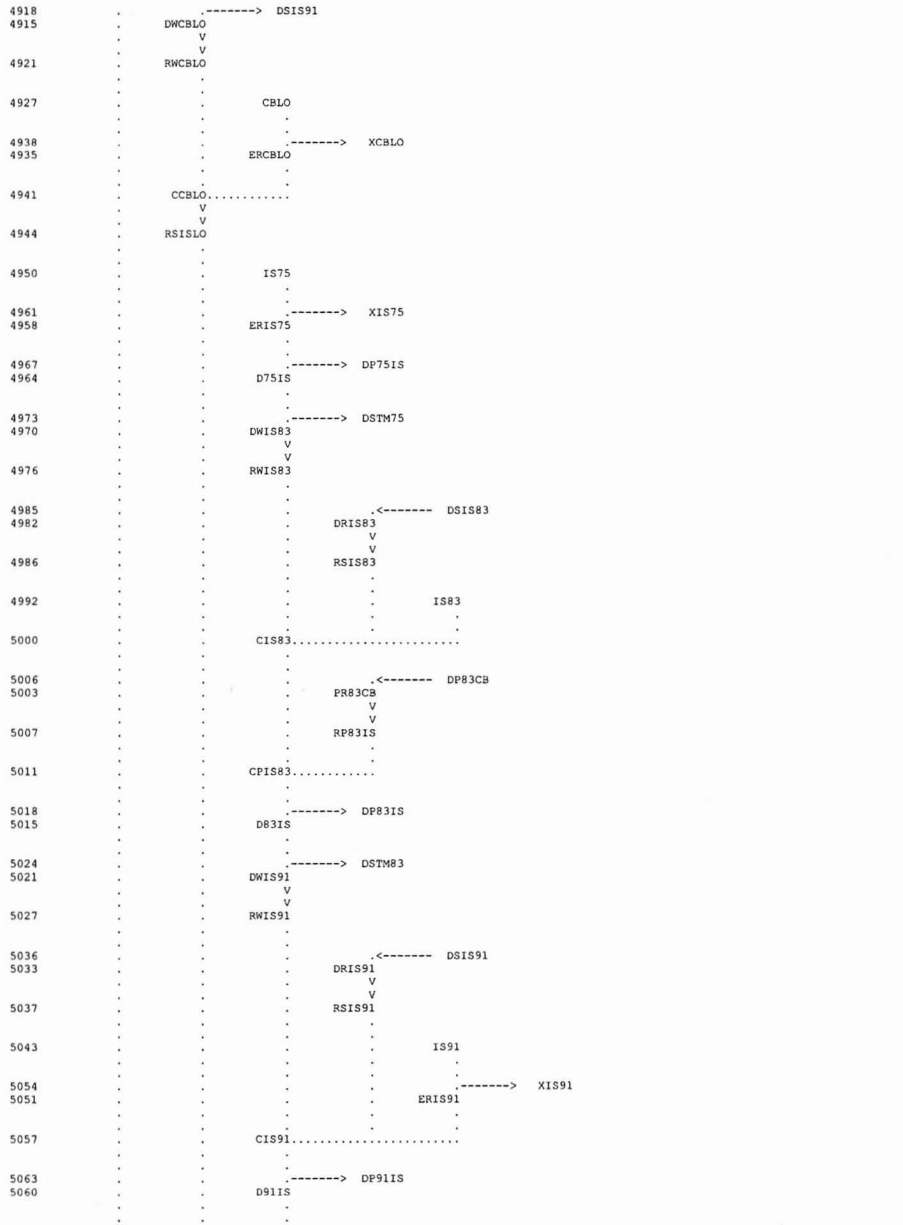
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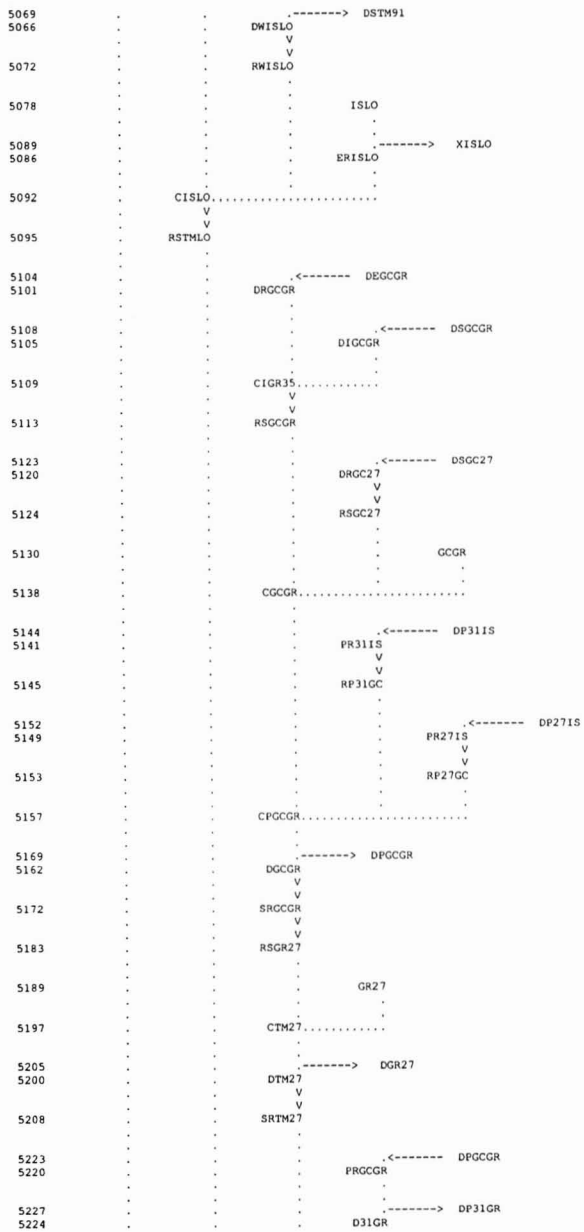
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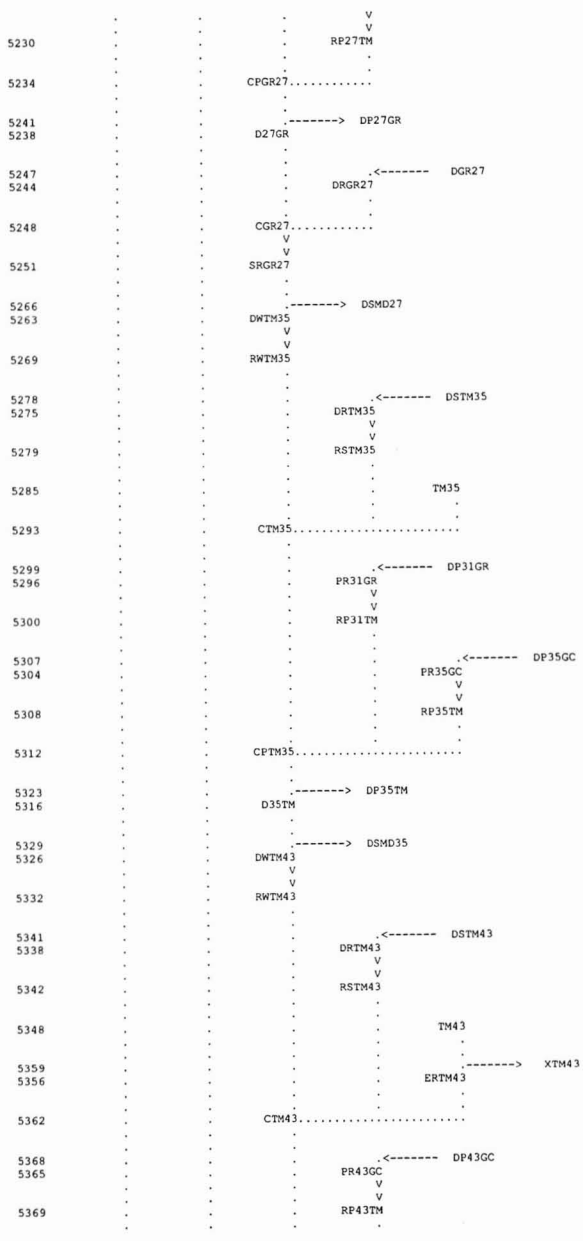
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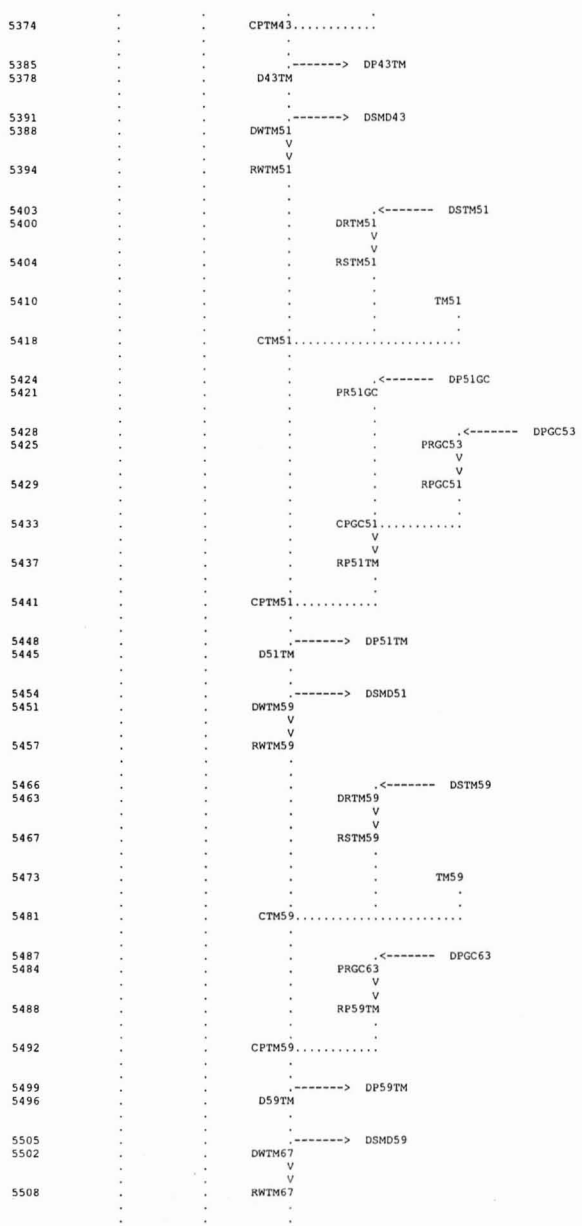
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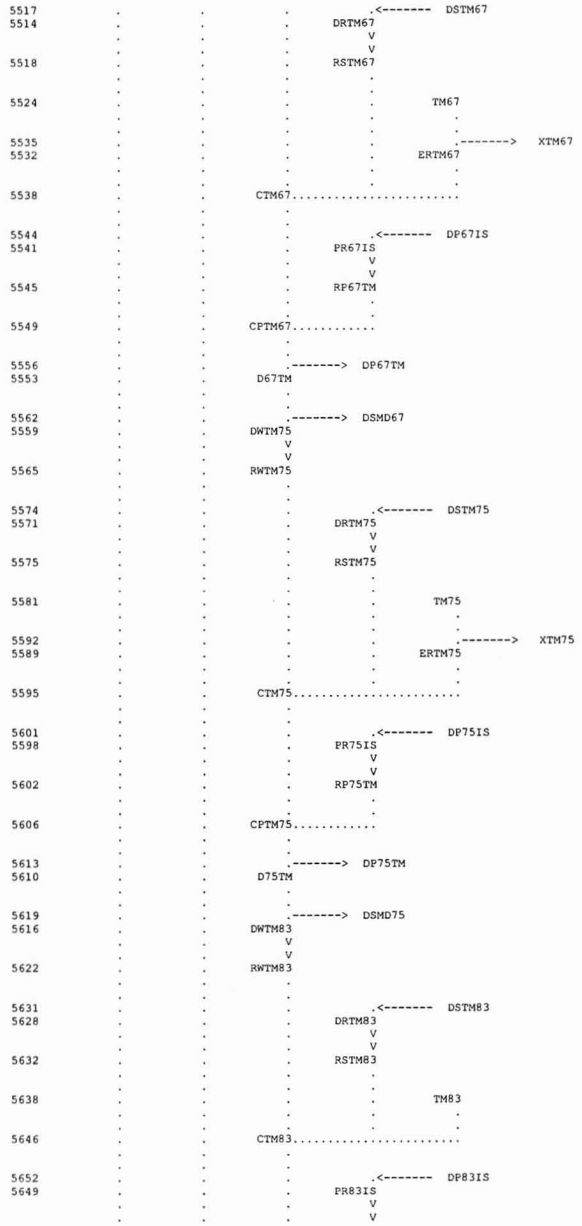
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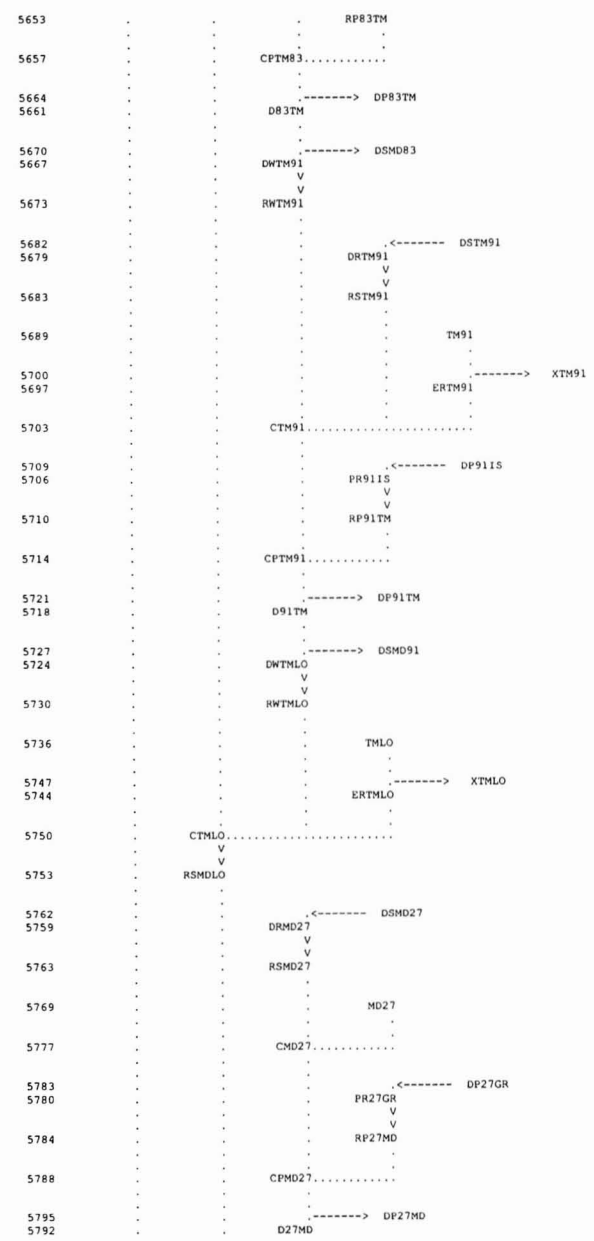
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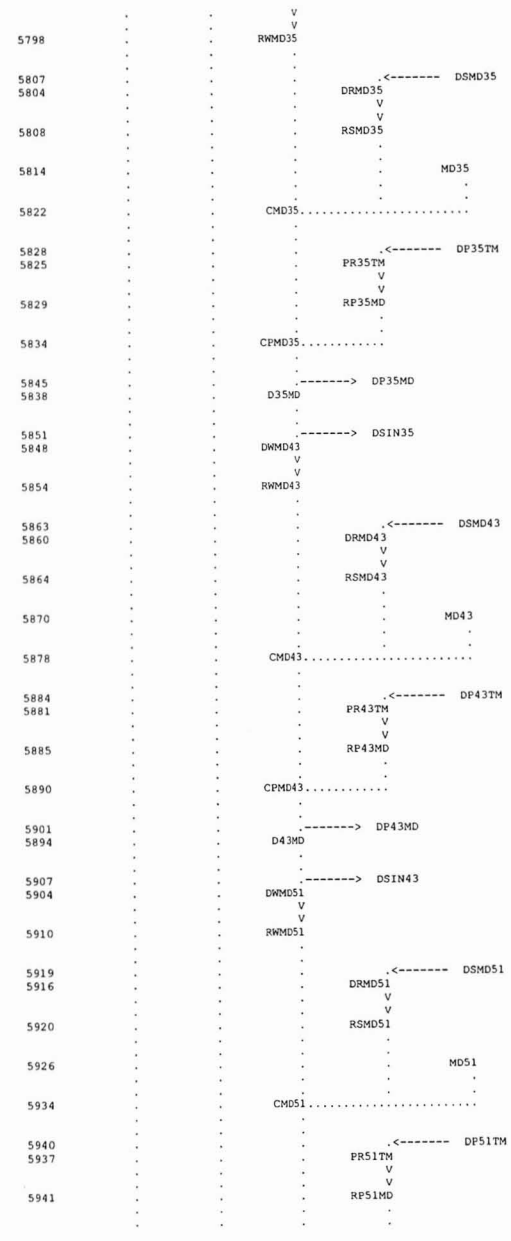
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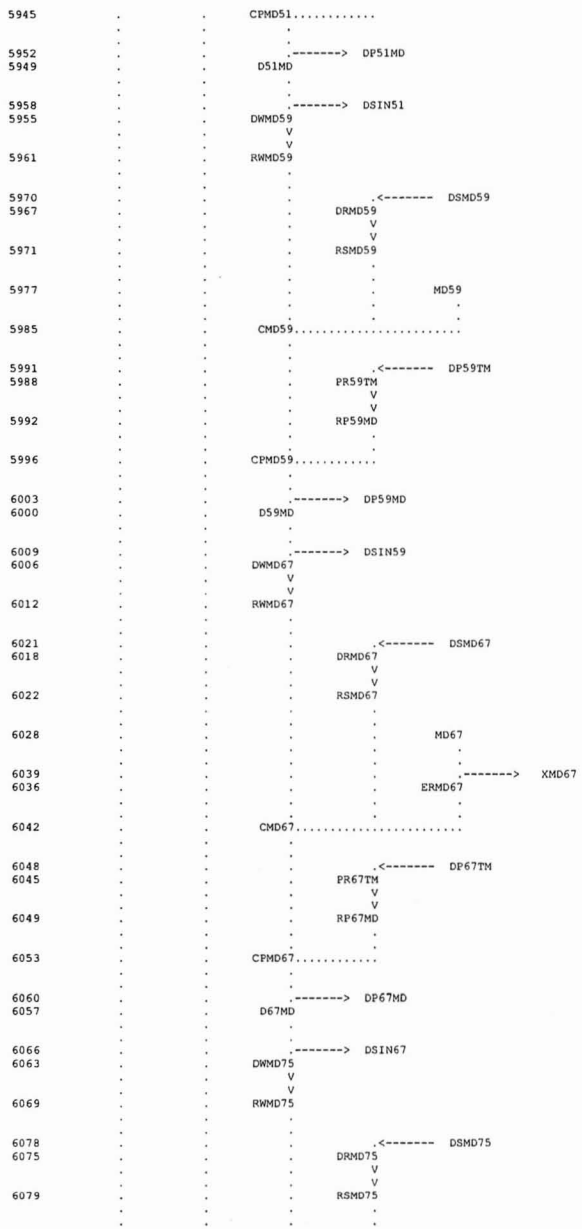
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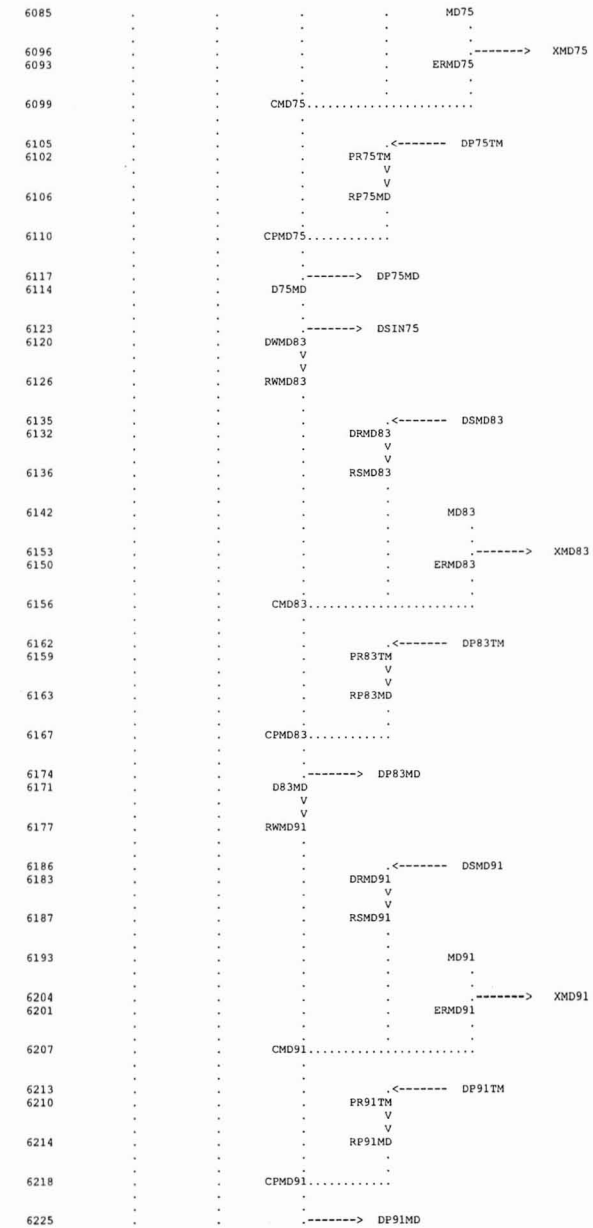
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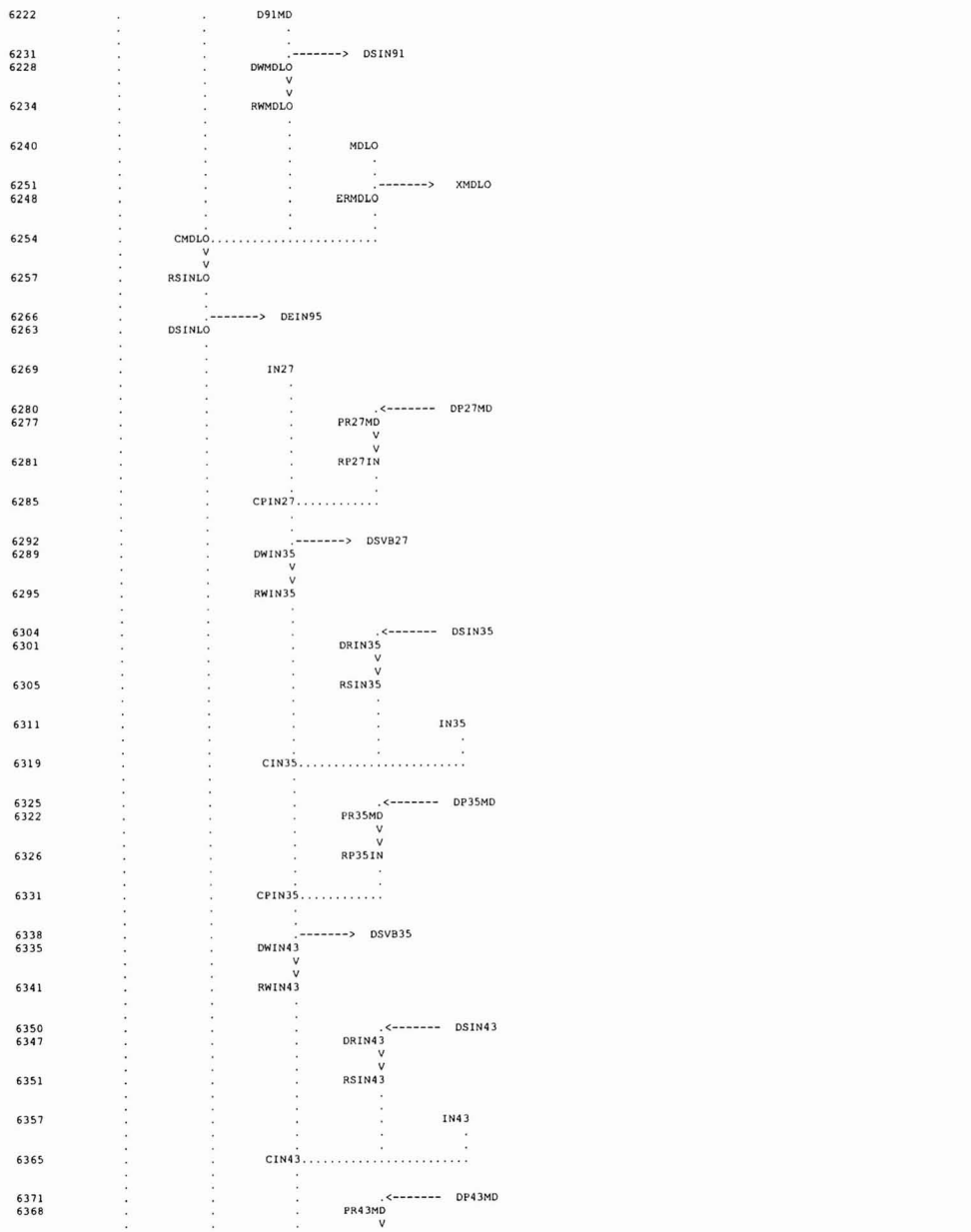
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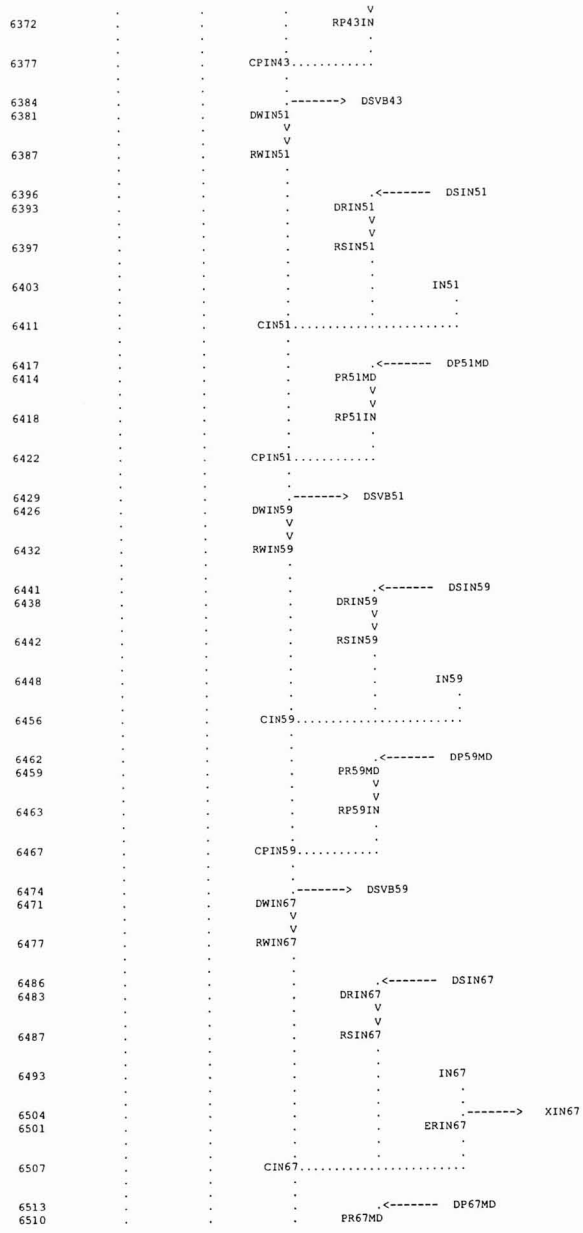
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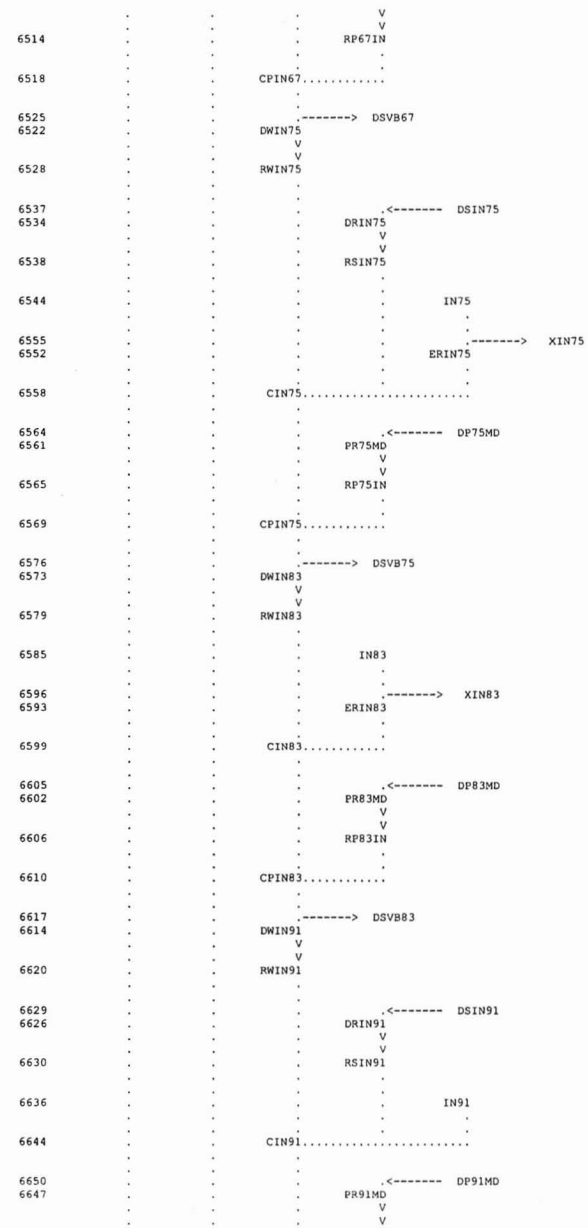
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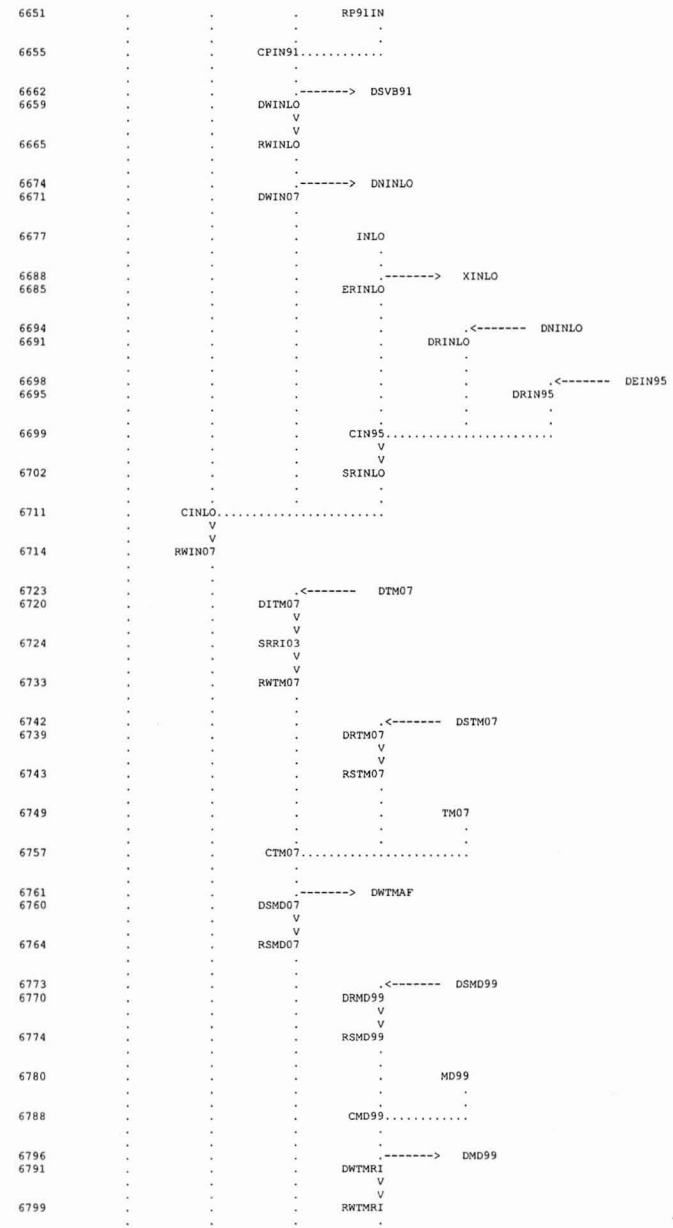
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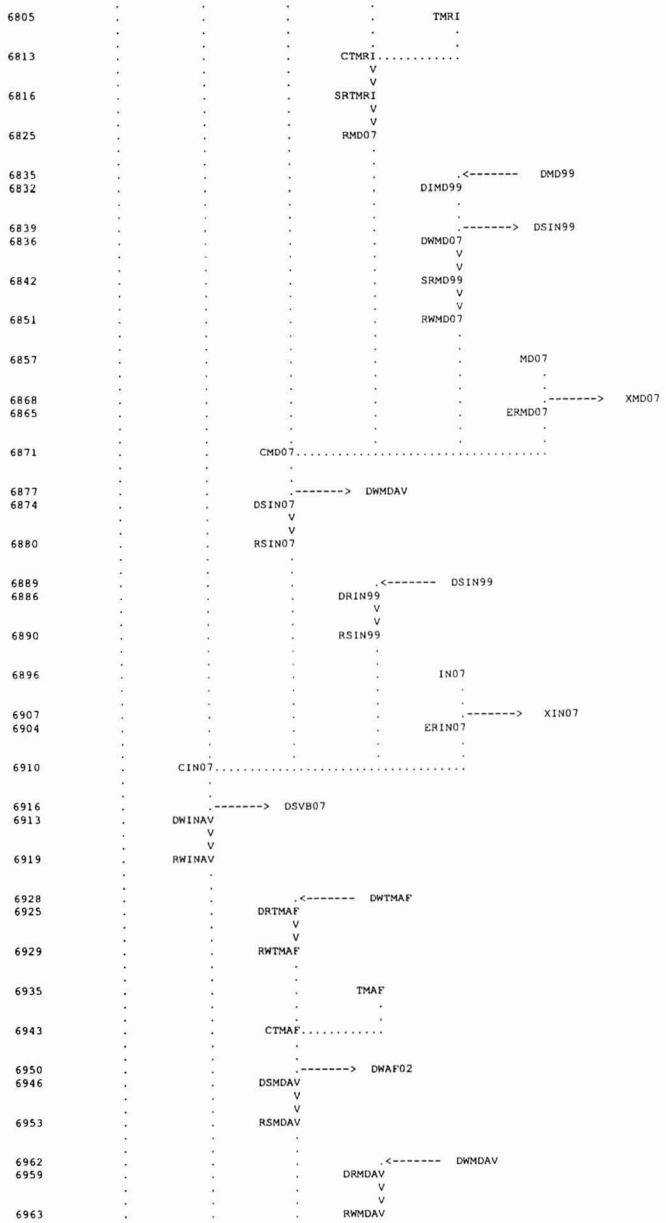

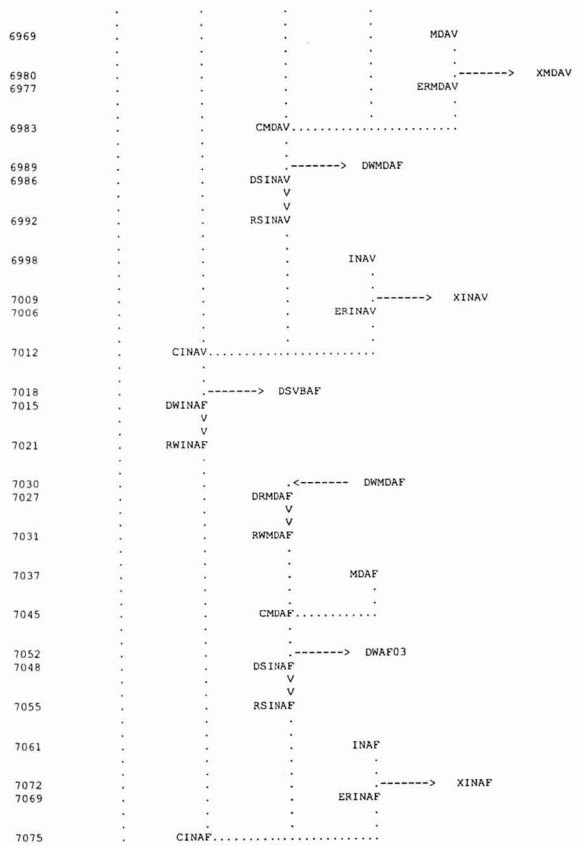

(***) RUNOFF ALSO COMPUTED AT THIS LOCATION

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*           VERSION 4.1                 *
*                                       *
*  RUN DATE   01NOV10  TIME  11:05:28   *
*                                       *
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```

```
*****************************************
*                                       *
*    U.S. ARMY CORPS OF ENGINEERS       *
*    HYDROLOGIC ENGINEERING CENTER      *
*         609 SECOND STREET             *
*       DAVIS, CALIFORNIA 95616         *
*           (916) 756-1104              *
*                                       *
*****************************************
```

GLENDALE STORMWATER MANAGEMENT PLAN
Model for Maryvale Watershed
Existing Conditions

Prepared for the City of Glendale
In Association with the Flood Control District of Maricopa County
City Project Number 089017

Prepared by Kimley-Horn and Associates, Inc.
KHA Project Number 091910009
October 2010

MODELING PARAMETERS

- 100 Year 24 Hour Storm Event
- NOAA 14 Rainfall Data
- Clark Unit Hydrograph
- Green and Ampt Rainfall Loss Method

Topo data extracted from Flood Control District database July 24, 2009
Land use obtained from City of Glendale General Plan August 2009, City of Phoenix General Plan August 2009, and MAG General Plan Land Use 2007

Storage routing data obtained from As-built records where possible
When As-built data was not available data was obtained from HEC-1 models and checked for accuracy. HEC-1 models used include:
- Maryvale ADMS, February 1997
- Maryvale model modified by DMJM for improvements along the Bethany Home Outfall Channel, file BHGC00C6.dat, November 2004
- Update to ponding areas along Grand Canal in the City of Glendale for a CLOMR by PEC, February 2008

The source of data is identified on each individual storage routing card

****

MODELING NOMENCLATURE
SUBBASIN HYDROGRAPH:
Example: OL51 - the subbasin northeast of Olive and 51st Avenue

STORM DRAIN DIVERSION:
Example: DOL51 - flow from subbasin OL51 is diverted to a storm drain

SUBBASIN DIVERSION:
Example: DWOL59 - flow is diverted west towards Olive and 59th Avenue
Example: DSNO51 - flow is diverted south towards Northern and 51st Ave

ROUTE HYDROGRAPH:
Example: RWOL59 - flow is routed west towards Olive and 59th Avenue
Example: RSNO59 - flow is routed south towards Northern and 59th Ave

COMBINE HYDROGRAPH:
Example: COL59 - combine flow at Olive and 59th Avenue

NAME ABBREVIATIONS

Jomax Road	JM
Happy Valley Road	HV
Pinnacle Peak Road	PP
Deer Valley Road	DV
Loop 101	LO
Beardsley Road	BY
Union Hills Drive	UH
Bell Road	BL
Greenway Road	GW
Thunderbird Road	TB
Cactus Road	CT
Peoria Avenue	PE
Olive Avenue	OL
Northern Avenue	NO
Glendale Avenue	GL
Bethany Home Road	BH
Camelback Road	CB
Indian School Road	IS
Thomas Road	TM
McDowell Road	MD
Interstate 10	IN
Van Buren Street	VB
Avondale Boulevard	AV
Grand Avenue	GR
Grand Canal	GC
Brown Street	BR
Mountain View Road	MV
Orangewood Avenue	OW
Mitchell Drive	ML
Agua Fria River	AF
New River	NR
Skunk Creek	SK
Roosevelt Irrigation	RI

PREFIXES FOR MODELING OPERATIONS

RW	Routing flow in the west direction
RS	Routing flow in the south direction
RP	Routing storm drain pipe flow
C	Combination point
CI	Combination point at an intersection
CP	Combination point for storm drain pipe flow
SR	Storage for detention/retention basins
DW	Divert flow to the west
DE	Divert flow to the east
DS	Divert flow to the south
DN	Divert flow to the north
ER	Divert flow for existing 100-yr 2-hr retention
X	Existing retention divertion does not return to model
DR	Divert retrieval from surface flow
DI	Divert retrieval from intersection flow
D	Divert surface flow (remains after storm drain divert)
DP	Divert flow to a storm drain pipe
PR	Divert retrieval from a storm drain pipe

****

```
111 IO        OUTPUT CONTROL VARIABLES
                    IPRNT          5  PRINT CONTROL
                    IPLOT          0  PLOT CONTROL
                    QSCAL         0.  HYDROGRAPH PLOT SCALE

    IT        HYDROGRAPH TIME DATA
                    NMIN           5  MINUTES IN COMPUTATION INTERVAL
                    IDATE      1   0  STARTING DATE
                    ITIME       0000  STARTING TIME
                    NQ          1000  NUMBER OF HYDROGRAPH ORDINATES
                    NDDATE     4   0  ENDING DATE
                    NDTIME      1115  ENDING TIME
                    ICENT         19  CENTURY MARK

              COMPUTATION INTERVAL    .08 HOURS
                   TOTAL TIME BASE  83.25 HOURS

       ENGLISH UNITS
            DRAINAGE AREA          SQUARE MILES
            PRECIPITATION DEPTH    INCHES
            LENGTH, ELEVATION      FEET
            FLOW                   CUBIC FEET PER SECOND
            STORAGE VOLUME         ACRE-FEET
            SURFACE AREA           ACRES
            TEMPERATURE            DEGREES FAHRENHEIT

112 JD        INDEX STORM NO. 1
                    STRM        3.45  PRECIPITATION DEPTH
                    TRDA         .00  TRANSPOSITION DRAINAGE AREA
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113 PI PRECIPITATION PATTERN

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123 JD        INDEX STORM NO. 2
                    STRM        3.28  PRECIPITATION DEPTH
                    TRDA       10.00  TRANSPOSITION DRAINAGE AREA
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0 PI PRECIPITATION PATTERN

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.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
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.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
.00	.00	.00	.00	.00	.00	.00	.00		

124 JD INDEX STORM NO. 3
STRM 3.11 PRECIPITATION DEPTH
TRDA 30.00 TRANSPOSITION DRAINAGE AREA

0 PI PRECIPITATION PATTERN

.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
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.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
.00	.00	.00	.00	.00	.00	.00	.01	.00	.01
.01	.01	.01	.01	.01	.01	.01	.01	.03	.03
.03	.09	.09	.09	.01	.01	.01	.01	.01	.01
.01	.01	.01	.01	.01	.01	.00	.00	.00	.00
.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
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.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
.00	.00	.00	.00	.00	.00	.00	.00		

125 JD INDEX STORM NO. 4
STRM 3.00 PRECIPITATION DEPTH
TRDA 60.00 TRANSPOSITION DRAINAGE AREA

0 PI PRECIPITATION PATTERN

.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
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.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
.00	.00	.00	.00	.00	.00	.00	.01	.00	.01
.01	.01	.01	.01	.01	.01	.01	.01	.03	.03
.03	.09	.09	.09	.01	.01	.01	.01	.01	.01
.01	.01	.01	.01	.01	.01	.00	.00	.00	.00
.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
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.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
.00	.00	.00	.00	.00	.00	.00	.00		

126 JD INDEX STORM NO. 5
STRM 2.94 PRECIPITATION DEPTH
TRDA 90.00 TRANSPOSITION DRAINAGE AREA

0 PI PRECIPITATION PATTERN

.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
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.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
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.00	.00	.00	.00	.00	.00	.00	.00	.00	.00

.00	.00	.00	.00	.00	.00	.00	.01	.00	.01
.01	.01	.01	.01	.01	.01	.01	.01	.03	.03
.03	.09	.09	.09	.01	.01	.01	.01	.01	.01
.01	.01	.01	.01	.01	.01	.00	.00	.00	.00
.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
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.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
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.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
.00	.00	.00	.00	.00	.00	.00	.00		

127 JD INDEX STORM NO. 6
STRM 2.90 PRECIPITATION DEPTH
TRDA 120.00 TRANSPOSITION DRAINAGE AREA

0 PI PRECIPITATION PATTERN

.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
.00	.00	.00	.00	.00	.00	.00	.01	.00	.01
.01	.01	.01	.01	.01	.01	.01	.01	.03	.03
.03	.09	.09	.09	.01	.01	.01	.01	.01	.01
.01	.01	.01	.01	.01	.01	.00	.00	.00	.00
.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
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.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
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.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
.00	.00	.00	.00	.00	.00	.00	.00		

*** FDKRUT WARNING TIME STEP CALCULATION FAILED TO CONVERGE. STABILITY PROBLEMS MAY RESULT

*** Multiple FDKRUT Warnings deleted from model for brevity and in consideration of the environment when printing ***

*** Warning from RWGC83:

WARNING --- ROUTED OUTFLOW (1691.) IS GREATER THAN MAXIMUM OUTFLOW (1682.) IN STORAGE-OUTFLOW TABLE

WARNING --- ROUTED OUTFLOW (1769.) IS GREATER THAN MAXIMUM OUTFLOW (1682.) IN STORAGE-OUTFLOW TABLE

WARNING --- ROUTED OUTFLOW (1845.) IS GREATER THAN MAXIMUM OUTFLOW (1682.) IN STORAGE-OUTFLOW TABLE

WARNING --- ROUTED OUTFLOW (1906.) IS GREATER THAN MAXIMUM OUTFLOW (1682.) IN STORAGE-OUTFLOW TABLE

WARNING --- ROUTED OUTFLOW (1941.) IS GREATER THAN MAXIMUM OUTFLOW (1682.) IN STORAGE-OUTFLOW TABLE

WARNING --- ROUTED OUTFLOW (1956.) IS GREATER THAN MAXIMUM OUTFLOW (1682.) IN STORAGE-OUTFLOW TABLE

WARNING --- ROUTED OUTFLOW (1955.) IS GREATER THAN MAXIMUM OUTFLOW (1682.) IN STORAGE-OUTFLOW TABLE

WARNING --- ROUTED OUTFLOW (1943.) IS GREATER THAN MAXIMUM OUTFLOW (1682.) IN STORAGE-OUTFLOW TABLE

WARNING --- ROUTED OUTFLOW (1924.) IS GREATER THAN MAXIMUM OUTFLOW (1682.) IN STORAGE-OUTFLOW TABLE

WARNING --- ROUTED OUTFLOW (1900.) IS GREATER THAN MAXIMUM OUTFLOW (1682.) IN STORAGE-OUTFLOW TABLE

*** Several similar warnings for routed outflow greater than maximum outflow deleted (this route only) for brevity and in consideration of the environment when printing

1

RUNOFF SUMMARY
FLOW IN CUBIC FEET PER SECOND
TIME IN HOURS, AREA IN SQUARE MILES

PEAK TIME OF AVERAGE FLOW FOR MAXIMUM PERIOD BASIN MAXIMUM TIME OF

+	OPERATION	STATION	FLOW	PEAK	6-HOUR	24-HOUR	72-HOUR	AREA	STAGE	MAX STAGE
+	HYDROGRAPH AT	GW83	122.	12.50	38.	11.	4.	.29		
+	DIVERSION TO	DPGW83	45.	12.08	25.	8.	3.	.29		
+	HYDROGRAPH AT	DGW83	77.	12.50	13.	3.	1.	.29		
+	DIVERSION TO	DWSK01	44.	12.50	7.	2.	1.	.29		
+	HYDROGRAPH AT	DSTB83	33.	12.50	6.	1.	0.	.29		
+	ROUTED TO	RSTB83	26.	13.75	6.	1.	0.	.29		
+	HYDROGRAPH AT	TB67	263.	12.25	47.	13.	4.	.26		
+	DIVERSION TO	DSCT67	105.	12.25	19.	5.	2.	.26		
+	HYDROGRAPH AT	DWTB75	158.	12.25	28.	8.	3.	.26		
+	ROUTED TO	RWTB75	136.	12.83	28.	8.	3.	.26		
+	HYDROGRAPH AT	TB75	736.	12.50	181.	54.	18.	1.03		
+	DIVERSION TO	XTB75	20.	9.83	13.	4.	1.	1.03		
+	HYDROGRAPH AT	ERTB75	736.	12.50	181.	49.	16.	1.03		
+	2 COMBINED AT	CTB75	811.	12.58	208.	57.	19.	1.18		
+	DIVERSION TO	DPTB75	161.	12.00	92.	28.	9.	1.18		
+	HYDROGRAPH AT	DTB75	650.	12.58	116.	29.	10.	1.18		
+	DIVERSION TO	DSCT75	293.	12.58	52.	13.	4.	1.18		
+	HYDROGRAPH AT	DWTB83	358.	12.58	64.	16.	5.	1.18		
+	ROUTED TO	RWTB83	334.	12.92	64.	16.	5.	1.18		
+	HYDROGRAPH AT	TB83	502.	12.58	160.	48.	16.	.99		
+	DIVERSION TO	XTB83	303.	12.25	32.	10.	3.	.99		
+	HYDROGRAPH AT	ERTB83	502.	12.58	143.	38.	13.	.99		
+	3 COMBINED AT	CTB83	801.	12.92	211.	56.	19.	1.77		
+	HYDROGRAPH AT	PRTB75	161.	12.00	92.	28.	9.	1.18		
+	ROUTED TO	RPTB83	161.	12.17	92.	28.	9.	1.18		
+	2 COMBINED AT	CPTB83	962.	12.92	300.	83.	28.	1.77		
+	DIVERSION TO	DPTB83	247.	12.33	151.	46.	15.	1.77		
+	HYDROGRAPH AT	DTB83	715.	12.92	149.	37.	12.	1.77		
+	DIVERSION TO	DSCT83	507.	12.92	106.	26.	9.	1.77		
+	HYDROGRAPH AT	DWTBLO	207.	12.92	43.	11.	4.	1.77		

+	ROUTED TO	RWTBLO	201.	13.00	43.	11.	4.	1.77
+	HYDROGRAPH AT	TBLO	66.	12.42	23.	7.	3.	.10
+	DIVERSION TO	XTBLO	66.	12.42	19.	5.	2.	.10
+	HYDROGRAPH AT	ERTBLO	21.	14.17	7.	2.	1.	.10
+	2 COMBINED AT	CTBLO	203.	13.00	49.	13.	4.	.62
+	HYDROGRAPH AT	PRTB83	247.	12.33	151.	46.	15.	1.77
+	ROUTED TO	RPTBLO	247.	12.42	151.	46.	15.	1.77
+	2 COMBINED AT	CPTBLO	450.	13.00	200.	59.	20.	.62
+	ROUTED TO	RSCTLO	445.	13.17	200.	59.	20.	.62
+	HYDROGRAPH AT	CT59	234.	12.42	55.	16.	5.	.30
+	DIVERSION TO	XCT59	234.	12.42	47.	12.	4.	.30
+	HYDROGRAPH AT	ERCT59	66.	13.58	13.	4.	1.	.30
+	DIVERSION TO	DP59CT	18.	13.50	8.	3.	1.	.30
+	HYDROGRAPH AT	D59CT	48.	13.58	5.	1.	0.	.30
+	DIVERSION TO	DSPE59	33.	13.58	3.	1.	0.	.30
+	HYDROGRAPH AT	DWCT67	15.	13.58	1.	0.	0.	.30
+	ROUTED TO	RWCT67	9.	14.42	1.	0.	0.	.30
+	HYDROGRAPH AT	DRCT67	105.	12.25	19.	5.	2.	.26
+	ROUTED TO	RSCT67	92.	12.75	19.	5.	2.	.26
+	HYDROGRAPH AT	CT67	640.	12.42	150.	44.	15.	.91
+	DIVERSION TO	XCT67	443.	12.25	36.	11.	4.	.91
+	HYDROGRAPH AT	ERCT67	640.	12.42	125.	33.	11.	.91
+	3 COMBINED AT	CCT67	689.	12.58	144.	39.	13.	1.11
+	DIVERSION TO	DPCT67	268.	12.33	94.	26.	9.	1.11
+	HYDROGRAPH AT	DCT67	421.	12.58	51.	13.	4.	1.11
+	DIVERSION TO	DSPE67	181.	12.58	22.	5.	2.	1.11
+	HYDROGRAPH AT	DWCT75	240.	12.58	29.	7.	2.	1.11
+	ROUTED TO	RWCT75	199.	13.08	29.	7.	2.	1.11
+	HYDROGRAPH AT	DRCT75	293.	12.58	52.	13.	4.	1.18
+	ROUTED TO	RSCT75	276.	12.92	52.	13.	4.	1.18
+	HYDROGRAPH AT	CT75	558.	12.67	179.	51.	17.	1.00

+	DIVERSION TO	XCT75	457.	12.42	42.	12.	4.	1.00
+	HYDROGRAPH AT	ERCT75	558.	12.67	149.	40.	13.	1.00
+	3 COMBINED AT	CCT75	958.	13.00	229.	59.	20.	2.17
+	HYDROGRAPH AT	PRCT67	268.	12.33	94.	26.	9.	1.11
+	ROUTED TO	RPCT75	268.	12.50	94.	26.	9.	1.11
+	2 COMBINED AT	CPCT75	1226.	13.00	322.	85.	28.	2.17
+	DIVERSION TO	DPCT75	651.	12.50	246.	66.	22.	2.17
+	HYDROGRAPH AT	DCT75	575.	13.00	77.	19.	6.	2.17
+	DIVERSION TO	DSPE75	287.	13.00	38.	10.	3.	2.17
+	HYDROGRAPH AT	DWCT83	287.	13.00	38.	10.	3.	2.17
+	ROUTED TO	RWCT83	254.	13.33	38.	10.	3.	2.17
+	HYDROGRAPH AT	DRCT83	507.	12.92	106.	26.	9.	1.77
+	ROUTED TO	RSCT83	478.	13.17	106.	26.	9.	1.77
+	HYDROGRAPH AT	CT83	563.	12.67	186.	55.	18.	1.01
+	DIVERSION TO	XCT83	497.	12.42	51.	15.	5.	1.01
+	HYDROGRAPH AT	ERCT83	563.	12.67	150.	40.	13.	1.01
+	3 COMBINED AT	CCT83	1143.	13.25	292.	76.	25.	3.34
+	HYDROGRAPH AT	PRCT75	651.	12.50	246.	66.	22.	2.17
+	ROUTED TO	RPCT83	651.	12.67	246.	66.	22.	2.17
+	2 COMBINED AT	CPCT83	1794.	13.25	537.	142.	47.	3.34
+	DIVERSION TO	DPCT83	663.	12.58	315.	86.	29.	3.34
+	HYDROGRAPH AT	DCT83	1131.	13.25	222.	56.	19.	3.34
+	DIVERSION TO	DSPE83	464.	13.25	91.	23.	8.	3.34
+	HYDROGRAPH AT	DWCTLO	668.	13.25	131.	33.	11.	3.34
+	ROUTED TO	RWCTLO	626.	13.50	131.	33.	11.	3.34
+	HYDROGRAPH AT	CTLO	466.	12.67	167.	53.	18.	.87
+	DIVERSION TO	XCTLO	466.	12.67	82.	23.	8.	.87
+	HYDROGRAPH AT	ERCTLO	422.	13.00	105.	30.	10.	.87
+	3 COMBINED AT	CCTLO	1349.	13.42	430.	121.	40.	3.46
+	HYDROGRAPH AT	PRCT83	663.	12.58	315.	86.	29.	3.34
+	ROUTED TO	RPCTLO	663.	12.75	314.	86.	29.	3.34

+	2 COMBINED AT	CPCTLO	2012.	13.42	741.	207.	69.	3.46
+	DIVERSION TO	DWNR01	1927.	13.25	736.	206.	69.	3.46
+	HYDROGRAPH AT	DSCTLO	85.	13.42	4.	1.	0.	3.46
+	DIVERSION TO	DSGR91	0.	.00	0.	0.	0.	3.46
+	HYDROGRAPH AT	DSPELO	85.	13.42	4.	1.	0.	3.46
+	HYDROGRAPH AT	PE51	345.	12.42	83.	25.	8.	.42
+	DIVERSION TO	DSOL51	138.	12.42	33.	10.	3.	.42
+	HYDROGRAPH AT	DWPE59	207.	12.42	50.	15.	5.	.42
+	ROUTED TO	RWPE59	187.	12.92	50.	15.	5.	.42
+	HYDROGRAPH AT	DRPE59	33.	13.58	3.	1.	0.	.30
+	ROUTED TO	RSPE59	19.	14.50	3.	1.	0.	.30
+	HYDROGRAPH AT	PE59	618.	12.58	189.	55.	18.	.99
+	DIVERSION TO	XPE59	20.	10.33	13.	4.	1.	.99
+	HYDROGRAPH AT	ERPE59	618.	12.58	189.	51.	17.	.99
+	3 COMBINED AT	CPE59	760.	12.83	241.	66.	22.	1.44
+	HYDROGRAPH AT	PR59CT	18.	13.50	8.	3.	1.	.30
+	2 COMBINED AT	CPPE59	760.	12.83	247.	69.	23.	1.44
+	DIVERSION TO	DP59PE	235.	12.08	143.	43.	14.	1.44
+	HYDROGRAPH AT	D59PE	525.	12.83	104.	26.	9.	1.44
+	DIVERSION TO	DSOL59	299.	12.83	59.	15.	5.	1.44
+	HYDROGRAPH AT	DWPE67	226.	12.83	45.	11.	4.	1.44
+	ROUTED TO	RWPE67	202.	13.17	45.	11.	4.	1.44
+	HYDROGRAPH AT	DRPE67	181.	12.58	22.	5.	2.	1.11
+	ROUTED TO	RSPE67	142.	13.17	22.	5.	2.	1.11
+	HYDROGRAPH AT	PE67	562.	12.58	175.	53.	18.	.96
+	DIVERSION TO	XPE67	562.	12.58	102.	28.	9.	.96
+	HYDROGRAPH AT	ERPE67	434.	13.17	89.	25.	8.	.96
+	3 COMBINED AT	CPE67	773.	13.17	153.	41.	14.	2.06
+	ROUTED TO	SRPE67	728.	13.33	132.	36.	12.	2.06
+	DIVERSION TO	DP67PE	162.	13.25	71.	20.	7.	2.06
+	HYDROGRAPH AT	D67PE	566.	13.33	61.	15.	5.	2.06

+	DIVERSION TO HYDROGRAPH AT	DSOL67	215.	13.33	23.	6.	2.	2.06
+	ROUTED TO HYDROGRAPH AT	DWPE75	351.	13.33	38.	9.	3.	2.06
+	HYDROGRAPH AT	RWPE75	245.	13.92	38.	9.	3.	2.06
+	ROUTED TO HYDROGRAPH AT	DRPE75	287.	13.00	38.	10.	3.	2.17
+	DIVERSION TO HYDROGRAPH AT	RSPE75	256.	13.33	38.	10.	3.	2.17
+	3 COMBINED AT	PE75	557.	12.67	185.	55.	18.	1.01
+	DIVERSION TO HYDROGRAPH AT	XPE75	22.	10.50	14.	5.	2.	1.01
+	3 COMBINED AT	ERPE75	557.	12.67	185.	51.	17.	1.01
+	DIVERSION TO HYDROGRAPH AT	CPE75	672.	13.25	260.	69.	23.	3.36
+	ROUTED TO HYDROGRAPH AT	DP75PE	179.	12.08	119.	34.	11.	3.36
+	DIVERSION TO HYDROGRAPH AT	D75PE	493.	13.25	140.	35.	12.	3.36
+	ROUTED TO HYDROGRAPH AT	DSOL75	256.	13.25	73.	18.	6.	3.36
+	DIVERSION TO HYDROGRAPH AT	DWPE83	236.	13.25	67.	17.	6.	3.36
+	HYDROGRAPH AT	RWPE83	216.	13.67	67.	17.	6.	3.36
+	ROUTED TO HYDROGRAPH AT	DRPE83	464.	13.25	91.	23.	8.	3.34
+	HYDROGRAPH AT	RSPE83	437.	13.58	91.	23.	8.	3.34
+	DIVERSION TO HYDROGRAPH AT	PE83	572.	12.67	207.	61.	20.	1.00
+	3 COMBINED AT	XPE83	544.	12.50	62.	17.	6.	1.00
+	DIVERSION TO HYDROGRAPH AT	ERPE83	572.	12.67	164.	44.	15.	1.00
+	HYDROGRAPH AT	CPE83	1036.	13.50	320.	83.	28.	3.97
+	DIVERSION TO HYDROGRAPH AT	DPPE83	112.	12.58	79.	23.	8.	3.97
+	DIVERSION TO HYDROGRAPH AT	DPE83	924.	13.50	241.	60.	20.	3.97
+	HYDROGRAPH AT	DSGR83	443.	13.50	116.	29.	10.	3.97
+	DIVERSION TO HYDROGRAPH AT	DWGR91	480.	13.50	125.	31.	10.	3.97
+	HYDROGRAPH AT	DWPE91	173.	13.50	45.	11.	4.	3.97
+	HYDROGRAPH AT	DGR91	307.	13.50	80.	20.	7.	3.97
+	ROUTED TO HYDROGRAPH AT	DRGR91	0.	.00	0.	0.	0.	3.46
+	HYDROGRAPH AT	RSGR91	0.	.00	0.	0.	0.	3.46
+	DIVERSION TO HYDROGRAPH AT	GR91	471.	12.33	109.	32.	11.	.51
+	HYDROGRAPH AT	XGR91	471.	12.33	46.	13.	4.	.51
+		ERGR91	449.	12.50	72.	19.	6.	.51

+	3 COMBINED AT	CGR91	544.	12.67	151.	39.	13.	3.58
+	DIVERSION TO HYDROGRAPH AT	DSPE91	365.	12.67	101.	26.	9.	3.58
+	HYDROGRAPH AT	DWGRLO	180.	12.67	50.	13.	4.	3.58
+	2 COMBINED AT	CGRLO	233.	13.42	55.	14.	5.	2.91
+	ROUTED TO HYDROGRAPH AT	RSPELO	222.	13.50	54.	14.	5.	2.91
+	DIVERSION TO HYDROGRAPH AT	DWNR02	222.	13.50	54.	14.	5.	2.91
+	HYDROGRAPH AT	DSOLLO	0.	.00	0.	0.	0.	2.91
+	HYDROGRAPH AT	DRPE91	365.	12.67	101.	26.	9.	3.58
+	ROUTED TO HYDROGRAPH AT	SRGR91	334.	12.83	90.	24.	8.	3.58
+	HYDROGRAPH AT	DIPE91	173.	13.50	45.	11.	4.	3.97
+	2 COMBINED AT	CIPEGR	470.	13.42	136.	35.	12.	3.14
+	ROUTED TO HYDROGRAPH AT	RWPE91	459.	13.67	135.	35.	12.	3.14
+	HYDROGRAPH AT	PE91	483.	12.33	106.	32.	11.	.51
+	DIVERSION TO HYDROGRAPH AT	XPE91	156.	11.92	21.	7.	2.	.51
+	HYDROGRAPH AT	ERPE91	483.	12.33	96.	26.	9.	.51
+	2 COMBINED AT	CPE91	558.	13.50	228.	60.	20.	3.65
+	HYDROGRAPH AT	PRPE83	112.	12.58	79.	23.	8.	3.97
+	ROUTED TO HYDROGRAPH AT	RPPE91	112.	12.75	79.	23.	8.	3.97
+	2 COMBINED AT	CPPE91	670.	13.50	305.	83.	28.	3.65
+	DIVERSION TO HYDROGRAPH AT	DPPE91	147.	12.08	123.	37.	13.	3.65
+	HYDROGRAPH AT	DPE91	523.	13.50	182.	46.	15.	3.65
+	DIVERSION TO HYDROGRAPH AT	DSOL91	288.	13.50	100.	25.	8.	3.65
+	HYDROGRAPH AT	DWPELO	235.	13.50	82.	21.	7.	3.65
+	ROUTED TO HYDROGRAPH AT	RWPELO	233.	13.58	82.	21.	7.	3.65
+	HYDROGRAPH AT	PELO	160.	12.50	47.	15.	5.	.27
+	DIVERSION TO HYDROGRAPH AT	XPELO	143.	12.33	14.	4.	1.	.27
+	HYDROGRAPH AT	ERPELO	160.	12.50	38.	10.	3.	.27
+	3 COMBINED AT	CPELO	305.	13.42	119.	31.	10.	4.81
+	HYDROGRAPH AT	PRPE91	147.	12.08	123.	37.	13.	3.65
+	ROUTED TO HYDROGRAPH AT	RPPELO	147.	12.17	122.	37.	13.	3.65
+	2 COMBINED AT	CPPELO	452.	13.42	241.	68.	23.	4.81

+	DIVERSION TO	DPPELO	255.	12.42	185.	54.	18.	4.81
+	HYDROGRAPH AT	DPELO	197.	13.42	56.	14.	5.	4.81
+	ROUTED TO	RSOLLO	187.	13.67	56.	14.	5.	4.81
+	HYDROGRAPH AT	OL35	155.	12.33	41.	13.	5.	.21
+	DIVERSION TO	DP35OL	61.	12.00	29.	11.	4.	.21
+	HYDROGRAPH AT	D35OL	94.	12.33	12.	3.	1.	.21
+	DIVERSION TO	DSNO35	66.	12.33	8.	2.	1.	.21
+	HYDROGRAPH AT	DWOL43	28.	12.33	3.	1.	0.	.21
+	ROUTED TO	RWOL43	19.	13.50	3.	1.	0.	.21
+	HYDROGRAPH AT	OL43	354.	12.50	99.	30.	10.	.63
+	2 COMBINED AT	COL43	355.	12.50	103.	31.	10.	.70
+	DIVERSION TO	DP43OL	85.	12.00	51.	18.	6.	.70
+	HYDROGRAPH AT	D43OL	270.	12.50	51.	13.	4.	.70
+	DIVERSION TO	DSNO43	159.	12.50	30.	8.	3.	.70
+	HYDROGRAPH AT	DWOL51	111.	12.50	21.	5.	2.	.70
+	ROUTED TO	RWOL51	101.	13.08	21.	5.	2.	.70
+	HYDROGRAPH AT	DROL51	138.	12.42	33.	10.	3.	.42
+	ROUTED TO	RSOL51	123.	12.92	33.	10.	3.	.42
+	HYDROGRAPH AT	OL51	573.	12.58	177.	53.	18.	.99
+	DIVERSION TO	XOL51	14.	7.92	11.	3.	1.	.99
+	HYDROGRAPH AT	EROL51	573.	12.58	177.	50.	17.	.99
+	3 COMBINED AT	COL51	729.	12.92	230.	65.	22.	1.45
+	DIVERSION TO	DPOL51	297.	12.17	157.	47.	16.	1.45
+	HYDROGRAPH AT	DOL51	432.	12.92	73.	18.	6.	1.45
+	DIVERSION TO	DSNO51	147.	12.92	25.	6.	2.	1.45
+	HYDROGRAPH AT	DWOL59	285.	12.92	48.	12.	4.	1.45
+	ROUTED TO	RWOL59	254.	13.33	48.	12.	4.	1.45
+	HYDROGRAPH AT	DROL59	299.	12.83	59.	15.	5.	1.44
+	ROUTED TO	RSOL59	270.	13.25	59.	15.	5.	1.44
+	HYDROGRAPH AT	OL59	585.	12.58	191.	57.	19.	.99
+	DIVERSION TO	XOL59	342.	12.25	36.	11.	4.	.99

+	HYDROGRAPH AT	EROL59	585.	12.58	171.	46.	15.	.99
+	3 COMBINED AT	COL59	970.	13.17	277.	72.	24.	2.78
+	HYDROGRAPH AT	PR59PE	235.	12.08	143.	43.	14.	1.44
+	ROUTED TO	RP59BR	235.	12.17	143.	43.	14.	1.44
+	DIVERSION TO	DPBR59	161.	12.00	111.	35.	12.	1.44
+	HYDROGRAPH AT	DBR59	74.	12.17	32.	8.	3.	1.44
+	ROUTED TO	RP59OL	74.	12.25	32.	8.	3.	1.44
+	HYDROGRAPH AT	PROL51	297.	12.17	157.	47.	16.	1.45
+	ROUTED TO	RPOL59	297.	12.33	157.	47.	16.	1.45
+	3 COMBINED AT	CPOL59	1337.	13.17	461.	127.	42.	4.22
+	DIVERSION TO	DPOL59	475.	12.33	268.	78.	26.	4.22
+	HYDROGRAPH AT	DOL59	862.	13.17	194.	48.	16.	4.22
+	DIVERSION TO	DSNO59	526.	13.17	118.	30.	10.	4.22
+	HYDROGRAPH AT	DWOL67	336.	13.17	76.	19.	6.	4.22
+	ROUTED TO	RWOL67	320.	13.50	76.	19.	6.	4.22
+	HYDROGRAPH AT	DROL67	215.	13.33	23.	6.	2.	2.06
+	ROUTED TO	RSOL67	144.	13.92	23.	6.	2.	2.06
+	HYDROGRAPH AT	OL67	629.	12.50	180.	54.	18.	.96
+	DIVERSION TO	XOL67	629.	12.50	71.	20.	7.	.96
+	HYDROGRAPH AT	EROL67	610.	12.67	125.	34.	11.	.96
+	3 COMBINED AT	COL67	679.	13.17	222.	58.	19.	2.84
+	HYDROGRAPH AT	PRBR59	161.	12.00	111.	35.	12.	1.44
+	ROUTED TO	RPBR63	161.	12.08	111.	35.	12.	1.44
+	ROUTED TO	SRBR63	161.	12.42	103.	35.	12.	1.44
+	ROUTED TO	RP63OL	161.	12.50	103.	35.	12.	1.44
+	HYDROGRAPH AT	PROL59	475.	12.33	268.	78.	26.	4.22
+	ROUTED TO	RPOL63	475.	12.42	268.	78.	26.	4.22
+	2 COMBINED AT	CPOL63	636.	12.67	370.	113.	38.	2.84
+	ROUTED TO	RPOL67	636.	12.75	370.	113.	38.	2.84
+	HYDROGRAPH AT	PR67PE	162.	13.25	71.	20.	7.	2.06
+	ROUTED TO	RP67MV	162.	13.33	71.	20.	7.	2.06

+	ROUTED TO	SR67MV	162.	13.75	67.	20.	7.	2.06
+	ROUTED TO	RP67OL	162.	13.83	67.	20.	7.	2.06
+	3 COMBINED AT	CPOL67	1387.	13.83	651.	191.	64.	5.68
+	DIVERSION TO	DPOL67	662.	12.58	429.	135.	45.	5.68
+	HYDROGRAPH AT	DOL67	725.	13.83	222.	55.	18.	5.68
+	DIVERSION TO	DSNO67	319.	13.83	98.	24.	8.	5.68
+	HYDROGRAPH AT	DWOL75	406.	13.83	124.	31.	10.	5.68
+	ROUTED TO	RWOL75	388.	14.00	124.	31.	10.	5.68
+	HYDROGRAPH AT	DROL75	256.	13.25	73.	18.	6.	3.36
+	ROUTED TO	RSOL75	237.	13.58	73.	18.	6.	3.36
+	HYDROGRAPH AT	OL75	581.	12.58	187.	55.	18.	1.00
+	DIVERSION TO	XOL75	581.	12.58	73.	20.	7.	1.00
+	HYDROGRAPH AT	EROL75	557.	12.83	130.	35.	12.	1.00
+	3 COMBINED AT	COL75	934.	13.42	325.	84.	28.	4.34
+	HYDROGRAPH AT	PROL67	662.	12.58	429.	135.	45.	5.68
+	ROUTED TO	RPOL71	662.	12.67	429.	135.	45.	5.68
+	2 COMBINED AT	CPOL71	1596.	13.42	753.	219.	73.	4.34
+	ROUTED TO	SROL71	1571.	13.58	607.	219.	73.	4.34
+	DIVERSION TO	DPOL71	386.	13.42	292.	140.	47.	4.34
+	HYDROGRAPH AT	DOL71	1185.	13.58	315.	79.	26.	4.34
+	HYDROGRAPH AT	PR75PE	179.	12.08	119.	34.	11.	3.36
+	ROUTED TO	RP75OL	179.	12.25	119.	34.	11.	3.36
+	HYDROGRAPH AT	PROL71	386.	13.42	292.	140.	47.	4.34
+	ROUTED TO	RPOL75	386.	13.50	292.	140.	47.	4.34
+	3 COMBINED AT	CPOL75	1750.	13.58	705.	253.	85.	4.34
+	DIVERSION TO	DPOL75	239.	12.33	237.	135.	46.	4.34
+	HYDROGRAPH AT	DOL75	1511.	13.58	469.	117.	39.	4.34
+	DIVERSION TO	DSGR75	771.	13.58	239.	60.	20.	4.34
+	HYDROGRAPH AT	DWGR83	740.	13.58	230.	57.	19.	4.34
+	HYDROGRAPH AT	DRGR83	443.	13.50	116.	29.	10.	3.97
+	DIVERSION TO	DSOL83	124.	13.50	32.	8.	3.	3.97

+	HYDROGRAPH AT	DB3GR	319.	13.50	83.	21.	7.	3.97
+	ROUTED TO	RSGR83	272.	14.58	82.	21.	7.	3.97
+	HYDROGRAPH AT	GR83	431.	12.33	104.	32.	11.	.47
+	DIVERSION TO	XGR83	431.	12.33	53.	15.	5.	.47
+	HYDROGRAPH AT	ERGR83	384.	12.58	63.	18.	6.	.47
+	3 COMBINED AT	CGR83	927.	14.42	370.	95.	32.	3.99
+	ROUTED TO	SRGR83	852.	14.75	257.	66.	22.	3.99
+	DIVERSION TO	DS75NO	852.	14.75	257.	66.	22.	3.99
+	HYDROGRAPH AT	DWOL83	0.	.00	0.	0.	0.	3.99
+	ROUTED TO	RWOL83	0.	.00	0.	0.	0.	3.99
+	HYDROGRAPH AT	DIOL83	124.	13.50	32.	8.	3.	3.97
+	ROUTED TO	RSOL83	116.	14.00	32.	8.	3.	3.97
+	HYDROGRAPH AT	OL83	472.	12.33	103.	30.	10.	.54
+	DIVERSION TO	XOL83	280.	12.08	24.	7.	2.	.54
+	HYDROGRAPH AT	EROL83	472.	12.33	86.	23.	8.	.54
+	3 COMBINED AT	COL83	470.	12.33	118.	31.	10.	1.06
+	HYDROGRAPH AT	NO27	81.	12.42	28.	9.	3.	.13
+	DIVERSION TO	DP27NO	81.	12.42	28.	9.	3.	.13
+	HYDROGRAPH AT	D27NO	0.	.00	0.	0.	0.	.13
+	DIVERSION TO	DSGL27	0.	.00	0.	0.	0.	.13
+	HYDROGRAPH AT	DWNO35	0.	.00	0.	0.	0.	.13
+	ROUTED TO	RWNO35	0.	.00	0.	0.	0.	.13
+	HYDROGRAPH AT	DRNO35	66.	12.33	8.	2.	1.	.21
+	ROUTED TO	RSNO35	49.	13.25	8.	2.	1.	.21
+	HYDROGRAPH AT	NO35	510.	12.58	163.	51.	17.	.99
+	3 COMBINED AT	CNO35	520.	12.67	171.	53.	18.	1.14
+	HYDROGRAPH AT	PR27NO	81.	12.42	28.	9.	3.	.13
+	2 COMBINED AT	CPNO29	595.	12.67	199.	62.	21.	1.14
+	DIVERSION TO	DP29NO	114.	11.92	84.	33.	11.	1.14
+	HYDROGRAPH AT	D29NO	481.	12.67	114.	29.	10.	1.14
+	HYDROGRAPH AT	PR35OL	61.	12.00	29.	11.	4.	.21

+	ROUTED TO	RP35NO	61.	12.17	29.	11.	4.	.21
+	2 COMBINED AT	CPNO35	542.	12.67	143.	39.	13.	1.14
+	DIVERSION TO	DP35NO	113.	12.08	54.	17.	6.	1.14
+	HYDROGRAPH AT	D35NO	429.	12.67	89.	22.	7.	1.14
+	DIVERSION TO	DSGL35	197.	12.67	41.	10.	3.	1.14
+	HYDROGRAPH AT	DWNO43	232.	12.67	48.	12.	4.	1.14
+	ROUTED TO	RWNO43	216.	13.33	48.	12.	4.	1.14
+	HYDROGRAPH AT	DRNO43	159.	12.50	30.	8.	3.	.70
+	ROUTED TO	RSNO43	146.	13.08	30.	8.	3.	.70
+	HYDROGRAPH AT	NO43	496.	12.67	163.	49.	16.	1.00
+	3 COMBINED AT	CNO43	752.	13.17	240.	69.	23.	2.02
+	HYDROGRAPH AT	PR43OL	85.	12.00	51.	18.	6.	.70
+	ROUTED TO	RP43NO	85.	12.17	51.	18.	6.	.70
+	2 COMBINED AT	CPNO43	837.	13.17	291.	87.	29.	2.02
+	DIVERSION TO	DP43NO	241.	12.08	156.	53.	18.	2.02
+	HYDROGRAPH AT	D43NO	596.	13.17	135.	34.	11.	2.02
+	DIVERSION TO	DSGL43	304.	13.17	69.	17.	6.	2.02
+	HYDROGRAPH AT	DWNO51	292.	13.17	66.	17.	6.	2.02
+	ROUTED TO	RWNO51	269.	13.58	66.	17.	6.	2.02
+	HYDROGRAPH AT	DRNO51	147.	12.92	25.	6.	2.	1.45
+	ROUTED TO	RSNO51	127.	13.42	25.	6.	2.	1.45
+	HYDROGRAPH AT	NO51	500.	12.58	162.	50.	17.	.99
+	3 COMBINED AT	CNO51	703.	13.42	251.	72.	24.	2.47
+	DIVERSION TO	DPNO51	168.	12.08	116.	38.	13.	2.47
+	HYDROGRAPH AT	DNO51	535.	13.42	136.	34.	11.	2.47
+	DIVERSION TO	DSGL51	235.	13.42	60.	15.	5.	2.47
+	HYDROGRAPH AT	DWNO59	299.	13.42	76.	19.	6.	2.47
+	ROUTED TO	RWNO59	279.	13.67	76.	19.	6.	2.47
+	HYDROGRAPH AT	DRNO59	526.	13.17	118.	30.	10.	4.22
+	ROUTED TO	RSNO59	490.	13.58	118.	30.	10.	4.22
+	HYDROGRAPH AT	NO59	543.	12.58	171.	50.	17.	.99

+	DIVERSION TO	XNO59	264.	12.17	27.	8.	3.	.99
+	HYDROGRAPH AT	ERNO59	543.	12.58	157.	42.	14.	.99
+	3 COMBINED AT	CNO59	1065.	13.50	350.	90.	30.	4.06
+	ROUTED TO	SRNO59	1062.	13.50	334.	86.	29.	4.06
+	HYDROGRAPH AT	PRNO51	168.	12.08	116.	38.	13.	2.47
+	ROUTED TO	RPNO59	168.	15.00	116.	38.	13.	2.47
+	2 COMBINED AT	CPNO59	1230.	13.50	447.	124.	41.	4.06
+	DIVERSION TO	DPNO59	134.	12.17	110.	40.	13.	4.06
+	HYDROGRAPH AT	DNO59	1096.	13.50	338.	84.	28.	4.06
+	DIVERSION TO	DSGL59	362.	13.50	111.	28.	9.	4.06
+	HYDROGRAPH AT	DWNO67	734.	13.50	226.	57.	19.	4.06
+	ROUTED TO	RWNO67	720.	13.75	226.	57.	19.	4.06
+	HYDROGRAPH AT	DRNO67	319.	13.83	98.	24.	8.	5.68
+	ROUTED TO	RSNO67	303.	14.08	98.	24.	8.	5.68
+	HYDROGRAPH AT	NO67	566.	12.58	182.	55.	18.	.96
+	DIVERSION TO	XNO67	566.	12.58	71.	20.	7.	.96
+	HYDROGRAPH AT	ERNO67	554.	12.75	128.	35.	12.	.96
+	3 COMBINED AT	CNO67	1269.	13.67	450.	115.	38.	4.93
+	DIVERSION TO	DSGR67	825.	13.67	292.	75.	25.	4.93
+	HYDROGRAPH AT	DWGR75	444.	13.67	157.	40.	13.	4.93
+	DIVERSION TO	DWNO75	147.	13.67	52.	13.	4.	4.93
+	HYDROGRAPH AT	DGR75	298.	13.67	105.	27.	9.	4.93
+	ROUTED TO	RWGR75	286.	14.42	103.	27.	9.	4.93
+	HYDROGRAPH AT	DRGR75	771.	13.58	239.	60.	20.	4.34
+	DIVERSION TO	DSNO75	277.	13.58	86.	22.	7.	4.34
+	HYDROGRAPH AT	D75GR	493.	13.58	153.	38.	13.	4.34
+	HYDROGRAPH AT	GR75	487.	12.33	99.	30.	10.	.50
+	DIVERSION TO	XGR75	353.	12.17	31.	9.	3.	.50
+	HYDROGRAPH AT	ERGR75	487.	12.33	78.	21.	7.	.50
+	3 COMBINED AT	CGR75	773.	14.17	329.	86.	29.	3.09
+	ROUTED TO	SRGR75	729.	14.50	194.	84.	29.	3.09

+	HYDROGRAPH AT	PROL75	239.	12.33	237.	135.	46.	4.34
+	2 COMBINED AT	CPOLGR	968.	14.50	426.	217.	74.	3.09
+	DIVERSION TO	DOLGR	729.	14.50	187.	50.	17.	3.09
+	HYDROGRAPH AT	DPOLGR	239.	12.25	239.	167.	58.	3.09
+	ROUTED TO	RPOL83	239.	12.50	239.	167.	58.	3.09
+	2 COMBINED AT	CPOL83	704.	12.42	354.	197.	68.	4.15
+	ROUTED TO	SROL83	606.	12.75	328.	196.	68.	4.15
+	DIVERSION TO	DPOL83	243.	12.58	243.	175.	61.	4.15
+	HYDROGRAPH AT	DOL83	363.	12.75	85.	21.	7.	4.15
+	DIVERSION TO	DSNO83	141.	12.75	33.	8.	3.	4.15
+	HYDROGRAPH AT	DWOL91	221.	12.75	52.	13.	4.	4.15
+	ROUTED TO	RWOL91	160.	13.42	52.	13.	4.	4.15
+	HYDROGRAPH AT	DROL91	288.	13.50	100.	25.	8.	3.65
+	ROUTED TO	RSOL91	278.	13.92	100.	25.	8.	3.65
+	HYDROGRAPH AT	OL91	628.	12.58	206.	62.	21.	1.02
+	DIVERSION TO	XOL91	628.	12.58	80.	23.	8.	1.02
+	HYDROGRAPH AT	EROL91	613.	12.75	146.	40.	13.	1.02
+	3 COMBINED AT	COL91	746.	13.42	296.	78.	26.	3.68
+	HYDROGRAPH AT	PROL83	243.	12.58	243.	175.	61.	4.15
+	ROUTED TO	RPOL91	243.	12.83	243.	175.	61.	4.15
+	2 COMBINED AT	CPOL91	989.	13.42	537.	253.	87.	3.68
+	DIVERSION TO	DSNO91	663.	13.42	360.	169.	58.	3.68
+	HYDROGRAPH AT	DWOLLO	327.	13.42	177.	83.	29.	3.68
+	ROUTED TO	RWOLLO	327.	13.42	177.	83.	29.	3.68
+	HYDROGRAPH AT	OLLO	127.	12.33	38.	13.	4.	.16
+	DIVERSION TO	XOLLO	127.	12.33	19.	6.	2.	.16
+	HYDROGRAPH AT	EROLLO	115.	12.58	25.	7.	2.	.16
+	3 COMBINED AT	COLLO	551.	13.50	256.	104.	36.	6.18
+	ROUTED TO	RSNOLO	547.	13.67	255.	104.	36.	6.18
+	HYDROGRAPH AT	DROLGR	729.	14.50	187.	50.	17.	3.09
+	HYDROGRAPH AT	DI75NO	277.	13.58	86.	22.	7.	4.34

+	HYDROGRAPH AT	DR75NO	852.	14.75	257.	66.	22.	3.99
+	3 COMBINED AT	CIGR75	1757.	14.50	519.	136.	46.	7.85
+	ROUTED TO	RSNO75	1688.	14.83	517.	136.	46.	7.85
+	HYDROGRAPH AT	DINO75	147.	13.67	52.	13.	4.	4.93
+	ROUTED TO	RWNO75	144.	14.00	52.	13.	4.	4.93
+	HYDROGRAPH AT	NO75	523.	12.25	107.	34.	11.	.51
+	DIVERSION TO	XNO75	15.	8.67	10.	3.	1.	.51
+	HYDROGRAPH AT	ERNO75	523.	12.25	107.	31.	10.	.51
+	3 COMBINED AT	CNO75	1805.	14.83	645.	179.	60.	8.93
+	DIVERSION TO	DPNO75	161.	11.92	160.	58.	20.	8.93
+	HYDROGRAPH AT	DNO75	1644.	14.83	485.	121.	40.	8.93
+	DIVERSION TO	DSOW75	789.	14.83	233.	58.	19.	8.93
+	HYDROGRAPH AT	DWNO83	855.	14.83	252.	63.	21.	8.93
+	ROUTED TO	RWNO83	824.	15.08	251.	63.	21.	8.93
+	HYDROGRAPH AT	DRNO83	141.	12.75	33.	8.	3.	4.15
+	ROUTED TO	RSNO83	105.	13.33	33.	8.	3.	4.15
+	HYDROGRAPH AT	NO83	662.	12.50	184.	55.	18.	1.00
+	DIVERSION TO	XNO83	371.	12.17	36.	11.	4.	1.00
+	HYDROGRAPH AT	ERNO83	662.	12.50	164.	44.	15.	1.00
+	3 COMBINED AT	CNO83	930.	15.08	448.	115.	38.	6.05
+	HYDROGRAPH AT	PRNO75	161.	11.92	160.	58.	20.	8.93
+	ROUTED TO	RPNO83	161.	12.08	160.	58.	20.	8.93
+	2 COMBINED AT	CPNO83	1091.	15.08	606.	173.	58.	6.05
+	DIVERSION TO	DPNO83	233.	12.25	227.	78.	26.	6.05
+	HYDROGRAPH AT	DNO83	858.	15.08	379.	95.	32.	6.05
+	ROUTED TO	RWNO91	816.	15.42	376.	95.	32.	6.05
+	HYDROGRAPH AT	DRNO91	663.	13.42	360.	169.	58.	3.68
+	ROUTED TO	RSNO91	652.	13.67	355.	169.	58.	3.68
+	HYDROGRAPH AT	NO91	525.	12.67	165.	47.	16.	.99
+	DIVERSION TO	XNO91	525.	12.67	65.	18.	6.	.99
+	HYDROGRAPH AT	ERNO91	507.	12.83	111.	30.	10.	.99

+	3 COMBINED AT	CNO91	1580.	13.17	827.	291.	99.	9.52
+	HYDROGRAPH AT	PRNO83	233.	12.25	227.	78.	26.	6.05
+	ROUTED TO	RPNO91	233.	12.42	227.	78.	26.	6.05
+	2 COMBINED AT	CPNO91	1813.	13.17	1050.	367.	125.	9.52
+	ROUTED TO	SRNO91	1844.	13.17	977.	339.	125.	9.52
+	DIVERSION TO	DPNO91	69.	13.08	69.	63.	33.	9.52
+	HYDROGRAPH AT	DNO91	1775.	13.17	908.	277.	92.	9.52
+	DIVERSION TO	DSGL91	941.	13.17	481.	147.	49.	9.52
+	HYDROGRAPH AT	DWNOLO	834.	13.17	427.	130.	43.	9.52
+	ROUTED TO	RWNOLO	755.	13.58	421.	130.	43.	9.52
+	HYDROGRAPH AT	NOLO	199.	12.42	66.	23.	8.	.28
+	DIVERSION TO	XNOLO	199.	12.42	34.	10.	3.	.28
+	HYDROGRAPH AT	ERNOLO	173.	12.75	43.	13.	4.	.28
+	3 COMBINED AT	CNOLO	1369.	13.58	698.	244.	82.	10.91
+	HYDROGRAPH AT	PRNO91	69.	13.08	69.	63.	33.	9.52
+	ROUTED TO	RPNOLO	69.	13.25	69.	63.	33.	9.52
+	2 COMBINED AT	CPNOLO	1438.	13.58	764.	307.	115.	10.91
+	DIVERSION TO	DPNOLO	15.	12.00	15.	15.	12.	10.91
+	HYDROGRAPH AT	DNOLO	1423.	13.58	749.	292.	103.	10.91
+	DIVERSION TO	DWNR03	917.	13.42	674.	273.	97.	10.91
+	HYDROGRAPH AT	DSGLLO	506.	13.58	74.	19.	6.	10.91
+	ROUTED TO	RSGLLO	498.	13.67	74.	19.	6.	10.91
+	HYDROGRAPH AT	DRGL43	304.	13.17	69.	17.	6.	2.02
+	ROUTED TO	RSGL43	281.	13.42	69.	17.	6.	2.02
+	HYDROGRAPH AT	GL43	554.	12.67	181.	55.	18.	1.00
+	2 COMBINED AT	CGL43	680.	13.25	249.	72.	24.	2.03
+	HYDROGRAPH AT	PR43NO	241.	12.08	156.	53.	18.	2.02
+	ROUTED TO	RP43GL	241.	12.25	156.	53.	18.	2.02
+	2 COMBINED AT	CPGL43	921.	13.25	405.	125.	42.	2.03
+	DIVERSION TO	DP43GL	385.	12.17	258.	88.	30.	2.03
+	HYDROGRAPH AT	D43GL	536.	13.25	147.	37.	12.	2.03

+	DIVERSION TO	DSBH43	316.	13.25	86.	22.	7.	2.03
+	HYDROGRAPH AT	DWGL51	220.	13.25	60.	15.	5.	2.03
+	ROUTED TO	RWGL51	208.	13.67	60.	15.	5.	2.03
+	HYDROGRAPH AT	DRGL51	235.	13.42	60.	15.	5.	2.47
+	ROUTED TO	RSGL51	220.	13.75	60.	15.	5.	2.47
+	HYDROGRAPH AT	GL51	476.	12.67	166.	52.	18.	1.00
+	3 COMBINED AT	CGL51	703.	13.58	284.	82.	27.	2.91
+	DIVERSION TO	DSBH51	330.	13.58	134.	39.	13.	2.91
+	HYDROGRAPH AT	DWGL59	372.	13.58	151.	43.	15.	2.91
+	ROUTED TO	RWGL59	369.	13.83	150.	43.	15.	2.91
+	HYDROGRAPH AT	DRGL59	362.	13.50	111.	28.	9.	4.06
+	ROUTED TO	RSGL59	353.	13.83	111.	28.	9.	4.06
+	HYDROGRAPH AT	GL59	552.	12.58	175.	56.	19.	1.01
+	DIVERSION TO	XGL59	209.	12.08	34.	11.	4.	1.01
+	HYDROGRAPH AT	ERGL59	552.	12.58	163.	45.	15.	1.01
+	3 COMBINED AT	CGL59	962.	13.58	423.	116.	39.	3.91
+	DIVERSION TO	DP59GL	217.	12.17	170.	53.	18.	3.91
+	HYDROGRAPH AT	D59GL	745.	13.58	253.	63.	21.	3.91
+	DIVERSION TO	DSGR59	343.	13.58	116.	29.	10.	3.91
+	HYDROGRAPH AT	DWGR67	402.	13.58	136.	34.	11.	3.91
+	DIVERSION TO	DWGL67	105.	13.58	35.	9.	3.	3.91
+	HYDROGRAPH AT	DGR67	298.	13.58	101.	25.	8.	3.91
+	HYDROGRAPH AT	DRGL35	197.	12.67	41.	10.	3.	1.14
+	ROUTED TO	RSGL35	186.	13.17	41.	10.	3.	1.14
+	HYDROGRAPH AT	GL35	459.	12.67	162.	50.	17.	1.00
+	2 COMBINED AT	CGL35	597.	13.00	203.	60.	20.	1.53
+	HYDROGRAPH AT	PR35NO	113.	12.08	54.	17.	6.	1.14
+	ROUTED TO	RP35GL	113.	12.25	54.	17.	6.	1.14
+	2 COMBINED AT	CPGL35	710.	13.00	257.	77.	26.	1.53
+	DIVERSION TO	DP35GL	226.	12.17	141.	48.	16.	1.53
+	HYDROGRAPH AT	D35GL	484.	13.00	116.	29.	10.	1.53

+	DIVERSION TO HYDROGRAPH AT	DSBH35	295.	13.00	71.	18.	6.	1.53
+	HYDROGRAPH AT	DEGL27	189.	13.00	45.	11.	4.	1.53
+	HYDROGRAPH AT	DRGL27	0.	.00	0.	0.	0.	.13
+	ROUTED TO	RSGL27	0.	.00	0.	0.	0.	.13
+	HYDROGRAPH AT	GL27	176.	12.42	49.	15.	5.	.26
+	3 COMBINED AT	CGL27	313.	12.92	94.	26.	9.	.98
+	HYDROGRAPH AT	PR29NO	114.	11.92	84.	33.	11.	1.14
+	ROUTED TO	RP27GL	114.	12.08	85.	33.	11.	1.14
+	2 COMBINED AT	CPGL27	427.	12.92	178.	59.	20.	.98
+	DIVERSION TO	DP27GL	132.	11.92	100.	40.	13.	.98
+	HYDROGRAPH AT	D27GL	295.	12.92	78.	19.	6.	.98
+	ROUTED TO	RSBH27	287.	13.08	78.	19.	6.	.98
+	HYDROGRAPH AT	BH27	185.	12.33	48.	16.	5.	.26
+	2 COMBINED AT	CBH27	397.	12.83	125.	35.	12.	1.24
+	HYDROGRAPH AT	PR27GL	132.	11.92	100.	40.	13.	.98
+	ROUTED TO	RP27BH	132.	12.08	100.	40.	13.	.98
+	2 COMBINED AT	CPBH27	529.	12.83	225.	75.	25.	1.24
+	DIVERSION TO	DP27BH	132.	11.92	109.	46.	15.	1.24
+	HYDROGRAPH AT	D27BH	397.	12.83	116.	29.	10.	1.24
+	DIVERSION TO	DSCB27	397.	12.83	116.	29.	10.	1.24
+	HYDROGRAPH AT	DWBH35	0.	.00	0.	0.	0.	1.24
+	ROUTED TO	RWBH35	0.	.00	0.	0.	0.	1.24
+	HYDROGRAPH AT	DRBH35	295.	13.00	71.	18.	6.	1.53
+	ROUTED TO	RSBH35	283.	13.33	71.	18.	6.	1.53
+	HYDROGRAPH AT	BH35	951.	12.33	160.	49.	16.	1.00
+	3 COMBINED AT	CBH35	950.	12.33	229.	67.	22.	1.94
+	HYDROGRAPH AT	PR35GL	226.	12.17	141.	48.	16.	1.53
+	ROUTED TO	RP35BH	226.	12.33	141.	48.	16.	1.53
+	2 COMBINED AT	CPBH35	1176.	12.33	369.	114.	38.	1.94
+	DIVERSION TO	DP35BH	226.	11.83	169.	64.	22.	1.94
+	HYDROGRAPH AT	D35BH	950.	12.33	200.	50.	17.	1.94

+	DIVERSION TO HYDROGRAPH AT	DSCB35	950.	12.33	200.	50.	17.	1.94
+	HYDROGRAPH AT	DWBH43	0.	.00	0.	0.	0.	1.94
+	ROUTED TO	RWBH43	0.	.00	0.	0.	0.	1.94
+	HYDROGRAPH AT	DRBH43	316.	13.25	86.	22.	7.	2.03
+	ROUTED TO	RSBH43	305.	13.50	86.	22.	7.	2.03
+	HYDROGRAPH AT	BH43	442.	12.67	148.	45.	15.	.99
+	3 COMBINED AT	CBH43	640.	13.17	234.	67.	22.	2.19
+	HYDROGRAPH AT	PR43GL	385.	12.17	258.	88.	30.	2.03
+	ROUTED TO	RP43BH	385.	12.33	258.	88.	30.	2.03
+	2 COMBINED AT	CPBH43	1025.	13.17	492.	155.	52.	2.19
+	DIVERSION TO	DP43BH	385.	12.08	287.	103.	35.	2.19
+	HYDROGRAPH AT	D43BH	640.	13.17	206.	51.	17.	2.19
+	DIVERSION TO	DSCB43	326.	13.17	105.	26.	9.	2.19
+	HYDROGRAPH AT	DWBH51	314.	13.17	101.	25.	8.	2.19
+	ROUTED TO	RWBH51	305.	13.58	101.	25.	8.	2.19
+	HYDROGRAPH AT	DRBH51	330.	13.58	134.	39.	13.	2.91
+	DIVERSION TO	DP47GL	330.	13.58	134.	39.	13.	2.91
+	HYDROGRAPH AT	D47GL	0.	.00	0.	0.	0.	2.91
+	ROUTED TO	RSBH51	0.	.00	0.	0.	0.	2.91
+	HYDROGRAPH AT	BH51	488.	12.67	173.	55.	18.	1.00
+	3 COMBINED AT	CBH51	661.	13.25	272.	79.	27.	3.42
+	HYDROGRAPH AT	PR47GL	330.	13.58	134.	39.	13.	2.91
+	ROUTED TO	RP51BH	330.	13.58	134.	39.	13.	2.91
+	2 COMBINED AT	CPBH51	983.	13.33	405.	118.	39.	3.42
+	ROUTED TO	SRBH51	977.	13.42	402.	115.	39.	3.42
+	DIVERSION TO	DSGR43	313.	13.42	129.	37.	13.	3.42
+	HYDROGRAPH AT	DWGR59	664.	13.42	274.	78.	27.	3.42
+	DIVERSION TO	DWBH59	153.	13.42	63.	18.	6.	3.42
+	HYDROGRAPH AT	DGR59	512.	13.42	211.	60.	21.	3.42
+	HYDROGRAPH AT	DRGR59	343.	13.58	116.	29.	10.	3.91
+	DIVERSION TO	DSBH59	178.	13.58	60.	15.	5.	3.91

+	HYDROGRAPH AT	D59GR	164.	13.58	56.	14.	5.	3.91
+	HYDROGRAPH AT	GR59	581.	12.25	102.	34.	11.	.52
+	3 COMBINED AT	CGR59	805.	12.42	363.	106.	36.	3.18
+	DIVERSION TO	DBH59	403.	12.42	182.	53.	18.	3.18
+	HYDROGRAPH AT	DNGR67	403.	12.42	182.	53.	18.	3.18
+	DIVERSION TO	DPGRGL	234.	12.08	139.	43.	15.	3.18
+	HYDROGRAPH AT	DGRGL	169.	12.42	43.	11.	4.	3.18
+	2 COMBINED AT	CIGR59	429.	13.50	144.	36.	12.	3.15
+	ROUTED TO	RWGR67	411.	14.17	143.	36.	12.	3.15
+	HYDROGRAPH AT	DRGR67	825.	13.67	292.	75.	25.	4.93
+	HYDROGRAPH AT	GR67	484.	12.33	95.	29.	10.	.50
+	DIVERSION TO	XGR67	5.	2.75	2.	1.	0.	.50
+	HYDROGRAPH AT	ERGR67	484.	12.33	95.	29.	10.	.50
+	3 COMBINED AT	CGR67	1235.	13.83	518.	139.	46.	6.83
+	HYDROGRAPH AT	PRNO59	134.	12.17	110.	40.	13.	4.06
+	ROUTED TO	RPNO67	134.	12.33	110.	40.	13.	4.06
+	HYDROGRAPH AT	PR59GL	217.	12.17	170.	53.	18.	3.91
+	HYDROGRAPH AT	PRGRGL	234.	12.08	139.	43.	15.	3.18
+	2 COMBINED AT	CPGL59	451.	12.17	307.	95.	32.	1.42
+	ROUTED TO	RPGR67	451.	12.33	307.	95.	32.	1.42
+	3 COMBINED AT	CPGR67	1817.	13.83	932.	273.	92.	8.25
+	ROUTED TO	SRGR67	297.	16.33	284.	225.	92.	8.25
+	DIVERSION TO	DP67GR	297.	16.33	284.	225.	92.	8.25
+	HYDROGRAPH AT	D67GR	1.	16.08	0.	0.	0.	8.25
+	ROUTED TO	RSOW67	0.	16.25	0.	0.	0.	8.25
+	HYDROGRAPH AT	OW67	155.	12.17	26.	8.	3.	.12
+	2 COMBINED AT	COW67	152.	12.17	25.	8.	3.	6.95
+	HYDROGRAPH AT	PRGR67	297.	16.33	284.	225.	92.	8.25
+	ROUTED TO	RPOW67	297.	16.42	284.	225.	92.	8.25
+	2 COMBINED AT	CPOW67	304.	16.33	288.	230.	94.	6.95
+	DIVERSION TO	DPOW67	181.	12.00	181.	178.	77.	6.95

+	HYDROGRAPH AT	DOW67	123.	16.33	107.	52.	17.	6.95
+	DIVERSION TO	DSGL67	63.	16.33	55.	27.	9.	6.95
+	HYDROGRAPH AT	DWOW75	60.	16.33	53.	26.	9.	6.95
+	ROUTED TO	RWOW75	60.	16.75	52.	26.	9.	6.95
+	HYDROGRAPH AT	DROW75	789.	14.83	233.	58.	19.	8.93
+	ROUTED TO	RSOW75	776.	15.00	233.	58.	19.	8.93
+	HYDROGRAPH AT	OW75	408.	12.33	102.	32.	11.	.50
+	DIVERSION TO	XOW75	329.	12.17	32.	10.	3.	.50
+	HYDROGRAPH AT	EROW75	408.	12.33	81.	22.	7.	.50
+	3 COMBINED AT	COW75	828.	15.00	343.	105.	35.	8.17
+	HYDROGRAPH AT	PROW67	181.	12.00	181.	178.	77.	6.95
+	ROUTED TO	RPOW71	181.	12.08	181.	178.	77.	6.95
+	2 COMBINED AT	CPOW71	1009.	15.00	524.	283.	112.	8.17
+	ROUTED TO	SROW75	928.	15.33	505.	280.	109.	8.17
+	DIVERSION TO	DPOW71	44.	12.33	44.	44.	23.	8.17
+	HYDROGRAPH AT	DOW71	884.	15.33	461.	236.	85.	8.17
+	HYDROGRAPH AT	PROW71	44.	12.33	44.	44.	23.	8.17
+	ROUTED TO	RPOW75	44.	12.50	44.	44.	23.	8.17
+	2 COMBINED AT	CPOW75	928.	15.33	505.	280.	109.	8.17
+	DIVERSION TO	DPOW75	66.	12.42	66.	66.	33.	8.17
+	HYDROGRAPH AT	DOW75	862.	15.33	439.	214.	76.	8.17
+	DIVERSION TO	DSGL75	655.	15.33	334.	162.	57.	8.17
+	HYDROGRAPH AT	DWOW83	207.	15.33	105.	51.	18.	8.17
+	ROUTED TO	RWOW83	203.	15.67	104.	51.	18.	8.17
+	HYDROGRAPH AT	OW83	266.	12.58	83.	24.	8.	.50
+	DIVERSION TO	XOW83	180.	12.25	15.	4.	1.	.50
+	HYDROGRAPH AT	EROW83	266.	12.58	73.	19.	6.	.50
+	2 COMBINED AT	COW83	283.	13.17	173.	70.	25.	2.46
+	HYDROGRAPH AT	PROW75	66.	12.42	66.	66.	33.	8.17
+	ROUTED TO	RPOW83	66.	12.75	66.	66.	33.	8.17
+	2 COMBINED AT	CPOW83	349.	13.17	238.	136.	58.	2.46

+	DIVERSION TO HYDROGRAPH AT	DP83OW	255.	12.42	217.	131.	56.	2.46
+	DIVERSION TO HYDROGRAPH AT	D83OW	94.	13.17	21.	5.	2.	2.46
+	ROUTED TO HYDROGRAPH AT	DSGL83	80.	13.17	18.	4.	1.	2.46
+	ROUTED TO HYDROGRAPH AT	DWOW91	14.	13.17	3.	1.	0.	2.46
+	ROUTED TO HYDROGRAPH AT	RWOW91	13.	13.58	3.	1.	0.	2.46
+	ROUTED TO HYDROGRAPH AT	DIGL67	105.	13.58	35.	9.	3.	3.91
+	ROUTED TO HYDROGRAPH AT	RWGL67	102.	14.00	35.	9.	3.	3.91
+	HYDROGRAPH AT	GL67	358.	12.25	72.	24.	8.	.36
+	HYDROGRAPH AT	DRGL67	63.	16.33	55.	27.	9.	6.95
+	ROUTED TO	RSGL67	63.	16.50	55.	27.	9.	6.95
+	3 COMBINED AT	CGL67	361.	12.25	137.	57.	20.	4.47
+	DIVERSION TO HYDROGRAPH AT	DSBH67	177.	12.25	67.	28.	10.	4.47
+	HYDROGRAPH AT	DWGL75	184.	12.25	70.	29.	10.	4.47
+	ROUTED TO HYDROGRAPH AT	RWGL75	161.	12.75	69.	29.	10.	4.47
+	HYDROGRAPH AT	DRGL75	655.	15.33	334.	162.	57.	8.17
+	ROUTED TO HYDROGRAPH AT	RSGL75	648.	15.50	331.	162.	57.	8.17
+	HYDROGRAPH AT	GL75	293.	12.58	100.	30.	10.	.50
+	DIVERSION TO HYDROGRAPH AT	XGL75	293.	12.58	71.	19.	6.	.50
+	HYDROGRAPH AT	ERGL75	158.	13.67	39.	11.	4.	.50
+	3 COMBINED AT	CGL75	746.	15.42	431.	199.	71.	8.97
+	DIVERSION TO HYDROGRAPH AT	DSBH75	373.	15.42	215.	100.	35.	8.97
+	HYDROGRAPH AT	DWGL83	373.	15.42	215.	100.	35.	8.97
+	ROUTED TO HYDROGRAPH AT	RWGL83	366.	15.75	213.	99.	35.	8.97
+	HYDROGRAPH AT	DRGL83	80.	13.17	18.	4.	1.	2.46
+	ROUTED TO HYDROGRAPH AT	RSGL83	79.	13.33	18.	4.	1.	2.46
+	HYDROGRAPH AT	GL83	269.	12.58	83.	24.	8.	.50
+	DIVERSION TO HYDROGRAPH AT	XGL83	268.	12.50	29.	8.	3.	.50
+	HYDROGRAPH AT	ERGL83	261.	12.75	60.	16.	5.	.50
+	3 COMBINED AT	CGL83	410.	15.83	282.	119.	42.	7.11
+	HYDROGRAPH AT	PR83OW	255.	12.42	217.	131.	56.	2.46
+	ROUTED TO	RP83GL	255.	12.50	217.	131.	56.	2.46

+	2 COMBINED AT	CPGL83	665.	15.83	495.	249.	98.	7.11
+	DIVERSION TO HYDROGRAPH AT	DPGL83	374.	12.67	353.	214.	86.	7.11
+	HYDROGRAPH AT	DGL83	291.	15.83	142.	35.	12.	7.11
+	DIVERSION TO HYDROGRAPH AT	DSBH83	184.	15.83	89.	22.	7.	7.11
+	HYDROGRAPH AT	DWGL91	108.	15.83	52.	13.	4.	7.11
+	ROUTED TO HYDROGRAPH AT	RWGL91	102.	16.17	52.	13.	4.	7.11
+	HYDROGRAPH AT	DRGL91	941.	13.17	481.	147.	49.	9.52
+	ROUTED TO HYDROGRAPH AT	RSGL91	845.	13.67	472.	147.	49.	9.52
+	HYDROGRAPH AT	GL91	475.	12.67	152.	44.	15.	.98
+	DIVERSION TO HYDROGRAPH AT	XGL91	475.	12.67	97.	26.	9.	.98
+	HYDROGRAPH AT	ERGL91	323.	13.42	67.	19.	6.	.98
+	4 COMBINED AT	CGL91	1199.	13.67	591.	178.	59.	9.02
+	HYDROGRAPH AT	PRGL83	374.	12.67	353.	214.	86.	7.11
+	ROUTED TO HYDROGRAPH AT	RPGL91	374.	12.83	353.	214.	86.	7.11
+	2 COMBINED AT	CPGL91	1573.	13.67	931.	392.	146.	9.02
+	DIVERSION TO HYDROGRAPH AT	DPGL91	449.	13.33	443.	270.	105.	9.02
+	HYDROGRAPH AT	DGL91	1124.	13.67	489.	122.	41.	9.02
+	DIVERSION TO HYDROGRAPH AT	DSBH91	697.	13.67	303.	76.	25.	9.02
+	HYDROGRAPH AT	DWGLLO	427.	13.67	186.	46.	15.	9.02
+	ROUTED TO HYDROGRAPH AT	RWGLLO	405.	14.00	185.	46.	15.	9.02
+	HYDROGRAPH AT	GLLO	473.	12.50	118.	34.	11.	.85
+	DIVERSION TO HYDROGRAPH AT	XGLLO	369.	12.25	31.	9.	3.	.85
+	HYDROGRAPH AT	ERGLLO	473.	12.50	95.	25.	8.	.85
+	3 COMBINED AT	CGLLO	873.	13.83	322.	83.	28.	15.23
+	HYDROGRAPH AT	PRGL91	449.	13.33	443.	270.	105.	9.02
+	ROUTED TO HYDROGRAPH AT	RPGLLO	449.	13.42	443.	270.	105.	9.02
+	2 COMBINED AT	CPGLLO	1322.	13.83	745.	348.	131.	15.23
+	ROUTED TO HYDROGRAPH AT	RSBHLO	1280.	14.08	740.	347.	131.	15.23
+	HYDROGRAPH AT	DIBH59	153.	13.42	63.	18.	6.	3.42
+	HYDROGRAPH AT	DRBH59	403.	12.42	182.	53.	18.	3.18
+	ROUTED TO	SRGR59	198.	14.58	98.	29.	10.	3.18

+	2 COMBINED AT	CIBHGR	299.	14.17	156.	47.	16.	2.13
+	ROUTED TO	RWBH59	296.	14.50	153.	47.	16.	2.13
+	HYDROGRAPH AT	DI59BH	178.	13.58	60.	15.	5.	3.91
+	ROUTED TO	RSBH59	175.	13.92	60.	15.	5.	3.91
+	HYDROGRAPH AT	BH59	512.	12.25	100.	33.	11.	.49
+	3 COMBINED AT	CBH59	511.	12.25	298.	93.	32.	3.58
+	DIVERSION TO	DSCB59	215.	12.25	125.	39.	13.	3.58
+	HYDROGRAPH AT	DWBH67	297.	12.25	173.	54.	19.	3.58
+	ROUTED TO	RWBH67	277.	14.58	170.	54.	19.	3.58
+	HYDROGRAPH AT	DRBH67	177.	12.25	67.	28.	10.	4.47
+	ROUTED TO	RSBH67	146.	13.00	66.	28.	10.	4.47
+	HYDROGRAPH AT	BH67	467.	12.67	157.	49.	16.	.97
+	3 COMBINED AT	CBH67	803.	12.83	384.	129.	44.	5.24
+	DIVERSION TO	DSCB67	353.	12.83	169.	57.	20.	5.24
+	HYDROGRAPH AT	DWBH75	449.	12.83	215.	72.	25.	5.24
+	ROUTED TO	RWBH75	434.	13.08	213.	72.	25.	5.24
+	HYDROGRAPH AT	DRBH75	373.	15.42	215.	100.	35.	8.97
+	ROUTED TO	RSBH75	364.	15.83	212.	99.	35.	8.97
+	HYDROGRAPH AT	BH75	571.	12.67	189.	56.	19.	1.00
+	DIVERSION TO	XBH75	571.	12.67	112.	30.	10.	1.00
+	HYDROGRAPH AT	ERBH75	421.	13.33	93.	26.	9.	1.00
+	3 COMBINED AT	CBH75	945.	13.33	503.	191.	69.	8.42
+	DIVERSION TO	DSCB75	501.	13.33	266.	101.	36.	8.42
+	HYDROGRAPH AT	DWBH83	444.	13.33	236.	90.	32.	8.42
+	ROUTED TO	RWBH83	417.	13.67	234.	90.	32.	8.42
+	HYDROGRAPH AT	DRBH83	184.	15.83	89.	22.	7.	7.11
+	ROUTED TO	RSBH83	172.	16.33	89.	22.	7.	7.11
+	HYDROGRAPH AT	BH83	538.	12.58	163.	47.	16.	1.00
+	DIVERSION TO	XBH83	538.	12.58	108.	29.	10.	1.00
+	HYDROGRAPH AT	ERBH83	336.	13.42	67.	18.	6.	1.00
+	3 COMBINED AT	CBH83	796.	13.67	386.	130.	45.	9.47

+	DIVERSION TO	DSGC83	271.	13.67	131.	44.	15.	9.47
+	HYDROGRAPH AT	DWBH91	525.	13.67	255.	86.	30.	9.47
+	HYDROGRAPH AT	DRCB27	397.	12.83	116.	29.	10.	1.24
+	ROUTED TO	RSCB27	391.	13.17	116.	29.	10.	1.24
+	HYDROGRAPH AT	CB27	185.	12.33	49.	16.	5.	.26
+	2 COMBINED AT	CCB27	494.	13.00	164.	45.	15.	1.50
+	HYDROGRAPH AT	PR27BH	132.	11.92	109.	46.	15.	1.24
+	ROUTED TO	RP27CB	132.	12.08	109.	46.	15.	1.24
+	2 COMBINED AT	CPCB27	626.	13.00	273.	90.	30.	1.50
+	DIVERSION TO	DP27CB	132.	11.83	117.	51.	17.	1.50
+	HYDROGRAPH AT	D27CB	494.	13.00	156.	39.	13.	1.50
+	DIVERSION TO	DSIS27	494.	13.00	156.	39.	13.	1.50
+	HYDROGRAPH AT	DWCB35	0.	.00	0.	0.	0.	1.50
+	ROUTED TO	RWCB35	0.	.00	0.	0.	0.	1.50
+	HYDROGRAPH AT	DRCB35	950.	12.33	200.	50.	17.	1.94
+	ROUTED TO	RSCB35	827.	12.58	200.	50.	17.	1.94
+	HYDROGRAPH AT	CB35	465.	12.67	159.	50.	17.	1.00
+	3 COMBINED AT	CCB35	1286.	12.58	357.	100.	33.	2.94
+	HYDROGRAPH AT	PR27CB	132.	11.83	117.	51.	17.	1.50
+	2 COMBINED AT	CPCB29	1418.	12.58	474.	151.	51.	2.94
+	DIVERSION TO	DP29CB	132.	11.58	127.	64.	22.	2.94
+	HYDROGRAPH AT	D29CB	1286.	12.58	346.	87.	29.	2.94
+	HYDROGRAPH AT	PR35BH	226.	11.83	169.	64.	22.	1.94
+	ROUTED TO	RP35CB	226.	12.00	169.	64.	22.	1.94
+	2 COMBINED AT	CPCB35	1512.	12.58	515.	151.	50.	2.94
+	DIVERSION TO	DP35CB	253.	11.92	198.	71.	24.	2.94
+	HYDROGRAPH AT	D35CB	1259.	12.58	317.	79.	26.	2.94
+	DIVERSION TO	DSIS35	1259.	12.58	317.	79.	26.	2.94
+	HYDROGRAPH AT	DWCB43	0.	.00	0.	0.	0.	2.94
+	ROUTED TO	RWCB43	0.	.00	0.	0.	0.	2.94
+	HYDROGRAPH AT	DRCB43	326.	13.17	105.	26.	9.	2.19

+	ROUTED TO	RSCB43	321.	13.42	105.	26.	9.	2.19
+	HYDROGRAPH AT	CB43	886.	12.33	154.	47.	16.	1.00
+	3 COMBINED AT	CCB43	884.	12.33	257.	74.	25.	2.12
+	HYDROGRAPH AT	PR43BH	385.	12.08	287.	103.	35.	2.19
+	ROUTED TO	RP43CB	385.	12.25	287.	103.	35.	2.19
+	2 COMBINED AT	CPCB43	1269.	12.33	543.	177.	59.	2.12
+	DIVERSION TO	DP39CB	268.	11.83	237.	100.	34.	2.12
+	HYDROGRAPH AT	D39CB	1001.	12.33	306.	76.	25.	2.12
+	DIVERSION TO	DP43CB	155.	12.00	99.	25.	8.	2.12
+	HYDROGRAPH AT	D43CB	846.	12.33	207.	52.	17.	2.12
+	DIVERSION TO	DSGR35	482.	12.33	118.	29.	10.	2.12
+	HYDROGRAPH AT	DWGR43	364.	12.33	89.	22.	7.	2.12
+	DIVERSION TO	DCB51	91.	12.33	22.	6.	2.	2.12
+	HYDROGRAPH AT	DGR43	273.	12.33	67.	17.	6.	2.12
+	HYDROGRAPH AT	DRGR43	313.	13.42	129.	37.	13.	3.42
+	ROUTED TO	RSGR43	301.	14.00	127.	37.	13.	3.42
+	HYDROGRAPH AT	GR43	452.	12.33	87.	28.	9.	.51
+	DIVERSION TO	XGR43	8.	5.25	5.	1.	0.	.51
+	HYDROGRAPH AT	ERGR43	452.	12.33	87.	26.	9.	.51
+	3 COMBINED AT	CGR43	727.	12.33	275.	80.	27.	2.28
+	ROUTED TO	SRGR43	13.	24.08	11.	7.	2.	2.28
+	DIVERSION TO	DEGR35	4.	24.08	4.	2.	1.	2.28
+	HYDROGRAPH AT	DGR35	8.	24.08	7.	4.	2.	2.28
+	DIVERSION TO	DSIS43	5.	24.08	5.	3.	1.	2.28
+	HYDROGRAPH AT	DWCB51	3.	24.00	2.	2.	1.	2.28
+	HYDROGRAPH AT	DICB51	91.	12.33	22.	6.	2.	2.12
+	2 COMBINED AT	CICBGR	92.	12.33	23.	7.	2.	.74
+	ROUTED TO	RWCB51	68.	13.00	23.	7.	2.	.74
+	HYDROGRAPH AT	CB51	677.	12.17	108.	37.	12.	.48
+	2 COMBINED AT	CCB51	674.	12.17	128.	43.	15.	1.23
+	DIVERSION TO	DSIS51	344.	12.17	65.	22.	7.	1.23

+	HYDROGRAPH AT	DWCB59	330.	12.17	63.	21.	7.	1.23
+	ROUTED TO	RWCB59	259.	12.50	62.	21.	7.	1.23
+	HYDROGRAPH AT	DRCB59	215.	12.25	125.	39.	13.	3.58
+	ROUTED TO	RSCB59	200.	14.58	123.	39.	13.	3.58
+	HYDROGRAPH AT	CB59	689.	12.42	195.	64.	22.	1.01
+	DIVERSION TO	XCB59	15.	3.25	6.	1.	0.	1.01
+	HYDROGRAPH AT	ERCB59	689.	12.42	195.	63.	21.	1.01
+	3 COMBINED AT	CCB59	1076.	12.50	371.	122.	42.	3.11
+	DIVERSION TO	DSIS59	570.	12.50	197.	65.	22.	3.11
+	HYDROGRAPH AT	DWCB67	506.	12.50	175.	58.	20.	3.11
+	ROUTED TO	RWCB67	477.	12.83	173.	58.	20.	3.11
+	HYDROGRAPH AT	DRCB67	353.	12.83	169.	57.	20.	5.24
+	ROUTED TO	RSCB67	338.	13.17	167.	57.	20.	5.24
+	HYDROGRAPH AT	CB67	537.	12.67	178.	53.	18.	.97
+	DIVERSION TO	XCB67	8.	3.83	4.	1.	0.	.97
+	HYDROGRAPH AT	ERCB67	537.	12.67	178.	53.	18.	.97
+	3 COMBINED AT	CCB67	1269.	12.92	510.	166.	56.	4.73
+	DIVERSION TO	DSGC67	546.	12.92	219.	71.	24.	4.73
+	HYDROGRAPH AT	DWCB75	723.	12.92	290.	95.	32.	4.73
+	ROUTED TO	RWCB75	700.	13.25	288.	95.	32.	4.73
+	HYDROGRAPH AT	DRCB75	501.	13.33	266.	101.	36.	8.42
+	ROUTED TO	RSCB75	464.	13.83	263.	101.	36.	8.42
+	HYDROGRAPH AT	CB75	513.	12.67	173.	52.	17.	1.00
+	DIVERSION TO	XCB75	365.	12.33	39.	12.	4.	1.00
+	HYDROGRAPH AT	ERCB75	513.	12.67	150.	40.	13.	1.00
+	3 COMBINED AT	CCB75	1283.	13.67	684.	231.	82.	8.14
+	DIVERSION TO	DSGC75	564.	13.67	301.	102.	36.	8.14
+	HYDROGRAPH AT	DWGC83	718.	13.67	383.	129.	46.	8.14
+	HYDROGRAPH AT	DRIS27	494.	13.00	156.	39.	13.	1.50
+	ROUTED TO	RSIS27	484.	13.25	156.	39.	13.	1.50
+	HYDROGRAPH AT	IS27	149.	12.50	49.	16.	5.	.24

+	2 COMBINED AT	CIS27	585.	13.17	204.	55.	18.	1.74
+	HYDROGRAPH AT	PR29CB	132.	11.58	127.	64.	22.	2.94
+	ROUTED TO	RP27IS	132.	11.75	127.	64.	22.	2.94
+	2 COMBINED AT	CPIS27	717.	13.17	332.	119.	40.	1.74
+	DIVERSION TO	DP27IS	151.	11.67	146.	73.	25.	1.74
+	HYDROGRAPH AT	D27IS	566.	13.17	186.	46.	15.	1.74
+	DIVERSION TO	DSGC27	566.	13.17	186.	46.	15.	1.74
+	HYDROGRAPH AT	DWIS35	0.	.00	0.	0.	0.	1.74
+	ROUTED TO	RWIS35	0.	.00	0.	0.	0.	1.74
+	HYDROGRAPH AT	DRIS35	1259.	12.58	317.	79.	26.	2.94
+	ROUTED TO	RSIS35	1170.	12.83	317.	79.	26.	2.94
+	HYDROGRAPH AT	IS35	1040.	12.33	175.	52.	17.	.99
+	3 COMBINED AT	CIS35	1665.	12.75	488.	130.	43.	3.93
+	HYDROGRAPH AT	PR35CB	253.	11.92	198.	71.	24.	2.94
+	ROUTED TO	RP35IS	253.	12.00	198.	71.	24.	2.94
+	2 COMBINED AT	CPIS35	1918.	12.75	686.	202.	67.	3.93
+	DIVERSION TO	DP31IS	268.	11.75	228.	87.	29.	3.93
+	HYDROGRAPH AT	D31IS	1650.	12.75	458.	114.	38.	3.93
+	DIVERSION TO	DP35IS	40.	11.83	27.	7.	2.	3.93
+	HYDROGRAPH AT	D35IS	1610.	12.75	431.	108.	36.	3.93
+	DIVERSION TO	DSGC35	1610.	12.75	431.	108.	36.	3.93
+	HYDROGRAPH AT	DWGR35	0.	.00	0.	0.	0.	3.93
+	HYDROGRAPH AT	DIGR35	4.	24.08	4.	2.	1.	2.28
+	HYDROGRAPH AT	DRGR35	482.	12.33	118.	29.	10.	2.12
+	DIVERSION TO	DS43IS	174.	12.33	42.	11.	4.	2.12
+	HYDROGRAPH AT	D35GR	309.	12.33	76.	19.	6.	2.12
+	2 COMBINED AT	CIGR43	309.	12.33	76.	21.	7.	1.58
+	ROUTED TO	RSGR35	242.	12.92	76.	21.	7.	1.58
+	HYDROGRAPH AT	GR35	469.	12.33	93.	30.	10.	.53
+	3 COMBINED AT	CGR35	485.	12.75	166.	50.	17.	2.11
+	HYDROGRAPH AT	PR39CB	268.	11.83	237.	100.	34.	2.12

+	ROUTED TO	RP39GR	268.	11.92	237.	100.	34.	2.12
+	2 COMBINED AT	CPGR35	753.	12.75	404.	150.	51.	2.11
+	DIVERSION TO	D39GR	502.	12.75	168.	42.	14.	2.11
+	HYDROGRAPH AT	DP39GR	251.	11.75	235.	108.	37.	2.11
+	ROUTED TO	RP39IS	251.	11.83	235.	108.	37.	2.11
+	HYDROGRAPH AT	DRIS43	5.	24.08	5.	3.	1.	2.28
+	HYDROGRAPH AT	DI43IS	174.	12.33	42.	11.	4.	2.12
+	2 COMBINED AT	CICB43	174.	12.33	43.	13.	5.	1.40
+	ROUTED TO	RSIS43	148.	12.67	43.	13.	5.	1.40
+	HYDROGRAPH AT	IS43	654.	12.17	104.	36.	12.	.47
+	2 COMBINED AT	CIS43	653.	12.17	145.	47.	16.	1.87
+	HYDROGRAPH AT	PR43CB	155.	12.00	99.	25.	8.	2.12
+	ROUTED TO	RP43IS	155.	12.17	99.	25.	8.	2.12
+	3 COMBINED AT	CPIS43	1057.	12.17	476.	179.	61.	3.98
+	DIVERSION TO	DP43IS	406.	11.83	355.	149.	51.	3.98
+	HYDROGRAPH AT	D43IS	651.	12.17	121.	30.	10.	3.98
+	DIVERSION TO	DSGC43	540.	12.17	101.	25.	8.	3.98
+	HYDROGRAPH AT	DWIS51	111.	12.17	21.	5.	2.	3.98
+	ROUTED TO	RWIS51	55.	13.58	20.	5.	2.	3.98
+	HYDROGRAPH AT	DRIS51	344.	12.17	65.	22.	7.	1.23
+	ROUTED TO	RSIS51	279.	12.42	65.	22.	7.	1.23
+	HYDROGRAPH AT	IS51	572.	12.50	172.	55.	18.	.99
+	DIVERSION TO	XIS51	555.	12.42	62.	19.	6.	.99
+	HYDROGRAPH AT	ERIS51	567.	12.58	132.	37.	12.	.99
+	3 COMBINED AT	CIS51	813.	12.58	212.	63.	21.	1.94
+	DIVERSION TO	DP51IS	244.	12.33	143.	46.	16.	1.94
+	HYDROGRAPH AT	D51IS	569.	12.58	69.	17.	6.	1.94
+	DIVERSION TO	DSGC51	353.	12.58	43.	11.	4.	1.94
+	HYDROGRAPH AT	DWIS59	216.	12.58	26.	7.	2.	1.94
+	ROUTED TO	RWIS59	143.	13.42	26.	7.	2.	1.94
+	HYDROGRAPH AT	DRIS59	570.	12.50	197.	65.	22.	3.11

+	ROUTED TO	RSIS59	534.	12.83	196.	65.	22.	3.11
+	HYDROGRAPH AT	IS59	516.	12.58	171.	54.	18.	1.01
+	3 COMBINED AT	CIS59	1025.	12.75	388.	125.	42.	3.38
+	DIVERSION TO	DP59IS	353.	12.25	249.	90.	31.	3.38
+	HYDROGRAPH AT	D59IS	672.	12.75	140.	35.	12.	3.38
+	DIVERSION TO	DSGC59	403.	12.75	84.	21.	7.	3.38
+	HYDROGRAPH AT	DWGC67	269.	12.75	56.	14.	5.	3.38
+	ROUTED TO	RWGC67	252.	13.08	56.	14.	5.	3.38
+	HYDROGRAPH AT	DRGC67	546.	12.92	219.	71.	24.	4.73
+	ROUTED TO	RSGC67	525.	13.25	217.	71.	24.	4.73
+	HYDROGRAPH AT	GC67	565.	12.50	158.	46.	15.	.94
+	3 COMBINED AT	CGC67	1167.	13.08	423.	130.	44.	4.34
+	DIVERSION TO	DP67IS	175.	12.00	159.	64.	22.	4.34
+	HYDROGRAPH AT	D67IS	992.	13.08	264.	66.	22.	4.34
+	DIVERSION TO	DSISGC	506.	13.08	135.	34.	11.	4.34
+	HYDROGRAPH AT	DWGC75	486.	13.08	129.	32.	11.	4.34
+	HYDROGRAPH AT	DRGR39	502.	12.75	168.	42.	14.	2.11
+	DIVERSION TO	DEGCGR	241.	12.75	81.	20.	7.	2.11
+	HYDROGRAPH AT	DGC35	261.	12.75	88.	22.	7.	2.11
+	HYDROGRAPH AT	DRGC35	1610.	12.75	431.	108.	36.	3.93
+	DIVERSION TO	DSGCGR	402.	12.75	108.	27.	9.	3.93
+	HYDROGRAPH AT	DS35GC	1207.	12.75	323.	81.	27.	3.93
+	2 COMBINED AT	CIIS35	1475.	12.75	413.	103.	34.	2.06
+	ROUTED TO	RSGC35	1462.	12.83	412.	103.	34.	2.06
+	HYDROGRAPH AT	GC35	114.	12.08	17.	6.	2.	.08
+	2 COMBINED AT	CGC35	1481.	12.83	429.	109.	36.	2.14
+	HYDROGRAPH AT	PR35IS	40.	11.83	27.	7.	2.	3.93
+	ROUTED TO	RP35GC	40.	11.92	27.	7.	2.	3.93
+	2 COMBINED AT	CPGC35	1521.	12.83	456.	116.	39.	2.14
+	DIVERSION TO	DP35GC	40.	11.83	33.	10.	3.	2.14
+	HYDROGRAPH AT	D35GC	1481.	12.83	423.	106.	35.	2.14

+	DIVERSION TO	DSTM35	1259.	12.83	360.	90.	30.	2.14
+	HYDROGRAPH AT	DWGC43	222.	12.83	63.	16.	5.	2.14
+	ROUTED TO	RWGC43	202.	13.25	63.	16.	5.	2.14
+	HYDROGRAPH AT	DRGC43	540.	12.17	101.	25.	8.	3.98
+	ROUTED TO	RSGC43	474.	12.25	101.	25.	8.	3.98
+	HYDROGRAPH AT	GC43	273.	12.42	83.	28.	10.	.37
+	3 COMBINED AT	CGC43	737.	12.33	245.	69.	23.	2.23
+	HYDROGRAPH AT	PR43IS	406.	11.83	355.	149.	51.	3.98
+	ROUTED TO	RP43GC	406.	11.92	355.	149.	51.	3.98
+	2 COMBINED AT	CPGC43	1143.	12.33	600.	218.	74.	2.23
+	DIVERSION TO	DP43GC	406.	11.75	368.	160.	55.	2.23
+	HYDROGRAPH AT	D43GC	737.	12.33	232.	58.	19.	2.23
+	ROUTED TO	SRGC43	738.	12.33	232.	58.	19.	2.23
+	DIVERSION TO	DSTM43	538.	12.33	113.	28.	9.	2.23
+	HYDROGRAPH AT	DWGC51	200.	12.00	119.	30.	10.	2.23
+	ROUTED TO	RWGC51	200.	13.42	119.	30.	10.	2.23
+	HYDROGRAPH AT	DRGC51	353.	12.58	43.	11.	4.	1.94
+	ROUTED TO	RSGC51	308.	12.83	43.	11.	4.	1.94
+	HYDROGRAPH AT	GC51	173.	12.75	69.	22.	7.	.45
+	3 COMBINED AT	CGC51	669.	12.83	230.	62.	21.	2.04
+	HYDROGRAPH AT	PR51IS	244.	12.33	143.	46.	16.	1.94
+	ROUTED TO	RP51ML	244.	12.42	143.	46.	16.	1.94
+	2 COMBINED AT	CPML51	913.	12.83	372.	108.	36.	2.04
+	DIVERSION TO	DPML51	136.	12.17	122.	46.	16.	2.04
+	HYDROGRAPH AT	DML51	777.	12.83	250.	62.	21.	2.04
+	DIVERSION TO	DP51GC	113.	12.25	77.	19.	6.	2.04
+	HYDROGRAPH AT	D51GC	664.	12.83	173.	43.	14.	2.04
+	ROUTED TO	SRGC51	380.	13.83	167.	43.	14.	2.04
+	DIVERSION TO	DSTM51	80.	13.83	12.	3.	1.	2.04
+	HYDROGRAPH AT	DWGC53	300.	13.67	155.	40.	13.	2.04
+	ROUTED TO	RWGC53	301.	13.42	155.	40.	13.	2.04

+	HYDROGRAPH AT	DRGC59	403.	12.75	84.	21.	7.	3.38
+	ROUTED TO	RSGC59	392.	12.92	84.	21.	7.	3.38
+	HYDROGRAPH AT	GC59	265.	12.42	71.	22.	7.	.41
+	2 COMBINED AT	CGC55	590.	12.92	155.	43.	14.	2.42
+	DIVERSION TO	DWGC59	213.	12.92	36.	9.	3.	2.42
+	HYDROGRAPH AT	DEGC53	377.	12.92	119.	34.	11.	2.42
+	HYDROGRAPH AT	PRML51	136.	12.17	122.	46.	16.	2.04
+	ROUTED TO	RPML53	136.	12.25	122.	46.	16.	2.04
+	3 COMBINED AT	CGC53	749.	13.33	391.	120.	40.	2.27
+	ROUTED TO	SRGC53	590.	14.17	261.	114.	40.	2.27
+	DIVERSION TO	DPGC53	20.	9.67	20.	20.	9.	2.27
+	HYDROGRAPH AT	DGC53	570.	14.17	241.	94.	31.	2.27
+	HYDROGRAPH AT	PR591S	353.	12.25	249.	90.	31.	3.38
+	ROUTED TO	RP59GC	353.	12.33	249.	90.	31.	3.38
+	HYDROGRAPH AT	DRGC59	213.	12.92	36.	9.	3.	2.42
+	2 COMBINED AT	CPGC59	568.	12.92	286.	99.	34.	1.24
+	DIVERSION TO	DP59GC	258.	12.17	205.	79.	27.	1.24
+	HYDROGRAPH AT	D59GC	310.	12.92	81.	20.	7.	1.24
+	2 COMBINED AT	CGC59	664.	14.17	315.	114.	38.	3.50
+	DIVERSION TO	DSTM59	532.	14.17	256.	70.	23.	3.50
+	HYDROGRAPH AT	DWISGC	132.	14.17	59.	43.	15.	3.50
+	ROUTED TO	RWISGC	112.	14.58	59.	43.	15.	3.50
+	HYDROGRAPH AT	DRISGC	506.	13.08	135.	34.	11.	4.34
+	ROUTED TO	RSISGC	500.	13.17	135.	34.	11.	4.34
+	HYDROGRAPH AT	ISGC	59.	12.83	27.	8.	3.	.16
+	3 COMBINED AT	CISGC	605.	13.17	217.	85.	28.	3.33
+	HYDROGRAPH AT	PR59GC	258.	12.17	205.	79.	27.	1.24
+	2 COMBINED AT	CPISGC	863.	13.17	419.	157.	55.	3.33
+	DIVERSION TO	DPGC63	258.	12.08	229.	110.	40.	3.33
+	HYDROGRAPH AT	DGC63	605.	13.17	189.	47.	16.	3.33
+	ROUTED TO	SRISGC	418.	13.83	159.	47.	16.	3.33

+	DIVERSION TO	DSTM67	0.	.00	0.	0.	0.	3.33
+	HYDROGRAPH AT	DPGC67	418.	13.83	159.	47.	16.	3.33
+	HYDROGRAPH AT	DRGC75	564.	13.67	301.	102.	36.	8.14
+	HYDROGRAPH AT	GC75	159.	12.92	73.	22.	8.	.41
+	4 COMBINED AT	CGC75	1423.	13.67	648.	201.	70.	9.44
+	ROUTED TO	SRGC75	1130.	14.17	646.	201.	70.	9.44
+	2 COMBINED AT	CICB75	1718.	13.83	992.	319.	111.	14.03
+	ROUTED TO	RWGC83	1702.	14.17	990.	319.	111.	14.03
+	HYDROGRAPH AT	DRGC83	271.	13.67	131.	44.	15.	9.47
+	HYDROGRAPH AT	GC83	152.	12.92	72.	22.	7.	.43
+	DIVERSION TO	XGC83	152.	12.92	53.	14.	5.	.43
+	HYDROGRAPH AT	ERGC83	77.	14.67	27.	8.	3.	.43
+	3 COMBINED AT	CGC83	1881.	14.08	1102.	358.	125.	17.67
+	2 COMBINED AT	CIBH83	2237.	14.00	1272.	420.	147.	23.92
+	ROUTED TO	RWBH91	2217.	14.17	1264.	420.	147.	23.92
+	HYDROGRAPH AT	DRBH91	697.	13.67	303.	76.	25.	9.02
+	ROUTED TO	RSBH91	633.	14.08	302.	76.	25.	9.02
+	HYDROGRAPH AT	BH91	516.	12.67	165.	47.	16.	1.03
+	DIVERSION TO	XBH91	9.	8.08	7.	2.	1.	1.03
+	HYDROGRAPH AT	ERBH91	516.	12.67	165.	45.	15.	1.03
+	3 COMBINED AT	CBH91	2842.	14.17	1562.	508.	176.	30.54
+	ROUTED TO	RWBHLO	2825.	14.25	1561.	508.	176.	30.54
+	HYDROGRAPH AT	BHLO	746.	12.33	183.	62.	21.	.79
+	DIVERSION TO	XBHLO	581.	12.17	67.	21.	7.	.79
+	HYDROGRAPH AT	ERBHLO	746.	12.33	145.	41.	14.	.79
+	3 COMBINED AT	CBHLO	3764.	14.25	2213.	834.	298.	46.47
+	ROUTED TO	RWBH99	3754.	14.33	2213.	834.	298.	46.47
+	HYDROGRAPH AT	BH99	84.	12.50	25.	7.	2.	.18
+	2 COMBINED AT	CBH99	3771.	14.25	2228.	839.	300.	46.65
+	ROUTED TO	RWBHRI	3762.	14.33	2227.	839.	300.	46.65
+	HYDROGRAPH AT	GLNR	210.	12.58	69.	21.	7.	.48

+	DIVERSION TO	XGLNR	7.	9.75	5.	1.	0.	.48
+	HYDROGRAPH AT	ERGLNR	210.	12.58	69.	19.	6.	.48
+	DIVERSION TO	DWNR04	210.	12.58	69.	19.	6.	.48
+	HYDROGRAPH AT	DSBHRI	0.	.00	0.	0.	0.	.48
+	ROUTED TO	RSBHRI	0.	.00	0.	0.	0.	.48
+	HYDROGRAPH AT	BHRI	204.	12.50	47.	12.	4.	.51
+	DIVERSION TO	DWBHAF	161.	12.50	37.	9.	3.	.51
+	HYDROGRAPH AT	DBHNR	43.	12.50	10.	2.	1.	.51
+	3 COMBINED AT	CBHRI	3761.	14.33	2229.	840.	300.	47.17
+	ROUTED TO	RWBHNR	3733.	14.42	2226.	839.	300.	47.17
+	HYDROGRAPH AT	BHNR	132.	12.42	24.	6.	2.	.26
+	2 COMBINED AT	CBHNR	3735.	14.42	2233.	843.	302.	47.42
+	HYDROGRAPH AT	CB99	117.	12.42	35.	11.	4.	.20
+	DIVERSION TO	XCB99	84.	12.17	8.	2.	1.	.20
+	HYDROGRAPH AT	ERCB99	117.	12.42	31.	8.	3.	.20
+	DIVERSION TO	DSIS99	57.	12.42	15.	4.	1.	.20
+	HYDROGRAPH AT	DWCBRI	60.	12.42	16.	4.	1.	.20
+	ROUTED TO	RWCBRI	56.	13.00	16.	4.	1.	.20
+	HYDROGRAPH AT	CBRI	289.	12.75	106.	31.	10.	.70
+	DIVERSION TO	XCBRI	289.	12.75	79.	21.	7.	.70
+	HYDROGRAPH AT	ERCBRI	137.	14.08	35.	10.	3.	.70
+	2 COMBINED AT	CCBRI	161.	14.08	49.	14.	5.	.80
+	DIVERSION TO	DSIS07	111.	14.08	34.	10.	3.	.80
+	HYDROGRAPH AT	DWCB07	50.	14.08	15.	4.	1.	.80
+	HYDROGRAPH AT	CB07	105.	12.67	34.	9.	3.	.32
+	2 COMBINED AT	CCB07	117.	12.83	48.	13.	4.	.56
+	DIVERSION TO	DIS07	81.	12.83	33.	9.	3.	.56
+	HYDROGRAPH AT	DWCBNR	36.	12.83	15.	4.	1.	.56
+	ROUTED TO	RWCBNR	34.	13.50	15.	4.	1.	.56
+	HYDROGRAPH AT	CBNR	164.	12.58	48.	12.	4.	.47
+	2 COMBINED AT	CCBNR	165.	12.58	63.	17.	6.	.64

+	HYDROGRAPH AT	DRIS99	57.	12.42	15.	4.	1.	.20
+	ROUTED TO	RSIS99	51.	13.17	15.	4.	1.	.20
+	HYDROGRAPH AT	IS99	197.	12.42	50.	13.	4.	.32
+	2 COMBINED AT	CIS99	197.	12.42	64.	17.	6.	.42
+	DIVERSION TO	DSTM99	51.	12.42	17.	5.	2.	.42
+	HYDROGRAPH AT	DWIS07	146.	12.42	47.	13.	4.	.42
+	ROUTED TO	RWIS07	140.	12.92	47.	13.	4.	.42
+	HYDROGRAPH AT	DI07IS	81.	12.83	33.	9.	3.	.56
+	HYDROGRAPH AT	DRIS07	111.	14.08	34.	10.	3.	.80
+	2 COMBINED AT	CICB07	175.	14.08	66.	19.	6.	.94
+	ROUTED TO	RSIS07	147.	14.58	65.	19.	6.	.94
+	HYDROGRAPH AT	IS07	543.	12.67	177.	52.	17.	1.02
+	DIVERSION TO	XIS07	45.	11.83	16.	5.	2.	1.02
+	HYDROGRAPH AT	ERIS07	543.	12.67	174.	46.	15.	1.02
+	3 COMBINED AT	CIS07	691.	13.00	282.	77.	26.	2.28
+	DIVERSION TO	DSRI07	173.	13.00	70.	19.	6.	2.28
+	HYDROGRAPH AT	DWISAF	519.	13.00	211.	58.	19.	2.28
+	ROUTED TO	RWISAF	504.	13.50	205.	58.	19.	2.28
+	HYDROGRAPH AT	ISAF	416.	12.75	164.	53.	18.	.99
+	2 COMBINED AT	CISAF	841.	13.33	361.	110.	37.	2.69
+	HYDROGRAPH AT	DRTM99	51.	12.42	17.	5.	2.	.42
+	ROUTED TO	RSTM99	46.	13.33	17.	5.	2.	.42
+	HYDROGRAPH AT	TM99	244.	12.58	72.	19.	6.	.50
+	2 COMBINED AT	CTM99	245.	12.58	87.	23.	8.	.62
+	DIVERSION TO	DSMD99	113.	12.58	40.	11.	4.	.62
+	HYDROGRAPH AT	DWRI07	132.	12.58	47.	13.	4.	.62
+	ROUTED TO	RWRI07	129.	13.17	47.	13.	4.	.62
+	HYDROGRAPH AT	DRRI07	173.	13.00	70.	19.	6.	2.28
+	ROUTED TO	RSRI07	170.	13.25	69.	19.	6.	2.28
+	HYDROGRAPH AT	RI07	466.	12.50	115.	31.	10.	.76
+	DIVERSION TO	XRI07	465.	12.50	40.	11.	4.	.76

+	HYDROGRAPH AT	ERRI07	448.	12.67	80.	21.	7.	.76
+	3 COMBINED AT	CRI07	650.	12.92	195.	52.	17.	1.67
+	DIVERSION TO	DTM07	318.	12.92	96.	26.	9.	1.67
+	HYDROGRAPH AT	DRIAF	331.	12.92	99.	27.	9.	1.67
+	DIVERSION TO	DSTM07	205.	12.92	62.	17.	6.	1.67
+	HYDROGRAPH AT	DWRIAF	126.	12.92	38.	10.	3.	1.67
+	ROUTED TO	RWRIAF	93.	14.42	35.	10.	3.	1.67
+	HYDROGRAPH AT	RIAF	273.	12.83	115.	36.	12.	.66
+	2 COMBINED AT	CRIAF	273.	12.83	146.	46.	16.	.98
+	HYDROGRAPH AT	DRBHAF	161.	12.50	37.	9.	3.	.51
+	ROUTED TO	SRBHRI	0.	15.75	0.	0.	0.	.51
+	5 COMBINED AT	CAF01	5574.	14.25	3287.	1161.	418.	4.31
+	HYDROGRAPH AT	CB83	448.	12.42	93.	26.	9.	.55
+	DIVERSION TO	XCB83	442.	12.33	33.	9.	3.	.55
+	HYDROGRAPH AT	ERCB83	433.	12.50	65.	17.	6.	.55
+	DIVERSION TO	DP83CB	10.	12.42	8.	3.	1.	.55
+	HYDROGRAPH AT	D83CB	423.	12.50	57.	14.	5.	.55
+	DIVERSION TO	DSIS83	186.	12.50	25.	6.	2.	.55
+	HYDROGRAPH AT	DWCB91	237.	12.50	32.	8.	3.	.55
+	ROUTED TO	RWCB91	183.	13.08	32.	8.	3.	.55
+	HYDROGRAPH AT	CB91	544.	12.50	136.	36.	12.	.96
+	DIVERSION TO	XCB91	470.	12.33	32.	8.	3.	.96
+	HYDROGRAPH AT	ERCB91	544.	12.50	108.	27.	9.	.96
+	2 COMBINED AT	CCB91	598.	13.00	139.	35.	12.	1.32
+	DIVERSION TO	DSIS91	281.	13.00	65.	17.	6.	1.32
+	HYDROGRAPH AT	DWCBLO	317.	13.00	74.	19.	6.	1.32
+	ROUTED TO	RWCBLO	297.	13.25	73.	19.	6.	1.32
+	HYDROGRAPH AT	CBLO	499.	12.50	127.	35.	12.	.82
+	DIVERSION TO	XCBLO	365.	12.25	23.	7.	2.	.82
+	HYDROGRAPH AT	ERCBLO	499.	12.50	109.	28.	9.	.82
+	2 COMBINED AT	CCBLO	636.	13.00	181.	47.	16.	1.52

+	ROUTED TO	RSISLO	617.	13.17	180.	47.	16.	1.52
+	HYDROGRAPH AT	IS75	450.	12.42	117.	36.	12.	.62
+	DIVERSION TO	XIS75	6.	2.42	2.	0.	0.	.62
+	HYDROGRAPH AT	ERIS75	450.	12.42	117.	36.	12.	.62
+	DIVERSION TO	DP75IS	123.	12.00	65.	22.	8.	.62
+	HYDROGRAPH AT	D75IS	327.	12.42	52.	13.	4.	.62
+	DIVERSION TO	DSTM75	114.	12.42	18.	5.	2.	.62
+	HYDROGRAPH AT	DWIS83	212.	12.42	34.	8.	3.	.62
+	ROUTED TO	RWIS83	189.	13.00	34.	8.	3.	.62
+	HYDROGRAPH AT	DRIS83	186.	12.50	25.	6.	2.	.55
+	ROUTED TO	RSIS83	136.	13.25	25.	6.	2.	.55
+	HYDROGRAPH AT	IS83	529.	12.58	169.	51.	17.	.99
+	3 COMBINED AT	CIS83	730.	13.17	227.	66.	22.	1.64
+	HYDROGRAPH AT	PR83CB	10.	12.42	8.	3.	1.	.55
+	ROUTED TO	RP83IS	10.	12.83	8.	3.	1.	.55
+	2 COMBINED AT	CPIS83	740.	13.17	233.	68.	23.	1.64
+	DIVERSION TO	DP83IS	187.	12.08	118.	40.	13.	1.64
+	HYDROGRAPH AT	D83IS	553.	13.17	115.	29.	10.	1.64
+	DIVERSION TO	DSTM83	304.	13.17	63.	16.	5.	1.64
+	HYDROGRAPH AT	DWIS91	249.	13.17	52.	13.	4.	1.64
+	ROUTED TO	RWIS91	235.	13.42	52.	13.	4.	1.64
+	HYDROGRAPH AT	DRIS91	281.	13.00	65.	17.	6.	1.32
+	ROUTED TO	RSIS91	255.	13.42	65.	17.	6.	1.32
+	HYDROGRAPH AT	IS91	572.	12.67	199.	60.	20.	1.00
+	DIVERSION TO	XIS91	351.	12.25	41.	12.	4.	1.00
+	HYDROGRAPH AT	ERIS91	572.	12.67	177.	48.	16.	1.00
+	3 COMBINED AT	CIS91	921.	13.25	292.	77.	26.	2.36
+	DIVERSION TO	DP91IS	190.	12.42	123.	34.	11.	2.36
+	HYDROGRAPH AT	D91IS	731.	13.25	169.	42.	14.	2.36
+	DIVERSION TO	DSTM91	417.	13.25	96.	24.	8.	2.36
+	HYDROGRAPH AT	DWISLO	314.	13.25	73.	18.	6.	2.36

+	ROUTED TO	RWISLO	310.	13.42	73.	18.	6.	2.36
+	HYDROGRAPH AT	ISLO	436.	12.50	117.	33.	11.	.68
+	DIVERSION TO	XISLO	436.	12.50	56.	15.	5.	.68
+	HYDROGRAPH AT	ERISLO	387.	12.83	68.	18.	6.	.68
+	3 COMBINED AT	CISLO	1159.	13.25	318.	82.	27.	3.22
+	ROUTED TO	RSTMLO	1149.	13.33	316.	82.	27.	3.22
+	HYDROGRAPH AT	DRGCGR	241.	12.75	81.	20.	7.	2.11
+	HYDROGRAPH AT	DIGCGR	402.	12.75	108.	27.	9.	3.93
+	2 COMBINED AT	CIGR35	642.	12.75	188.	47.	16.	3.97
+	ROUTED TO	RSGCGR	618.	12.92	188.	47.	16.	3.97
+	HYDROGRAPH AT	DRGC27	566.	13.17	186.	46.	15.	1.74
+	ROUTED TO	RSGC27	564.	13.25	186.	46.	15.	1.74
+	HYDROGRAPH AT	GCGR	753.	12.00	83.	28.	9.	.38
+	3 COMBINED AT	CGCGR	1167.	13.00	450.	121.	40.	6.09
+	HYDROGRAPH AT	PR31IS	268.	11.75	228.	87.	29.	3.93
+	ROUTED TO	RP31GC	268.	11.83	228.	87.	29.	3.93
+	HYDROGRAPH AT	PR27IS	151.	11.67	146.	73.	25.	1.74
+	ROUTED TO	RP27GC	151.	11.75	146.	73.	25.	1.74
+	3 COMBINED AT	CPGCGR	1586.	13.00	823.	280.	94.	6.09
+	DIVERSION TO	DPGCGR	422.	11.67	392.	172.	58.	6.09
+	HYDROGRAPH AT	DGCGR	1164.	13.00	431.	108.	36.	6.09
+	ROUTED TO	SRGCGR	793.	13.83	414.	108.	36.	6.09
+	ROUTED TO	RSGR27	784.	14.08	412.	108.	36.	6.09
+	HYDROGRAPH AT	GR27	482.	12.25	90.	29.	10.	.41
+	2 COMBINED AT	CTM27	814.	14.00	484.	137.	46.	6.50
+	DIVERSION TO	DGR27	407.	14.00	242.	68.	23.	6.50
+	HYDROGRAPH AT	DTM27	407.	14.00	242.	68.	23.	6.50
+	ROUTED TO	SRTM27	407.	14.08	209.	68.	23.	6.50
+	HYDROGRAPH AT	PRGCGR	422.	11.67	392.	172.	58.	6.09
+	DIVERSION TO	DP31GR	257.	11.17	256.	138.	47.	6.09
+	HYDROGRAPH AT	D31GR	165.	11.67	136.	34.	11.	6.09

+	ROUTED TO	RP27TM	165.	11.83	136.	34.	11.	6.09
+	2 COMBINED AT	CPGR27	562.	14.08	328.	100.	34.	12.59
+	DIVERSION TO	DP27GR	195.	11.75	182.	64.	21.	12.59
+	HYDROGRAPH AT	D27GR	367.	14.08	146.	37.	12.	12.59
+	HYDROGRAPH AT	DRGR27	407.	14.00	242.	68.	23.	6.50
+	2 COMBINED AT	CGR27	784.	14.08	393.	106.	35.	6.50
+	ROUTED TO	SRGR27	783.	14.08	309.	91.	35.	6.50
+	DIVERSION TO	DSMD27	533.	14.08	210.	62.	24.	6.50
+	HYDROGRAPH AT	DWTM35	251.	14.08	99.	29.	11.	6.50
+	ROUTED TO	RWTM35	244.	14.67	98.	29.	11.	6.50
+	HYDROGRAPH AT	DRTM35	1259.	12.83	360.	90.	30.	2.14
+	ROUTED TO	RSTM35	1230.	12.92	359.	90.	30.	2.14
+	HYDROGRAPH AT	TM35	479.	12.25	91.	31.	10.	.39
+	3 COMBINED AT	CTM35	1372.	12.92	531.	146.	51.	4.31
+	HYDROGRAPH AT	PR31GR	257.	11.17	256.	138.	47.	6.09
+	ROUTED TO	RP31TM	257.	11.25	256.	138.	47.	6.09
+	HYDROGRAPH AT	PR35GC	40.	11.83	33.	10.	3.	2.14
+	ROUTED TO	RP35TM	40.	12.00	33.	10.	3.	2.14
+	3 COMBINED AT	CPTM35	1669.	12.92	818.	294.	101.	4.31
+	DIVERSION TO	DP35TM	300.	11.17	300.	164.	58.	4.31
+	HYDROGRAPH AT	D35TM	1369.	12.92	518.	130.	43.	4.31
+	DIVERSION TO	DSMD35	1150.	12.92	435.	109.	36.	4.31
+	HYDROGRAPH AT	DWTM43	219.	12.92	83.	21.	7.	4.31
+	ROUTED TO	RWTM43	198.	13.58	80.	21.	7.	4.31
+	HYDROGRAPH AT	DRTM43	538.	12.33	113.	28.	9.	2.23
+	ROUTED TO	RSTM43	485.	12.50	113.	28.	9.	2.23
+	HYDROGRAPH AT	TM43	347.	12.67	125.	37.	13.	.64
+	DIVERSION TO	XTM43	7.	4.75	3.	1.	0.	.64
+	HYDROGRAPH AT	ERTM43	347.	12.67	125.	37.	12.	.64
+	3 COMBINED AT	CTM43	816.	12.58	313.	85.	28.	3.16
+	HYDROGRAPH AT	PR43GC	406.	11.75	368.	160.	55.	2.23

+	ROUTED TO	RP43TM	406.	11.83	368.	160.	55.	2.23
+	2 COMBINED AT	CPTM43	1222.	12.58	678.	245.	83.	3.16
+	DIVERSION TO	DP43TM	629.	12.17	520.	206.	70.	3.16
+	HYDROGRAPH AT	D43TM	593.	12.58	157.	39.	13.	3.16
+	DIVERSION TO	DSMD43	469.	12.58	124.	31.	10.	3.16
+	HYDROGRAPH AT	DWTM51	125.	12.58	33.	8.	3.	3.16
+	ROUTED TO	RWTM51	112.	13.92	33.	8.	3.	3.16
+	HYDROGRAPH AT	DRTM51	80.	13.83	12.	3.	1.	2.04
+	ROUTED TO	RSTM51	74.	14.08	12.	3.	1.	2.04
+	HYDROGRAPH AT	TM51	248.	12.75	90.	27.	9.	.55
+	3 COMBINED AT	CTM51	302.	14.00	134.	39.	13.	2.15
+	HYDROGRAPH AT	PR51GC	113.	12.25	77.	19.	6.	2.04
+	HYDROGRAPH AT	PRGC53	20.	9.67	20.	20.	9.	2.27
+	ROUTED TO	RPGC51	20.	9.75	20.	20.	9.	2.27
+	2 COMBINED AT	CPGC51	133.	12.25	97.	39.	15.	2.15
+	ROUTED TO	RP51TM	133.	12.33	97.	39.	15.	2.15
+	2 COMBINED AT	CPTM51	431.	14.00	230.	76.	28.	4.30
+	DIVERSION TO	DP51TM	244.	12.33	174.	62.	24.	4.30
+	HYDROGRAPH AT	D51TM	187.	14.00	55.	14.	5.	4.30
+	DIVERSION TO	DSMD51	120.	14.00	35.	9.	3.	4.30
+	HYDROGRAPH AT	DWTM59	67.	14.00	20.	5.	2.	4.30
+	ROUTED TO	RWTM59	60.	14.50	20.	5.	2.	4.30
+	HYDROGRAPH AT	DRTM59	532.	14.17	256.	70.	23.	3.50
+	ROUTED TO	RSTM59	529.	14.33	255.	70.	23.	3.50
+	HYDROGRAPH AT	TM59	314.	12.58	98.	29.	10.	.60
+	3 COMBINED AT	CTM59	669.	14.25	367.	104.	35.	3.90
+	HYDROGRAPH AT	PRGC63	258.	12.08	229.	110.	40.	3.33
+	ROUTED TO	RP59TM	258.	12.17	229.	110.	40.	3.33
+	2 COMBINED AT	CPTM59	927.	14.25	596.	213.	74.	3.90
+	DIVERSION TO	DP59TM	389.	12.17	357.	153.	54.	3.90
+	HYDROGRAPH AT	D59TM	538.	14.25	239.	60.	20.	3.90

+	DIVERSION TO	DSMD59	221.	14.25	98.	25.	8.	3.90
+	HYDROGRAPH AT	DWTM67	318.	14.25	141.	35.	12.	3.90
+	ROUTED TO	RWTM67	306.	14.83	140.	35.	12.	3.90
+	HYDROGRAPH AT	DRTM67	0.	.00	0.	0.	0.	3.33
+	ROUTED TO	RSTM67	0.	.00	0.	0.	0.	3.33
+	HYDROGRAPH AT	TM67	474.	12.58	152.	46.	15.	.81
+	DIVERSION TO	XTM67	7.	3.00	2.	1.	0.	.81
+	HYDROGRAPH AT	ERTM67	474.	12.58	152.	45.	15.	.81
+	3 COMBINED AT	CTM67	522.	13.33	288.	80.	27.	3.12
+	HYDROGRAPH AT	PR67IS	175.	12.00	159.	64.	22.	4.34
+	ROUTED TO	RP67TM	175.	12.17	159.	64.	22.	4.34
+	2 COMBINED AT	CPTM67	697.	13.33	446.	145.	49.	3.12
+	DIVERSION TO	DP67TM	273.	12.08	252.	96.	33.	3.12
+	HYDROGRAPH AT	D67TM	424.	13.33	194.	49.	16.	3.12
+	DIVERSION TO	DSMD67	191.	13.33	87.	22.	7.	3.12
+	HYDROGRAPH AT	DWTM75	233.	13.33	107.	27.	9.	3.12
+	ROUTED TO	RWTM75	224.	13.67	107.	27.	9.	3.12
+	HYDROGRAPH AT	DRTM75	114.	12.42	18.	5.	2.	.62
+	ROUTED TO	RSTM75	103.	13.00	18.	5.	2.	.62
+	HYDROGRAPH AT	TM75	626.	12.58	203.	61.	21.	1.00
+	DIVERSION TO	XTM75	9.	2.17	2.	0.	0.	1.00
+	HYDROGRAPH AT	ERTM75	626.	12.58	203.	61.	20.	1.00
+	3 COMBINED AT	CTM75	793.	13.00	323.	92.	31.	2.92
+	HYDROGRAPH AT	PR75IS	123.	12.00	65.	22.	8.	.62
+	ROUTED TO	RP75TM	123.	12.25	65.	23.	8.	.62
+	2 COMBINED AT	CPTM75	916.	13.00	387.	114.	38.	2.92
+	DIVERSION TO	DP75TM	303.	12.08	229.	75.	25.	2.92
+	HYDROGRAPH AT	D75TM	613.	13.00	159.	40.	13.	2.92
+	DIVERSION TO	DSMD75	294.	13.00	76.	19.	6.	2.92
+	HYDROGRAPH AT	DWTM83	319.	13.00	82.	21.	7.	2.92
+	ROUTED TO	RWTM83	301.	13.33	82.	21.	7.	2.92

+	HYDROGRAPH AT	DRTM83	304.	13.17	63.	16.	5.	1.64
+	ROUTED TO	RSTM83	282.	13.42	63.	16.	5.	1.64
+	HYDROGRAPH AT	TM83	526.	12.67	175.	53.	18.	.99
+	3 COMBINED AT	CTM83	962.	13.33	319.	89.	30.	3.41
+	HYDROGRAPH AT	PR83IS	187.	12.08	118.	40.	13.	1.64
+	ROUTED TO	RP83TM	187.	12.25	118.	40.	13.	1.64
+	2 COMBINED AT	CPTM83	1149.	13.33	437.	128.	43.	3.41
+	DIVERSION TO	DP83TM	283.	12.08	204.	70.	23.	3.41
+	HYDROGRAPH AT	D83TM	866.	13.33	233.	58.	19.	3.41
+	DIVERSION TO	DSMD83	199.	13.33	54.	13.	4.	3.41
+	HYDROGRAPH AT	DWTM91	667.	13.33	179.	45.	15.	3.41
+	ROUTED TO	RWTM91	642.	13.58	179.	45.	15.	3.41
+	HYDROGRAPH AT	DRTM91	417.	13.25	96.	24.	8.	2.36
+	ROUTED TO	RSTM91	393.	13.58	96.	24.	8.	2.36
+	HYDROGRAPH AT	TM91	538.	12.67	182.	55.	18.	1.00
+	DIVERSION TO	XTM91	90.	11.92	22.	7.	2.	1.00
+	HYDROGRAPH AT	ERTM91	538.	12.67	177.	48.	16.	1.00
+	3 COMBINED AT	CTM91	1357.	13.58	449.	116.	39.	4.96
+	HYDROGRAPH AT	PR91IS	190.	12.42	123.	34.	11.	2.36
+	ROUTED TO	RP91TM	190.	12.58	123.	34.	11.	2.36
+	2 COMBINED AT	CPTM91	1547.	13.58	570.	150.	50.	4.96
+	DIVERSION TO	DP91TM	287.	12.25	217.	62.	21.	4.96
+	HYDROGRAPH AT	D91TM	1260.	13.58	353.	88.	29.	4.96
+	DIVERSION TO	DSMD91	970.	13.58	272.	68.	23.	4.96
+	HYDROGRAPH AT	DWTMLO	290.	13.58	81.	20.	7.	4.96
+	ROUTED TO	RWTMLO	284.	13.67	81.	20.	7.	4.96
+	HYDROGRAPH AT	TMLO	264.	12.50	71.	19.	6.	.50
+	DIVERSION TO	XTMLO	1.	5.58	1.	0.	0.	.50
+	HYDROGRAPH AT	ERTMLO	264.	12.50	71.	19.	6.	.50
+	3 COMBINED AT	CTMLO	1524.	13.42	463.	120.	40.	4.87
+	ROUTED TO	RSMDLO	1514.	13.50	462.	120.	40.	4.87

+	HYDROGRAPH AT	DRMD27	533.	14.08	210.	62.	24.	6.50
+	ROUTED TO	RSMD27	528.	14.33	209.	62.	24.	6.50
+	HYDROGRAPH AT	MD27	275.	12.25	56.	19.	6.	.24
+	2 COMBINED AT	CMD27	548.	14.33	249.	76.	30.	4.65
+	HYDROGRAPH AT	PR27GR	195.	11.75	182.	64.	21.	12.59
+	ROUTED TO	RP27MD	195.	12.50	181.	64.	21.	12.59
+	2 COMBINED AT	CPMD27	743.	14.33	431.	139.	52.	4.65
+	DIVERSION TO	DP27MD	246.	11.83	240.	92.	36.	4.65
+	HYDROGRAPH AT	D27MD	497.	14.33	191.	48.	16.	4.65
+	ROUTED TO	RWMD35	479.	14.92	188.	48.	16.	4.65
+	HYDROGRAPH AT	DRMD35	1150.	12.92	435.	109.	36.	4.31
+	ROUTED TO	RSMD35	1106.	13.08	432.	109.	36.	4.31
+	HYDROGRAPH AT	MD35	676.	12.58	224.	71.	24.	1.00
+	3 COMBINED AT	CMD35	1811.	12.92	828.	226.	75.	9.29
+	HYDROGRAPH AT	PR35TM	300.	11.17	300.	164.	58.	4.31
+	ROUTED TO	RP35MD	300.	11.25	300.	164.	58.	4.31
+	2 COMBINED AT	CPMD35	2111.	12.92	1124.	390.	133.	9.29
+	DIVERSION TO	DP35MD	507.	12.00	497.	233.	81.	9.29
+	HYDROGRAPH AT	D35MD	1604.	12.92	627.	157.	52.	9.29
+	DIVERSION TO	DSIN35	1010.	12.92	395.	99.	33.	9.29
+	HYDROGRAPH AT	DWMD43	593.	12.92	232.	58.	19.	9.29
+	ROUTED TO	RWMD43	552.	13.58	227.	58.	19.	9.29
+	HYDROGRAPH AT	DRMD43	469.	12.58	124.	31.	10.	3.16
+	ROUTED TO	RSMD43	439.	13.42	124.	31.	10.	3.16
+	HYDROGRAPH AT	MD43	1068.	12.33	205.	62.	21.	1.00
+	3 COMBINED AT	CMD43	1165.	13.42	536.	150.	50.	6.96
+	HYDROGRAPH AT	PR43TM	629.	12.17	520.	206.	70.	3.16
+	ROUTED TO	RP43MD	629.	12.33	520.	206.	70.	3.16
+	2 COMBINED AT	CPMD43	1794.	13.42	1054.	355.	120.	6.96
+	DIVERSION TO	DP43MD	629.	11.83	588.	238.	81.	6.96
+	HYDROGRAPH AT	D43MD	1165.	13.42	466.	116.	39.	6.96

+	DIVERSION TO	DSIN43	1165.	13.42	466.	116.	39.	6.96
+	HYDROGRAPH AT	DWMD51	0.	.00	0.	0.	0.	6.96
+	ROUTED TO	RWMD51	0.	.00	0.	0.	0.	6.96
+	HYDROGRAPH AT	DRMD51	120.	14.00	35.	9.	3.	4.30
+	ROUTED TO	RSMD51	111.	14.25	35.	9.	3.	4.30
+	HYDROGRAPH AT	MD51	515.	12.75	185.	56.	19.	1.00
+	3 COMBINED AT	CMD51	527.	12.83	220.	64.	22.	2.37
+	HYDROGRAPH AT	PR51TM	244.	12.33	174.	62.	24.	4.30
+	ROUTED TO	RP51MD	244.	12.50	175.	62.	24.	4.30
+	2 COMBINED AT	CPMD51	771.	12.83	394.	125.	45.	2.37
+	DIVERSION TO	DP51MD	368.	12.25	274.	95.	35.	2.37
+	HYDROGRAPH AT	D51MD	403.	12.83	121.	30.	10.	2.37
+	DIVERSION TO	DSIN51	157.	12.83	47.	12.	4.	2.37
+	HYDROGRAPH AT	DWMD59	246.	12.83	74.	18.	6.	2.37
+	ROUTED TO	RWMD59	242.	13.33	74.	18.	6.	2.37
+	HYDROGRAPH AT	DRMD59	221.	14.25	98.	25.	8.	3.90
+	ROUTED TO	RSMD59	215.	14.67	98.	25.	8.	3.90
+	HYDROGRAPH AT	MD59	526.	12.67	181.	54.	18.	1.00
+	3 COMBINED AT	CMD59	836.	13.25	350.	96.	32.	4.05
+	HYDROGRAPH AT	PR59TM	389.	12.17	357.	153.	54.	3.90
+	ROUTED TO	RP59MD	389.	12.33	357.	153.	54.	3.90
+	2 COMBINED AT	CPMD59	1225.	13.25	705.	248.	87.	4.05
+	DIVERSION TO	DP59MD	468.	12.17	432.	180.	64.	4.05
+	HYDROGRAPH AT	D59MD	757.	13.25	272.	68.	23.	4.05
+	DIVERSION TO	DSIN59	378.	13.25	136.	34.	11.	4.05
+	HYDROGRAPH AT	DWMD67	378.	13.25	136.	34.	11.	4.05
+	ROUTED TO	RWMD67	352.	13.67	136.	34.	11.	4.05
+	HYDROGRAPH AT	DRMD67	191.	13.33	87.	22.	7.	3.12
+	ROUTED TO	RSMD67	183.	13.58	87.	22.	7.	3.12
+	HYDROGRAPH AT	MD67	552.	12.58	176.	51.	17.	.98
+	DIVERSION TO	XMD67	67.	11.83	17.	6.	2.	.98

+	HYDROGRAPH AT	ERMD67	552.	12.58	172.	46.	15.	.98
+	3 COMBINED AT	CMD67	855.	13.50	392.	101.	34.	4.41
+	HYDROGRAPH AT	PR67TM	273.	12.08	252.	96.	33.	3.12
+	ROUTED TO	RP67MD	273.	12.25	252.	96.	33.	3.12
+	2 COMBINED AT	CPMD67	1128.	13.50	643.	197.	67.	4.41
+	DIVERSION TO	DP67MD	400.	12.08	367.	128.	43.	4.41
+	HYDROGRAPH AT	D67MD	728.	13.50	276.	69.	23.	4.41
+	DIVERSION TO	DSIN67	109.	13.50	41.	10.	3.	4.41
+	HYDROGRAPH AT	DWMD75	619.	13.50	235.	59.	20.	4.41
+	ROUTED TO	RWMD75	605.	13.75	234.	59.	20.	4.41
+	HYDROGRAPH AT	DRMD75	294.	13.00	76.	19.	6.	2.92
+	ROUTED TO	RSMD75	274.	13.33	76.	19.	6.	2.92
+	HYDROGRAPH AT	MD75	567.	12.67	187.	57.	19.	1.00
+	DIVERSION TO	XMD75	16.	8.08	12.	3.	1.	1.00
+	HYDROGRAPH AT	ERMD75	567.	12.67	187.	54.	18.	1.00
+	3 COMBINED AT	CMD75	1203.	13.33	489.	130.	43.	6.14
+	HYDROGRAPH AT	PR75TM	303.	12.08	229.	75.	25.	2.92
+	ROUTED TO	RP75MD	303.	12.25	229.	75.	25.	2.92
+	2 COMBINED AT	CPMD75	1506.	13.33	717.	205.	68.	6.14
+	DIVERSION TO	DP75MD	364.	12.08	315.	104.	35.	6.14
+	HYDROGRAPH AT	D75MD	1142.	13.33	402.	101.	34.	6.14
+	DIVERSION TO	DSIN75	400.	13.33	141.	35.	12.	6.14
+	HYDROGRAPH AT	DWMD83	742.	13.33	261.	65.	22.	6.14
+	ROUTED TO	RWMD83	728.	13.67	261.	65.	22.	6.14
+	HYDROGRAPH AT	DRMD83	199.	13.33	54.	13.	4.	3.41
+	ROUTED TO	RSMD83	191.	13.58	54.	13.	4.	3.41
+	HYDROGRAPH AT	MD83	782.	12.42	198.	61.	21.	.99
+	DIVERSION TO	XMD83	439.	12.08	47.	15.	5.	.99
+	HYDROGRAPH AT	ERMD83	782.	12.42	173.	47.	16.	.99
+	3 COMBINED AT	CMD83	1165.	13.50	485.	125.	42.	5.80
+	HYDROGRAPH AT	PR83TM	283.	12.08	204.	70.	23.	3.41

+	ROUTED TO	RP83MD	283.	12.25	204.	70.	23.	3.41
+	2 COMBINED AT	CPMD83	1448.	13.50	686.	195.	65.	5.80
+	DIVERSION TO	DP83MD	340.	12.17	268.	90.	30.	5.80
+	HYDROGRAPH AT	D83MD	1108.	13.50	418.	104.	35.	5.80
+	ROUTED TO	RWMD91	1089.	13.75	418.	104.	35.	5.80
+	HYDROGRAPH AT	DRMD91	970.	13.58	272.	68.	23.	4.96
+	ROUTED TO	RSMD91	938.	13.83	272.	68.	23.	4.96
+	HYDROGRAPH AT	MD91	586.	12.67	199.	60.	20.	1.01
+	DIVERSION TO	XMD91	266.	12.17	34.	11.	4.	1.01
+	HYDROGRAPH AT	ERMD91	586.	12.67	184.	50.	17.	1.01
+	3 COMBINED AT	CMD91	2298.	13.75	859.	218.	73.	10.61
+	HYDROGRAPH AT	PR91TM	287.	12.25	217.	62.	21.	4.96
+	ROUTED TO	RP91MD	287.	12.42	217.	62.	21.	4.96
+	2 COMBINED AT	CPMD91	2585.	13.75	1075.	280.	93.	10.61
+	DIVERSION TO	DP91MD	345.	12.33	281.	81.	27.	10.61
+	HYDROGRAPH AT	D91MD	2240.	13.75	794.	199.	66.	10.61
+	DIVERSION TO	DSIN91	448.	13.75	159.	40.	13.	10.61
+	HYDROGRAPH AT	DWMDLO	1792.	13.75	636.	159.	53.	10.61
+	ROUTED TO	RWMDLO	1775.	13.92	635.	159.	53.	10.61
+	HYDROGRAPH AT	MDLO	609.	12.42	139.	42.	14.	.67
+	DIVERSION TO	XMDLO	609.	12.42	105.	28.	9.	.67
+	HYDROGRAPH AT	ERMDLO	296.	13.08	48.	14.	5.	.67
+	3 COMBINED AT	CMDLO	3179.	13.67	1097.	282.	94.	14.07
+	ROUTED TO	RSINLO	3177.	13.67	1097.	282.	94.	14.07
+	DIVERSION TO	DEIN95	0.	.00	0.	0.	0.	14.07
+	HYDROGRAPH AT	DSINLO	3177.	13.67	1097.	282.	94.	14.07
+	HYDROGRAPH AT	IN27	116.	12.17	24.	8.	3.	.10
+	HYDROGRAPH AT	PR27MD	246.	11.83	240.	92.	36.	4.65
+	ROUTED TO	RP27IN	246.	11.92	240.	92.	36.	4.65
+	2 COMBINED AT	CPIN27	362.	12.17	263.	100.	39.	.10
+	DIVERSION TO	DSVB27	261.	12.17	189.	72.	28.	.10

+	HYDROGRAPH AT	DWIN35	101.	12.17	74.	28.	11.	.10
+	ROUTED TO	RWIN35	95.	12.75	73.	28.	11.	.10
+	HYDROGRAPH AT	DRIN35	1010.	12.92	395.	99.	33.	9.29
+	ROUTED TO	RSIN35	1008.	13.00	395.	99.	33.	9.29
+	HYDROGRAPH AT	IN35	486.	12.08	56.	18.	6.	.24
+	3 COMBINED AT	CIN35	1137.	13.00	515.	144.	50.	6.11
+	HYDROGRAPH AT	PR35MD	507.	12.00	497.	233.	81.	9.29
+	ROUTED TO	RP35IN	507.	12.08	497.	233.	81.	9.29
+	2 COMBINED AT	CPIN35	1644.	13.00	1012.	376.	131.	6.11
+	DIVERSION TO	DSVB35	1431.	13.00	880.	327.	114.	6.11
+	HYDROGRAPH AT	DWIN43	214.	13.00	132.	49.	17.	6.11
+	ROUTED TO	RWIN43	210.	13.25	131.	49.	17.	6.11
+	HYDROGRAPH AT	DRIN43	1165.	13.42	466.	116.	39.	6.96
+	ROUTED TO	RSIN43	1163.	13.42	466.	116.	39.	6.96
+	HYDROGRAPH AT	IN43	407.	12.17	55.	17.	6.	.26
+	3 COMBINED AT	CIN43	1436.	12.33	645.	181.	61.	7.99
+	HYDROGRAPH AT	PR43MD	629.	11.83	588.	238.	81.	6.96
+	ROUTED TO	RP43IN	629.	11.92	588.	238.	81.	6.96
+	2 COMBINED AT	CPIN43	2065.	12.33	1233.	420.	143.	7.99
+	DIVERSION TO	DSVB43	1672.	12.33	998.	340.	115.	7.99
+	HYDROGRAPH AT	DWIN51	392.	12.33	234.	80.	27.	7.99
+	ROUTED TO	RWIN51	378.	13.58	233.	80.	27.	7.99
+	HYDROGRAPH AT	DRIN51	157.	12.83	47.	12.	4.	2.37
+	ROUTED TO	RSIN51	156.	13.00	47.	12.	4.	2.37
+	HYDROGRAPH AT	IN51	207.	12.25	54.	18.	6.	.23
+	3 COMBINED AT	CIN51	650.	12.67	333.	110.	37.	2.68
+	HYDROGRAPH AT	PR51MD	368.	12.25	274.	95.	35.	2.37
+	ROUTED TO	RP51IN	368.	12.33	274.	95.	35.	2.37
+	2 COMBINED AT	CPIN51	1018.	12.67	607.	205.	72.	2.68
+	DIVERSION TO	DSVB51	0.	.00	0.	0.	0.	2.68
+	HYDROGRAPH AT	DWIN59	1018.	12.67	607.	205.	72.	2.68

+	ROUTED TO	RWIN59	1001.	12.83	606.	205.	72.	2.68
+	HYDROGRAPH AT	DRIN59	378.	13.25	136.	34.	11.	4.05
+	ROUTED TO	RSIN59	379.	13.25	136.	34.	11.	4.05
+	HYDROGRAPH AT	IN59	112.	12.58	43.	14.	5.	.20
+	3 COMBINED AT	CIN59	1434.	13.17	782.	251.	88.	4.90
+	HYDROGRAPH AT	PR59MD	468.	12.17	432.	180.	64.	4.05
+	ROUTED TO	RP59IN	468.	12.25	432.	180.	64.	4.05
+	2 COMBINED AT	CPIN59	1902.	13.17	1213.	429.	152.	4.90
+	DIVERSION TO	DSVB59	0.	.00	0.	0.	0.	4.90
+	HYDROGRAPH AT	DWIN67	1902.	13.17	1213.	429.	152.	4.90
+	ROUTED TO	RWIN67	1887.	13.33	1212.	429.	152.	4.90
+	HYDROGRAPH AT	DRIN67	109.	13.50	41.	10.	3.	4.41
+	ROUTED TO	RSIN67	109.	13.50	41.	10.	3.	4.41
+	HYDROGRAPH AT	IN67	95.	12.75	41.	13.	4.	.20
+	DIVERSION TO	XIN67	94.	12.67	16.	5.	2.	.20
+	HYDROGRAPH AT	ERIN67	93.	12.92	31.	9.	3.	.20
+	3 COMBINED AT	CIN67	2072.	13.25	1281.	448.	158.	5.78
+	HYDROGRAPH AT	PR67MD	400.	12.08	367.	128.	43.	4.41
+	ROUTED TO	RP67IN	400.	12.17	367.	128.	43.	4.41
+	2 COMBINED AT	CPIN67	2472.	13.25	1648.	576.	201.	5.78
+	DIVERSION TO	DSVB67	0.	.00	0.	0.	0.	5.78
+	HYDROGRAPH AT	DWIN75	2472.	13.25	1648.	576.	201.	5.78
+	ROUTED TO	RWIN75	2469.	13.42	1647.	576.	201.	5.78
+	HYDROGRAPH AT	DRIN75	400.	13.33	141.	35.	12.	6.14
+	ROUTED TO	RSIN75	399.	13.42	141.	35.	12.	6.14
+	HYDROGRAPH AT	IN75	102.	12.58	39.	13.	4.	.20
+	DIVERSION TO	XIN75	7.	10.08	4.	1.	0.	.20
+	HYDROGRAPH AT	ERIN75	102.	12.58	39.	11.	4.	.20
+	3 COMBINED AT	CIN75	2933.	13.33	1822.	621.	216.	8.11
+	HYDROGRAPH AT	PR75MD	364.	12.08	315.	104.	35.	6.14
+	ROUTED TO	RP75IN	364.	12.17	315.	104.	35.	6.14

+	2 COMBINED AT	CPIN75	3297.	13.33	2131.	724.	251.	8.11
+	DIVERSION TO	DSVB75	0.	.00	0.	0.	0.	8.11
+	HYDROGRAPH AT	DWIN83	3297.	13.33	2131.	724.	251.	8.11
+	ROUTED TO	RWIN83	3287.	13.50	2128.	724.	251.	8.11
+	HYDROGRAPH AT	IN83	110.	12.58	41.	14.	5.	.20
+	DIVERSION TO	XIN83	110.	12.58	21.	6.	2.	.20
+	HYDROGRAPH AT	ERIN83	96.	13.00	26.	8.	3.	.20
+	2 COMBINED AT	CIN83	3356.	13.42	2152.	731.	254.	8.31
+	HYDROGRAPH AT	PR83MD	340.	12.17	268.	90.	30.	5.80
+	ROUTED TO	RP83IN	340.	12.25	268.	90.	30.	5.80
+	2 COMBINED AT	CPIN83	3696.	13.42	2419.	820.	284.	8.31
+	DIVERSION TO	DSVB83	0.	.00	0.	0.	0.	8.31
+	HYDROGRAPH AT	DWIN91	3696.	13.42	2419.	820.	284.	8.31
+	ROUTED TO	RWIN91	3686.	13.58	2416.	820.	284.	8.31
+	HYDROGRAPH AT	DRIN91	448.	13.75	159.	40.	13.	10.61
+	ROUTED TO	RSIN91	448.	13.75	159.	40.	13.	10.61
+	HYDROGRAPH AT	IN91	156.	12.33	42.	13.	5.	.19
+	3 COMBINED AT	CIN91	4161.	13.58	2602.	869.	300.	10.57
+	HYDROGRAPH AT	PR91MD	345.	12.33	281.	81.	27.	10.61
+	ROUTED TO	RP91IN	345.	12.42	281.	81.	27.	10.61
+	2 COMBINED AT	CPIN91	4506.	13.58	2883.	951.	328.	10.57
+	DIVERSION TO	DSVB91	0.	.00	0.	0.	0.	10.57
+	HYDROGRAPH AT	DWINLO	4506.	13.58	2883.	951.	328.	10.57
+	ROUTED TO	RWINLO	4497.	13.67	2879.	951.	328.	10.57
+	DIVERSION TO	DNINLO	0.	.00	0.	0.	0.	10.57
+	HYDROGRAPH AT	DWIN07	4497.	13.67	2879.	951.	328.	10.57
+	HYDROGRAPH AT	INLO	111.	12.33	29.	9.	3.	.15
+	DIVERSION TO	XINLO	1.	3.67	1.	0.	0.	.15
+	HYDROGRAPH AT	ERINLO	111.	12.33	29.	9.	3.	.15
+	HYDROGRAPH AT	DRINLO	0.	.00	0.	0.	0.	10.57
+	HYDROGRAPH AT	DRIN95	0.	.00	0.	0.	0.	14.07

+	3 COMBINED AT	CIN95	111.	12.33	29.	9.	3.	24.79
+	ROUTED TO	SRINLO	20.	14.08	17.	7.	3.	24.79
+	3 COMBINED AT	CINLO	7327.	13.67	3799.	1181.	404.	24.79
+	ROUTED TO	RWIN07	7309.	13.75	3794.	1181.	404.	24.79
+	HYDROGRAPH AT	DITM07	318.	12.92	96.	26.	9.	1.67
+	ROUTED TO	SRRI03	0.	25.58	0.	0.	0.	1.67
+	ROUTED TO	RWTM07	0.	26.58	0.	0.	0.	1.67
+	HYDROGRAPH AT	DRTM07	205.	12.92	62.	17.	6.	1.67
+	ROUTED TO	RSTM07	198.	13.08	61.	17.	6.	1.67
+	HYDROGRAPH AT	TM07	126.	12.75	45.	12.	4.	.26
+	3 COMBINED AT	CTM07	313.	13.08	105.	29.	10.	1.61
+	DIVERSION TO	DWTMAF	204.	13.08	68.	19.	6.	1.61
+	HYDROGRAPH AT	DSMD07	110.	13.08	37.	10.	3.	1.61
+	ROUTED TO	RSMD07	100.	13.83	36.	10.	3.	1.61
+	HYDROGRAPH AT	DRMD99	113.	12.58	40.	11.	4.	.62
+	ROUTED TO	RSMD99	109.	13.25	40.	11.	4.	.62
+	HYDROGRAPH AT	MD99	144.	12.67	49.	13.	5.	.32
+	2 COMBINED AT	CMD99	231.	13.08	88.	24.	8.	.60
+	DIVERSION TO	DMD99	129.	13.08	49.	14.	5.	.60
+	HYDROGRAPH AT	DWTMRI	102.	13.08	39.	11.	4.	.60
+	ROUTED TO	RWTMRI	99.	13.25	38.	11.	4.	.60
+	HYDROGRAPH AT	TMRI	316.	12.17	36.	9.	3.	.24
+	2 COMBINED AT	CTMRI	326.	12.17	74.	20.	7.	.51
+	ROUTED TO	SRTMRI	135.	12.75	45.	12.	4.	.51
+	ROUTED TO	RMD07	119.	13.58	43.	12.	4.	.51
+	HYDROGRAPH AT	DIMD99	129.	13.08	49.	14.	5.	.60
+	DIVERSION TO	DSIN99	65.	13.08	25.	7.	2.	.60
+	HYDROGRAPH AT	DWMD07	65.	13.08	25.	7.	2.	.60
+	ROUTED TO	SRMD99	0.	.00	0.	0.	0.	.60
+	ROUTED TO	RWMD07	0.	.00	0.	0.	0.	.60
+	HYDROGRAPH AT	MD07	442.	12.67	153.	46.	15.	.78

+	DIVERSION TO	XMD07	442.	12.67	93.	25.	8.	.78
+	HYDROGRAPH AT	ERMD07	324.	13.42	74.	21.	7.	.78
+	4 COMBINED AT	CMD07	488.	13.50	151.	42.	14.	2.50
+	DIVERSION TO	DWMDAV	366.	13.50	113.	31.	11.	2.50
+	HYDROGRAPH AT	DSIN07	122.	13.50	38.	10.	4.	2.50
+	ROUTED TO	RSIN07	119.	13.67	38.	10.	4.	2.50
+	HYDROGRAPH AT	DRIN99	65.	13.08	25.	7.	2.	.60
+	ROUTED TO	RSIN99	61.	13.67	24.	7.	2.	.60
+	HYDROGRAPH AT	IN07	211.	12.33	51.	16.	5.	.26
+	DIVERSION TO	XIN07	118.	12.08	13.	4.	1.	.26
+	HYDROGRAPH AT	ERIN07	211.	12.33	44.	12.	4.	.26
+	4 COMBINED AT	CIN07	7459.	13.75	3858.	1200.	410.	27.09
+	DIVERSION TO	DSVB07	0.	.00	0.	0.	0.	27.09
+	HYDROGRAPH AT	DWINAV	7459.	13.75	3858.	1200.	410.	27.09
+	ROUTED TO	RWINAV	7447.	13.83	3855.	1200.	410.	27.09
+	HYDROGRAPH AT	DRTMAF	204.	13.08	68.	19.	6.	1.61
+	ROUTED TO	RWTMAF	189.	13.67	67.	19.	6.	1.61
+	HYDROGRAPH AT	TMAF	344.	12.75	135.	42.	14.	.76
+	2 COMBINED AT	CTMAF	438.	13.50	198.	60.	20.	1.33
+	DIVERSION TO	DWAF02	390.	13.50	176.	53.	18.	1.33
+	HYDROGRAPH AT	DSMDAV	48.	13.50	22.	7.	2.	1.33
+	ROUTED TO	RSMDAV	46.	14.08	22.	7.	2.	1.33
+	HYDROGRAPH AT	DRMDAV	366.	13.50	113.	31.	11.	2.50
+	ROUTED TO	RWMDAV	345.	13.92	111.	31.	11.	2.50
+	HYDROGRAPH AT	MDAV	456.	12.75	162.	47.	16.	.95
+	DIVERSION TO	XMDAV	456.	12.75	144.	38.	13.	.95
+	HYDROGRAPH AT	ERMDAV	113.	14.83	31.	9.	3.	.95
+	3 COMBINED AT	CMDAV	390.	13.92	160.	47.	16.	1.72
+	DIVERSION TO	DWMDAF	285.	13.92	117.	34.	12.	1.72
+	HYDROGRAPH AT	DSINAV	105.	13.92	43.	13.	4.	1.72
+	ROUTED TO	RSINAV	104.	14.08	43.	13.	4.	1.72

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         HYDROGRAPH AT
+                      INAV      196.   12.25         42.         13.          4.         .23
         DIVERSION TO
+                      XINAV      13.   11.50          5.          2.          1.         .23
         HYDROGRAPH AT
+                      ERINAV    196.   12.25         41.         11.          4.         .23
         3 COMBINED AT
+                      CINAV    7458.   13.83       3899.       1216.        415.       28.58
         DIVERSION TO
+                      DSVBAF      0.     .00          0.          0.          0.       28.58
         HYDROGRAPH AT
+                      DWINAF   7458.   13.83       3899.       1216.        415.       28.58
         ROUTED TO
+                      RWINAF   7413.   14.00       3890.       1216.        415.       28.58
         HYDROGRAPH AT
+                      DRMDAF    285.   13.92        117.         34.         12.        1.72
         ROUTED TO
+                      RWMDAF    270.   14.50        115.         34.         12.        1.72
         HYDROGRAPH AT
+                       MDAF     281.   12.75        106.         31.         10.         .83
         2 COMBINED AT
+                      CMDAF     376.   14.50        207.         65.         22.        1.30
         DIVERSION TO
+                      DWAF03    286.   14.50        157.         49.         17.        1.30
         HYDROGRAPH AT
+                      DSINAF     90.   14.50         50.         16.          5.        1.30
         ROUTED TO
+                      RSINAF     88.   14.58         49.         16.          5.        1.30
         HYDROGRAPH AT
+                       INAF      201.   12.58         65.         19.          6.         .47
         DIVERSION TO
+                      XINAF     164.   12.33         15.          4.          1.         .47
         HYDROGRAPH AT
+                      ERINAF    201.   12.58         55.         15.          5.         .47
         3 COMBINED AT
+                      CINAF    7505.   14.00       3971.       1240.        424.       29.36
1
                                SUMMARY OF KINEMATIC WAVE - MUSKINGUM-CUNGE ROUTING
                                  (FLOW IS DIRECT RUNOFF WITHOUT BASE FLOW)
                                                                                INTERPOLATED TO
                                                                                COMPUTATION INTERVAL
   ISTAQ    ELEMENT      DT        PEAK     TIME TO PEAK      VOLUME      DT        PEAK     TIME TO PEAK      VOLUME
                         (MIN)      (CFS)       (MIN)         (IN)      (MIN)      (CFS)       (MIN)          (IN)
  FOR STORM = 1  STORM AREA (SQ MI) =        .00
    RPTB83  MANE          3.13    161.00      729.10          .91       5.00     161.00      730.00           .91

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5717E+02 EXCESS= .0000E+00 OUTFLOW= .5719E+02 BASIN STORAGE= .4492E-09 PERCENT ERROR=     .0

  FOR STORM = 2  STORM AREA (SQ MI) =      10.00
    RPTB83  MANE          3.26    161.00      727.02          .88       5.00     161.00      730.00           .88

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5506E+02 EXCESS= .0000E+00 OUTFLOW= .5508E+02 BASIN STORAGE= .5310E-09 PERCENT ERROR=     .0

  FOR STORM = 3  STORM AREA (SQ MI) =      30.00
    RPTB83  MANE          3.21    161.00      727.27          .84       5.00     161.00      730.00           .84

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5289E+02 EXCESS= .0000E+00 OUTFLOW= .5291E+02 BASIN STORAGE= .5040E-09 PERCENT ERROR=     .0

  FOR STORM = 4  STORM AREA (SQ MI) =      60.00
    RPTB83  MANE          3.13    161.00      728.96          .82       5.00     161.00      730.00           .82

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5159E+02 EXCESS= .0000E+00 OUTFLOW= .5161E+02 BASIN STORAGE= .3028E-09 PERCENT ERROR=     .0

  FOR STORM = 5  STORM AREA (SQ MI) =      90.00
    RPTB83  MANE          3.14    161.00      728.76          .81       5.00     161.00      730.00           .81
```



```
CONTINUITY SUMMARY (AC-FT) - INFLOW= .5078E+02 EXCESS= .0000E+00 OUTFLOW= .5078E+02 BASIN STORAGE= .4011E-09 PERCENT ERROR=     .0

  FOR STORM = 6  STORM AREA (SQ MI) =     120.00
    RPTB83  MANE          3.27    161.00      727.74          .80       5.00     161.00      730.00           .80

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5029E+02 EXCESS= .0000E+00 OUTFLOW= .5032E+02 BASIN STORAGE= .5286E-09 PERCENT ERROR=     .0

  FOR STORM = 1  STORM AREA (SQ MI) =        .00
    RPTBLO  MANE           .87    247.00      742.50         1.00       5.00     247.00      745.00          1.00

CONTINUITY SUMMARY (AC-FT) - INFLOW= .9429E+02 EXCESS= .0000E+00 OUTFLOW= .9428E+02 BASIN STORAGE= .2924E-09 PERCENT ERROR=     .0

  FOR STORM = 2  STORM AREA (SQ MI) =      10.00
    RPTBLO  MANE           .77    247.00      741.64          .97       5.00     247.00      745.00           .97

CONTINUITY SUMMARY (AC-FT) - INFLOW= .9128E+02 EXCESS= .0000E+00 OUTFLOW= .9128E+02 BASIN STORAGE= .2894E-09 PERCENT ERROR=     .0

  FOR STORM = 3  STORM AREA (SQ MI) =      30.00
    RPTBLO  MANE           .73    247.00      746.70          .93       5.00     247.00      750.00           .93

CONTINUITY SUMMARY (AC-FT) - INFLOW= .8766E+02 EXCESS= .0000E+00 OUTFLOW= .8767E+02 BASIN STORAGE= .2616E-09 PERCENT ERROR=     .0

  FOR STORM = 4  STORM AREA (SQ MI) =      60.00
    RPTBLO  MANE           .72    247.00      746.57          .91       5.00     247.00      750.00           .91

CONTINUITY SUMMARY (AC-FT) - INFLOW= .8577E+02 EXCESS= .0000E+00 OUTFLOW= .8577E+02 BASIN STORAGE= .2935E-09 PERCENT ERROR=     .0

  FOR STORM = 5  STORM AREA (SQ MI) =      90.00
    RPTBLO  MANE           .74    247.00      746.95          .90       5.00     247.00      750.00           .90

CONTINUITY SUMMARY (AC-FT) - INFLOW= .8461E+02 EXCESS= .0000E+00 OUTFLOW= .8461E+02 BASIN STORAGE= .2738E-09 PERCENT ERROR=     .0

  FOR STORM = 6  STORM AREA (SQ MI) =     120.00
    RPTBLO  MANE           .82    247.00      747.25          .89       5.00     247.00      750.00           .89

CONTINUITY SUMMARY (AC-FT) - INFLOW= .8392E+02 EXCESS= .0000E+00 OUTFLOW= .8392E+02 BASIN STORAGE= .2597E-09 PERCENT ERROR=     .0

  FOR STORM = 1  STORM AREA (SQ MI) =        .00
    RPCT75  MANE          1.70    268.00      805.41          .92       5.00     268.00      805.00           .92

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5427E+02 EXCESS= .0000E+00 OUTFLOW= .5439E+02 BASIN STORAGE= .2517E-09 PERCENT ERROR=    -.2

  FOR STORM = 2  STORM AREA (SQ MI) =      10.00
    RPCT75  MANE          1.72    268.00      746.97          .86       5.00     268.00      750.00           .86

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5076E+02 EXCESS= .0000E+00 OUTFLOW= .5082E+02 BASIN STORAGE= .2720E-09 PERCENT ERROR=    -.1

  FOR STORM = 3  STORM AREA (SQ MI) =      30.00
    RPCT75  MANE          1.83    268.00      747.68          .82       5.00     268.00      750.00           .81

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4839E+02 EXCESS= .0000E+00 OUTFLOW= .4845E+02 BASIN STORAGE= .1486E-09 PERCENT ERROR=    -.1

  FOR STORM = 4  STORM AREA (SQ MI) =      60.00
    RPCT75  MANE          1.83    268.00      803.16          .80       5.00     268.00      750.00           .79

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4725E+02 EXCESS= .0000E+00 OUTFLOW= .4730E+02 BASIN STORAGE= .1481E-09 PERCENT ERROR=    -.1

  FOR STORM = 5  STORM AREA (SQ MI) =      90.00
    RPCT75  MANE          1.73    268.00      795.01          .78       5.00     268.00      795.00           .78

 *** The remainder of the continuity summary has been deleted for brevity, but the entire output is included on the CD ***

*** NORMAL END OF HEC-1 ***
```

```
1**************************************
*                                    *
*   FLOOD HYDROGRAPH PACKAGE  (HEC-1)*
*         JUN  1998                  *
*        VERSION 4.1                 *
*                                    *
* RUN DATE   01NOV10  TIME  14:00:17 *
*                                    *
**************************************
```

```
**************************************
*                                    *
*   U.S. ARMY CORPS OF ENGINEERS     *
*   HYDROLOGIC ENGINEERING CENTER    *
*        609 SECOND STREET           *
*     DAVIS, CALIFORNIA 95616        *
*         (916) 756-1104             *
*                                    *
**************************************
```

```
X     X  XXXXXXX   XXXXX          X
X     X  X        X     X        XX
X     X  X        X              X
XXXXXXX  XXXX     X        XXXXX  X
X     X  X        X              X
X     X  X        X     X        X
X     X  XXXXXXX   XXXXX          XXX
```

THIS PROGRAM REPLACES ALL PREVIOUS VERSIONS OF HEC-1 KNOWN AS HEC1 (JAN 73), HEC1GS, HEC1DB, AND HEC1KW.

THE DEFINITIONS OF VARIABLES -RTIMP- AND -RTIOR- HAVE CHANGED FROM THOSE USED WITH THE 1973-STYLE INPUT STRUCTURE.
THE DEFINITION OF -AMSKK- ON RM-CARD WAS CHANGED WITH REVISIONS DATED 28 SEP 81. THIS IS THE FORTRAN77 VERSION
NEW OPTIONS: DAMBREAK OUTFLOW SUBMERGENCE , SINGLE EVENT DAMAGE CALCULATION, DSS:WRITE STAGE FREQUENCY,
DSS:READ TIME SERIES AT DESIRED CALCULATION INTERVAL LOSS RATE:GREEN AND AMPT INFILTRATION
KINEMATIC WAVE: NEW FINITE DIFFERENCE ALGORITHM

1 HEC-1 INPUT PAGE 1

```
LINE          ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10
    1         ID     GLENDALE STORMWATER MANAGEMENT PLAN
    2         ID     Model for Glendale/Peoria Watershed
    3         ID     Existing Conditions
    4         ID
    5         ID     Prepared for the City of Glendale
    6         ID     In Association with the Flood Control District of Maricopa County
    7         ID     City Project Number 089017
    8         ID
    9         ID     Prepared by Kimley-Horn and Associates, Inc.
   10         ID     KHA Project Number 091910009
   11         ID     Octover 2010
   12         ID
   13         ID     MODELING PARAMETERS
   14         ID     - 100 Year 24 Hour Storm Event
   15         ID     - NOAA 14 Rainfall Data
   16         ID     - Clark Unit Hydrograph
   17         ID     - Green and Ampt Rainfall Loss Method
   18         ID
   19         ID     Topo data extracted from Flood Control District database July 24, 2009
   20         ID     Land use obtained from City of Glendale General Plan August 2009, City of
   21         ID         Phoenix General Plan August 2009, and MAG General Plan Land Use 2007
   22         ID
   23         ID     Storage routing data obtained from As-built Records or Final Drainage
   24         ID         Reports where possible
   25         ID     When As-built data/Drainage reports were not available data was obtained
   26         ID         from HEC-1 models and checked for accuracy.
   27         ID     Storage routing data obtained from the following HEC-1 models:
   28         ID         - Glendale/Peoria ADMPU, May 2001
   29         ID         - Glendale/Peoria ADMP Northwest Region Update, May 2007
   30         ID     The source of data is identified on each individual storage routing card
   31         ID
   32         ID  **********************************************************************
   33         ID
   34         ID     MODELING NOMENCLATURE
   35         ID     SUBBASIN HYDROGRAPH:
   36         ID        Example: JMRS   - the subbasin upstream of Jomax and Rock Springs Wash
   37         ID
   38         ID     STORM DRAIN DIVERSION:
   39         ID        Example: DBL59  - flow from subbasin BL59 is diverted to a storm drain
   40         ID
   41         ID     SUBBASIN DIVERSION:
   42         ID        Example: DWBL59 - flow is diverted west towards Bell and 59th Avenue
   43         ID        Example: DSGW51 - flow is diverted south towards Greenway and 51st Ave
   44         ID
   45         ID     ROUTE HYDROGRAPH:
   46         ID        Example: RWBL51 - flow is routed west towards Bell and 51st Avenue
   47         ID        Example: RSGW59 - flow is routed south towards Greenway and 59th Ave
   48         ID
   49         ID     COMBINE HYDROGRAPH:
   50         ID        Example: CJMRS  - combine flow at Jomax and Rock Springs Wash
   51         ID
   52         ID     STREET NAME ABBREVIATIONS
   53         ID        Jomax Road              JM
   54         ID        Happy Valley Road       HV
   55         ID        Pinnacle Peak Road      PP
```


1 HEC-1 INPUT PAGE 2

```
LINE          ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10
   56         ID        Deer Valley Road          DV
   57         ID        Loop 101                  LO
   58         ID        Rose Garden Lane          RG
   59         ID        Beardsley Road            BY
   60         ID        Union Hills Drive         UH
   61         ID        Bell Road                 BL
   62         ID        Greenway Road             GW
   63         ID        Thunderbird Road          TB
   64         ID        Cactus Road               CT
   65         ID        Peoria Avenue             PE
   66         ID        Olive Avenue              OL
   67         ID        Northern Avenue           NO
   68         ID        Glendale Avenue           GL
   69         ID        Bethany Home Road         BH
   70         ID        Camelback Road            CB
   71         ID        Indian School Road        IS
   72         ID        Thomas Road               TM
   73         ID        McDowell Road             MD
   74         ID        Interstate 10             IN
   75         ID        Grand Avenue              GR
   76         ID        Glen Harbor Boulevard     GH
   77         ID        Rock Springs Wash         RS
   78         ID        Lake Pleasant Parkway     LP
   79         ID        Westwing Parkway          WW
   80         ID        Black Rock Boulevard      BR
   81         ID        Yearling Road             YL
   82         ID        Calle Lejos               CL
   83         ID        Williams Road             WL
   84         ID        Del Webb Boulevard        DW
   85         ID        Talisman Road             TL
   86         ID        Meade Drive               ME
   87         ID        Burns Drive               BN
   88         ID        Royal Oak Road            RO
   89         ID        Acoma Drive               AM
   90         ID        Athens Street             AT
   91         ID        Agua Fria River           AF
   92         ID        New River                 NR
   93         ID        Skunk Creek               SK
   94         ID        ACDC                      AC
   95         ID
   96         ID     PREFIXES FOR MODELING OPERATIONS
   97         ID        RW     Routing flow in the west direction
   98         ID        RS     Routing flow in the south direction
   99         ID        RP     Routing storm drain pipe flow
  100         ID        C      Combination point
  101         ID        CI     Combination point at an intersection
  102         ID        CP     Combination point for storm drain pipe flow
  103         ID        SR     Storage for detention/retention basins
  104         ID        DW     Divert flow to the west
  105         ID        DE     Divert flow to the east
  106         ID        DS     Divert flow to the south
  107         ID        DN     Divert flow to the north
  108         ID        ER     Divert flow for existing 100-yr 2-hr retention
  109         ID        X      Existing retention diversion does not return to model
  110         ID        DR     Divert retrieval from surface flow
```

1 HEC-1 INPUT PAGE 3

```
LINE          ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10
  111         ID        DI     Divert retrieval from intersection flow
  112         ID        D      Divert surface flow (remains after storm drain divert)
  113         ID        DP     Divert flow to a storm drain pipe
  114         ID        FR     Divert retrieval from a storm drain pipe
  115         ID
  116         ID  **********************************************************************
  117         IT      5       0       0    1000
  118         IN     15
  119         IO      5
              *DIAGRAM
              *
  120         JD   3.606  0.0001
  121         PC   0.000  0.002  0.005  0.008  0.011  0.014  0.017  0.020  0.023  0.026
  122         PC   0.029  0.032  0.035  0.038  0.041  0.044  0.048  0.052  0.056  0.060
  123         PC   0.064  0.068  0.072  0.076  0.080  0.085  0.090  0.095  0.100  0.105
  124         PC   0.110  0.115  0.120  0.126  0.133  0.140  0.147  0.155  0.163  0.172
  125         PC   0.181  0.191  0.203  0.218  0.236  0.257  0.283  0.387  0.663  0.707
  126         PC   0.735  0.758  0.776  0.791  0.804  0.815  0.825  0.834  0.842  0.849
  127         PC   0.856  0.863  0.869  0.875  0.881  0.887  0.893  0.898  0.903  0.908
  128         PC   0.913  0.918  0.922  0.926  0.930  0.934  0.938  0.942  0.946  0.950
  129         PC   0.953  0.956  0.959  0.962  0.965  0.968  0.971  0.974  0.977  0.980
  130         PC   0.983  0.986  0.989  0.992  0.995  0.998  1.000
  131         JD   3.426   10.0
  132         JD   3.245   30.0
  133         JD   3.137   60.0
  134         JD   3.072   90.0
  135         JD   3.033  120.0
              *
  136         KK    UH35   BASIN
```

```
KM   Runoff hydrograph for subbasin UH35 northeast of the intersection of Union
KM   Hills Drive and 35th Avenue
BA   1.136
LG    0.20    0.13   10.10    0.03      51
UC   0.991   0.616
UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
UA     100
*

KK  ERUH35  DIVERT
KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
KM   retention developed after 1990 in subbasin UH35
DT   XUH35     47.3      0.0
DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
*

KK   DUH35  DIVERT
KM   Divert calculated full flow capacity of 875 cfs into a 114-inch storm drain
KM   pipe at the intersection of Union Hills Drive and 35th Avenue
DT  DPUH35      0.0    875.0
DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
*
```

1 HEC-1 INPUT PAGE 4

```
LINE  ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

KK  DSBL35  DIVERT
KM   Divert remaining runoff hydrograph from subbasin UH35 south to combination
KM   point CBL35
DT  DWUH43      0.0      0.0
DI      0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0  10000.0  20000.0  50000.0
DQ      0.0     51.0    102.0    255.0    510.0   1020.0   2040.0   5100.0  10200.0  25500.0
*

KK  RSBL35   ROUTE
KM   Route diversion DSBL35 south to combination point CBL35
RS       6    FLOW
RC   0.035   0.015   0.035    5280  0.0030     0.00
RX    0.00    0.00   76.50   76.50  372.50  372.50  449.00  449.00
RY    3.00    1.27    0.50    0.00    0.00    0.50    1.27    3.00
*

KK    BL35   BASIN
KM   Runoff hydrograph for subbasin BL35 northeast of the intersection of Bell
KM   Road and 35th Avenue
BA   1.139
LG    0.22    0.15    7.30    0.09      42
UC   1.150   0.724
UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
UA     100
*

KK  ERBL35  DIVERT
KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
KM   retention developed after 1990 in subbasin BL35
DT   XBL35      8.0      0.0
DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
*

KK   CBL35 COMBINE
KM   Combine route RSBL35 and subbasin BL35
HC       2    1.70
*

KK   D35BL  DIVERT
KM   Divert calculated full flow capacity of 158 cfs into a 60-inch storm drain
KM   pipe at the intersection of Bell Road and 35th Avenue
DT  DP35BL      0.0    158.0
DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
*

KK  DSGW35  DIVERT
KM   Divert remaining runoff hydrograph from combination point CBL35 south to
KM   combination point CGW35
DT  DWBL43      0.0      0.0
DI      0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0  10000.0  20000.0  50000.0
DQ      0.0     66.0    132.0    330.0    660.0   1320.0   2640.0   6600.0  13200.0  33000.0
*
```

1 HEC-1 INPUT PAGE 5

```
LINE  ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

KK  RSGW35   ROUTE
KM   Route diversion DSGW35 south to combination point CGW35
RS       3    FLOW
RC   0.035   0.015   0.035    5280  0.0041     0.00
RX    0.00    0.00   45.00   45.00  229.00  229.00  274.00  274.00
```



```
RY    3.00    0.95    0.50    0.00    0.00    0.50    0.95    3.00
*

KK    GW35   BASIN
KM   Runoff hydrograph for subbasin GW35 northeast of the intersection of Greenway
KM   Road and 35th Avenue
BA   1.008
LG    0.21    0.17    6.80    0.12      45
UC   1.289   0.844
UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
UA     100
*

KK   CGW35 COMBINE
KM   Combine route RSGW35 and subbasin GW35
HC       2    1.58
*

KK  PR35BLRETRIEVE
KM   Retrieve full flow capacity of 158 cfs from 60-inch storm drain pipe at the
KM   intersection of Bell Road and 35th Avenue
DR  DP35BL
*

KK  RP35GW   ROUTE
KM   Route full flow capacity of 158 cfs through 60-inch storm drain pipe in
KM   35th Avenue to the intersection of Greenway Road and 35th Avenue
RK    5260  0.0037   0.015             CIRC    5.000
*

KK  CPGW35 COMBINE
KM   Combine pipe return PR35BL with the runoff hydrograph at combination point
KM   CGW35 at the intersection of Greenway Road and 35th Avenue
HC       2
*

KK   D35GW  DIVERT
KM   Divert calculated full flow capacity of 318 cfs into a 78-inch storm drain
KM   pipe at the intersection of Greenway Road and 35th Avenue
DT  DP35GW      0.0    318.0
DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
*
```

1 HEC-1 INPUT PAGE 6

```
LINE  ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

KK  DSTB35  DIVERT
KM   Divert remaining runoff hydrograph from combination point CGW35 south to
KM   combination point CTB35
DT  DWGW43      0.0      0.0
DI      0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0  10000.0  20000.0  50000.0
DQ      0.0     58.0    116.0    290.0    580.0   1160.0   2320.0   5800.0  11600.0  29000.0
*

KK  RSTB35   ROUTE
KM   Route diversion DSTB35 south to combination point CTB35
RS       2    FLOW
RC   0.035   0.015   0.035    5280  0.0035     0.00
RX    0.00    0.00   54.50   54.50  269.50  269.50  324.00  324.00
RY    3.00    1.04    0.50    0.00    0.00    0.50    1.04    3.00
*

KK    TB35   BASIN
KM   Runoff hydrograph for subbasin TB35 northeast of the intersection of
KM   Thunderbird Road and 35th Avenue
BA   0.976
LG    0.23    0.15    7.60    0.08      36
UC   1.400   0.938
UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
UA     100
*

KK   CTB35 COMBINE
KM   Combine route RSTB35 and subbasin TB35
HC       2    1.65
*

KK  PR35GWRETRIEVE
KM   Retrieve full flow capacity of 318 cfs from 78-inch storm drain pipe at the
KM   intersection of Greenway Road and 35th Avenue
DR  DP35GW
*

KK  RP35TB   ROUTE
KM   Route full flow capacity of 318 cfs through 78-inch storm drain pipe in
KM   35th Avenue to the intersection of Thunderbird Road and 35th Avenue
RK    5252  0.0037   0.015             CIRC    6.500
*

KK  CPTB35 COMBINE
KM   Combine pipe return PR35GW with the runoff hydrograph at combination point
```

```
 265          KM   CTB35 at the intersection of Thundebird Road and 35th Avenue
 266          HC       2
              *
1                                        HEC-1 INPUT                                                    PAGE  7

 LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


 267          KK   D35TB  DIVERT
 268          KM   Divert calculated full flow capacity of 554 cfs into a 96-inch storm drain
 269          KM   pipe at the intersection of Thunderbird Road and 35th Avenue
 270          DT  DP35TB      0.0    554.0
 271          DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
 272          DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

 273          KK  DSCT35  DIVERT
 274          KM   Divert remaining runoff hydrograph from combination point CTB35 south to
 275          KM   combination point CCT35
 276          DT  DWTB43      0.0      0.0
 277          DI      0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0  10000.0  20000.0  50000.0
 278          DQ      0.0     52.0    104.0    260.0    520.0   1040.0   2080.0   5200.0  10400.0  26000.0
              *

 279          KK  RSCT35    ROUTE
 280          KM   Route diversion DSCT35 south to combination point CCT35
 281          RS       4     FLOW
 282          RC   0.035    0.015    0.035     5280   0.0036     0.00
 283          RX    0.00     0.00    86.00    86.00   413.00   413.00   499.00   499.00
 284          RY    3.00     1.36     0.50     0.00     0.00     0.50     1.36     3.00
              *

 285          KK     CT35    BASIN
 286          KM   Runoff hydrograph for subbasin CT35 northeast of the intersection of Cactus
 287          KM   Road and 35th Avenue
 288          BA   0.976
 289          LG    0.21     0.25     5.20     0.21       47
 290          UC   1.268    0.840
 291          UA       0      5.0     16.0     30.0     65.0     77.0     84.0     90.0     94.0     97.0
 292          UA     100
              *

 293          KK   CCT35 COMBINE
 294          KM   Combine route RSCT35 and subbasin CT35
 295          HC       2     1.76
              *

 296          KK  PR35TBRETRIEVE
 297          KM   Retrieve full flow capacity of 554 cfs from 96-inch storm drain pipe at the
 298          KM   intersection of Thunderbird Road and 35th Avenue
 299          DR  DP35TB
              *

 300          KK  RP35CT    ROUTE
 301          KM   Route full flow capacity of 554 cfs through 96-inch storm drain pipe in
 302          KM   35th Avenue to the intersection of Cactus Road and 35th Avenue
 303          RK     5200  0.0037    0.015              CIRC    8.000
              *
1                                        HEC-1 INPUT                                                    PAGE  8

 LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


 304          KK  CPCT35 COMBINE
 305          KM   Combine pipe return PR35TB with the runoff hydrograph at combination point
 306          KM   CCT35 at the intersection of Cactus Road and 35th Avenue
 307          HC       2
              *

 308          KK   D35CT  DIVERT
 309          KM   Divert calculated full flow capacity of 554 cfs into a 96-inch storm drain
 310          KM   pipe at the intersection of Cactus Road and 35th Avenue
 311          DT  DP35CT      0.0    554.0
 312          DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
 313          DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

 314          KK  DSPE35  DIVERT
 315          KM   Divert remaining runoff hydrograph from combination point CCT35 south to
 316          KM   combination point CPE35
 317          DT  DWCT43      0.0      0.0
 318          DI      0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0  10000.0  20000.0  50000.0
 319          DQ      0.0     58.0    116.0    290.0    580.0   1160.0   2320.0   5800.0  11600.0  29000.0
              *

 320          KK  RSPE35    ROUTE
 321          KM   Route diversion DSPE35 south to combination point CPE35
 322          RS       5     FLOW
 323          RC   0.035    0.015    0.035     5280   0.0023     0.00
 324          RX    0.00     0.00    67.00    67.00   332.00   332.00   399.00   399.00
 325          RY    3.00     1.17     0.50     0.00     0.00     0.50     1.17     3.00
              *
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```
 326          KK    PE35   BASIN
 327          KM   Runoff hydrograph for subbasin PE35 northeast of the intersection of Peoria
 328          KM   Avenue and 35th Avenue
 329          BA   0.977
 330          LG    0.23     0.24     4.70     0.27       40
 331          UC   1.500    1.016
 332          UA       0      5.0     16.0     30.0     65.0     77.0     84.0     90.0     94.0     97.0
 333          UA     100
              *

 334          KK   CPE35 COMBINE
 335          KM   Combine route RSPE35 and subbasin PE35
 336          HC       2     1.71
              *

 337          KK  PR35CTRETRIEVE
 338          KM   Retrieve full flow capacity of 554 cfs from 96-inch storm drain pipe at the
 339          KM   intersection of Cactus Road and 35th Avenue
 340          DR  DP35CT
              *
1                                        HEC-1 INPUT                                                    PAGE  9

 LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


 341          KK  RP35PE    ROUTE
 342          KM   Route full flow capacity of 554 cfs through 96-inch storm drain pipe in
 343          KM   35th Avenue to the intersection of Peoria Avenue and 35th Avenue
 344          RK     5256  0.0037    0.015              CIRC    8.000
              *

 345          KK  CPPE35 COMBINE
 346          KM   Combine pipe return PR35CT with the runoff hydrograph at combination point
 347          KM   CPE35 at the intersection of Peoria Avenue and 35th Avenue
 348          HC       2
              *

 349          KK   D35PE  DIVERT
 350          KM   Divert calculated full flow capacity of 466 cfs into a 90-inch storm drain
 351          KM   pipe at the intersection of Peoria Avenue and 35th Avenue
 352          DT  DP35PE      0.0    466.0
 353          DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
 354          DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

 355          KK  DSAC35  DIVERT
 356          KM   Divert remaining runoff hydrograph from combination point CPE35 south to
 357          KM   combination pointCAC01
 358          DT  DWPE43      0.0      0.0
 359          DI      0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0  10000.0  20000.0  50000.0
 360          DQ      0.0     70.0    140.0    350.0    700.0   1400.0   2800.0   7000.0  14000.0  35000.0
              *

 361          KK  RSAC35    ROUTE
 362          KM   Route diversion DSAC35 south to combination pointCAC01
 363          RS       3     FLOW
 364          RC   0.035    0.015    0.035     3447   0.0041     0.00
 365          RX    0.00     0.00    41.00    41.00   184.00   184.00   225.00   225.00
 366          RY    3.00     0.91     0.50     0.00     0.00     0.50     0.91     3.00
              *

 367          KK     AC35    BASIN
 368          KM   Runoff hydrograph for subbasin AC35 northeast of the intersection of the ACDC
 369          KM   Canal and 35th Avenue
 370          BA   0.755
 371          LG    0.15     0.25     5.30     0.20       67
 372          UC   0.857    0.565
 373          UA       0      5.0     16.0     30.0     65.0     77.0     84.0     90.0     94.0     97.0
 374          UA     100
              *

 375          KK   CAC01 COMBINE
 376          KM   Combine route RSAC35 and subbasin AC35
 377          HC       2     1.27
              *
1                                        HEC-1 INPUT                                                    PAGE 10

 LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


 378          KK  PR35PERETRIEVE
 379          KM   Retrieve full flow capacity of 446 cfs from 90-inch storm drain pipe at the
 380          KM   intersection of Peoria Avenue and 35th Avenue
 381          DR  DP35PE
              *

 382          KK  RP35AC    ROUTE
 383          KM   Route full flow capacity of 446 cfs through 90-inch storm drain pipe in
 384          KM   35th Avenue to the intersection of ACDC and 35th Avenue
 385          RK     3523  0.0037    0.015              CIRC    7.500
              *

 386          KK  CPAC01 COMBINE
```

```
387          KM   Combine pipe return PR35PE with the runoff hydrograph at combination point
388          KM   CAC01 at the intersection of ACDC and 35th Avenue
389          HC       2
             *

390          KK  DRUH43RETRIEVE
391          KM   Retrieve divert DRUH43 from combination point CUH35 and divert west to
392          KM   combination point CUH43
393          DR  DWUH43
             *

394          KK  RWUH43   ROUTE
395          KM   Route diversion retrieval DRUH43 west to combination point CUH43
396          RS       6    FLOW
397          RC   0.035   0.015   0.035    5280  0.0041    0.00
398          RX    0.00    0.00   67.00   67.00  332.00  332.00  399.00  399.00
399          RY    3.00    1.17    0.50    0.00    0.00    0.50    1.17    3.00
             *

400          KK   UH43   BASIN
401          KM   Runoff hydrograph for subbasin UH43 northeast of the intersection of Unioin
402          KM   Hills Drive and 43rd Avenue
403          BA   1.025
404          LG    0.26    0.17    7.30    0.11      17
405          UC   1.255   0.818
406          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
407          UA     100
             *

408          KK  ERUH43  DIVERT
409          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
410          KM   retention developed after 1990 in subbasin UH43
411          DT   XUH43    26.8     0.0
412          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
413          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
             *
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LINE         ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

414          KK   CUH43 COMBINE
415          KM   Combine route RWUH43 and subbasin UH43
416          HC       2    1.60
             *

417          KK  PRUH35RETRIEVE
418          KM   Retrieve full flow capacity of 875 cfs from 114-inch storm drain pipe at the
419          KM   intersection of Union Hills Drive and 35th Avenue
420          DR  DPUH35
             *

421          KK  RPUH43   ROUTE
422          KM   Route full flow capacity of 875 cfs through 114-inch storm drain pipe in
423          KM   Union Hills Drive to the intersection of Union Hills Drive and 43rd Avenue
424          RK    5324  0.0037   0.015            CIRC   9.500
             *

425          KK  CPUH43 COMBINE
426          KM   Combine pipe return PRUH35 with the runoff hydrograph at combination point
427          KM   CUH43 at the intersection of Union Hills Drive and 43rd Avenue
428          HC       2
             *

429          KK   DUH43  DIVERT
430          KM   Divert calculated full flow capacity of 1268 cfs into a 132-inch storm drain
431          KM   pipe at the intersection of Union Hills Drive and 43rd Avenue
432          DT   DPUH43     0.0  1268.0
433          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
434          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
             *

435          KK  DSBL43  DIVERT
436          KM   Divert remaining runoff hydrograph from combination point CUH43 south to
437          KM   combination point CBL43
438          DT   DWUH51     0.0     0.0
439          DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
440          DQ     0.0    42.0    84.0   210.0   420.0   840.0  1680.0  4200.0  8400.0 21000.0
             *

441          KK  RSBL43   ROUTE
442          KM   Route diversion DSBL43 south to combination point CBL43
443          RS       4    FLOW
444          RC   0.035   0.015   0.035    5280  0.0037    0.00
445          RX    0.00    0.00   48.00   48.00  251.00  251.00  299.00  299.00
446          RY    3.00    0.98    0.50    0.00    0.00    0.50    0.98    3.00
             *

447          KK  DRBL43RETRIEVE
448          KM   Retrieve divert DRBL43 from combination point CBL35 and divert west to
449          KM   combination point CBL43
450          DR  DWBL43
             *
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LINE         ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

451          KK  RWBL43   ROUTE
452          KM   Route diversion retrieval DRBL43 west to combination point CBL43
453          RS       2    FLOW
454          RC   0.035   0.015   0.035    5280  0.0047    0.00
455          RX    0.00    0.00   86.00   86.00  413.00  413.00  499.00  499.00
456          RY    3.00    1.36    0.50    0.00    0.00    0.50    1.36    3.00
             *

457          KK   BL43   BASIN
458          KM   Runoff hydrograph for subbasin BL43 northeast of the intersection of Bell
459          KM   Road and 43rd Avenue
460          BA   1.049
461          LG    0.24    0.15    8.00    0.07      33
462          UC   1.247   0.814
463          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
464          UA     100
             *

465          KK   CBL43 COMBINE
466          KM   Combine route RSBL43, route RWBL43, and subbasin BL43
467          HC       3    3.10
             *

468          KK   D43BL  DIVERT
469          KM   Divert calculated full flow capacity of 117 cfs into a 54-inch storm drain
470          KM   pipe at the intersection of Bell Road and 43rd Avenue
471          DT   DP43BL     0.0   117.0
472          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
473          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
             *

474          KK  DSGW43  DIVERT
475          KM   Divert remaining runoff hydrograph from combination point CBL43 south to
476          KM   combination point CGW43
477          DT   DWBL51     0.0     0.0
478          DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
479          DQ     0.0    46.0    92.0   230.0   460.0   920.0  1840.0  4600.0  9200.0 23000.0
             *

480          KK  RSGW43   ROUTE
481          KM   Route diversion DSGW43 south to combination point CGW43
482          RS       3    FLOW
483          RC   0.035   0.015   0.035    5280  0.0028    0.00
484          RX    0.00    0.00   57.50   57.50  291.50  291.50  349.00  349.00
485          RY    3.00    1.08    0.50    0.00    0.00    0.50    1.08    3.00
             *

486          KK  DRGW43RETRIEVE
487          KM   Retrieve divert DRGW43 from combination point CGW35 and divert west to
488          KM   combination point CGW43
489          DR  DWGW43
             *
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LINE         ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

490          KK  RWGW43   ROUTE
491          KM   Route diversion retrieval DRGW43 west to combination point CGW43
492          RS       2    FLOW
493          RC   0.035   0.015   0.035    5280  0.0034    0.00
494          RX    0.00    0.00   76.50   76.50  372.50  372.50  449.00  449.00
495          RY    3.00    1.27    0.50    0.00    0.00    0.50    1.27    3.00
             *

496          KK   GW43   BASIN
497          KM   Runoff hydrograph for subbasin GW43 northeast of the intersection of Greenway
498          KM   Road and 43rd Avenue
499          BA   0.987
500          LG    0.24    0.19    6.60    0.13      36
501          UC   1.163   0.768
502          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
503          UA     100
             *

504          KK  ERGW43  DIVERT
505          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
506          KM   retention developed after 1990 in subbasin GW43
507          DT   XGW43     5.5     0.0
508          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
509          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
             *

510          KK   CGW43 COMBINE
511          KM   Combine route RSGW43, route RWGW43, and subbasin GW43
512          HC       3    3.57
             *
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 513          KK  PR43BLRETRIEVE
 514          KM   Retrieve full flow capacity of 117 cfs from 54-inch storm drain pipe at the
 515          KM   intersection of Bell Road and 43rd Avenue
 516          DR  DP43BL
              *

 517          KK  RP43GW   ROUTE
 518          KM   Route full flow capacity of 117 cfs through 54-inch storm drain pipe in
 519          KM   43rd Avenue to the intersection of Greenway Road and 43rd Avenue
 520          RK    5150  0.0035   0.015            CIRC   4.500
              *

 521          KK  CPGW43 COMBINE
 522          KM   Combine pipe return PR43BL with the runoff hydrograph at combination point
 523          KM   CGW43 at the intersection of Greenway Road and 43rd Avenue
 524          HC       2
              *
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 LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 525          KK   D43GW  DIVERT
 526          KM   Divert calculated full flow capacity of 155 cfs into a 60-inch storm drain
 527          KM   pipe at the intersection of Greenway Road and 43rd Avenue
 528          DT  DP43GW     0.0   155.0
 529          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
 530          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

 531          KK  DSTB43  DIVERT
 532          KM   Divert remaining runoff hydrograph from combination point CGW43 south to
 533          KM   combination point CTB43
 534          DT  DWGW51     0.0      0.0
 535          DI     0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0  10000.0  20000.0  50000.0
 536          DQ     0.0     53.0    106.0    265.0    530.0   1060.0   2120.0   5300.0  10600.0  26500.0
              *

 537          KK  RSTB43   ROUTE
 538          KM   Route diversion DSTB43 south to combination point CTB43
 539          RS       2    FLOW
 540          RC   0.035   0.015   0.035    5280  0.0038     0.00
 541          RX    0.00    0.00   67.00   67.00  332.00  332.00  399.00  399.00
 542          RY    3.00    1.17    0.50    0.00    0.00    0.50    1.17    3.00
              *

 543          KK  DRTB43RETRIEVE
 544          KM   Retrieve divert DRTB43 from combination point CTB35 and divert west to
 545          KM   combination point CTB43
 546          DR  DWTB43
              *

 547          KK  RWTB43   ROUTE
 548          KM   Route diversion retrieval DRTB43 west to combination point CTB43
 549          RS       4    FLOW
 550          RC   0.035   0.015   0.035    5280  0.0037     0.00
 551          RX    0.00    0.00   95.50   95.50  453.50  453.50  549.00  549.00
 552          RY    3.00    1.46    0.50    0.00    0.00    0.50    1.46    3.00
              *

 553          KK    TB43   BASIN
 554          KM   Runoff hydrograph for subbasin TB43 northeast of the intersection of
 555          KM   Thunderbird Road and 43rd Avenue
 556          BA   0.995
 557          LG    0.26    0.15    7.30    0.10      25
 558          UC   1.294   0.860
 559          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
 560          UA     100
              *

 561          KK   CTB43 COMBINE
 562          KM   Combine route RSTB43, route RWTB43, and subbasin TB43
 563          HC       3    3.55
              *
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 LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 564          KK  PR43GWRETRIEVE
 565          KM   Retrieve full flow capacity of 155 cfs from 60-inch storm drain pipe at the
 566          KM   intersection of Greenway Road and 43rd Avenue
 567          DR  DP43GW
              *

 568          KK  RP43TB   ROUTE
 569          KM   Route full flow capacity of 155 cfs through 60-inch storm drain pipe in
 570          KM   43rd Avenue to the intersection of Thunderbird Road and 43rd Avenue
 571          RK    5245  0.0035   0.015            CIRC   5.000
              *

 572          KK  CPTB43 COMBINE
 573          KM   Combine pipe return PR43GW with the runoff hydrograph at combination point
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 574          KM   CTB43 at the intersection of Thunderbird Road and 43rd Avenue
 575          HC       2
              *

 576          KK   D43TB  DIVERT
 577          KM   Divert calculated full flow capacity of 312 cfs into a 78-inch storm drain
 578          KM   pipe at the intersection of Tunderbird Road and 43rd Avenue
 579          DT  DP43TB     0.0   312.0
 580          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
 581          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

 582          KK  DSCT43  DIVERT
 583          KM   Divert remaining runoff hydrograph from combination point CTB43 south to
 584          KM   combination point CCT43
 585          DT  DWTB51     0.0      0.0
 586          DI     0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0  10000.0  20000.0  50000.0
 587          DQ     0.0     63.0    126.0    315.0    630.0   1260.0   2520.0   6300.0  12600.0  31500.0
              *

 588          KK  RSCT43   ROUTE
 589          KM   Route diversion DSCT43 south to combination point CCT43
 590          RS       3    FLOW
 591          RC   0.035   0.015   0.035    5280  0.0030     0.00
 592          RX    0.00    0.00   48.00   48.00  251.00  251.00  299.00  299.00
 593          RY    3.00    0.98    0.50    0.00    0.00    0.50    0.98    3.00
              *

 594          KK  DRCT43RETRIEVE
 595          KM   Retrieve divert DRCT43 from combination point CCT35 and divert west to
 596          KM   combination point CCT43
 597          DR  DWCT43
              *

 598          KK  RWCT43   ROUTE
 599          KM   Route diversion retrieval DRCT43 west to combination point CCT43
 600          RS       4    FLOW
 601          RC   0.035   0.015   0.035    5280  0.0029     0.00
 602          RX    0.00    0.00   86.00   86.00  413.00  413.00  499.00  499.00
 603          RY    3.00    1.36    0.50    0.00    0.00    0.50    1.36    3.00
              *
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 LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 604          KK    CT43   BASIN
 605          KM   Runoff hydrograph for subbasin CT43 northeast of the intersection of Cactus
 606          KM   Road and 43rd Avenue
 607          BA   0.996
 608          LG    0.23    0.15    8.00    0.07      37
 609          UC   1.235   0.816
 610          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
 611          UA     100
              *

 612          KK  ERCT43  DIVERT
 613          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
 614          KM   retention developed after 1990 in subbasin CT43
 615          DT   XCT43     41.4      0.0
 616          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
 617          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

 618          KK   CCT43 COMBINE
 619          KM   Combine route RSCT43, route RWCT43, and subbasin CT43
 620          HC       3    3.35
              *

 621          KK  PR43TBRETRIEVE
 622          KM   Retrieve full flow capacity of 312 cfs from 78-inch storm drain pipe at the
 623          KM   intersection of Thunderbird Road and 43rd Avenue
 624          DR  DP43TB
              *

 625          KK  RP43CT   ROUTE
 626          KM   Route full flow capacity of 312 cfs through 78-inch storm drain pipe in
 627          KM   43rd Avenue to the intersection of Cactus Road and 43rd Avenue
 628          RK    5194  0.0035   0.015            CIRC   6.500
              *

 629          KK  CPCT43 COMBINE
 630          KM   Combine pipe return PR43TB with the runoff hydrograph at combination point
 631          KM   CCT43 at the intersection of Cactus Road and 43rd Avenue
 632          HC       2
              *

 633          KK   D43CT  DIVERT
 634          KM   Divert calculated full flow capacity of 380 cfs into an 84-inch storm drain
 635          KM   pipe at the intersection of Cactus Road and 43rd Avenue
 636          DT  DP43CT     0.0   380.0
 637          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
 638          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
```

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                  *
1                                          HEC-1 INPUT                                        PAGE 17

 LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

  639          KK  DSPE43  DIVERT
  640          KM   Divert remaining runoff hydrograph from combination point CCT43 south to
  641          KM   combination point CPE43
  642          DT  DWCT51     0.0     0.0
  643          DI     0.0   100.0   200.0    500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
  644          DQ     0.0    63.0   126.0    315.0   630.0  1260.0  2520.0  6300.0 12600.0 31500.0
                  *

  645          KK  RSPE43   ROUTE
  646          KM   Route diversion DSPE43 south to combination point CPE43
  647          RS       3    FLOW
  648          RC   0.035   0.015   0.035    5280  0.0024    0.00
  649          RX    0.00    0.00   48.00   48.00  251.00  251.00  299.00  299.00
  650          RY    3.00    0.98    0.50    0.00    0.00    0.50    0.98    3.00
                  *

  651          KK  DRPE43RETRIEVE
  652          KM   Retrieve divert DRPE43 from combination point CPE35 and divert west to
  653          KM   combination point CPE43
  654          DR  DWPE43
                  *

  655          KK  RWPE43   ROUTE
  656          KM   Route diversion retrieval DRPE43 west to combination point CPE43
  657          RS       4    FLOW
  658          RC   0.035   0.015   0.035    5280  0.0030    0.00
  659          RX    0.00    0.00  105.00  105.00  494.00  494.00  599.00  599.00
  660          RY    3.00    1.55    0.50    0.00    0.00    0.50    1.55    3.00
                  *

  661          KK    PE43   BASIN
  662          KM   Runoff hydrograph for subbasin PE43 northeast of the intersection of Peoria
  663          KM   Avenue and 43rd Avenue
  664          BA   0.997
  665          LG    0.24    0.25    5.70    0.19      32
  666          UC   1.364   0.911
  667          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
  668          UA     100
                  *

  669          KK   CPE43 COMBINE
  670          KM   Combine route RSPE43, route RWPE43, and subbasin PE43
  671          HC       3    3.42
                  *

  672          KK  PR43CTRETRIEVE
  673          KM   Retrieve full flow capacity of 380 cfs from 84-inch storm drain pipe at the
  674          KM   intersection of Cactus Road and 43rd Avenue
  675          DR  DP43CT
                  *
1                                          HEC-1 INPUT                                        PAGE 18

 LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

  676          KK  RP43PE   ROUTE
  677          KM   Route full flow capacity of 380 cfs through 84-inch storm drain pipe in
  678          KM   43rd Avenue to the intersection of Peoria Avenue and 43rd Avenue
  679          RK    4928  0.0035   0.015            CIRC   7.000
                  *

  680          KK  CPPE43 COMBINE
  681          KM   Combine pipe return PR43CT with the runoff hydrograph at combination point
  682          KM   CPE43 at the intersection of Peoria Avenue and 43rd Avenue
  683          HC       2
                  *

  684          KK   D43PE  DIVERT
  685          KM   Capacity of storm drain in Peoria Avenue and 43rd Avenue diverted together.
  686          KM   Divert combined calculated full flow capacity of 456 cfs in the 90-inch storm
  687          KM   drain pipe in Peoria Avenue and 64 cfs in the 42-inch storm drain pipe in
  688          KM   43rd Avenue. The total calculated combined full flow capacity diverted at the
  689          KM   intersection of Peoria Avenue and 43rd Avenue is 520 cfs in an equivalent
  690          KM   diameter pipe of 96 inches
  691          DT  DP43PE     0.0   520.0
  692          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
  693          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
                  *

  694          KK  DSAC43  DIVERT
  695          KM   Divert remaining runoff hydrograph from combination point CPE43 south to
  696          KM   combination point CAC02
  697          DT  DWAC51     0.0     0.0
  698          DI     0.0   100.0   200.0    500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
  699          DQ     0.0    38.0    76.0    190.0   380.0   760.0  1520.0  3800.0  7600.0 19000.0
                  *
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  700          KK    AC43   BASIN
  701          KM   Runoff hydrograph for subbasin AC43 northeast of the intersection of the ACDC
  702          KM   Canal and 43rd Avenue
  703          BA   0.362
  704          LG    0.23    0.25    4.35    0.35      37
  705          UC   1.198   1.292
  706          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
  707          UA     100
                  *

  708          KK   CAC02 COMBINE
  709          KM   Combine divert DSAC43, subbasin AC43, and combination point CPAC01
  710          HC       3    3.75
                  *

  711          KK  PR43PERETRIEVE
  712          KM   Retrieve combined full flow capacity of 520 cfs from 96-inch equivalent
  713          KM   diameter pipe at the intersection of Peoria Avenue and 43rd Avenue
  714          DR  DP43PE
                  *
1                                          HEC-1 INPUT                                        PAGE 19

 LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

  715          KK  CPAC02 COMBINE
  716          KM   Combine pipe return PR43PE with the runoff hydrograph at combination point
  717          KM   CAC02 at the intersection of ACDC and 43rd Avenue
  718          HC       2
                  *

  719          KK  DRUH51RETRIEVE
  720          KM   Retrieve divert DRUH51 from combination point CUH43 and divert west to
  721          KM   combination point CUH51
  722          DR  DWUH51
                  *

  723          KK  RWUH51   ROUTE
  724          KM   Route diversion retrieval DRUH51 west to combination point CUH51
  725          RS       5    FLOW
  726          RC   0.035   0.015   0.035    5280  0.0037    0.00
  727          RX    0.00    0.00   76.50   76.50  372.50  372.50  449.00  449.00
  728          RY    3.00    1.27    0.50    0.00    0.00    0.50    1.27    3.00
                  *

  729          KK    UH51   BASIN
  730          KM   Runoff hydrograph for subbasin UH51 northeast of the intersection of Union
  731          KM   Hills Drive and 51st Avenue
  732          BA   0.990
  733          LG    0.23    0.26    4.60    0.29      36
  734          UC   1.351   0.898
  735          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
  736          UA     100
                  *

  737          KK  ERUH51  DIVERT
  738          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
  739          KM   retention developed after 1990 in subbasin UH51
  740          DT   XUH51    48.6     0.0
  741          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
  742          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
                  *

  743          KK   CUH51 COMBINE
  744          KM   Combine route RWUH51 and subbasin UH51
  745          HC       2    1.66
                  *

  746          KK  DSBL51  DIVERT
  747          KM   Divert remaining runoff hydrograph from combination point CUH51 south to
  748          KM   combination point CBL51
  749          DT  DWUHSK     0.0     0.0
  750          DI     0.0   100.0   200.0    500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
  751          DQ     0.0    61.0   122.0    305.0   610.0  1220.0  2440.0  6100.0 12200.0 30500.0
                  *
1                                          HEC-1 INPUT                                        PAGE 20

 LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

  752          KK  PRUH43RETRIEVE
  753          KM   Retrieve full flow capacity of 1268 cfs from 132-inch storm drain pipe at the
  754          KM   intersection of Union Hills Drive and 43rd Avenue
  755          DR  DPUH43
                  *

  756          KK  RPUH51   ROUTE
  757          KM   Route full flow capacity of 1268 cfs through 132-inch storm drain pipe in
  758          KM   Union Hills Drive to the intersection of Union Hills Drive and 51st Avenue
  759          RK    5152  0.0035   0.015            CIRC  11.000
                  *

  760          KK  CPUH51 COMBINE
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761          KM   Combine pipe return PRUH43 with diversion DSBL51 at the intersection of Union
762          KM   Hills Drive and 51st Avenue
763          HC       2
             *
764          KK   DUH51  DIVERT
765          KM   Divert calculated full flow capacity of 1548 cfs into a 144-inch storm drain
766          KM   pipe at the intersection of Union Hills Drive and 51st Avenue.
767          KM   Storm drain flow discharges to Skunk Creek and is not returned to the model.
768          DT  DPUH51      0.0  1548.0
769          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
770          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
             *
771          KK  RSBL51    ROUTE
772          KM   Route diversion DUH51 south to combination point CBL51
773          RS        6     FLOW
774          RC   0.035    0.015    0.035     5280  0.0040     0.00
775          RX    0.00     0.00    48.00    48.00  251.00  251.00  299.00  299.00
776          RY    3.00     0.98     0.50     0.00    0.00    0.50    0.98    3.00
             *
777          KK  DRBL51RETRIEVE
778          KM   Retrieve divert DRBL51 from combination point CBL43 and divert west to
779          KM   combination point CBL51
780          DR  DWBL51
             *
781          KK  RWBL51    ROUTE
782          KM   Route diversion retrieval DRBL51 west to combination point CBL51
783          RS        3     FLOW
784          RC   0.035    0.015    0.035     5280  0.0040     0.00
785          RX    0.00     0.00    38.50    38.50  210.50  210.50  249.00  249.00
786          RY    3.00     0.88     0.50     0.00    0.00    0.50    0.88    3.00
             *
```



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LINE         ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10
787          KK    BL51    BASIN
788          KM   Runoff hydrograph for subbasin BL51 northeast of the intersection of Bell
789          KM   Road and 51st Avenue
790          BA   1.045
791          LG    0.22     0.19     6.60     0.14       31
792          UC   1.200    0.785
793          UA       0      5.0     16.0     30.0     65.0     77.0     84.0     90.0     94.0     97.0
794          UA     100
             *
795          KK  ERBL51   DIVERT
796          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
797          KM   retention developed after 1990 in subbasin BL51
798          DT   XBL51      23.0      0.0
799          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
800          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
             *
801          KK   CBL51 COMBINE
802          KM   Combine route RSBL51, route RWBL51, and subbasin BL51
803          HC       3     3.12
             *
804          KK   D51BL  DIVERT
805          KM   Divert calculated full flow capacity of 38 cfs into a 36-inch storm drain
806          KM   pipe at the intersection of Bell Road and 51st Avenue
807          DT  DP51BL      0.0      38.0
808          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
809          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
             *
810          KK  DSGW51   DIVERT
811          KM   Divert remaining runoff hydrograph from combination point CBL51 south to
812          KM   combination point CGW51
813          DT  DWBL59      0.0      0.0
814          DI     0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0  10000.0  20000.0  50000.0
815          DQ     0.0     52.0    104.0    260.0    520.0   1040.0   2080.0   5200.0  10400.0  26000.0
             *
816          KK  RSGW51    ROUTE
817          KM   Route diversion DSGW51 south to combination point CGW51
818          RS        2     FLOW
819          RC   0.035    0.015    0.035     5280  0.0035     0.00
820          RX    0.00     0.00    48.00    48.00  251.00  251.00  299.00  299.00
821          RY    3.00     0.98     0.50     0.00    0.00    0.50    0.98    3.00
             *
822          KK  DRGW51RETRIEVE
823          KM   Retrieve divert DRGW51 from combination point CGW43 and divert west to
824          KM   combination point CGW51
825          DR  DWGW51
             *
```



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LINE         ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10
826          KK  RWGW51    ROUTE
827          KM   Route diversion retrieval DRGW51 west to combination point CGW51
828          RS        2     FLOW
829          RC   0.035    0.015    0.035     5280  0.0047     0.00
830          RX    0.00     0.00    67.00    67.00  332.00  332.00  399.00  399.00
831          RY    3.00     1.17     0.50     0.00    0.00    0.50    1.17    3.00
             *
832          KK    GW51    BASIN
833          KM   Runoff hydrograph for subbasin GW51 northeast of the intersection of Greenway
834          KM   Road and 51st Avenue
835          BA   0.962
836          LG    0.26     0.21     6.40     0.17       21
837          UC   1.267    0.846
838          UA       0      5.0     16.0     30.0     65.0     77.0     84.0     90.0     94.0     97.0
839          UA     100
             *
840          KK  ERGW51   DIVERT
841          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
842          KM   retention developed after 1990 in subbasin GW51
843          DT   XGW51      1.3      0.0
844          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
845          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
             *
846          KK   CGW51 COMBINE
847          KM   Combine route RSGW51, route RWGW51, and subbasin GW51
848          HC       3     4.34
             *
849          KK  PR51BLRETRIEVE
850          KM   Retrieve full flow capacity of 38 cfs from 36-inch storm drain pipe at the
851          KM   intersection of Bell Road and 51st Avenue
852          DR  DP51BL
             *
853          KK  RP51GW    ROUTE
854          KM   Route full flow capacity of 38 cfs through 36-inch storm drain pipe in
855          KM   51st Avenue to the intersection of Greenway Road and 51st Avenue
856          RK    4986  0.0033   0.015              CIRC   3.000
             *
857          KK  CPGW51 COMBINE
858          KM   Combine pipe return PR51BL with the runoff hydrograph at combination point
859          KM   CGW51 at the intersection of Greenway Road and 51st Avenue
860          HC       2
             *
```



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LINE         ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10
861          KK   D51GW  DIVERT
862          KM   Divert calculated full flow capacity of 150 cfs into a 60-inch storm drain
863          KM   pipe at the intersection of Greenway Road and 51st Avenue
864          DT  DP51GW      0.0     150.0
865          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
866          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
             *
867          KK  DSTB51   DIVERT
868          KM   Divert remaining runoff hydrograph from combination point CGW51 south to
869          KM   combination point CTB51
870          DT  DWGW59      0.0      0.0
871          DI     0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0  10000.0  20000.0  50000.0
872          DQ     0.0     65.0    130.0    325.0    650.0   1300.0   2600.0   6500.0  13000.0  32500.0
             *
873          KK  RSTB51    ROUTE
874          KM   Route diversion DSTB51 south to combination point CTB51
875          RS        3     FLOW
876          RC   0.035    0.015    0.035     5280  0.0027     0.00
877          RX    0.00     0.00    38.50    38.50  210.50  210.50  249.00  249.00
878          RY    3.00     0.88     0.50     0.00    0.00    0.50    0.88    3.00
             *
879          KK  DRTB51RETRIEVE
880          KM   Retrieve divert DRTB51 from combination point CTB43 and divert west to
881          KM   combination point CTB51
882          DR  DWTB51
             *
883          KK  RWTB51    ROUTE
884          KM   Route diversion retrieval DRTB51 west to combination point CTB51
885          RS        2     FLOW
886          RC   0.035    0.015    0.035     5280  0.0037     0.00
887          RX    0.00     0.00    76.50    76.50  372.50  372.50  449.00  449.00
888          RY    3.00     1.27     0.50     0.00    0.00    0.50    1.27    3.00
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                *
          889   KK    TB51    BASIN
          890   KM   Runoff hydrograph for subbasin TB51 northeast of the intersection of
          891   KM   Thunderbird Road and 51st Avenue
          892   BA   0.990
          893   LG    0.27    0.19    6.60    0.15      21
          894   UC   1.285   0.852
          895   UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
          896   UA     100
                *
          897   KK   CTB51 COMBINE
          898   KM   Combine route RSTB51, route RWTB51, and subbasin TB51
          899   HC       3    4.70
                *
1                                        HEC-1 INPUT                                        PAGE 24
     LINE       ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

          900   KK  PR51GWRETRIEVE
          901   KM   Retrieve full flow capacity of 150 cfs from 60-inch storm drain pipe at the
          902   KM   intersection of Greenway Road and 51st Avenue
          903   DR  DP51GW
                *
          904   KK  RP51TB    ROUTE
          905   KM   Route full flow capacity of 150 cfs through 60-inch storm drain pipe in
          906   KM   51st Avenue to the intersection of Thunderbird Road and 51st Avenue
          907   RK    5283  0.0033   0.015             CIRC   5.000
                *
          908   KK  CPTB51 COMBINE
          909   KM   Combine pipe return PR51GW with the runoff hydrograph at combination point
          910   KM   CTB51 at the intersection of Thunderbird Road and 51st Avenue
          911   HC       2
                *
          912   KK   D51TB  DIVERT
          913   KM   Divert calculated full flow capacity of 244 cfs into a 72-inch storm drain
          914   KM   pipe at the intersection of Thunderbird Road and 51st Avenue
          915   DT  DP51TB      0.0   244.0
          916   DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
          917   DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
                *
          918   KK  DSCT51  DIVERT
          919   KM   Divert remaining runoff hydrograph from combination point CTB51 south to
          920   KM   combination point CCT51
          921   DT  DWTB59      0.0      0.0
          922   DI      0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0  10000.0  20000.0  50000.0
          923   DQ      0.0     61.0    122.0    305.0    610.0   1220.0   2440.0   6100.0  12200.0  30500.0
                *
          924   KK  RSCT51    ROUTE
          925   KM   Route diversion DSCT51 south to combination point CCT51
          926   RS       3     FLOW
          927   RC   0.035    0.015    0.035     5280   0.0026     0.00
          928   RX    0.00     0.00    26.00    26.00   148.00   148.00   174.00   174.00
          929   RY    3.00     0.76     0.50     0.00     0.00     0.50     0.76     3.00
                *
          930   KK  DRCT51RETRIEVE
          931   KM   Retrieve divert DRCT51 from combination point CCT43 and divert west to
          932   KM   combination point CCT51
          933   DR  DWCT51
                *
          934   KK  RWCT51    ROUTE
          935   KM   Route diversion retrieval DRCT51 west to combination point CCT51
          936   RS       3     FLOW
          937   RC   0.035    0.015    0.035     5280   0.0032     0.00
          938   RX    0.00     0.00    76.50    76.50   372.50   372.50   449.00   449.00
          939   RY    3.00     1.27     0.50     0.00     0.00     0.50     1.27     3.00
                *
1                                        HEC-1 INPUT                                        PAGE 25
     LINE       ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

          940   KK    CT51    BASIN
          941   KM   Runoff hydrograph for subbasin CT51 northeast of the intersection of Cactus
          942   KM   Road and 51st Avenue
          943   BA   0.988
          944   LG    0.24    0.26    6.40    0.13      32
          945   UC   1.130   0.740
          946   UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
          947   UA     100
                *
          948   KK  ERCT51  DIVERT
          949   KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
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          950   KM   retention developed after 1990 in subbasin CT51
          951   DT   XCT51     29.9      0.0
          952   DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
          953   DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
                *
          954   KK   CCT51 COMBINE
          955   KM   Combine route RSCT51, route RWCT51, and subbasin CT51
          956   HC       3    4.94
                *
          957   KK  PR51TBRETRIEVE
          958   KM   Retrieve full flow capacity of 244 cfs from 72-inch storm drain pipe at the
          959   KM   intersection of Thunderbird Road and 51st Avenue
          960   DR  DP51TB
                *
          961   KK  RP51CT    ROUTE
          962   KM   Route full flow capacity of 244 cfs through 72-inch storm drain pipe in
          963   KM   51st Avenue to the intersection of Cactus Road and 51st Avenue
          964   RK    5189  0.0033   0.015             CIRC   6.000
                *
          965   KK  CPCT51 COMBINE
          966   KM   Combine pipe return PR51TB with the runoff hydrograph at combination point
          967   KM   CCT51 at the intersection of Cactus Road and 51st Avenue
          968   HC       2
                *
          969   KK   D51CT  DIVERT
          970   KM   Divert calculated full flow capacity of 244 cfs into a 72-inch storm drain
          971   KM   pipe at the intersection of Cactus Road and 51st Avenue
          972   DT  DP51CT      0.0   244.0
          973   DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
          974   DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
                *
1                                        HEC-1 INPUT                                        PAGE 26
     LINE       ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

          975   KK  DSAC51  DIVERT
          976   KM   Divert remaining runoff hydrograph from combination point CCT51 south to
          977   KM   combination pointCAC03
          978   DT  DWAC59      0.0      0.0
          979   DI      0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0  10000.0  20000.0  50000.0
          980   DQ      0.0     33.0     66.0    165.0    330.0    660.0   1320.0   3300.0   6600.0  16500.0
                *
          981   KK  DRAC51RETRIEVE
          982   KM   Retrieve divert DRAC51 from combination point CPE43 and divert west to
          983   KM   combination point CAC03
          984   DR  DWAC51
                *
          985   KK    AC51    BASIN
          986   KM   Runoff hydrograph for subbasin AC51 northeast of the intersection of the ACDC
          987   KM   Canal and 51st Avenue
          988   BA   0.576
          989   LG    0.23    0.15    8.00    0.07      35
          990   UC   1.426   1.534
          991   UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
          992   UA     100
                *
          993   KK   CAC03 COMBINE
          994   KM   Combine divert DSAC51, subbasin AC51, divert retrieval DRAC51, and
          995   KM   combination point CPAC02
          996   HC       4    8.95
                *
          997   KK  PR51CTRETRIEVE
          998   KM   Retrieve full flow capacity of 244 cfs from 72-inch storm drain pipe at the
          999   KM   intersection of Cactus Road and 51st Avenue
         1000   DR  DP51CT
                *
         1001   KK  CPAC03 COMBINE
         1002   KM   Combine pipe return PR51CT with the runoff hydrograph at combination point
         1003   KM   CAC03 at the intersection of ACDC and 51st Avenue
         1004   HC       2
                *
         1005   KK  DRBL59RETRIEVE
         1006   KM   Retrieve divert DRBL59 from combination point CBL51 and divert west to
         1007   KM   combination point CBL59
         1008   DR  DWBL59
                *
         1009   KK  RWBL59    ROUTE
         1010   KM   Route diversion retrieval DRBL59 west to combination point CBL59
         1011   RS       3     FLOW
         1012   RC   0.035    0.015    0.035     5280   0.0031     0.00
```

```
1013          RX    0.00    0.00   51.50   51.50  296.50  296.50  348.00  348.00
1014          RY    3.00    1.02    0.50    0.00    0.00    0.50    1.02    3.00
              *
1                                        HEC-1 INPUT                                        PAGE 27

LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9.....10

1015          KK    BL59    BASIN
1016          KM   Runoff hydrograph for subbasin BL59 northeast of the intersection of Bell
1017          KM   Road and 59th Avenue
1018          BA   1.075
1019          LG    0.23    0.18    6.80    0.12      38
1020          UC   1.164   0.752
1021          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
1022          UA     100
              *

1023          KK  ERBL59  DIVERT
1024          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
1025          KM   retention developed after 1990 in subbasin BL59
1026          DT  XBL59     72.8      0.0
1027          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
1028          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

1029          KK   CBL59 COMBINE
1030          KM   Combine route RWBL59 and subbasin BL59
1031          HC       2    2.71
              *

1032          KK   D59BL  DIVERT
1033          KM   Divert calculated full flow capacity of 108 cfs into 54-inch storm drain
1034          KM   pipe at the intersection of Bell Road and 59th Avenue
1035          DT  DP59BL      0.0    108.0
1036          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
1037          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

1038          KK  DSGW59  DIVERT
1039          KM   Divert remaining runoff hydrograph from combination point CBL59 south to
1040          KM   combination point CGW59
1041          DT  DWBL67      0.0      0.0
1042          DI     0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0 10000.0 20000.0 50000.0
1043          DQ     0.0     31.0     62.0    155.0    310.0    620.0   1240.0   3100.0   6200.0 15500.0
              *

1044          KK  RSGW59   ROUTE
1045          KM   Route diversion DSGW59 south to combination point CGW59
1046          RS       5    FLOW
1047          RC   0.035   0.015   0.035    5280  0.0038     0.00
1048          RX    0.00    0.00   38.50   38.50  241.50  241.50  280.00  280.00
1049          RY    3.00    0.88    0.50    0.00    0.00    0.50    0.88    3.00
              *

1050          KK  DRGW59RETRIEVE
1051          KM   Retrieve divert DRGW59 from combination point CGW51 and divert west to
1052          KM   combination point CGW59
1053          DR  DWGW59
              *
1                                        HEC-1 INPUT                                        PAGE 28

LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9.....10

1054          KK  RWGW59   ROUTE
1055          KM   Route diversion retrieval DRGW59 west to combination point CGW59
1056          RS       2    FLOW
1057          RC   0.035   0.015   0.035    5280  0.0033     0.00
1058          RX    0.00    0.00   68.50   68.50  359.50  359.50  428.00  428.00
1059          RY    3.00    1.18    0.50    0.00    0.00    0.50    1.18    3.00
              *

1060          KK    GW59    BASIN
1061          KM   Runoff hydrograph for subbasin GW59 northeast of the intersection of Greenway
1062          KM   Road and 59th Avenue
1063          BA   0.944
1064          LG    0.21    0.16    7.30    0.10      40
1065          UC   1.209   0.809
1066          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
1067          UA     100
              *

1068          KK  ERGW59  DIVERT
1069          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
1070          KM   retention developed after 1990 in subbasin GW59
1071          DT   XGW59     35.3      0.0
1072          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
1073          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

1074          KK   CGW59 COMBINE
1075          KM   Combine route RSGW59, route RWGW59, and subbasin GW59
```



```
1076          HC       3    5.64
              *

1077          KK  PR59BLRETRIEVE
1078          KM   Retrieve full flow capacity of 108 cfs from 54-inch storm drain pipe at the
1079          KM   intersection of Bell Road and 59th Avenue
1080          DR  DP59BL
              *

1081          KK  RP59GW   ROUTE
1082          KM   Route full flow capacity of 108 cfs through 54-inch storm drain pipe in
1083          KM   59th Avenue to the intersection of Greenway Road and 59th Avenue
1084          RK    4995  0.0030   0.015            CIRC   4.500
              *

1085          KK   CPGW59 COMBINE
1086          KM   Combine pipe return PR59BL with the runoff hydrograph at combination point
1087          KM   CGW59 at the intersection of Greenway Road and 59th Avenue
1088          HC       2
              *
1                                        HEC-1 INPUT                                        PAGE 29

LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9.....10

1089          KK   D59GW  DIVERT
1090          KM   Divert calculated full flow capacity of 273 cfs into 78-inch storm drain
1091          KM   pipe at the intersection of Greenway Road and 59th Avenue
1092          DT  DP59GW      0.0    273.0
1093          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
1094          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

1095          KK  DSTB59  DIVERT
1096          KM   Divert remaining runoff hydrograph from combination point CPGW59 south to
1097          KM   combination point CTB59
1098          DT  DWGW67      0.0      0.0
1099          DI     0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0 10000.0 20000.0 50000.0
1100          DQ     0.0     45.0     90.0    225.0    450.0    900.0   1800.0   4500.0   9000.0 22500.0
              *

1101          KK  RSTB59   ROUTE
1102          KM   Route diversion DSTB59 south to combination point CTB59
1103          RS       3    FLOW
1104          RC   0.035   0.015   0.035    5280  0.0026     0.00
1105          RX    0.00    0.00   65.50   65.50  382.50  382.50  448.00  448.00
1106          RY    3.00    1.16    0.50    0.00    0.00    0.50    1.16    3.00
              *

1107          KK  DRTB59RETRIEVE
1108          KM   Retrieve divert DRTB59 from combination point CTB51 and divert west to
1109          KM   combination point CTB59
1110          DR  DWTB59
              *

1111          KK  RWTB59   ROUTE
1112          KM   Route diversion retrieval DRTB59 west to combination point CTB59
1113          RS       3    FLOW
1114          RC   0.035   0.015   0.035    5280  0.0032     0.00
1115          RX    0.00    0.00   37.50   37.50  210.50  210.50  248.00  248.00
1116          RY    3.00    0.88    0.50    0.00    0.00    0.50    0.88    3.00
              *

1117          KK    TB59    BASIN
1118          KM   Runoff hydrograph for subbasin TB59 northeast of the intersection of
1119          KM   Thunderbird Road and 59th Avenue
1120          BA   0.995
1121          LG    0.25    0.25    6.20    0.15      34
1122          UC   1.219   0.805
1123          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
1124          UA     100
              *

1125          KK   CTB59 COMBINE
1126          KM   Combine route RSTB59, route RWTB59, and subbasin TB59
1127          HC       3    6.96
              *
1                                        HEC-1 INPUT                                        PAGE 30

LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9.....10

1128          KK  PR59GWRETRIEVE
1129          KM   Retrieve full flow capacity of 273 cfs from 78-inch storm drain pipe at the
1130          KM   intersection of Greenway Road and 59th Avenue
1131          DR  DP59GW
              *

1132          KK  RP59AM   ROUTE
1133          KM   Route full flow capacity of 273 cfs through 78-inch storm drain pipe in
1134          KM   59th Avenue to the intersection of Acoma Drive and 59th Avenue
1135          RK    2519  0.0027   0.015            CIRC   6.500
              *
```

```
1136          KK  SRAM59 STORAGE
1137          KM   Storage route pipe flow PR59GW through the regional retention basin located
1138          KM     in subbasin TB59 near the intersection of Acoma Drive and 59th Avenue
1139          KM   Stage-storage data from 59th Avenue Detention Basin As-built records, 1990
1140          RS       1    STOR
1141          SV            0.20    2.80   10.90   11.80   12.70   14.90
1142          SQ            3.00  118.00  206.00  478.00  970.00 2354.00
1143          SE  1214.5 1215.00 1218.00 1224.00 1224.50 1225.00 1226.00
              *

1144          KK  RP59TB   ROUTE
1145          KM   Route full flow capacity of 135 cfs through 60-inch storm drain pipe in
1146          KM   59th Avenue to the intersection of Thunderbird Road and 59th Avenue
1147          RK    2759  0.0027   0.015            CIRC   5.000
              *

1148          KK  CPTB59 COMBINE
1149          KM   Combine pipe return PR59GW with the runoff hydrograph at combination point
1150          KM   CTB59 at the intersection of Thunderbird Road and 59th Avenue
1151          HC       2
              *

1152          KK   DTB59  DIVERT
1153          KM   Divert calculated full flow capacity of 578 cfs into 96-inch storm drain
1154          KM   pipe at the intersection of Olive Avenue and 43rd Avenue
1155          DT  DPTB59      0.0   578.0
1156          DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
1157          DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

1158          KK  DSAC59  DIVERT
1159          KM   Divert remaining runoff hydrograph from combination point CPTB59 south to
1160          KM   combination point CAC04
1161          DT  DWAC67      0.0      0.0
1162          DI      0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0  10000.0  20000.0  50000.0
1163          DQ      0.0     41.0     82.0    205.0    410.0    820.0   1640.0   4100.0   8200.0  20500.0
              *
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              LINE        ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1164          KK  DRAC59RETRIEVE
1165          KM   Retrieve divert DRAC59 from combination point CCT51 and divert west to
1166          KM   combination point CAC04
1167          DR  DWAC59
              *

1168          KK    AC59   BASIN
1169          KM   Runoff hydrograph for subbasin AC59 northeast of the intersection of the ACDC
1170          KM   Canal and 59th Avenue
1171          BA   0.742
1172          LG    0.18    0.15    8.00    0.08      38
1173          UC   1.364   1.313
1174          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
1175          UA     100
              *

1176          KK  ERAC59  DIVERT
1177          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
1178          KM   retention developed after 1990 in subbasin AC59
1179          DT  XAC59     56.5      0.0
1180          DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
1181          DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

1182          KK   CAC04 COMBINE
1183          KM   Combine divert DSAC59 and subbasin AC59
1184          HC       4   15.39
              *

1185          KK  PRTB59RETRIEVE
1186          KM   Retrieve full flow capacity of 578 cfs from 96-inch storm drain pipe at the
1187          KM   intersection of Thunderbird Road and 59th Avenue
1188          DR  DPTB59
              *

1189          KK  CPAC04 COMBINE
1190          KM   Combine pipe return PRTB59 with the runoff hydrograph at combination point
1191          KM   CAC04 at the intersection of the ACDC canal and 59th Avenue
1192          HC       2
              *

1193          KK  DRBL67RETRIEVE
1194          KM   Retrieve divert DRBL67 from combination point CBL59 and divert west to
1195          KM   combination point CBL67
1196          DR  DWBL67
              *

1197          KK   DBL67  DIVERT
1198          KM   Divert portion of diversion retrieval DRBL67 west to subbasin SK67 and the
1199          KM   remaining flow follow to subbasin BL67 at combination point CBL67
```



```
1200          DT  DWSK67      0.0      0.0
1201          DI      0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0  10000.0  20000.0  50000.0
1202          DQ      0.0     74.0    148.0    370.0    740.0   1480.0   2960.0   7400.0  14800.0  37000.0
              *
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              LINE        ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1203          KK  RWBL67    ROUTE
1204          KM   Route diversion retrieval DRBL67 west to combination point CBL67
1205          RS        7     FLOW
1206          RC    0.035    0.015    0.035     5280   0.0037     0.00
1207          RX     0.00     0.00    17.50    17.50   112.50   112.50   130.00   130.00
1208          RY     3.00     0.68     0.50     0.00     0.00     0.50     0.68     3.00
              *

1209          KK    BL67   BASIN
1210          KM   Runoff hydrograph for subbasin BL67 northeast of the intersection of Bell
1211          KM   Road and 67th Avenue
1212          BA   0.233
1213          LG    0.19     0.26     6.20     0.15       45
1214          UC   0.828    0.796
1215          UA       0      5.0     16.0     30.0     65.0     77.0     84.0     90.0     94.0     97.0
1216          UA     100
              *

1217          KK  ERBL67  DIVERT
1218          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
1219          KM   retention developed after 1990 in subbasin BL67
1220          DT   XBL67     13.0      0.0
1221          DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
1222          DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

1223          KK   CBL67 COMBINE
1224          KM   Combine route RWBL67 and subbasin BL67
1225          HC       2    0.46
              *

1226          KK   D67BL  DIVERT
1227          KM   Divert calculated full flow capacity of 32 cfs into 36-inch storm drain
1228          KM   pipe at the intersection of Bell Road and 67th Avenue
1229          DT  DP67BL      0.0     32.0
1230          DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
1231          DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

1232          KK  DSGW67  DIVERT
1233          KM   Divert remaining runoff hydrograph from combination point CBL67 south to
1234          KM   combination point CGW67
1235          DT  DWBL75      0.0      0.0
1236          DI      0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0  10000.0  20000.0  50000.0
1237          DQ      0.0     61.0    122.0    305.0    610.0   1220.0   2440.0   6100.0  12200.0  30500.0
              *

1238          KK  RSGW67    ROUTE
1239          KM   Route diversion DSGW67 south to combination point CGW67
1240          RS       10     FLOW
1241          RC    0.035    0.015    0.035     5280   0.0025     0.00
1242          RX     0.00     0.00    44.50    44.50   253.50   253.50   298.00   298.00
1243          RY     3.00     0.94     0.50     0.00     0.00     0.50     0.94     3.00
              *
1                                        HEC-1 INPUT                                                PAGE 33

              LINE        ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1244          KK  DRGW67RETRIEVE
1245          KM   Retrieve divert DRGW67 from combination point CGW59 and divert west to
1246          KM   combination point CGW67
1247          DR  DWGW67
              *

1248          KK  RWGW67    ROUTE
1249          KM   Route diversion retrieval DRGW67 west to combination point CGW67
1250          RS        3     FLOW
1251          RC    0.035    0.015    0.035     5280   0.0025     0.00
1252          RX     0.00     0.00    61.50    61.50   316.50   316.50   378.00   378.00
1253          RY     3.00     1.12     0.50     0.00     0.00     0.50     1.12     3.00
              *

1254          KK    GW67   BASIN
1255          KM   Runoff hydrograph for subbasin GW67 northeast of the intersection of Greenway
1256          KM   Road and 67th Avenue
1257          BA   0.892
1258          LG    0.24     0.16     8.40     0.06       35
1259          UC   1.167    0.784
1260          UA       0      5.0     16.0     30.0     65.0     77.0     84.0     90.0     94.0     97.0
1261          UA     100
              *

1262          KK  ERGW67  DIVERT
```

```
KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
KM   retention developed after 1990 in subbasin GW67
DT   XGW67     47.9      0.0
DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
*

KK   CGW67 COMBINE
KM   Combine route RSGW67, route RWGW67, and subbasin GW67
HC        3     3.63
*

KK  PR67BLRETRIEVE
KM   Retrieve full flow capacity of 32 cfs from 36-inch storm drain pipe at the
KM   intersection of Bell Road and 67th Avenue
DR  DP67BL
*

KK  RP67GW    ROUTE
KM   Route full flow capacity of 32 cfs through 36-inch storm drain pipe in
KM   67th Avenue to the intersection of Greenway Road and 67th Avenue
RK     5072  0.0023    0.015             CIRC    3.000
*
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LINE      ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


KK  CPGW67 COMBINE
KM   Combine pipe return PR67BL with the runoff hydrograph at combination point
KM   CGW67 at the intersection of Greenway Road and 67th Avenue
HC        2
*

KK    D67GW  DIVERT
KM   Divert calculated full flow capacity of 608 cfs into 84-inch storm drain
KM   pipe at the intersection of Greenway Road and 67th Avenue
DT  DP67GW       0.0    608.0
DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
*

KK  DSAC67   DIVERT
KM   Divert remaining runoff hydrograph from combination point CPGW67 south to
KM   combination point CAC05
DT  DWAC75       0.0      0.0
DI      0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0  10000.0  20000.0  50000.0
DQ      0.0     84.0    168.0    420.0    840.0   1680.0   3360.0   8400.0  16800.0  42000.0
*

KK  RSAC67    ROUTE
KM   Route diversion DSAC67 south to combination point CAC05
RS         1    FLOW
RC   0.035   0.015   0.035    1216  0.0020     0.00
RX     0.00    0.00   34.00   34.00  184.00  184.00  218.00  218.00
RY     3.00    0.84    0.50    0.00    0.00    0.50    0.84    3.00
*

KK  DRAC67RETRIEVE
KM   Retrieve divert DRAC67 from combination point CPTB59 and divert west to
KM   combination point CAC05
DR  DWAC67
*

KK  RWAC67    ROUTE
KM   Route diversion retrieval DRAC67 west to combination point CAC05
RS         1    FLOW
RC   0.035   0.015   0.035    1071  0.0029     0.00
RX     0.00    0.00   28.00   28.00  172.00  172.00  200.00  200.00
RY     3.00    0.78    0.50    0.00    0.00    0.50    0.78    3.00
*

KK     AC67    BASIN
KM   Runoff hydrograph for subbasin AC67 northeast of the intersection of the ACDC
KM   Canal and 67th Avenue
BA   0.698
LG    0.22    0.15    8.40    0.07      29
UC   1.320   1.208
UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
UA     100
*
```

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LINE      ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


KK   CAC05 COMBINE
KM   Combine route RSAC67, and subbasin AC67
HC        4    19.52
*

KK  PR67GWRETRIEVE
KM   Retrieve full flow capacity of 608 cfs from 84-inch storm drain pipe at the
```



```
KM   intersection of Greenway Road and 67th Avenue
DR  DP67GW
*

KK  RP67AC    ROUTE
KM   Route full flow capacity of 608 cfs through 84-inch storm drain pipe in
KM   67th Avenue to the intersection of the ACDC canal and 67th Avenue
RK     1168  0.0090    0.015             CIRC    7.000
*

KK  CPAC05 COMBINE
KM   Combine pipe return PR67GW with the runoff hydrograph at combination point
KM   CAC05 at the intersection of the ACDC canal and 67th Avenue
HC        2    19.55
*

KK  DRAC75RETRIEVE
KM   Retrieve divert DRAC75 from combination point CPGW67 and divert west to
KM   combination point CAC06
DR  DWAC75
*

KK     AC75    BASIN
KM   Runoff hydrograph for subbasin AC75 near the intersection of the ACDC Canal
KM   75th Avenue
BA   0.842
LG    0.21    0.26    5.80    0.18      28
UC   1.271   1.040
UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
UA     100
*

KK  ERAC75   DIVERT
KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
KM   retention developed after 1990 in subbasin AC75
DT   XAC75      10.9      0.0
DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
*

KK   CAC06 COMBINE
KM   Combine route RAC75 and subbasin AC75
HC        3    23.43
*
```

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```
LINE      ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


KK     HV55    BASIN
KM   Runoff hydrograph for subbasin HV55 near the intersection of Happy Valley
KM   Road and 55th Avenue
BA   2.054
LG    0.20    0.30    4.40    0.32      29
UC   0.980   0.519
UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
UA     100
*

KK  ERHV55   DIVERT
KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
KM   retention developed after 1990 in subbasin HV55
DT   XHV55      94.8      0.0
DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
*

KK    RCL57    ROUTE
KM   Route runoff hydrograph at subbasin HV55 to combination point CCL57
RS         4    FLOW
RC   0.045   0.035   0.045    5676  0.0078     0.00
RX     0.00    0.00   40.00   50.00   60.00   70.00  110.00  110.00
RY     6.20    5.20    5.00    0.00    0.00    5.00    5.20    6.20
*

KK     CL57    BASIN
KM   Runoff hydrograph for subbasin CL57 near the intersection of Pinnacle Hill
KM   Road and 57th Avenue
BA   0.746
LG    0.22    0.28    4.55    0.32      27
UC   0.847   0.446
UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
UA     100
*

KK  ERCL57   DIVERT
KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
KM   retention developed after 1990 in subbasin CL57
DT   XCL57      41.3      0.0
DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
*
```

```
 1389          KK   CCL57 COMBINE
 1390          KM   Combine route RCL57 and subbasin CL57
 1391          HC       2    2.80
               *
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 LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


 1392          KK   RWL59   ROUTE
 1393          KM   Route runoff hydrograph at combination point CCL57 to combination point CWL59
 1394          RS       6    FLOW
 1395          RC   0.045   0.035   0.045    8099  0.0061    0.00
 1396          RX    0.00    0.00   40.00   50.00   60.00   70.00  110.00  110.00
 1397          RY    6.20    5.20    5.00    0.00    0.00    5.00    5.20    6.20
               *


 1398          KK    WL59   BASIN
 1399          KM   Runoff hydrograph for subbasin WL59 near the intersection of Williams Road
 1400          KM   and 59th Avenue
 1401          BA   0.562
 1402          LG    0.17    0.32    4.70    0.29      22
 1403          UC   1.068   0.821
 1404          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
 1405          UA     100
               *


 1406          KK   ERWL59  DIVERT
 1407          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
 1408          KM   retention developed after 1990 in subbasin WL59
 1409          DT   XWL59     11.1      0.0
 1410          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
 1411          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
               *


 1412          KK   CWL59 COMBINE
 1413          KM   Combine route RWL59 and subbasin WL59
 1414          HC       2    3.36
               *


 1415          KK    DV56   BASIN
 1416          KM   Runoff hydrograph for subbasin DV56 near the intersection of Deer Valley Road
 1417          KM   and 56th Avenue
 1418          BA   0.287
 1419          LG    0.10    0.33    4.65    0.27      38
 1420          UC   0.552   0.303
 1421          UA       0     3.0     5.0     8.0    12.0    20.0    43.0    75.0    90.0    96.0
 1422          UA     100
               *


 1423          KK   CDV56 COMBINE
 1424          KM   Combine route RDV56 and subbasin DV56
 1425          HC       2    3.65
               *


 1426          KK   SRDV56 STORAGE
 1427          KM   Storage route runoff hydrograph from combination point CDV56 through
 1428          KM     regional detention basin located in subbasin DV56 (Arrowhead Lake 1)
 1429          KM   Stage-storage-discharge data from Glendale/Peoria ADMPU Arrowhead Lakes
 1430          KM     Hydrology Report (Volume AL), 2001
 1431          RS       1     STOR
 1432          SV            8.50   17.19   26.06   35.12   44.34   53.71   63.24   72.91
 1433          SQ          139.00  399.00  732.00 1146.00 1639.00 2202.00 2814.00 3516.00
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 LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 1434          SE           0.50    1.00    1.50    2.00    2.50    3.00    3.50    4.00
               *


 1435          KK    LO51   BASIN
 1436          KM   Runoff hydrograph for subbasin LO51 near the intersection of SR Loop 101
 1437          KM   and 51st Avenue
 1438          BA   1.130
 1439          LG    0.14    0.25    4.25    0.35      44
 1440          UC   1.240   0.701
 1441          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
 1442          UA     100
               *


 1443          KK   CLO51 COMBINE
 1444          KM   Combine route RLO51 and subbasin LO51
 1445          HC       2    4.78
               *


 1446          KK   D51LO  DIVERT
 1447          KM   Divert calculated full flow capacity of 38 cfs into a 36-inch storm drain
 1448          KM   pipe at the intersection of SR Loop 101 and 51st Avenue.
 1449          KM   Storm drain flow discharges to Skunk Creek and is not returned to the model.
 1450          DT  DP51LO      0.0     38.0
 1451          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
 1452          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
               *
```



```
 1453          KK   SRLO51 STORAGE
 1454          KM   Storage route runoff hydrograph from combination point CLO51 through
 1455          KM     regional detention basin located in subbasin LO51 (Arrowhead Lakes 2-5)
 1456          KM   Stage-storage-discharge data from Glendale/Peoria ADMPU Arrowhead Lakes
 1457          KM     Hydrology Report (Volume AL), 2001
 1458          RS       1     STOR
 1459          SV            62.29  129.43  199.09  270.01  340.91  411.82  482.73  582.60
 1460          SQ           120.00  346.00  634.00  993.00 1421.00 1908.00 2439.00 3047.00
 1461          SE             0.50    1.00    1.50    2.00    2.50    3.00    3.50    4.00
               *


 1462          KK   RUHSKA   ROUTE
 1463          KM   Route runoff hydrograph at combination point CLO51 to combination point CSK01
 1464          RS       4    FLOW
 1465          RC   0.045   0.035   0.045    4440  0.0034    0.00
 1466          RX    0.00    0.00   55.00   75.00  100.00  120.00  175.00  175.00
 1467          RY   11.20   10.20   10.00    0.00    0.00   10.00   10.20   11.20
               *


 1468          KK   DRUHSKRETRIEVE
 1469          KM   Retrieve divert DRUHSK from combination point CUH51 and divert west to
 1470          KM   combination point CUHSK
 1471          DR   DWUHSK
               *
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 LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


 1472          KK    D51SK  DIVERT
 1473          KM   Divert calculated full flow capacity of 24 cfs into a 30-inch storm drain
 1474          KM   pipe near the intersection of Skunk Creek and 51st Avenue
 1475          KM   Storm drain flow discharges to Skunk Creek and is not returned to the model.
 1476          DT   DP51SK      0.0     24.0
 1477          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
 1478          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
               *


 1479          KK   RUHSKB   ROUTE
 1480          KM   Route diversion D51SK to combination point CSK01
 1481          RS       6    FLOW
 1482          RC   0.035   0.015   0.035    6960  0.0034    0.00
 1483          RX    0.00    0.00   17.50   17.50  112.50  112.50  130.00  130.00
 1484          RY    3.00    0.68    0.50    0.00    0.00    0.50    0.68    3.00
               *


 1485          KK    UHSK   BASIN
 1486          KM   Runoff hydrograph for subbasin UHSK northeast of the intersection of Union
 1487          KM   Hills Drive and 59th Avenue
 1488          BA   0.933
 1489          LG    0.22    0.28    5.00    0.24      26
 1490          UC   1.019   0.654
 1491          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
 1492          UA     100
               *


 1493          KK   ERUHSK  DIVERT
 1494          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
 1495          KM   retention developed after 1990 in subbasin UHSK
 1496          DT   XUHSK     15.2      0.0
 1497          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
 1498          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
               *


 1499          KK   CSK01 COMBINE
 1500          KM   Combine route RUHSKA, route RUHSKB, and subbasin UHSK
 1501          HC       3    6.73
               *


 1502          KK   DUHSK  DIVERT
 1503          KM   Divert calculated full flow capacity of 10 cfs into 24-inch storm drain
 1504          KM   pipe at the intersection of Union Hills Drive and 59th Avenue
 1505          DT   DPUHSK      0.0     10.0
 1506          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
 1507          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
               *


 1508          KK   DRSK67RETRIEVE
 1509          KM   Retrieve divert DRSK67 from combination point CBL59 and divert west to
 1510          KM   combination point CSK67
 1511          DR   DWSK67
               *
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 LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


 1512          KK   RSK67   ROUTE
 1513          KM   Route diversion retrieval DRSK67 to combination point CSK67
 1514          RS       7    FLOW
 1515          RC   0.035   0.015   0.035    5113  0.0037    0.00
 1516          RX    0.00    0.00   68.50   68.50  359.50  359.50  428.00  428.00
```

```
1517          RY    3.00    1.18    0.50    0.00    0.00    0.50    1.18    3.00
              *

1518          KK    SK67    BASIN
1519          KM   Runoff hydrograph for subbasin SK67 northeast of the intersection of
1520          KM   Greenbriar Drive and 67th Avenue
1521          BA   0.942
1522          LG    0.26    0.26    5.20    0.24      27
1523          UC   1.028   0.546
1524          UA      0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
1525          UA    100
              *

1526          KK  ERSK67  DIVERT
1527          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
1528          KM   retention developed after 1990 in subbasin SK67
1529          DT   XSK67    25.1     0.0
1530          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
1531          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

1532          KK   CSK02 COMBINE
1533          KM   Combine route RSK67 and subbasin SK67
1534          HC       3    8.30
              *

1535          KK  PRUHSKRETRIEVE
1536          KM   Retrieve full flow capacity of 10 cfs from 24-inch storm drain pipe at the
1537          KM   intersection of Union Hills Drive and 59th Avenue
1538          DR  DPUHSK
              *

1539          KK  RPSK67   ROUTE
1540          KM   Route full flow capacity of 10 cfs through 24-inch storm drain pipe in
1541          KM   67th Avenue to the intersection of Greenbriar Drive and 67th Avenue
1542          RK    6044  0.0020   0.015            CIRC   2.000
              *

1543          KK  CPSK02 COMBINE
1544          KM   Combine pipe return PRUHSK with the runoff hydrograph at combination point
1545          KM   CSK67 at the intersection of Greenbriar Drive and 67th Avenue
1546          HC       2
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1547          KK    UH67    BASIN
1548          KM   Runoff hydrograph for subbasin UH67 near the intersection of Utopia Road
1549          KM   67th Avenue
1550          BA   0.784
1551          LG    0.23    0.26    5.80    0.17      40
1552          UC   1.000   0.698
1553          UA      0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
1554          UA    100
              *

1555          KK  ERUH67  DIVERT
1556          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
1557          KM   retention developed after 1990 in subbasin UH67
1558          DT   XUH67    66.1     0.0
1559          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
1560          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

1561          KK   RUH75   ROUTE
1562          KM   Route runoff hydrograph at subbasin UH67 to combination point CUH75
1563          RS      10    FLOW
1564          RC   0.045   0.035   0.045    7047  0.0021    0.00
1565          RX    0.00    0.00   19.00   25.00   30.00   36.00   55.00   55.00
1566          RY    4.10    3.10    3.00    0.00    0.00    3.00    3.10    4.10
              *

1567          KK    UH75    BASIN
1568          KM   Runoff hydrograph for subbasin UH75 near the intersection of Union Hills
1569          KM   Road and 75th Avenue
1570          BA   0.814
1571          LG    0.22    0.15    7.30    0.11      29
1572          UC   1.500   1.021
1573          UA      0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
1574          UA    100
              *

1575          KK  ERUH75  DIVERT
1576          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
1577          KM   retention developed after 1990 in subbasin UH75
1578          DT   XUH75    65.2     0.0
1579          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
1580          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

1581          KK   CUH75 COMBINE
```



```
1582          KM   Combine route RUH75 and subbasin UH75
1583          HC       2    1.60
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1584          KK  RBL75A   ROUTE
1585          KM   Route runoff hydrograph at combination point CUH75 to combination point CSK03
1586          RS       6    FLOW
1587          RC   0.045   0.035   0.045    4730  0.0037    0.00
1588          RX    0.00    0.00   19.00   25.00   30.00   36.00   55.00   55.00
1589          RY    4.10    3.10    3.00    0.00    0.00    3.00    3.10    4.10
              *

1590          KK  DRBL75RETRIEVE
1591          KM   Retrieve divert DRBL75 from combination point CBL67 and divert west to
1592          KM   combination point CSK03
1593          DR  DWBL75
              *

1594          KK  RBL75B   ROUTE
1595          KM   Route diversion retrieval DRBL75 to combination point CSK03
1596          RS       4    FLOW
1597          RC   0.035   0.015   0.035    2940  0.0048    0.00
1598          RX    0.00    0.00   17.50   17.50  112.50  112.50  130.00  130.00
1599          RY    3.00    0.68    0.50    0.00    0.00    0.50    0.68    3.00
              *

1600          KK    BL75    BASIN
1601          KM   Runoff hydrograph for subbasin BL75 near the intersection of Bell Road
1602          KM   75th Avenue
1603          BA   1.063
1604          LG    0.24    0.26    5.20    0.24      30
1605          UC   1.145   0.726
1606          UA      0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
1607          UA    100
              *

1608          KK  ERBL75  DIVERT
1609          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
1610          KM   retention developed after 1990 in subbasin BL75
1611          DT   XBL75    13.2     0.0
1612          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
1613          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

1614          KK   CSK03 COMBINE
1615          KM   Combine route RBL75A, route RBL75B and subbasin BL75
1616          HC       4   11.24
              *

1617          KK    UHLO    BASIN
1618          KM   Runoff hydrograph for subbasin UHLO near the intersection of SR Loop 101 and
1619          KM   Union Hills Drive
1620          BA   0.822
1621          LG    0.21    0.25    5.80    0.19      31
1622          UC   0.927   0.446
1623          UA      0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
1624          UA    100
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1625          KK  ERUHLO  DIVERT
1626          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
1627          KM   retention developed after 1990 in subbasin UHLO
1628          DT   XUHLO    66.5     0.0
1629          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
1630          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

1631          KK   RBLLO   ROUTE
1632          KM   Route runoff hydrograph at subbasin UHLO to combination point CBLLO
1633          RS      10    FLOW
1634          RC   0.035   0.015   0.035    9255  0.0033    0.00
1635          RX    0.00    0.00   17.50   17.50  112.50  112.50  130.00  130.00
1636          RY    3.00    0.68    0.50    0.00    0.00    0.50    0.68    3.00
              *

1637          KK    BLLO    BASIN
1638          KM   Runoff hydrograph for subbasin BLLO near the intersection of Bell Road and
1639          KM   SR Loop 101
1640          BA   0.765
1641          LG    0.18    0.25    4.35    0.34      55
1642          UC   1.029   0.696
1643          UA      0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
1644          UA    100
              *
```

```
KK  ERBLLO  DIVERT
KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
KM   retention developed after 1990 in subbasin BLLO
DT   XBLLO    70.9     0.0
DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
*

KK   CBLLO COMBINE
KM   Combine route RBLLO and subbasin BLLO
HC       2    1.59
*

KK   DBLLO  DIVERT
KM   Divert calculated full flow capacity of 169 cfs into 84-inch storm drain
KM   pipe at the intersection of Bell Road and SR Loop 101
DT   DPBLLO     0.0    169.0
DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
*

KK   RGWLO   ROUTE
KM   Route diversion DBLLO to combination point CSK04
RS       9    FLOW
RC   0.035   0.015   0.035    6833  0.0066    0.00
RX    0.00    0.00   16.50   16.50  107.50  107.50  124.00  124.00
RY    3.00    0.66    0.50    0.00    0.00    0.50    0.66    3.00
*
```

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LINE  ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

KK    GWLO   BASIN
KM   Runoff hydrograph for subbasin GWLO near the intersection of Greenway Road
KM   and SR Loop 101
BA   0.814
LG    0.10    0.25    4.20    0.43      59
UC   0.587   0.357
UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
UA     100
*

KK  ERGWLO  DIVERT
KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
KM   retention developed after 1990 in subbasin GWLO
DT   XGWLO    53.2     0.0
DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
*

KK   CSK04 COMBINE
KM   Combine route RGWLO and subbasin GWLO
HC       4   37.07
*

KK  PRBLLORETRIEVE
KM   Retrieve full flow capacity of 169 cfs from 84-inch storm drain pipe at the
KM   intersection of Bell Road and SR Loop 101
DR  DPBLLO
*

KK  RPGWLO   ROUTE
KM   Route full flow capacity of 169 cfs through 84-inch storm drain pipe in
KM   Greenway Road to the intersection of Greenway Road and SR Loop 101
RK    2236  0.0007   0.015            CIRC   7.000
*

KK  CPSK04 COMBINE
KM   Combine pipe return PRBLLO with the runoff hydrograph at combination point
KM   CSK04 at the intersection of Greenway Road and SR Loop 101
HC       2
*

KK    JM63   BASIN
KM   Runoff hydrograph for subbasin JM63 near the intersection of Pyramid Peak
KM   Boulevard and Bent Tree Drive
BA   0.840
LG    0.18    0.30    5.10    0.23      21
UC   0.789   0.406
UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
UA     100
*
```

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LINE  ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

KK  ERJM63  DIVERT
KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
KM   retention developed after 1990 in subbasin JM63
DT   XJM63    50.3     0.0
DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
```



```
DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
*

KK   RJM67   ROUTE
KM   Route runoff hydrograph at subbasin JM63 to combination point CJM67
RS       2    FLOW
RC   0.045   0.020   0.045    4129  0.0076    0.00
RX    0.00    0.00   19.00   25.00   30.00   36.00   55.00   55.00
RY    4.10    3.10    3.00    0.00    0.00    3.00    3.10    4.10
*

KK    JM67   BASIN
KM   Runoff hydrograph for subbasin JM67 near the intersection of Pyramid Peak
KM   Boulevard and and 67th Avenue
BA   0.381
LG    0.20    0.29    4.35    0.33      34
UC   0.744   0.502
UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
UA     100
*

KK  ERJM67  DIVERT
KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
KM   retention developed after 1990 in subbasin JM67
DT   XJM67    20.3     0.0
DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
*

KK   CJM67 COMBINE
KM   Combine route RJM67 and subbasin JM67
HC       2    1.22
*

KK   RHV75   ROUTE
KM   Route runoff hydrograph at combination point CJM67 to combination point CHV75
RS       2    FLOW
RC   0.045   0.020   0.045    7197  0.0099    0.00
RX    0.00    0.00   40.00   50.00   60.00   70.00  110.00  110.00
RY    6.20    5.20    5.00    0.00    0.00    5.00    5.20    6.20
*

KK    HV75   BASIN
KM   Runoff hydrograph for subbasin HV75 near the intersection of Happy Valley
KM   Road and 75th Avenue
BA   0.958
LG    0.24    0.26    4.10    0.40      26
UC   0.949   0.526
UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
```

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LINE  ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

UA     100
*

KK  ERHV75  DIVERT
KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
KM   retention developed after 1990 in subbasin HV75
DT   XHV75    70.0     0.0
DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
*

KK   CHV75 COMBINE
KM   Combine route RHV75 and subbasin HV75
HC       2    2.18
*

KK    JM80   BASIN
KM   Runoff hydrograph for subbasin JM80 near the intersection of Jomax Road
KM   and 80th Avenue
BA   0.164
LG    0.24    0.35    3.88    0.42       5
UC   0.563   0.403
UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
UA     100
*

KK    JM76   BASIN
KM   Runoff hydrograph for subbasin JM76 near the intersection of Jomax Road
KM   and 76th Avenue
BA   0.169
LG    0.25    0.35    3.92    0.41       0
UC   0.709   0.594
UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
UA     100
*

KK    JMNR   BASIN
KM   Runoff hydrograph for subbasin JMNR near the intersection of Jomax Road
KM   and New River
BA   0.149
```

```
1775          LG    0.16    0.35    3.29    0.63       1
1776          UC   1.047   1.153
1777          UA       0     3.0     5.0     8.0    12.0    20.0    43.0    75.0    90.0    96.0
1778          UA     100
              *

1779          KK   CNR01 COMBINE
1780          KM   Combine route subbasin JM76, and subbasin JMNR
1781          HC       3    0.48
              *
1                                        HEC-1 INPUT                                        PAGE 47

LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1782          KK    JM75   BASIN
1783          KM   Runoff hydrograph for subbasin JM75 near the intersection of Jomax Road
1784          KM   and 75th Avenue
1785          BA   1.112
1786          LG    0.11    0.34    4.30    0.34      12
1787          UC   0.665   0.295
1788          UA       0     3.0     5.0     8.0    12.0    20.0    43.0    75.0    90.0    96.0
1789          UA     100
              *

1790          KK  ERJM75  DIVERT
1791          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
1792          KM   retention developed after 1990 in subbasin JM75
1793          DT   XJM75      5.6     0.0
1794          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
1795          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

1796          KK    HVNR   BASIN
1797          KM   Runoff hydrograph for subbasin HVNR near the intersection of Happy Valley
1798          KM   Road and New River
1799          BA   0.202
1800          LG    0.10    0.35    3.48    0.55       0
1801          UC   1.148   1.201
1802          UA       0     3.0     5.0     8.0    12.0    20.0    43.0    75.0    90.0    96.0
1803          UA     100
              *

1804          KK   CNR02 COMBINE
1805          KM   Combine subbasin HVNR
1806          HC       4    3.98
              *

1807          KK    HV67   BASIN
1808          KM   Runoff hydrograph for subbasin HV67 near the intersection of Happy Valley
1809          KM   Road and 67th Avenue
1810          BA   0.544
1811          LG    0.16    0.30    4.20    0.36      57
1812          UC   0.577   0.338
1813          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
1814          UA     100
              *

1815          KK  ERHV67  DIVERT
1816          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
1817          KM   retention developed after 1990 in subbasin HV67
1818          DT   XHV67     23.4     0.0
1819          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
1820          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *
1                                        HEC-1 INPUT                                        PAGE 48

LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1821          KK   RCL67   ROUTE
1822          KM   Route runoff hydrograph at subbasin HV67 to combination point CCL67
1823          RS       2    FLOW
1824          RC   0.045   0.035   0.045    3990  0.0076    0.00
1825          RX    0.00    0.00   40.00   50.00   60.00   70.00  110.00  110.00
1826          RY    6.20    5.20    5.00    0.00    0.00    5.00    5.20    6.20
              *

1827          KK    CL67   BASIN
1828          KM   Runoff hydrograph for subbasin CL67 near the intersection of Calle Lejos Road
1829          KM   67th Avenue
1830          BA   0.275
1831          LG    0.22    0.27    4.40    0.38      23
1832          UC   0.893   0.835
1833          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
1834          UA     100
              *

1835          KK  ERCL67  DIVERT
1836          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
1837          KM   retention developed after 1990 in subbasin CL67
1838          DT   XCL67     16.5     0.0
1839          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
```



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1840          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

1841          KK   CCL67 COMBINE
1842          KM   Combine route RCL67 and subbasin CL67
1843          HC       2    0.82
              *

1844          KK  RPP73A   ROUTE
1845          KM   Route runoff hydrograph at combination point CCL67 to combination point CPP73
1846          RS       3    FLOW
1847          RC   0.045   0.035   0.045    5599  0.0045    0.00
1848          RX    0.00    0.00   40.00   50.00   60.00   70.00  110.00  110.00
1849          RY    6.20    5.20    5.00    0.00    0.00    5.00    5.20    6.20
              *

1850          KK    PP67   BASIN
1851          KM   Runoff hydrograph for subbasin PP67 near the intersection of Pinnacle Peak
1852          KM   Road and 67th Avenue
1853          BA   0.096
1854          LG    0.30    0.25    4.55    0.41       6
1855          UC   0.887   0.957
1856          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
1857          UA     100
              *
1                                        HEC-1 INPUT                                        PAGE 49

LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1858          KK  ERPP67  DIVERT
1859          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
1860          KM   retention developed after 1990 in subbasin PP67
1861          DT   XPP67      5.8     0.0
1862          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
1863          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

1864          KK  DWPP73  DIVERT
1865          KM   Divert remaining runoff hydrograph at subbasin PP67 west to combination point
1866          KM   CPP73
1867          DT  DSWL67      0.0     0.0
1868          DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
1869          DQ     0.0    32.0    64.0   160.0   320.0   640.0  1280.0  3200.0  6400.0 16000.0
              *

1870          KK  RPP73B   ROUTE
1871          KM   Route diversion DWPP73 west to combination point CPP73
1872          RS       1    FLOW
1873          RC   0.035   0.015   0.035    3886  0.0064    0.00
1874          RX    0.00    0.00   16.50   16.50  107.50  107.50  124.00  124.00
1875          RY    3.00    0.66    0.50    0.00    0.00    0.50    0.66    3.00
              *

1876          KK    PP73   BASIN
1877          KM   Runoff hydrograph for subbasin PP73 near the intersection of Pinnacle Peak
1878          KM   Road and 73rd Avenue
1879          BA   0.545
1880          LG    0.29    0.25    4.70    0.31      18
1881          UC   0.927   0.578
1882          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
1883          UA     100
              *

1884          KK  ERPP73  DIVERT
1885          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
1886          KM   retention developed after 1990 in subbasin PP73
1887          DT   XPP73     10.3     0.0
1888          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
1889          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

1890          KK   CPP73 COMBINE
1891          KM   Combine route RPP73A, route RPP73B, and subbasin PP73
1892          HC       3    1.43
              *

1893          KK  DWPP75  DIVERT
1894          KM   Divert remaining runoff hydrograph at combination point CPP73 west to
1895          KM   combination point CPP75
1896          DT  DSWL75      0.0     0.0
1897          DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
1898          DQ     0.0    41.0    82.0   205.0   410.0   820.0  1640.0  4100.0  8200.0 20500.0
              *
1                                        HEC-1 INPUT                                        PAGE 50

LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1899          KK   RPPNR   ROUTE
1900          KM   Route diversion DWPP75 west to combination point CNR03
1901          RS       1    FLOW
1902          RC   0.045   0.020   0.045    1225  0.0052    0.00
```

```
1903          RX    0.00    0.00   40.00   50.00   60.00   70.00  110.00  110.00
1904          RY    6.20    5.20    5.00    0.00    0.00    5.00    5.20    6.20
              *

1905          KK    PP75   BASIN
1906          KM   Runoff hydrograph for subbasin PP75 near the intersection of Pinnacle Peak
1907          KM   Road and 75th Avenue
1908          BA   0.420
1909          LG    0.28    0.29    4.25    0.40      18
1910          UC   0.711   0.484
1911          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
1912          UA     100
              *

1913          KK  ERPP75  DIVERT
1914          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
1915          KM   retention developed after 1990 in subbasin PP75
1916          DT   XPP75    12.5     0.0
1917          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
1918          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

1919          KK    PPNR   BASIN
1920          KM   Runoff hydrograph for subbasin PPNR near the intersection of Pinnacle Peak
1921          KM   Road and New River
1922          BA   0.237
1923          LG    0.13    0.34    3.53    0.53       1
1924          UC   1.164   1.089
1925          UA       0     3.0     5.0     8.0    12.0    20.0    43.0    75.0    90.0    96.0
1926          UA     100
              *

1927          KK   CNR03 COMBINE
1928          KM   Combine route RPPNR and subbasin PPNR
1929          HC       4    5.47
              *

1930          KK  DRWL75RETRIEVE
1931          KM   Retrieve divert DRWL75 from combination point CPP73 and divert to
1932          KM   combination point CWL75
1933          DR  DSWL75
              *

1934          KK  RWL75B   ROUTE
1935          KM   Route diversion retrieval DRWL75 to combination point CWL75
1936          RS       1    FLOW
1937          RC   0.035   0.015   0.035    2577  0.0049    0.00
1938          RX    0.00    0.00    7.00    7.00   43.00   43.00   50.00   50.00
1939          RY    3.00    0.57    0.50    0.00    0.00    0.50    0.57    3.00
              *
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LINE          ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

1940          KK  DRWL67RETRIEVE
1941          KM   Retrieve divert DRWL67 from subbasin PP67 and divert to combination point
1942          KM   CTB67
1943          DR  DSWL67
              *

1944          KK   RWL67   ROUTE
1945          KM   Route diversion retrieval DRWL67 to combination point CWL67
1946          RS       1    FLOW
1947          RC   0.035   0.015   0.035    1195  0.0014    0.00
1948          RX    0.00    0.00   20.50   20.50   89.50   89.50  110.00  110.00
1949          RY    3.00    0.70    0.50    0.00    0.00    0.50    0.70    3.00
              *

1950          KK    WL67   BASIN
1951          KM   Runoff hydrograph for subbasin WL67 near the intersection of Thunderbird Park
1952          KM   Road and 67th Avenue
1953          BA   0.103
1954          LG    0.24    0.28    4.70    0.34       6
1955          UC   0.923   0.982
1956          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
1957          UA     100
              *

1958          KK  ERWL67  DIVERT
1959          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
1960          KM   retention developed after 1990 in subbasin WL67
1961          DT   XWL67     4.3     0.0
1962          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
1963          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

1964          KK   CWL67 COMBINE
1965          KM   Combine route RWL67 and subbasin WL67
1966          HC       2    0.13
              *

1967          KK  RWL75A   ROUTE
```



```
1968          KM   Route runoff hydrograph at combination point CWL67 to combination point CWL75
1969          RS       9    FLOW
1970          RC   0.035   0.015   0.035    5062  0.0072    0.00
1971          RX    0.00    0.00    7.00    7.00   43.00   43.00   50.00   50.00
1972          RY    3.00    0.57    0.50    0.00    0.00    0.50    0.57    3.00
              *

1973          KK    WL75   BASIN
1974          KM   Runoff hydrograph for subbasin WL75 near the intersection of Williams Road
1975          KM   Road and 75th Avenue
1976          BA   0.475
1977          LG    0.29    0.25    4.70    0.31      25
1978          UC   0.869   0.552
1979          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
1980          UA     100
              *
```



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LINE          ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

1981          KK  ERWL75  DIVERT
1982          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
1983          KM   retention developed after 1990 in subbasin WL75
1984          DT   XWL75    18.0     0.0
1985          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
1986          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

1987          KK   CWL75 COMBINE
1988          KM   Combine route RWL75A, route RWL75B, and subbasin WL75
1989          HC       3    1.20
              *

1990          KK    WWBR   BASIN
1991          KM   Runoff hydrograph for subbasin WWBR near the intersection of Westwing Parkway
1992          KM   and Black Rock Boulevard
1993          BA   0.184
1994          LG    0.22    0.19    7.00    0.10      25
1995          UC   0.373   0.227
1996          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
1997          UA     100
              *

1998          KK  ERWWBR  DIVERT
1999          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
2000          KM   retention developed after 1990 in subbasin WWBR
2001          DT   XWWBR    12.2     0.0
2002          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
2003          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

2004          KK   RWWRS   ROUTE
2005          KM   Route runoff hydrograph at subbasin WWBR to combination point CWWRS
2006          RS       2    FLOW
2007          RC   0.045   0.035   0.045    2599  0.0063    0.00
2008          RX    0.00    0.00   19.00   25.00   30.00   36.00   55.00   55.00
2009          RY    4.10    3.10    3.00    0.00    0.00    3.00    3.10    4.10
              *

2010          KK    WWRS   BASIN
2011          KM   Runoff hydrograph for subbasin WWRS near the intersection of Westwing Parkway
2012          KM   and Rock Springs wash
2013          BA   0.144
2014          LG    0.20    0.26    4.30    0.44      32
2015          UC   0.540   0.452
2016          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
2017          UA     100
              *
```



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LINE          ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

2018          KK  ERWWRS  DIVERT
2019          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
2020          KM   retention developed after 1990 in subbasin WWRS
2021          DT   XWWRS     7.1     0.0
2022          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
2023          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

2024          KK   CWWRS COMBINE
2025          KM   Combine route RWWRS and subbasin WWRS
2026          HC       2    0.33
              *

2027          KK   RJMRS   ROUTE
2028          KM   Route runoff hydrograph at combination point CWWRS to combination point CJMRS
2029          RS       3    FLOW
2030          RC   0.045   0.035   0.045    4005  0.0060    0.00
2031          RX    0.00    0.00   40.00   50.00   60.00   70.00  110.00  110.00
2032          RY    6.20    5.20    5.00    0.00    0.00    5.00    5.20    6.20
```

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                *
2033            KK    JMRS    BASIN
2034            KM    Runoff hydrograph for subbasin JMRS near the intersection of Jomax Road and
2035            KM    Rock Springs wash
2036            BA    0.567
2037            LG     0.20     0.31     5.30     0.20       18
2038            UC    0.785    0.512
2039            UA        0      5.0     16.0     30.0     65.0     77.0     84.0     90.0     94.0     97.0
2040            UA      100
                *
2041            KK  ERJMRS  DIVERT
2042            KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
2043            KM   retention developed after 1990 in subbasin JMRS
2044            DT   XJMRS     27.7      0.0
2045            DI       0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
2046            DQ       0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
                *
2047            KK   CJMRS COMBINE
2048            KM   Combine route RJMRS and subbasin JMRS
2049            HC         2     0.90
                *
2050            KK  RHVRSB    ROUTE
2051            KM   Route runoff hydrograph at combination point CJMRS to combination point CHVRS
2052            RS         5     FLOW
2053            RC     0.045    0.035    0.045     5791   0.0051     0.00
2054            RX      0.00     0.00    19.00    25.00    30.00    36.00    55.00    55.00
2055            RY      4.10     3.10     3.00     0.00     0.00     3.00     3.10     4.10
                *
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LINE            ID.......1.......2.......3.......4.......5.......6.......7.......8.......9.....10

2056            KK    83RS    BASIN
2057            KM   Runoff hydrograph for subbasin 83RS near the intersection of 83rd Avenue and
2058            KM   Rock Springs wash
2059            BA    0.638
2060            LG     0.18     0.30     4.50     0.30       38
2061            UC    0.496    0.203
2062            UA        0      5.0     16.0     30.0     65.0     77.0     84.0     90.0     94.0     97.0
2063            UA      100
                *
2064            KK  ER83RS  DIVERT
2065            KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
2066            KM   retention developed after 1990 in subbasin 83RS
2067            DT   X83RS     27.5      0.0
2068            DI       0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
2069            DQ       0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
                *
2070            KK  RHVRSA    ROUTE
2071            KM   Route runoff hydrograph at subbasin 83RS to combination point CHVRS
2072            RS         3     FLOW
2073            RC     0.045    0.035    0.045     6390   0.0071     0.00
2074            RX      0.00     0.00    40.00    50.00    60.00    70.00   110.00   110.00
2075            RY      6.20     5.20     5.00     0.00     0.00     5.00     5.20     6.20
                *
2076            KK    HVRS    BASIN
2077            KM   Runoff hydrograph for subbasin HVRS near the intersection of Happy Valley
2078            KM   Road and Rock Springs wash
2079            BA    0.630
2080            LG     0.10     0.35     4.10     0.38        1
2081            UC    1.105    0.724
2082            UA        0      3.0      5.0      8.0     12.0     20.0     43.0     75.0     90.0     96.0
2083            UA      100
                *
2084            KK  ERHVRS  DIVERT
2085            KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
2086            KM   retention developed after 1990 in subbasin HVRS
2087            DT   XHVRS      1.1      0.0
2088            DI       0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
2089            DQ       0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
                *
2090            KK   CHVRS COMBINE
2091            KM   Combine route RHVRSA, route RHVRSB, and subbasin HVRS
2092            HC         3     2.16
                *
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LINE            ID.......1.......2.......3.......4.......5.......6.......7.......8.......9.....10

2093            KK  RCL77B    ROUTE
2094            KM   Route runoff hydrograph at combination point CHVRS to combination point CCL77
2095            RS         2     FLOW
```



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2096            RC     0.045    0.035    0.045     2864   0.0057     0.00
2097            RX      0.00   480.00   500.00   518.00   544.00   609.00   900.00  1121.00
2098            RY     11.00    10.00     0.00     0.20    10.00    11.00    12.00    13.00
                *
2099            KK    HV83    BASIN
2100            KM   Runoff hydrograph for subbasin HV83 near the intersection of Happy Valley
2101            KM   Road and 83rd Avenue
2102            BA    0.035
2103            LG     0.10     0.35     4.15     0.37       20
2104            UC    0.327    0.334
2105            UA        0      5.0     16.0     30.0     65.0     77.0     84.0     90.0     94.0     97.0
2106            UA      100
                *
2107            KK  RCL77A    ROUTE
2108            KM   Route runoff hydrograph at subbasin HV83 to combination point CCL77
2109            RS         2     FLOW
2110            RC     0.045    0.035    0.045     3884   0.0111     0.00
2111            RX      0.00     0.00    19.00    25.00    30.00    36.00    55.00    55.00
2112            RY      4.10     3.10     3.00     0.00     0.00     3.00     3.10     4.10
                *
2113            KK    CL77    BASIN
2114            KM   Runoff hydrograph for subbasin CL77 near the intersection of Calle Lejos Road
2115            KM   and 77th Avenue
2116            BA    0.316
2117            LG     0.24     0.31     4.40     0.34        6
2118            UC    0.642    0.397
2119            UA        0      5.0     16.0     30.0     65.0     77.0     84.0     90.0     94.0     97.0
2120            UA      100
                *
2121            KK  ERCL77  DIVERT
2122            KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
2123            KM   retention developed after 1990 in subbasin CL77
2124            DT   XCL77     12.3      0.0
2125            DI       0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
2126            DQ       0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
                *
2127            KK   CCL77 COMBINE
2128            KM   Combine route RCL77A, route RCL77B, and subbasin CL77
2129            HC         3     2.51
                *
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LINE            ID.......1.......2.......3.......4.......5.......6.......7.......8.......9.....10

2130            KK    RPP77    ROUTE
2131            KM   Route runoff hydrograph at combination point CCL77 to combination point CPP77
2132            RS         2     FLOW
2133            RC     0.045    0.035    0.045     2947   0.0041     0.00
2134            RX      0.00   480.00   500.00   518.00   544.00   609.00   900.00  1121.00
2135            RY     11.00    10.00     0.00     0.20    10.00    11.00    12.00    13.00
                *
2136            KK    PP77    BASIN
2137            KM   Runoff hydrograph for subbasin PP77 near the intersection of Pinnacle Peak
2138            KM   Road and 77th Avenue
2139            BA    0.270
2140            LG     0.27     0.30     4.20     0.39        7
2141            UC    0.999    0.884
2142            UA        0      5.0     16.0     30.0     65.0     77.0     84.0     90.0     94.0     97.0
2143            UA      100
                *
2144            KK  ERPP77  DIVERT
2145            KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
2146            KM   retention developed after 1990 in subbasin PP77
2147            DT   XPP77      0.6      0.0
2148            DI       0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
2149            DQ       0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
                *
2150            KK   CPP77 COMBINE
2151            KM   Combine route RPP77 and subbasin PP77
2152            HC         2     2.78
                *
2153            KK    RWLNR    ROUTE
2154            KM   Route runoff hydrograph at combination point CPP77 to combination point CNR04
2155            RS         2     FLOW
2156            RC     0.045    0.035    0.045     3822   0.0048     0.00
2157            RX      0.00   256.00   372.00   397.00   407.00   419.00   464.00   800.00
2158            RY     12.00    10.00     8.00     0.00     0.00     6.00     8.00    12.00
                *
2159            KK    WLNR    BASIN
2160            KM   Runoff hydrograph for subbasin WLNR near the intersection of Williams Road
2161            KM   New River
2162            BA    0.390
```

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2163          LG    0.28    0.31    4.70    0.27       7
2164          UC   0.895   0.573
2165          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
2166          UA     100
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


2167          KK   CNR04 COMBINE
2168          KM   Combine route RWLNR and subbasin WLNR
2169          HC       4    9.84
              *


2170          KK    DV75   BASIN
2171          KM   Runoff hydrograph for subbasin DV75 near the intersection of Deer Valley Road
2172          KM   and 75th Avenue
2173          BA   0.501
2174          LG    0.24    0.25    4.90    0.26      34
2175          UC   1.039   0.783
2176          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
2177          UA     100
              *


2178          KK  ERDV75  DIVERT
2179          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
2180          KM   retention developed after 1990 in subbasin DV75
2181          DT   XDV75     22.6      0.0
2182          DI       0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
2183          DQ       0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *


2184          KK  DWDVNR  DIVERT
2185          KM   Divert remaining runoff hydrograph at subbasin DV75 west to combination point
2186          KM   CNR05
2187          DT  DSLO75      0.0     0.0
2188          DI       0.0     1.0    92.0   274.0   365.0   456.0   546.0   700.0   800.0  1000.0
2189          DQ       0.0     0.0    26.0    70.0    87.0   109.0   131.0   167.0   191.0   239.0
              *


2190          KK   RDVNR   ROUTE
2191          KM   Route diversion DWDVNR west to combination point CNR05
2192          RS       2    FLOW
2193          RC   0.045   0.015   0.045    2707  0.0015    0.00
2194          RX    0.00    0.00   19.00   25.00   30.00   36.00   55.00   55.00
2195          RY    4.10    3.10    3.00    0.00    0.00    3.00    3.10    4.10
              *


2196          KK    DVNR   BASIN
2197          KM   Runoff hydrograph for subbasin DVNR near the intersection of Deer Valley Road
2198          KM   and New River
2199          BA   0.401
2200          LG    0.23    0.26    4.35    0.34      33
2201          UC   1.054   0.717
2202          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
2203          UA     100
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


2204          KK   CNR05 COMBINE
2205          KM   Combine route RDVNR and subbasin DVNR
2206          HC       3   10.50
              *


2207          KK    DV67   BASIN
2208          KM   Runoff hydrograph for subbasin DV67 near the intersection of Deer Valley Road
2209          KM   and 67th Avenue
2210          BA   0.503
2211          LG    0.18    0.29    4.55    0.32      38
2212          UC   0.399   0.154
2213          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
2214          UA     100
              *


2215          KK  SRDV67 STORAGE
2216          KM   Storage route runoff hydrograph from combination point CDV67 thru regional
2217          KM     detention basin located in subbasin DV67 (Arrowhead Lakes 6, 7, and 11-13)
2218          KM   Stage-storage-discharge data from Glendale/Peoria ADMPU Arrowhead Lakes
2219          KM     Hydrology Report (Volume AL), 2001
2220          RS       1    STOR
2221          SV            4.49    9.21   14.15   19.27   24.51   29.86   35.24   40.67
2222          SQ           91.00  285.00  566.00  886.00 1243.00 1638.00 2064.00 2523.00
2223          SE            0.50    1.00    1.50    2.00    2.50    3.00    3.50    4.00
              *


2224          KK    LO67   BASIN
2225          KM   Runoff hydrograph for subbasin LO67 near the intersection of SR Loop 101 and
2226          KM   67th Avenue
2227          BA   1.217
```



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2228          LG    0.20    0.25    5.70    0.20      33
2229          UC   0.981   0.453
2230          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
2231          UA     100
              *


2232          KK   CLO67 COMBINE
2233          KM   Combine route RLO67 and subbasin LO67
2234          HC       2    1.72
              *


2235          KK  SRLO67 STORAGE
2236          KM   Storage route runoff hydrograph from combination point CLO67 thru regional
2237          KM     detention basin located in subbasin LO67 (Arrowhead Lakes 8-10 and 14-20)
2238          KM   Stage-storage-discharge data from Glendale/Peoria ADMPU Arrowhead Lakes
2239          KM     Hydrology Report (Volume AL), 2001
2240          RS       1    STOR
2241          SV           12.86   26.19   39.86   53.86   69.64   84.08  100.17  114.88  149.69
2242          SV  188.50
2243          SQ       9      41     100     175     245     326     396     502     657     703
2244          SQ     749
2245          SE    0.00    0.50    1.00    1.50    2.00    2.50    3.00    3.50    4.00    4.50
2246          SE    5.00
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


2247          KK    LO75   BASIN
2248          KM   Runoff hydrograph for subbasin LO75 near the intersection of SR Loop 101 and
2249          KM   75th Avenue
2250          BA   0.970
2251          LG    0.24    0.25    6.00    0.16      34
2252          UC   0.999   0.498
2253          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
2254          UA     100
              *


2255          KK  ERLO75  DIVERT
2256          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
2257          KM   retention developed after 1990 in subbasin LO75
2258          DT   XLO75     34.3      0.0
2259          DI       0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
2260          DQ       0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *


2261          KK   CLO75 COMBINE
2262          KM   Combine storage route SRLO67 and subbasin LO75
2263          HC       2    2.69
              *


2264          KK  SRLO75 STORAGE
2265          KM   Storage route runoff hydrograph from combination point CLO75 thru regional
2266          KM     detention basin located in subbasin LO75 (Arrowhead Lakes L21AP1 to L21AP5)
2267          KM   Stage-storage-discharge data from Glendale/Peoria ADMPU Arrowhead Lakes
2268          KM     Hydrology Report (Volume AL), 2001
2269          RS       1    STOR
2270          SV           12.58   31.24   52.02
2271          SQ           46.00  418.00  768.00
2272          SE            0.50    1.00    1.50
              *


2273          KK  DRLO75RETRIEVE
2274          KM   Retrieve divert DROL75 from subbasin DV75 and divert to combination point
2275          KM   CLO75
2276          DR  DSLO75
              *


2277          KK   RLO75   ROUTE
2278          KM   Route diversion DRLO75 to combination point CLO75
2279          RS       8    FLOW
2280          RC   0.035   0.015   0.035    7499  0.0047    0.00
2281          RX    0.00    0.00   13.00   13.00   55.00   55.00   68.00   68.00
2282          RY    3.00    0.63    0.50    0.00    0.00    0.50    0.63    3.00
              *


2283          KK  CILO75 COMBINE
2284          KM   Combine route RLO75A and storage route SRLO75
2285          HC       2    2.94
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


2286          KK  RBYNRB   ROUTE
2287          KM   Route runoff hydrograph at combination point CLO75 to combination point CBYNR
2288          RS       1    FLOW
2289          RC   0.045   0.015   0.045    3176  0.0058    0.00
2290          RX    0.00    3.00    5.00   29.00   41.00   65.00   67.00   70.00
2291          RY   13.00   12.00   12.00    0.00    0.00   12.00   12.00   13.00
              *
```

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2292          KK    PP81   BASIN
2293          KM   Runoff hydrograph for subbasin PP81 near the intersection of Pinnacle Peak
2294          KM   Road and 81st Avenue
2295          BA   0.197
2296          LG    0.30    0.25    6.00    0.18      15
2297          UC   0.667   0.380
2298          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
2299          UA     100
              *

2300          KK  ERPP81  DIVERT
2301          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
2302          KM   retention developed after 1990 in subbasin PP81
2303          DT   XPP81     12.8      0.0
2304          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
2305          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

2306          KK   RWL83   ROUTE
2307          KM   Route runoff hydrograph at subbasin PP81 to combination point CWL83
2308          RS       4     FLOW
2309          RC   0.045    0.035    0.045     3222   0.0050     0.00
2310          RX    0.00     0.00    19.00    25.00    30.00    36.00    55.00    55.00
2311          RY    4.10     3.10     3.00     0.00     0.00     3.00     3.10     4.10
              *

2312          KK    WL83   BASIN
2313          KM   Runoff hydrograph for subbasin WL83 near the intersection of Williams Road
2314          KM   and 83rd Avenue
2315          BA   0.125
2316          LG    0.30     0.10    11.20     0.02      15
2317          UC   0.859    0.804
2318          UA       0      5.0     16.0     30.0     65.0     77.0     84.0     90.0     94.0     97.0
2319          UA     100
              *

2320          KK  ERWL83  DIVERT
2321          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
2322          KM   retention developed after 1990 in subbasin WL83
2323          DT   XWL83      4.3      0.0
2324          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
2325          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

2326          KK   CWL83 COMBINE
2327          KM   Combine route RW183 and subbasin WL83
2328          HC       2    0.32
              *

2329          KK    HV87   BASIN
2330          KM   Runoff hydrograph for subbasin HV87 near the intersection of Happy Valley
2331          KM   Road and 87th Avenue
2332          BA   0.285
2333          LG    0.10    0.35    4.00    0.39      35
2334          UC   0.325   0.129
2335          UA       0     3.0     5.0     8.0    12.0    20.0    43.0    75.0    90.0    96.0
2336          UA     100
              *

2337          KK   RPP87   ROUTE
2338          KM   Route runoff hydrograph at subbasin HV87 to combination point CPP87
2339          RS       1    FLOW
2340          RC   0.045   0.020   0.045    5446  0.0172    0.00
2341          RX    0.00    0.00   40.00   50.00   60.00   70.00  110.00  110.00
2342          RY    6.20    5.20    5.00    0.00    0.00    5.00    5.20    6.20
              *

2343          KK    PP87   BASIN
2344          KM   Runoff hydrograph for subbasin PP87 near the intersection of Pinnacle Peak
2345          KM   Road and 87th Avenue
2346          BA   0.981
2347          LG    0.25    0.28    4.45    0.35      10
2348          UC   0.635   0.231
2349          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
2350          UA     100
              *

2351          KK  ERPP87  DIVERT
2352          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
2353          KM   retention developed after 1990 in subbasin PP87
2354          DT   XPP87     29.0      0.0
2355          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
2356          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

2357          KK   CPP87 COMBINE
2358          KM   Combine route RPP87 and subbasin PP87
2359          HC       2    1.27
```



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              *

2360          KK  SRPP87 STORAGE
2361          KM   Storage route runoff hydrograph from combination point CPP87 through the
2362          KM     regional detention basin located near the intersection of Pinnacle Peak Rd
2363          KM     and 87th Avenue
2364          KM   Stage-storage-discharge data from 83rd Avenue/Pinnacle Peak Road Drainage
2365          KM     Improvements Final Drainage Report, 2006
2366          RS       1    STOR
2367          SV            0.81     3.43     7.18    11.20    15.45    19.87    24.47    29.24    32.60
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

2368          SV   34.10    36.28    38.47
2369          SQ                     34.13    53.39    68.62    81.63    93.17   103.66   113.33   120.0
2370          SQ   208.0    499.0    814.0
2371          SE  1313.0 1314.00 1315.00 1316.00 1317.00 1318.00 1319.00 1320.00 1321.00  1321.7
2372          SE  1322.0   1322.5   1322.9
              *

2373          KK   DPP87  DIVERT
2374          KM   Divert calculated full flow capacity of 128 cfs into 48-inch storm drain
2375          KM   pipe at the intersection of Pinnacle Peak Road and 87th Avenue
2376          DT  DPPP87      0.0    128.0
2377          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
2378          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

2379          KK  PRPP87RETRIEVE
2380          KM   Retrieve full flow capacity of 128 cfs from 48-inch storm drain pipe at the
2381          KM   intersection of Pinnacle Peak Road and 87th Avenue
2382          DR  DPPP87
              *

2383          KK  RP87PP   ROUTE
2384          KM   Route full flow capacity of 128 cfs through 48-inch storm drain pipe in
2385          KM   87th Avenue to the intersection of Pinnacle Peak Road and 87th Avenue
2386          RK    1251  0.0079   0.015             CIRC   4.000
              *

2387          KK    PP91   BASIN
2388          KM   Runoff hydrograph for subbasin PP91 near the intersection of Pinnacle Peak
2389          KM   Road and 91st Avenue
2390          BA   0.161
2391          LG    0.30    0.25    4.20    0.44      15
2392          UC   0.905   0.745
2393          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
2394          UA     100
              *

2395          KK  ERPP91  DIVERT
2396          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
2397          KM   retention developed after 1990 in subbasin PP91
2398          DT   XPP91      7.7      0.0
2399          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
2400          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

2401          KK  DPPP91  DIVERT
2402          KM   Divert calculated full flow capacity of 88 cfs into 54-inch storm drain
2403          KM   pipe at the intersection of Pinnacle Peak Road and 91st Avenue
2404          DT   DPP91      0.0      0.0
2405          DI     0.0     88.0     88.1 50000.0      0.0      0.0      0.0      0.0      0.0      0.0
2406          DQ     0.0      0.0      0.1 49912.0      0.0      0.0      0.0      0.0      0.0      0.0
              *
              * KKRPPP87   ROUTE
              * KM Route full flow capacity of 88 cfs through 54-inch storm drain pipe in
              * KM Pinnacle Peak Road to the intersection of Pinnacle Peak Road and 87th Avenu
              * RK  2635  0.0020   0.015             CIRC   4.500
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

2407          KK  CPPP87 COMBINE
2408          KM   Combine pipe flow DPPP91 with pipe return flow PRPP87 at the intersection of
2409          KM   Pinnacle Peak Road and 87th Avenue
2410          HC       2
              *

2411          KK  RPPP83   ROUTE
2412          KM   Route full flow capacity of 127 cfs through 72-inch storm drain pipe in
2413          KM   Pinnacle Peak Road to the intersection of Pinnacle Peak Road and 83rd Avenue
2414          RK    1891  0.0009   0.015             CIRC   6.000
              *

2415          KK  CPPP83 COMBINE
2416          KM   Combine pipe flow from combination point CPPP87 with the runoff hydrograph at
2417          KM   combination point CPP87 at the intersection of Pinnacle Peak Road and 83rd
2418          KM   Avenue
2419          HC       2
```

```
                *
2420            KK  SRPP83 STORAGE
2421            KM   Storage route runoff hydrograph from combination point CPPP83 through the
2422            KM     regional detention basin located near the intersection of Pinnacle Peak Rd
2423            KM     and 83rd Avenue
2424            KM   Stage-storage-discharge data from 83rd Avenue/Pinnacle Peak Road Drainage
2425            KM     Improvements Final Drainage Report, 2006
2426            RS       1    STOR
2427            SV    0.41    1.96    4.32    6.86    9.60   12.51   15.62   18.93   22.43   26.13
2428            SV   30.04   34.15   38.47   43.00   47.74   52.69
2429            SQ                            1.03    2.10   11.31   13.59   15.65   17.54
2430            SQ   19.29   20.95   22.51   24.00   25.43   26.79
2431            SE 1298.0  1299.0  1300.0  1301.0  1302.0  1303.0  1304.0  1305.0  1306.0  1307.0
2432            SE 1308.0  1309.0  1310.0  1311.0  1312.0  1313.0
                *
2433            KK  DP83PP  DIVERT
2434            KM   Divert calculated full flow capacity of 31 cfs into 36-inch storm drain
2435            KM   pipe at the intersection of Pinnacle Peak Road and 83rd Avenue
2436            DT   D83PP      0.0     0.0
2437            DI     0.0     31.0    31.1 50000.0     0.0     0.0     0.0     0.0     0.0     0.0
2438            DQ     0.0      0.0     0.1 49969.0     0.0     0.0     0.0     0.0     0.0     0.0
                *
2439            KK  RP83WL   ROUTE
2440            KM   Route full flow capacity of 31 cfs through 36-inch storm drain pipe in
2441            KM   83rd Avenue to the intersection of Williams Road and 83rd Avenue
2442            RK    2980  0.0022   0.015             CIRC   3.000
                *
2443            KK  CPWL83 COMBINE
2444            KM   Combine pipe flow DP83PP with the runoff hydrograph at combination point
2445            KM   CWL83 at the intersection of Williams Road and 83rd Avenue
2446            HC       2
                *
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LINE            ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

2447            KK   RDV83   ROUTE
2448            KM   Route runoff hydrograph at combination point CPWL83 to combination point
2449            KM   CDV83
2450            RS       2    FLOW
2451            RC   0.045   0.015   0.045    2933  0.0051    0.00
2452            RX    0.00    0.00   40.00   50.00   60.00   70.00  110.00  110.00
2453            RY    6.20    5.20    5.00    0.00    0.00    5.00    5.20    6.20
                *
2454            KK    DV83   BASIN
2455            KM   Runoff hydrograph for subbasin DV83 near the intersection of Deer Valley
2456            KM   Road and 83rd Avenue
2457            BA   0.107
2458            LG    0.25    0.10   11.20    0.02      30
2459            UC   0.951   1.046
2460            UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
2461            UA     100
                *
2462            KK  ERDV83  DIVERT
2463            KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
2464            KM   retention developed after 1990 in subbasin DV83
2465            DT   XDV83     1.7     0.0
2466            DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
2467            DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
                *
2468            KK   CDV83 COMBINE
2469            KM   Combine route RDV83 and subbasin DV83
2470            HC       2    0.43
                *
2471            KK  RBYNRA   ROUTE
2472            KM   Route runoff hydrograph at combination point CDV83 to combination point CBYNR
2473            RS       5    FLOW
2474            RC   0.045   0.035   0.045    6713  0.0060    0.00
2475            RX    0.00    0.00   19.00   25.00   30.00   36.00   55.00   55.00
2476            RY    4.10    3.10    3.00    0.00    0.00    3.00    3.10    4.10
                *
2477            KK    BYNR   BASIN
2478            KM   Runoff hydrograph for subbasin BYNR near the intersection of Beardsley Road
2479            KM   Road and New River
2480            BA   1.034
2481            LG    0.22    0.27    5.80    0.17      27
2482            UC   1.046   0.550
2483            UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
2484            UA     100
                *
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LINE            ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10
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2485            KK  ERBYNR  DIVERT
2486            KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
2487            KM   retention developed after 1990 in subbasin BYNR
2488            DT   XBYNR      4.5     0.0
2489            DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
2490            DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
                *
2491            KK   CNR06 COMBINE
2492            KM   Combine route RBYNRA, route RBYNRB, and subbasin BYNR
2493            HC       4   14.90
                *
2494            KK  DR83PPRETRIEVE
2495            KM   Retrieve divert DR83PP from combination point CPPP83 and divert to
2496            KM   combination point CDV87
2497            DR   D83PP
                *
2498            KK   RDV87   ROUTE
2499            KM   Route diversion retrieval DR83PP to combination point CDV87
2500            RS       1    FLOW
2501            RC   0.035   0.015   0.035    5316  0.0063    0.00
2502            RX    0.00    0.00   12.50   12.50   62.50   62.50   75.00   75.00
2503            RY    3.00    0.62    0.50    0.00    0.00    0.50    0.62    3.00
                *
2504            KK    DV87   BASIN
2505            KM   Runoff hydrograph for subbasin DV87 near the intersection of Deer Valley Road
2506            KM   and 87th Avenue
2507            BA   1.004
2508            LG    0.30    0.17    6.80    0.13      15
2509            UC   0.806   0.293
2510            UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
2511            UA     100
                *
2512            KK  ERDV87  DIVERT
2513            KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
2514            KM   retention developed after 1990 in subbasin DV87
2515            DT   XDV87     5.3     0.0
2516            DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
2517            DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
                *
2518            KK   CDV87 COMBINE
2519            KM   Combine route RDV87 and subbasin DV87
2520            HC       2    2.27
                *
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LINE            ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

2521            KK   RBY87   ROUTE
2522            KM   Route runoff hydrograph at combination point CDV87 to combination point CBY87
2523            RS       2    FLOW
2524            RC   0.045   0.035   0.045    6699  0.0045    0.00
2525            RX    0.00    0.00   55.00   75.00  100.00  120.00  175.00  175.00
2526            RY   11.20   10.20   10.00    0.00    0.00   10.00   10.20   11.20
                *
2527            KK    BY87   BASIN
2528            KM   Runoff hydrograph for subbasin BY87 near the intersection of Beardsley Road
2529            KM   and 87th Avenue
2530            BA   0.959
2531            LG    0.24    0.15    8.00    0.08      33
2532            UC   0.969   0.476
2533            UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
2534            UA     100
                *
2535            KK  ERBY87  DIVERT
2536            KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
2537            KM   retention developed after 1990 in subbasin BY87
2538            DT   XBY87     76.7     0.0
2539            DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
2540            DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
                *
2541            KK   CBY87 COMBINE
2542            KM   Combine route RBY87 and subbasin BY87
2543            HC       2    3.23
                *
2544            KK   RUH87   ROUTE
2545            KM   Route runoff hydrograph at combination point CBY87 to combination point CUH87
2546            RS       5    FLOW
2547            RC   0.045   0.035   0.045    6701  0.0037    0.00
2548            RX    0.00    0.00   40.00   50.00   60.00   70.00  110.00  110.00
2549            RY    6.20    5.20    5.00    0.00    0.00    5.00    5.20    6.20
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                *
2550            KK    UH87   BASIN
2551            KM   Runoff hydrograph for subbasin UH87 near the intersection of Union Hills
2552            KM   Drive and 87th Avenue
2553            BA   0.998
2554            LG    0.21    0.15    7.60    0.10      26
2555            UC   0.886   0.414
2556            UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
2557            UA     100
                *
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LINE            ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

2558            KK  ERUH87  DIVERT
2559            KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
2560            KM   retention developed after 1990 in subbasin UH87
2561            DT   XUH87     71.9      0.0
2562            DI       0.0 50000.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0
2563            DQ       0.0 50000.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0
                *

2564            KK   CUH87 COMBINE
2565            KM   Combine route RUH87 and subbasin UH87
2566            HC        2    4.23
                *

2567            KK  DSBLNR  DIVERT
2568            KM   Divert remaining runoff hydrograph from combination point CUH87 south to
2569            KM   combination point CBLNR
2570            DT  DSBL91       0.0       0.0
2571            DI       0.0     100.0     200.0     500.0    1000.0    2000.0    4000.0   10000.0   20000.0   50000.0
2572            DQ       0.0      59.0     118.0     295.0     590.0    1180.0    2360.0    5900.0   11800.0   29500.0
                *

2573            KK  DPUHNR  DIVERT
2574            KM   Divert calculated full flow capacity of 50 cfs into 42-inch storm drain
2575            KM   pipe at the intersection of Union Hills Drive and 87th Avenue
2576            DT   DUHNR       0.0       0.0
2577            DI       0.0      50.0      50.1 50000.0       0.0       0.0       0.0       0.0       0.0       0.0
2578            DQ       0.0       0.0       0.1 49950.0       0.0       0.0       0.0       0.0       0.0       0.0
                *

2579            KK  RPUHNR   ROUTE
2580            KM   Route full flow capacity of 50 cfs through 42-inch storm drain pipe in
2581            KM   Union Hills Drive to the intersection of Union Hills Drive and New River
2582            RK     1703  0.0025   0.015              CIRC   3.500
                *

2583            KK    UHNR   BASIN
2584            KM   Runoff hydrograph for subbasin UHNR near the intersection of Union Hills
2585            KM   Drive and New River
2586            BA   0.386
2587            LG    0.14    0.29    4.60    0.28      40
2588            UC   0.908   0.675
2589            UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
2590            UA     100
                *

2591            KK  ERUHNR  DIVERT
2592            KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
2593            KM   retention developed after 1990 in subbasin UHNR
2594            DT   XUHNR       0.1       0.0
2595            DI       0.0 50000.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0
2596            DQ       0.0 50000.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0
                *
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LINE            ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

2597            KK   CNR07 COMBINE
2598            KM   Combine route RPUHNR, and subbasin UHNR
2599            HC        3   15.29
                *

2600            KK  DRUHNRRETRIEVE
2601            KM   Retrieve divert DRUHNR from combination point CUH87 and divert to
2602            KM   combination point CNR08
2603            DR   DUHNR
                *

2604            KK   RBLNR   ROUTE
2605            KM   Route diversion retrieval DRUHNR to combination point CNR08
2606            RS        1     FLOW
2607            RC    0.035   0.015   0.035    2700  0.0028     0.00
2608            RX     0.00    0.00    7.00    7.00   43.00    43.00    50.00    50.00
2609            RY     3.00    0.57    0.50    0.00    0.00     0.50     0.57     3.00
                *

2610            KK    BLNR   BASIN
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2611            KM   Runoff hydrograph for subbasin BLNR near the intersection of Bell Road and
2612            KM   New River
2613            BA   0.603
2614            LG    0.18    0.27    5.20    0.21      44
2615            UC   0.899   0.590
2616            UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
2617            UA     100
                *

2618            KK  ERBLNR  DIVERT
2619            KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
2620            KM   retention developed after 1990 in subbasin BLNR
2621            DT   XBLNR       5.1       0.0
2622            DI       0.0 50000.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0
2623            DQ       0.0 50000.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0
                *

2624            KK   CNR08 COMBINE
2625            KM   Combine route RBLNR and subbasin BLNR
2626            HC        3   17.63
                *

2627            KK  DRPP91RETRIEVE
2628            KM   Retrieve divert DRPP91 from subbasin PP91 and divert to combination point
2629            KM   CRG93
2630            DR   DPP91
                *

2631            KK   RDV91   ROUTE
2632            KM   Route diversion retrieval DRPP91 to combination point CDV91
2633            RS        1     FLOW
2634            RC    0.035   0.015   0.035    5295  0.0064     0.00
2635            RX     0.00    0.00   16.50   16.50  107.50   107.50   124.00   124.00
2636            RY     3.00    0.66    0.50    0.00    0.00     0.50     0.66     3.00
                *
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LINE            ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

2637            KK   RRG93   ROUTE
2638            KM   Route runoff hydrograph at route RDV91 to combination point CRG93
2639            RS        1     FLOW
2640            RC    0.045   0.015   0.045    4406  0.0036     0.00
2641            RX     0.00    0.00   19.00   25.00   30.00    36.00    55.00    55.00
2642            RY     4.10    3.10    3.00    0.00    0.00     3.00     3.10     4.10
                *

2643            KK    RG93   BASIN
2644            KM   Runoff hydrograph for subbasin RG93 near the intersection of Rose Garden Lane
2645            KM   93rd Avenue
2646            BA   0.248
2647            LG    0.25    0.25    4.60    0.30      30
2648            UC   0.960   0.674
2649            UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
2650            UA     100
                *

2651            KK  ERRG93  DIVERT
2652            KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
2653            KM   retention developed after 1990 in subbasin RG93
2654            DT   XRG93      20.3       0.0
2655            DI       0.0 50000.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0
2656            DQ       0.0 50000.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0
                *

2657            KK   CRG93 COMBINE
2658            KM   Combine route RRG93 and subbasin RG93
2659            HC        2    0.41
                *

2660            KK  DSBY91  DIVERT
2661            KM   Divert remaining runoff hydrograph from combination point CRG93 south to
2662            KM   combination point CBY91
2663            DT  DWRGLP       0.0       0.0
2664            DI       0.0       5.0       9.0      50.0      84.0     113.0     140.0     205.0       0.0       0.0
2665            DQ       0.0       0.0       0.0      35.0      66.0      93.0     118.0     182.0       0.0       0.0
                *

2666            KK   RBY91   ROUTE
2667            KM   Route diversion DSBY91 south to combination point CBY91
2668            RS        8     FLOW
2669            RC    0.045   0.035   0.045    2901  0.0041     0.00
2670            RX     0.00    0.00   19.00   25.00   30.00    36.00    55.00    55.00
2671            RY     4.10    3.10    3.00    0.00    0.00     3.00     3.10     4.10
                *

2672            KK    BY91   BASIN
2673            KM   Runoff hydrograph for subbasin BY91 near the intersection of Beardsley Road
2674            KM   91st Avenue
2675            BA   0.501
2676            LG    0.23    0.25    4.50    0.34      27
2677            UC   0.719   0.321
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 2678          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
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 LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 2679          UA     100
               *

 2680          KK  ERBY91   DIVERT
 2681          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
 2682          KM   retention developed after 1990 in subbasin BY91
 2683          DT   XBY91     38.6      0.0
 2684          DI     0.0 50000.0      0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
 2685          DQ     0.0 50000.0      0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
               *

 2686          KK   CBY91 COMBINE
 2687          KM   Combine route RBY91 and subbasin BY91
 2688          HC        2    0.71
               *

 2689          KK   RUH91    ROUTE
 2690          KM   Route runoff hydrograph at combination point CBY91 to combination point CUH91
 2691          RS       10    FLOW
 2692          RC   0.045   0.035   0.045    9978  0.0027    0.00
 2693          RX    0.00    0.00   19.00   25.00   30.00   36.00   55.00   55.00
 2694          RY    4.10    3.10    3.00    0.00    0.00    3.00    3.10    4.10
               *

 2695          KK    UH91    BASIN
 2696          KM   Runoff hydrograph for subbasin UH91 near the intersection of Union Hills
 2697          KM   Drive and 91st Avenue
 2698          BA   0.929
 2699          LG    0.21    0.25    4.80    0.31      27
 2700          UC   1.399   0.987
 2701          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
 2702          UA     100
               *

 2703          KK  ERUH91   DIVERT
 2704          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
 2705          KM   retention developed after 1990 in subbasin UH91
 2706          DT   XUH91     4.0      0.0
 2707          DI     0.0 50000.0      0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
 2708          DQ     0.0 50000.0      0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
               *

 2709          KK   CUH91 COMBINE
 2710          KM   Combine route RUH91 and subbasin UH91
 2711          HC        2    1.63
               *

 2712          KK  DRBL91RETRIEVE
 2713          KM   Retrieve divert DRBL91 from combination point CBL59 and divert to
 2714          KM   combination point CIUH91
 2715          DR  DSBL91
               *
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 LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 2716          KK   DUH91   DIVERT
 2717          KM   Capacity of storm drain in 89th Avenue and 91st Avenue diverted together.
 2718          KM   Divert combined calculated full flow capacity of 454 cfs in the 78-inch storm
 2719          KM   drain pipe in 89th Avenue and 129 cfs in the 54-inch storm drain pipe in
 2720          KM   91st Avenue. The total calculated combined full flow capacity diverted at the
 2721          KM   intersection of 91st Avenue and Union Hills Drive is 583 cfs in an equivalent
 2722          KM   diameter pipe of 96 inches
 2723          DT   DPUH91     0.0   583.0
 2724          DI     0.0 50000.0      0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
 2725          DQ     0.0 50000.0      0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
               *

 2726          KK  CIUH91 COMBINE
 2727          KM   Combine diversion DUH91 with runoff hydrograph at combination point CUH91
 2728          KM   at the intersection of 91st Avenue and Union Hills Drive
 2729          HC        2    4.12
               *

 2730          KK   RBL91    ROUTE
 2731          KM   Route runoff hydrograph at combination point CIUH91 to combination point CBL9
 2732          RS        2    FLOW
 2733          RC   0.035   0.015   0.035    5280  0.0045    0.00
 2734          RX    0.00    0.00   38.50   38.50  210.50  210.50  249.00  249.00
 2735          RY    3.00    0.88    0.50    0.00    0.00    0.50    0.88    3.00
               *

 2736          KK    BL91    BASIN
 2737          KM   Runoff hydrograph for subbasin BL91 near the intersection of Bell Road and
 2738          KM   91st Avenue
 2739          BA   0.901
 2740          LG    0.19    0.16    7.00    0.10      51
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 2741          UC   0.930   0.469
 2742          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
 2743          UA     100
               *

 2744          KK  ERBL91   DIVERT
 2745          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
 2746          KM   retention developed after 1990 in subbasin BL91
 2747          DT   XBL91     79.1      0.0
 2748          DI     0.0 50000.0      0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
 2749          DQ     0.0 50000.0      0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
               *

 2750          KK   CBL91 COMBINE
 2751          KM   Combine route RBL91 and subbasin BL91
 2752          HC        2    5.02
               *
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 LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 2753          KK  PRUH91RETRIEVE
 2754          KM   Retrieve combined full flow capacity of 583 cfs from 96-inch equivalent
 2755          KM   diameter pipe at the intersection of Union Hills Drive and 91st Avenue
 2756          DR  DPUH91
               *

 2757          KK  RP91AT   ROUTE
 2758          KM   Route the combined full flow capacity of 583 cfs through an equivalent storm
 2759          KM   drain pipe diameter of 96 inches in 91st Avenue to the intersection of
 2760          KM   91st Avenue and Athens Street
 2761          RK    1467  0.0043   0.015            CIRC   8.000
               *

 2762          KK  SRAT91 STORAGE
 2763          KM   Storage route pipe flow PRUH91 through the regional detention basin located
 2764          KM     in subbasin BL91 near the intersection of Athens Street and 91st Avenue
 2765          KM   Storage routing ID S-DET in Glendale/Peoria ADMPU, May 2001
 2766          KM   Comments from ADMPU:
 2767          KM   * PROPOSED DESERT AMETHYST DETENTION BASIN
 2768          KM   * **** LTM: Use design-level storage volume/elevation data provided by Wood
 2769          KM   *      Patel. Basin size reduced to accommodate potential landscaping req'mts
 2770          RS        1    STOR
 2771          SV             0.00    0.04    0.38    1.53    3.87    7.06   10.53   14.03   17.61
 2772          SV    21.25  24.973  28.766  32.634  36.576  40.594  44.688  44.689    44.8    44.9
 2773          SQ        0      60      68      80      96     117     148     188     237     288
 2774          SQ      329     333     337     341     345     348     357     500    1000    1500
 2775          SE   1201.6  1203.0  1203.5  1204.0  1204.5  1205.0  1205.5  1206.0  1206.5  1207.0
 2776          SE   1207.5  1208.0  1208.5  1209.0  1209.5  1210.0  1210.5  1210.6  1211.0  1211.3
               *

 2777          KK  RP91BL   ROUTE
 2778          KM   Route full flow capacity of 311 cfs through 78-inch storm drain pipe in
 2779          KM   91st Avenue to the intersection of Bell Road and 91st Avenue
 2780          RK    3333  0.0035   0.015            CIRC   6.500
               *

 2781          KK  CPBL91 COMBINE
 2782          KM   Combine pipe return PRUH91 with the runoff hydrograph at combination point
 2783          KM   CBL91 at the intersection of Bell Road and 87th Avenue
 2784          HC        2
               *

 2785          KK  DSGWNR   DIVERT
 2786          KM   Divert remaining runoff hydrograph from combination point CPBL91 south to
 2787          KM   combination point CNR09
 2788          DT   DSGW91      0.0      0.0
 2789          DI       0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
 2790          DQ       0.0    58.0   116.0   290.0   580.0  1160.0  2320.0  5800.0 11600.0 29000.0
               *
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 LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 2791          KK  DPBLNR   DIVERT
 2792          KM   Divert calculated full flow capacity of 159 cfs into 72-inch storm drain
 2793          KM   pipe at the intersection of Bell Road and 87th Avenue
 2794          DT   DBLNR      0.0      0.0
 2795          DI       0.0   159.0   159.1 50000.0      0.0     0.0     0.0     0.0     0.0     0.0
 2796          DQ       0.0     0.0     0.1 49841.0      0.0     0.0     0.0     0.0     0.0     0.0
               *

 2797          KK  RPBLNR   ROUTE
 2798          KM   Route full flow capacity of 159 cfs through 72-inch storm drain pipe in
 2799          KM   Bell Road to the intersection of Bell Road and New River
 2800          RK    1896  0.0014   0.015            CIRC   6.000
               *

 2801          KK  CPNR08 COMBINE
 2802          KM   Combine pipe flow DPBLNR with the runoff hydrograph at combination point
 2803          KM   CNR08 at the intersection of Bell Road and New River
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2804          HC       2   17.63
              *

2805          KK  DRBLNRRETRIEVE
2806          KM   Retrieve divert DRBLNR from combination point CPBL91 and divert to
2807          KM   combination point CNR09
2808          DR   DBLNR
              *

2809          KK  RGWNRB    ROUTE
2810          KM   Route diversion retrieval DRBLNR to combination point CNR09
2811          RS       4    FLOW
2812          RC   0.035   0.015   0.035    9106  0.0029    0.00
2813          RX    0.00    0.00   12.50   12.50   62.50   62.50   75.00   75.00
2814          RY    3.00    0.62    0.50    0.00    0.00    0.50    0.62    3.00
              *

2815          KK  DRGW91RETRIEVE
2816          KM   Retrieve divert DRGW91 from combination point CPBL91 and divert to
2817          KM   combination point CGW91
2818          DR  DSGW91
              *

2819          KK   RGW91    ROUTE
2820          KM   Route diversion retrieval DRGW91 to combination point CGW91
2821          RS       2    FLOW
2822          RC   0.035   0.015   0.035    5450  0.0039    0.00
2823          RX    0.00    0.00   16.50   16.50   107.50  107.50  124.00  124.00
2824          RY    3.00    0.66    0.50    0.00    0.00    0.50    0.66    3.00
              *

2825          KK    GW91    BASIN
2826          KM   Runoff hydrograph for subbasin GW91 near the intersection of Greenway Road
2827          KM   91st Avenue
2828          BA   0.477
2829          LG    0.20    0.25    5.60    0.19      42
2830          UC   0.839   0.476
```



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LINE          ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

2831          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
2832          UA     100
              *

2833          KK  ERGW91   DIVERT
2834          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
2835          KM   retention developed after 1990 in subbasin GW91
2836          DT   XGW91     22.0      0.0
2837          DI     0.0 50000.0      0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
2838          DQ     0.0 50000.0      0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

2839          KK   CGW91 COMBINE
2840          KM   Combine route RGW91 and subbasin GW91
2841          HC       2    3.40
              *

2842          KK  DEGWNR  DIVERT
2843          KM   Divert remaining runoff hydrograph at combination point CGW91 east to
2844          KM   combination point CNR09
2845          DT  DSTBNR      0.0      0.0
2846          DI      0.0  1350.0  1350.1 50000.0      0.0     0.0     0.0     0.0     0.0     0.0     0.0
2847          DQ      0.0     0.0  1350.1 50000.0      0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

2848          KK  RGWNRA   ROUTE
2849          KM   Route diversion DEGWNR east to combination point CNR09
2850          RS       5    FLOW
2851          RC   0.045   0.015   0.045    6001  0.0010    0.00
2852          RX    0.00    0.00   40.00   50.00   60.00   70.00  110.00  110.00
2853          RY    6.20    5.20    5.00    0.00    0.00    5.00    5.20    6.20
              *

2854          KK    GWNR    BASIN
2855          KM   Runoff hydrograph for subbasin GWNR near the intersection of Greenway Road
2856          KM   and New River
2857          BA   0.696
2858          LG    0.18    0.27    4.65    0.29      32
2859          UC   1.033   0.694
2860          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
2861          UA     100
              *

2862          KK  ERGWNR  DIVERT
2863          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
2864          KM   retention developed after 1990 in subbasin GWNR
2865          DT   XGWNR     26.6      0.0
2866          DI     0.0 50000.0      0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
2867          DQ     0.0 50000.0      0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *
```



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LINE          ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

2868          KK   CNR09 COMBINE
2869          KM   Combine route RGWNRA, route RGWNRB and subbasin
2870          KM   DV87
2871          HC       5   59.19
              *

2872          KK  DRTBNRRETRIEVE
2873          KM   Retrieve divert DRTBNR from combination point CGW91 and divert to
2874          KM   combination point CNR10
2875          DR  DSTBNR
              *

2876          KK   RTBNR    ROUTE
2877          KM   Route diversion retrieval DRTBNR to combination point CNR10
2878          RS       1    FLOW
2879          RC   0.035   0.015   0.035    6342  0.0031    0.00
2880          RX    0.00    0.00   16.50   16.50   107.50  107.50  124.00  124.00
2881          RY    3.00    0.66    0.50    0.00    0.00    0.50    0.66    3.00
              *

2882          KK    TBNR    BASIN
2883          KM   Runoff hydrograph for subbasin TBNR near the intersection of Thunderbird Road
2884          KM   and New River
2885          BA   1.123
2886          LG    0.19    0.24    4.65    0.30      30
2887          UC   1.094   0.498
2888          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
2889          UA     100
              *

2890          KK  ERTBNR  DIVERT
2891          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
2892          KM   retention developed after 1990 in subbasin TBNR
2893          DT   XTBNR     15.5      0.0
2894          DI     0.0 50000.0      0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
2895          DQ     0.0 50000.0      0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

2896          KK   CNR10 COMBINE
2897          KM   Combine route RTBNR and subbasin TBNR
2898          HC       3   62.01
              *

2899          KK    HV93    BASIN
2900          KM   Runoff hydrograph for subbasin HV93 near the intersection of Happy Valley
2901          KM   Road and 93rd Avenue
2902          BA   0.172
2903          LG    0.24    0.28    4.15    0.42      30
2904          UC   0.414   0.275
2905          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
2906          UA     100
              *
```



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LINE          ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

2907          KK  DSPPLP  DIVERT
2908          KM   Divert remaining runoff hydrograph from subbasin HV93 south to combination
2909          KM   point CPPLP
2910          DT  DWHVLP      0.0      0.0
2911          DI      0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0  10000.0  20000.0  50000.0
2912          DQ      0.0     42.0     84.0    210.0    420.0    840.0   1680.0   4200.0   8400.0  21000.0
              *

2913          KK   RPPLP    ROUTE
2914          KM   Route diversion DSPPLP south to combination point CPPLP
2915          RS       4    FLOW
2916          RC   0.035   0.015   0.035    8751  0.0066    0.00
2917          RX    0.00    0.00    9.50    9.50   40.50   40.50   50.00   50.00
2918          RY    3.00    0.60    0.50    0.00    0.00    0.50    0.60    3.00
              *

2919          KK    PPLP    BASIN
2920          KM   Runoff hydrograph for subbasin PPLP near the intersection of Pinnacle Peak
2921          KM   Road and Lake Pleasant Parkway
2922          BA   0.885
2923          LG    0.23    0.28    4.35    0.37      13
2924          UC   1.105   0.772
2925          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
2926          UA     100
              *

2927          KK  ERPPLP  DIVERT
2928          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
2929          KM   retention developed after 1990 in subbasin PPLP
2930          DT   XPPLP     19.3      0.0
2931          DI     0.0 50000.0      0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
2932          DQ     0.0 50000.0      0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *
```

```
2933          KK   CPPLP COMBINE
2934          KM   Combine route RPPLP and subbasin PPLP
2935          HC       2    0.98
              *

2936          KK  DSDV99  DIVERT
2937          KM   Divert remaining runoff hydrograph from combination point CPPLP south to
2938          KM   combination point CDV99
2939          DT  DWPP03      0.0      0.0
2940          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
2941          DQ     0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

2942          KK   DDV99  DIVERT
2943          KM   Divert portion of diversion DSDV99 south to subbasin DVLP and the
2944          KM   remaining flow follow to subbasin DV99 at combination point CDV99
2945          DT  DSDVLP      0.0      0.0
2946          DI     0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0  10000.0  20000.0  50000.0
2947          DQ     0.0     33.0     66.0    165.0    330.0    660.0   1320.0   3300.0   6600.0  16500.0
              *

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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


2948          KK    DV99   BASIN
2949          KM   Runoff hydrograph for subbasin DV99 near the intersection of Deer Valley
2950          KM   Road and 99th Avenue
2951          BA   1.217
2952          LG    0.12     0.34     4.40     0.32        4
2953          UC   0.897    0.316
2954          UA       0      3.0      5.0      8.0     12.0     20.0     43.0     75.0     90.0     96.0
2955          UA     100
              *

2956          KK  ERDV99  DIVERT
2957          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
2958          KM   retention developed after 1990 in subbasin DV99
2959          DT   XDV99      7.9      0.0
2960          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
2961          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

2962          KK   CDV99 COMBINE
2963          KM   Combine divert DDV99 and subbasin DV99
2964          HC       2    1.88
              *

2965          KK  RRGLPA   ROUTE
2966          KM   Route runoff hydrograph at combination point CDV99 to combination point CRGLP
2967          RS       1    FLOW
2968          RC   0.045    0.020    0.045     2633   0.0048     0.00
2969          RX    0.00     0.00    40.00    50.00    60.00    70.00   110.00   110.00
2970          RY    6.20     5.20     5.00     0.00     0.00     5.00     5.20     6.20
              *

2971          KK  DRRGLPRETRIEVE
2972          KM   Retrieve divert DRRGLP from combination point CRG93 and divert to
2973          KM   combination point CRGLP
2974          DR  DWRGLP
              *

2975          KK  RRGLPB   ROUTE
2976          KM   Route diversion retrieval DRRGLP to combination point CRGLP
2977          RS      10    FLOW
2978          RC   0.045    0.020    0.045     3160   0.0003     0.00
2979          RX    0.00     0.00    19.00    25.00    30.00    36.00    55.00    55.00
2980          RY    4.10     3.10     3.00     0.00     0.00     3.00     3.10     4.10
              *

2981          KK    RGLP   BASIN
2982          KM   Runoff hydrograph for subbasin RGLP near the intersection of Rose Garden Lane
2983          KM   and Lake Pleasant Parkway
2984          BA   0.410
2985          LG    0.26     0.33     4.35     0.33       19
2986          UC   0.798    0.513
2987          UA       0      5.0     16.0     30.0     65.0     77.0     84.0     90.0     94.0     97.0
2988          UA     100
              *

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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


2989          KK  ERRGLP  DIVERT
2990          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
2991          KM   retention developed after 1990 in subbasin RGLP
2992          DT   XRGLP     28.3      0.0
2993          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
2994          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *
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2995          KK   CRGLP COMBINE
2996          KM   Combine route RRGLPA, route RRGLPB, and subbasin RGLP
2997          HC       3    2.49
              *

2998          KK  DSBY07  DIVERT
2999          KM   Divert remaining runoff hydrograph from combination point CRGLP south to
3000          KM   combination point CBY07
3001          DT  DWRG07      0.0      0.0
3002          DI     0.0     50.0    100.0    300.0    750.0   1200.0   2000.0      0.0      0.0      0.0
3003          DQ     0.0     40.0     80.0    240.0    600.0   1050.0   1850.0      0.0      0.0      0.0
              *

3004          KK   RBY99   ROUTE
3005          KM   Route diversion DSBY07 south to combination point CBY99
3006          RS       4    FLOW
3007          RC   0.045    0.035    0.045     3939   0.0041     0.00
3008          RX    0.00     1.00    16.00    36.00    51.00   123.00   148.00   648.00
3009          RY   16.00     8.00     0.00     0.00     8.00     8.00     9.00    11.00
              *

3010          KK    BY07   BASIN
3011          KM   Runoff hydrograph for subbasin BY07 near the intersection of Beardsley Road
3012          KM   and 87th Avenue
3013          BA   0.513
3014          LG    0.23     0.25     5.10     0.23       34
3015          UC   0.837    0.415
3016          UA       0      5.0     16.0     30.0     65.0     77.0     84.0     90.0     94.0     97.0
3017          UA     100
              *

3018          KK  ERBY07  DIVERT
3019          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
3020          KM   retention developed after 1990 in subbasin BY07
3021          DT   XBY07     36.1      0.0
3022          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
3023          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

3024          KK   CBY07 COMBINE
3025          KM   Combine route RBY99 and subbasin BY07
3026          HC       2    1.76
              *

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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


3027          KK  DSUH99  DIVERT
3028          KM   Divert remaining runoff hydrograph from combination point CBY07 south to
3029          KM   combination point CUH99
3030          DT  DWBYAF      0.0      0.0
3031          DI     0.0     10.0     30.0     50.0    100.0    500.0    700.0   1000.0      0.0      0.0
3032          DQ     0.0     10.0     30.0     50.0    100.0    420.0    450.0    500.0      0.0      0.0
              *

3033          KK   RUH99   ROUTE
3034          KM   Route diversion DSUH99 south to combination point CUH99
3035          RS       4    FLOW
3036          RC   0.045    0.015    0.045     5347   0.0042     0.00
3037          RX    0.00     0.00    19.00    25.00    30.00    36.00    55.00    55.00
3038          RY    4.10     3.10     3.00     0.00     0.00     3.00     3.10     4.10
              *

3039          KK    UH99   BASIN
3040          KM   Runoff hydrograph for subbasin UH99 near the intersection of Union Hills
3041          KM   Drive and 99th Avenue
3042          BA   0.563
3043          LG    0.25     0.15     7.00     0.10       35
3044          UC   1.262    0.919
3045          UA       0      5.0     16.0     30.0     65.0     77.0     84.0     90.0     94.0     97.0
3046          UA     100
              *

3047          KK   CUH99 COMBINE
3048          KM   Combine route RUH99 and subbasin UH99
3049          HC       2    1.44
              *

3050          KK  RDW99A   ROUTE
3051          KM   Route runoff hydrograph at combination point CUH99 to combination point CDW99
3052          RS       1    FLOW
3053          RC   0.045    0.015    0.045     2292   0.0029     0.00
3054          RX    0.00     0.00    40.00    50.00    60.00    70.00   110.00   110.00
3055          RY    6.20     5.20     5.00     0.00     0.00     5.00     5.20     6.20
              *

3056          KK    UH97   BASIN
3057          KM   Runoff hydrograph for subbasin UH97 near the intersection of Happy Valley
3058          KM   Road and Palo Verde Drive
3059          BA   0.272
3060          LG    0.21     0.25     5.60     0.22       28
3061          UC   0.976    0.881
```

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3062          UA      0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
3063          UA    100
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


3064          KK  RDW99B   ROUTE
3065          KM   Route runoff hydrograph at subbasin UH97 to combination point CDW99
3066          RS       4    FLOW
3067          RC  0.045   0.035   0.045    2848  0.0034    0.00
3068          RX   0.00    0.00   19.00   25.00   30.00   36.00   55.00   55.00
3069          RY   4.10    3.10    3.00    0.00    0.00    3.00    3.10    4.10
              *


3070          KK    DW99   BASIN
3071          KM   Runoff hydrograph for subbasin DW99 near the intersection of Del Webb
3072          KM   Boulevard and 99th Avenue
3073          BA   0.155
3074          LG    0.18    0.16    7.00    0.12      35
3075          UC   0.778   0.712
3076          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
3077          UA     100
              *


3078          KK   CDW99 COMBINE
3079          KM   Combine route RDW99 and subbasin DW99
3080          HC       3    1.87
              *


3081          KK  DSBL99  DIVERT
3082          KM   Divert remaining runoff hydrograph from combination point CDW99 south to
3083          KM   combination point CBL99
3084          DT  DWDW07      0.0   550.0
3085          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
3086          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *


3087          KK   RBL99   ROUTE
3088          KM   Route diversion DSBL99 south to combination point CBL99
3089          RS       5    FLOW
3090          RC  0.035   0.015   0.035    3206  0.0041    0.00
3091          RX   0.00    0.00   16.50   16.50  107.50  107.50  124.00  124.00
3092          RY   3.00    0.66    0.50    0.00    0.00    0.50    0.66    3.00
              *


3093          KK    BL99   BASIN
3094          KM   Runoff hydrograph for subbasin BL99 near the intersection of Bell Road and
3095          KM   99th Avenue
3096          BA   1.133
3097          LG    0.22    0.21    6.40    0.14      36
3098          UC   1.086   0.550
3099          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
3100          UA     100
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


3101          KK   CBL99 COMBINE
3102          KM   Combine route RBL99 and subbasin BL99
3103          HC       2    2.07
              *


3104          KK   RBN99   ROUTE
3105          KM   Route runoff hydrograph at combination point CBL99 to combination point CBN99
3106          RS       1    FLOW
3107          RC  0.045   0.015   0.045    3854  0.0052    0.00
3108          RX   0.00    0.00   40.00   50.00   60.00   70.00  110.00  110.00
3109          RY   6.20    5.20    5.00    0.00    0.00    5.00    5.20    6.20
              *


3110          KK    BN99   BASIN
3111          KM   Runoff hydrograph for subbasin BN99 near the intersection of Burns Road and
3112          KM   99th Avenue
3113          BA   1.037
3114          LG    0.21    0.25    6.00    0.17      34
3115          UC   1.052   0.499
3116          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
3117          UA     100
              *


3118          KK   CBN99 COMBINE
3119          KM   Combine route RBN99 and subbasin BN99
3120          HC       2    3.10
              *


3121          KK   RTB99   ROUTE
3122          KM   Route runoff hydrograph at combination point CBN99 to combination point CTB99
3123          RS       3    FLOW
3124          RC  0.045   0.015   0.045    6842  0.0039    0.00
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3125          RX   0.00    0.00   40.00   50.00   60.00   70.00  110.00  110.00
3126          RY   6.20    5.20    5.00    0.00    0.00    5.00    5.20    6.20
              *


3127          KK    TB99   BASIN
3128          KM   Runoff hydrograph for subbasin TB99 near the intersection of Thunderbird Road
3129          KM   and 99th Avenue
3130          BA   0.976
3131          LG    0.23    0.25    5.80    0.18      30
3132          UC   1.138   0.650
3133          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
3134          UA     100
              *


3135          KK   CTB99 COMBINE
3136          KM   Combine route RTB99 and subbasin TB99
3137          HC       2    4.08
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


3138          KK  RGRNRA   ROUTE
3139          KM   Route runoff hydrograph at combination point CTB99 to combination point CNR11
3140          RS       1    FLOW
3141          RC  0.045   0.015   0.045    6205  0.0045    0.00
3142          RX   0.00    0.00   55.00   75.00  100.00  120.00  175.00  175.00
3143          RY  11.20   10.20   10.00    0.00    0.00   10.00   10.20   11.20
              *


3144          KK  DRDW07RETRIEVE
3145          KM   Retrieve divert DRDW07 from combination point CDW99 and divert to
3146          KM   combination point CDW07
3147          DR  DWDW07
              *


3148          KK   RDW07   ROUTE
3149          KM   Route diversion retrieval DRDW07 to combination point CDW07
3150          RS       3    FLOW
3151          RC  0.045   0.015   0.045    4743  0.0007    0.00
3152          RX   0.00    0.00   40.00   50.00   60.00   70.00  110.00  110.00
3153          RY   6.20    5.20    5.00    0.00    0.00    5.00    5.20    6.20
              *


3154          KK    DW07   BASIN
3155          KM   Runoff hydrograph for subbasin DW07 near the intersection of Del Webb
3156          KM   Boulevard and 107th Avenue
3157          BA   0.484
3158          LG    0.19    0.19    6.60    0.16      28
3159          UC   1.228   0.862
3160          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
3161          UA     100
              *


3162          KK   CDW07 COMBINE
3163          KM   Combine route RDW07 and subbasin DW07
3164          HC       2    1.42
              *


3165          KK  DSTL07  DIVERT
3166          KM   Divert remaining runoff hydrograph from combination point CDW07 south to
3167          KM   combination point CTL07
3168          DT  DWBL15      0.0   550.0
3169          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
3170          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *


3171          KK   RTL07   ROUTE
3172          KM   Route diversion DSTL07 south to combination point CTL07
3173          RS       6    FLOW
3174          RC  0.035   0.015   0.035    8131  0.0048    0.00
3175          RX   0.00    0.00   16.50   16.50  107.50  107.50  124.00  124.00
3176          RY   3.00    0.66    0.50    0.00    0.00    0.50    0.66    3.00
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


3177          KK    TL07   BASIN
3178          KM   Runoff hydrograph for subbasin TL07 near the intersection of Talisman Road
3179          KM   and 107th Avenue
3180          BA   0.580
3181          LG    0.21    0.25    5.00    0.29      27
3182          UC   1.031   0.753
3183          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
3184          UA     100
              *


3185          KK   CTL07 COMBINE
3186          KM   Combine route RTL07 and subbasin TL07
3187          HC       2    1.29
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                *
3188            KK  RGR99A    ROUTE
3189            KM   Route runoff hydrograph at combination point CTL07 to combination point CGR99
3190            RS       4    FLOW
3191            RC   0.045   0.020   0.045   12358  0.0025    0.00
3192            RX    0.00    0.00   40.00   50.00   60.00   70.00  110.00  110.00
3193            RY    6.20    5.20    5.00    0.00    0.00    5.00    5.20    6.20
                *
3194            KK    RO99    BASIN
3195            KM   Runoff hydrograph for subbasin RO99 near the intersection of Royal Oak Road
3196            KM   and 99th Avenue
3197            BA   0.414
3198            LG    0.20    0.22    4.70    0.26      38
3199            UC   1.300   1.144
3200            UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
3201            UA     100
                *
3202            KK  RGR99B    ROUTE
3203            KM   Route runoff hydrograph at subbasin RO99 to combination point CGR99
3204            RS       1    FLOW
3205            RC   0.045   0.015   0.045    1046  0.0060    0.00
3206            RX    0.00    0.00   19.00   25.00   30.00   36.00   55.00   55.00
3207            RY    4.10    3.10    3.00    0.00    0.00    3.00    3.10    4.10
                *
3208            KK    GR99    BASIN
3209            KM   Runoff hydrograph for subbasin GR99 near the intersection of Grand Avenue
3210            KM   and 99th Avenue
3211            BA   1.309
3212            LG    0.20    0.17    6.80    0.12      41
3213            UC   1.438   1.039
3214            UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
3215            UA     100
                *
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                LINE        ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

3216            KK   CGR99 COMBINE
3217            KM   Combine route RGR99A, route RGR99B, and subbasin GR99
3218            HC       3    3.01
                *
3219            KK  RGRNRB    ROUTE
3220            KM   Route runoff hydrograph at combination point CGR99 to combination point CNR11
3221            RS       1    FLOW
3222            RC   0.045   0.015   0.045    3071  0.0051    0.00
3223            RX    0.00    0.00   55.00   75.00  100.00  120.00  175.00  175.00
3224            RY   11.20   10.20   10.00    0.00    0.00   10.00   10.20   11.20
                *
3225            KK    GRNR    BASIN
3226            KM   Runoff hydrograph for subbasin GRNR near the intersection of Grand Avenue
3227            KM   and New River
3228            BA   0.947
3229            LG    0.20    0.29    5.00    0.23      33
3230            UC   0.887   0.427
3231            UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
3232            UA     100
                *
3233            KK  ERGRNR  DIVERT
3234            KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
3235            KM   retention developed after 1990 in subbasin GRNR
3236            DT   XGRNR     3.0     0.0
3237            DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
3238            DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
                *
3239            KK   CNR11 COMBINE
3240            KM   Combine route RGRNRA, route RGRNRB and subbasin GRNR
3241            HC       4   70.05
                *
3242            KK    PE99    BASIN
3243            KM   Runoff hydrograph for subbasin PE99 near the intersection of Peoria Avenue
3244            KM   and 99th Avenue
3245            BA   0.294
3246            LG    0.21    0.25    4.90    0.28      33
3247            UC   1.316   1.599
3248            UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
3249            UA     100
                *
3250            KK  DEPE97  DIVERT
3251            KM   Divert remaining runoff hydrograph at subbasin PE99 east to combination point
3252            KM   CNR12
3253            DT  DSOL99     0.0     0.0
3254            DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
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3255            DQ     0.0    30.0    60.0   150.0   300.0   600.0  1200.0  3000.0  6000.0 15000.0
                *
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                LINE        ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

3256            KK   RPE97    ROUTE
3257            KM   Route diversion DEPE97 east to combination point CNR12
3258            RS       2    FLOW
3259            RC   0.035   0.015   0.035    1508  0.0023    0.00
3260            RX    0.00    0.00   64.00   64.00  310.00  310.00  374.00  374.00
3261            RY    3.00    1.14    0.50    0.00    0.00    0.50    1.14    3.00
                *
3262            KK    PENR    BASIN
3263            KM   Runoff hydrograph for subbasin PENR near the intersection of Peoria Avenue
3264            KM   and New River
3265            BA   0.197
3266            LG    0.10    0.28    4.70    0.26      59
3267            UC   1.119   0.814
3268            UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
3269            UA     100
                *
3270            KK  ERPENR  DIVERT
3271            KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
3272            KM   retention developed after 1990 in subbasin PENR
3273            DT   XPENR     6.9     0.0
3274            DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
3275            DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
                *
3276            KK  DWPE99  DIVERT
3277            KM   Divert remaining runoff hydrograph at subbasin PENR west to combination point
3278            KM   CNR12
3279            DT  DSOLNR     0.0     0.0
3280            DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
3281            DQ     0.0    44.0    88.0   220.0   440.0   880.0  1760.0  4400.0  8800.0 22000.0
                *
3282            KK    PE97    BASIN
3283            KM   Runoff hydrograph for subbasin PE97 near the intersection of Peoria Avenue
3284            KM   Road and 97th Avenue
3285            BA   0.560
3286            LG    0.18    0.26    4.65    0.31      29
3287            UC   0.992   0.747
3288            UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
3289            UA     100
                *
3290            KK   CNR12 COMBINE
3291            KM   Combine route RPE97, divert DWPE99, and subbasin PE97
3292            HC       4   70.93
                *
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                LINE        ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

3293            KK  DROL99RETRIEVE
3294            KM   Retrieve divert DROL99 from subbasin PE99 and divert to combination point
3295            KM   CNR13
3296            DR  DSOL99
                *
3297            KK  ROL99A    ROUTE
3298            KM   Route diversion retrieval DROL99 to combination point CNR13
3299            RS       8    FLOW
3300            RC   0.035   0.015   0.035    5677  0.0038    0.00
3301            RX    0.00    0.00   16.50   16.50  107.50  107.50  124.00  124.00
3302            RY    3.00    0.66    0.50    0.00    0.00    0.50    0.66    3.00
                *
3303            KK    PE11    BASIN
3304            KM   Runoff hydrograph for subbasin PE11 near the intersection of Peoria Avenue
3305            KM   and 111th Avenue
3306            BA   0.924
3307            LG    0.20    0.25    6.00    0.18      30
3308            UC   1.409   1.029
3309            UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
3310            UA     100
                *
3311            KK  ROL03A    ROUTE
3312            KM   Route runoff hydrograph at subbasin PE11 to combination point COL03
3313            RS       3    FLOW
3314            RC   0.045   0.015   0.045    7132  0.0024    0.00
3315            RX    0.00    0.00   40.00   50.00   60.00   70.00  110.00  110.00
3316            RY    6.20    5.20    5.00    0.00    0.00    5.00    5.20    6.20
                *
3317            KK    PE07    BASIN
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3318          KM   Runoff hydrograph for subbasin PE07 near the intersection of Peoria Avenue
3319          KM   and 107th Avenue
3320          BA   0.575
3321          LG    0.18    0.25    5.30    0.27      23
3322          UC   1.193   0.969
3323          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
3324          UA     100
              *
3325          KK  ROL03B   ROUTE
3326          KM   Route runoff hydrograph at subbasin PE07 to combination point COL03
3327          RS       4    FLOW
3328          RC   0.035   0.015   0.035    6517  0.0026    0.00
3329          RX    0.00    0.00    9.50    9.50   40.50   40.50   50.00   50.00
3330          RY    3.00    0.60    0.50    0.00    0.00    0.50    0.60    3.00
              *
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LINE          ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

3331          KK    PE03   BASIN
3332          KM   Runoff hydrograph for subbasin PE03 near the intersection of Peoria Avenue
3333          KM   and 103rd Avenue
3334          BA   0.409
3335          LG    0.20    0.25    4.80    0.32      29
3336          UC   1.069   0.903
3337          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
3338          UA     100
              *
3339          KK  ROL03C   ROUTE
3340          KM   Route runoff hydrograph at subbasin PE03 to combination point COL03
3341          RS       5    FLOW
3342          RC   0.035   0.015   0.035    5865  0.0030    0.00
3343          RX    0.00    0.00   12.50   12.50   62.50   62.50   75.00   75.00
3344          RY    3.00    0.62    0.50    0.00    0.00    0.50    0.62    3.00
              *
3345          KK    OL03   BASIN
3346          KM   Runoff hydrograph for subbasin OL03 near the intersection of Olive Avenue and
3347          KM   103rd Avenue
3348          BA   1.099
3349          LG    0.22    0.25    5.20    0.24      33
3350          UC   1.204   0.677
3351          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
3352          UA     100
              *
3353          KK   COL03 COMBINE
3354          KM   Combine route ROL03A, route ROL03B, route ROL03C, and subbasin OL03
3355          HC       4    3.01
              *
3356          KK  ROL99B   ROUTE
3357          KM   Route runoff hydrograph at combination point COL03 to combination point CNR13
3358          RS       1    FLOW
3359          RC   0.045   0.015   0.045    1627  0.0124    0.00
3360          RX    0.00    0.00   40.00   50.00   60.00   70.00  110.00  110.00
3361          RY    6.20    5.20    5.00    0.00    0.00    5.00    5.20    6.20
              *
3362          KK  DROLNRRETRIEVE
3363          KM   Retrieve divert DROLNR from subbasin PENR and divert to combination point
3364          KM   COLNR
3365          DR  DSOLNR
              *
3366          KK   ROLNR   ROUTE
3367          KM   Route diversion retreival DROLNR to combination point COLNR
3368          RS      10    FLOW
3369          RC   0.035   0.015   0.035    8150  0.0031    0.00
3370          RX    0.00    0.00   12.50   12.50   62.50   62.50   75.00   75.00
3371          RY    3.00    0.62    0.50    0.00    0.00    0.50    0.62    3.00
              *
1                                        HEC-1 INPUT                                    PAGE 88

LINE          ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

3372          KK    OLNR   BASIN
3373          KM   Runoff hydrograph for subbasin OLNR near the intersection of Olive Avenue
3374          KM   and New River
3375          BA   0.696
3376          LG    0.24    0.19    6.80    0.11      34
3377          UC   1.340   1.012
3378          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
3379          UA     100
              *
3380          KK  EROLNR  DIVERT
3381          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
3382          KM   retention developed after 1990 in subbasin OLNR
```



```
3383          DT   XOLNR    24.5     0.0
3384          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
3385          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *
3386          KK   COLNR COMBINE
3387          KM   Combine route ROLNR and subbasin OLNR
3388          HC       2    0.78
              *
3389          KK  DWOL99  DIVERT
3390          KM   Divert runoff hydrograph at combination point COLNR west to combination point
3391          KM   CNR13
3392          DT  DSNONR     0.0     0.0
3393          DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
3394          DQ     0.0    33.0    66.0   165.0   330.0   660.0  1320.0  3300.0  6600.0 16500.0
              *
3395          KK    OL99   BASIN
3396          KM   Runoff hydrograph for subbasin OL99 near the intersection of Olive Avenue
3397          KM   and 99th Avenue
3398          BA   0.436
3399          LG    0.21    0.28    4.25    0.36      28
3400          UC   1.040   0.844
3401          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
3402          UA     100
              *
3403          KK   CNR13 COMBINE
3404          KM   Combine route ROL99A, route ROL99B and subbasin OL99
3405          HC       5   74.98
              *
3406          KK  DRNONRRETRIEVE
3407          KM   Retrieve divert DRNONR from subbasin OLNR and divert to combination point
3408          KM   CNONR
3409          DR  DSNONR
              *
1                                        HEC-1 INPUT                                    PAGE 89

LINE          ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

3410          KK   RNONR   ROUTE
3411          KM   Route diversion retrieval DRNONR to combination point CNONR
3412          RS      10    FLOW
3413          RC   0.035   0.015   0.035    8560  0.0031    0.00
3414          RX    0.00    0.00   12.50   12.50   62.50   62.50   75.00   75.00
3415          RY    3.00    0.62    0.50    0.00    0.00    0.50    0.62    3.00
              *
3416          KK    NONR   BASIN
3417          KM   Runoff hydrograph for subbasin NONR near the intersection of Northern Avenue
3418          KM   and New River
3419          BA   0.830
3420          LG    0.27    0.15    7.60    0.10      34
3421          UC   1.302   0.964
3422          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
3423          UA     100
              *
3424          KK  ERNONR  DIVERT
3425          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
3426          KM   retention developed after 1990 in subbasin NONR
3427          DT   XNONR    34.6     0.0
3428          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
3429          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *
3430          KK   CNONR COMBINE
3431          KM   Combine route RNONR and subbasin NONR
3432          HC       2    1.09
              *
3433          KK    NO99   BASIN
3434          KM   Runoff hydrograph for subbasin NO99 near the intersection of Northern Avenue
3435          KM   and 99th Avenue
3436          BA   0.858
3437          LG    0.23    0.29    4.25    0.38      19
3438          UC   1.398   0.862
3439          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
3440          UA     100
              *
3441          KK  ERNO99  DIVERT
3442          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
3443          KM   retention developed after 1990 in subbasin NO99
3444          DT   XNO99     7.0     0.0
3445          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
3446          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

3447          KK   CNR14 COMBINE
3448          KM   Combine combination point CNONR, and subbasin NO99
3449          HC       3   76.93
              *

3450          KK    GL03   BASIN
3451          KM   Runoff hydrograph for subbasin GL03 near the intersection of Glendale Avenue
3452          KM   and 103rd Avenue
3453          BA   0.649
3454          LG    0.17    0.30    4.10    0.38      41
3455          UC   0.895   0.557
3456          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
3457          UA     100
              *

3458          KK  ERGL03  DIVERT
3459          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
3460          KM   retention developed after 1990 in subbasin GL03
3461          DT   XGL03    27.6     0.0
3462          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
3463          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

3464          KK   CNR15 COMBINE
3465          KM   Combine subbasin GL03
3466          HC       2   77.58
              *

3467          KK    GLGH   BASIN
3468          KM   Runoff hydrograph for subbasin GLGH near the intersection of Glendale Avenue
3469          KM   and Glen Harbor Boulevard
3470          BA   0.079
3471          LG    0.30    0.35    4.40    0.32      16
3472          UC   0.487   0.400
3473          UA       0     3.0     5.0     8.0    12.0    20.0    43.0    75.0    90.0    96.0
3474          UA     100
              *

3475          KK   RGHNR   ROUTE
3476          KM   Route runoff hydrograph at subbasin GLGH to combination point CNR16
3477          RS       6    FLOW
3478          RC   0.045   0.035   0.045    7516  0.0045    0.00
3479          RX    0.00    0.00   19.00   25.00   30.00   36.00   55.00   55.00
3480          RY    4.10    3.10    3.00    0.00    0.00    3.00    3.10    4.10
              *

3481          KK    GHNR   BASIN
3482          KM   Runoff hydrograph for subbasin GHNR near the intersection of Glen Harbor
3483          KM   Boulevard and New River
3484          BA   0.841
3485          LG    0.16    0.30    3.71    0.47      32
3486          UC   1.068   0.703
3487          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
3488          UA     100
              *
```



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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

3489          KK   CNR16 COMBINE
3490          KM   Combine route RGHNR and subbasin GHNR
3491          HC       3   78.50
              *

3492          KK    AF11   BASIN
3493          KM   Runoff hydrograph for subbasin AF11 near the intersection of the Agua Fria
3494          KM   River and 111th Avenue
3495          BA   0.375
3496          LG    0.14    0.29    3.07    0.74      70
3497          UC   0.561   0.293
3498          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
3499          UA     100
              *

3500          KK    GHAF   BASIN
3501          KM   Runoff hydrograph for subbasin GHAF near the intersection of Glen Harbor
3502          KM   Boulevard and the Agua Fria River
3503          BA   0.563
3504          LG    0.10    0.34    3.03    0.76       9
3505          UC   1.433   1.013
3506          UA       0     3.0     5.0     8.0    12.0    20.0    43.0    75.0    90.0    96.0
3507          UA     100
              *

3508          KK   CAF06 COMBINE
3509          KM   Combine combination point CNR16, subbasin AF11, and subbasin GHAF
3510          HC       3   79.31
              *
```



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3511          KK    JMAF   BASIN
3512          KM   Runoff hydrograph for subbasin JMAF near the intersection of Jomax Road and
3513          KM   the Agua Fria River
3514          BA   0.147
3515          LG    0.19    0.35    4.90    0.24       5
3516          UC   0.466   0.412
3517          UA       0     3.0     5.0     8.0    12.0    20.0    43.0    75.0    90.0    96.0
3518          UA     100
              *

3519          KK  ERJMAF  DIVERT
3520          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
3521          KM   retention developed after 1990 in subbasin JMAF
3522          DT   XJMAF     4.2     0.0
3523          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
3524          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

3525          KK    HV07   BASIN
3526          KM   Runoff hydrograph for subbasin HV07 near the intersection of Happy Valley
3527          KM   Road and 107th Avenue
3528          BA   0.304
3529          LG    0.28    0.32    3.92    0.41      11
3530          UC   0.397   0.179
```



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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

3531          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
3532          UA     100
              *

3533          KK  ERHV07  DIVERT
3534          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
3535          KM   retention developed after 1990 in subbasin HV07
3536          DT   XHV07     13.1     0.0
3537          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
3538          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

3539          KK   RHVAF   ROUTE
3540          KM   Route runoff hydrograph at subbasin HV07 to combination point CHVAF
3541          RS       1    FLOW
3542          RC   0.045   0.020   0.045    2397  0.0013    0.00
3543          RX    0.00    0.00   19.00   25.00   30.00   36.00   55.00   55.00
3544          RY    4.10    3.10    3.00    0.00    0.00    3.00    3.10    4.10
              *

3545          KK    HVAF   BASIN
3546          KM   Runoff hydrograph for subbasin HVAF near the intersection of Happy Valley
3547          KM   Road and the Agua Fria River
3548          BA   0.215
3549          LG    0.30    0.35    3.92    0.41       0
3550          UC   0.437   0.187
3551          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
3552          UA     100
              *

3553          KK  ERHVAF  DIVERT
3554          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
3555          KM   retention developed after 1990 in subbasin HVAF
3556          DT   XHVAF     12.4     0.0
3557          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
3558          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

3559          KK    JM99   BASIN
3560          KM   Runoff hydrograph for subbasin HV07 near the intersection of Jomax Road and
3561          KM   99th Avenue
3562          BA   0.568
3563          LG    0.23    0.16   10.10    0.03      21
3564          UC   0.741   0.395
3565          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
3566          UA     100
              *

3567          KK  ERJM99  DIVERT
3568          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
3569          KM   retention developed after 1990 in subbasin JM99
3570          DT   XJM99     38.5     0.0
3571          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
3572          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *
```



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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

3573          KK    WWLP   BASIN
3574          KM   Runoff hydrograph for subbasin WWLP near the intersection of Westwing Parkway
3575          KM   and Lake Pleasant Parkway
3576          BA   0.136
3577          LG    0.16    0.27    7.00    0.10      15
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3578          UC   0.293   0.136
3579          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
3580          UA     100
              *

3581          KK  ERWWLP  DIVERT
3582          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
3583          KM   retention developed after 1990 in subbasin WWLP
3584          DT   XWWLP      6.7      0.0
3585          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
3586          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

3587          KK   RJMLP   ROUTE
3588          KM   Route runoff hydrograph at subbasin WWLP to combination point CJMLP
3589          RS       4    FLOW
3590          RC   0.045   0.035   0.045    5973  0.0084    0.00
3591          RX    0.00    0.00   40.00   50.00   60.00   70.00  110.00  110.00
3592          RY    6.20    5.20    5.00    0.00    0.00    5.00    5.20    6.20
              *

3593          KK    JMLP   BASIN
3594          KM   Runoff hydrograph for subbasin JMLP near the intersection of Jomax Road and
3595          KM   Lake Pleasant Parkway
3596          BA   0.705
3597          LG    0.22    0.28    6.00    0.16      27
3598          UC   0.756   0.398
3599          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
3600          UA     100
              *

3601          KK  ERJMLP  DIVERT
3602          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
3603          KM   retention developed after 1990 in subbasin JMLP
3604          DT   XJMLP     44.9      0.0
3605          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
3606          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

3607          KK   CJMLP COMBINE
3608          KM   Combine route RJMLP, subbasin JM99, and subbasin JMLP
3609          HC       3    1.41
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9.....10

3610          KK  RHV01A   ROUTE
3611          KM   Route runoff hydrograph at combination point CJMLP to combination point CHV01
3612          RS       2    FLOW
3613          RC   0.045   0.035   0.045    5774  0.0093    0.00
3614          RX    0.00    0.00   55.00   75.00  100.00  120.00  175.00  175.00
3615          RY   11.20   10.20   10.00    0.00    0.00   10.00   10.20   11.20
              *

3616          KK    YLLP   BASIN
3617          KM   Runoff hydrograph for subbasin YLLP near the intersection of Yearling Road
3618          KM   and Lake Pleasant Parkway
3619          BA   0.595
3620          LG    0.22    0.28    4.35    0.37      30
3621          UC   0.687   0.461
3622          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
3623          UA     100
              *

3624          KK  ERYLLP  DIVERT
3625          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
3626          KM   retention developed after 1990 in subbasin YLLP
3627          DT   XYLLP      6.0      0.0
3628          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
3629          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

3630          KK  RHV01B   ROUTE
3631          KM   Route runoff hydrograph at subbasin YLLP to combination point CHV01
3632          RS       1    FLOW
3633          RC   0.045   0.035   0.045    2017  0.0107    0.00
3634          RX    0.00    0.00   40.00   50.00   60.00   70.00  110.00  110.00
3635          RY    6.20    5.20    5.00    0.00    0.00    5.00    5.20    6.20
              *

3636          KK  DRHVLPRETRIEVE
3637          KM   Retrieve divert DRHVLP from subbasin HV93 and divert to combination point
3638          KM   CHVLP
3639          DR  DWHVLP
              *

3640          KK   RHVLP   ROUTE
3641          KM   Route diversion retrieval DRHVLP to combination point CHVLP
3642          RS       2    FLOW
3643          RC   0.045   0.020   0.045    4021  0.0052    0.00
3644          RX    0.00    0.00   19.00   25.00   30.00   36.00   55.00   55.00
```



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3645          RY    4.10    3.10    3.00    0.00    0.00    3.00    3.10    4.10
              *

3646          KK    HVLP   BASIN
3647          KM   Runoff hydrograph for subbasin HVLP near the intersection of Happy Valley
3648          KM   Road and Lake Pleasant Parkway
3649          BA   0.198
3650          LG    0.19    0.26    4.30    0.36      43
3651          UC   0.620   0.569
```



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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9.....10

3652          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
3653          UA     100
              *

3654          KK  ERHVLP  DIVERT
3655          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
3656          KM   retention developed after 1990 in subbasin HVLP
3657          DT   XHVLP      7.3      0.0
3658          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
3659          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

3660          KK   CHVLP COMBINE
3661          KM   Combine route RHVLP and subbasin HVLP
3662          HC       2    0.27
              *

3663          KK  RHV01C   ROUTE
3664          KM   Route runoff hydrograph at combination point CHVLP to combination point CHV01
3665          RS       1    FLOW
3666          RC   0.045   0.020   0.045    1200  0.0174    0.00
3667          RX    0.00    0.00   40.00   50.00   60.00   70.00  110.00  110.00
3668          RY    6.20    5.20    5.00    0.00    0.00    5.00    5.20    6.20
              *

3669          KK    HV01   BASIN
3670          KM   Runoff hydrograph for subbasin HV01 near the intersection of Happy Valley
3671          KM   Road and 101st Avenue
3672          BA   0.444
3673          LG    0.15    0.30    5.30    0.20      35
3674          UC   0.661   0.398
3675          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
3676          UA     100
              *

3677          KK  ERHV01  DIVERT
3678          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
3679          KM   retention developed after 1990 in subbasin HV01
3680          DT   XHV01      18.2      0.0
3681          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
3682          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

3683          KK   CHV01 COMBINE
3684          KM   Combine route RHV01A, route RHV01B, route RHV01C, and subbasin HV01
3685          HC       4    2.72
              *

3686          KK   RCL07   ROUTE
3687          KM   Route runoff hydrograph at combination point CHV01 to combination point CCL07
3688          RS       2    FLOW
3689          RC   0.045   0.035   0.045    5019  0.0120    0.00
3690          RX    0.00    0.00   55.00   75.00  100.00  120.00  175.00  175.00
3691          RY   11.20   10.20   10.00    0.00    0.00   10.00   10.20   11.20
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9.....10

3692          KK  RCLAFA   ROUTE
3693          KM   Route runoff hydrograph from route RCL07 to combination point CCLAF
3694          RS       1    FLOW
3695          RC   0.045   0.020   0.045    2211  0.0045    0.00
3696          RX    0.00    0.00   40.00   50.00   60.00   70.00  110.00  110.00
3697          RY    6.20    5.20    5.00    0.00    0.00    5.00    5.20    6.20
              *

3698          KK    CL07   BASIN
3699          KM   Runoff hydrograph for subbasin CL07 near the intersection of Calle Lejos Road
3700          KM   and 107th Avenue
3701          BA   0.524
3702          LG    0.19    0.31    4.55    0.29      17
3703          UC   0.826   0.572
3704          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
3705          UA     100
              *

3706          KK  ERCL07  DIVERT
3707          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
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3708          KM   retention developed after 1990 in subbasin CL07
3709          DT   XCL07      25.2      0.0
3710          DI      0.0 50000.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0
3711          DQ      0.0 50000.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0
              *

3712          KK  DWCLAF   DIVERT
3713          KM   Divert remaining runoff hydrograph at subbasin CL07 west to combination point
3714          KM   CCLAF
3715          DT  DSPP03       0.0       0.0
3716          DI      0.0     100.0     200.0     500.0    1000.0    2000.0    4000.0   10000.0   20000.0   50000.0
3717          DQ      0.0      12.0      24.0      60.0     120.0     240.0     480.0    1200.0    2400.0    6000.0
              *

3718          KK  RCLAFB    ROUTE
3719          KM   Route diversion DWCLAF west to combination point CCLAF
3720          RS       2     FLOW
3721          RC   0.045    0.035    0.045     2215   0.0045     0.00
3722          RX    0.00     0.00    19.00    25.00    30.00    36.00    55.00    55.00
3723          RY    4.10     3.10     3.00     0.00     0.00     3.00     3.10     4.10
              *

3724          KK    CLAF    BASIN
3725          KM   Runoff hydrograph for subbasin CLAF near the intersection of Calle Lejos Road
3726          KM   and the Agua Fria River
3727          BA   0.289
3728          LG    0.18     0.35     3.95     0.40        0
3729          UC   0.772    0.522
3730          UA       0      3.0      5.0      8.0     12.0     20.0     43.0     75.0     90.0     96.0
3731          UA     100
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

3732          KK  ERCLAF   DIVERT
3733          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
3734          KM   retention developed after 1990 in subbasin CLAF
3735          DT   XCLAF       6.7       0.0
3736          DI      0.0 50000.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0
3737          DQ      0.0 50000.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0
              *

3738          KK   CCLAF COMBINE
3739          KM   Combine route RCLAFA, route RCLAFB, and subbasin CLAF
3740          HC        3     3.47
              *

3741          KK   CAF01 COMBINE
3742          KM   Combine route RHVAF, subbasin JMAF, subbasin HVAF, and combination point
3743          KM   CCLAF
3744          HC        4     4.13
              *

3745          KK  DR03PPRETRIEVE
3746          KM   Retrieve divert DR03PP from combination point CPPLP and divert to
3747          KM   combination point CPP03
3748          DR  DWPP03
              *

3749          KK  RPP03B    ROUTE
3750          KM   Route diversion retrieval DR03PP to combination point CPP03
3751          RS       1     FLOW
3752          RC   0.035    0.015    0.035     1900   0.0047     0.00
3753          RX    0.00     0.00     9.50     9.50    40.50    40.50    50.00    50.00
3754          RY    3.00     0.60     0.50     0.00     0.00     0.50     0.60     3.00
              *

3755          KK  DRPP03RETRIEVE
3756          KM   Retrieve divert DRPP03 from subbasin CL07 and divert to combination point
3757          KM   CPP03
3758          DR  DSPP03
              *

3759          KK  RPP03A    ROUTE
3760          KM   Route diversion retrieval DRPP03 to combination point CPP03
3761          RS       4     FLOW
3762          RC   0.045    0.035    0.045     2970   0.0057     0.00
3763          RX    0.00     0.00    19.00    25.00    30.00    36.00    55.00    55.00
3764          RY    4.10     3.10     3.00     0.00     0.00     3.00     3.10     4.10
              *

3765          KK    PP03    BASIN
3766          KM   Runoff hydrograph for subbasin PP03 near the intersection of Pinnacle Peak
3767          KM   Road and 103rd Avenue
3768          BA   0.325
3769          LG    0.30     0.25     4.45     0.38       15
3770          UC   1.265    1.005
3771          UA       0      5.0     16.0     30.0     65.0     77.0     84.0     90.0     94.0     97.0
1                                          HEC-1 INPUT                                                PAGE 98

LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10
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3772          UA     100
              *

3773          KK  ERPP03  DIVERT
3774          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
3775          KM   retention developed after 1990 in subbasin PP03
3776          DT   XPP03       3.4       0.0
3777          DI      0.0 50000.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0
3778          DQ      0.0 50000.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0
              *

3779          KK   CPP03 COMBINE
3780          KM   Combine route RPP03A, route RPP03B, and subbasin PP03
3781          HC        3     0.39
              *

3782          KK  DWPP07  DIVERT
3783          KM   Divert remaining runoff hydrograph at combination point CPP03 west to
3784          KM   combination point CPP07
3785          DT  DSDV07       0.0       0.0
3786          DI      0.0 50000.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0
3787          DQ      0.0 50000.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0
              *

3788          KK   RPP07    ROUTE
3789          KM   Route diversion DWPP07 west to combination point CPP07
3790          RS        1     FLOW
3791          RC   0.045    0.035    0.045     2508   0.0128     0.00
3792          RX    0.00     0.00    19.00    25.00    30.00    36.00    55.00    55.00
3793          RY    4.10     3.10     3.00     0.00     0.00     3.00     3.10     4.10
              *

3794          KK    PP07    BASIN
3795          KM   Runoff hydrograph for subbasin PP07 near the intersection of Pinnacle Peak
3796          KM   Road and 107th Avenue
3797          BA   0.195
3798          LG    0.21     0.31     5.30     0.22        8
3799          UC   0.667    0.487
3800          UA       0      5.0     16.0     30.0     65.0     77.0     84.0     90.0     94.0     97.0
3801          UA     100
              *

3802          KK   CPP07 COMBINE
3803          KM   Combine route RPP07 and subbasin PP07
3804          HC        2     0.20
              *

3805          KK   RDVAF    ROUTE
3806          KM   Route runoff hydrograph at combination point CPP07 to combination point CDVAF
3807          RS        2     FLOW
3808          RC   0.045    0.035    0.045     3702   0.0135     0.00
3809          RX    0.00     0.00    19.00    25.00    30.00    36.00    55.00    55.00
3810          RY    4.10     3.10     3.00     0.00     0.00     3.00     3.10     4.10
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

3811          KK    DVAF    BASIN
3812          KM   Runoff hydrograph for subbasin DVAF near the intersection of Deer Valley Road
3813          KM   and the Agua Fria River
3814          BA   0.412
3815          LG    0.15     0.34     5.60     0.18        9
3816          UC   0.769    0.447
3817          UA       0      5.0     16.0     30.0     65.0     77.0     84.0     90.0     94.0     97.0
3818          UA     100
              *

3819          KK  ERDVAF  DIVERT
3820          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
3821          KM   retention developed after 1990 in subbasin DVAF
3822          DT   XDVAF      10.3       0.0
3823          DI      0.0 50000.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0
3824          DQ      0.0 50000.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0
              *

3825          KK   CDVAF COMBINE
3826          KM   Combine route RDVAF and subbasin DVAF
3827          HC        2     0.61
              *

3828          KK    PPAF    BASIN
3829          KM   Runoff hydrograph for subbasin PPAF near the intersection of Pinnacle Peak
3830          KM   Road and the Agua Fria River
3831          BA   0.270
3832          LG    0.15     0.25     4.20     0.36       80
3833          UC   0.326    0.218
3834          UA       0      5.0     16.0     30.0     65.0     77.0     84.0     90.0     94.0     97.0
3835          UA     100
              *
```

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3836          KK   CAF02 COMBINE
3837          KM   Combine combination point CDVAF and subbasin PPAF
3838          HC        2     0.88
              *

3839          KK  DRDV07RETRIEVE
3840          KM   Retrieve divert DRDV07 from combination point CPP03 and divert to
3841          KM   combination point CDV07
3842          DR  DSDV07
              *

3843          KK   RDV07    ROUTE
3844          KM   Route diversion retrieval DRDV07 to combination point CDV07
3845          RS        5     FLOW
3846          RC   0.045   0.035   0.045    6455  0.0071    0.00
3847          RX    0.00    0.00   40.00   50.00   60.00   70.00  110.00  110.00
3848          RY    6.20    5.20    5.00    0.00    0.00    5.00    5.20    6.20
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

3849          KK    DV07    BASIN
3850          KM   Runoff hydrograph for subbasin DV07 near the intersection of Deer Valley Road
3851          KM   and 107th Avenue
3852          BA   0.645
3853          LG    0.25    0.25    4.65    0.29      27
3854          UC   0.911   0.545
3855          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
3856          UA     100
              *

3857          KK  ERDV07  DIVERT
3858          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
3859          KM   retention developed after 1990 in subbasin DV07
3860          DT   XDV07     44.0      0.0
3861          DI     0.0 50000.0      0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
3862          DQ     0.0 50000.0      0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

3863          KK   CDV07 COMBINE
3864          KM   Combine route RDV07 and subbasin DV07
3865          HC        2     1.03
              *

3866          KK  RRG07A    ROUTE
3867          KM   Route runoff hydrograph at combination point CDV07 to combination point CRG07
3868          RS        2     FLOW
3869          RC   0.045   0.015   0.045    2573  0.0027    0.00
3870          RX    0.00    0.00   19.00   25.00   30.00   36.00   55.00   55.00
3871          RY    4.10    3.10    3.00    0.00    0.00    3.00    3.10    4.10
              *

3872          KK  DRRG07RETRIEVE
3873          KM   Retrieve divert DRRG07 from combination point CRGLP and divert to
3874          KM   combination point CRG07
3875          DR  DWRG07
              *

3876          KK  RRG07C    ROUTE
3877          KM   Route diversion retrieval DRRG07 to combination point CRG07
3878          RS        1     FLOW
3879          RC   0.045   0.020   0.045    4816  0.0056    0.00
3880          RX    0.00    0.00   40.00   50.00   60.00   70.00  110.00  110.00
3881          RY    6.20    5.20    5.00    0.00    0.00    5.00    5.20    6.20
              *

3882          KK  DRDVLPRETRIEVE
3883          KM   Retrieve divert DRDVLP from combination point CPPLP and divert to
3884          KM   combination point CDVLP
3885          DR  DSDVLP
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

3886          KK   RDVLP    ROUTE
3887          KM   Route diversion retrieval DRDVLP to combination point CDVLP
3888          RS        4     FLOW
3889          RC   0.045   0.035   0.045    5616  0.0059    0.00
3890          RX    0.00    0.00   19.00   25.00   30.00   36.00   55.00   55.00
3891          RY    4.10    3.10    3.00    0.00    0.00    3.00    3.10    4.10
              *

3892          KK    DVLP    BASIN
3893          KM   Runoff hydrograph for subbasin DVLP near the intersection of Deer Valley Road
3894          KM   and Lake Pleasant Parkway
3895          BA   0.136
3896          LG    0.12    0.32    4.45    0.31      21
3897          UC   0.914   1.086
3898          UA       0     3.0     5.0     8.0    12.0    20.0    43.0    75.0    90.0    96.0
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3899          UA     100
              *

3900          KK  ERDVLP  DIVERT
3901          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
3902          KM   retention developed after 1990 in subbasin DVLP
3903          DT   XDVLP     1.8      0.0
3904          DI     0.0 50000.0      0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
3905          DQ     0.0 50000.0      0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

3906          KK   CDVLP COMBINE
3907          KM   Combine route RDVLP and subbasin DVLP
3908          HC        2     0.46
              *

3909          KK  RRG07B    ROUTE
3910          KM   Route runoff hydrograph at combination point CDVLP to combination point CRG07
3911          RS        3     FLOW
3912          RC   0.045   0.020   0.045    5903  0.0059    0.00
3913          RX    0.00    0.00   40.00   50.00   60.00   70.00  110.00  110.00
3914          RY    6.20    5.20    5.00    0.00    0.00    5.00    5.20    6.20
              *

3915          KK    RG07    BASIN
3916          KM   Runoff hydrograph for subbasin RG07 near the intersection of Rose Garden Lane
3917          KM   and 107th Avenue
3918          BA   0.350
3919          LG    0.28    0.32    4.55    0.29       7
3920          UC   0.975   0.701
3921          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
3922          UA     100
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

3923          KK  ERRG07  DIVERT
3924          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
3925          KM   retention developed after 1990 in subbasin RG07
3926          DT   XRG07     22.0      0.0
3927          DI     0.0 50000.0      0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
3928          DQ     0.0 50000.0      0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

3929          KK   CRG07 COMBINE
3930          KM   Combine route RRG07A, route RRG07B, route RRG07C, and subbasin RG07
3931          HC        4     3.09
              *

3932          KK    RRGAF    ROUTE
3933          KM   Route runoff hydrograph at combination point CRG07 to combination point CRGAF
3934          RS        1     FLOW
3935          RC   0.045   0.020   0.045    4328  0.0083    0.00
3936          RX    0.00    0.00   40.00   50.00   60.00   70.00  110.00  110.00
3937          RY    6.20    5.20    5.00    0.00    0.00    5.00    5.20    6.20
              *

3938          KK    RGAF    BASIN
3939          KM   Runoff hydrograph for subbasin RGAF near the intersection of Rose Garden Lane
3940          KM   and the Agua Fria River
3941          BA   0.332
3942          LG    0.16    0.33    6.20    0.14      12
3943          UC   1.028   0.882
3944          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
3945          UA     100
              *

3946          KK  ERRGAF  DIVERT
3947          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
3948          KM   retention developed after 1990 in subbasin RGAF
3949          DT   XRGAF     10.4      0.0
3950          DI     0.0 50000.0      0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
3951          DQ     0.0 50000.0      0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

3952          KK   CRGAF COMBINE
3953          KM   Combine route RRGAF and subbasin RGAF
3954          HC        2     3.42
              *

3955          KK  DRBYAFRETRIEVE
3956          KM   Retrieve divert DRBYAF from combination point CBY07 and divert to
3957          KM   combination point CBYAF
3958          DR  DWBYAF
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

3959          KK   RBY07    ROUTE
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3960          KM   Route diversion retrieval DRBYAF to route RBYAF
3961          RS      2    FLOW
3962          RC  0.045   0.020   0.045    3085  0.0019    0.00
3963          RX   0.00    1.00   16.00   36.00   51.00  123.00  148.00  648.00
3964          RY  16.00    8.00    0.00    0.00    8.00    8.00    9.00   11.00
              *

3965          KK   RBYAF   ROUTE
3966          KM   Route runoff hydrograph at route RBY07 to combination point CBYAF
3967          RS      7    FLOW
3968          RC  0.045   0.035   0.045    8144  0.0065    0.00
3969          RX   0.00    0.00   19.00   25.00   30.00   36.00   55.00   55.00
3970          RY   4.10    3.10    3.00    0.00    0.00    3.00    3.10    4.10
              *

3971          KK    BYAF   BASIN
3972          KM   Runoff hydrograph for subbasin BYAF near the intersection of Beardsley Road
3973          KM   and the Agua Fria River
3974          BA  0.609
3975          LG   0.23    0.28    4.70    0.27      24
3976          UC  0.947   0.750
3977          UA      0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
3978          UA    100
              *

3979          KK  ERBYAF  DIVERT
3980          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
3981          KM   retention developed after 1990 in subbasin BYAF
3982          DT   XBYAF    13.2     0.0
3983          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
3984          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

3985          KK   CBYAF COMBINE
3986          KM   Combine route RBYAF and subbasin BYAF
3987          HC      2    1.49
              *

3988          KK    UHAF   BASIN
3989          KM   Runoff hydrograph for subbasin UHAF near the intersection of Union Hills
3990          KM   Drive and the Agua Fria River
3991          BA  0.489
3992          LG   0.15    0.30    3.50    0.54      12
3993          UC  1.421   1.215
3994          UA      0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
3995          UA    100
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

3996          KK  ERUHAF  DIVERT
3997          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
3998          KM   retention developed after 1990 in subbasin UHAF
3999          DT   XUHAF    19.8     0.0
4000          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
4001          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

4002          KK   CAF03 COMBINE
4003          KM   Combine combination point CRGAF, combination point CBYAF, and subbasin UHAF
4004          HC      3    5.56
              *

4005          KK    UH07   BASIN
4006          KM   Runoff hydrograph for subbasin UH07 near the intersection of Union Hills
4007          KM   Drive and 107th Avenue
4008          BA  0.252
4009          LG   0.20    0.25    4.80    0.34      22
4010          UC  1.233   1.271
4011          UA      0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
4012          UA    100
              *

4013          KK   RUH11   ROUTE
4014          KM   Route runoff hydrograph at subbasin UH07 to route RUH15
4015          RS      1    FLOW
4016          RC  0.045   0.020   0.045    2740  0.0090    0.00
4017          RX   0.00    1.00   13.00   23.00   53.00   83.00  108.00  109.00
4018          RY  14.00    6.00    0.00    0.00    6.00    6.00    7.00   15.00
              *

4019          KK   RUH15   ROUTE
4020          KM   Route runoff hydrograph at route RUH11 to combination point CUH15
4021          RS      2    FLOW
4022          RC  0.045   0.035   0.045    2598  0.0120    0.00
4023          RX   0.00   50.00   62.00   72.00   84.00  104.00  139.00  640.00
4024          RY   9.00    6.00    0.00    0.00    6.00    7.00    7.00    9.00
              *

4025          KK    UH15   BASIN
4026          KM   Runoff hydrograph for subbasin UH15 near the intersection of Union Hills
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4027          KM   Drive and 115th Avenue
4028          BA  1.019
4029          LG   0.28    0.31    5.80    0.17      18
4030          UC  0.918   0.468
4031          UA      0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
4032          UA    100
              *
```



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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

4033          KK  ERUH15  DIVERT
4034          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
4035          KM   retention developed after 1990 in subbasin UH15
4036          DT   XUH15    20.8     0.0
4037          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
4038          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

4039          KK   CUH15 COMBINE
4040          KM   Combine route RUH15 and subbasin UH15
4041          HC      2    1.27
              *

4042          KK   RBL15B   ROUTE
4043          KM   Route runoff hydrograph at combination point CUH15 to combination point CBL15
4044          RS      4    FLOW
4045          RC  0.045   0.035   0.045    4894  0.0020    0.00
4046          RX   0.00  100.00  112.00  147.00  159.00  179.00  214.00  580.00
4047          RY   8.00    6.00    0.00    0.00    6.00    7.00    7.00    9.00
              *

4048          KK  DRBL15RETRIEVE
4049          KM   Retrieve divert DRBL15 from combination point CDW07 and divert to
4050          KM   combination point CBL15
4051          DR  DWBL15
              *

4052          KK   RBL15A   ROUTE
4053          KM   Route diversion retrieval DRBL15 to combination point CBL15
4054          RS      1    FLOW
4055          RC  0.045   0.015   0.045    6041  0.0082    0.00
4056          RX   0.00    0.00   40.00   50.00   60.00   70.00  110.00  110.00
4057          RY   6.20    5.20    5.00    0.00    0.00    5.00    5.20    6.20
              *

4058          KK    BL15   BASIN
4059          KM   Runoff hydrograph for subbasin BL15 near the intersection of Bell Road and
4060          KM   115th Avenue
4061          BA  0.962
4062          LG   0.24    0.27    4.60    0.32      24
4063          UC  0.937   0.466
4064          UA      0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
4065          UA    100
              *

4066          KK  ERBL15  DIVERT
4067          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
4068          KM   retention developed after 1990 in subbasin BL15
4069          DT   XBL15    31.6     0.0
4070          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
4071          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *
```



```
LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

4072          KK   CBL15 COMBINE
4073          KM   Combine route RBL15A, route RBL15B, and subbasin BL15
4074          HC      3    2.94
              *

4075          KK   RMEAF   ROUTE
4076          KM   Route runoff hydrograph at combination point CBL15 to combination point CMEAF
4077          RS      3    FLOW
4078          RC  0.045   0.020   0.045    5783  0.0053    0.00
4079          RX   0.00    0.00   40.00   50.00   60.00   70.00  110.00  110.00
4080          RY   6.20    5.20    5.00    0.00    0.00    5.00    5.20    6.20
              *

4081          KK    MEAF   BASIN
4082          KM   Runoff hydrograph for subbasin MEAF near the intersection of Meade Drive and
4083          KM   the Agua Fria River
4084          BA  1.369
4085          LG   0.17    0.28    4.65    0.30      22
4086          UC  0.910   0.458
4087          UA      0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
4088          UA    100
              *

4089          KK  ERMEAF  DIVERT
```

```
4090          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
4091          KM   retention developed after 1990 in subbasin MEAF
4092          DT   XMEAF      9.9      0.0
4093          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
4094          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

4095          KK   CMEAF COMBINE
4096          KM   Combine route RMEAF and subbasin MEAF
4097          HC        2     4.31
              *

4098          KK    BLAF    BASIN
4099          KM   Runoff hydrograph for subbasin BLAF near the intersection of Bell Road and
4100          KM   the Agua Fria River
4101          BA   0.283
4102          LG    0.17     0.29     3.55     0.52       16
4103          UC   1.468    1.575
4104          UA        0      5.0     16.0     30.0     65.0     77.0     84.0     90.0     94.0     97.0
4105          UA      100
              *

4106          KK  ERBLAF  DIVERT
4107          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
4108          KM   retention developed after 1990 in subbasin BLAF
4109          DT   XBLAF     12.5      0.0
4110          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
4111          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *
```

1 HEC-1 INPUT PAGE107

```
LINE          ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

4112          KK    GRAF    BASIN
4113          KM   Runoff hydrograph for subbasin GRAF near the intersection of Grand Avenue and
4114          KM   the Agua Fria River
4115          BA   0.859
4116          LG    0.21     0.17     7.00     0.11       34
4117          UC   1.153    0.872
4118          UA        0      5.0     16.0     30.0     65.0     77.0     84.0     90.0     94.0     97.0
4119          UA      100
              *

4120          KK    PEAF    BASIN
4121          KM   Runoff hydrograph for subbasin PEAF near the intersection of Kansas Avenue
4122          KM   and the Agua Fria River
4123          BA   0.531
4124          LG    0.19     0.25     4.20     0.36       48
4125          UC   0.685    0.323
4126          UA        0      5.0     16.0     30.0     65.0     77.0     84.0     90.0     94.0     97.0
4127          UA      100
              *

4128          KK   CAF04 COMBINE
4129          KM   Combine combination point CMEAF, subbasin BLAF, subbasin GRAF, and subbasin
4130          KM   PEAF
4131          HC        4     5.94
              *

4132          KK    OL11    BASIN
4133          KM   Runoff hydrograph for subbasin OL11 near the intersection of Olive Avenue and
4134          KM   111th Avenue
4135          BA   0.339
4136          LG    0.23     0.27     4.25     0.40       21
4137          UC   0.857    0.493
4138          UA        0      5.0     16.0     30.0     65.0     77.0     84.0     90.0     94.0     97.0
4139          UA      100
              *

4140          KK   RNO11    ROUTE
4141          KM   Route runoff hydrograph at subbasin OL11 to combination point CNO11
4142          RS        3     FLOW
4143          RC    0.045    0.020    0.045     6339   0.0057     0.00
4144          RX     0.00     0.00    19.00    25.00    30.00    36.00    55.00    55.00
4145          RY     4.10     3.10     3.00     0.00     0.00     3.00     3.10     4.10
              *

4146          KK    NO11    BASIN
4147          KM   Runoff hydrograph for subbasin NO11 near the intersection of Northern Avenue
4148          KM   and 111th Avenue
4149          BA   0.860
4150          LG    0.19     0.26     3.95     0.40       49
4151          UC   0.694    0.329
4152          UA        0      5.0     16.0     30.0     65.0     77.0     84.0     90.0     94.0     97.0
4153          UA      100
              *
```

1 HEC-1 INPUT PAGE108

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LINE          ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

4154          KK  ERNO11  DIVERT
```



```
4155          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
4156          KM   retention developed after 1990 in subbasin NO11
4157          DT   XNO11     16.3      0.0
4158          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
4159          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

4160          KK   CNO11 COMBINE
4161          KM   Combine route RNO11 and subbasin NO11
4162          HC        2     1.20
              *

4163          KK  RGL14A    ROUTE
4164          KM   Route runoff hydrograph at combination point CNO11 to combination point CGL14
4165          RS        6     FLOW
4166          RC    0.045    0.035    0.045     7959   0.0008     0.00
4167          RX     0.00     0.00    55.00    75.00   100.00   120.00   175.00   175.00
4168          RY    11.20    10.20    10.00     0.00     0.00    10.00    10.20    11.20
              *

4169          KK    NO07    BASIN
4170          KM   Runoff hydrograph for subbasin NO07 near the intersection of Northern Avenue
4171          KM   and 107th Avenue
4172          BA   0.340
4173          LG    0.21     0.26     4.55     0.35       27
4174          UC   0.930    0.637
4175          UA        0      5.0     16.0     30.0     65.0     77.0     84.0     90.0     94.0     97.0
4176          UA      100
              *

4177          KK  ERNO07  DIVERT
4178          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
4179          KM   retention developed after 1990 in subbasin NO07
4180          DT   XNO07      8.6      0.0
4181          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
4182          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

4183          KK   RGL11    ROUTE
4184          KM   Route runoff hydrograph at subbasin NO07 to combination point CGL11
4185          RS        5     FLOW
4186          RC    0.035    0.015    0.035     5370   0.0041     0.00
4187          RX     0.00     0.00    13.00    13.00    55.00    55.00    68.00    68.00
4188          RY     3.00     0.63     0.50     0.00     0.00     0.50     0.63     3.00
              *

4189          KK    GL11    BASIN
4190          KM   Runoff hydrograph for subbasin GL11 near the intersection of Glendale Avenue
4191          KM   and 111th Avenue
4192          BA   0.426
4193          LG    0.19     0.26     4.35     0.33       57
4194          UC   0.928    0.558
4195          UA        0      5.0     16.0     30.0     65.0     77.0     84.0     90.0     94.0     97.0
```

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```
LINE          ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

4196          UA      100
              *

4197          KK  ERGL11  DIVERT
4198          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
4199          KM   retention developed after 1990 in subbasin GL11
4200          DT   XGL11     36.6      0.0
4201          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
4202          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

4203          KK   CGL11 COMBINE
4204          KM   Combine route RGL11 and subbasin GL11
4205          HC        2     0.77
              *

4206          KK  RGL14B    ROUTE
4207          KM   Route runoff hydrograph at combination point CGL11 to combination point CGL14
4208          RS        3     FLOW
4209          RC    0.045    0.035    0.045     4950   0.0021     0.00
4210          RX     0.00     0.00    40.00    50.00    60.00    70.00   110.00   110.00
4211          RY     6.20     5.20     5.00     0.00     0.00     5.00     5.20     6.20
              *

4212          KK    GL14    BASIN
4213          KM   Runoff hydrograph for subbasin GL14 near the intersection of Glendale Avenue
4214          KM   and 114th Avenue
4215          BA   0.481
4216          LG    0.30     0.35     3.81     0.44        1
4217          UC   1.130    0.847
4218          UA        0      5.0     16.0     30.0     65.0     77.0     84.0     90.0     94.0     97.0
4219          UA      100
              *

4220          KK   CGL14 COMBINE
4221          KM   Combine route RGL14A, RGL14B, and subbasin GL14
```

```
          4222          HC       3    2.45
                        *

          4223          KK   RGLAF   ROUTE
          4224          KM   Route runoff hydrograph at combination point CGL14 to combination point CGLAF
          4225          RS       2    FLOW
          4226          RC   0.045   0.035   0.045    3487  0.0023    0.00
          4227          RX    0.00    0.00   55.00   75.00  100.00  120.00  175.00  175.00
          4228          RY   11.20   10.20   10.00    0.00    0.00   10.00   10.20   11.20
                        *

          4229          KK    GLAF   BASIN
          4230          KM   Runoff hydrograph for subbasin GLAF near the intersection of Glendale Avenue
          4231          KM   and the Agua Fria River
          4232          BA   0.388
          4233          LG    0.18    0.29    3.07    0.74      65
          4234          UC   0.840   0.773
          4235          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
          4236          UA     100
                        *
1                                                HEC-1 INPUT                                                PAGE110

          LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


          4237          KK   CGLAF COMBINE
          4238          KM   Combine route RGLAF and subbasin GLAF
          4239          HC       2    2.83
                        *

          4240          KK    OLAF   BASIN
          4241          KM   Runoff hydrograph for subbasin OLAF near the intersection of Olive Avenue and
          4242          KM   the Agua Fria River
          4243          BA   1.026
          4244          LG    0.18    0.30    3.60    0.50      19
          4245          UC   1.275   0.825
          4246          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
          4247          UA     100
                        *

          4248          KK  EROLAF  DIVERT
          4249          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
          4250          KM   retention developed after 1990 in subbasin OLAF
          4251          DT   XOLAF    22.0     0.0
          4252          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
          4253          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
                        *

          4254          KK    NOAF   BASIN
          4255          KM   Runoff hydrograph for subbasin NOAF near the intersection of Northern Avenue
          4256          KM   and the Agua Fria River
          4257          BA   0.285
          4258          LG    0.11    0.33    2.92    0.82      23
          4259          UC   0.992   0.844
          4260          UA       0     3.0     5.0     8.0    12.0    20.0    43.0    75.0    90.0    96.0
          4261          UA     100
                        *

          4262          KK   CAF05 COMBINE
          4263          KM   Combine combination point CGLAF, subbasin OLAF, and subbasin NOAF
          4264          HC       3    4.15
                        *
          4265          ZZ
1
               SCHEMATIC DIAGRAM OF STREAM NETWORK
 INPUT
  LINE      (V) ROUTING           (--->) DIVERSION OR PUMP FLOW

   NO.      (.) CONNECTOR         (<---) RETURN OF DIVERTED OR PUMPED FLOW

   136        UH35
              .
              .
   147        .-------->   XUH35
   144      ERUH35
              .
              .
   153        .-------->  DPUH35
   150       DUH35
              .
              .
   159        .-------->  DWUH43
   156      DSBL35
             V
             V
   162      RSBL35
              .
              .
   168        .         BL35
              .           .
              .           .
   179        .         .-------->   XBL35
   176        .       ERBL35
```



```
              .           .
              .           .
   182      CBL35.....
              .
              .
   188        .-------->  DP35BL
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              .
              .
   194        .-------->  DWBL43
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             V
             V
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              .
              .
   203        .         GW35
              .           .
              .           .
   211      CGW35.....
              .
              .
   217        .           .<-------  DP35BL
   214        .       PR35BL
              .           V
              .           V
   218        .       RP35GW
              .           .
              .           .
   222      CPGW35.....
              .
              .
   229        .-------->  DP35GW
   226      D35GW
              .
              .
   235        .-------->  DWGW43
   232      DSTB35
             V
             V
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              .
              .
   244        .         TB35
              .           .
              .           .
   252      CTB35.....
              .
              .
   258        .           .<-------  DP35GW
   255        .       PR35GW
              .           V
              .           V
   259        .       RP35TB
              .           .
              .           .
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              .
              .
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              .
              .
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             V
             V
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              .
              .
   285        .         CT35
              .           .
              .           .
   293      CCT35.....
              .
              .
   299        .           .<-------  DP35TB
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              .           V
              .           V
   300        .       RP35CT
              .           .
              .           .
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              .
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             V
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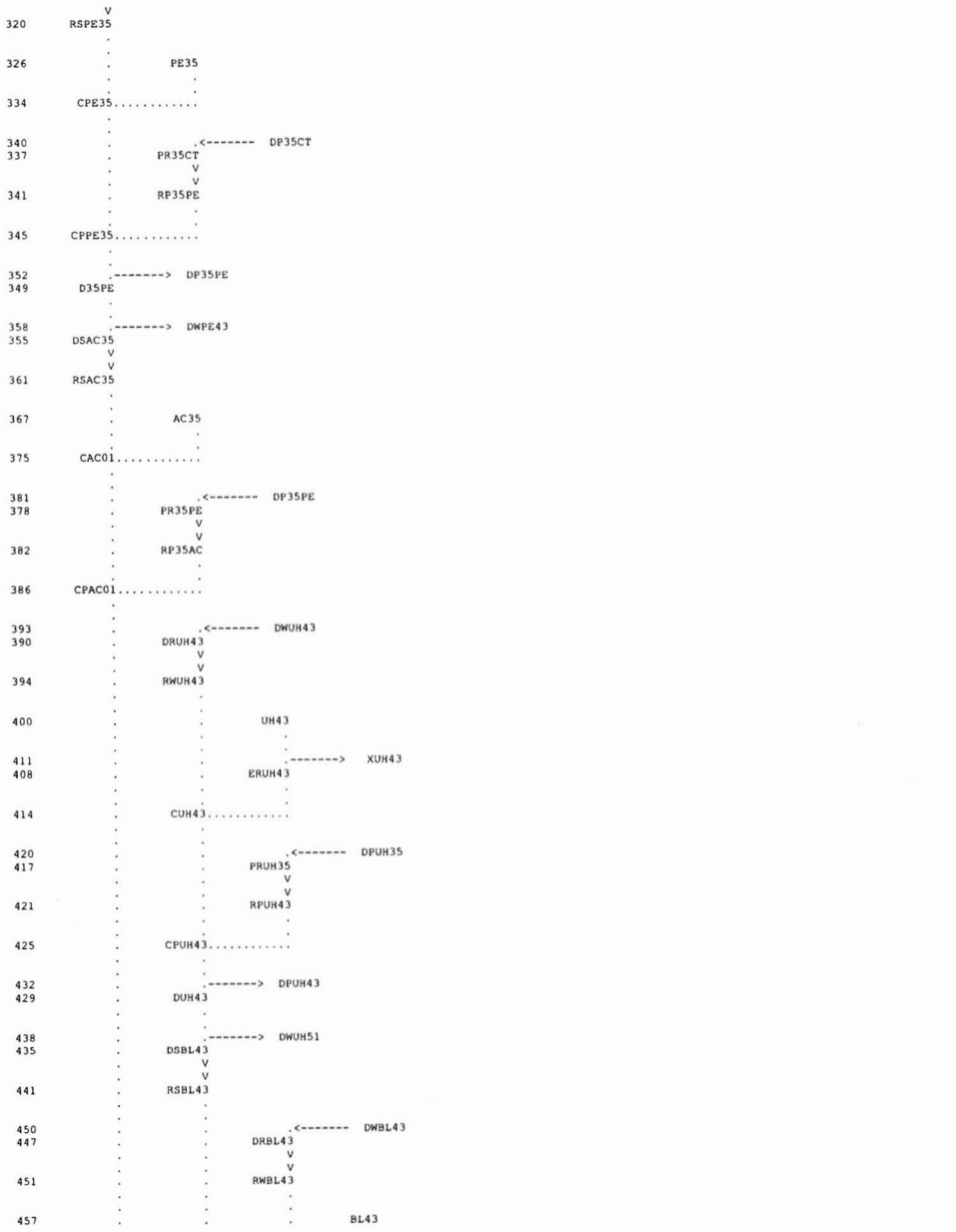
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CAC01
DP35PE
PR35PE
RP35AC
CPAC01
DWUH43
DRUH43
RWUH43
UH43
XUH43
ERUH43
CUH43
DPUH35
PRUH35
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RSBL43
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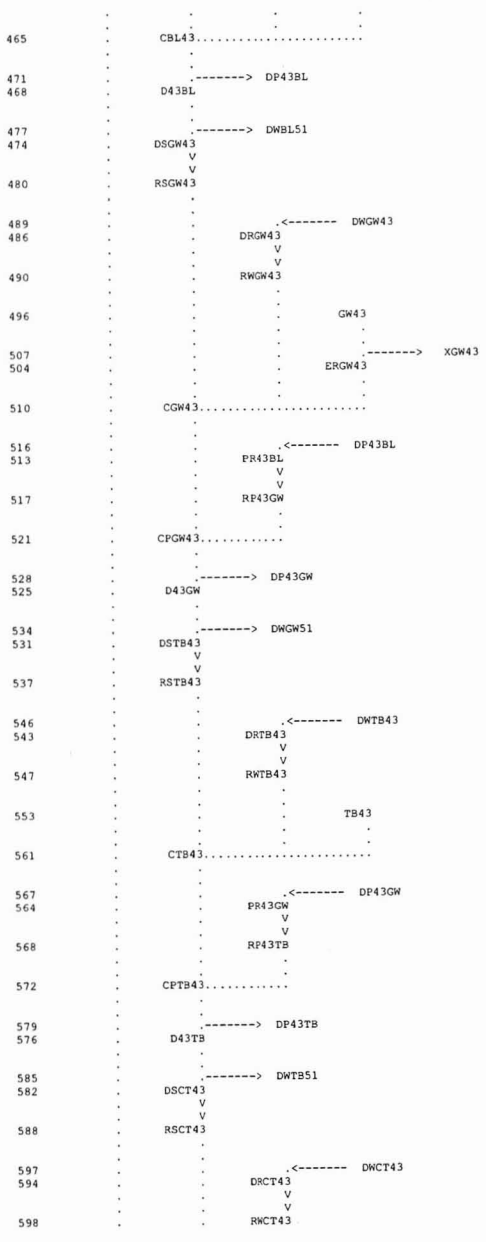
RWBL43
BL43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PR43BL
RP43GW
CPGW43
DP43GW
D43GW
DWGW51
DSTB43
RSTB43
DWTB43
DRTB43
RWTB43
TB43
CTB43
DP43GW
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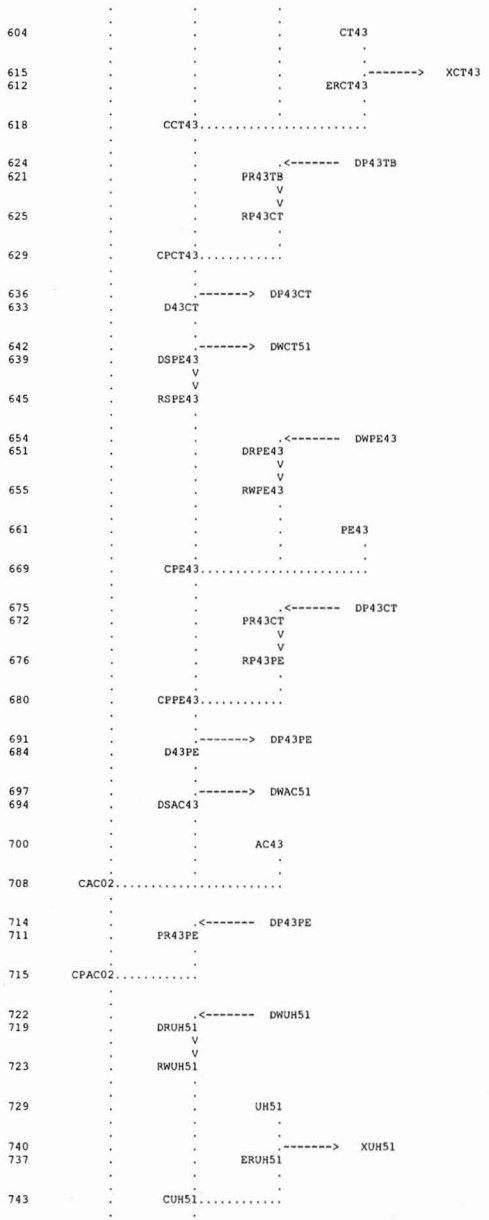
CPTB43
DP43TB
D43TB
DWTB51
DSCT43
RSCT43
DWCT43
DRCT43
RWCT43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639 DSPE43
645 RSPE43
654 DWPE43
651 DRPE43
655 RWPE43
661 PE43
669 CPE43
675 DP43CT
672 PR43CT
676 RP43PE
680 CPPE43
691 DP43PE
684 D43PE
697 DWAC51
694 DSAC43
700 AC43
708 CAC02
714 DP43PE
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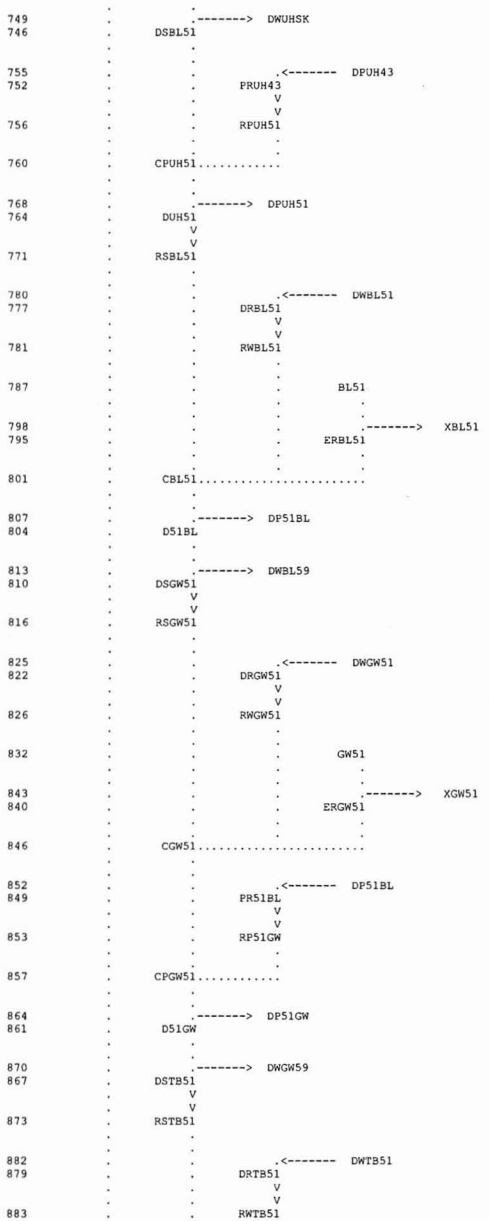
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781 RWBL51
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798 XBL51
795 ERBL51
801 CBL51
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804 D51BL
813 DWBL59
810 DSGW51
816 RSGW51
825 DWGW51
822 DRGW51
826 RWGW51
832 GW51
843 XGW51
840 ERGW51
846 CGW51
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849 PR51BL
853 RP51GW
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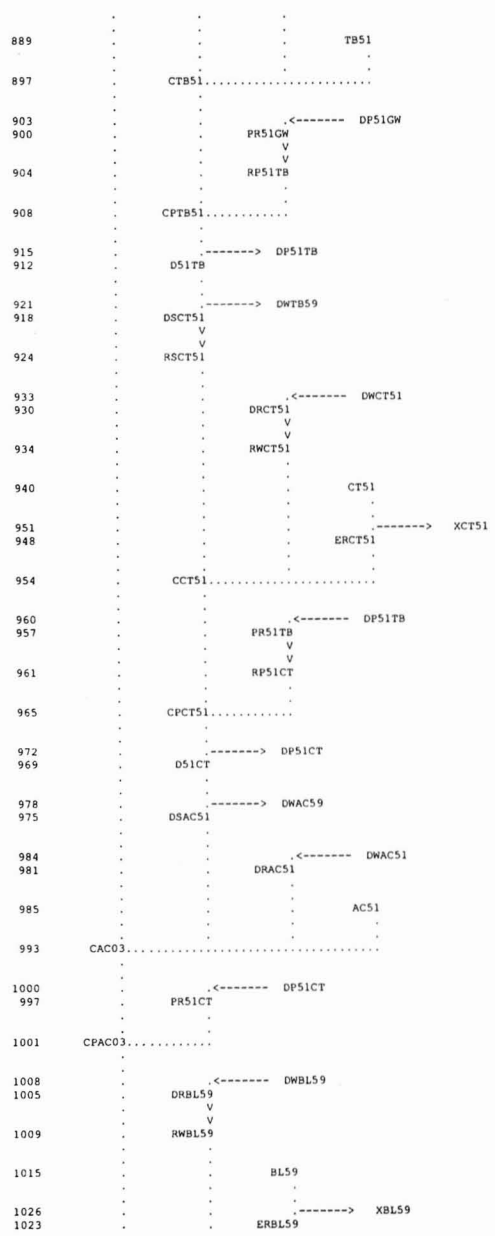
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924 RSCT51
933 DWCT51
930 DRCT51
934 RWCT51
940 CT51
951 XCT51
948 ERCT51
954 CCT51
960 DP51TB
957 PR51TB
961 RP51CT
965 CPCT51
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985 AC51
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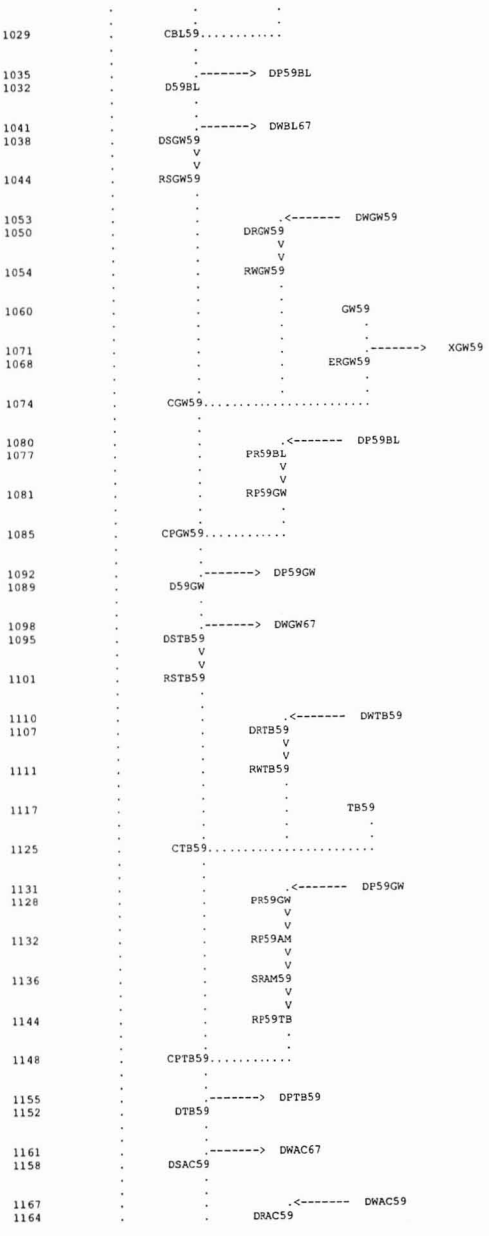
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1101 RSTB59
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1131 DP59GW
1128 PR59GW
1132 RP59AM
1136 SRAM59
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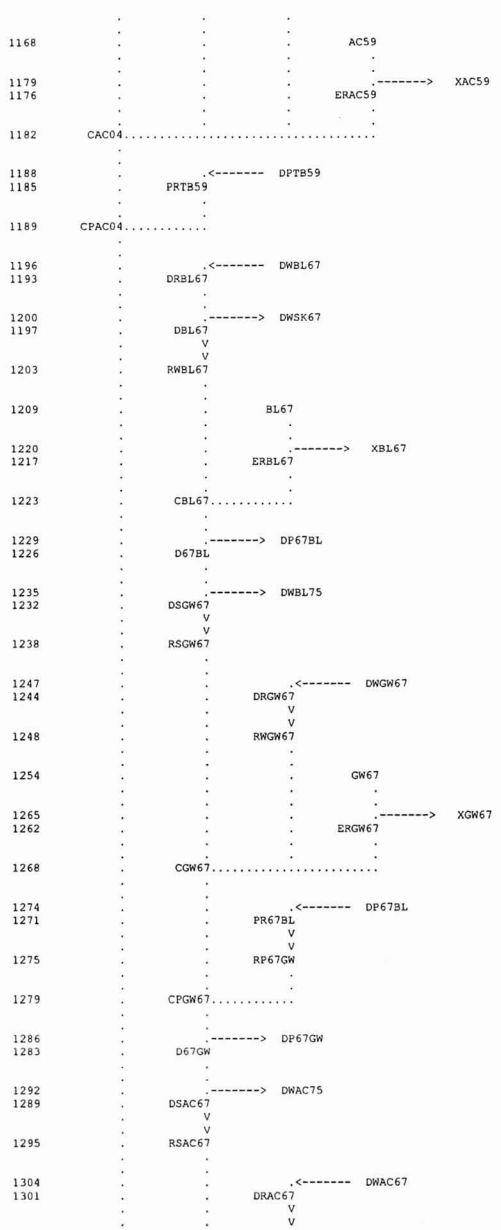
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1220 XBL67
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1223 CBL67
1229 DP67BL
1226 D67BL
1235 DWBL75
1232 DSGW67
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1247 DWGW67
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1248 RWGW67
1254 GW67
1265 XGW67
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1268 CGW67
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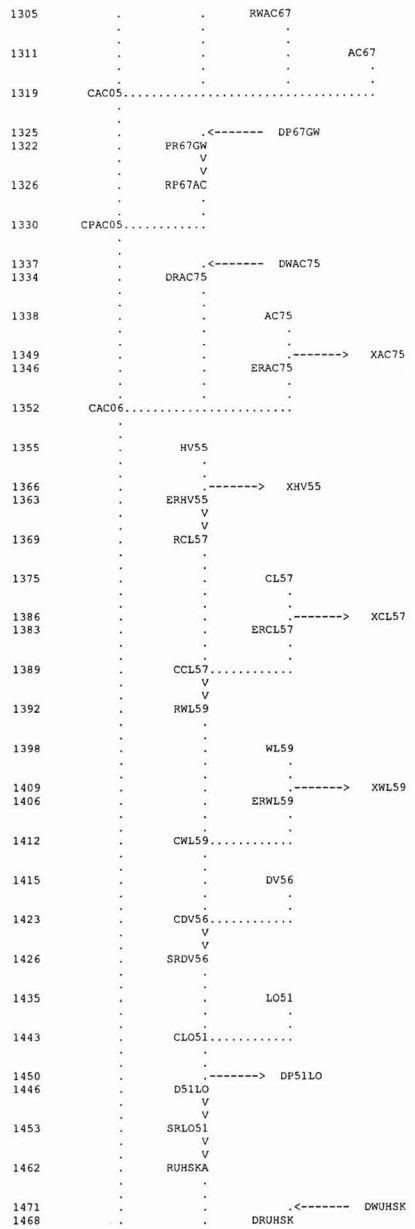
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1349 XAC75
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1375 CL57
1386 XCL57
1383 ERCL57
1389 CCL57
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1398 WL59
1409 XWL59
1406 ERWL59
1412 CWL59
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1423 CDV56
1426 SRDV56
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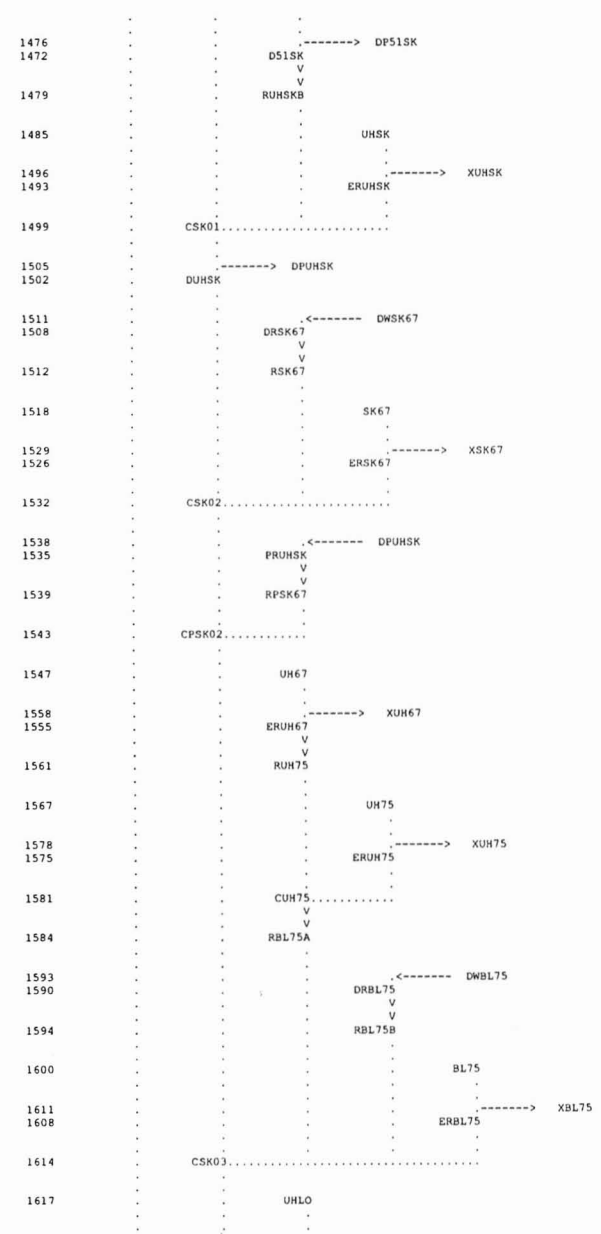
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1511 DWSK67
1508 DRSK67
1512 RSK67
1518 SK67
1529 XSK67
1526 ERSK67
1532 CSK02
1538 DPUHSK
1535 PRUHSK
1539 RPSK67
1543 CPSK02
1547 UH67
1558 XUH67
1555 ERUH67
1561 RUH75
1567 UH75
1578 XUH75
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1581 CUH75
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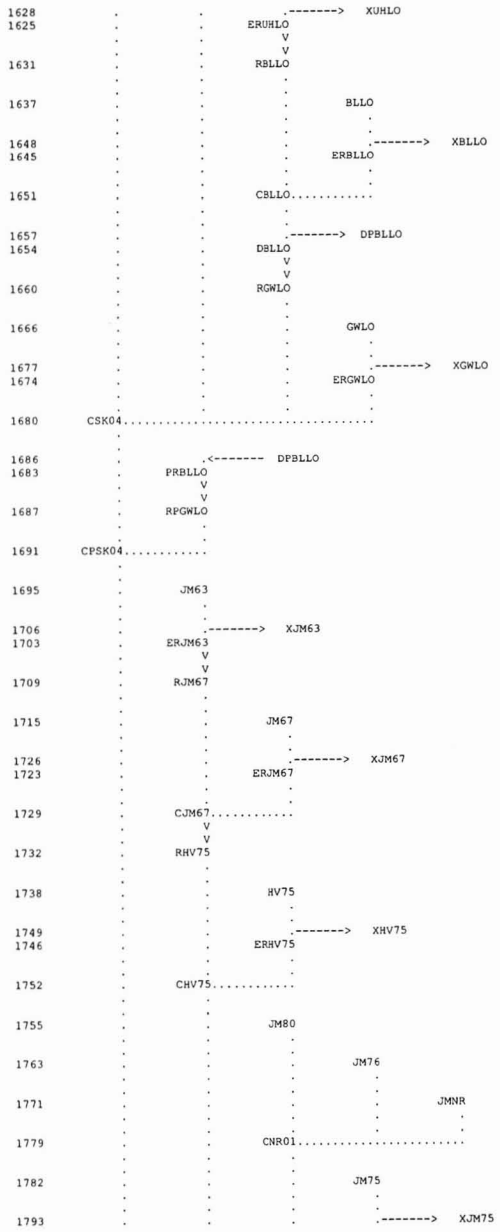
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1687 RPGWLO
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1706 XJM63
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1709 RJM67
1715 JM67
1726 XJM67
1723 ERJM67
1729 CJM67
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1738 HV75
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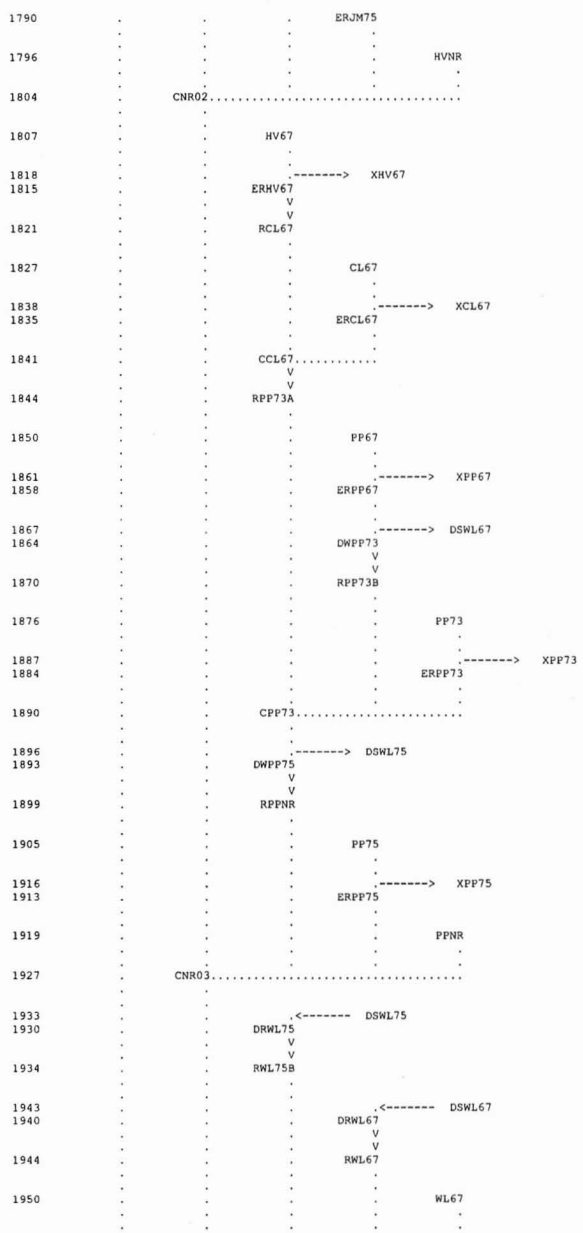
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1841 CCL67
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1867 DSWL67
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1870 RPP73B
1876 PP73
1887 XPP73
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1893 DWPP75
1899 RPPNR
1905 PP75
1916 XPP75
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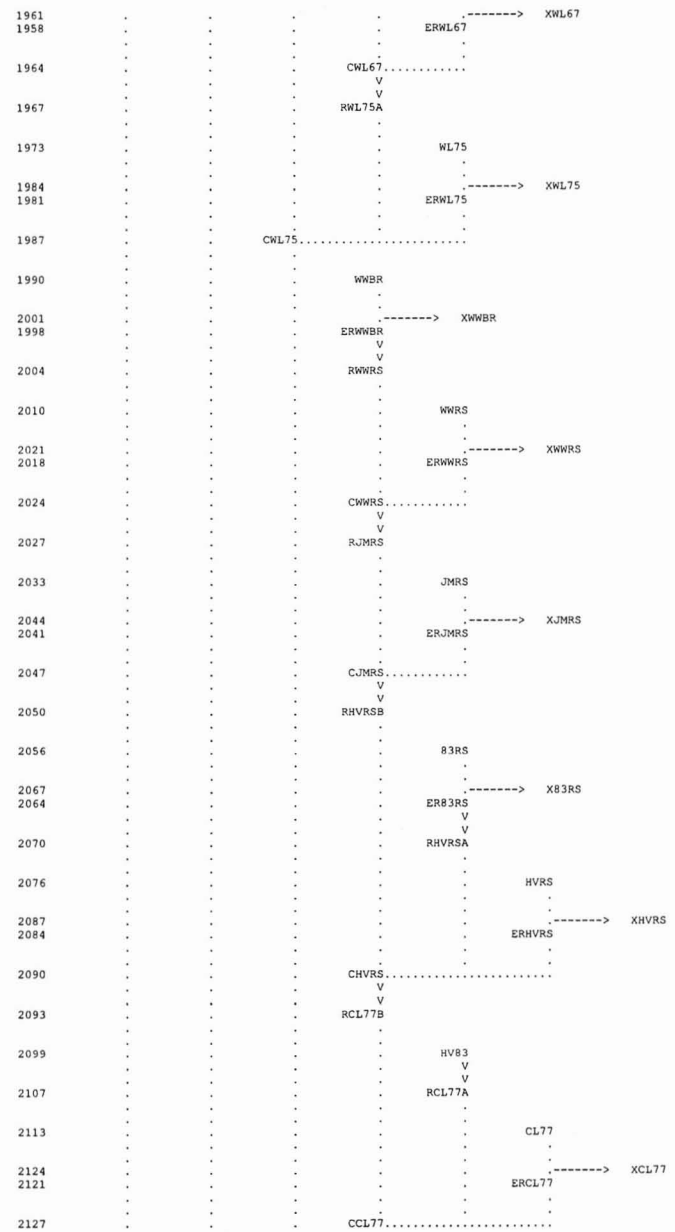
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1981 ERWL75
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1990 WWBR
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1998 ERWWBR
2004 RWWRS
2010 WWRS
2021 XWWRS
2018 ERWWRS
2024 CWWRS
2027 RJMRS
2033 JMRS
2044 XJMRS
2041 ERJMRS
2047 CJMRS
2050 RHVRSB
2056 83RS
2067 X83RS
2064 ER83RS
2070 RHVRSA
2076 HVRS
2087 XHVRS
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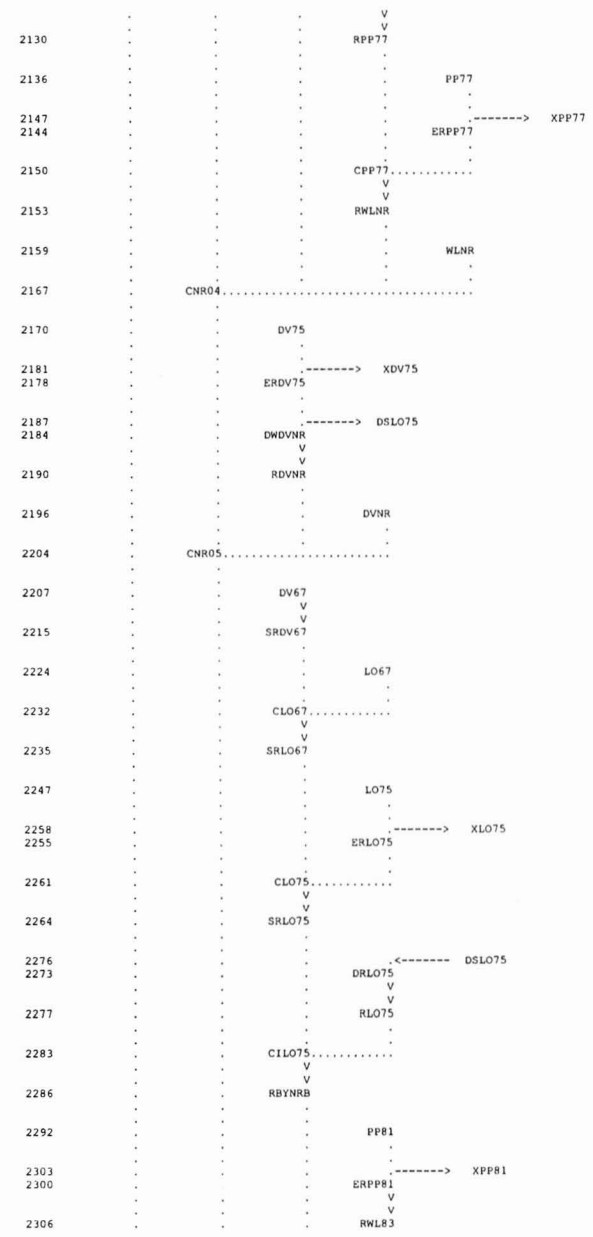
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2187 DSLO75
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2235 SRLO67
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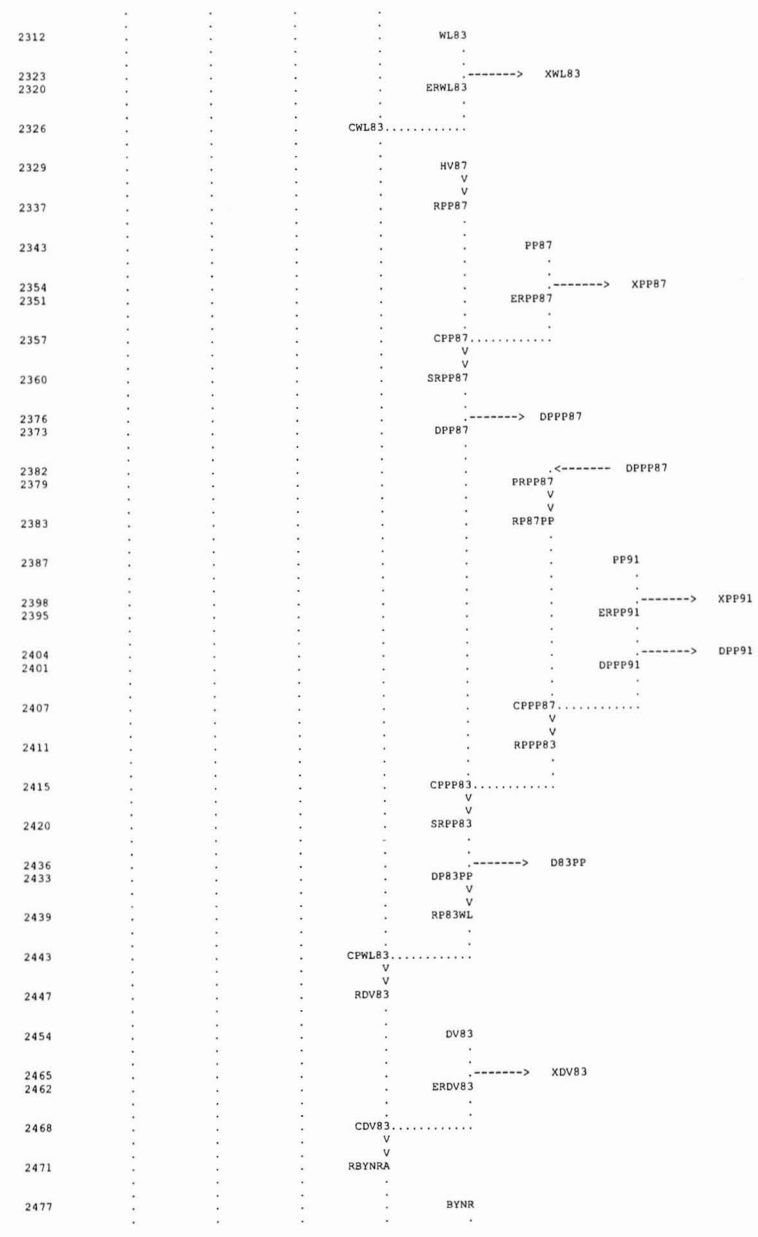
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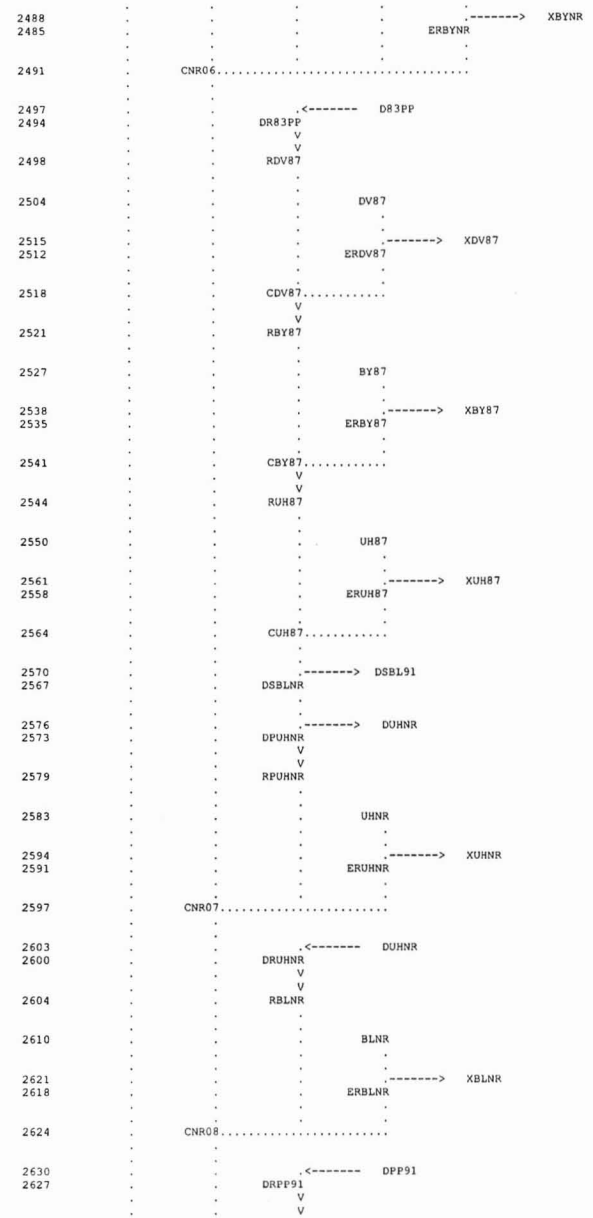
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BY87
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ERBY87
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CBY87
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RUH87
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UH87
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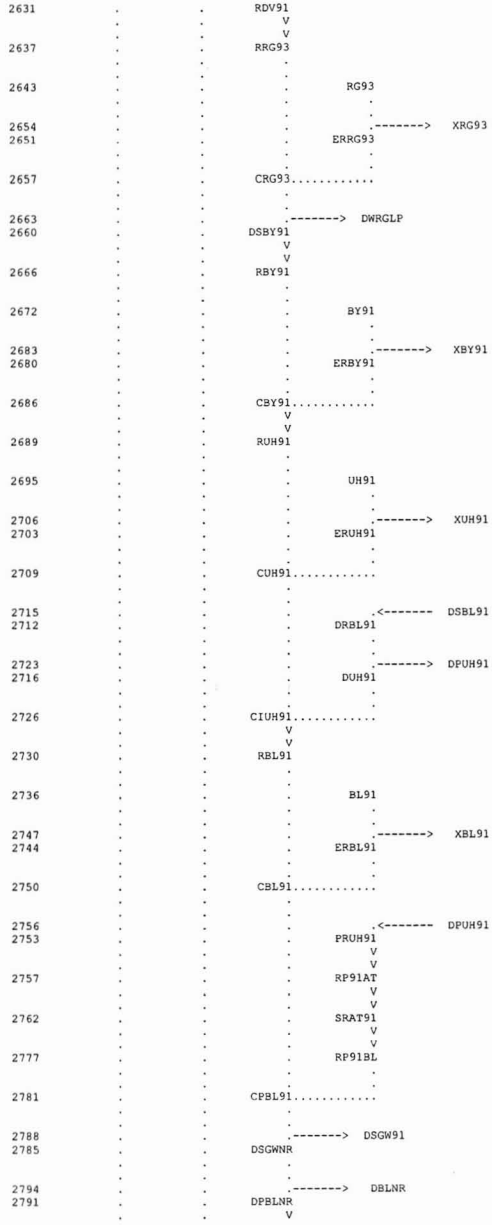
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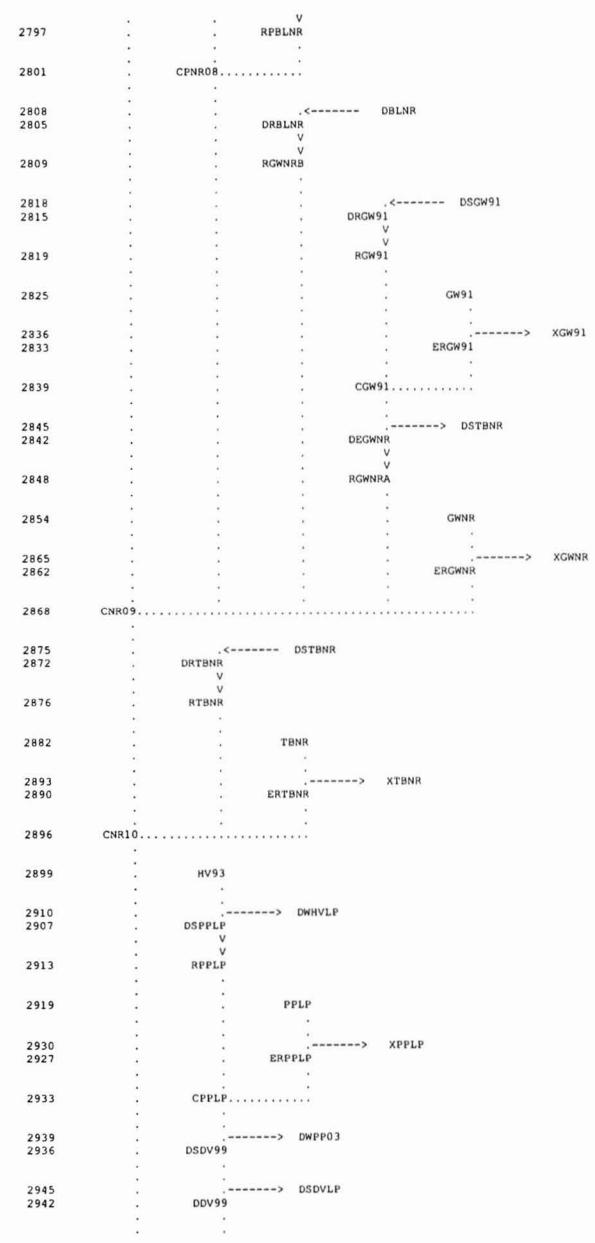
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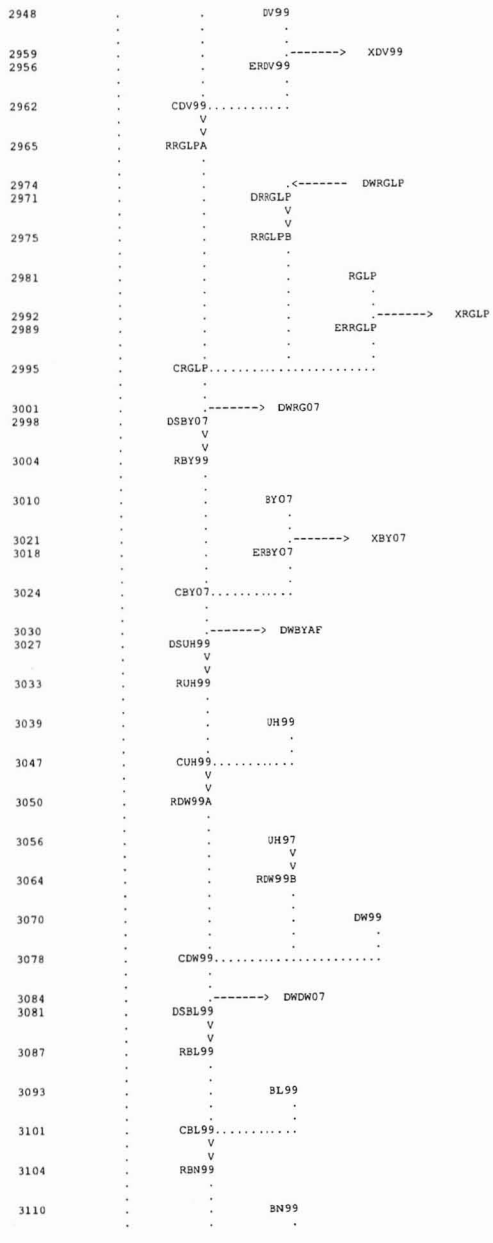
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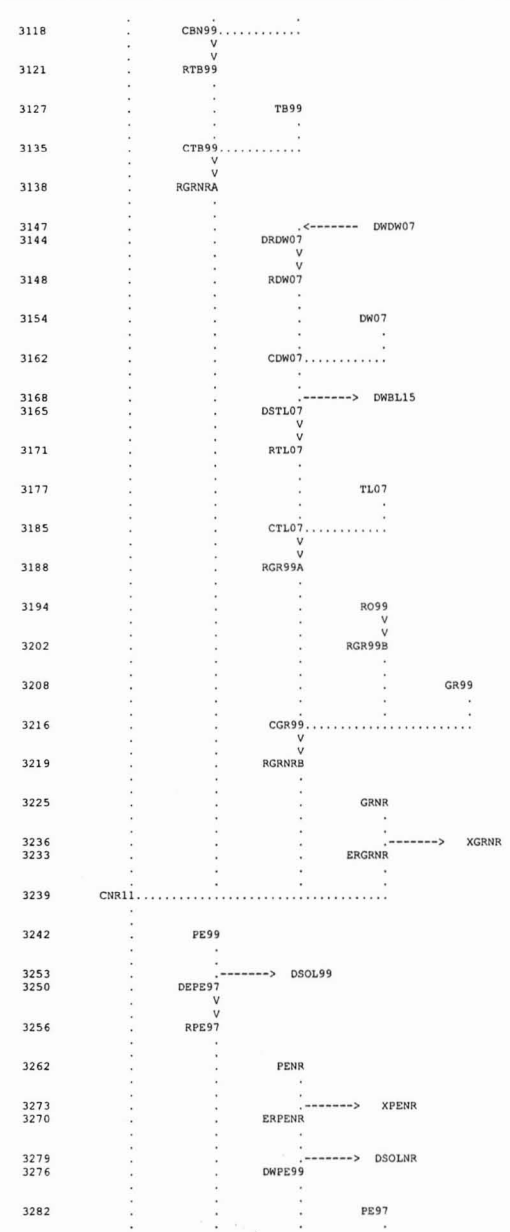
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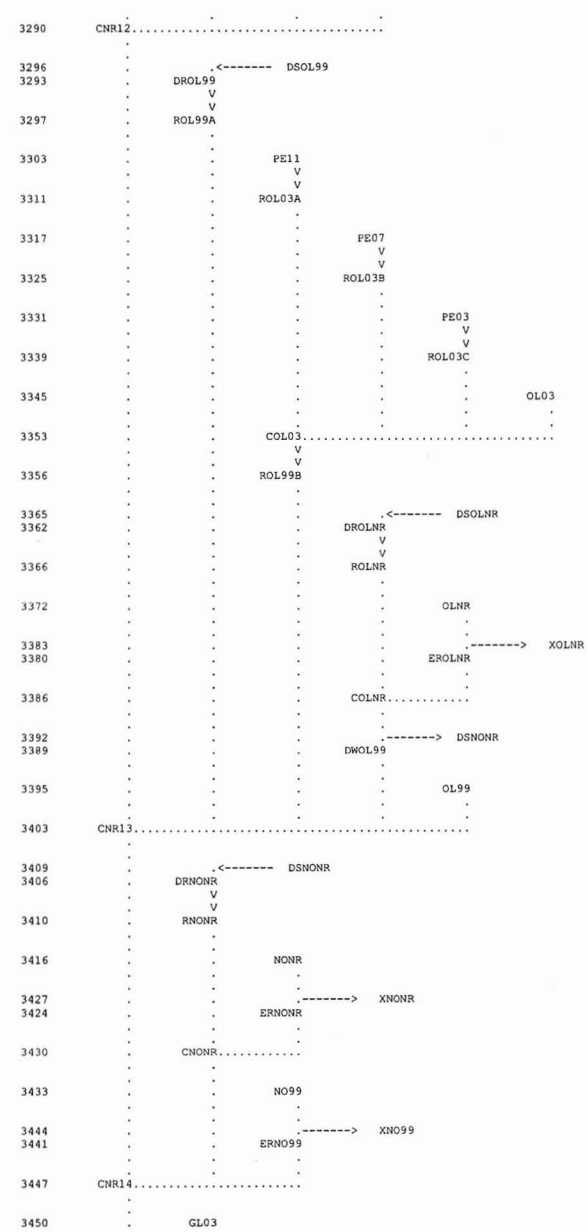
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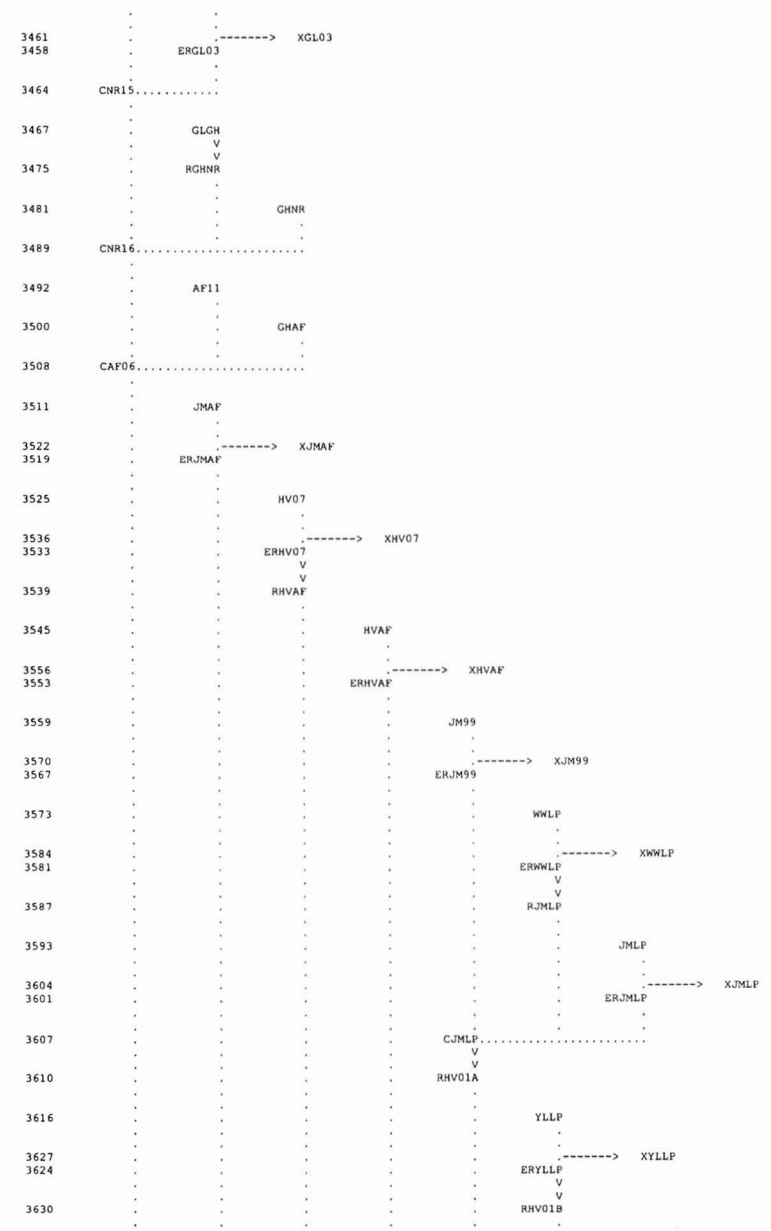
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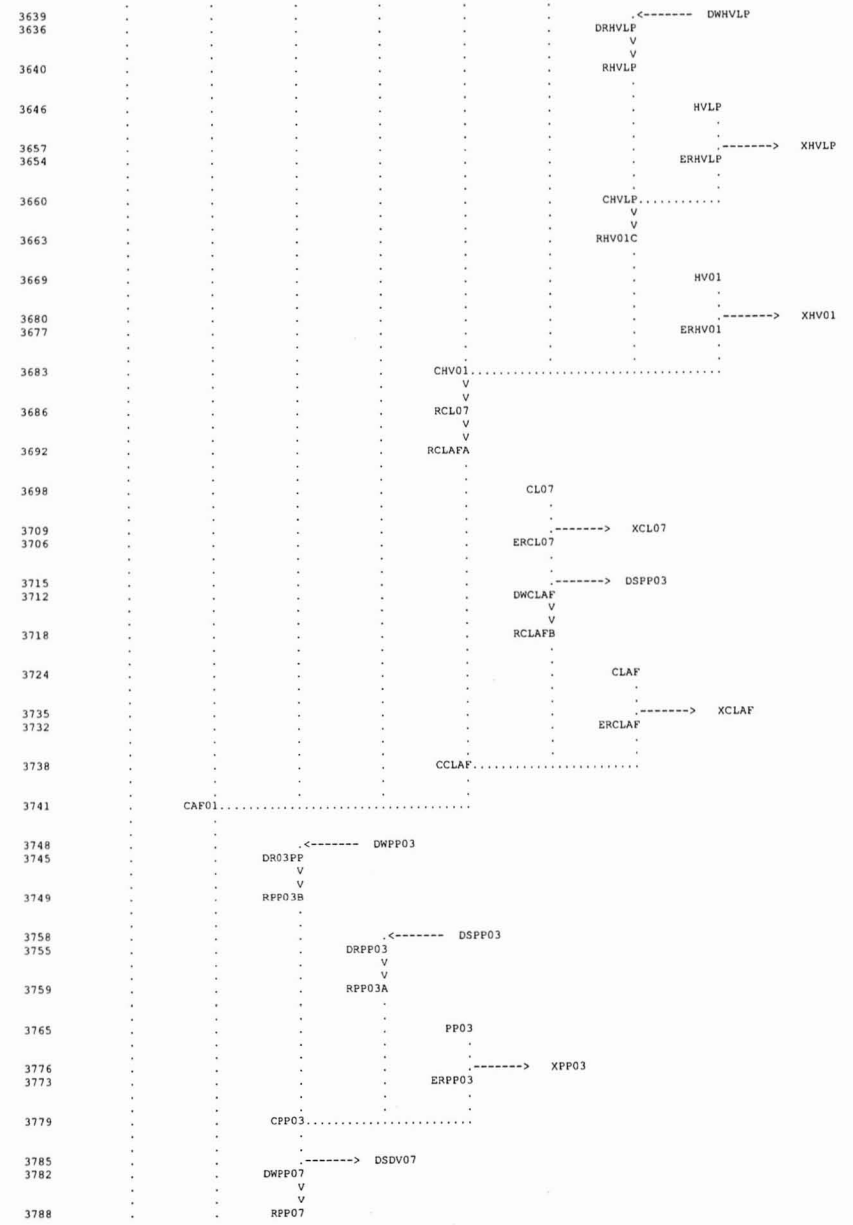
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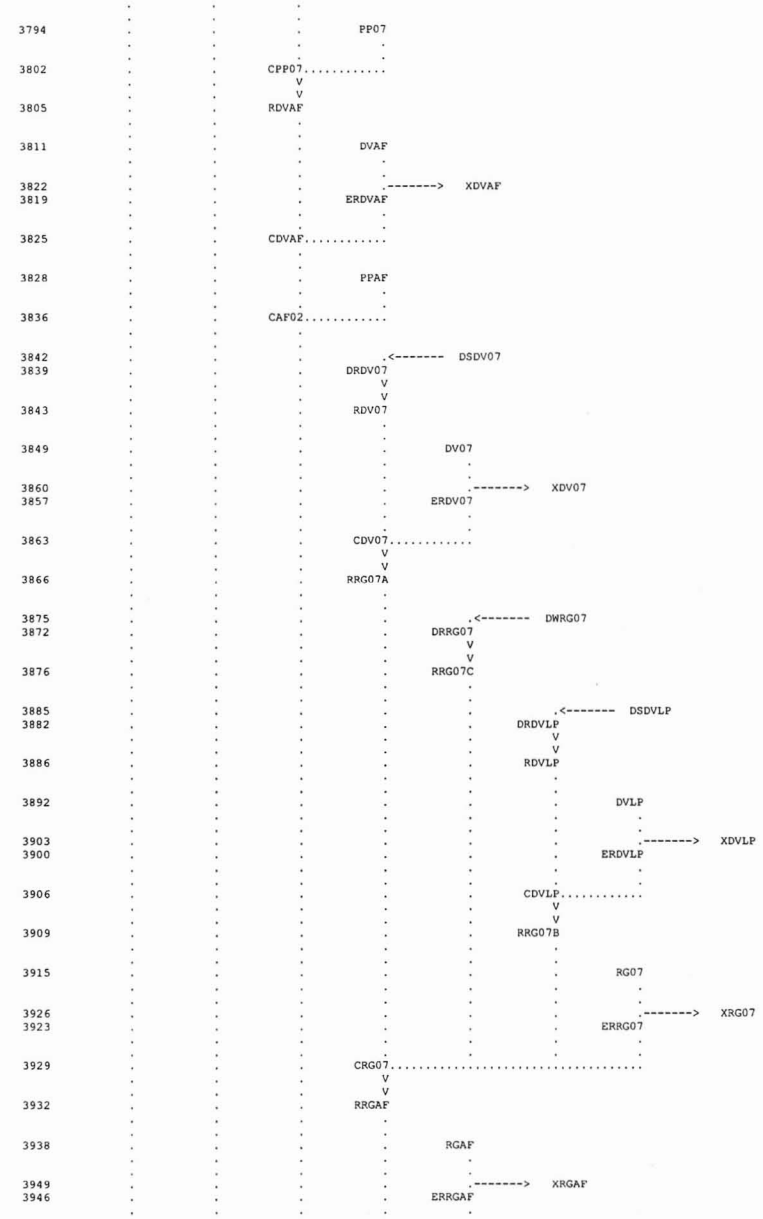
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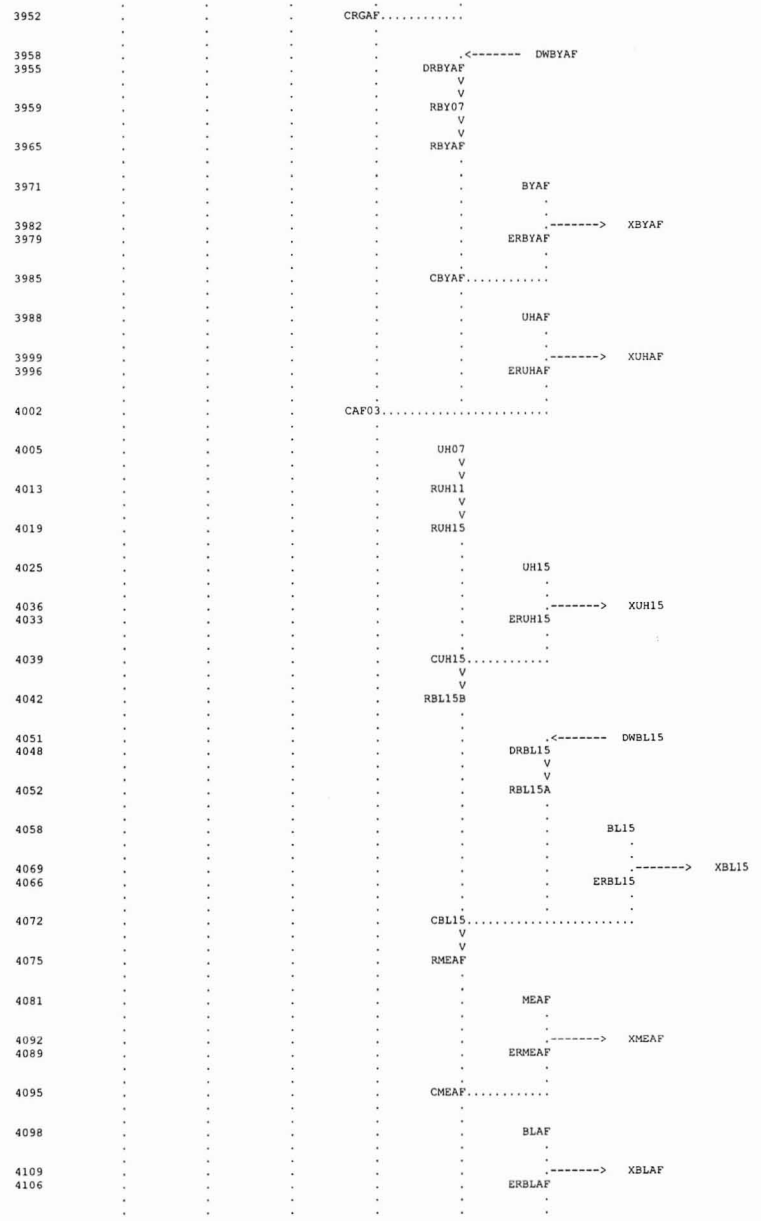
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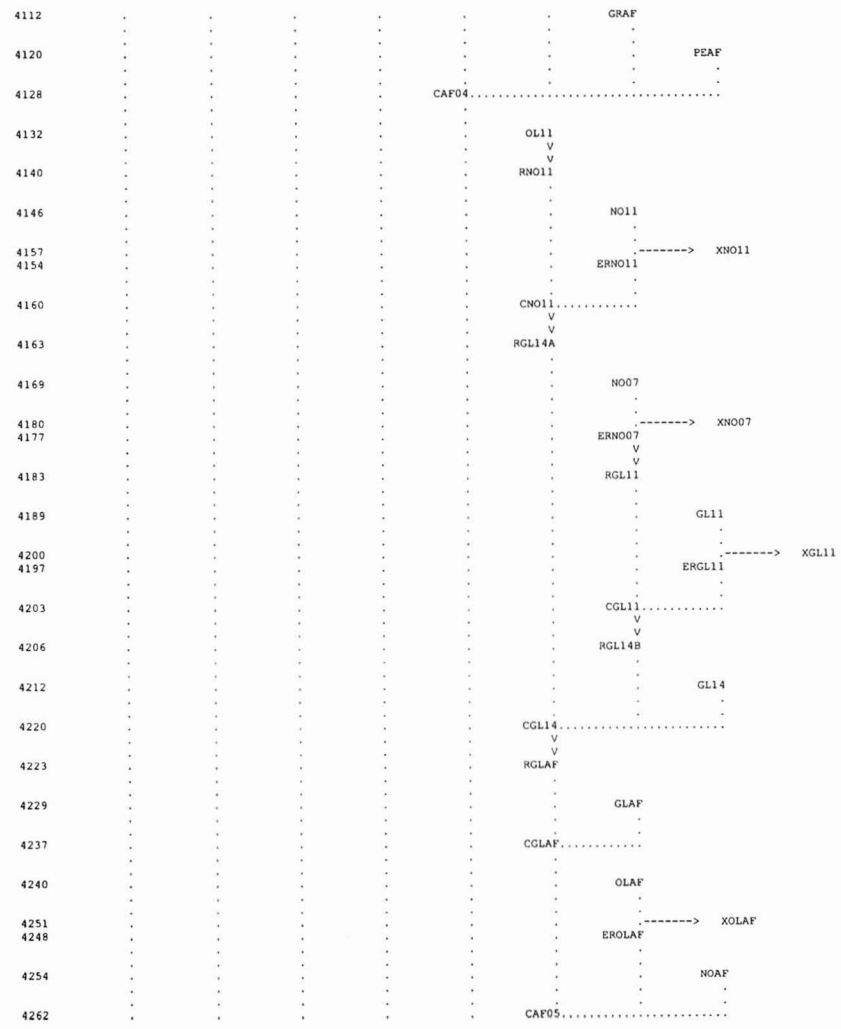

(***) RUNOFF ALSO COMPUTED AT THIS LOCATION

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*   FLOOD HYDROGRAPH PACKAGE  (HEC-1)   *
*             JUN   1998              *
*           VERSION 4.1               *
*                                   *
*  RUN DATE   01NOV10  TIME  14:00:17   *
*                                   *
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*                                   *
*    U.S. ARMY CORPS OF ENGINEERS     *
*    HYDROLOGIC ENGINEERING CENTER    *
*          609 SECOND STREET          *
*       DAVIS, CALIFORNIA 95616       *
*           (916) 756-1104            *
*                                   *
*************************************
```



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GLENDALE STORMWATER MANAGEMENT PLAN
Model for Glendale/Peoria Watershed
Existing Conditions

Prepared for the City of Glendale
In Association with the Flood Control District of Maricopa County
City Project Number 089017

Prepared by Kimley-Horn and Associates, Inc.
KHA Project Number 091910009
Octover 2010

MODELING PARAMETERS
- 100 Year 24 Hour Storm Event
- NOAA 14 Rainfall Data
- Clark Unit Hydrograph
- Green and Ampt Rainfall Loss Method

Topo data extracted from Flood Control District database July 24, 2009
Land use obtained from City of Glendale General Plan August 2009, City of
     Phoenix General Plan August 2009, and MAG General Plan Land Use 2007

Storage routing data obtained from As-built Records or Final Drainage
     Reports where possible
When As-built data/Drainage reports were not available data was obtained
     from HEC-1 models and checked for accuracy.
Storage routing data obtained from the following HEC-1 models:
     - Glendale/Peoria ADMPU, May 2001
     - Glendale/Peoria ADMP Northwest Region Update, May 2007
The source of data is identified on each individual storage routing card
```

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**********************************************************************

MODELING NOMENCLATURE
SUBBASIN HYDROGRAPH:
   Example: JMRS   - the subbasin upstream of Jomax and Rock Springs Wash

STORM DRAIN DIVERSION:
   Example: DBL59  - flow from subbasin BL59 is diverted to a storm drain

SUBBASIN DIVERSION:
   Example: DWBL59 - flow is diverted west towards Bell and 59th Avenue
   Example: DSGW51 - flow is diverted south towards Greenway and 51st Ave

ROUTE HYDROGRAPH:
   Example: RWBL51 - flow is routed west towards Bell and 51st Avenue
   Example: RSGW59 - flow is routed south towards Greenway and 59th Ave

COMBINE HYDROGRAPH:
   Example: CJMRS  - combine flow at Jomax and Rock Springs Wash

STREET NAME ABBREVIATIONS
   Jomax Road                JM
   Happy Valley Road         HV
   Pinnacle Peak Road        PP
   Deer Valley Road          DV
   Loop 101                  LO
   Rose Garden Lane          RG
   Beardsley Road            BY
   Union Hills Drive         UH
   Bell Road                 BL
   Greenway Road             GW
   Thunderbird Road          TB
   Cactus Road               CT
   Peoria Avenue             PE
   Olive Avenue              OL
   Northern Avenue           NO
   Glendale Avenue           GL
   Bethany Home Road         BH
   Camelback Road            CB
   Indian School Road        IS
   Thomas Road               TM
   McDowell Road             MD
   Interstate 10             IN
   Grand Avenue              GR
   Glen Harbor Boulevard     GH
   Rock Springs Wash         RS
   Lake Pleasant Parkway     LP
   Westwing Parkway          WW
   Black Rock Boulevard      BR
   Yearling Road             YL
   Calle Lejos               CL
   Williams Road             WL
   Del Webb Boulevard        DW
   Talisman Road             TL
   Meade Drive               ME
   Burns Drive               BN
   Royal Oak Road            RO
   Acoma Drive               AM
   Athens Street             AT
   Agua Fria River           AF
   New River                 NR
   Skunk Creek               SK
```

ACDC AC

PREFIXES FOR MODELING OPERATIONS
RW Routing flow in the west direction
RS Routing flow in the south direction
RP Routing storm drain pipe flow
C Combination point
CI Combination point at an intersection
CP Combination point for storm drain pipe flow
SR Storage for detention/retention basins
DW Divert flow to the west
DE Divert flow to the east
DS Divert flow to the south
DN Divert flow to the north
ER Divert flow for existing 100-yr 2-hr retention
X Existing retention diversion does not return to model
DR Divert retrieval from surface flow
DI Divert retrieval from intersection flow
D Divert surface flow (remains after storm drain divert)
DP Divert flow to a storm drain pipe
PR Divert retrieval from a storm drain pipe

****

119 IO OUTPUT CONTROL VARIABLES
IPRNT 5 PRINT CONTROL
IPLOT 0 PLOT CONTROL
QSCAL 0. HYDROGRAPH PLOT SCALE

IT HYDROGRAPH TIME DATA
NMIN 5 MINUTES IN COMPUTATION INTERVAL
IDATE 1 0 STARTING DATE
ITIME 0000 STARTING TIME
NQ 1000 NUMBER OF HYDROGRAPH ORDINATES
NDDATE 4 0 ENDING DATE
NDTIME 1115 ENDING TIME
ICENT 19 CENTURY MARK

COMPUTATION INTERVAL .08 HOURS
TOTAL TIME BASE 83.25 HOURS

ENGLISH UNITS
DRAINAGE AREA SQUARE MILES
PRECIPITATION DEPTH INCHES
LENGTH, ELEVATION FEET
FLOW CUBIC FEET PER SECOND
STORAGE VOLUME ACRE-FEET
SURFACE AREA ACRES
TEMPERATURE DEGREES FAHRENHEIT

120 JD INDEX STORM NO. 1
STRM 3.61 PRECIPITATION DEPTH
TRDA .00 TRANSPOSITION DRAINAGE AREA

121 PI PRECIPITATION PATTERN

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131 JD INDEX STORM NO. 2
STRM 3.43 PRECIPITATION DEPTH
TRDA 10.00 TRANSPOSITION DRAINAGE AREA

0 PI PRECIPITATION PATTERN

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132 JD INDEX STORM NO. 3
STRM 3.24 PRECIPITATION DEPTH
TRDA 30.00 TRANSPOSITION DRAINAGE AREA

0 PI PRECIPITATION PATTERN

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133 JD INDEX STORM NO. 4
STRM 3.14 PRECIPITATION DEPTH
TRDA 60.00 TRANSPOSITION DRAINAGE AREA

0 PI PRECIPITATION PATTERN

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134 JD INDEX STORM NO. 5
STRM 3.07 PRECIPITATION DEPTH
TRDA 90.00 TRANSPOSITION DRAINAGE AREA

0 PI PRECIPITATION PATTERN

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135 JD INDEX STORM NO. 6
STRM 3.03 PRECIPITATION DEPTH
TRDA 120.00 TRANSPOSITION DRAINAGE AREA

0 PI PRECIPITATION PATTERN

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*** FDKRUT WARNING TIME STEP CALCULATION FAILED TO CONVERGE. STABILITY PROBLEMS MAY RESULT

*** Multiple FDKRUT Warnings deleted from model for brevity and in consideration of the environment when printing ***

1

RUNOFF SUMMARY
FLOW IN CUBIC FEET PER SECOND
TIME IN HOURS, AREA IN SQUARE MILES

	OPERATION	STATION	PEAK FLOW	TIME OF PEAK	AVERAGE FLOW FOR MAXIMUM PERIOD 6-HOUR	24-HOUR	72-HOUR	BASIN AREA	MAXIMUM STAGE	TIME OF MAX STAGE
+										
+	HYDROGRAPH AT	UH35	941.	12.42	263.	82.	27.	1.14		
	DIVERSION TO									

	OPERATION	STATION	PEAK FLOW	TIME OF PEAK	6-HOUR	24-HOUR	72-HOUR	BASIN AREA
+		XUH35	754.	12.25	80.	24.	8.	1.14
+	HYDROGRAPH AT	ERUH35	941.	12.42	212.	58.	19.	1.14
+	DIVERSION TO	DPUH35	875.	12.42	210.	58.	19.	1.14
+	HYDROGRAPH AT	DUH35	66.	12.42	2.	1.	0.	1.14
+	DIVERSION TO	DWUH43	33.	12.42	1.	0.	0.	1.14
+	HYDROGRAPH AT	DSBL35	32.	12.42	1.	0.	0.	1.14
+	ROUTED TO	RSBL35	8.	13.25	1.	0.	0.	1.14
+	HYDROGRAPH AT	BL35	783.	12.50	227.	70.	23.	1.14
+	DIVERSION TO	XBL35	20.	7.42	15.	4.	1.	1.14
+	HYDROGRAPH AT	ERBL35	783.	12.50	227.	66.	22.	1.14
+	2 COMBINED AT	CBL35	782.	12.50	228.	66.	22.	1.70
+	DIVERSION TO	DP35BL	158.	11.92	104.	35.	12.	1.70
+	HYDROGRAPH AT	D35BL	624.	12.50	124.	31.	10.	1.70
+	DIVERSION TO	DWBL43	412.	12.50	82.	20.	7.	1.70
+	HYDROGRAPH AT	DSGW35	212.	12.50	42.	11.	4.	1.70
+	ROUTED TO	RSGW35	191.	12.92	42.	11.	4.	1.70
+	HYDROGRAPH AT	GW35	606.	12.58	196.	61.	21.	1.01
+	2 COMBINED AT	CGW35	757.	12.83	238.	72.	24.	1.58
+	HYDROGRAPH AT	PR35BL	158.	11.92	104.	35.	12.	1.70
+	ROUTED TO	RP35GW	158.	12.08	104.	35.	12.	1.70
+	2 COMBINED AT	CPGW35	915.	12.83	341.	107.	36.	1.58
+	DIVERSION TO	DP35GW	318.	12.00	212.	74.	25.	1.58
+	HYDROGRAPH AT	D35GW	597.	12.83	129.	32.	11.	1.58
+	DIVERSION TO	DWGW43	346.	12.83	75.	19.	6.	1.58
+	HYDROGRAPH AT	DSTB35	251.	12.83	54.	14.	5.	1.58
+	ROUTED TO	RSTB35	223.	13.17	54.	14.	5.	1.58
+	HYDROGRAPH AT	TB35	551.	12.67	190.	57.	19.	.98
+	2 COMBINED AT	CTB35	713.	13.00	244.	71.	24.	1.65
+	HYDROGRAPH AT	PR35GW	318.	12.00	212.	74.	25.	1.58
+	ROUTED TO	RP35TB	318.	12.17	212.	74.	25.	1.58
+	2 COMBINED AT	CPTB35	1031.	13.00	455.	145.	48.	1.65
	DIVERSION TO							

+		DP35TB	554.	12.17	353.	119.	40.	1.65
+	HYDROGRAPH AT	D35TB	477.	13.00	102.	26.	9.	1.65
+	DIVERSION TO	DWTB43	248.	13.00	53.	13.	4.	1.65
+	HYDROGRAPH AT	DSCT35	229.	13.00	49.	12.	4.	1.65
+	ROUTED TO	RSCT35	214.	13.42	49.	12.	4.	1.65
+	HYDROGRAPH AT	CT35	557.	12.58	180.	57.	19.	.98
+	2 COMBINED AT	CCT35	608.	13.17	228.	69.	23.	1.76
+	HYDROGRAPH AT	PR35TB	554.	12.17	353.	119.	40.	1.65
+	ROUTED TO	RP35CT	554.	12.33	353.	119.	40.	1.65
+	2 COMBINED AT	CPCT35	1162.	13.17	581.	189.	63.	1.76
+	DIVERSION TO	DP35CT	554.	12.08	393.	142.	48.	1.76
+	HYDROGRAPH AT	D35CT	608.	13.17	188.	47.	16.	1.76
+	DIVERSION TO	DWCT43	353.	13.17	109.	27.	9.	1.76
+	HYDROGRAPH AT	DSPE35	256.	13.17	79.	20.	7.	1.76
+	ROUTED TO	RSPE35	248.	13.50	79.	20.	7.	1.76
+	HYDROGRAPH AT	PE35	453.	12.67	165.	52.	17.	.98
+	2 COMBINED AT	CPE35	640.	13.00	243.	72.	24.	1.71
+	HYDROGRAPH AT	PR35CT	554.	12.08	393.	142.	48.	1.76
+	ROUTED TO	RP35PE	554.	12.25	393.	142.	48.	1.76
+	2 COMBINED AT	CPPE35	1194.	13.00	637.	213.	72.	1.71
+	DIVERSION TO	DP35PE	466.	12.00	379.	149.	50.	1.71
+	HYDROGRAPH AT	D35PE	728.	13.00	258.	64.	21.	1.71
+	DIVERSION TO	DWPE43	510.	13.00	180.	45.	15.	1.71
+	HYDROGRAPH AT	DSAC35	218.	13.00	77.	19.	6.	1.71
+	ROUTED TO	RSAC35	216.	13.25	77.	19.	6.	1.71
+	HYDROGRAPH AT	AC35	635.	12.33	163.	54.	18.	.75
+	2 COMBINED AT	CAC01	690.	12.50	239.	73.	25.	1.27
+	HYDROGRAPH AT	PR35PE	466.	12.00	379.	149.	50.	1.71
+	ROUTED TO	RP35AC	466.	12.08	379.	149.	50.	1.71
+	2 COMBINED AT	CPAC01	1156.	12.50	617.	222.	75.	1.27
+	HYDROGRAPH AT	DRUH43	33.	12.42	1.	0.	0.	1.14
	ROUTED TO							

+		RWUH43	9.	13.17	1.	0.	0.	1.14
+	HYDROGRAPH AT	UH43	584.	12.58	166.	46.	15.	1.02
+	DIVERSION TO	XUH43	559.	12.50	50.	14.	5.	1.02
+	HYDROGRAPH AT	ERUH43	578.	12.67	125.	33.	11.	1.02
+	2 COMBINED AT	CUH43	578.	12.67	126.	33.	11.	1.60
+	HYDROGRAPH AT	PRUH35	875.	12.42	210.	58.	19.	1.14
+	ROUTED TO	RPUH43	875.	12.58	210.	58.	19.	1.14
+	2 COMBINED AT	CPUH43	1448.	12.67	335.	90.	30.	1.60
+	DIVERSION TO	DPUH43	1268.	12.58	328.	89.	30.	1.60
+	HYDROGRAPH AT	DUH43	180.	12.67	7.	2.	1.	1.60
+	DIVERSION TO	DWUH51	76.	12.67	3.	1.	0.	1.60
+	HYDROGRAPH AT	DSBL43	104.	12.67	4.	1.	0.	1.60
+	ROUTED TO	RSBL43	24.	13.33	4.	1.	0.	1.60
+	HYDROGRAPH AT	DRBL43	412.	12.50	82.	20.	7.	1.70
+	ROUTED TO	RWBL43	359.	12.92	82.	20.	7.	1.70
+	HYDROGRAPH AT	BL43	660.	12.58	205.	61.	20.	1.05
+	3 COMBINED AT	CBL43	967.	12.83	289.	82.	27.	3.10
+	DIVERSION TO	DP43BL	117.	11.92	86.	31.	10.	3.10
+	HYDROGRAPH AT	D43BL	850.	12.83	203.	51.	17.	3.10
+	DIVERSION TO	DWBL51	391.	12.83	93.	23.	8.	3.10
+	HYDROGRAPH AT	DSGW43	459.	12.83	110.	27.	9.	3.10
+	ROUTED TO	RSGW43	439.	13.17	110.	27.	9.	3.10
+	HYDROGRAPH AT	DRGW43	346.	12.83	75.	19.	6.	1.58
+	ROUTED TO	RWGW43	308.	13.17	75.	19.	6.	1.58
+	HYDROGRAPH AT	GW43	617.	12.50	178.	54.	18.	.99
+	DIVERSION TO	XGW43	14.	7.08	10.	3.	1.	.99
+	HYDROGRAPH AT	ERGW43	617.	12.50	178.	51.	17.	.99
+	3 COMBINED AT	CGW43	1196.	13.08	360.	97.	32.	3.57
+	HYDROGRAPH AT	PR43BL	117.	11.92	86.	31.	10.	3.10
+	ROUTED TO	RP43GW	117.	12.08	86.	31.	10.	3.10
+	2 COMBINED AT	CPGW43	1313.	13.08	446.	128.	43.	3.57
	DIVERSION TO							

+	DP43GW	155.	11.83	129.	49.	16.	3.57
+ HYDROGRAPH AT	D43GW	1158.	13.08	316.	79.	26.	3.57
+ DIVERSION TO	DWGW51	614.	13.08	168.	42.	14.	3.57
+ HYDROGRAPH AT	DSTB43	544.	13.08	149.	37.	12.	3.57
+ ROUTED TO	RSTB43	517.	13.33	149.	37.	12.	3.57
+ HYDROGRAPH AT	DRTB43	248.	13.00	53.	13.	4.	1.65
+ ROUTED TO	RWTB43	232.	13.42	53.	13.	4.	1.65
+ HYDROGRAPH AT	TB43	571.	12.58	176.	51.	17.	1.00
+ 3 COMBINED AT	CTB43	1154.	13.25	375.	101.	34.	3.55
+ HYDROGRAPH AT	PR43GW	155.	11.83	129.	49.	16.	3.57
+ ROUTED TO	RP43TB	155.	12.00	129.	49.	16.	3.57
+ 2 COMBINED AT	CPTB43	1309.	13.25	504.	149.	50.	3.55
+ DIVERSION TO	DP43TB	312.	12.08	243.	84.	28.	3.55
+ HYDROGRAPH AT	D43TB	997.	13.25	261.	65.	22.	3.55
+ DIVERSION TO	DWTB51	628.	13.25	165.	41.	14.	3.55
+ HYDROGRAPH AT	DSCT43	369.	13.25	97.	24.	8.	3.55
+ ROUTED TO	RSCT43	354.	13.50	97.	24.	8.	3.55
+ HYDROGRAPH AT	DRCT43	353.	13.17	109.	27.	9.	1.76
+ ROUTED TO	RWCT43	343.	13.42	109.	27.	9.	1.76
+ HYDROGRAPH AT	CT43	633.	12.58	199.	60.	20.	1.00
+ DIVERSION TO	XCT43	628.	12.50	74.	21.	7.	1.00
+ HYDROGRAPH AT	ERCT43	614.	12.75	143.	39.	13.	1.00
+ 3 COMBINED AT	CCT43	1093.	13.25	347.	90.	30.	3.35
+ HYDROGRAPH AT	PR43TB	312.	12.08	243.	84.	28.	3.55
+ ROUTED TO	RP43CT	312.	12.25	243.	84.	28.	3.55
+ 2 COMBINED AT	CPCT43	1405.	13.25	586.	174.	58.	3.35
+ DIVERSION TO	DP43CT	380.	12.58	295.	101.	34.	3.35
+ HYDROGRAPH AT	D43CT	1025.	13.25	291.	73.	24.	3.35
+ DIVERSION TO	DWCT51	646.	13.25	184.	46.	15.	3.35
+ HYDROGRAPH AT	DSPE43	379.	13.25	108.	27.	9.	3.35
+ ROUTED TO	RSPE43	370.	13.58	108.	27.	9.	3.35
HYDROGRAPH AT							

+	DRPE43	510.	13.00	180.	45.	15.	1.71
+ ROUTED TO	RWPE43	498.	13.42	180.	45.	15.	1.71
+ HYDROGRAPH AT	PE43	503.	12.58	163.	49.	17.	1.00
+ 3 COMBINED AT	CPE43	1185.	13.33	448.	121.	40.	3.42
+ HYDROGRAPH AT	PR43CT	380.	12.58	295.	101.	34.	3.35
+ ROUTED TO	RP43PE	380.	12.75	295.	101.	34.	3.35
+ 2 COMBINED AT	CPPE43	1565.	13.33	743.	222.	74.	3.42
+ DIVERSION TO	DP43PE	520.	12.17	416.	140.	47.	3.42
+ HYDROGRAPH AT	D43PE	1045.	13.33	327.	82.	27.	3.42
+ DIVERSION TO	DWAC51	397.	13.33	124.	31.	10.	3.42
+ HYDROGRAPH AT	DSAC43	648.	13.33	203.	51.	17.	3.42
+ HYDROGRAPH AT	AC43	144.	12.67	57.	18.	6.	.36
+ 3 COMBINED AT	CAC02	1693.	13.25	873.	290.	97.	3.75
+ HYDROGRAPH AT	PR43PE	520.	12.17	416.	140.	47.	3.42
+ 2 COMBINED AT	CPAC02	2213.	13.25	1287.	430.	144.	3.75
+ HYDROGRAPH AT	DRUH51	76.	12.67	3.	1.	0.	1.60
+ ROUTED TO	RWUH51	19.	13.42	3.	1.	0.	1.60
+ HYDROGRAPH AT	UH51	487.	12.58	159.	50.	17.	.99
+ DIVERSION TO	XUH51	487.	12.58	88.	25.	8.	.99
+ HYDROGRAPH AT	ERUH51	390.	13.17	89.	25.	8.	.99
+ 2 COMBINED AT	CUH51	403.	13.17	92.	26.	9.	1.66
+ DIVERSION TO	DWUHSK	246.	13.17	56.	16.	5.	1.66
+ HYDROGRAPH AT	DSBL51	157.	13.17	36.	10.	3.	1.66
+ HYDROGRAPH AT	PRUH43	1268.	12.58	328.	89.	30.	1.60
+ ROUTED TO	RPUH51	1268.	12.75	327.	89.	30.	1.60
+ 2 COMBINED AT	CPUH51	1291.	13.08	362.	99.	33.	1.66
+ DIVERSION TO	DPUH51	1291.	13.08	362.	99.	33.	1.66
+ HYDROGRAPH AT	DUH51	0.	.00	0.	0.	0.	1.66
+ ROUTED TO	RSBL51	0.	.00	0.	0.	0.	1.66
+ HYDROGRAPH AT	DRBL51	391.	12.83	93.	23.	8.	3.10
+ ROUTED TO	RWBL51	380.	13.08	93.	23.	8.	3.10
HYDROGRAPH AT							

+	BL51	624.	12.50	180.	54.	18.	1.04
+ DIVERSION TO	XBL51	416.	12.25	38.	12.	4.	1.04
+ HYDROGRAPH AT	ERBL51	624.	12.50	158.	42.	14.	1.04
+ 3 COMBINED AT	CBL51	898.	12.92	250.	65.	22.	3.12
+ DIVERSION TO	DP51BL	38.	12.33	32.	11.	4.	3.12
+ HYDROGRAPH AT	D51BL	860.	12.92	218.	55.	18.	3.12
+ DIVERSION TO	DWBL59	447.	12.92	113.	28.	9.	3.12
+ HYDROGRAPH AT	DSGW51	413.	12.92	105.	26.	9.	3.12
+ ROUTED TO	RSGW51	388.	13.17	105.	26.	9.	3.12
+ HYDROGRAPH AT	DRGW51	614.	13.08	168.	42.	14.	3.57
+ ROUTED TO	RWGW51	590.	13.25	168.	42.	14.	3.57
+ HYDROGRAPH AT	GW51	504.	12.58	146.	42.	14.	.96
+ DIVERSION TO	XGW51	5.	4.08	3.	1.	0.	.96
+ HYDROGRAPH AT	ERGW51	504.	12.58	146.	41.	14.	.96
+ 3 COMBINED AT	CGW51	1335.	13.17	415.	109.	36.	4.34
+ HYDROGRAPH AT	PR51BL	38.	12.33	32.	11.	4.	3.12
+ ROUTED TO	RP51GW	38.	12.58	31.	11.	4.	3.12
+ 2 COMBINED AT	CPGW51	1373.	13.17	444.	120.	40.	4.34
+ DIVERSION TO	DP51GW	150.	12.08	120.	39.	13.	4.34
+ HYDROGRAPH AT	D51GW	1223.	13.17	324.	81.	27.	4.34
+ DIVERSION TO	DWGW59	795.	13.17	211.	53.	18.	4.34
+ HYDROGRAPH AT	DSTB51	428.	13.17	113.	28.	9.	4.34
+ ROUTED TO	RSTB51	410.	13.42	113.	28.	9.	4.34
+ HYDROGRAPH AT	DRTB51	628.	13.25	165.	41.	14.	3.55
+ ROUTED TO	RWTB51	598.	13.50	165.	41.	14.	3.55
+ HYDROGRAPH AT	TB51	528.	12.58	155.	44.	15.	.99
+ 3 COMBINED AT	CTB51	1317.	13.33	430.	113.	38.	4.70
+ HYDROGRAPH AT	PR51GW	150.	12.08	120.	39.	13.	4.34
+ ROUTED TO	RP51TB	150.	12.25	120.	39.	13.	4.34
+ 2 COMBINED AT	CPTB51	1467.	13.33	549.	152.	51.	4.70
+ DIVERSION TO	DP51TB	244.	12.08	198.	64.	21.	4.70
HYDROGRAPH AT							

+	D51TB	1223.	13.33	352.	88.	29.	4.70
+ DIVERSION TO	DWTB59	746.	13.33	214.	54.	18.	4.70
+ HYDROGRAPH AT	DSCT51	477.	13.33	137.	34.	11.	4.70
+ ROUTED TO	RSCT51	462.	13.67	137.	34.	11.	4.70
+ HYDROGRAPH AT	DRCT51	646.	13.25	184.	46.	15.	3.35
+ ROUTED TO	RWCT51	637.	13.50	184.	46.	15.	3.35
+ HYDROGRAPH AT	CT51	616.	12.50	169.	51.	17.	.99
+ DIVERSION TO	XCT51	545.	12.33	52.	15.	5.	.99
+ HYDROGRAPH AT	ERCT51	616.	12.50	132.	36.	12.	.99
+ 3 COMBINED AT	CCT51	1359.	13.42	450.	115.	38.	4.94
+ HYDROGRAPH AT	PR51TB	244.	12.08	198.	64.	21.	4.70
+ ROUTED TO	RP51CT	244.	12.25	198.	64.	21.	4.70
+ 2 COMBINED AT	CPCT51	1603.	13.42	646.	179.	60.	4.94
+ DIVERSION TO	DP51CT	244.	12.25	209.	70.	23.	4.94
+ HYDROGRAPH AT	D51CT	1359.	13.42	438.	109.	36.	4.94
+ DIVERSION TO	DWAC59	448.	13.42	144.	36.	12.	4.94
+ HYDROGRAPH AT	DSAC51	911.	13.42	293.	73.	24.	4.94
+ HYDROGRAPH AT	DRAC51	397.	13.33	124.	31.	10.	3.42
+ HYDROGRAPH AT	AC51	243.	12.83	110.	34.	11.	.58
+ 4 COMBINED AT	CAC03	3697.	13.33	1805.	566.	189.	8.95
+ HYDROGRAPH AT	PR51CT	244.	12.25	209.	70.	23.	4.94
+ 2 COMBINED AT	CPAC03	3941.	13.33	2011.	635.	213.	8.95
+ HYDROGRAPH AT	DRBL59	447.	12.92	113.	28.	9.	3.12
+ ROUTED TO	RWBL59	428.	13.17	113.	28.	9.	3.12
+ HYDROGRAPH AT	BL59	691.	12.50	199.	61.	20.	1.08
+ DIVERSION TO	XBL59	691.	12.50	134.	37.	12.	1.08
+ HYDROGRAPH AT	ERBL59	440.	13.25	85.	24.	8.	1.08
+ 2 COMBINED AT	CBL59	863.	13.25	196.	52.	17.	2.71
+ DIVERSION TO	DP59BL	108.	12.75	72.	22.	7.	2.71
+ HYDROGRAPH AT	D59BL	755.	13.25	124.	31.	10.	2.71
+ DIVERSION TO	DWBL67	234.	13.25	38.	10.	3.	2.71
HYDROGRAPH AT							

+		DSGW59	521.	13.25	85.	21.	7.	2.71
+	ROUTED TO	RSGW59	456.	13.58	85.	21.	7.	2.71
+	HYDROGRAPH AT	DRGW59	795.	13.17	211.	53.	18.	4.34
+	ROUTED TO	RWGW59	756.	13.42	210.	53.	18.	4.34
+	HYDROGRAPH AT	GW59	592.	12.58	183.	56.	19.	.94
+	DIVERSION TO	XGW59	563.	12.42	61.	18.	6.	.94
+	HYDROGRAPH AT	ERGW59	592.	12.58	140.	38.	13.	.94
+	3 COMBINED AT	CGW59	1474.	13.50	432.	111.	37.	5.64
+	HYDROGRAPH AT	PR59BL	108.	12.75	72.	22.	7.	2.71
+	ROUTED TO	RP59GW	108.	12.92	72.	22.	7.	2.71
+	2 COMBINED AT	CPGW59	1582.	13.50	503.	133.	44.	5.64
+	DIVERSION TO	DP59GW	273.	12.58	186.	53.	18.	5.64
+	HYDROGRAPH AT	D59GW	1309.	13.50	317.	79.	26.	5.64
+	DIVERSION TO	DWGW67	589.	13.50	143.	36.	12.	5.64
+	HYDROGRAPH AT	DSTB59	720.	13.50	174.	44.	15.	5.64
+	ROUTED TO	RSTB59	674.	13.83	174.	44.	15.	5.64
+	HYDROGRAPH AT	DRTB59	746.	13.33	214.	54.	18.	4.70
+	ROUTED TO	RWTB59	728.	13.58	214.	54.	18.	4.70
+	HYDROGRAPH AT	TB59	573.	12.58	170.	52.	17.	1.00
+	3 COMBINED AT	CTB59	1615.	13.67	554.	148.	49.	6.96
+	HYDROGRAPH AT	PR59GW	273.	12.58	186.	53.	18.	5.64
+	ROUTED TO	RP59AM	273.	12.67	186.	53.	18.	5.64
+	ROUTED TO	SRAM59	274.	13.75	184.	53.	18.	5.64
+	ROUTED TO	RP59TB	274.	13.83	184.	53.	18.	5.64
+	2 COMBINED AT	CPTB59	1841.	13.75	729.	201.	67.	6.96
+	DIVERSION TO	DPTB59	578.	12.50	425.	125.	42.	6.96
+	HYDROGRAPH AT	DTB59	1263.	13.75	304.	76.	25.	6.96
+	DIVERSION TO	DWAC67	518.	13.75	125.	31.	10.	6.96
+	HYDROGRAPH AT	DSAC59	745.	13.75	179.	45.	15.	6.96
+	HYDROGRAPH AT	DRAC59	448.	13.42	144.	36.	12.	4.94
+	HYDROGRAPH AT	AC59	347.	12.75	144.	44.	15.	.74
	DIVERSION TO							

+		XAC59	347.	12.75	105.	28.	9.	.74
+	HYDROGRAPH AT	ERAC59	182.	14.17	56.	16.	5.	.74
+	4 COMBINED AT	CAC04	4841.	13.42	2307.	710.	238.	15.39
+	HYDROGRAPH AT	PRTB59	578.	12.50	425.	125.	42.	6.96
+	2 COMBINED AT	CPAC04	5419.	13.42	2724.	834.	279.	15.39
+	HYDROGRAPH AT	DRBL67	234.	13.25	38.	10.	3.	2.71
+	DIVERSION TO	DWSK67	173.	13.25	28.	7.	2.	2.71
+	HYDROGRAPH AT	DBL67	61.	13.25	10.	2.	1.	2.71
+	ROUTED TO	RWBL67	48.	13.83	10.	2.	1.	2.71
+	HYDROGRAPH AT	BL67	155.	12.42	44.	14.	5.	.23
+	DIVERSION TO	XBL67	155.	12.42	23.	7.	2.	.23
+	HYDROGRAPH AT	ERBL67	122.	12.83	26.	7.	2.	.23
+	2 COMBINED AT	CBL67	122.	12.83	36.	10.	3.	.46
+	DIVERSION TO	DP67BL	32.	12.75	19.	6.	2.	.46
+	HYDROGRAPH AT	D67BL	90.	12.83	17.	4.	1.	.46
+	DIVERSION TO	DWBL75	55.	12.83	10.	3.	1.	.46
+	HYDROGRAPH AT	DSGW67	35.	12.83	7.	2.	1.	.46
+	ROUTED TO	RSGW67	21.	14.17	7.	2.	1.	.46
+	HYDROGRAPH AT	DRGW67	589.	13.50	143.	36.	12.	5.64
+	ROUTED TO	RWGW67	551.	13.83	143.	36.	12.	5.64
+	HYDROGRAPH AT	GW67	589.	12.50	179.	53.	18.	.89
+	DIVERSION TO	XGW67	589.	12.50	88.	24.	8.	.89
+	HYDROGRAPH AT	ERGW67	519.	12.92	106.	29.	10.	.89
+	3 COMBINED AT	CGW67	811.	13.75	254.	66.	22.	3.63
+	HYDROGRAPH AT	PR67BL	32.	12.75	19.	6.	2.	.46
+	ROUTED TO	RP67GW	32.	13.08	19.	6.	2.	.46
+	2 COMBINED AT	CPGW67	843.	13.75	273.	72.	24.	3.63
+	DIVERSION TO	DP67GW	608.	13.08	243.	64.	21.	3.63
+	HYDROGRAPH AT	D67GW	235.	13.75	30.	7.	2.	3.63
+	DIVERSION TO	DWAC75	198.	13.75	25.	6.	2.	3.63
+	HYDROGRAPH AT	DSAC67	38.	13.75	5.	1.	0.	3.63
	ROUTED TO							

+		RSAC67	32.	13.92	5.	1.	0.	3.63
+	HYDROGRAPH AT	DRAC67	518.	13.75	125.	31.	10.	6.96
+	ROUTED TO	RWAC67	516.	13.83	125.	31.	10.	6.96
+	HYDROGRAPH AT	AC67	341.	12.75	132.	39.	13.	.70
+	4 COMBINED AT	CAC05	5968.	13.50	2920.	887.	297.	19.52
+	HYDROGRAPH AT	PR67GW	608.	13.08	243.	64.	21.	3.63
+	ROUTED TO	RP67AC	608.	13.17	243.	64.	21.	3.63
+	2 COMBINED AT	CPAC05	6575.	13.50	3146.	947.	317.	19.55
+	HYDROGRAPH AT	DRAC75	198.	13.75	25.	6.	2.	3.63
+	HYDROGRAPH AT	AC75	393.	12.67	133.	40.	13.	.84
+	DIVERSION TO	XAC75	99.	12.00	17.	5.	2.	.84
+	HYDROGRAPH AT	ERAC75	393.	12.67	128.	34.	11.	.84
+	3 COMBINED AT	CAC06	6804.	13.42	3235.	970.	325.	23.43
+	HYDROGRAPH AT	HV55	1404.	12.42	301.	91.	30.	2.05
+	DIVERSION TO	XHV55	1404.	12.42	174.	48.	16.	2.05
+	HYDROGRAPH AT	ERHV55	1080.	12.75	156.	44.	15.	2.05
+	ROUTED TO	RCL57	892.	13.08	154.	44.	15.	2.05
+	HYDROGRAPH AT	CL57	579.	12.33	108.	32.	11.	.75
+	DIVERSION TO	XCL57	579.	12.33	77.	21.	7.	.75
+	HYDROGRAPH AT	ERCL57	285.	12.83	40.	12.	4.	.75
+	2 COMBINED AT	CCL57	1111.	13.00	193.	55.	18.	2.80
+	ROUTED TO	RWL59	938.	13.50	190.	55.	18.	2.80
+	HYDROGRAPH AT	WL59	281.	12.50	77.	23.	8.	.56
+	DIVERSION TO	XWL59	219.	12.33	19.	6.	2.	.56
+	HYDROGRAPH AT	ERWL59	281.	12.50	64.	17.	6.	.56
+	2 COMBINED AT	CWL59	1060.	13.50	249.	71.	24.	3.36
+	HYDROGRAPH AT	DV56	334.	12.33	48.	15.	5.	.29
+	2 COMBINED AT	CDV56	1088.	13.42	289.	86.	29.	3.65
+	ROUTED TO	SRDV56	929.	13.67	285.	86.	29.	3.65
+	HYDROGRAPH AT	LO51	674.	12.50	195.	62.	21.	1.13
+	2 COMBINED AT	CLO51	1192.	13.67	470.	146.	49.	4.78
	DIVERSION TO							

+		DP51LO	38.	9.92	38.	32.	11.	4.78
+	HYDROGRAPH AT	D51LO	1154.	13.67	432.	114.	38.	4.78
+	ROUTED TO	SRLO51	378.	14.75	280.	111.	38.	4.78
+	ROUTED TO	RUHSKA	378.	15.00	279.	111.	38.	4.78
+	HYDROGRAPH AT	DRUHSK	246.	13.17	56.	16.	5.	1.66
+	DIVERSION TO	DP51SK	24.	13.08	19.	6.	2.	1.66
+	HYDROGRAPH AT	D51SK	222.	13.17	37.	9.	3.	1.66
+	ROUTED TO	RUHSKB	174.	13.75	37.	9.	3.	1.66
+	HYDROGRAPH AT	UHSK	579.	12.42	140.	41.	14.	.93
+	DIVERSION TO	XUHSK	262.	12.08	25.	8.	3.	.93
+	HYDROGRAPH AT	ERUHSK	579.	12.42	127.	34.	11.	.93
+	3 COMBINED AT	CSK01	578.	12.42	406.	153.	52.	6.73
+	DIVERSION TO	DPUHSK	10.	12.17	10.	10.	4.	6.73
+	HYDROGRAPH AT	DUHSK	568.	12.42	396.	143.	48.	6.73
+	HYDROGRAPH AT	DRSK67	173.	13.25	28.	7.	2.	2.71
+	ROUTED TO	RSK67	136.	13.83	28.	7.	2.	2.71
+	HYDROGRAPH AT	SK67	649.	12.42	142.	42.	14.	.94
+	DIVERSION TO	XSK67	541.	12.25	44.	13.	4.	.94
+	HYDROGRAPH AT	ERSK67	649.	12.42	111.	30.	10.	.94
+	3 COMBINED AT	CSK02	1207.	12.42	532.	179.	60.	8.30
+	HYDROGRAPH AT	PRUHSK	10.	12.17	10.	10.	4.	6.73
+	ROUTED TO	RPSK67	10.	12.58	10.	10.	4.	6.73
+	2 COMBINED AT	CPSK02	1211.	12.42	541.	189.	64.	8.30
+	HYDROGRAPH AT	UH67	522.	12.42	139.	43.	14.	.78
+	DIVERSION TO	XUH67	522.	12.42	122.	33.	11.	.78
+	HYDROGRAPH AT	ERUH67	129.	13.92	32.	10.	3.	.78
+	ROUTED TO	RUH75	98.	14.75	31.	10.	3.	.78
+	HYDROGRAPH AT	UH75	409.	12.75	145.	43.	14.	.81
+	DIVERSION TO	XUH75	409.	12.75	123.	33.	11.	.81
+	HYDROGRAPH AT	ERUH75	131.	14.50	34.	10.	3.	.81
+	2 COMBINED AT	CUH75	209.	14.67	64.	20.	7.	1.60
	ROUTED TO							

+		RBL75A	187.	15.17	63.	20.	7.	1.60
+	HYDROGRAPH AT	DRBL75	55.	12.83	10.	3.	1.	.46
+	ROUTED TO	RBL75B	40.	13.25	10.	3.	1.	.46
+	HYDROGRAPH AT	BL75	614.	12.50	165.	50.	17.	1.06
+	DIVERSION TO	XBL75	50.	11.75	19.	7.	2.	1.06
+	HYDROGRAPH AT	ERBL75	614.	12.50	161.	43.	14.	1.06
+	4 COMBINED AT	CSK03	1787.	12.42	740.	249.	84.	11.24
+	HYDROGRAPH AT	UHLO	678.	12.33	134.	40.	13.	.82
+	DIVERSION TO	XUHLO	678.	12.33	125.	34.	11.	.82
+	HYDROGRAPH AT	ERUHLO	88.	13.75	21.	7.	2.	.82
+	ROUTED TO	RBLLO	46.	14.92	20.	7.	2.	.82
+	HYDROGRAPH AT	BLLO	506.	12.42	145.	48.	16.	.76
+	DIVERSION TO	XBLLO	506.	12.42	128.	36.	12.	.76
+	HYDROGRAPH AT	ERBLLO	130.	14.00	37.	12.	4.	.76
+	2 COMBINED AT	CBLLO	133.	14.00	55.	19.	6.	1.59
+	DIVERSION TO	DPBLLO	133.	14.00	55.	19.	6.	1.59
+	HYDROGRAPH AT	DBLLO	5.	14.25	0.	0.	0.	1.59
+	ROUTED TO	RGWLO	2.	14.92	0.	0.	0.	1.59
+	HYDROGRAPH AT	GWLO	861.	12.25	158.	52.	18.	.81
+	DIVERSION TO	XGWLO	861.	12.25	93.	27.	9.	.81
+	HYDROGRAPH AT	ERGWLO	624.	12.50	88.	26.	9.	.81
+	4 COMBINED AT	CSK04	7458.	13.42	3813.	1165.	394.	37.07
+	HYDROGRAPH AT	PRBLLO	133.	14.00	55.	19.	6.	1.59
+	ROUTED TO	RPGWLO	130.	14.08	55.	19.	6.	1.59
+	2 COMBINED AT	CPSK04	7458.	13.42	3833.	1176.	398.	37.07
+	HYDROGRAPH AT	JM63	711.	12.33	120.	35.	12.	.84
+	DIVERSION TO	XJM63	711.	12.33	96.	25.	8.	.84
+	HYDROGRAPH AT	ERJM63	239.	13.00	32.	9.	3.	.84
+	ROUTED TO	RJM67	202.	13.17	32.	9.	3.	.84
+	HYDROGRAPH AT	JM67	294.	12.33	59.	18.	6.	.38
+	DIVERSION TO	XJM67	294.	12.33	37.	10.	3.	.38
+	HYDROGRAPH AT							

+		ERJM67	187.	12.75	29.	8.	3.	.38
+	2 COMBINED AT	CJM67	303.	13.08	60.	17.	6.	1.22
+	ROUTED TO	RHV75	273.	13.25	59.	17.	6.	1.22
+	HYDROGRAPH AT	HV75	628.	12.42	133.	40.	13.	.96
+	DIVERSION TO	XHV75	628.	12.42	130.	35.	12.	.96
+	HYDROGRAPH AT	ERHV75	28.	14.92	13.	5.	2.	.96
+	2 COMBINED AT	CHV75	269.	13.25	68.	22.	7.	2.18
+	HYDROGRAPH AT	JM80	121.	12.25	16.	4.	1.	.16
+	HYDROGRAPH AT	JM76	89.	12.33	15.	4.	1.	.17
+	HYDROGRAPH AT	JMNR	42.	12.75	11.	3.	1.	.15
+	3 COMBINED AT	CNR01	212.	12.25	42.	11.	4.	.48
+	HYDROGRAPH AT	JM75	1091.	12.42	131.	36.	12.	1.11
+	DIVERSION TO	XJM75	18.	11.33	8.	3.	1.	1.11
+	HYDROGRAPH AT	ERJM75	1091.	12.42	129.	33.	11.	1.11
+	HYDROGRAPH AT	HVNR	58.	12.83	16.	4.	1.	.20
+	4 COMBINED AT	CNR02	1292.	12.42	247.	69.	23.	3.98
+	HYDROGRAPH AT	HV67	591.	12.25	105.	34.	12.	.54
+	DIVERSION TO	XHV67	436.	12.08	39.	12.	4.	.54
+	HYDROGRAPH AT	ERHV67	591.	12.25	81.	23.	8.	.54
+	ROUTED TO	RCL67	526.	12.42	80.	23.	8.	.54
+	HYDROGRAPH AT	CL67	138.	12.42	37.	11.	4.	.28
+	DIVERSION TO	XCL67	138.	12.42	31.	8.	3.	.28
+	HYDROGRAPH AT	ERCL67	37.	13.92	9.	3.	1.	.28
+	2 COMBINED AT	CCL67	526.	12.42	88.	25.	8.	.82
+	ROUTED TO	RPP73A	434.	12.67	86.	25.	8.	.82
+	HYDROGRAPH AT	PP67	38.	12.42	10.	3.	1.	.10
+	DIVERSION TO	XPP67	38.	12.42	10.	3.	1.	.10
+	HYDROGRAPH AT	ERPP67	0.	.00	0.	0.	0.	.10
+	DIVERSION TO	DSWL67	0.	.00	0.	0.	0.	.10
+	HYDROGRAPH AT	DWPP73	0.	.00	0.	0.	0.	.10
+	ROUTED TO	RPP73B	0.	.00	0.	0.	0.	.10
+	HYDROGRAPH AT							

+		PP73	341.	12.42	71.	21.	7.	.55
+	DIVERSION TO	XPP73	240.	12.17	18.	5.	2.	.55
+	HYDROGRAPH AT	ERPP73	341.	12.42	58.	15.	5.	.55
+	3 COMBINED AT	CPP73	717.	12.67	143.	40.	13.	1.43
+	DIVERSION TO	DSWL75	294.	12.67	59.	17.	6.	1.43
+	HYDROGRAPH AT	DWPP75	423.	12.67	84.	24.	8.	1.43
+	ROUTED TO	RPPNR	418.	12.67	84.	24.	8.	1.43
+	HYDROGRAPH AT	PP75	288.	12.33	51.	15.	5.	.42
+	DIVERSION TO	XPP75	286.	12.25	23.	6.	2.	.42
+	HYDROGRAPH AT	ERPP75	249.	12.50	32.	9.	3.	.42
+	HYDROGRAPH AT	PPNR	75.	12.83	20.	5.	2.	.24
+	4 COMBINED AT	CNR03	1776.	12.50	378.	106.	35.	5.47
+	HYDROGRAPH AT	DRWL75	294.	12.67	59.	17.	6.	1.43
+	ROUTED TO	RWL75B	281.	12.75	58.	17.	6.	1.43
+	HYDROGRAPH AT	DRWL67	0.	.00	0.	0.	0.	.10
+	ROUTED TO	RWL67	0.	.00	0.	0.	0.	.10
+	HYDROGRAPH AT	WL67	42.	12.42	11.	3.	1.	.10
+	DIVERSION TO	XWL67	42.	12.42	8.	2.	1.	.10
+	HYDROGRAPH AT	ERWL67	15.	13.75	3.	1.	0.	.10
+	2 COMBINED AT	CWL67	15.	13.75	3.	1.	0.	.13
+	ROUTED TO	RWL75A	11.	14.50	3.	1.	0.	.13
+	HYDROGRAPH AT	WL75	323.	12.33	68.	20.	7.	.47
+	DIVERSION TO	XWL75	323.	12.33	33.	9.	3.	.47
+	HYDROGRAPH AT	ERWL75	284.	12.58	41.	11.	4.	.47
+	3 COMBINED AT	CWL75	523.	12.67	101.	28.	9.	1.20
+	HYDROGRAPH AT	WWBR	268.	12.08	33.	9.	3.	.18
+	DIVERSION TO	XWWBR	268.	12.08	23.	6.	2.	.18
+	HYDROGRAPH AT	ERWWBR	137.	12.42	12.	3.	1.	.18
+	ROUTED TO	RWWRS	96.	12.58	11.	3.	1.	.18
+	HYDROGRAPH AT	WWRS	120.	12.25	21.	7.	2.	.14
+	DIVERSION TO	XWWRS	120.	12.25	13.	4.	1.	.14
	HYDROGRAPH AT							

+		ERWWRS	77.	12.58	11.	3.	1.	.14
+	2 COMBINED AT	CWWRS	171.	12.58	22.	6.	2.	.33
+	ROUTED TO	RJMRS	133.	12.83	21.	6.	2.	.33
+	HYDROGRAPH AT	JMRS	430.	12.33	80.	23.	8.	.57
+	DIVERSION TO	XJMRS	430.	12.33	53.	14.	5.	.57
+	HYDROGRAPH AT	ERJMRS	244.	12.83	32.	9.	3.	.57
+	2 COMBINED AT	CJMRS	374.	12.83	53.	15.	5.	.90
+	ROUTED TO	RHVRSB	267.	13.33	52.	15.	5.	.90
+	HYDROGRAPH AT	B3RS	841.	12.17	105.	33.	11.	.64
+	DIVERSION TO	XB3RS	759.	12.08	48.	14.	5.	.64
+	HYDROGRAPH AT	ERB3RS	758.	12.25	68.	19.	6.	.64
+	ROUTED TO	RHVRSA	552.	12.50	66.	19.	6.	.64
+	HYDROGRAPH AT	HVRS	300.	12.75	60.	15.	5.	.63
+	DIVERSION TO	XHVRS	39.	12.17	2.	1.	0.	.63
+	HYDROGRAPH AT	ERHVRS	300.	12.75	59.	15.	5.	.63
+	3 COMBINED AT	CHVRS	715.	12.50	174.	48.	16.	2.16
+	ROUTED TO	RCL77B	697.	12.67	173.	48.	16.	2.16
+	HYDROGRAPH AT	HVB3	36.	12.17	5.	1.	0.	.04
+	ROUTED TO	RCL77A	29.	12.33	5.	1.	0.	.04
+	HYDROGRAPH AT	CL77	245.	12.25	34.	9.	3.	.32
+	DIVERSION TO	XCL77	245.	12.25	24.	6.	2.	.32
+	HYDROGRAPH AT	ERCL77	104.	12.75	11.	3.	1.	.32
+	3 COMBINED AT	CCL77	800.	12.67	186.	52.	17.	2.51
+	ROUTED TO	RPP77	764.	12.83	186.	52.	17.	2.51
+	HYDROGRAPH AT	PP77	110.	12.42	28.	8.	3.	.27
+	DIVERSION TO	XPP77	1.	10.67	1.	0.	0.	.27
+	HYDROGRAPH AT	ERPP77	110.	12.42	28.	7.	2.	.27
+	2 COMBINED AT	CPP77	855.	12.83	211.	59.	20.	2.78
+	ROUTED TO	RWLNR	806.	13.00	211.	59.	20.	2.78
+	HYDROGRAPH AT	WLNR	235.	12.33	45.	12.	4.	.39
+	4 COMBINED AT	CNR04	2557.	12.83	722.	202.	67.	9.84
	HYDROGRAPH AT							

+	DV75	287.	12.50	81.	25.	8.	.50
+ DIVERSION TO	XDV75	287.	12.50	41.	11.	4.	.50
+ HYDROGRAPH AT	ERDV75	247.	12.83	49.	14.	5.	.50
+ DIVERSION TO	DSLO75	63.	12.83	13.	4.	1.	.50
+ HYDROGRAPH AT	DWDVNR	183.	12.83	36.	10.	3.	.50
+ ROUTED TO	RDVNR	162.	13.00	35.	10.	3.	.50
+ HYDROGRAPH AT	DVNR	231.	12.42	62.	19.	6.	.40
+ 3 COMBINED AT	CNR05	2760.	12.83	809.	229.	76.	10.50
+ HYDROGRAPH AT	DV67	758.	12.08	82.	26.	9.	.50
+ ROUTED TO	SRDV67	524.	12.25	82.	26.	9.	.50
+ HYDROGRAPH AT	LO67	983.	12.42	201.	61.	20.	1.22
+ 2 COMBINED AT	CLO67	1470.	12.33	281.	86.	29.	1.72
+ ROUTED TO	SRLO67	407.	13.25	243.	84.	34.	1.72
+ HYDROGRAPH AT	LO75	767.	12.42	165.	50.	17.	.97
+ DIVERSION TO	XLO75	692.	12.33	60.	17.	6.	.97
+ HYDROGRAPH AT	ERLO75	747.	12.42	121.	33.	11.	.97
+ 2 COMBINED AT	CLO75	1011.	12.50	361.	116.	45.	2.69
+ ROUTED TO	SRLO75	628.	13.42	346.	115.	45.	2.69
+ HYDROGRAPH AT	DRLO75	63.	12.83	13.	4.	1.	.50
+ ROUTED TO	RLO75	48.	13.50	13.	4.	1.	.50
+ 2 COMBINED AT	CILO75	672.	13.50	358.	119.	46.	2.94
+ ROUTED TO	RBYNRB	670.	13.50	357.	119.	46.	2.94
+ HYDROGRAPH AT	PP81	185.	12.25	28.	8.	3.	.20
+ DIVERSION TO	XPP81	185.	12.25	25.	6.	2.	.20
+ HYDROGRAPH AT	ERPP81	26.	13.25	4.	1.	0.	.20
+ ROUTED TO	RWL83	19.	13.58	4.	1.	0.	.20
+ HYDROGRAPH AT	WL83	92.	12.42	28.	8.	3.	.13
+ DIVERSION TO	XWL83	90.	12.33	8.	2.	1.	.13
+ HYDROGRAPH AT	ERWL83	91.	12.50	22.	6.	2.	.13
+ 2 COMBINED AT	CWL83	91.	12.50	25.	7.	2.	.32
+ HYDROGRAPH AT	HV87	467.	12.17	44.	14.	5.	.28
ROUTED TO							

+	RPP87	413.	12.25	44.	14.	5.	.28
+ HYDROGRAPH AT	PP87	987.	12.17	111.	31.	10.	.98
+ DIVERSION TO	XPP87	987.	12.17	56.	15.	5.	.98
+ HYDROGRAPH AT	ERPP87	849.	12.33	61.	16.	5.	.98
+ 2 COMBINED AT	CPP87	1189.	12.33	102.	29.	10.	1.27
+ ROUTED TO	SRPP87	226.	12.75	93.	29.	10.	1.27
+ DIVERSION TO	DPPP87	128.	12.75	88.	28.	9.	1.27
+ HYDROGRAPH AT	DPP87	98.	12.75	6.	1.	0.	1.27
+ HYDROGRAPH AT	PRPP87	128.	12.75	88.	28.	9.	1.27
+ ROUTED TO	RP87PP	128.	12.83	88.	28.	9.	1.27
+ HYDROGRAPH AT	PP91	79.	12.42	19.	5.	2.	.16
+ DIVERSION TO	XPP91	79.	12.42	15.	4.	1.	.16
+ HYDROGRAPH AT	ERPP91	28.	13.50	5.	1.	0.	.16
+ DIVERSION TO	DPP91	0.	.00	0.	0.	0.	.16
+ HYDROGRAPH AT	DPPP91	28.	13.50	5.	1.	0.	.16
+ 2 COMBINED AT	CPPP87	144.	13.50	93.	29.	10.	.16
+ ROUTED TO	RPPP83	143.	13.58	93.	29.	10.	.16
+ 2 COMBINED AT	CPPP83	224.	12.83	98.	30.	10.	1.43
+ ROUTED TO	SRPP83	25.	19.33	24.	20.	9.	1.43
+ DIVERSION TO	D83PP	0.	.00	0.	0.	0.	1.43
+ HYDROGRAPH AT	DP83PP	25.	19.33	24.	20.	9.	1.43
+ ROUTED TO	RP83WL	25.	19.50	24.	20.	9.	1.43
+ 2 COMBINED AT	CPWL83	90.	12.50	42.	26.	11.	1.75
+ ROUTED TO	RDV83	87.	12.67	41.	26.	11.	1.75
+ HYDROGRAPH AT	DV83	67.	12.50	25.	7.	2.	.11
+ DIVERSION TO	XDV83	11.	11.67	3.	1.	0.	.11
+ HYDROGRAPH AT	ERDV83	67.	12.50	24.	6.	2.	.11
+ 2 COMBINED AT	CDV83	153.	12.67	64.	33.	13.	.43
+ ROUTED TO	RBYNRA	140.	13.08	63.	33.	13.	.43
+ HYDROGRAPH AT	BYNR	741.	12.42	164.	48.	16.	1.03
+ DIVERSION TO	XBYNR	12.	7.08	8.	2.	1.	1.03
HYDROGRAPH AT							

+		ERBYNR	741.	12.42	164.	46.	15.	1.03
+	4 COMBINED AT	CNR06	3679.	12.83	1315.	405.	145.	14.90
+	HYDROGRAPH AT	DR83PP	0.	.00	0.	0.	0.	1.43
+	ROUTED TO	RDV87	0.	.00	0.	0.	0.	1.43
+	HYDROGRAPH AT	DV87	1064.	12.33	155.	43.	14.	1.00
+	DIVERSION TO	XDV87	13.	10.58	8.	3.	1.	1.00
+	HYDROGRAPH AT	ERDV87	1064.	12.33	154.	40.	13.	1.00
+	2 COMBINED AT	CDV87	1060.	12.33	154.	40.	13.	2.27
+	ROUTED TO	RBY87	919.	12.50	153.	40.	13.	2.27
+	HYDROGRAPH AT	BY87	847.	12.42	184.	55.	18.	.96
+	DIVERSION TO	XBY87	847.	12.42	144.	39.	13.	.96
+	HYDROGRAPH AT	ERBY87	367.	13.17	55.	16.	5.	.96
+	2 COMBINED AT	CBY87	919.	12.50	204.	56.	19.	3.23
+	ROUTED TO	RUH87	790.	13.00	202.	56.	19.	3.23
+	HYDROGRAPH AT	UH87	942.	12.33	179.	52.	17.	1.00
+	DIVERSION TO	XUH87	942.	12.33	137.	36.	12.	1.00
+	HYDROGRAPH AT	ERUH87	421.	13.00	54.	15.	5.	1.00
+	2 COMBINED AT	CUH87	1206.	13.00	254.	70.	23.	4.23
+	DIVERSION TO	DSBL91	711.	13.00	150.	42.	14.	4.23
+	HYDROGRAPH AT	DSBLNR	494.	13.00	104.	29.	10.	4.23
+	DIVERSION TO	DUHNR	444.	13.00	71.	18.	6.	4.23
+	HYDROGRAPH AT	DPUHNR	50.	12.42	33.	11.	4.	4.23
+	ROUTED TO	RPUHNR	50.	12.50	33.	11.	4.	4.23
+	HYDROGRAPH AT	UHNR	255.	12.42	65.	21.	7.	.39
+	DIVERSION TO	XUHNR	2.	1.08	0.	0.	0.	.39
+	HYDROGRAPH AT	ERUHNR	255.	12.42	65.	20.	7.	.39
+	3 COMBINED AT	CNR07	3903.	12.83	1403.	433.	154.	15.29
+	HYDROGRAPH AT	DRUHNR	444.	13.00	71.	18.	6.	4.23
+	ROUTED TO	RBLNR	399.	13.08	71.	18.	6.	4.23
+	HYDROGRAPH AT	BLNR	450.	12.42	109.	34.	11.	.60
+	DIVERSION TO	XBLNR	12.	7.83	9.	3.	1.	.60
	HYDROGRAPH AT							

+		ERBLNR	450.	12.42	109.	32.	11.	.60
+	3 COMBINED AT	CNR08	4336.	12.83	1544.	473.	168.	17.63
+	HYDROGRAPH AT	DRPP91	0.	.00	0.	0.	0.	.16
+	ROUTED TO	RDV91	0.	.00	0.	0.	0.	.16
+	ROUTED TO	RRG93	0.	.00	0.	0.	0.	.16
+	HYDROGRAPH AT	RG93	153.	12.42	38.	11.	4.	.25
+	DIVERSION TO	XRG93	153.	12.42	37.	10.	3.	.25
+	HYDROGRAPH AT	ERRG93	6.	14.42	4.	1.	0.	.25
+	2 COMBINED AT	CRG93	6.	14.42	3.	1.	0.	.41
+	DIVERSION TO	DWRGLP	3.	14.42	0.	0.	0.	.41
+	HYDROGRAPH AT	DSBY91	5.	15.92	3.	1.	0.	.41
+	ROUTED TO	RBY91	5.	16.50	3.	1.	0.	.41
+	HYDROGRAPH AT	BY91	474.	12.25	73.	22.	7.	.50
+	DIVERSION TO	XBY91	474.	12.25	71.	19.	6.	.50
+	HYDROGRAPH AT	ERBY91	10.	13.50	6.	2.	1.	.50
+	2 COMBINED AT	CBY91	12.	16.50	9.	4.	1.	.71
+	ROUTED TO	RUH91	11.	17.83	9.	4.	1.	.71
+	HYDROGRAPH AT	UH91	401.	12.67	134.	41.	14.	.93
+	DIVERSION TO	XUH91	10.	7.50	7.	2.	1.	.93
+	HYDROGRAPH AT	ERUH91	401.	12.67	134.	39.	13.	.93
+	2 COMBINED AT	CUH91	400.	12.67	136.	42.	14.	1.63
+	HYDROGRAPH AT	DRBL91	711.	13.00	150.	42.	14.	4.23
+	DIVERSION TO	DPUH91	583.	13.00	146.	41.	14.	4.23
+	HYDROGRAPH AT	DUH91	128.	13.00	4.	1.	0.	4.23
+	2 COMBINED AT	CIUH91	489.	13.00	138.	43.	14.	4.12
+	ROUTED TO	RBL91	423.	13.17	138.	43.	14.	4.12
+	HYDROGRAPH AT	BL91	821.	12.42	187.	59.	20.	.90
+	DIVERSION TO	XBL91	821.	12.42	145.	40.	13.	.90
+	HYDROGRAPH AT	ERBL91	377.	13.08	64.	19.	6.	.90
+	2 COMBINED AT	CBL91	784.	13.08	197.	61.	20.	5.02
+	HYDROGRAPH AT	PRUH91	583.	13.00	146.	41.	14.	4.23
	ROUTED TO							

+		RP91AT	583.	13.08	146.	41.	14.	4.23
+	ROUTED TO	SRAT91	332.	13.75	146.	41.	14.	4.23
+	ROUTED TO	RP91BL	332.	13.83	146.	41.	14.	4.23
+	2 COMBINED AT	CPBL91	1014.	13.17	343.	102.	34.	5.02
+	DIVERSION TO	DSGW91	588.	13.17	199.	59.	20.	5.02
+	HYDROGRAPH AT	DSGWNR	426.	13.17	144.	43.	14.	5.02
+	DIVERSION TO	DBLNR	267.	13.17	43.	11.	4.	5.02
+	HYDROGRAPH AT	DPBLNR	159.	12.67	101.	32.	11.	5.02
+	ROUTED TO	RPBLNR	159.	12.75	101.	32.	11.	5.02
+	2 COMBINED AT	CPNR08	4495.	12.83	1641.	504.	178.	17.63
+	HYDROGRAPH AT	DRBLNR	267.	13.17	43.	11.	4.	5.02
+	ROUTED TO	RGWNRB	197.	13.83	43.	11.	4.	5.02
+	HYDROGRAPH AT	DRGW91	588.	13.17	199.	59.	20.	5.02
+	ROUTED TO	RGW91	534.	13.42	197.	59.	20.	5.02
+	HYDROGRAPH AT	GW91	413.	12.33	86.	27.	9.	.48
+	DIVERSION TO	XGW91	411.	12.33	39.	11.	4.	.48
+	HYDROGRAPH AT	ERGW91	378.	12.50	57.	16.	5.	.48
+	2 COMBINED AT	CGW91	634.	13.42	253.	75.	25.	3.40
+	DIVERSION TO	DSTBNR	0.	.00	0.	0.	0.	3.40
+	HYDROGRAPH AT	DEGWNR	634.	13.42	253.	75.	25.	3.40
+	ROUTED TO	RGWNRA	622.	13.58	252.	75.	25.	3.40
+	HYDROGRAPH AT	GWNR	418.	12.42	108.	33.	11.	.70
+	DIVERSION TO	XGWNR	418.	12.42	48.	13.	4.	.70
+	HYDROGRAPH AT	ERGWNR	386.	12.67	72.	20.	7.	.70
+	5 COMBINED AT	CNR09	10947.	13.08	5391.	1652.	567.	59.19
+	HYDROGRAPH AT	DRTBNR	0.	.00	0.	0.	0.	3.40
+	ROUTED TO	RTBNR	0.	.00	0.	0.	0.	3.40
+	HYDROGRAPH AT	TBNR	794.	12.42	172.	52.	17.	1.12
+	DIVERSION TO	XTBNR	91.	11.83	23.	8.	3.	1.12
+	HYDROGRAPH AT	ERTBNR	794.	12.42	165.	44.	15.	1.12
+	3 COMBINED AT	CNR10	11281.	13.00	5508.	1683.	577.	62.01
	HYDROGRAPH AT							

+		HV93	192.	12.17	25.	8.	3.	.17
+	DIVERSION TO	DWHVLP	81.	12.17	10.	3.	1.	.17
+	HYDROGRAPH AT	DSPPLP	111.	12.17	14.	4.	1.	.17
+	ROUTED TO	RPPLP	85.	12.50	14.	4.	1.	.17
+	HYDROGRAPH AT	PPLP	412.	12.50	104.	29.	10.	.88
+	DIVERSION TO	XPPLP	406.	12.42	36.	10.	3.	.88
+	HYDROGRAPH AT	ERPPLP	390.	12.67	74.	19.	6.	.88
+	2 COMBINED AT	CPPLP	464.	12.67	87.	24.	8.	.98
+	DIVERSION TO	DWPP03	0.	.00	0.	0.	0.	.98
+	HYDROGRAPH AT	DSDV99	464.	12.67	87.	24.	8.	.98
+	DIVERSION TO	DSDVLP	153.	12.67	29.	8.	3.	.98
+	HYDROGRAPH AT	DDV99	311.	12.67	58.	16.	5.	.98
+	HYDROGRAPH AT	DV99	1030.	12.58	129.	33.	11.	1.22
+	DIVERSION TO	XDV99	256.	12.17	15.	4.	1.	1.22
+	HYDROGRAPH AT	ERDV99	1030.	12.58	116.	29.	10.	1.22
+	2 COMBINED AT	CDV99	1291.	12.58	174.	45.	15.	1.88
+	ROUTED TO	RRGLPA	1222.	12.67	174.	45.	15.	1.88
+	HYDROGRAPH AT	DRRGLP	3.	14.42	0.	0.	0.	.41
+	ROUTED TO	RRGLPB	1.	15.33	0.	0.	0.	.41
+	HYDROGRAPH AT	RGLP	279.	12.33	53.	15.	5.	.41
+	DIVERSION TO	XRGLP	279.	12.33	52.	14.	5.	.41
+	HYDROGRAPH AT	ERRGLP	5.	14.25	2.	1.	0.	.41
+	3 COMBINED AT	CRGLP	1222.	12.67	174.	46.	15.	2.49
+	DIVERSION TO	DWRG07	1069.	12.67	144.	38.	13.	2.49
+	HYDROGRAPH AT	DSBY07	150.	12.50	30.	8.	3.	2.49
+	ROUTED TO	RBY99	150.	13.00	30.	8.	3.	2.49
+	HYDROGRAPH AT	BY07	455.	12.33	85.	26.	9.	.51
+	DIVERSION TO	XBY07	455.	12.33	67.	18.	6.	.51
+	HYDROGRAPH AT	ERBY07	175.	13.00	26.	8.	3.	.51
+	2 COMBINED AT	CBY07	324.	13.00	54.	15.	5.	1.76
+	DIVERSION TO	DWBYAF	279.	13.00	51.	15.	5.	1.76
	HYDROGRAPH AT							

+		DSUH99	45.	13.00	3.	1.	0.	1.76
+	ROUTED TO	RUH99	34.	13.33	3.	1.	0.	1.76
+	HYDROGRAPH AT	UH99	322.	12.58	106.	32.	11.	.56
+	2 COMBINED AT	CUH99	321.	12.58	109.	33.	11.	1.44
+	ROUTED TO	RDW99A	320.	12.67	109.	33.	11.	1.44
+	HYDROGRAPH AT	UH97	147.	12.50	42.	13.	4.	.27
+	ROUTED TO	RDW99B	141.	12.83	42.	13.	4.	.27
+	HYDROGRAPH AT	DW99	114.	12.33	29.	9.	3.	.16
+	3 COMBINED AT	CDW99	553.	12.67	179.	54.	18.	1.87
+	DIVERSION TO	DWDW07	549.	12.67	179.	54.	18.	1.87
+	HYDROGRAPH AT	DSBL99	5.	12.67	0.	0.	0.	1.87
+	ROUTED TO	RBL99	2.	13.08	0.	0.	0.	1.87
+	HYDROGRAPH AT	BL99	854.	12.42	202.	61.	21.	1.13
+	2 COMBINED AT	CBL99	851.	12.42	201.	61.	20.	2.07
+	ROUTED TO	RBN99	840.	12.50	201.	61.	20.	2.07
+	HYDROGRAPH AT	BN99	803.	12.42	176.	53.	18.	1.04
+	2 COMBINED AT	CBN99	1615.	12.50	375.	114.	38.	3.10
+	ROUTED TO	RTB99	1542.	12.75	375.	114.	38.	3.10
+	HYDROGRAPH AT	TB99	628.	12.50	159.	47.	16.	.98
+	2 COMBINED AT	CTB99	2121.	12.67	532.	161.	54.	4.08
+	ROUTED TO	RGRNRA	2098.	12.75	532.	161.	54.	4.08
+	HYDROGRAPH AT	DRDW07	549.	12.67	179.	54.	18.	1.87
+	ROUTED TO	RDW07	539.	12.92	179.	54.	18.	1.87
+	HYDROGRAPH AT	DW07	267.	12.58	80.	24.	8.	.48
+	2 COMBINED AT	CDW07	786.	12.75	258.	77.	26.	1.42
+	DIVERSION TO	DWBL15	550.	12.50	231.	70.	24.	1.42
+	HYDROGRAPH AT	DSTL07	236.	12.75	28.	7.	2.	1.42
+	ROUTED TO	RTL07	210.	13.25	28.	7.	2.	1.42
+	HYDROGRAPH AT	TL07	323.	12.42	86.	26.	9.	.58
+	2 COMBINED AT	CTL07	398.	13.17	113.	32.	11.	1.29
+	ROUTED TO	RGR99A	352.	13.50	112.	32.	11.	1.29
	HYDROGRAPH AT							

+		RO99	187.	12.67	70.	22.	7.	.41
+	ROUTED TO	RGR99B	187.	12.67	70.	22.	7.	.41
+	HYDROGRAPH AT	GR99	671.	12.75	246.	77.	26.	1.31
+	3 COMBINED AT	CGR99	1112.	12.83	425.	130.	44.	3.01
+	ROUTED TO	RGRNRB	1110.	12.92	425.	130.	44.	3.01
+	HYDROGRAPH AT	GRNR	795.	12.33	153.	47.	16.	.95
+	DIVERSION TO	XGRNR	11.	4.83	6.	2.	1.	.95
+	HYDROGRAPH AT	ERGRNR	795.	12.33	153.	45.	15.	.95
+	4 COMBINED AT	CNR11	14221.	12.75	6392.	1956.	669.	70.05
+	HYDROGRAPH AT	PE99	101.	12.75	45.	14.	5.	.29
+	DIVERSION TO	DSOL99	30.	12.75	13.	4.	1.	.29
+	HYDROGRAPH AT	DEPE97	71.	12.75	31.	10.	3.	.29
+	ROUTED TO	RPE97	70.	12.92	31.	10.	3.	.29
+	HYDROGRAPH AT	PENR	123.	12.50	40.	13.	4.	.20
+	DIVERSION TO	XPENR	81.	12.25	11.	3.	1.	.20
+	HYDROGRAPH AT	ERPENR	123.	12.50	34.	10.	3.	.20
+	DIVERSION TO	DSOLNR	54.	12.50	15.	4.	1.	.20
+	HYDROGRAPH AT	DWPE99	69.	12.50	19.	5.	2.	.20
+	HYDROGRAPH AT	PE97	318.	12.42	84.	25.	8.	.56
+	4 COMBINED AT	CNR12	14553.	12.75	6498.	1989.	680.	70.93
+	HYDROGRAPH AT	DROL99	30.	12.75	13.	4.	1.	.29
+	ROUTED TO	ROL99A	28.	13.50	13.	4.	1.	.29
+	HYDROGRAPH AT	PE11	429.	12.67	149.	45.	15.	.92
+	ROUTED TO	ROL03A	423.	12.92	148.	45.	15.	.92
+	HYDROGRAPH AT	PE07	262.	12.58	82.	24.	8.	.57
+	ROUTED TO	ROL03B	253.	12.92	82.	24.	8.	.57
+	HYDROGRAPH AT	PE03	202.	12.50	61.	18.	6.	.41
+	ROUTED TO	ROL03C	194.	12.83	61.	18.	6.	.41
+	HYDROGRAPH AT	OL03	665.	12.50	177.	54.	18.	1.10
+	4 COMBINED AT	COL03	1434.	12.75	462.	140.	47.	3.01
+	ROUTED TO	ROL99B	1434.	12.83	462.	140.	47.	3.01
	HYDROGRAPH AT							

+	DROLNR	54.	12.50	15.	4.	1.	.20
+ ROUTED TO	ROLNR	47.	13.33	15.	4.	1.	.20
+ HYDROGRAPH AT	OLNR	362.	12.67	126.	38.	13.	.70
+ DIVERSION TO	XOLNR	360.	12.58	43.	12.	4.	.70
+ HYDROGRAPH AT	EROLNR	360.	12.75	95.	26.	9.	.70
+ 2 COMBINED AT	COLNR	360.	12.75	109.	30.	10.	.78
+ DIVERSION TO	DSNONR	119.	12.75	36.	10.	3.	.78
+ HYDROGRAPH AT	DWOL99	241.	12.75	73.	20.	7.	.78
+ HYDROGRAPH AT	OL99	218.	12.50	63.	19.	6.	.44
+ 5 COMBINED AT	CNR13	16063.	12.83	6986.	2137.	730.	74.98
+ HYDROGRAPH AT	DRNONR	119.	12.75	36.	10.	3.	.78
+ ROUTED TO	RNONR	112.	13.58	35.	10.	3.	.78
+ HYDROGRAPH AT	NONR	454.	12.67	154.	46.	15.	.83
+ DIVERSION TO	XNONR	454.	12.67	62.	17.	6.	.83
+ HYDROGRAPH AT	ERNONR	429.	12.92	106.	29.	10.	.83
+ 2 COMBINED AT	CNONR	429.	12.92	140.	39.	13.	1.09
+ HYDROGRAPH AT	NO99	362.	12.58	108.	31.	11.	.86
+ DIVERSION TO	XNO99	44.	11.92	11.	4.	1.	.86
+ HYDROGRAPH AT	ERNO99	362.	12.58	105.	28.	9.	.86
+ 3 COMBINED AT	CNR14	16314.	12.83	7164.	2187.	747.	76.93
+ HYDROGRAPH AT	GL03	455.	12.42	107.	34.	11.	.65
+ DIVERSION TO	XGL03	454.	12.33	48.	14.	5.	.65
+ HYDROGRAPH AT	ERGL03	413.	12.58	71.	20.	7.	.65
+ 2 COMBINED AT	CNR15	16578.	12.83	7212.	2201.	751.	77.58
+ HYDROGRAPH AT	GLGH	71.	12.33	10.	3.	1.	.08
+ ROUTED TO	RGHNR	52.	12.83	10.	3.	1.	.08
+ HYDROGRAPH AT	GHNR	453.	12.50	121.	38.	13.	.84
+ 3 COMBINED AT	CNR16	16927.	12.83	7312.	2233.	762.	78.50
+ HYDROGRAPH AT	AF11	431.	12.25	77.	26.	9.	.38
+ HYDROGRAPH AT	GHAF	166.	13.08	48.	13.	4.	.56
+ 3 COMBINED AT	CAF06	17140.	12.83	7407.	2265.	773.	79.31
HYDROGRAPH AT							

+	JMAF	133.	12.33	17.	4.	1.	.15
+ DIVERSION TO	XJMAF	133.	12.33	8.	2.	1.	.15
+ HYDROGRAPH AT	ERJMAF	98.	12.50	9.	2.	1.	.15
+ HYDROGRAPH AT	HV07	368.	12.08	33.	9.	3.	.30
+ DIVERSION TO	XHV07	368.	12.08	25.	7.	2.	.30
+ HYDROGRAPH AT	ERHV07	134.	12.42	9.	3.	1.	.30
+ ROUTED TO	RHVAF	85.	12.50	9.	3.	1.	.30
+ HYDROGRAPH AT	HVAF	231.	12.17	19.	5.	2.	.22
+ DIVERSION TO	XHVAF	231.	12.17	19.	5.	2.	.22
+ HYDROGRAPH AT	ERHVAF	0.	.00	0.	0.	0.	.22
+ HYDROGRAPH AT	JM99	604.	12.33	119.	33.	11.	.57
+ DIVERSION TO	XJM99	604.	12.33	74.	19.	6.	.57
+ HYDROGRAPH AT	ERJM99	364.	12.75	51.	14.	5.	.57
+ HYDROGRAPH AT	WWLP	244.	12.08	22.	6.	2.	.14
+ DIVERSION TO	XWWLP	232.	12.08	13.	3.	1.	.14
+ HYDROGRAPH AT	ERWWLP	183.	12.17	10.	3.	1.	.14
+ ROUTED TO	RJMLP	88.	12.50	10.	3.	1.	.14
+ HYDROGRAPH AT	JMLP	650.	12.33	113.	33.	11.	.70
+ DIVERSION TO	XJMLP	650.	12.33	85.	23.	8.	.70
+ HYDROGRAPH AT	ERJMLP	304.	12.83	37.	11.	4.	.70
+ 3 COMBINED AT	CJMLP	657.	12.83	95.	26.	9.	1.41
+ ROUTED TO	RHV01A	520.	13.00	94.	26.	9.	1.41
+ HYDROGRAPH AT	YLLP	466.	12.25	87.	27.	9.	.60
+ DIVERSION TO	XYLLP	15.	10.50	9.	3.	1.	.60
+ HYDROGRAPH AT	ERYLLP	466.	12.25	86.	24.	8.	.60
+ ROUTED TO	RHV01B	460.	12.33	86.	24.	8.	.60
+ HYDROGRAPH AT	DRHVLP	81.	12.17	10.	3.	1.	.17
+ ROUTED TO	RHVLP	71.	12.33	10.	3.	1.	.17
+ HYDROGRAPH AT	HVLP	155.	12.25	34.	11.	4.	.20
+ DIVERSION TO	XHVLP	143.	12.17	12.	4.	1.	.20
+ HYDROGRAPH AT	ERHVLP	152.	12.33	26.	7.	2.	.20
2 COMBINED AT							

+		CHVLP	222.	12.33	35.	10.	3.	.27
+	ROUTED TO	RHV01C	216.	12.42	35.	10.	3.	.27
+	HYDROGRAPH AT	HV01	428.	12.25	75.	23.	8.	.44
+	DIVERSION TO	XHV01	397.	12.17	32.	9.	3.	.44
+	HYDROGRAPH AT	ERHV01	412.	12.33	50.	14.	5.	.44
+	4 COMBINED AT	CHV01	1067.	12.33	258.	73.	24.	2.72
+	ROUTED TO	RCL07	977.	12.50	257.	73.	24.	2.72
+	ROUTED TO	RCLAFA	963.	12.58	257.	73.	24.	2.72
+	HYDROGRAPH AT	CL07	345.	12.33	68.	19.	6.	.52
+	DIVERSION TO	XCL07	345.	12.33	48.	13.	4.	.52
+	HYDROGRAPH AT	ERCL07	166.	13.00	24.	7.	2.	.52
+	DIVERSION TO	DSPP03	20.	13.00	3.	1.	0.	.52
+	HYDROGRAPH AT	DWCLAF	146.	13.00	22.	6.	2.	.52
+	ROUTED TO	RCLAFB	124.	13.17	21.	6.	2.	.52
+	HYDROGRAPH AT	CLAF	178.	12.50	26.	7.	2.	.29
+	DIVERSION TO	XCLAF	178.	12.50	14.	3.	1.	.29
+	HYDROGRAPH AT	ERCLAF	119.	12.75	13.	3.	1.	.29
+	3 COMBINED AT	CCLAF	1052.	13.17	289.	82.	27.	3.47
+	4 COMBINED AT	CAF01	1112.	12.58	306.	86.	29.	4.13
+	HYDROGRAPH AT	DR03PP	0.	.00	0.	0.	0.	.98
+	ROUTED TO	RPP03B	0.	.00	0.	0.	0.	.98
+	HYDROGRAPH AT	DRPP03	20.	13.00	3.	1.	0.	.52
+	ROUTED TO	RPP03A	15.	13.33	3.	1.	0.	.52
+	HYDROGRAPH AT	PP03	125.	12.58	39.	11.	4.	.32
+	DIVERSION TO	XPP03	68.	12.25	6.	2.	1.	.32
+	HYDROGRAPH AT	ERPP03	125.	12.58	36.	9.	3.	.32
+	3 COMBINED AT	CPP03	125.	12.58	39.	10.	3.	.39
+	DIVERSION TO	DSDV07	125.	12.58	39.	10.	3.	.39
+	HYDROGRAPH AT	DWPP07	0.	.00	0.	0.	0.	.39
+	ROUTED TO	RPP07	0.	.00	0.	0.	0.	.39
+	HYDROGRAPH AT	PP07	149.	12.25	24.	6.	2.	.19
+	2 COMBINED AT	CPP07	149.	12.25	24.	6.	2.	.20
+	ROUTED TO	RDVAF	142.	12.42	24.	6.	2.	.20
+	HYDROGRAPH AT	DVAF	330.	12.33	53.	14.	5.	.41
+	DIVERSION TO	XDVAF	321.	12.25	20.	5.	2.	.41
+	HYDROGRAPH AT	ERDVAF	311.	12.42	35.	9.	3.	.41
+	2 COMBINED AT	CDVAF	451.	12.42	59.	16.	5.	.61
+	HYDROGRAPH AT	PPAF	425.	12.08	63.	22.	7.	.27
+	2 COMBINED AT	CAF02	645.	12.42	120.	37.	12.	.88
+	HYDROGRAPH AT	DRDV07	125.	12.58	39.	10.	3.	.39
+	ROUTED TO	RDV07	120.	13.00	38.	10.	3.	.39
+	HYDROGRAPH AT	DV07	446.	12.42	96.	29.	10.	.64
+	DIVERSION TO	XDV07	446.	12.42	83.	22.	7.	.64
+	HYDROGRAPH AT	ERDV07	106.	13.50	21.	6.	2.	.64
+	2 COMBINED AT	CDV07	209.	13.50	58.	17.	6.	1.03
+	ROUTED TO	RRG07A	197.	13.67	58.	17.	6.	1.03
+	HYDROGRAPH AT	DRRG07	1069.	12.67	144.	38.	13.	2.49
+	ROUTED TO	RRG07C	994.	12.75	144.	38.	13.	2.49
+	HYDROGRAPH AT	DRDVLP	153.	12.67	29.	8.	3.	.98
+	ROUTED TO	RDVLP	128.	13.08	29.	8.	3.	.98
+	HYDROGRAPH AT	DVLP	63.	12.67	18.	5.	2.	.14
+	DIVERSION TO	XDVLP	30.	12.33	3.	1.	0.	.14
+	HYDROGRAPH AT	ERDVLP	63.	12.67	17.	5.	2.	.14
+	2 COMBINED AT	CDVLP	182.	13.00	46.	12.	4.	.46
+	ROUTED TO	RRG07B	173.	13.25	45.	12.	4.	.46
+	HYDROGRAPH AT	RG07	179.	12.42	39.	10.	3.	.35
+	DIVERSION TO	XRG07	179.	12.42	39.	10.	3.	.35
+	HYDROGRAPH AT	ERRG07	0.	.00	0.	0.	0.	.35
+	4 COMBINED AT	CRG07	1121.	12.83	244.	66.	22.	3.09
+	ROUTED TO	RRGAF	1087.	12.92	243.	66.	22.	3.09
+	HYDROGRAPH AT	RGAF	173.	12.50	46.	13.	4.	.33
+	DIVERSION TO	XRGAF	173.	12.50	20.	5.	2.	.33
+	HYDROGRAPH AT							

+	ERRGAF	151.	12.83	29.	7.	2.	.33
+ 2 COMBINED AT	CRGAF	1225.	12.92	271.	74.	25.	3.42
+ HYDROGRAPH AT	DRBYAF	279.	13.00	51.	15.	5.	1.76
+ ROUTED TO	RBY07	245.	13.17	51.	15.	5.	1.76
+ ROUTED TO	RBYAF	202.	13.75	50.	15.	5.	1.76
+ HYDROGRAPH AT	BYAF	345.	12.42	88.	26.	9.	.61
+ DIVERSION TO	XBYAF	293.	12.25	23.	7.	2.	.61
+ HYDROGRAPH AT	ERBYAF	345.	12.42	72.	19.	6.	.61
+ 2 COMBINED AT	CBYAF	343.	12.42	120.	34.	11.	1.49
+ HYDROGRAPH AT	UHAF	142.	12.67	51.	14.	5.	.49
+ DIVERSION TO	XUHAF	142.	12.67	38.	10.	3.	.49
+ HYDROGRAPH AT	ERUHAF	62.	14.17	16.	5.	2.	.49
+ 3 COMBINED AT	CAF03	1468.	12.92	402.	111.	37.	5.56
+ HYDROGRAPH AT	UH07	91.	12.67	34.	10.	3.	.25
+ ROUTED TO	RUH11	90.	12.75	34.	10.	3.	.25
+ ROUTED TO	RUH15	90.	12.92	34.	10.	3.	.25
+ HYDROGRAPH AT	UH15	775.	12.33	145.	41.	14.	1.02
+ DIVERSION TO	XUH15	572.	12.17	37.	10.	3.	1.02
+ HYDROGRAPH AT	ERUH15	775.	12.33	117.	31.	10.	1.02
+ 2 COMBINED AT	CUH15	812.	12.42	150.	41.	14.	1.27
+ ROUTED TO	RBL15B	741.	12.75	148.	41.	14.	1.27
+ HYDROGRAPH AT	DRBL15	550.	12.50	231.	70.	24.	1.42
+ ROUTED TO	RBL15A	550.	13.50	231.	70.	24.	1.42
+ HYDROGRAPH AT	BL15	687.	12.33	134.	40.	13.	.96
+ DIVERSION TO	XBL15	687.	12.33	57.	16.	5.	.96
+ HYDROGRAPH AT	ERBL15	647.	12.50	88.	24.	8.	.96
+ 3 COMBINED AT	CBL15	1786.	12.67	461.	134.	45.	2.94
+ ROUTED TO	RMEAF	1689.	12.92	461.	134.	45.	2.94
+ HYDROGRAPH AT	MEAF	1006.	12.33	189.	55.	18.	1.37
+ DIVERSION TO	XMEAF	23.	10.42	15.	5.	2.	1.37
+ HYDROGRAPH AT	ERMEAF	1006.	12.33	188.	50.	17.	1.37
2 COMBINED AT							

+	CMEAF	2220.	12.83	643.	184.	61.	4.31
+ HYDROGRAPH AT	BLAF	73.	12.83	31.	9.	3.	.28
+ DIVERSION TO	XBLAF	73.	12.83	24.	6.	2.	.28
+ HYDROGRAPH AT	ERBLAF	33.	14.58	11.	3.	1.	.28
+ HYDROGRAPH AT	GRAF	509.	12.58	158.	47.	16.	.86
+ HYDROGRAPH AT	PEAF	553.	12.25	95.	31.	10.	.53
+ 4 COMBINED AT	CAF04	2883.	12.83	896.	263.	88.	5.94
+ HYDROGRAPH AT	OL11	231.	12.33	44.	13.	4.	.34
+ ROUTED TO	RNO11	218.	12.58	44.	13.	4.	.34
+ HYDROGRAPH AT	NO11	875.	12.25	153.	50.	17.	.86
+ DIVERSION TO	XNO11	48.	11.00	24.	8.	3.	.86
+ HYDROGRAPH AT	ERNO11	875.	12.25	149.	42.	14.	.86
+ 2 COMBINED AT	CNO11	994.	12.33	193.	54.	18.	1.20
+ ROUTED TO	RGL14A	836.	12.83	189.	54.	18.	1.20
+ HYDROGRAPH AT	NO07	209.	12.42	49.	15.	5.	.34
+ DIVERSION TO	XNO07	182.	12.25	15.	4.	1.	.34
+ HYDROGRAPH AT	ERNO07	209.	12.42	38.	10.	3.	.34
+ ROUTED TO	RGL11	184.	12.83	38.	10.	3.	.34
+ HYDROGRAPH AT	GL11	329.	12.42	83.	27.	9.	.43
+ DIVERSION TO	XGL11	329.	12.42	66.	18.	6.	.43
+ HYDROGRAPH AT	ERGL11	126.	13.33	28.	9.	3.	.43
+ 2 COMBINED AT	CGL11	241.	13.33	65.	19.	6.	.77
+ ROUTED TO	RGL14B	210.	13.58	64.	19.	6.	.77
+ HYDROGRAPH AT	GL14	170.	12.50	41.	10.	3.	.48
+ 3 COMBINED AT	CGL14	1006.	12.92	289.	83.	28.	2.45
+ ROUTED TO	RGLAF	989.	13.08	288.	83.	28.	2.45
+ HYDROGRAPH AT	GLAF	246.	12.42	76.	26.	9.	.39
+ 2 COMBINED AT	CGLAF	1146.	13.00	356.	108.	36.	2.83
+ HYDROGRAPH AT	OLAF	427.	12.58	122.	36.	12.	1.03
+ DIVERSION TO	XOLAF	413.	12.50	39.	11.	4.	1.03
+ HYDROGRAPH AT	EROLAF	420.	12.67	93.	25.	8.	1.03
HYDROGRAPH AT							

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+                          NOAF       120.   12.75          32.         10.          3.         .28

         3 COMBINED AT
+                          CAF05     1596.   13.00         476.        141.         48.        4.15
1
                                    SUMMARY OF KINEMATIC WAVE - MUSKINGUM-CUNGE ROUTING
                                        (FLOW IS DIRECT RUNOFF WITHOUT BASE FLOW)
                                                                          INTERPOLATED TO
                                                                        COMPUTATION INTERVAL
          ISTAQ    ELEMENT      DT        PEAK     TIME TO     VOLUME      DT        PEAK     TIME TO      VOLUME
                                                      PEAK                                      PEAK

                                (MIN)      (CFS)      (MIN)      (IN)     (MIN)      (CFS)      (MIN)        (IN)

          FOR STORM = 1  STORM AREA (SQ MI) =         .00
            RP35GW  MANE          2.74    158.00    720.89       .79      5.00    158.00    725.00         .79

CONTINUITY SUMMARY (AC-FT) - INFLOW= .7163E+02 EXCESS= .0000E+00 OUTFLOW= .7165E+02 BASIN STORAGE= .2847E-09 PERCENT ERROR=    .0

          FOR STORM = 2  STORM AREA (SQ MI) =       10.00
            RP35GW  MANE          2.78    158.00    721.23       .76      5.00    158.00    725.00         .76

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6898E+02 EXCESS= .0000E+00 OUTFLOW= .6899E+02 BASIN STORAGE= .2882E-09 PERCENT ERROR=    .0

          FOR STORM = 3  STORM AREA (SQ MI) =       30.00
            RP35GW  MANE          2.74    158.00    720.70       .73      5.00    158.00    725.00         .73

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6631E+02 EXCESS= .0000E+00 OUTFLOW= .6633E+02 BASIN STORAGE= .2833E-09 PERCENT ERROR=    .0

          FOR STORM = 4  STORM AREA (SQ MI) =       60.00
            RP35GW  MANE          2.73    158.00    726.88       .71      5.00    158.00    730.00         .71

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6467E+02 EXCESS= .0000E+00 OUTFLOW= .6469E+02 BASIN STORAGE= .2619E-09 PERCENT ERROR=    .0

          FOR STORM = 5  STORM AREA (SQ MI) =       90.00
            RP35GW  MANE          2.71    158.00    727.86       .70      5.00    158.00    730.00         .70

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6370E+02 EXCESS= .0000E+00 OUTFLOW= .6372E+02 BASIN STORAGE= .2758E-09 PERCENT ERROR=    .0

          FOR STORM = 6  STORM AREA (SQ MI) =      120.00
            RP35GW  MANE          2.71    158.00    725.43       .70      5.00    158.00    730.00         .70

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6312E+02 EXCESS= .0000E+00 OUTFLOW= .6314E+02 BASIN STORAGE= .2963E-09 PERCENT ERROR=    .0

          FOR STORM = 1  STORM AREA (SQ MI) =         .00
            RP35TB  MANE          2.25    318.00    724.91      1.81      5.00    318.00    725.00        1.81

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1524E+03 EXCESS= .0000E+00 OUTFLOW= .1524E+03 BASIN STORAGE= .9786E-09 PERCENT ERROR=    .0

          FOR STORM = 2  STORM AREA (SQ MI) =       10.00
            RP35TB  MANE          2.33    318.00    725.14      1.75      5.00    318.00    730.00        1.75

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1472E+03 EXCESS= .0000E+00 OUTFLOW= .1472E+03 BASIN STORAGE= .1210E-08 PERCENT ERROR=    .0

          FOR STORM = 3  STORM AREA (SQ MI) =       30.00
            RP35TB  MANE          2.26    318.00    730.54      1.68      5.00    318.00    735.00        1.68

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1419E+03 EXCESS= .0000E+00 OUTFLOW= .1419E+03 BASIN STORAGE= .1404E-08 PERCENT ERROR=    .0

          FOR STORM = 4  STORM AREA (SQ MI) =       60.00
            RP35TB  MANE          2.39    318.00    729.98      1.65      5.00    318.00    730.00        1.65

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1387E+03 EXCESS= .0000E+00 OUTFLOW= .1387E+03 BASIN STORAGE= .8488E-09 PERCENT ERROR=    .0

          FOR STORM = 5  STORM AREA (SQ MI) =       90.00
            RP35TB  MANE          2.26    318.00    729.74      1.62      5.00    318.00    730.00        1.62

  *** The remainder of the continuity summary has been deleted for brevity, but the entire output is included on the CD ***

*** NORMAL END OF HEC-1 ***
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1**************************************          *************************************
 *                                    *          *                                   *
 *   FLOOD HYDROGRAPH PACKAGE  (HEC-1)   *       *   U.S. ARMY CORPS OF ENGINEERS    *
 *              JUN   1998            *          *   HYDROLOGIC ENGINEERING CENTER   *
 *            VERSION 4.1             *          *       609 SECOND STREET           *
 *                                    *          *     DAVIS, CALIFORNIA 95616       *
 * RUN DATE   01NOV10  TIME  11:01:36 *          *       (916) 756-1104              *
 *                                    *          *                                   *
 **************************************          *************************************


                 X     X  XXXXXXX   XXXXX          X
                 X     X  X        X     X        XX
                 X     X  X        X               X
                 XXXXXXX  XXXX     X       XXXXX   X
                 X     X  X        X               X
                 X     X  X        X     X         X
                 X     X  XXXXXXX   XXXXX         XXX


  THIS PROGRAM REPLACES ALL PREVIOUS VERSIONS OF HEC-1 KNOWN AS HEC1 (JAN 73), HEC1GS, HEC1DB, AND HEC1KW.

  THE DEFINITIONS OF VARIABLES -RTIMP- AND -RTIOR- HAVE CHANGED FROM THOSE USED WITH THE 1973-STYLE INPUT STRUCTURE.
  THE DEFINITION OF -AMSKK- ON RM-CARD WAS CHANGED WITH REVISIONS DATED 28 SEP 81. THIS IS THE FORTRAN77 VERSION
  NEW OPTIONS: DAMBREAK OUTFLOW SUBMERGENCE , SINGLE EVENT DAMAGE CALCULATION, DSS:WRITE STAGE FREQUENCY,
  DSS:READ TIME SERIES AT DESIRED CALCULATION INTERVAL   LOSS RATE:GREEN AND AMPT INFILTRATION
  KINEMATIC WAVE: NEW FINITE DIFFERENCE ALGORITHM

1                                       HEC-1 INPUT                                         PAGE  1

 LINE      ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

   1       ID      GLENDALE STORMWATER MANAGEMENT PLAN
   2       ID      Model for Maryvale Watershed
   3       ID      Existing Conditions
   4       ID
   5       ID      Prepared for the City of Glendale
   6       ID      In Association with the Flood Control District of Maricopa County
   7       ID      City Project Number 089017
   8       ID
   9       ID      Prepared by Kimley-Horn and Associates, Inc.
  10       ID      KHA Project Number 091910009
  11       ID      October 2010
  12       ID
  13       ID      MODELING PARAMETERS
  14       ID      - 10 Year  6 Hour Storm Event
  15       ID      - NOAA 14 Rainfall Data
  16       ID      - Clark Unit Hydrograph
  17       ID      - Green and Ampt Rainfall Loss Method
  18       ID
  19       ID      Topo data extracted from Flood Control District database July 24, 2009
  20       ID      Land use obtained from City of Glendale General Plan August 2009, City of
  21       ID           Phoenix General Plan August 2009, and MAG General Plan Land Use 2007
  22       ID
  23       ID      Storage routing data obtained from As-built records where possible
  24       ID      When As-built data was not available data was obtained from HEC-1 models
  25       ID           and checked for accuracy. HEC-1 models used include:
  26       ID             - Maryvale ADMS, February 1997
  27       ID             - Maryvale model modified by DMJM for improvements along the Bethany
  28       ID               Home Outfall Channel, file BHGC00C6.dat, November 2004
  29       ID             - Update to ponding areas along Grand Canal in the City of Glendale
  30       ID               for a CLOMR by PEC, February 2008
  31       ID      The source of data is identified on each individual storage routing card
  32       ID
  33       ID   ******************************************************************
  34       ID
  35       ID      MODELING NOMENCLATURE
  36       ID      SUBBASIN HYDROGRAPH:
  37       ID         Example: OL51   - the subbasin northeast of Olive and 51st Avenue
  38       ID
  39       ID      STORM DRAIN DIVERSION:
  40       ID         Example: DOL51 - flow from subbasin OL51 is diverted to a storm drain
  41       ID
  42       ID      SUBBASIN DIVERSION:
  43       ID         Example: DWOL59 - flow is diverted west towards Olive and 59th Avenue
  44       ID         Example: DSNO51 - flow is diverted south towards Northern and 51st Ave
  45       ID
  46       ID      ROUTE HYDROGRAPH:
  47       ID         Example: RWOL59 - flow is routed west towards Olive and 59th Avenue
  48       ID         Example: RSNO59 - flow is routed south towards Northern and 59th Ave
  49       ID
  50       ID      COMBINE HYDROGRAPH:
  51       ID         Example: COL59  - combine flow at Olive and 59th Avenue
  52       ID
  53       ID      NAME ABBREVIATIONS
  54       ID         Jomax Road               JM
  55       ID         Happy Valley Road        HV
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1                                       HEC-1 INPUT                                         PAGE  2

 LINE      ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

  56       ID         Pinnacle Peak Road       PP
  57       ID         Deer Valley Road         DV
  58       ID         Loop 101                 LO
  59       ID         Beardsley Road           BY
  60       ID         Union Hills Drive        UH
  61       ID         Bell Road                BL
  62       ID         Greenway Road            GW
  63       ID         Thunderbird Road         TB
  64       ID         Cactus Road              CT
  65       ID         Peoria Avenue            PE
  66       ID         Olive Avenue             OL
  67       ID         Northern Avenue          NO
  68       ID         Glendale Avenue          GL
  69       ID         Bethany Home Road        BH
  70       ID         Camelback Road           CB
  71       ID         Indian School Road       IS
  72       ID         Thomas Road              TM
  73       ID         McDowell Road            MD
  74       ID         Interstate 10            IN
  75       ID         Van Buren Street         VB
  76       ID         Avondale Boulevard       AV
  77       ID         Grand Avenue             GR
  78       ID         Grand Canal              GC
  79       ID         Brown Street             BR
  80       ID         Mountain View Road       MV
  81       ID         Orangewood Avenue        OW
  82       ID         Mitchell Drive           ML
  83       ID         Agua Fria River          AF
  84       ID         New River                NR
  85       ID         Skunk Creek              SK
  86       ID         Roosevelt Irrigation     RI
  87       ID
  88       ID      PREFIXES FOR MODELING OPERATIONS
  89       ID         RW     Routing flow in the west direction
  90       ID         RS     Routing flow in the south direction
  91       ID         RP     Routing storm drain pipe flow
  92       ID         C      Combination point
  93       ID         CI     Combination point at an intersection
  94       ID         CP     Combination point for storm drain pipe flow
  95       ID         SR     Storage for detention/retention basins
  96       ID         DW     Divert flow to the west
  97       ID         DE     Divert flow to the east
  98       ID         DS     Divert flow to the south
  99       ID         DN     Divert flow to the north
 100       ID         ER     Divert flow for existing 100-yr 2-hr retention
 101       ID         X      Existing retention diversion does not return to model
 102       ID         DR     Divert retrieval from surface flow
 103       ID         DI     Divert retrieval from intersection flow
 104       ID         D      Divert surface flow (remains after storm drain divert)
 105       ID         DP     Divert flow to a storm drain pipe
 106       ID         PR     Divert retrieval from a storm drain pipe
 107       ID
 108       ID   ******************************************************************
 109       IT       5       0       0    1000
 110       IN      15
1                                       HEC-1 INPUT                                         PAGE  3

 LINE      ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 111       IO       5
           *DIAGRAM
           *
 112       JD   1.725  0.0001
 113       PC   0.000   0.008   0.016   0.025   0.033   0.041   0.050   0.058   0.066   0.074
 114       PC   0.087   0.099   0.118   0.138   0.216   0.377   0.834   0.911   0.931   0.950
 115       PC   0.962   0.972   0.983   0.991   1.000
 116       JD   1.715  0.5000
 117       PC   0.000   0.008   0.016   0.025   0.033   0.041   0.050   0.058   0.066   0.074
 118       PC   0.087   0.099   0.118   0.138   0.216   0.377   0.834   0.911   0.931   0.950
 119       PC   0.962   0.972   0.983   0.991   1.000
 120       JD   1.682     2.8
 121       PC   0.000   0.009   0.016   0.025   0.034   0.042   0.051   0.059   0.068   0.077
 122       PC   0.088   0.101   0.121   0.164   0.253   0.451   0.694   0.836   0.900   0.938
 123       PC   0.950   0.963   0.975   0.988   1.000
 124       JD   1.590    16.0
 125       PC   0.000   0.015   0.020   0.030   0.048   0.063   0.076   0.090   0.105   0.119
 126       PC   0.135   0.152   0.175   0.222   0.304   0.472   0.670   0.796   0.868   0.912
 127       PC   0.946   0.960   0.973   0.987   1.000
 128       JD   1.397    90.0
 129       PC   0.000   0.021   0.035   0.051   0.071   0.087   0.105   0.125   0.143   0.160
 130       PC   0.179   0.201   0.232   0.281   0.364   0.500   0.658   0.773   0.841   0.888
 131       PC   0.927   0.945   0.964   0.982   1.000
 132       JD   1.380   100.0
 133       PC   0.000   0.021   0.036   0.052   0.072   0.088   0.106   0.126   0.145   0.162
 134       PC   0.182   0.204   0.235   0.284   0.368   0.501   0.656   0.770   0.839   0.886
 135       PC   0.925   0.944   0.963   0.982   1.000
           *

 136       KK    GW83   BASIN
```

```
KM   Runoff hydrograph for subbasin GW83 northeast of the intersection of Greenway
KM   Road and 83rd Avenue
BA   0.291
LG    0.30    0.25    4.70    0.31      24
UC   1.397   1.370
UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
UA     100
*

KK   DGW83  DIVERT
KM   Divert calculated full flow capapcity of 45 cfs into 42-inch storm drain
KM   pipe at the intersection of Greenway Road and 83rd Avenue
DT  DPGW83      0.0    45.0
DI      0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
DQ      0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
*

KK  DSTB83  DIVERT
KM   Divert portion of runoff hydrograph from subbasin GW83 south to the
KM   intersection of Thunderbird Road and 83rd Avenue and the remaining flow west
KM   to Skunk Creek. The diversion is based on topography
DT  DWSK01      0.0     0.0
DI      0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
DQ      0.0    57.0   114.0   285.0   570.0  1140.0  2280.0  5700.0 11400.0 28500.0
*
```



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LINE  ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

KK  RSTB83   ROUTE
KM   Route diversion DSTB83 south to combination point CTB83
RS       10     FLOW
RC   0.035   0.015   0.035    5280  0.0023     0.00
RX    0.00    0.00   48.00   48.00  251.00  251.00  299.00  299.00
RY    3.00    0.98    0.50    0.00    0.00    0.50    0.98    3.00
*

KK    TB67   BASIN
KM   Runoff hydrograph for subbasin TB67 northeast of the intersection of
KM   Thunderbird Road and 67th Avenue
BA   0.265
LG    0.23    0.16    9.70    0.05      17
UC   0.849   0.506
UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
UA     100
*

KK  DWTB75  DIVERT
KM   Divert remaining runoff hydrograph from subbasin TB67 west to combination
KM   point CTB75
DT  DSCT67      0.0     0.0
DI      0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
DQ      0.0    40.0    80.0   200.0   400.0   800.0  1600.0  4000.0  8000.0 20000.0
*

KK  RWTB75   ROUTE
KM   Route diversion DWTB75 west to combination point CTB75
RS        6     FLOW
RC   0.035   0.015   0.035    5280  0.0027     0.00
RX    0.00    0.00   48.00   48.00  251.00  251.00  299.00  299.00
RY    3.00    0.98    0.50    0.00    0.00    0.50    0.98    3.00
*

KK    TB75   BASIN
KM   Runoff hydrograph for subbasin TB75 northeast of the intersection of
KM   Thunderbird Road and 75th Avenue
BA   1.026
LG    0.23    0.15    7.00    0.10      32
UC   1.427   0.768
UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
UA     100
*

KK  ERTB75  DIVERT
KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
KM   retention developed after 1990 in subbasin TB75
DT   XTB75      8.7     0.0
DI      0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
DQ      0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
*
```



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LINE  ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

KK   CTB75 COMBINE
KM   Combine route RWTB75 and subbasin TB75
HC        2    1.18
*

KK    DTB75  DIVERT
KM   Divert calculated full flow capapcity of 161 cfs into 66-inch storm drain
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KM   pipe at the intersection of Thunderbird Road and 75th Avenue
DT  DPTB75      0.0    161.0
DI      0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
DQ      0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
*

KK  DWTB83  DIVERT
KM   Divert remaining runoff hydrograph from subbasin TB83 west to combination
KM   point CTB83
DT  DSCT75      0.0     0.0
DI      0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
DQ      0.0    45.0    90.0   225.0   450.0   900.0  1800.0  4500.0  9000.0 22500.0
*

KK  RWTB83   ROUTE
KM   Route diversion DWTB83 west to combination point CTB83
RS        4     FLOW
RC   0.035   0.015   0.035    5280  0.0034     0.00
RX    0.00    0.00   76.50   76.50  372.50  372.50  449.00  449.00
RY    3.00    1.27    0.50    0.00    0.00    0.50    1.27    3.00
*

KK    TB83   BASIN
KM   Runoff hydrograph for square mile subbasin TB83 northeast of the intersection
KM   Thunderbird Road and 83rd Avenue
BA   0.994
LG    0.25    0.21    6.40    0.14      31
UC   1.500   1.018
UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
UA     100
*

KK  ERTB83  DIVERT
KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
KM   retention developed after 1990 in subbasin TB83
DT   XTB83     19.4     0.0
DI      0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
DQ      0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
*

KK   CTB83 COMBINE
KM   Combine route RWTB83, route south RSTB83, and subbasin TB83
HC        3    1.77
*
```



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LINE  ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

KK  PRTB75RETRIEVE
KM   Retrieve full flow capacity of 161 cfs from 66-inch storm drain pipe at the
KM   intersection of Thunderbird Road and 75th Avenue
DR  DPTB75
*

KK  RPTB83   ROUTE
KM   Route full flow capacity of 161 cfs through 66-inch storm drain pipe in
KM   Thunderbird Road to the intersection of Thunderbird Road and 83rd Avenue
RK    5194  0.0023    0.015             CIRC    5.500
*

KK  CPTB83 COMBINE
KM   Combine pipe return PRTB75 with the runoff hydrograph at combination point
KM   CTB83 at the intersection of Thunderbird Road and 83rd Avenue
HC        2
*

KK   DTB83  DIVERT
KM   Divert calculated full flow capapcity of 247 cfs into 72-inch storm drain
KM   pipe at the intersection of Thunderbird Road and 83rd Avenue
DT  DPTB83      0.0    247.0
DI      0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
DQ      0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
*

KK  DWTBLO  DIVERT
KM   Divert remaining runoff hydrograph from subbasin TB83 west to combination
KM   point CTBLO
DT  DSCT83      0.0     0.0
DI      0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
DQ      0.0    71.0   142.0   355.0   710.0  1420.0  2840.0  7100.0 14200.0 35500.0
*

KK  RWTBLO   ROUTE
KM   Route diversion DWTBLO west to combination point CTBLO
RS        2     FLOW
RC   0.035   0.015   0.035    2002  0.0030     0.00
RX    0.00    0.00   16.50   16.50  107.50  107.50  124.00  124.00
RY    3.00    0.66    0.50    0.00    0.00    0.50    0.66    3.00
*

KK    TBLO   BASIN
KM   Runoff hydrograph for subbasin TBLO northeast of the intersection of
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 267          KM   Thunderbird Road and SR Loop 101
 268          BA   0.099
 269          LG    0.15    0.15    8.80    0.05      71
 270          UC   0.911   1.125
 271          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
 272          UA     100
              *
1                                        HEC-1 INPUT                                        PAGE  7

 LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 273          KK  ERTBLO  DIVERT
 274          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
 275          KM   retention developed after 1990 in subbasin TBLO
 276          DT   XTBLO    10.8     0.0
 277          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
 278          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

 279          KK   CTBLO COMBINE
 280          KM   Combine route RWTBLO and subbasin TBLO
 281          HC       2    0.62
              *

 282          KK  PRTB83RETRIEVE
 283          KM   Retrieve full flow capacity of 247 cfs from 72-inch storm drain pipe at the
 284          KM   intersection of Thunderbird Road and 83rd Avenue
 285          DR  DPTB83
              *

 286          KK  RPTBLO   ROUTE
 287          KM   Route full flow capacity of 247 cfs through 72-inch storm drain pipe in
 288          KM   Thunderbird Road to the intersection of Thunderbird Road and 83rd Avenue
 289          RK    1532  0.0034   0.015             CIRC   6.000
              *

 290          KK  CPTBLO COMBINE
 291          KM   Combine pipe return PRTBLO with the runoff hydrograph at combination point
 292          KM   CTBLO at the intersection of Thunderbird Road and SR Loop 101
 293          HC       2
              *

 294          KK  RSCTLO   ROUTE
 295          KM   Route runoff hydrograph at combination point CPTBLO south to combination
 296          KM   point CCTLO
 297          RS       2    FLOW
 298          RC   0.035   0.015   0.035    4816  0.0016    0.00
 299          RX    0.00    3.00   13.00   29.00   39.00   55.00   65.00   68.00
 300          RY    9.00    8.00    8.00    0.00    0.00    8.00    8.00    9.00
              *

 301          KK    CT59   BASIN
 302          KM   Runoff hydrograph for subbasin CT59 northeast of the intersection of
 303          KM   Cactus Road and 59th Avenue
 304          BA   0.296
 305          LG    0.24    0.15    8.80    0.06      30
 306          UC   1.066   0.731
 307          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
 308          UA     100
              *
1                                        HEC-1 INPUT                                        PAGE  8

 LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 309          KK  ERCT59  DIVERT
 310          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
 311          KM   retention developed after 1990 in subbasin CT59
 312          DT   XCT59    24.6     0.0
 313          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
 314          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

 315          KK   D59CT  DIVERT
 316          KM   Divert calculated full flow capapcity of 18 cfs into 30-inch storm drain
 317          KM   pipe at the intersection of Cactus Road and 59th Avenue
 318          DT  DP59CT     0.0    18.0
 319          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
 320          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

 321          KK  DWCT67  DIVERT
 322          KM   Divert remaining runoff hydrograph from subbasin CT59 west to combination
 323          KM   point CCT67
 324          DT  DSPE59     0.0     0.0
 325          DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
 326          DQ     0.0    68.0   136.0   340.0   680.0  1360.0  2720.0  6800.0 13600.0 34000.0
              *

 327          KK  RWCT67   ROUTE
 328          KM   Route diversion DWCT67 west to combination point CCT67
 329          RS      10    FLOW
```



```
 330          RC   0.035   0.015   0.035    5280  0.0041    0.00
 331          RX    0.00    0.00   33.50   33.50  144.50  144.50  178.00  178.00
 332          RY    3.00    0.84    0.50    0.00    0.00    0.50    0.84    3.00
              *

 333          KK  DRCT67RETRIEVE
 334          KM   Retrieve divert DRCT67 from subbasin TB67 and divert south to combination
 335          KM   point CCT67
 336          DR  DSCT67
              *

 337          KK  RSCT67   ROUTE
 338          KM   Route retrieval DRCT67 south to combination point CCT67
 339          RS       5    FLOW
 340          RC   0.035   0.015   0.035    5280  0.0035    0.00
 341          RX    0.00    0.00   24.50   24.50  155.50  155.50  180.00  180.00
 342          RY    3.00    0.74    0.50    0.00    0.00    0.50    0.74    3.00
              *

 343          KK    CT67   BASIN
 344          KM   Runoff hydrograph for subbasin CT67 northeast of the intersection of Cactus
 345          KM   Road and 67th Avenue
 346          BA   0.910
 347          LG    0.28    0.15    7.30    0.11      26
 348          UC   1.340   0.795
 349          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
 350          UA     100
              *
1                                        HEC-1 INPUT                                        PAGE  9

 LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 351          KK  ERCT67  DIVERT
 352          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
 353          KM   retention developed after 1990 in subbasin CT67
 354          DT   XCT67    20.9     0.0
 355          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
 356          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

 357          KK   CCT67 COMBINE
 358          KM   Combine route RWCT67, route RSCT67, and subbasin CT67
 359          HC       3    1.11
              *

 360          KK   DCT67  DIVERT
 361          KM   Divert calculated full flow capapcity of 268 cfs into 78-inch storm drain
 362          KM   pipe at the intersection of Cactus Road and 67th Avenue
 363          DT  DPCT67     0.0   268.0
 364          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
 365          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

 366          KK  DWCT75  DIVERT
 367          KM   Divert remaining runoff hydrograph from combination point CCT67 west to
 368          KM   combination point CCT75
 369          DT  DSPE67     0.0     0.0
 370          DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
 371          DQ     0.0    43.0    86.0   215.0   430.0   860.0  1720.0  4300.0  8600.0 21500.0
              *

 372          KK  RWCT75   ROUTE
 373          KM   Route diversion DWCT75 west to combination point CCT75
 374          RS       6    FLOW
 375          RC   0.035   0.015   0.035    5280  0.0030    0.00
 376          RX    0.00    0.00   76.50   76.50  372.50  372.50  449.00  449.00
 377          RY    3.00    1.27    0.50    0.00    0.00    0.50    1.27    3.00
              *

 378          KK  DRCT75RETRIEVE
 379          KM   Retrieve divert DRCT75 from combination point CTB75 and divert south to
 380          KM   combination point CCT75
 381          DR  DSCT75
              *

 382          KK  RSCT75   ROUTE
 383          KM   Route retrieval DRCT75 south to combination point CCT75
 384          RS       3    FLOW
 385          RC   0.035   0.015   0.035    5280  0.0038    0.00
 386          RX    0.00    0.00   57.50   57.50  291.50  291.50  349.00  349.00
 387          RY    3.00    1.08    0.50    0.00    0.00    0.50    1.08    3.00
              *
1                                        HEC-1 INPUT                                        PAGE 10

 LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 388          KK    CT75   BASIN
 389          KM   Runoff hydrograph for square mile subbasin CT75 northeast of the intersection
 390          KM   of Cactus Road and 75th Avenue
 391          BA   1.003
 392          LG    0.28    0.15    8.80    0.06      25
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393          UC   1.500   1.009
394          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
395          UA     100
             *

396          KK  ERCT75  DIVERT
397          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
398          KM   retention developed after 1990 in subbasin CT75
399          DT  XCT75     23.7      0.0
400          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
401          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
             *

402          KK   CCT75 COMBINE
403          KM   Combine route RWCT75, route RSCT75, and subbasin CT75
404          HC       3     2.17
             *

405          KK  PRCT67RETRIEVE
406          KM   Retrieve full flow capacity of 268 cfs from 78-inch storm drain pipe at the
407          KM   intersection of Cactus Road and 67th Avenue
408          DR  DPCT67
             *

409          KK  RPCT75   ROUTE
410          KM   Route full flow capacity of 268 cfs through 78-inch storm drain pipe in
411          KM   Cactus Road to the intersection of Cactus Road and 75th Avenue
412          RK    5321  0.0026    0.015             CIRC    6.500
             *

413          KK  CPCT75 COMBINE
414          KM   Combine pipe return PRCT67 with the runoff hydrograph at combination point
415          KM   CCT75 at the intersection of Cactus Road and 75th Avenue
416          HC       2
             *

417          KK   DCT75  DIVERT
418          KM   Divert calculated full flow capapcity of 651 cfs into 108-inch storm drain
419          KM   pipe at the intersection of Cactus Road and 75th Avenue
420          DT  DPCT75      0.0    651.0
421          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
422          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
             *
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LINE         ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

423          KK  DWCT83  DIVERT
424          KM   Divert remaining runoff hydrograph from combination point CCT75 west to
425          KM   combination point CCT83
426          DT  DSPE75      0.0      0.0
427          DI     0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0  10000.0  20000.0  50000.0
428          DQ     0.0     50.0    100.0    250.0    500.0   1000.0   2000.0   5000.0  10000.0  25000.0
             *

429          KK  RWCT83   ROUTE
430          KM   Route diversion DWCT83 west to combination point CCT83
431          RS       4     FLOW
432          RC   0.035   0.015   0.035    5280  0.0026     0.00
433          RX    0.00    0.00   57.50   57.50  291.50  291.50  349.00  349.00
434          RY    3.00    1.08    0.50    0.00    0.00    0.50    1.08    3.00
             *

435          KK  DRCT83RETRIEVE
436          KM   Retrieve divert DRCT83 from combination point CPTB83 and divert south to
437          KM   combination point CCT83
438          DR  DSCT83
             *

439          KK  RSCT83   ROUTE
440          KM   Route retrieval DRCT83 south to combination point CCT83
441          RS       4     FLOW
442          RC   0.035   0.015   0.035    5280  0.0030     0.00
443          RX    0.00    0.00   48.00   48.00  251.00  251.00  299.00  299.00
444          RY    3.00    0.98    0.50    0.00    0.00    0.50    0.98    3.00
             *

445          KK    CT83   BASIN
446          KM   Runoff hydrograph for square mile subbasin CT83 northeast of the intersection
447          KM   of Cactus Road and 83rd Avenue
448          BA   1.008
449          LG    0.25    0.15    8.40    0.06      30
450          UC   1.500   1.010
451          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
452          UA     100
             *

453          KK  ERCT83  DIVERT
454          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
455          KM   retention developed after 1990 in subbasin CT83
456          DT  XCT83     28.8      0.0
457          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
```



```
458          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
             *

459          KK   CCT83 COMBINE
460          KM   Combine route RWCT83, route RSCT83, and subbasin CT83
461          HC       3     3.34
             *
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LINE         ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

462          KK  PRCT75RETRIEVE
463          KM   Retrieve full flow capacity of 651 cfs from 108-inch storm drain pipe at the
464          KM   intersection of Cactus Road and 75th Avenue
465          DR  DPCT75
             *

466          KK  RPCT83   ROUTE
467          KM   Route full flow capacity of 651 cfs through 108-inch storm drain pipe in
468          KM   Cactus Road to the intersection of Cactus Road and 83rd Avenue
469          RK    5246  0.0027    0.015             CIRC    9.000
             *

470          KK  CPCT83 COMBINE
471          KM   Combine pipe return PRCT75 with the runoff hydrograph at combination point
472          KM   CCT83 at the intersection of Cactus Road and 83rd Avenue
473          HC       2
             *

474          KK   DCT83  DIVERT
475          KM   Divert calculated full flow capapcity of 663 cfs into 120-inch storm drain
476          KM   pipe at the intersection of Cactus Road and 83rd Avenue
477          DT  DPCT83      0.0    663.0
478          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
479          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
             *

480          KK  DWCTLO  DIVERT
481          KM   Divert remaining runoff hydrograph from combination point CCT83 west to
482          KM   combination point CCTLO
483          DT  DSPE83      0.0      0.0
484          DI     0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0  10000.0  20000.0  50000.0
485          DQ     0.0     41.0     82.0    205.0    410.0    820.0   1640.0   4100.0   8200.0  20500.0
             *

486          KK  RWCTLO   ROUTE
487          KM   Route diversion DWCTLO west to combination point CCTLO
488          RS       3     FLOW
489          RC   0.035   0.015   0.035    6650  0.0048     0.00
490          RX    0.00    0.00   76.50   76.50  372.50  372.50  449.00  449.00
491          RY    3.00    1.27    0.50    0.00    0.00    0.50    1.27    3.00
             *

492          KK    CTLO   BASIN
493          KM   Runoff hydrograph for subbasin CTLO northeast of the intersection of Cactus
494          KM   Road and SR Loop 101
495          BA   0.865
496          LG    0.20    0.15    7.30    0.09      47
497          UC   1.500   1.210
498          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
499          UA     100
             *
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LINE         ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

500          KK  ERCTLO  DIVERT
501          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
502          KM   retention developed after 1990 in subbasin CTLO
503          DT  XCTLO     46.0      0.0
504          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
505          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
             *

506          KK   CCTLO COMBINE
507          KM   Combine route RWCTLO, route RSCTLO, and subbasin CTLO
508          HC       3     3.46
             *

509          KK  PRCT83RETRIEVE
510          KM   Retrieve full flow capacity of 663 cfs from 120-inch storm drain pipe at the
511          KM   intersection of Cactus Road and 83rd Avenue
512          DR  DPCT83
             *

513          KK  RPCTLO   ROUTE
514          KM   Route full flow capacity of 663 cfs through 120-inch storm drain pipe in
515          KM   Cactus Road to the intersection of Cactus Road and SR Loop 101
516          RK    6334  0.0016    0.015             CIRC   10.000
             *
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```
517          KK  CPCTLO COMBINE
518          KM   Combine pipe return PRCT83 with the runoff hydrograph at combination point
519          KM   CCTLO at the intersection of Cactus Road and SR Loop 101
520          HC       2
             *

521          KK  DSCTLO  DIVERT
522          KM   Divert portion of runoff hydrograph from combination point CPCTLO south to
523          KM   combination point CGRLO
524          DT  DWNR01      0.0  1927.0
525          DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
526          DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
             *

527          KK  DSPELO  DIVERT
528          KM   Divert remainder of runoff hydrograph from divert DSCTLO south to
529          KM   combination point CGRLO
530          DT  DSGR91      0.0      0.0
531          DI      0.0  1299.0  1299.1 50000.0      0.0      0.0      0.0      0.0      0.0      0.0
532          DQ      0.0      0.0  1299.1 50000.0      0.0      0.0      0.0      0.0      0.0      0.0
             *

533          KK    PE51   BASIN
534          KM   Runoff hydrograph for subbasin PE51 northeast of the intersection of Peoria
535          KM   Avenue and 51st Avenue
536          BA   0.419
537          LG    0.22    0.15    8.80    0.05      37
538          UC   1.111   0.688
539          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
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LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9.....10

540          UA     100
             *

541          KK  DWPE59  DIVERT
542          KM   Divert remaining runoff hydrograph from subbasin PE59 west to combination
543          KM   point CPE59
544          DT  DSOL51      0.0      0.0
545          DI      0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0  10000.0  20000.0  50000.0
546          DQ      0.0     40.0     80.0    200.0    400.0    800.0   1600.0   4000.0   8000.0  20000.0
             *

547          KK  RWPE59   ROUTE
548          KM   Route diversion DWPE59 west to combination point CPE59
549          RS       5    FLOW
550          RC   0.035   0.015   0.035    5280  0.0042     0.00
551          RX    0.00    0.00   79.50   79.50  468.50  468.50  548.00  548.00
552          RY    3.00    1.30    0.50    0.00    0.00    0.50    1.30    3.00
             *

553          KK  DRPE59RETRIEVE
554          KM   Retrieve divert DRPE59 from subbasin CPCT59 and divert south to combination
555          KM   point CPE59
556          DR  DSPE59
             *

557          KK  RSPE59   ROUTE
558          KM   Route diversion retrieval DRPE59 south to combination point CPE59
559          RS      10    FLOW
560          RC   0.035   0.015   0.035    5280  0.0037     0.00
561          RX    0.00    0.00   58.50   58.50  339.50  339.50  398.00  398.00
562          RY    3.00    1.08    0.50    0.00    0.00    0.50    1.08    3.00
             *

563          KK    PE59   BASIN
564          KM   Runoff hydrograph for square mile subbasin PE59 northeast of the intersection
565          KM   of Peoria Avenue and 59th Avenue
566          BA   0.989
567          LG    0.25    0.15    8.80    0.05      31
568          UC   1.500   0.988
569          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
570          UA     100
             *

571          KK  ERPE59  DIVERT
572          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
573          KM   retention developed after 1990 in subbasin PE59
574          DT   XPE59     8.6      0.0
575          DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
576          DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
             *
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LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9.....10

577          KK   CPE59 COMBINE
578          KM   Combine route RWPE59, route RSPE59, and subbasin PE59
579          HC       3    1.44
             *
```



```
580          KK  PR59CTRETRIEVE
581          KM   Retrieve full flow capacity of 18 cfs from 30-inch storm drain pipe at the
582          KM   intersection of Cactus Road and 59th Avenue
583          DR  DP59CT
             *
             * KKRP59PE   ROUTE
             * KM Route full flow capacity of 18 cfs through 30-inch storm drain pipe in
             * KM 59th Avenue to the intersection of Peoria Avenue and 59th Avenue
             * RK  5358  0.0020   0.015            CIRC   2.500
             *

584          KK  CPPE59 COMBINE
585          KM   Combine pipe return PR59CT with the runoff hydrograph at combination point
586          KM   CPE59 at the intersection of Peoria Avenue and 59th Avenue
587          HC       2
             *

588          KK   D59PE  DIVERT
589          KM   Divert calculated full flow capapcity of 235 cfs into 78-inch storm drain
590          KM   pipe at the intersection of Peoria Avenue and 59th Avenue
591          DT  DP59PE      0.0    235.0
592          DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
593          DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
             *

594          KK  DWPE67  DIVERT
595          KM   Divert remaining runoff hydrograph from combination point CPPE59 west to
596          KM   combination point CPE67
597          DT  DSOL59      0.0      0.0
598          DI      0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0  10000.0  20000.0  50000.0
599          DQ      0.0     57.0    114.0    285.0    570.0   1140.0   2280.0   5700.0  11400.0  28500.0
             *

600          KK  RWPE67   ROUTE
601          KM   Route diversion DWPE67 west to combination point CPE67
602          RS       5    FLOW
603          RC   0.035   0.015   0.035    5280  0.0026     0.00
604          RX    0.00    0.00   51.50   51.50  296.50  296.50  348.00  348.00
605          RY    3.00    1.02    0.50    0.00    0.00    0.50    1.02    3.00
             *

606          KK  DRPE67RETRIEVE
607          KM   Retrieve divert DRPE67 from combination point CCT67 and divert south to
608          KM   combination point CPE67
609          DR  DSPE67
             *
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LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9.....10

610          KK  RSPE67   ROUTE
611          KM   Route diversion retrieval DRPE67 south to combination point CPE67
612          RS       7    FLOW
613          RC   0.035   0.015   0.035    5280  0.0022     0.00
614          RX    0.00    0.00   58.50   58.50  339.50  339.50  398.00  398.00
615          RY    3.00    1.08    0.50    0.00    0.00    0.50    1.08    3.00
             *

616          KK    PE67   BASIN
617          KM   Runoff hydrograph for square mile subbasin PE67 northeast of the intersection
618          KM   of Peoria Avenue and 67th Avenue
619          BA   0.962
620          LG    0.23    0.15    7.60    0.09      36
621          UC   1.500   1.016
622          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
623          UA     100
             *

624          KK  ERPE67  DIVERT
625          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
626          KM   retention developed after 1990 in subbasin PE67
627          DT   XPE67     55.4      0.0
628          DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
629          DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
             *

630          KK   CPE67 COMBINE
631          KM   Combine route RWPE67, route RSPE67, and subbasin PE67
632          HC       3    2.06
             *

633          KK  SRPE67 STORAGE
634          KM   Storage route runoff hydrograph from combination point CPE67 through
635          KM     regional detention basin located in subbasin PE67
636          KM   Stage-storage data from Sunnyside Park As-built records, 1991
637          RS       1    STOR
638          SV            5.24   11.27   12.67   18.77   26.81   35.20
639          SQ                  217.00 2430.00 6873.0012627.00
640          SE   87.00   88.00   89.00   89.20   90.00   91.00   92.00
             *

641          KK   D67PE  DIVERT
```

```
          KM   Divert calculated full flow capapcity of 162 cfs into 60-inch storm drain
          KM   pipe at the intersection of Peoria Avenue and 67th Avenue
          DT  DP67PE      0.0   162.0
          DI      0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
          DQ      0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
          *
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        LINE      ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

          KK  DWPE75  DIVERT
          KM   Divert remaining runoff hydrograph from combination point CPE67 west to
          KM   combination point CPE75
          DT  DSOL67      0.0     0.0
          DI      0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
          DQ      0.0    38.0    76.0   190.0   380.0   760.0  1520.0  3800.0  7600.0 19000.0
          *

          KK  RWPE75   ROUTE
          KM   Route diversion DWPE75 west to combination point CPE75
          RS       7    FLOW
          RC   0.035   0.015   0.035    5280  0.0035    0.00
          RX    0.00    0.00   86.00   86.00  413.00  413.00  499.00  499.00
          RY    3.00    1.36    0.50    0.00    0.00    0.50    1.36    3.00
          *

          KK  DRPE75RETRIEVE
          KM   Retrieve divert DRPE75 from combination point CPCT75 and divert south to
          KM   combination point CPE75
          DR  DSPE75
          *

          KK  RSPE75   ROUTE
          KM   Route diversion retrieval DRPE75 south to combination point CPE75
          RS       4    FLOW
          RC   0.035   0.015   0.035    5280  0.0027    0.00
          RX    0.00    0.00   57.50   57.50  291.50  291.50  349.00  349.00
          RY    3.00    1.08    0.50    0.00    0.00    0.50    1.08    3.00
          *

          KK   PE75   BASIN
          KM   Runoff hydrograph for square mile subbasin PE75 northeast of the intersection
          KM   of Peoria Avenue and 75th Avenue
          BA  1.007
          LG   0.24    0.15    8.00    0.07      33
          UC  1.500   1.010
          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
          UA     100
          *

          KK  ERPE75  DIVERT
          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
          KM   retention developed after 1990 in subbasin PE75
          DT  XPE75       9.4     0.0
          DI      0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
          DQ      0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
          *

          KK   CPE75 COMBINE
          KM   Combine route RWPE75, route RSPE75, and subbasin PE75
          HC       3    3.36
          *
1                                      HEC-1 INPUT                                        PAGE 18

        LINE      ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

          KK   D75PE  DIVERT
          KM   Divert calculated full flow capapcity of 179 cfs into 60-inch storm drain
          KM   pipe at the intersection of Peoria Avenue and 75th Avenue
          DT  DP75PE      0.0   179.0
          DI      0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
          DQ      0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
          *

          KK  DWPE83  DIVERT
          KM   Divert remaining runoff hydrograph from combination point CPE75 west to
          KM   combination point CPE83
          DT  DSOL75      0.0     0.0
          DI      0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
          DQ      0.0    52.0   104.0   260.0   520.0  1040.0  2080.0  5200.0 10400.0 26000.0
          *

          KK  RWPE83   ROUTE
          KM   Route diversion DWPE83 west to combination point CPE83
          RS       3    FLOW
          RC   0.035   0.015   0.035    5280  0.0023    0.00
          RX    0.00    0.00   57.50   57.50  291.50  291.50  349.00  349.00
          RY    3.00    1.08    0.50    0.00    0.00    0.50    1.08    3.00
          *

          KK  DRPE83RETRIEVE
```



```
          KM   Retrieve divert DRPE83 from combination point CPCT83 and divert south to
          KM   combination point CPE83
          DR  DSPE83
          *

          KK  RSPE83   ROUTE
          KM   Route diversion retrieval DRPE83 south to combination point CPE83
          RS       4    FLOW
          RC   0.035   0.015   0.035    5280  0.0023    0.00
          RX    0.00    0.00   76.50   76.50  372.50  372.50  449.00  449.00
          RY    3.00    1.27    0.50    0.00    0.00    0.50    1.27    3.00
          *

          KK   PE83   BASIN
          KM   Runoff hydrograph for square mile subbasin PE83 northeast of the intersection
          KM   of Peoria Avenue, 83rd Avenue, and Grand Avenue
          BA  1.000
          LG   0.24    0.13   10.10    0.03      34
          UC  1.500   1.010
          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
          UA     100
          *

          KK  ERPE83  DIVERT
          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
          KM   retention developed after 1990 in subbasin PE83
          DT  XPE83      34.6     0.0
          DI      0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
          DQ      0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
          *
1                                      HEC-1 INPUT                                        PAGE 19

        LINE      ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

          KK   CPE83 COMBINE
          KM   Combine route RWPE83, route RSPE83, and subbasin PE83
          HC       3    3.97
          *

          KK   DPE83  DIVERT
          KM   Divert calculated full flow capapcity of 112 cfs into 48-inch storm drain
          KM   pipe at the intersection of Peoria Avenue and 83rd Avenue
          DT  DPPE83      0.0   112.0
          DI      0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
          DQ      0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
          *

          KK  DWGR91  DIVERT
          KM   Divert portion of runoff hydrograph from subbasin CPE83 west through subbasin
          KM   GR91 using the ratio of the widths and slopes od the streets going west and
          KM   the widths and slopes of the streets going south. The remaining flow is
          KM   diverted south through subbasin GR83
          DT  DSGR83      0.0     0.0
          DI      0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
          DQ      0.0    48.0    96.0   240.0   480.0   960.0  1920.0  4800.0  9600.0 24000.0
          *

          KK   DGR91  DIVERT
          KM   Divert portion of DWGR91 west to subbasin GR91 using the ratio of the width
          KM   of the collector and local streets and the width of the arterial street. The
          KM   remaining flow is diverted west to subbasin PE91 along Peoria Avenue
          DT  DWPE91      0.0     0.0
          DI      0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
          DQ      0.0    36.0    72.0   180.0   360.0   720.0  1440.0  3600.0  7200.0 18000.0
          *

          KK  DRGR91RETRIEVE
          KM   Retrieve divert DRGR91 from combination point CPCTLO and divert south to
          KM   combination point CGR91
          DR  DSGR91
          *

          KK  RSGR91   ROUTE
          KM   Route diversion retrieval DRGR91 south to combination point CGR91
          RS       3    FLOW
          RC   0.035   0.015   0.035    4969  0.0024    0.00
          RX    0.00    0.00   57.50   57.50  291.50  291.50  349.00  349.00
          RY    3.00    1.08    0.50    0.00    0.00    0.50    1.08    3.00
          *

          KK   GR91   BASIN
          KM   Runoff hydrograph for subbasin GR91 north of Grand Avenue and east of 91st
          KM   Avenue
          BA  0.514
          LG   0.25    0.13   10.10    0.03      37
          UC  1.098   0.571
          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
          UA     100
          *
1                                      HEC-1 INPUT                                        PAGE 20

        LINE      ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10
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```
KK  ERGR91  DIVERT
KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
KM   retention developed after 1990 in subbasin GR91
DT   XGR91     25.5      0.0
DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
*

KK   CGR91 COMBINE
KM   Combine divert DGR91, route RSGR91, and subbasin GR91
HC        3     3.58
*

KK  DWGRLO  DIVERT
KM   Divert portion of runoff hydrograph from combination point CGR91 west to the
KM   intersection of Grand Avenue and SR Loop 101 and the remaining flow south to
KM   the intersection of Peoria Avenue and Grand Avenue. The diversion is based on
KM   topography
DT  DSPE91       0.0       0.0
DI      0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0  10000.0  20000.0  50000.0
DQ      0.0     67.0    134.0    335.0    670.0   1340.0   2680.0   6700.0  13400.0  33500.0
*

KK   CGRLO COMBINE
KM   Combine divert DWGRLO and divert DSPELO
HC        2     2.91
*

KK  RSPELO    ROUTE
KM   Route hydrograph at combination point CGRLO south to combination point CIPEGR
RS        1      FLOW
RC   0.035    0.015    0.035     2704   0.0018     0.00
RX     0.00     3.00    13.00    25.00    35.00    47.00    57.00    60.00
RY     7.00     6.00     6.00     0.00     0.00     6.00     6.00     7.00
*

KK  DSOLLO  DIVERT
KM   Divert remaining runoff hydrograph from combination point CPPELO south to
KM   combination point COLLO
DT  DWNR02       0.0   7462.0
DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
*

KK  DRPE91RETRIEVE
KM   Retrieve divert DRPE91 from combination point CPE83 and divert west to
KM   combination point CIPEGR
DR  DSPE91
*
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LINE  ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

KK  SRGR91 STORAGE
KM   Storage route runoff hydrograph from divert retrieval DRPE91 through ponding
KM     area at Grand Avenue near the intersection of Peoria Avenue and 83rd Avenue
KM   Storage routing ID RES22 in Maryvale ADMS, Feb 1997 - comments from ADMS:
KM   PONDING AREA RESERVOIR ROUTE
KM   SUB-BASIN 22-31E
KM   PONDING AREA NORTHEAST OF GRAND AVENUE/RR EMBANKMENT
RS        1     STOR
SV             5.40     9.60    39.75
SQ             0.10  970.0010990.00
SE  1134.0 1136.00 1136.50 1138.00
*

KK  DIPE91RETRIEVE
KM   Retrieve arterial street flow diverted to Peoria Avenue at the intersection
KM   of Peoria Avenue and Grand Avenue
DR  DWPE91
*

KK  CIPEGR COMBINE
KM   Combine arterial street flow from Peoria Avenue DIPE91 with runoff hydrograph
KM   DRPE91 at the intersection of Peoria Avenue and Grand Avenue
HC        2     3.14
*

KK  RWPE91    ROUTE
KM   Route hydrograph at combination point CIPEGR at the intersection of Peoria
KM   Avenue and Grand Avenue west to combination point CPE91
RS        3      FLOW
RC   0.035    0.015    0.035     5280   0.0037     0.00
RX     0.00     0.00    67.00    67.00   332.00   332.00   399.00   399.00
RY     3.00     1.17     0.50     0.00     0.00     0.50     1.17     3.00
*

KK    PE91   BASIN
KM   Runoff hydrograph for subbasin PE91 northeast of the intersection of Peoria
KM   Avenue and 91st Avenue
```



```
BA   0.509
LG    0.21    0.16    9.70    0.04      45
UC   1.023   0.557
UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
UA     100
*

KK  ERPE91  DIVERT
KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
KM   retention developed after 1990 in subbasin PE91
DT   XPE91     13.1      0.0
DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
*
```



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LINE  ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

KK   CPE91 COMBINE
KM   Combine route RWPE91 and subbasin PE91
HC        2     3.65
*

KK  PRPE83RETRIEVE
KM   Retrieve full flow capacity of 112 cfs from 48-inch storm drain pipe at the
KM   intersection of Peoria Avenue and 83rd Avenue
DR  DPPE83
*

KK  RPPE91    ROUTE
KM   Route full flow capacity of 112 cfs through 48-inch storm drain pipe in
KM   Peoria Avenue to the intersection of Peoria Avenue and 91st Avenue
RK     5350   0.0061    0.015             CIRC    4.000
*

KK  CPPE91 COMBINE
KM   Combine pipe return PRPE83 with the runoff hydrograph at combination point
KM   CPE91 at the intersection of Peoria Avenue and 91st Avenue
HC        2
*

KK   DPE91  DIVERT
KM   Divert calculated full flow capapcity of 147 cfs into 72-inch storm drain
KM   pipe at the intersection of Peoria Avenue and 91st Avenue
DT  DPPE91       0.0     147.0
DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
*

KK  DWPELO  DIVERT
KM   Divert remaining runoff hydrograph from combination point CPPE91 west to
KM   combination point CPELO
DT  DSOL91       0.0       0.0
DI      0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0  10000.0  20000.0  50000.0
DQ      0.0     55.0    110.0    275.0    550.0   1100.0   2200.0   5500.0  11000.0  27500.0
*

KK  RWPELO    ROUTE
KM   Route diversion DWPELO west to combination point CPELO
RS        1      FLOW
RC   0.035    0.015    0.035     1289   0.0017     0.00
RX     0.00     0.00    73.50    73.50   350.50   350.50   424.00   424.00
RY     3.00     1.23     0.50     0.00     0.00     0.50     1.23     3.00
*

KK    PELO   BASIN
KM   Runoff hydrograph for subbasin PELO northeast of the intersection of Peoria
KM   Avenue and SR Loop 101
BA   0.271
LG    0.19    0.24    6.40    0.13      39
UC   1.268   1.070
UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
```



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LINE  ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

UA     100
*

KK  ERPELO  DIVERT
KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
KM   retention developed after 1990 in subbasin PELO
DT   XPELO       8.3       0.0
DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
*

KK   CPELO COMBINE
KM   Combine route RWPELO, divert DSPELO, and subbasin PELO
HC        3     4.81
*
```

```
 896          KK  PRPE91RETRIEVE
 897          KM   Retrieve full flow capacity of 147 cfs from 72-inch storm drain pipe at the
 898          KM   intersection of Peoria Avenue and 91st Avenue
 899          DR  DPPE91
              *

 900          KK  RPPELO   ROUTE
 901          KM   Route full flow capacity of 147 cfs through 72-inch storm drain pipe in
 902          KM   Peoria Avenue to the intersection of Peoria Avenue and St Loop 101
 903          RK    1594  0.0012   0.015            CIRC   6.000
              *

 904          KK  CPPELO COMBINE
 905          KM   Combine pipe return PRPE91 with the runoff hydrograph at combination point
 906          KM   CPELO at the intersection of Peoria Avenue and SR Loop 101
 907          HC       2
              *

 908          KK   DPELO  DIVERT
 909          KM   Divert calculated full flow capapcity of 255 cfs into 72-inch storm drain
 910          KM   pipe at the intersection of Peoria Avenue and Loop 101
 911          DT  DPPELO      0.0    255.0
 912          DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
 913          DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

 914          KK  RSOLLO   ROUTE
 915          KM   Route diversion DSOLLO south to combination point COLLO
 916          RS        1     FLOW
 917          RC   0.035    0.015    0.035     5324  0.0018     0.00
 918          RX    0.00     3.00    13.00    33.00    63.00    83.00    93.00    96.00
 919          RY   11.00    10.00    10.00     0.00     0.00    10.00    10.00    11.00
              *

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           LINE      ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

 920          KK    OL35   BASIN
 921          KM   Runoff hydrograph for subbasin OL35 northeast of the intersection of Olive
 922          KM   Avenue and 35th Avenue
 923          BA   0.214
 924          LG    0.10     0.25     5.40     0.23       58
 925          UC   0.848    0.870
 926          UA       0      5.0     16.0     30.0     65.0     77.0     84.0     90.0     94.0     97.0
 927          UA     100
              *

 928          KK   D35OL  DIVERT
 929          KM   Divert calculated full flow capapcity of 61 cfs into 42-inch storm drain
 930          KM   pipe at the intersection of Olive Avenue and 35th Avenue
 931          DT  DP35OL      0.0     61.0
 932          DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
 933          DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

 934          KK  DWOL43  DIVERT
 935          KM   Divert remaining runoff hydrograph from subbasin OL35 west to combination
 936          KM   point COL43
 937          DT  DSNO35      0.0      0.0
 938          DI      0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0  10000.0  20000.0  50000.0
 939          DQ      0.0     70.0    140.0    350.0    700.0   1400.0   2800.0   7000.0  14000.0  35000.0
              *

 940          KK  RWOL43   ROUTE
 941          KM   Route diversion DWOL43 west to combination point COL43
 942          RS       10     FLOW
 943          RC   0.035    0.015    0.035     5280  0.0022     0.00
 944          RX    0.00     0.00    35.50    35.50   188.50   188.50   224.00   224.00
 945          RY    3.00     0.86     0.50     0.00     0.00     0.50     0.86     3.00
              *

 946          KK    OL43   BASIN
 947          KM   Runoff hydrograph for subbasin OL43 northeast of the intersection of Olive
 948          KM   Avenue and 43rd Avenue
 949          BA   0.635
 950          LG    0.25     0.25     5.40     0.20       33
 951          UC   1.500    0.939
 952          UA       0      5.0     16.0     30.0     65.0     77.0     84.0     90.0     94.0     97.0
 953          UA     100
              *

 954          KK   COL43 COMBINE
 955          KM   Combine route RWOL43 and subbasin OL43
 956          HC       2     0.70
              *

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           LINE      ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

 957          KK   D43OL  DIVERT
 958          KM   Divert calculated full flow capapcity of 85 cfs into 48-inch storm drain
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 959          KM   pipe at the intersection of Olive Avenue and 43rd Avenue
 960          DT  DP43OL      0.0     85.0
 961          DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
 962          DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

 963          KK  DWOL51  DIVERT
 964          KM   Divert remaining runoff hydrograph from combination point COL43 west to
 965          KM   combination point COL51
 966          DT  DSNO43      0.0      0.0
 967          DI      0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0  10000.0  20000.0  50000.0
 968          DQ      0.0     59.0    118.0    295.0    590.0   1180.0   2360.0   5900.0  11800.0  29500.0
              *

 969          KK  RWOL51   ROUTE
 970          KM   Route diversion DWOL51 west to combination point COL51
 971          RS        6     FLOW
 972          RC   0.035    0.015    0.035     5280  0.0035     0.00
 973          RX    0.00     0.00    47.50    47.50   230.50   230.50   278.00   278.00
 974          RY    3.00     0.98     0.50     0.00     0.00     0.50     0.98     3.00
              *

 975          KK  DROL51RETRIEVE
 976          KM   Retrieve divert DROL51 from subbasin CPE51 and divert south to combination
 977          KM   point COL51
 978          DR  DSOL51
              *

 979          KK  RSOL51   ROUTE
 980          KM   Route diversion retrieval DROL51 south to combination point COL51
 981          RS        6     FLOW
 982          RC   0.035    0.015    0.035     5280  0.0031     0.00
 983          RX    0.00     0.00    68.50    68.50   359.50   359.50   428.00   428.00
 984          RY    3.00     1.18     0.50     0.00     0.00     0.50     1.18     3.00
              *

 985          KK    OL51   BASIN
 986          KM   Runoff hydrograph for square mile subbasin OL51 northeast of the intersection
 987          KM   of Olive Avenue and 51st Avenue
 988          BA   0.993
 989          LG    0.23     0.15     7.30     0.10       35
 990          UC   1.500    1.014
 991          UA       0      5.0     16.0     30.0     65.0     77.0     84.0     90.0     94.0     97.0
 992          UA     100
              *

 993          KK  EROL51  DIVERT
 994          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
 995          KM   retention developed after 1990 in subbasin OL51
 996          DT   XOL51      6.0      0.0
 997          DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
 998          DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

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           LINE      ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

 999          KK   COL51 COMBINE
1000          KM   Combine route RWOL51, route RSOL51, and subbasin OL51
1001          HC       3     1.45
              *

1002          KK   DOL51  DIVERT
1003          KM   Divert calculated full flow capapcity of 297 cfs into 78-inch storm drain
1004          KM   pipe at the intersection of Olive Avenue and 51st Avenue
1005          DT  DPOL51      0.0    297.0
1006          DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
1007          DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

1008          KK  DWOL59  DIVERT
1009          KM   Divert remaining runoff hydrograph from combination point COL51 west to
1010          KM   combination point COL59
1011          DT  DSNO51      0.0      0.0
1012          DI      0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0  10000.0  20000.0  50000.0
1013          DQ      0.0     34.0     68.0    170.0    340.0    680.0   1360.0   3400.0   6800.0  17000.0
              *

1014          KK  RWOL59   ROUTE
1015          KM   Route diversion DWOL59 west to combination point COL59
1016          RS        4     FLOW
1017          RC   0.035    0.015    0.035     5280  0.0034     0.00
1018          RX    0.00     0.00    75.50    75.50   402.50   402.50   478.00   478.00
1019          RY    3.00     1.25     0.50     0.00     0.00     0.50     1.25     3.00
              *

1020          KK  DROL59RETRIEVE
1021          KM   Retrieve divert DROL59 from combination point CPPE59 and divert south to
1022          KM   combination point COL59
1023          DR  DSOL59
              *
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1024          KK  RSOL59    ROUTE
1025          KM   Route diversion retrieval DROL59 south to combination point COL59
1026          RS       5     FLOW
1027          RC   0.035   0.015   0.035    5280  0.0023     0.00
1028          RX    0.00    0.00   72.50   72.50  425.50  425.50  498.00  498.00
1029          RY    3.00    1.23    0.50    0.00    0.00    0.50    1.23    3.00
              *

1030          KK    OL59    BASIN
1031          KM   Runoff hydrograph for square mile subbasin OL59 northeast of the intersection
1032          KM   of Olive Avenue and 59th Avenue
1033          BA   0.990
1034          LG    0.24    0.15    8.80    0.05      34
1035          UC   1.500   1.012
1036          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
1037          UA     100
              *
1                                        HEC-1 INPUT                                        PAGE 27

LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1038          KK  EROL59   DIVERT
1039          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
1040          KM   retention developed after 1990 in subbasin OL59
1041          DT   XOL59     21.9      0.0
1042          DI       0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
1043          DQ       0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

1044          KK   COL59 COMBINE
1045          KM   Combine route RWOL59, route RSOL59, and subbasin OL59
1046          HC       3     2.78
              *

1047          KK  PR59PERETRIEVE
1048          KM   Retrieve full flow capacity of 235 cfs from 78-inch storm drain pipe at the
1049          KM   intersection of Peoria Avenue and 59th Avenue
1050          DR  DP59PE
              *

1051          KK  RP59BR   ROUTE
1052          KM   Route full flow capacity of 235 cfs through 78-inch storm drain pipe in
1053          KM   59th Avenue to the intersection of Brown Street and 59th Avenue
1054          RK    1231  0.0020   0.015             CIRC   6.500
              *

1055          KK   DBR59  DIVERT
1056          KM   Divert calculated full flow capapcity of 161 cfs into 60-inch storm drain
1057          KM   pipe at the intersection of Brown Street and 59th Avenue
1058          DT  DPBR59      0.0   161.0
1059          DI       0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
1060          DQ       0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

1061          KK  RP59OL   ROUTE
1062          KM   Route full flow capacity of 161 cfs through 60-inch storm drain pipe in
1063          KM   59th Avenue to the intersection of Olive Avenue and 59th Avenue
1064          RK    1446  0.0031   0.015             CIRC   3.500
              *

1065          KK  PROL51RETRIEVE
1066          KM   Retrieve full flow capacity of 297 cfs from 78-inch storm drain pipe at the
1067          KM   intersection of Olive Avenue and 51st Avenue
1068          DR  DPOL51
              *

1069          KK  RPOL59   ROUTE
1070          KM   Route full flow capacity of 297 cfs through 78-inch storm drain pipe in
1071          KM   Olive Avenue to the intersection of Olive Avenue and 59th Avenue
1072          RK    5117  0.0032   0.015             CIRC   6.500
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1073          KK  CPOL59 COMBINE
1074          KM   Combine pipe return PROL51 and the remainder of pipe return PR59PE with the
1075          KM   runoff hydrograph at combination point COL59 at the intersection of Olive
1076          KM   Avenue and 59th Avenue
1077          HC       3
              *

1078          KK   DOL59  DIVERT
1079          KM   Divert calculated full flow capapcity of 475 cfs into 90-inch storm drain
1080          KM   pipe at the intersection of Olive Avenue and 59th Avenue
1081          DT  DPOL59      0.0   475.0
1082          DI       0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
1083          DQ       0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

1084          KK  DWOL67  DIVERT
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1085          KM   Divert remaining runoff hydrograph from combination point CPOL59 west to
1086          KM   combination point COL67
1087          DT  DSNO59      0.0      0.0
1088          DI       0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
1089          DQ       0.0    61.0   122.0   305.0   610.0  1220.0  2440.0  6100.0 12200.0 30500.0
              *

1090          KK  RWOL67   ROUTE
1091          KM   Route diversion DWOL67 west to combination point COL67
1092          RS       3     FLOW
1093          RC   0.035   0.015   0.035    5280  0.0034     0.00
1094          RX    0.00    0.00   54.50   54.50  273.50  273.50  328.00  328.00
1095          RY    3.00    1.04    0.50    0.00    0.00    0.50    1.04    3.00
              *

1096          KK  DROL67RETRIEVE
1097          KM   Retrieve divert DROL67 from combination point CPE67 and divert south to
1098          KM   combination point COL67
1099          DR  DSOL67
              *

1100          KK  RSOL67   ROUTE
1101          KM   Route diversion retrieval DROL67 south to combination point COL67
1102          RS       7     FLOW
1103          RC   0.035   0.015   0.035    5280  0.0031     0.00
1104          RX    0.00    0.00   45.50   45.50  284.50  284.50  330.00  330.00
1105          RY    3.00    0.96    0.50    0.00    0.00    0.50    0.96    3.00
              *

1106          KK    OL67    BASIN
1107          KM   Runoff hydrograph for square mile subbasin OL67 northeast of the intersection
1108          KM   of Olive Avenue and 67th Avenue
1109          BA   0.960
1110          LG    0.23    0.15    8.40    0.07      36
1111          UC   1.412   0.952
1112          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
1113          UA     100
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1114          KK  EROL67  DIVERT
1115          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
1116          KM   retention developed after 1990 in subbasin OL67
1117          DT   XOL67     39.8      0.0
1118          DI       0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
1119          DQ       0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

1120          KK   COL67 COMBINE
1121          KM   Combine route RWOL67, route RSOL67, and subbasin OL67
1122          HC       3     2.84
              *

1123          KK  PRBR59RETRIEVE
1124          KM   Retrieve full flow capacity of 161 cfs from 60-inch storm drain pipe at the
1125          KM   intersection of Brown Street and 59th Avenue
1126          DR  DPBR59
              *

1127          KK  RPBR63   ROUTE
1128          KM   Route full flow capacity of 161 cfs through 60-inch storm drain pipe in
1129          KM   63rd Avenue to the intersection of Brown Street and 63rd Avenue
1130          RK     528  0.0038   0.015             CIRC   5.000
              *

1131          KK  SRBR63 STORAGE
1132          KM   Storage route pipe flow PRBR59 from the storm drain in Brown Street
1133          KM     through regional detention basin located near the intersection of Brown
1134          KM     Street and 63rd Avenue
1135          KM   Stage-storage from Sahuaro Ranch Park - Phase VI Civil Survey, 1988
1136          RS       1     STOR
1137          SV             0.83    1.95    7.59    8.05    8.59
1138          SQ             9.00   25.00   52.00  201.00  474.00
1139          SE    57.00   58.00   59.00   63.00   63.30   63.50
              *

1140          KK  RP63OL   ROUTE
1141          KM   Route full flow capacity of 161 cfs through 60-inch storm drain pipe in
1142          KM   63rd Avenue to the intersection of Olive Avenue and 63rd Avenue
1143          RK    3878  0.0040   0.015             CIRC   2.500
              *

1144          KK  PROL59RETRIEVE
1145          KM   Retrieve full flow capacity of 475 cfs from 90-inch diameter pipe at the
1146          KM   intersection of Olive Avenue and 59th Avenue
1147          DR  DPOL59
              *

1148          KK  RPOL63   ROUTE
1149          KM   Route full flow capacity of 475 cfs through 90-inch storm drain pipe in
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1150          KM   in Olive Avenue to the intersection of Olive Avenue and 63rd Avenue
1151          RK    2835  0.0038   0.015            CIRC   7.500
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9.....10

1152          KK  CPOL63 COMBINE
1153          KM   Combine pipe return PROL67 with pipe return PRBR59 at the intersection of
1154          KM   Olive Avenue and 63rd Avenue
1155          HC       2    2.84
              *
1156          KK  RPOL67   ROUTE
1157          KM   Route full flow capacity of 161 cfs through 60inch storm drain pipe in
1158          KM   59th Avenue to the intersection of Olive Avenue and 59th Avenue
1159          RK    2409  0.0033   0.015            CIRC   7.500
              *
1160          KK  PR67PERETRIEVE
1161          KM   Retrieve full flow capacity of 161 cfs from 60-inch storm drain pipe at the
1162          KM   intersection of Olive Avenue and 67th Avenue
1163          DR  DP67PE
              *
              * KKRP67MV   ROUTE
              * KM Route full flow capacity of 162 cfs through 60-inch storm drain pipe in
              * KM 67th Avenue to the intersection of Mountain View Road and 67th Avenue
              * RK  2679  0.0039   0.015            CIRC   5.000
              *
1164          KK  SR67MV STORAGE
1165          KM   Storage route pipe flow PR67PE from storm drain in 67th Avenue through
1166          KM     regional detention basin located near the intersection of Mountain View
1167          KM     Road and 67th Avenue
1168          KM   Stage-storage from Chaparral Ranch Retention Basin Plans, 1984
1169          RS       1     STOR
1170          SV            2.29    2.93    3.65    5.28
1171          SQ           17.00  201.00  531.00 1457.00
1172          SE  1170.0 1171.00 1171.30 1171.50 1172.00
              *
              * KKRP67OL   ROUTE
              * KM Route full flow capacity of 175 cfs through 66-inch storm drain pipe in
              * KM 67th Avenue to the intersection of Olive Avenue and 67th Avenue
              * RK  2627  0.0027   0.015            CIRC   5.500
              *
1173          KK  CPOL67 COMBINE
1174          KM   Combine pipe return PR67PE with the runoff hydrograph at combination point
1175          KM   COL67 at the intersection of Olive Avenue and 67th Avenue
1176          HC       3
              *
1177          KK   DOL67  DIVERT
1178          KM   Divert calculated full flow capapcity of 662 cfs into 72-inch storm drain
1179          KM   pipe at the intersection of Olive Avenue and 67th Avenue
1180          DT  DPOL67      0.0     662.0
1181          DI      0.0 50000.0      0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
1182          DQ      0.0 50000.0      0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *
1                                        HEC-1 INPUT                                        PAGE 31

LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9.....10

1183          KK  DWOL75  DIVERT
1184          KM   Divert remaining runoff hydrograph from combination point CPOL67 west to
1185          KM   combination point COL75
1186          DT  DSNO67      0.0     0.0
1187          DI      0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
1188          DQ      0.0    44.0    88.0   220.0   440.0   880.0  1760.0  4400.0  8800.0 22000.0
              *
1189          KK  RWOL75   ROUTE
1190          KM   Route diversion DWOL75 west to combination point COL75
1191          RS       1    FLOW
1192          RC   0.035   0.015   0.035    5280  0.0031    0.00
1193          RX    0.00    0.00   67.00   67.00  332.00  332.00  399.00  399.00
1194          RY    3.00    1.17    0.50    0.00    0.00    0.50    1.17    3.00
              *
1195          KK  DROL75RETRIEVE
1196          KM   Retrieve divert DROL75 from combination point CPE75 and divert south to
1197          KM   combination point COL75
1198          DR  DSOL75
              *
1199          KK  RSOL75   ROUTE
1200          KM   Route diversion retrieval DROL75 south to combination point COL75
1201          RS       3    FLOW
1202          RC   0.035   0.015   0.035    5280  0.0027    0.00
1203          RX    0.00    0.00   57.50   57.50  291.50  291.50  349.00  349.00
1204          RY    3.00    1.08    0.50    0.00    0.00    0.50    1.08    3.00
```



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              *
1205          KK   OL75   BASIN
1206          KM   Runoff hydrograph for square mile subbasin OL75 northeast of the intersection
1207          KM   of Olive Avenue and 75th Avenue
1208          BA   1.004
1209          LG    0.23    0.15    8.80    0.06      32
1210          UC   1.500   1.012
1211          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
1212          UA     100
              *
1213          KK  EROL75  DIVERT
1214          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
1215          KM   retention developed after 1990 in subbasin OL75
1216          DT   XOL75    40.4     0.0
1217          DI      0.0 50000.0      0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
1218          DQ      0.0 50000.0      0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *
1219          KK   COL75 COMBINE
1220          KM   Combine route RWOL75, route RSOL75, and subbasin OL75
1221          HC       3    4.34
              *
1                                        HEC-1 INPUT                                        PAGE 32

LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9.....10

1222          KK  PROL67RETRIEVE
1223          KM   Retrieve full flow capacity of 662 cfs from 72-inch storm drain pipe at the
1224          KM   intersection of Olive Avenue and 67th Avenue
1225          DR  DPOL67
              *
1226          KK  RPOL71   ROUTE
1227          KM   Route full flow capacity of 662 cfs through 72-inch storm drain pipe in
1228          KM   Olive Avenue to the intersection of Olive Avenue and 71st Avenue
1229          RK    2746  0.0243   0.015            CIRC   6.000
              *
1230          KK  CPOL71 COMBINE
1231          KM   Combine pipe return PROL67 with the runoff hydrograph at combination point
1232          KM   COL71 at the intersection of Olive Avenue and 71st Avenue
1233          HC       2
              *
1234          KK  SROL71 STORAGE
1235          KM   Storage route runoff hydrograph from combination point CPOL71 through
1236          KM     regional detention basin located near the intersection of Olive Avenue
1237          KM     and 71st Avenue
1238          KM   Stage-storage data from topography provided by FCDMC dated 3/28/1994
1239          RS       1     STOR
1240          SV            8.78   27.11   47.24   69.15   92.94  105.55  118.61
1241          SQ           57.00  147.00  148.00  184.00  213.00 2792.00 7494.00
1242          SE  1128.0 1130.00 1132.00 1134.00 1136.00 1138.00 1139.00 1140.00
              *
1243          KK   DOL71  DIVERT
1244          KM   Divert calculated full flow capapcity of 386 cfs into 78-inch storm drain
1245          KM   pipe at the intersection of Olive Avenue and 71st Avenue
1246          DT  DPOL71      0.0     386.0
1247          DI      0.0 50000.0      0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
1248          DQ      0.0 50000.0      0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *
1249          KK  PR75PERETRIEVE
1250          KM   Retrieve full flow capacity of 179 cfs from 60-inch storm drain pipe at the
1251          KM   intersection of Peoria Avenue and 75th Avenue
1252          DR  DP75PE
              *
1253          KK  RP75OL   ROUTE
1254          KM   Route full flow capacity of 179 cfs through 60-inch storm drain pipe in
1255          KM   75th Avenue to the intersection of Olive Avenue and 75th Avenue
1256          RK    5035  0.0047   0.015            CIRC   5.000
              *
1                                        HEC-1 INPUT                                        PAGE 33

LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9.....10

1257          KK  PROL71RETRIEVE
1258          KM   Retrieve full flow capacity of 386 cfs from 78-inch storm drain pipe at the
1259          KM   intersection of Olive Avenue and 71st Avenue
1260          DR  DPOL71
              *
1261          KK  RPOL75   ROUTE
1262          KM   Route full flow capacity of 386 cfs through 78-inch storm drain pipe in
1263          KM   Olive Avenue to the intersection of Olive Avenue and 75th Avenue
1264          RK    2971  0.0054   0.015            CIRC   6.500
              *
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KK  CPOL75 COMBINE
KM   Combine pipe return PROL71 with the runoff hydrograph at combination point
KM   COL75 at the intersection of Olive Avenue and 75th Avenue
HC       3
*

KK   DOL75  DIVERT
KM   Divert calculated full flow capapcity of 239 cfs into 90-inch storm drain
KM   pipe at the intersection of Olive Avenue and 75th Avenue
DT  DPOL75      0.0   239.0
DI      0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
DQ      0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
*

KK  DWGR83  DIVERT
KM   Divert remaining runoff hydrograph from combination point CPOL75 west to
KM   combination point CGR83
DT  DSGR75      0.0     0.0
DI      0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
DQ      0.0    51.0   102.0   255.0   510.0  1020.0  2040.0  5100.0 10200.0 25500.0
*

KK  DRGR83RETRIEVE
KM   Retrieve divert DRGR83 from combination point CPE83 and divert south to
KM   combination point CGR83
DR  DSGR83
*

KK   D83GR  DIVERT
DT  DSOL83      0.0     0.0
DI      0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
DQ      0.0    28.0    56.0   140.0   280.0   560.0  1120.0  2800.0  5600.0 14000.0
*

KK  RSGR83   ROUTE
KM   Route diversion D83GR south to combination point CGR83
RS      10    FLOW
RC   0.035   0.015   0.035    7145  0.0003     0.00
RX    0.00    0.00   67.00   67.00  332.00  332.00  399.00  399.00
RY    3.00    1.17    0.50    0.00    0.00    0.50    1.17    3.00
*
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```
LINE      ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

KK    GR83   BASIN
KM   Runoff hydrograph for subbasin GR83 southeast of the intersection of Grand
KM   Avenue and 83rd Avenue
BA   0.468
LG    0.18    0.14   10.10    0.03      53
UC   1.047   0.591
UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
UA     100
*

KK  ERGR83  DIVERT
KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
KM   retention developed after 1990 in subbasin GR83
DT   XGR83     29.7     0.0
DI      0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
DQ      0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
*

KK   CGR83 COMBINE
KM   Combine divert DWGR83, route RSGR83, and subbasin GR83
HC       3    3.99
*

KK  SRGR83 STORAGE
KM   Storage routing ID RES26S in Maryvale ADMS, Feb 1997 - comments from ADMS:
KM   PONDING AREA RESERVOIR ROUTE
KM   SUB-BASIN 26-31E
KM   PONDING AREA NORTHEAST OF GRAND AVENUE/RR EMBANKMENT
KM   OUTFLOW REPRESENTS BOTH FLOW WEST (OVER THE RR EMBANKEMENT) AND
KM   FLOW SOUTH OVER OLIVE AVENUE
KM   ********************************************************************************
KM   REVISION TO MARYVALE ADMS MODEL KHA --> COMBINED STORAGE AT 75TH AND 83RD AVE
KM
KM   Storage route runoff hydrograph from combination point CGR83 through ponding
KM     area at Grand Avenue between 75th Avenue and 83rd Avenue
KM   ********************************************************************************
RS       1    STOR
SV            3.40   27.60   58.20  102.60  145.28  278.39  315.39  329.41  339.52
SV  350.22  367.41
SQ       0     0.1     0.2    0.35 2170.1 4810.15  51070.  51070.  51070.    5117
SQ  51230.  52040.
SE   1132.   1134.   1136.   1137.   1138. 1138.5   1140.   1141. 1141.3    1141
SE  1141.7   1142.
*

KK  DWOL83  DIVERT
```



```
KM   Divert ID D26AW in Maryvale ADMS, Feb 1997
KM   Divert remaining runoff hydrograph from combination point CGR83 west to
KM   combination point COL83
DT  DS75NO      0.0     0.0
DI      0.0  2170.0  4810.0 52040.0     0.0     0.0     0.0     0.0     0.0     0.0
DQ      0.0  2170.0  4160.0 51390.0     0.0     0.0     0.0     0.0     0.0     0.0
*
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LINE      ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

KK  RWOL83   ROUTE
KM   Route diversion DWOL83 west to combination point COL83
RS       1    FLOW
RC   0.035   0.015   0.035    5280  0.0027     0.00
RX    0.00    0.00   26.00   26.00  148.00  148.00  174.00  174.00
RY    3.00    0.76    0.50    0.00    0.00    0.50    0.76    3.00
*

KK  DIOL83RETRIEVE
KM   Retrieve arterial street flow diverted to 83rd Avenue at the intersection
KM   of 83rd Avenue and Grand Avenue
DR  DSOL83
*

KK  RSOL83   ROUTE
KM   Route diversion retrieval DIOL83 south to combination point COL83
RS       6    FLOW
RC   0.035   0.015   0.035    5280  0.0031     0.00
RX    0.00    0.00   67.00   67.00  332.00  332.00  399.00  399.00
RY    3.00    1.17    0.50    0.00    0.00    0.50    1.17    3.00
*

KK    OL83   BASIN
KM   Runoff hydrograph for subbasin OL83 northeast of the intersection
KM   of Olive Avenue and 83rd Avenue
BA   0.537
LG    0.30    0.15   10.10    0.04      28
UC   1.106   0.604
UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
UA     100
*

KK  EROL83  DIVERT
KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
KM   retention developed after 1990 in subbasin OL83
DT   XOL83     13.9     0.0
DI      0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
DQ      0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
*

KK   COL83 COMBINE
KM   Combine route RWOL83, route RSOL83, and subbasin OL83
HC       3    1.06
*

KK    NO27   BASIN
KM   Runoff hydrograph for subbasin NO27 northeast of the intersection of Northern
KM   Avenue and 27th Avenue
BA   0.126
LG    0.18    0.15    8.80    0.05      63
UC   0.898   1.187
UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
UA     100
*
```

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LINE      ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

KK   D27NO  DIVERT
KM   Divert calculated full flow capapcity of 114 cfs into 54-inch storm drain
KM   pipe at the intersection of Northern Avenue and 27th Avenue
DT  DP27NO      0.0   114.0
DI      0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
DQ      0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
*

KK  DWNO35  DIVERT
KM   Divert remaining runoff hydrograph from subbasin NO27 west to combination
KM   point CNO35
DT  DSGL27      0.0     0.0
DI      0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
DQ      0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
*

KK  RWNO35   ROUTE
KM   Route diversion DWNO35 west to combination point CNO35
RS       1    FLOW
RC   0.035   0.015   0.035    5280  0.0001     0.00
RX    0.00    0.00   76.50   76.50  372.50  372.50  449.00  449.00
RY    3.00    1.27    0.50    0.00    0.00    0.50    1.27    3.00
```

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                *
1398            KK  DRNO35RETRIEVE
1399            KM   Retrieve divert DRNO35 from subbasin OL35 and divert south to
1400            KM   combination point CNO35
1401            DR  DSNO35
                *
1402            KK  RSNO35   ROUTE
1403            KM   Route diversion retrieval DRNO35 south to combination point CNO35
1404            RS      10    FLOW
1405            RC  0.035   0.015   0.035    5280  0.0036    0.00
1406            RX   0.00    0.00   67.00   67.00  332.00  332.00  399.00  399.00
1407            RY   3.00    1.17    0.50    0.00    0.00    0.50    1.17    3.00
                *
1408            KK   NO35   BASIN
1409            KM   Runoff hydrograph for square mile subbasin NO35 northeast of the intersection
1410            KM   of Norhtern Avenue and 35th Avenue
1411            BA   0.991
1412            LG    0.24    0.25    5.80    0.17      38
1413            UC   1.500   0.921
1414            UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
1415            UA     100
                *
1416            KK   CNO35 COMBINE
1417            KM   Combine route RWNO35, route RSNO35, and subbasin NO35
1418            HC       3    1.14
                *
                -
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LINE            ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1419            KK  PR27NORETRIEVE
1420            KM   Retrieve full flow capacity of 114 cfs from 54-inch diameter pipe at the
1421            KM   intersection of Northern Avenue and 27th Avenue
1422            DR  DP27NO
                *
1423            KK  CPNO29 COMBINE
1424            KM   Combine pipe return PR27NO with the runoff hydrograph at combination point
1425            KM   CNO29 at the intersection of Northern Avenue and 29th Avenue
1426            HC       2
                *
1427            KK   D29NO  DIVERT
1428            KM   Divert calculated full flow capapcity of 114 cfs into 54-inch storm drain
1429            KM   pipe at the intersection of Northern Avenue and 29th Avenue
1430            DT  DP29NO      0.0   114.0
1431            DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
1432            DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
                *
1433            KK  PR35OLRETRIEVE
1434            KM   Retrieve full flow capacity of 61 cfs from 42-inch diameter pipe at the
1435            KM    intersection of Northern Avenue and 35th Avenue
1436            DR  DP35OL
                *
1437            KK  RP35NO   ROUTE
1438            KM   Route full flow capacity of 61 cfs through 42-inch storm drain pipe in
1439            KM   35th Avenue to the intersection of Northern Avenue and 35th Avenue
1440            RK    5191  0.0037   0.015            CIRC   3.500
                *
1441            KK  CPNO35 COMBINE
1442            KM   Combine pipe return PR35OL with the runoff hydrograph at combination point
1443            KM   CNO35 at the intersection of Northern Avenue and 35th Avenue
1444            HC       2
                *
1445            KK   D35NO  DIVERT
1446            KM   Capacity of storm drain in 31st Avenue and 35th Avenue diverted together.
1447            KM   Divert combined calculated full flow capacity of 26 cfs in the 30-inch storm
1448            KM   drain pipe in 31st Avenue and 87 cfs in the 48-inch storm drain pipe in
1449            KM   35th Avenue. The total calculated combined full flow capacity diverted at the
1450            KM   intersection of 35th Avenue and Northern Avenue is 113 cfs in an equivalent
1451            KM   diameter pipe of 53 inches
1452            DT  DP35NO      0.0   113.0
1453            DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
1454            DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
                *
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LINE            ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1455            KK  DWNO43  DIVERT
1456            KM   Divert remaining runoff hydrograph from combination point CPNO353 west to
1457            KM   combination point CNO43
1458            DT  DSGL35      0.0     0.0
```



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1459            DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
1460            DQ     0.0    46.0    92.0   230.0   460.0   920.0  1840.0  4600.0  9200.0 23000.0
                *
1461            KK  RWNO43   ROUTE
1462            KM   Route diversion DWNO43 west to combination point CNO43
1463            RS       7    FLOW
1464            RC  0.035   0.015   0.035    5280  0.0021    0.00
1465            RX   0.00    0.00  114.50  114.50  534.50  534.50  649.00  649.00
1466            RY   3.00    1.64    0.50    0.00    0.00    0.50    1.64    3.00
                *
1467            KK  DRNO43RETRIEVE
1468            KM   Retrieve divert DRNO43 from combination point COL43 and divert south to
1469            KM   combination point CNO43
1470            DR  DSNO43
                *
1471            KK  RSNO43   ROUTE
1472            KM   Route diversion retrieval DRNO43 south to combination point CNO43
1473            RS       6    FLOW
1474            RC  0.035   0.015   0.035    5280  0.0035    0.00
1475            RX   0.00    0.00   67.00   67.00  332.00  332.00  399.00  399.00
1476            RY   3.00    1.17    0.50    0.00    0.00    0.50    1.17    3.00
                *
1477            KK   NO43   BASIN
1478            KM   Runoff hydrograph for square mile subbasin NO43 northeast of the intersection
1479            KM   of Norhtern Avenue and 43rd Avenue
1480            BA   0.995
1481            LG    0.24    0.21    6.40    0.14      33
1482            UC   1.500   1.009
1483            UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
1484            UA     100
                *
1485            KK   CNO43 COMBINE
1486            KM   Combine route RWNO43, route RSNO43, and subbasin NO43
1487            HC       3    2.02
                *
1488            KK  PR43OLRETRIEVE
1489            KM   Retrieve full flow capacity of 85 cfs from 48-inch storm drain pipe at the
1490            KM   intersection of Olive Avenue and 43rd Avenue
1491            DR  DP43OL
                *
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LINE            ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1492            KK  RP43NO   ROUTE
1493            KM   Route full flow capacity of 85 cfs through 48-inch storm drain pipe in
1494            KM   43rd Avenue to the intersection of Northern Avenue and 43rd Avenue
1495            RK    5100  0.0035   0.015            CIRC   4.000
                *
1496            KK  CPNO43 COMBINE
1497            KM   Combine pipe return PR43OL with the runoff hydrograph at combination point
1498            KM   CPNO43 at the intersection of Northern Avenue and 43rd Avenue
1499            HC       2
                *
1500            KK   D43NO  DIVERT
1501            KM   Capacity of storm drain in 43rd Avenue and 39th Avenue diverted together.
1502            KM   Divert combined calculated full flow capacity of 124 cfs in the 54-inch storm
1503            KM   drain pipe in 39th AVenue and 117 cfs in the 54-inch storm drain pipe in
1504            KM   43rd Avenue. The total calculated combined full flow capacity diverted at the
1505            KM   intersection of 43rd Avenue and Northern Avenue is 241 cfs in an equivalent
1506            KM   diameter pipe of 71 inches
1507            DT  DP43NO      0.0   241.0
1508            DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
1509            DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
                *
1510            KK  DWNO51  DIVERT
1511            KM   Divert remaining runoff hydrograph from combination point CPNO43 west to
1512            KM   combination point CNO51
1513            DT  DSGL43      0.0     0.0
1514            DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
1515            DQ     0.0    51.0   102.0   255.0   510.0  1020.0  2040.0  5100.0 10200.0 25500.0
                *
1516            KK  RWNO51   ROUTE
1517            KM   Route diversion DWNO51 west to combination point CNO51
1518            RS       5    FLOW
1519            RC  0.035   0.015   0.035    5280  0.0019    0.00
1520            RX   0.00    0.00   65.50   65.50  382.50  382.50  448.00  448.00
1521            RY   3.00    1.16    0.50    0.00    0.00    0.50    1.16    3.00
                *
1522            KK  DRNO51RETRIEVE
1523            KM   Retrieve divert DRNO51 from combination point COL51 and divert south to
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1524          KM   combination point CNO51
1525          DR  DSNO51
              *
1526          KK  RSNO51   ROUTE
1527          KM   Route diversion retrieval DRNO51 south to combination point CNO51
1528          RS       6    FLOW
1529          RC   0.035   0.015   0.035    5280  0.0019     0.00
1530          RX    0.00    0.00   54.50   54.50  273.50  273.50  328.00  328.00
1531          RY    3.00    1.04    0.50    0.00    0.00    0.50    1.04    3.00
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1532          KK    NO51   BASIN
1533          KM   Runoff hydrograph for square mile subbasin NO51 northeast of the intersection
1534          KM   of Norhtern Avenue and 51st Avenue
1535          BA   0.993
1536          LG    0.24    0.25    6.00    0.16      36
1537          UC   1.500   1.010
1538          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
1539          UA     100
              *
1540          KK   CNO51 COMBINE
1541          KM   Combine route RWNO51, route RSNO51, and subbasin NO51
1542          HC       3    2.47
              *
1543          KK   DNO51   DIVERT
1544          KM   Divert calculated full flow capapcity of 168 cfs into 66-inch storm drain
1545          KM   pipe at the intersection of Northern Avenue and 51st Avenue
1546          DT  DPNO51      0.0   168.0
1547          DI      0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
1548          DQ      0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *
1549          KK  DWNO59  DIVERT
1550          KM   Divert remaining runoff hydrograph from combination point CNO51 west to
1551          KM   combination point CNO59
1552          DT  DSGL51      0.0     0.0
1553          DI      0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
1554          DQ      0.0    44.0    88.0   220.0   440.0   880.0  1760.0  4400.0  8800.0 22000.0
              *
1555          KK  RWNO59   ROUTE
1556          KM   Route diversion DWNO59 west to combination point CNO59
1557          RS       3    FLOW
1558          RC   0.035   0.015   0.035    5280  0.0040     0.00
1559          RX    0.00    0.00   58.50   58.50  339.50  339.50  398.00  398.00
1560          RY    3.00    1.08    0.50    0.00    0.00    0.50    1.08    3.00
              *
1561          KK  DRNO59RETRIEVE
1562          KM   Retrieve divert DRNO59 from combination point CPOL59 and divert south to
1563          KM   combination point CNO59
1564          DR  DSNO59
              *
1565          KK  RSNO59   ROUTE
1566          KM   Route diversion retrieval DRNO59 south to combination point CNO59
1567          RS       4    FLOW
1568          RC   0.035   0.015   0.035    5280  0.0024     0.00
1569          RX    0.00    0.00   86.50   86.50  511.50  511.50  598.00  598.00
1570          RY    3.00    1.36    0.50    0.00    0.00    0.50    1.36    3.00
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1571          KK    NO59   BASIN
1572          KM   Runoff hydrograph for square mile subbasin NO59 northeast of the intersection
1573          KM   of Norhtern Avenue and 59th Avenue
1574          BA   0.992
1575          LG    0.25    0.15    7.60    0.09      28
1576          UC   1.500   1.011
1577          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
1578          UA     100
              *
1579          KK  ERNO59  DIVERT
1580          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
1581          KM   retention developed after 1990 in subbasin NO59
1582          DT  XNO59     16.5      0.0
1583          DI      0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
1584          DQ      0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *
1585          KK   CNO59 COMBINE
1586          KM   Combine route RWNO59, route RSNO59, and subbasin NO59
```



```
1587          HC       3    4.06
              *
1588          KK  SRNO59 STORAGE
1589          KM   Storage route runoff hydrograph from combination point CNO59 through
1590          KM     regional detention basin located in subbasin NO59
1591          KM   Combined storage from two retention basins
1592          KM   Stage-storage data from Butler Park Detention Basin As-built record, 1991 and
1593          KM     Butler Park Street Improvements Retention Basin As-built record, 1990
1594          RS       1    STOR
1595          SV            1.87    4.65    7.68   15.59
1596          SQ                                 2430.00
1597          SE   96.00   97.00   98.00   99.00  100.00
              *
1598          KK  PRNO51RETRIEVE
1599          KM   Retrieve full flow capacity of 168 cfs from 66-inch storm drain pipe at the
1600          KM   intersection of Northern Avenue and 51st Avenue
1601          DR  DPNO51
              *
1602          KK  RPNO59   ROUTE
1603          KM   Route full flow capacity of 168 cfs through 66-inch storm drain pipe in
1604          KM   Northern Avenue to the intersection of Northern Avenue and 51st Avenue
1605          RK    5146  0.0025   0.015             CIRC   5.500
              *
1606          KK  CPNO59 COMBINE
1607          KM   Combine pipe return PRNO51 with the runoff hydrograph at combination point
1608          KM   CNO59 at the intersection of Northern Avenue and 59th Avenue
1609          HC       2
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1610          KK   DNO59  DIVERT
1611          KM   Divert calculated full flow capapcity of 134 cfs into 72-inch storm drain
1612          KM   pipe at the intersection of Northern Avenue and 59th Avenue
1613          DT  DPNO59      0.0   134.0
1614          DI      0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
1615          DQ      0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *
1616          KK  DWNO67  DIVERT
1617          KM   Divert remaining runoff hydrograph from combination point CPNO59 west to
1618          KM   combination point CNO67
1619          DT  DSGL59      0.0     0.0
1620          DI      0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
1621          DQ      0.0    33.0    66.0   165.0   330.0   660.0  1320.0  3300.0  6600.0 16500.0
              *
1622          KK  RWNO67   ROUTE
1623          KM   Route diversion DWNO67 west to combination point CNO67
1624          RS       3    FLOW
1625          RC   0.035   0.015   0.035    5280  0.0029     0.00
1626          RX    0.00    0.00   58.50   58.50  339.50  339.50  398.00  398.00
1627          RY    3.00    1.08    0.50    0.00    0.00    0.50    1.08    3.00
              *
1628          KK  DRNO67RETRIEVE
1629          KM   Retrieve divert DRNO67 from combination point CPOL67 and divert south to
1630          KM   combination point CNO67
1631          DR  DSNO67
              *
1632          KK  RSNO67   ROUTE
1633          KM   Route diversion retrieval DRNO67 south to combination point CNO67
1634          RS       3    FLOW
1635          RC   0.035   0.015   0.035    5280  0.0019     0.00
1636          RX    0.00    0.00   58.50   58.50  339.50  339.50  398.00  398.00
1637          RY    3.00    1.08    0.50    0.00    0.00    0.50    1.08    3.00
              *
1638          KK    NO67   BASIN
1639          KM   Runoff hydrograph for square mile subbasin NO67 northeast of the intersection
1640          KM   of Norhtern Avenue and 67th Avenue
1641          BA   0.956
1642          LG    0.27    0.15    8.80    0.06      37
1643          UC   1.500   1.020
1644          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
1645          UA     100
              *
1646          KK  ERNO67  DIVERT
1647          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
1648          KM   retention developed after 1990 in subbasin NO67
1649          DT  XNO67     39.4      0.0
1650          DI      0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
1651          DQ      0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1652          KK   CNO67 COMBINE
1653          KM   Combine route RWNO67, route RSNO67, and subbasin NO67
1654          HC        3    4.93
              *

1655          KK  DWGR75  DIVERT
1656          KM   Divert portion of runoff hydrograph from subbasin CNO67 west through subbasin
1657          KM   GR75 using the ratio of the widths and slopes of the streets going west and
1658          KM   the widths and slopes of the streets going south. The remaining flow is
1659          KM   diverted south through subbasin GR67
1660          DT  DSGR67      0.0      0.0
1661          DI     0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0 10000.0 20000.0 50000.0
1662          DQ     0.0     65.0    130.0    325.0    650.0   1300.0   2600.0  6500.0 13000.0 32500.0
              *

1663          KK   DGR75  DIVERT
1664          KM   Divert portion of DWGR75 west to subbasin GR75 using the ratio of the width
1665          KM   of the collector and local streets and the width of the arterial street. The
1666          KM   remaining flow is diverted west to subbasin NO75 along Northern Avenue
1667          DT  DWNO75      0.0      0.0
1668          DI     0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0 10000.0 20000.0 50000.0
1669          DQ     0.0     33.0     66.0    165.0    330.0    660.0   1320.0  3300.0  6600.0 16500.0
              *

1670          KK  RWGR75   ROUTE
1671          KM   Route diversion DGR75 west to combination point CGR75
1672          RS        9    FLOW
1673          RC   0.035   0.015   0.035    7409  0.0008     0.00
1674          RX    0.00    0.00   44.50   44.50  253.50   253.50  298.00  298.00
1675          RY    3.00    0.94    0.50    0.00    0.00     0.50    0.94    3.00
              *

1676          KK  DRGR75RETRIEVE
1677          KM   Retrieve divert DRGR75 from combination point CPOL75 and divert south to
1678          KM   combination point CGR75
1679          DR  DSGR75
              *

1680          KK   D75GR  DIVERT
1681          KM   Divert portion of divert retrieval DRGR75 south to subbasin NO75 along
1682          KM   collector and local streets. The remaining flow is diverted south to subbasin
1683          KM   GR75 along 75th Avenue to combination point CGR75
1684          DT  DSNO75      0.0      0.0
1685          DI     0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0 10000.0 20000.0 50000.0
1686          DQ     0.0     36.0     72.0    180.0    360.0    720.0   1440.0  3600.0  7200.0 18000.0
              *

1687          KK    GR75   BASIN
1688          KM   Runoff hydrograph for subbasin GR75 southeast of the intersection of Grand
1689          KM   Avenue and 75th Avenue
1690          BA   0.496
1691          LG    0.25    0.17    8.80    0.05      42
1692          UC   0.965   0.522
1693          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
```



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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1694          UA     100
              *

1695          KK  ERGR75  DIVERT
1696          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
1697          KM   retention developed after 1990 in subbasin GR75
1698          DT   XGR75     18.0      0.0
1699          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
1700          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

1701          KK   CGR75 COMBINE
1702          KM   Combine runoff hydrographs from route RWGR75, divert D75GR, and subbasin GR75
1703          HC        3    3.09
              *

1704          KK  SRGR75 STORAGE
1705          KM   Storage route runoff hydrograph from combination point CGR75 through regional
1706          KM     detention basin located near the intersection of Grand Avenue and Olive
1707          KM     Avenue
1708          KM   Stage-storage-discharge data from State Highway Wickenburg-Phoenix Highway
1709          KM     (US 60), Grand Ave: 75th Ave-Olive Ave As-builts, ADOT, August 2004
1710          RS        1    STOR
1711          SV      0.0      0.4      2.1      4.8      7.7     14.0     21.0     28.7     37.2     46.3
1712          SV     56.2     66.9     72.6     75.5     78.4
1713          SQ      0.0      8.0     20.0     25.0     29.0     36.0     42.0     47.0     52.0     56.0
1714          SQ     60.0     64.0     66.0    305.0   1417.0
1715          SE   1118.0   1119.0   1120.0   1121.0   1122.0   1124.0   1126.0   1128.0   1130.0   1132.0
1716          SE   1134.0   1136.0   1137.0   1137.5   1138.0
              *
```



```
1717          KK  PROL75RETRIEVE
1718          KM   Retrieve full flow capacity of 239 cfs from 90-inch storm drain pipe at the
1719          KM   intersection of Olive Avenue and 75th Avenue
1720          DR  DPOL75
              *

1721          KK  CPOLGR COMBINE
1722          KM   Combine pipe return PROL75 with storage route SRGR75 at combination point
1723          KM   CPOLGR at the intersection of Olive Avenue and Grand Avenue
1724          HC        2
              *

1725          KK  DPOLGR  DIVERT
1726          KM   Divert calculated full flow capapcity of 239 cfs into 90-inch storm drain
1727          KM   pipe at the intersection of Olive Avenue and Grand Avenue. The pipe flow is
1728          KM   followed to combination point CPOL83 and the remaining surface flow is
1729          KM   diverted to combination point CIGR75 at the intersection of Grand Avenue and
1730          KM   75th Avenue
1731          DT   DOLGR      0.0      0.0
1732          DI     0.0    239.0    239.1 50000.0      0.0      0.0      0.0      0.0      0.0      0.0
1733          DQ     0.0      0.0      0.1 49761.0      0.0      0.0      0.0      0.0      0.0      0.0
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1734          KK  RPOL83   ROUTE
1735          KM   Route full flow capacity of 239 cfs through 90-inch storm drain pipe in
1736          KM   Olive Avenue to the intersection of Olive Avenue and 83rd Avenue
1737          RK    4974  0.0010   0.015            CIRC   7.500
              *

1738          KK  CPOL83 COMBINE
1739          KM   Combine pipe return PROL75 with the runoff hydrograph at combination point
1740          KM   COL83 at the intersection of Olive Avenue and 83rd Avenue
1741          HC        2
              *

1742          KK  SROL83 STORAGE
1743          KM   Storage route runoff hydrograph from combination point CPOL83 through
1744          KM     regional detention basin located near the intersection of Olive Avenue
1745          KM     and 83rd Avenue
1746          KM   Stage-storage data from topography provided by FCDMC dated 3/28/1994
1747          RS        1    STOR
1748          SV              5.45    13.07    21.61    23.90    26.31    31.42
1749          SQ             57.00   147.00   148.00   635.00 1517.00 4002.00
1750          SE   1118.0 1120.00 1122.00 1124.00 1124.50 1125.00 1126.00
              *

1751          KK   DOL83  DIVERT
1752          KM   Divert calculated full flow capapcity of 243 cfs into 90-inch storm drain
1753          KM   pipe at the intersection of Olive Avenue and 83rd Avenue
1754          DT  DPOL83      0.0    243.0
1755          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
1756          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

1757          KK  DWOL91  DIVERT
1758          KM   Divert remaining runoff hydrograph from combination point CPOL83 west to
1759          KM   combination point COL91
1760          DT  DSNO83      0.0      0.0
1761          DI     0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0 10000.0 20000.0 50000.0
1762          DQ     0.0     39.0     78.0    195.0    390.0    780.0   1560.0  3900.0  7800.0 19500.0
              *

1763          KK  RWOL91   ROUTE
1764          KM   Route diversion DWOL91 west to combination point COL91
1765          RS        8    FLOW
1766          RC   0.035   0.015   0.035    5280  0.0025     0.00
1767          RX    0.00    0.00   76.50   76.50  372.50   372.50  449.00  449.00
1768          RY    3.00    1.27    0.50    0.00    0.00     0.50    1.27    3.00
              *

1769          KK  DROL91RETRIEVE
1770          KM   Retrieve divert DROL91 from combination point CPPE91 and divert south to
1771          KM   combination point COL91
1772          DR  DSOL91
              *
```



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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1773          KK  RSOL91   ROUTE
1774          KM   Route diversion retrieval DROL91 south to combination point COL91
1775          RS        4    FLOW
1776          RC   0.035   0.015   0.035    5280  0.0019     0.00
1777          RX    0.00    0.00   86.00   86.00  413.00   413.00  499.00  499.00
1778          RY    3.00    1.36    0.50    0.00    0.00     0.50    1.36    3.00
              *

1779          KK    OL91   BASIN
```

```
1780          KM   Runoff hydrograph for square mile subbasin OL91 northeast of the intersection
1781          KM   of Olive Avenue and 91st Avenue
1782          BA   1.016
1783          LG    0.22    0.15    9.70    0.04      40
1784          UC   1.500   1.013
1785          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
1786          UA     100
              *

1787          KK  EROL91  DIVERT
1788          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
1789          KM   retention developed after 1990 in subbasin OL91
1790          DT   XOL91     44.9      0.0
1791          DI     0.0 50000.0      0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
1792          DQ     0.0 50000.0      0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

1793          KK   COL91 COMBINE
1794          KM   Combine route RWOL91, route RSOL91, and subbasin OL91
1795          HC        3    3.68
              *

1796          KK  PROL83RETRIEVE
1797          KM   Retrieve full flow capacity of 243 cfs from 90-inch storm drain pipe at the
1798          KM   intersection of Olive Avenue and 83rd Avenue
1799          DR  DPOL83
              *

1800          KK  RPOL91   ROUTE
1801          KM   Route full flow capacity of 243 cfs through 90-inch storm drain pipe in
1802          KM   Olive Avenue to the intersection of Olive Avenue and 91st Avenue
1803          RK    5184  0.0010   0.015            CIRC   7.500
              *

1804          KK  CPOL91 COMBINE
1805          KM   Combine pipe return PROL83 with the runoff hydrograph at combination point
1806          KM   COL91 at the intersection of Olive Avenue and 91st Avenue
1807          HC        2
              *

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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1808          KK  DWOLLO  DIVERT
1809          KM   Divert remaining runoff hydrograph from combination point CPOL91 west to
1810          KM   combination point COLLO
1811          DT  DSNO91      0.0       0.0
1812          DI      0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
1813          DQ      0.0    67.0   134.0   335.0   670.0  1340.0  2680.0  6700.0 13400.0 33500.0
              *

1814          KK  RWOLLO   ROUTE
1815          KM   Route diversion DWOLLO west to combination point COLLO
1816          RS        1      FLOW
1817          RC    0.035   0.015   0.035     600  0.0039    0.00
1818          RX     0.00    0.00   16.50   16.50  107.50  107.50  124.00  124.00
1819          RY     3.00    0.66    0.50    0.00    0.00    0.50    0.66    3.00
              *

1820          KK    OLLO   BASIN
1821          KM   Runoff hydrograph for subbasin OLLO northeast of the intersection of Olive
1822          KM   Avenue and SR Loop 101
1823          BA   0.160
1824          LG    0.10    0.15    8.80    0.05      85
1825          UC   0.769   0.860
1826          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
1827          UA     100
              *

1828          KK  EROLLO  DIVERT
1829          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
1830          KM   retention developed after 1990 in subbasin OLLO
1831          DT   XOLLO     11.4      0.0
1832          DI     0.0 50000.0      0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
1833          DQ     0.0 50000.0      0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

1834          KK   COLLO COMBINE
1835          KM   Combine route RWOLLO, route RSOLLO, and subbasin OLLO
1836          HC        3    6.18
              *

1837          KK  RSNOLO   ROUTE
1838          KM   Route hydrograph at combination point COLLO south to combination point CNOLO
1839          RS        2      FLOW
1840          RC    0.035   0.015   0.035    6136  0.0023    0.00
1841          RX     0.00    4.00   16.00   26.00   34.00   44.00   56.00   59.00
1842          RY     6.24    5.24    5.00    0.00    0.20    5.20    5.44    6.44
              *

1843          KK  DROLGRRETRIEVE
1844          KM   Retrieve remaining surface flow runoff hydrograph DROLGR following pipe
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1845          KM   diversion DPOLGR after combination point CPOLGR at the intersection of Grand
1846          KM   Avenue and Olive Avenue
1847          DR   DOLGR
              *

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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1848          KK  DI75NORETRIEVE
1849          KM   Retrieve arterial street flow diverted to 75th Avenue at the intersection
1850          KM   of 75th Avenue and Grand Avenue
1851          DR  DSNO75
              *

1852          KK  DR75NORETRIEVE
1853          KM   Retrieve divert DR75NO from combination point CGR83 and divert south to
1854          KM   combination point CIGR75
1855          DR  DS75NO
              *

1856          KK  CIGR75 COMBINE
1857          KM   Combine arterial street flow from 75th Avenue DI75NO, divert retrieval DR75NO
1858          KM   and storage route SRGR75 at the intersection of 75th Avenue and Grand Avenue
1859          HC        3    7.85
              *

1860          KK  RSNO75   ROUTE
1861          KM   Route hydrograph at intersection combination point CIGR75
1862          KM   south to combination point CNO75
1863          RS        2      FLOW
1864          RC    0.035   0.015   0.035    5280  0.0019    0.00
1865          RX     0.00    0.00   29.00   29.00  170.00  170.00  199.00  199.00
1866          RY     3.00    0.79    0.50    0.00    0.00    0.50    0.79    3.00
              *

1867          KK  DINO75RETRIEVE
1868          KM   Retrieve arterial street flow diverted to Northern Avenue and 75th Avenue
1869          KM   from the intersection of Northern Avenue and 67th Avenue
1870          DR  DWNO75
              *

1871          KK  RWNO75   ROUTE
1872          KM   Route diversion retrieval DINO75 at the intersection of Norhtern Avenue
1873          KM   and 75th Avenue west to combination point CNO75
1874          RS        4      FLOW
1875          RC    0.035   0.015   0.035    5280  0.0030    0.00
1876          RX     0.00    0.00   16.50   16.50  107.50  107.50  124.00  124.00
1877          RY     3.00    0.66    0.50    0.00    0.00    0.50    0.66    3.00
              *

1878          KK    NO75   BASIN
1879          KM   Runoff hydrograph for subbasin NO75 northeast of the intersection of
1880          KM   Norhtern Avenue and 75th Avenue
1881          BA   0.506
1882          LG    0.21    0.15    8.40    0.07      58
1883          UC   0.887   0.474
1884          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
1885          UA     100
              *

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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1886          KK  ERNO75  DIVERT
1887          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
1888          KM   retention developed after 1990 in subbasin NO75
1889          DT   XNO75      6.6      0.0
1890          DI     0.0 50000.0      0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
1891          DQ     0.0 50000.0      0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

1892          KK   CNO75 COMBINE
1893          KM   Combine route RWNO75, route RSNO75, and subbasin NO75
1894          HC        3    8.93
              *

1895          KK   DNO75  DIVERT
1896          KM   Divert calculated full flow capapcity of 161 cfs into 60-inch storm drain
1897          KM   pipe at the intersection of Northern Avenue and 75th Avenue
1898          DT  DPNO75      0.0    161.0
1899          DI     0.0 50000.0      0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
1900          DQ     0.0 50000.0      0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

1901          KK  DWNO83  DIVERT
1902          KM   Divert remaining runoff hydrograph from combination point CNO75 west to
1903          KM   combination point CNO83
1904          DT  DSOW75      0.0      0.0
1905          DI      0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
1906          DQ      0.0    48.0    96.0   240.0   480.0   960.0  1920.0  4800.0  9600.0 24000.0
              *
```

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1907          KK  RWNO83    ROUTE
1908          KM   Route diversion DWNO83 west to combination point CNO83
1909          RS       2     FLOW
1910          RC   0.035   0.015   0.035    5280  0.0048     0.00
1911          RX    0.00    0.00   35.50   35.50  188.50  188.50  224.00  224.00
1912          RY    3.00    0.86    0.50    0.00    0.00    0.50    0.86    3.00
              *

1913          KK  DRNO83RETRIEVE
1914          KM   Retrieve divert DRNO83 from combination point COL83 and divert south to
1915          KM   combination point CNO83
1916          DR  DSNO83
              *

1917          KK  RSNO83    ROUTE
1918          KM   Route diversion retrieval DRNO83 south to combination point CNO83
1919          RS       6     FLOW
1920          RC   0.035   0.015   0.035    5280  0.0040     0.00
1921          RX    0.00    0.00   35.50   35.50  188.50  188.50  224.00  224.00
1922          RY    3.00    0.86    0.50    0.00    0.00    0.50    0.86    3.00
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1923          KK    NO83    BASIN
1924          KM   Runoff hydrograph for square mile subbasin NO83 northeast of the intersection
1925          KM   of Norhtern Avenue and 83rd Avenue
1926          BA   1.005
1927          LG    0.33    0.15    8.80    0.07      35
1928          UC   1.413   0.947
1929          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
1930          UA     100
              *

1931          KK  ERNO83  DIVERT
1932          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
1933          KM   retention developed after 1990 in subbasin NO83
1934          DT   XNO83    22.2     0.0
1935          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
1936          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

1937          KK   CNO83 COMBINE
1938          KM   Combine route RWNO83, route RSNO83, and subbasin NO83
1939          HC       3    6.05
              *

1940          KK  PRNO75RETRIEVE
1941          KM   Retrieve full flow capacity of 161 cfs from 60-inch storm drain pipe at the
1942          KM   intersection of Thunderbird Road and 75th Avenue
1943          DR  DPNO75
              *

1944          KK  RPNO83    ROUTE
1945          KM   Route full flow capacity of 161 cfs through 60-inch storm drain pipe in
1946          KM   Northern Avenue to the intersection of Northern Avenue and 83rd Avenue
1947          RK    5291  0.0038   0.015            CIRC   5.000
              *

1948          KK  CPNO83 COMBINE
1949          KM   Combine pipe return PRNO75 with the runoff hydrograph at combination point
1950          KM   CNO83 at the intersection of Northern Avenue and 83rd Avenue
1951          HC       2
              *

1952          KK   DNO83  DIVERT
1953          KM   Divert calculated full flow capapcity of 233 cfs into 72-inch storm drain
1954          KM   pipe at the intersection of Northern Avenue and 83rd Avenue
1955          DT  DPNO83      0.0   233.0
1956          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
1957          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1958          KK  RWNO91    ROUTE
1959          KM   Route diversion DWNO91 west to combination point CNO91
1960          RS       4     FLOW
1961          RC   0.035   0.015   0.035    5280  0.0014     0.00
1962          RX    0.00    0.00   45.00   45.00  229.00  229.00  274.00  274.00
1963          RY    3.00    0.95    0.50    0.00    0.00    0.50    0.95    3.00
              *

1964          KK  DRNO91RETRIEVE
1965          KM   Retrieve divert DRNO91 from combination point CPOL91 and divert south to
1966          KM   combination point CNO91
1967          DR  DSNO91
              *
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1968          KK  RSNO91    ROUTE
1969          KM   Route diversion retrieval DRNO91 south to combination point CNO91
1970          RS       3     FLOW
1971          RC   0.035   0.015   0.035    5280  0.0029     0.00
1972          RX    0.00    0.00   48.00   48.00  251.00  251.00  299.00  299.00
1973          RY    3.00    0.98    0.50    0.00    0.00    0.50    0.98    3.00
              *

1974          KK    NO91    BASIN
1975          KM   Runoff hydrograph for square mile subbasin NO91 northeast of the intersection
1976          KM   of Norhtern Avenue and 91st Avenue
1977          BA   0.993
1978          LG    0.29    0.17    8.00    0.08      23
1979          UC   1.500   1.014
1980          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
1981          UA     100
              *

1982          KK  ERNO91  DIVERT
1983          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
1984          KM   retention developed after 1990 in subbasin NO91
1985          DT   XNO91    35.1     0.0
1986          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
1987          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

1988          KK   CNO91 COMBINE
1989          KM   Combine route RWNO91, route RSNO91, and subbasin NO91
1990          HC       3    9.52
              *

1991          KK  PRNO83RETRIEVE
1992          KM   Retrieve full flow capacity of 233 cfs from 72-inch storm drain pipe at the
1993          KM   intersection of Northern Avenue and 83rd Avenue
1994          DR  DPNO83
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1995          KK  RPNO91    ROUTE
1996          KM   Route full flow capacity of 233 cfs through 72-inch storm drain pipe in
1997          KM   Northern Avenue to the intersection of Northern Avenue and 91st Avenue
1998          RK    6941  0.0030   0.015            CIRC   6.000
              *

1999          KK  CPNO91 COMBINE
2000          KM   Combine pipe return PRNO83 with the runoff hydrograph at combination point
2001          KM   CNO91 at the intersection of Northern Avenue and 91st Avenue
2002          HC       2
              *

2003          KK  SRNO91 STORAGE
2004          KM   Storage route runoff hydrograph from combination point CPNO91 through
2005          KM     regional detention basin located near the intersection of Northern Avenue
2006          KM     and 87th Avenue
2007          KM   Stage-storage data from Northern and Butler Storm Drains Sub-Phase "A"
2008          KM     As-built records, 2001
2009          RS       1     STOR
2010          SV            7.00   21.80   62.20   67.50   72.90   84.00  107.20
2011          SQ           18.00   26.00   38.00 1526.00 4245.0011934.0033681.00
2012          SE  1089.2 1090.90 1092.50 1095.80 1096.20 1096.60 1097.50 1099.10
              *

2013          KK   DNO91  DIVERT
2014          KM   Divert calculated full flow capapcity of 69 cfs into 60-inch storm drain
2015          KM   pipe at the intersection of Northern Avenue and 29th Avenue
2016          DT  DPNO91      0.0     69.0
2017          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
2018          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

2019          KK  DWNOLO  DIVERT
2020          KM   Divert remaining runoff hydrograph from combination point CPNO91 west to
2021          KM   combination point CNOLO
2022          DT  DSGL91      0.0     0.0
2023          DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
2024          DQ     0.0    53.0   106.0   265.0   530.0  1060.0  2120.0  5300.0 10600.0 26500.0
              *

2025          KK  RWNOLO    ROUTE
2026          KM   Route diversion DWNOLO west to combination point CNOLO
2027          RS       2     FLOW
2028          RC   0.035   0.015   0.035    3480  0.0026     0.00
2029          RX    0.00    0.00   45.00   45.00  229.00  229.00  274.00  274.00
2030          RY    3.00    0.95    0.50    0.00    0.00    0.50    0.95    3.00
              *

2031          KK    NOLO    BASIN
2032          KM   Runoff hydrograph for subbasin NOLO northeast of the intersection of Northern
2033          KM   Avenue and SR Loop 101
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2034          BA   0.280
2035          LG    0.10    0.15    7.30    0.09      85
2036          UC   0.881   0.996
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

2037          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
2038          UA     100
              *

2039          KK  ERNOLO  DIVERT
2040          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
2041          KM   retention developed after 1990 in subbasin NOLO
2042          DT   XNOLO    19.9     0.0
2043          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
2044          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

2045          KK   CNOLO COMBINE
2046          KM   Combine route RWNOLO, route RSNOLO, and subbasin NOLO
2047          HC       3   10.91
              *

2048          KK  PRNO91RETRIEVE
2049          KM   Retrieve full flow capacity of 69 cfs from 60-inch storm drain pipe at the
2050          KM   intersection of Northern Avenue and 91st Avenue
2051          DR  DPNO91
              *

2052          KK  RPNOLO    ROUTE
2053          KM   Route full flow capacity of 69cfs through 60-inch storm drain pipe in
2054          KM   Northern Avenue to the intersection of Northern Avenue and SR Loop 101
2055          RK    2827  0.0007   0.015             CIRC   5.000
              *

2056          KK  CPNOLO COMBINE
2057          KM   Combine pipe return PRNO91 with the runoff hydrograph at combination point
2058          KM   CNOLO at the intersection of Northern Avenue and SR Loop 101
2059          HC       2
              *

2060          KK   DNOLO  DIVERT
2061          KM   Divert calculated full flow capapcity of 15 cfs into 24-inch storm drain
2062          KM   pipe at the intersection of Northern Avenue and SR Loop 101
2063          DT  DPNOLO     0.0    15.0
2064          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
2065          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

2066          KK  DSGLLO  DIVERT
2067          KM   Divert remaining runoff hydrograph from combination point CPNOLO south to
2068          KM   combination point CGLLO
2069          DT  DWNR03     0.0   917.0
2070          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
2071          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

2072          KK  RSGLLO   ROUTE
2073          KM   Route diversion DSGLLO south to combination point CGLLO
2074          RS       1    FLOW
2075          RC   0.035   0.015   0.035    2381  0.0023    0.00
2076          RX    0.00    4.00   16.00   26.00   34.00   44.00   56.00   59.00
2077          RY    6.24    5.24    5.00    0.00    0.20    5.20    5.44    6.44
              *

2078          KK  DRGL43RETRIEVE
2079          KM   Retrieve divert DRGL43 from combination point CPNO43 and divert south to
2080          KM   combination point CGL43
2081          DR  DSGL43
              *

2082          KK  RSGL43   ROUTE
2083          KM   Route diversion retrieval DRGL43 south to combination point CGL43
2084          RS       4    FLOW
2085          RC   0.035   0.015   0.035    5280  0.0034    0.00
2086          RX    0.00    0.00   57.50   57.50  291.50  291.50  349.00  349.00
2087          RY    3.00    1.08    0.50    0.00    0.00    0.50    1.08    3.00
              *

2088          KK    GL43   BASIN
2089          KM   Runoff hydrograph for square mile subbasin GL43 northeast of the intersection
2090          KM   of Glendale Avenue and 43rd Avenue
2091          BA   0.998
2092          LG    0.24    0.15    7.30    0.09      36
2093          UC   1.500   1.007
2094          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
2095          UA     100
              *
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```
2096          KK   CGL43 COMBINE
2097          KM   Combine route RSGL43, and subbasin GL43
2098          HC       2    2.03
              *

2099          KK  PR43NORETRIEVE
2100          KM   Retrieve combined full flow capacity of 241 cfs from 71-inch equivalent
2101          KM   diameter pipe at the intersection of Northern Avenue and 43rd Avenue
2102          DR  DP43NO
              *

2103          KK  RP43GL   ROUTE
2104          KM   Route the combined full flow capacity of 241 cfs through an equivalent storm
2105          KM   drain pipe diameter of 71 inches in 43rd Avenue to the intersection of
2106          KM   43rd Avenue and Glendale Avenue
2107          RK    5336  0.0035   0.015             CIRC   5.917
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

2108          KK  CPGL43 COMBINE
2109          KM   Combine pipe return PR43NO with the runoff hydrograph at combination point
2110          KM   CGL43 at the intersection of Glendale Avenue and 43rd Avenue
2111          HC       2
              *

2112          KK   D43GL  DIVERT
2113          KM   Capacity of storm drain in 39th Avenue and 43rd Avenue diverted together.
2114          KM   Divert combined calculated full flow capacity of 268 cfs in the 72-inch storm
2115          KM   drain pipe in 39th Avenue and 117 cfs in the 54-inch storm drain pipe in
2116          KM   43rd Avenue. The total calculated combined full flow capacity diverted at the
2117          KM   intersection of 43rd Avenue and Glendale Avenue is 385 cfs in an equivalent
2118          KM   diameter pipe of 85 inches
2119          DT  DP43GL     0.0   385.0
2120          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
2121          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

2122          KK  DWGL51  DIVERT
2123          KM   Divert remaining runoff hydrograph from combination point CPGL43 west to
2124          KM   combination point CGL51
2125          DT  DSBH43     0.0     0.0
2126          DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
2127          DQ     0.0    59.0   118.0   295.0   590.0  1180.0  2360.0  5900.0 11800.0 29500.0
              *

2128          KK  RWGL51   ROUTE
2129          KM   Route diversion DWGL51 west to combination point CGL51
2130          RS       5    FLOW
2131          RC   0.035   0.015   0.035    5280  0.0011    0.00
2132          RX    0.00    0.00   61.50   61.50  316.50  316.50  378.00  378.00
2133          RY    3.00    1.12    0.50    0.00    0.00    0.50    1.12    3.00
              *

2134          KK  DRGL51RETRIEVE
2135          KM   Retrieve divert DRGL51 from combination point CNO51 and divert south to
2136          KM   combination point CGL51
2137          DR  DSGL51
              *

2138          KK  RSGL51   ROUTE
2139          KM   Route diversion retrieval DRGL51 south to combination point CGL51
2140          RS       4    FLOW
2141          RC   0.035   0.015   0.035    5280  0.0027    0.00
2142          RX    0.00    0.00   61.50   61.50  316.50  316.50  378.00  378.00
2143          RY    3.00    1.12    0.50    0.00    0.00    0.50    1.12    3.00
              *

2144          KK    GL51   BASIN
2145          KM   Runoff hydrograph for square mile subbasin GL51 northeast of the intersection
2146          KM   of Glendale Avenue and 51st Avenue
2147          BA   1.002
2148          LG    0.23    0.25    5.40    0.20      41
2149          UC   1.500   1.009
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

2150          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
2151          UA     100
              *

2152          KK   CGL51 COMBINE
2153          KM   Combine route RWGL51, route RSGL51, and subbasin GL51
2154          HC       3    2.91
              *

2155          KK  DWGL59  DIVERT
2156          KM   Divert remaining runoff hydrograph from combination point CGL51 west to
2157          KM   combination point CGL59
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2158          DT  DSBH51      0.0     0.0
2159          DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
2160          DQ     0.0    47.0    94.0   235.0   470.0   940.0  1880.0  4700.0  9400.0 23500.0
              *

2161          KK  RWGL59   ROUTE
2162          KM   Route diversion DWGL59 west to combination point CGL59
2163          RS      5    FLOW
2164          RC  0.035   0.015   0.035    5280  0.0031    0.00
2165          RX   0.00    0.00   68.50   68.50  359.50  359.50  428.00  428.00
2166          RY   3.00    1.18    0.50    0.00    0.00    0.50    1.18    3.00
              *

2167          KK  DRGL59RETRIEVE
2168          KM   Retrieve divert DRGL59 from combination point CPNO59 and divert south to
2169          KM   combination point CGL59
2170          DR  DSGL59
              *

2171          KK  RSGL59   ROUTE
2172          KM   Route diversion retrieval DRGL59 south to combination point CGL59
2173          RS      4    FLOW
2174          RC  0.035   0.015   0.035    5280  0.0018    0.00
2175          RX   0.00    0.00   37.50   37.50  210.50  210.50  248.00  248.00
2176          RY   3.00    0.88    0.50    0.00    0.00    0.50    0.88    3.00
              *

2177          KK   GL59   BASIN
2178          KM   Runoff hydrograph for square mile subbasin GL59 northeast of the intersection
2179          KM   of Glendale Avenue and 59th Avenue
2180          BA   1.015
2181          LG   0.20    0.25    5.20    0.22      46
2182          UC   1.500   1.014
2183          UA      0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
2184          UA    100
              *

2185          KK  ERGL59  DIVERT
2186          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
2187          KM   retention developed after 1990 in subbasin GL59
2188          DT  XGL59    22.1     0.0
2189          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
2190          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

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LINE          ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

2191          KK   CGL59 COMBINE
2192          KM   Combine route RWGL59, route RSGL59, and subbasin GL59
2193          HC      3    3.91
              *

2194          KK   D59GL  DIVERT
2195          KM   Divert calculated full flow capapcity of 217 cfs into 72-inch storm drain
2196          KM   pipe at the intersection of Glendale Avenue and 59th Avenue
2197          DT  DP59GL     0.0   217.0
2198          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
2199          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

2200          KK  DWGR67  DIVERT
2201          KM   Divert portion of runoff hydrograph from combination point CGL59 west through
2202          KM   subbasin GR67 using the ratio of the widths and slopes of the streets going
2203          KM   west and the widths and slopes of the streets going south. The remaining flow
2204          KM   is diverted south through subbasin GR59
2205          DT  DSGR59     0.0     0.0
2206          DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
2207          DQ     0.0    46.0    92.0   230.0   460.0   920.0  1840.0  4600.0  9200.0 23000.0
              *

2208          KK   DGR67  DIVERT
2209          KM   Divert portion of DWGR67 west to subbasin GR67 using the ratio of the width
2210          KM   of the collector and local streets and the width of the arterial street. The
2211          KM   remaining flow is diverted west to subbasin GL67 along Glendale Avenue
2212          DT  DWGL67     0.0     0.0
2213          DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
2214          DQ     0.0    26.0    52.0   130.0   260.0   520.0  1040.0  2600.0  5200.0 13000.0
              *

2215          KK  DRGL35RETRIEVE
2216          KM   Retrieve divert DRGL35 from combination point CPNO35 and divert south to
2217          KM   combination point CGL35
2218          DR  DSGL35
              *

2219          KK  RSGL35   ROUTE
2220          KM   Route diversion retrieval DRGL35 south to combination point CGL35
2221          RS      5    FLOW
2222          RC  0.035   0.015   0.035    5280  0.0032    0.00
2223          RX   0.00    0.00   76.50   76.50  372.50  372.50  449.00  449.00
2224          RY   3.00    1.27    0.50    0.00    0.00    0.50    1.27    3.00
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              *

2225          KK   GL35   BASIN
2226          KM   Runoff hydrograph for square mile subbasin GL35 northeast of the intersection
2227          KM   of Glendale Avenue and 35th Avenue
2228          BA   1.004
2229          LG    0.23    0.23    6.20    0.15      34
2230          UC   1.500   1.012
2231          UA      0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
2232          UA    100
              *

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LINE          ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

2233          KK   CGL35 COMBINE
2234          KM   Combine route RSGL35, and subbasin GL35
2235          HC      2    1.53
              *

2236          KK  PR35NORETRIEVE
2237          KM   Retrieve combined full flow capacity of 113 cfs from 53-inch equivalent
2238          KM   diameter pipe at the intersection of Northern Avenue and 35th Avenue
2239          DR  DP35NO
              *

2240          KK  RP35GL   ROUTE
2241          KM   Route the combined full flow capacity of 113 cfs through an equivalent storm
2242          KM   drain pipe diameter of 53 inches in 35th Avenue to the intersection of
2243          KM   35th Avenue and Glendale Avenue
2244          RK    5335  0.0037   0.015            CIRC   4.417
              *

2245          KK  CPGL35 COMBINE
2246          KM   Combine pipe return PR35NO with the runoff hydrograph at combination point
2247          KM   CGL35 at the intersection of Glendale Avenue and 35th Avenue
2248          HC      2
              *

2249          KK   D35GL  DIVERT
2250          KM   Capacity of storm drain in 31st Avenue and 35th Avenue diverted together.
2251          KM   Divert combined calculated full flow capacity of 165 cfs in the 60-inch storm
2252          KM   drain pipe in 31st Avenue and 61 cfs in the 42-inch storm drain pipe in
2253          KM   49th Avenue. The total calculated combined full flow capacity diverted at the
2254          KM   intersection of 35th Avenue and Glendale Avenue is 226 cfs in an equivalent
2255          KM   diameter pipe of 69 inches
2256          DT  DP35GL     0.0   226.0
2257          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
2258          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

2259          KK  DEGL27  DIVERT
2260          KM   Divert remaining runoff hydrograph from combination point CPGL35 east to
2261          KM   combination point CGL27
2262          DT  DSBH35     0.0     0.0
2263          DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
2264          DQ     0.0    61.0   122.0   305.0   610.0  1220.0  2440.0  6100.0 12200.0 30500.0
              *

2265          KK  DRGL27RETRIEVE
2266          KM   Retrieve divert DRGL27 from subbasin NO27 and divert south to combination
2267          KM   point CGL27
2268          DR  DSGL27
              *

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LINE          ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

2269          KK  RSGL27   ROUTE
2270          KM   Route diversion retrieval DRGL27 south to combination point CGL27
2271          RS      1    FLOW
2272          RC  0.035   0.015   0.035    5280  0.0040    0.00
2273          RX   0.00    0.00   26.00   26.00  148.00  148.00  174.00  174.00
2274          RY   3.00    0.76    0.50    0.00    0.00    0.50    0.76    3.00
              *

2275          KK   GL27   BASIN
2276          KM   Runoff hydrograph for subbasin GL27 northeast of the intersection of Glendale
2277          KM   Avenue and 27th Avenue
2278          BA   0.258
2279          LG    0.23    0.17    6.80    0.11      45
2280          UC   1.135   0.922
2281          UA      0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
2282          UA    100
              *

2283          KK   CGL27 COMBINE
2284          KM   Combine divert DEGL27, route RSGL27, and subbasin GL27
2285          HC      3    0.98
              *
```

```
2286          KK  PR29NORETRIEVE
2287          KM   Retrieve full flow capacity of 114 cfs from 54-inch diameter pipe at the
2288          KM   intersection of Northern Avenue and 29th Avenue
2289          DR  DP29NO
              *

2290          KK  RP27GL   ROUTE
2291          KM   Route full flow capacity of 114 cfs through 54-inch storm drain pipe in
2292          KM   in 27th Avenue to the intersection of 27th Avenue and Glendale Avenue
2293          RK    5260  0.0034   0.015            CIRC   4.500
              *

2294          KK  CPGL27 COMBINE
2295          KM   Combine pipe return PR29NO with the runoff hydrograph at combination point
2296          KM   CGL27 at the intersection of Glendale Avenue and 27th Avenue
2297          HC       2
              *

2298          KK   D27GL  DIVERT
2299          KM   Divert calculated full flow capapcity of 132 cfs into 57-inch storm drain
2300          KM   pipe at the intersection of Glendale Avenue and 27th Avenue
2301          DT  DP27GL      0.0   132.0
2302          DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
2303          DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

2304          KK  RSBH27   ROUTE
2305          KM   Route remainder of divert D27GL south to combination point CBH27
2306          RS       2    FLOW
2307          RC   0.035   0.015   0.035    5280  0.0039    0.00
2308          RX    0.00    0.00   26.00   26.00  148.00  148.00  174.00  174.00
2309          RY    3.00    0.76    0.50    0.00    0.00    0.50    0.76    3.00
              *

2310          KK    BH27   BASIN
2311          KM   Runoff hydrograph for subbasin BH27 northeast of the intersection of Bethany
2312          KM   Home Road and 27th Avenue
2313          BA   0.258
2314          LG    0.21    0.25    4.80    0.25      55
2315          UC   1.019   0.818
2316          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
2317          UA     100
              *

2318          KK   CBH27 COMBINE
2319          KM   Combine route RSBH27, and subbasin BH27
2320          HC       2    1.24
              *

2321          KK  PR27GLRETRIEVE
2322          KM   Retrieve full flow capacity of 132 cfs from 57-inch storm drain pipe at the
2323          KM   intersection of Glendale Avenue and 27th Avenue
2324          DR  DP27GL
              *

2325          KK  RP27BH   ROUTE
2326          KM   Route full flow capacity of 132 cfs through 57-inch storm drain pipe in
2327          KM   27th Avenue to the intersection of Bethany Home Road and 27th Avenue
2328          RK    5221  0.0034   0.015            CIRC   4.750
              *

2329          KK  CPBH27 COMBINE
2330          KM   Combine pipe return PR27GL with the runoff hydrograph at combination point
2331          KM   CBH27 at the intersection of Bethany Home Road and 27th Avenue
2332          HC       2
              *

2333          KK   D27BH  DIVERT
2334          KM   Divert calculated full flow capapcity of 132 cfs into 57-inch storm drain
2335          KM   pipe at the intersection of Bethany Home Road and 27th Avenue
2336          DT  DP27BH      0.0   132.0
2337          DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
2338          DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

2339          KK  DWBH35  DIVERT
2340          KM   Divert remaining runoff hydrograph from combination point CPBH27 west to
2341          KM   combination point CBH35
2342          DT  DSCB27      0.0      0.0
2343          DI      0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0  10000.0  20000.0  50000.0
2344          DQ      0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0  10000.0  20000.0  50000.0
              *

2345          KK  RWBH35   ROUTE
2346          KM   Route diversion DWBH35 west to combination point CBH35
```



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2347          RS       1    FLOW
2348          RC   0.035   0.015   0.035    5280  0.0002    0.00
2349          RX    0.00    0.00   86.00   86.00  413.00  413.00  499.00  499.00
2350          RY    3.00    1.36    0.50    0.00    0.00    0.50    1.36    3.00
              *

2351          KK  DRBH35RETRIEVE
2352          KM   Retrieve divert DRBH35 from combination point CGL35 and divert south to
2353          KM   combination point CBH35
2354          DR  DSBH35
              *

2355          KK  RSBH35   ROUTE
2356          KM   Route diversion retrieval DRBH35 south to combination point CBH35
2357          RS       3    FLOW
2358          RC   0.035   0.015   0.035    5280  0.0049    0.00
2359          RX    0.00    0.00   67.00   67.00  332.00  332.00  399.00  399.00
2360          RY    3.00    1.17    0.50    0.00    0.00    0.50    1.17    3.00
              *

2361          KK    BH35   BASIN
2362          KM   Runoff hydrograph for square mile subbasin BH35 northeast of the intersection
2363          KM   of Bethany Home Road and 35th Avenue
2364          BA   1.005
2365          LG    0.24    0.25    5.20    0.22      36
2366          UC   1.163   0.436
2367          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
2368          UA     100
              *

2369          KK   CBH35 COMBINE
2370          KM   Combine route RWBH35, route RSBH35, and subbasin BH35
2371          HC       3    1.94
              *

2372          KK  PR35GLRETRIEVE
2373          KM   Retrieve combined full flow capacity of 226 cfs from 69-inch equivalent
2374          KM   diameter pipe at the intersection of Glendale Avenue and 35th Avenue
2375          DR  DP35GL
              *

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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

2376          KK  RP35BH   ROUTE
2377          KM   Route the combined full flow capacity of 226 cfs through an equivalent storm
2378          KM   drain pipe diameter of 69 inches in 35th Avenue to the intersection of
2379          KM   35th Avenue and Bethany Home Road
2380          RK    5147  0.0037   0.015            CIRC   5.750
              *

2381          KK  CPBH35 COMBINE
2382          KM   Combine pipe return PR35GL with the runoff hydrograph at combination point
2383          KM   CBH35 at the intersection of Bethany Home Road and 35th Avenue
2384          HC       2
              *

2385          KK   D35BH  DIVERT
2386          KM   Capacity of storm drain in 31st Avenue and 35th Avenue diverted together.
2387          KM   Divert combined calculated full flow capacity of 165 cfs in the 60-inch storm
2388          KM   drain pipe in 31st Avenue and 61 cfs in the 42-inch storm drain pipe in
2389          KM   49th Avenue. The total calculated combined full flow capacity diverted at the
2390          KM   intersection of 35th Avenue and Bethany Home Road is 226 cfs in an equivalent
2391          KM   diameter pipe of 69 inches
2392          DT  DP35BH      0.0   226.0
2393          DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
2394          DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

2395          KK  DWBH43  DIVERT
2396          KM   Divert remaining runoff hydrograph from combination point CPBH35 west to
2397          KM   combination point CBH43
2398          DT  DSCB35      0.0      0.0
2399          DI      0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0  10000.0  20000.0  50000.0
2400          DQ      0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0  10000.0  20000.0  50000.0
              *

2401          KK  RWBH43   ROUTE
2402          KM   Route diversion DWBH43 west to combination point CBH43
2403          RS       1    FLOW
2404          RC   0.035   0.015   0.035    5280  0.0001    0.00
2405          RX    0.00    0.00  133.50  133.50  615.50  615.50  749.00  749.00
2406          RY    3.00    1.84    0.50    0.00    0.00    0.50    1.84    3.00
              *

2407          KK  DRBH43RETRIEVE
2408          KM   Retrieve divert DRBH43 from combination point CGL43 and divert south to
2409          KM   combination point CBH43
2410          DR  DSBH43
              *

2411          KK  RSBH43   ROUTE
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2412          KM   Route diversion retrieval DRBH43 south to combination point CBH43
2413          RS       3     FLOW
2414          RC   0.035   0.015   0.035    5280  0.0028    0.00
2415          RX    0.00    0.00   57.50   57.50  291.50  291.50  349.00  349.00
2416          RY    3.00    1.08    0.50    0.00    0.00    0.50    1.08    3.00
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

2417          KK    BH43   BASIN
2418          KM   Runoff hydrograph for square mile subbasin BH43 northeast of the intersection
2419          KM   of Bethany Home Road and 43rd Avenue
2420          BA   0.993
2421          LG    0.23    0.25    5.20    0.24      32
2422          UC   1.500   1.014
2423          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
2424          UA     100
              *

2425          KK   CBH43 COMBINE
2426          KM   Combine route RWBH43, route RSBH43, and subbasin BH43
2427          HC       3    2.19
              *

2428          KK  PR43GLRETRIEVE
2429          KM   Retrieve combined full flow capacity of 385 cfs from 85-inch equivalent
2430          KM   diameter pipe at the intersection of Glendale Avenue and 43rd Avenue
2431          DR  DP43GL
              *

2432          KK  RP43BH    ROUTE
2433          KM   Route the combined full flow capacity of 385 cfs through an equivalent storm
2434          KM   drain pipe diameter of 85 inches in 43rd Avenue to the intersection of
2435          KM   43rd Avenue and Bethany Home Road
2436          RK    5295  0.0035   0.015            CIRC   7.083
              *

2437          KK  CPBH43 COMBINE
2438          KM   Combine pipe return PR43GL with the runoff hydrograph at combination point
2439          KM   CBH43 at the intersection of Bethany Home Road and 43rd Avenue
2440          HC       2
              *

2441          KK   D43BH  DIVERT
2442          KM   Capacity of storm drain in 39th Avenue and 43rd Avenue diverted together.
2443          KM   Divert combined calculated full flow capacity of 268 cfs in the 72-inch storm
2444          KM   drain pipe in 39th Avenue and 117 cfs in the 54-inch storm drain pipe in
2445          KM   43rd Avenue. The total calculated combined full flow capacity diverted at the
2446          KM   intersection of 43rd Avenue and Glendale Avenue is 385 cfs in an equivalent
2447          KM   diameter pipe of 85 inches
2448          DT  DP43BH      0.0   385.0
2449          DI      0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
2450          DQ      0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

2451          KK  DWBH51  DIVERT
2452          KM   Divert remaining runoff hydrograph from combination point CPBH43 west to
2453          KM   combination point CBH51
2454          DT  DSCB43      0.0     0.0
2455          DI      0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
2456          DQ      0.0    51.0   102.0   255.0   510.0  1020.0  2040.0  5100.0 10200.0 25500.0
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

2457          KK  RWBH51    ROUTE
2458          KM   Route diversion DWBH51 west to combination point CBH51
2459          RS       5     FLOW
2460          RC   0.035   0.015   0.035    5280  0.0016    0.00
2461          RX    0.00    0.00   75.50   75.50  402.50  402.50  478.00  478.00
2462          RY    3.00    1.25    0.50    0.00    0.00    0.50    1.25    3.00
              *

2463          KK  DRBH51RETRIEVE
2464          KM   Retrieve divert DRBH51 from combination point CGL51 and divert south to
2465          KM   combination point CBH51
2466          DR  DSBH51
              *

2467          KK   D47GL  DIVERT
2468          KM   Capacity of storm drain in 47th Avenue and 49th Avenue diverted together.
2469          KM   Divert combined calculated full flow capacity of 284 cfs in the 60-inch storm
2470          KM   drain pipe in 47th Avenue and 96 cfs in the 48-inch storm drain pipe in
2471          KM   49th Avenue. The total calculated combined full flow capacity diverted at the
2472          KM   intersection of 47rd Avenue and Glendale Avenue is 379 cfs in an equivalent
2473          KM   diameter pipe of 85 inches
2474          DT  DP47GL      0.0   379.0
2475          DI      0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
2476          DQ      0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
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              *
2477          KK  RSBH51    ROUTE
2478          KM   Route diversion retrieval DRBH51 south to combination point CBH51
2479          RS       5     FLOW
2480          RC   0.035   0.015   0.035    5280  0.0030    0.00
2481          RX    0.00    0.00   61.50   61.50  316.50  316.50  378.00  378.00
2482          RY    3.00    1.12    0.50    0.00    0.00    0.50    1.12    3.00
              *

2483          KK    BH51   BASIN
2484          KM   Runoff hydrograph for square mile subbasin BH51 northeast of the intersection
2485          KM   of Bethany Home Road and 51st Avenue
2486          BA   0.995
2487          LG    0.22    0.23    6.20    0.15      43
2488          UC   1.500   1.025
2489          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
2490          UA     100
              *

2491          KK   CBH51 COMBINE
2492          KM   Combine route RWBH51, route RSBH51, and subbasin BH51
2493          HC       3    3.42
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

2494          KK  PR47GLRETRIEVE
2495          KM   Retrieve combined full flow capacity of 379 cfs from 85-inch equivalent
2496          KM   diameter pipe at the intersection of Glendale Avenue and 47th Avenue
2497          DR  DP47GL
              *

2498          KK  RP51BH    ROUTE
2499          KM   Route the combined full flow capacity of 379 cfs through an equivalent storm
2500          KM   drain pipe diameter of 85 inches in 51st Avenue to the intersection of
2501          KM   51st Avenue and Bethany Home Road
2502          RK    2773  0.0118   0.015            CIRC   7.083
              *

2503          KK  CPBH51 COMBINE
2504          KM   Combine pipe return PR47GL with the runoff hydrograph at combination point
2505          KM   CBH51 at the intersection of Bethany Home Road and 51st Avenue
2506          HC       2
              *

2507          KK  SRBH51 STORAGE
2508          KM   Storage route runoff hydrograph from combination point CPBH51 through the
2509          KM     regional detention basin located near the intersection of Bethany Home Road
2510          KM     and 51st Avenue
2511          KM   Combined storage from two retention basins
2512          KM   Stage-storage data from topography provided by FCDMC dated 3/28/1994
2513          RS       1     STOR
2514          SV            1.99   12.41   22.30   22.30   31.52   42.36   53.20
2515          SQ            8.00   24.00 1649.00 1649.00 1649.00 1649.00 4349.00
2516          SE  1146.0 1148.00 1150.00 1151.00 1152.00 1154.00 1156.00 1157.00
              *

2517          KK  DWGR59  DIVERT
2518          KM   Divert portion of runoff hydrograph from combination point CPBH51 west
2519          KM   through subbasin GR59 using the ratio of the widths and slopes of the streets
2520          KM   going west and the widths and slopes of the streets going south. The
2521          KM   remaining flow is diverted south through subbasin GR43
2522          DT  DSGR43      0.0     0.0
2523          DI      0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
2524          DQ      0.0    32.0    64.0   160.0   320.0   640.0  1280.0  3200.0  6400.0 16000.0
              *

2525          KK   DGR59  DIVERT
2526          KM   Divert portion of DWGR59 west to subbasin GR59 using the ratio of the width
2527          KM   of the collector and local streets and the width of the arterial street. The
2528          KM   remaining flow is diverted west to subbasin BH59 along Bethany Home Road
2529          DT  DWBH59      0.0     0.0
2530          DI      0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
2531          DQ      0.0    23.0    46.0   115.0   230.0   460.0   920.0  2300.0  4600.0 11500.0
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

2532          KK  DRGR59RETRIEVE
2533          KM   Retrieve divert DRGR59 from combination point CGL59 and divert south to
2534          KM   combination point CGR59
2535          DR  DSGR59
              *

2536          KK   D59GR  DIVERT
2537          KM   Divert portion of divert retrieval DRGR59 south to subbasin BH59 along 59th
2538          KM   Avenue. Divert remaining runoff hydrograph south to combination point CGR59
2539          DT  DSBH59      0.0     0.0
```

```
2540          DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
2541          DQ     0.0    52.0   104.0   260.0   520.0  1040.0  2080.0  5200.0 10400.0 26000.0
              *

2542          KK    GR59   BASIN
2543          KM   Runoff hydrograph for subbasin GR59 southeast of the intersection of Grand
2544          KM   Avenue and 59th Avenue
2545          BA   0.518
2546          LG    0.16    0.25    4.80    0.25      62
2547          UC   0.749   0.388
2548          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
2549          UA     100
              *

2550          KK   CGR59 COMBINE
2551          KM   Combine remainder of divert retrieval DRGR59, divert DGR59, and subbasin GR59
2552          HC       3    3.18
              *

2553          KK  DNGR67  DIVERT
2554          KM   Divert portion of runoff hydrograph from combination point CGR59 north to the
2555          KM   intersection of 67th Avenue and Grand Avenue and the remaining flow south
2556          KM   to the intersection of Bethany Home Road and Grand Avenue. The diversion is
2557          KM   based on topography
2558          DT   DBH59      0.0     0.0
2559          DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
2560          DQ     0.0    50.0   100.0   250.0   500.0  1000.0  2000.0  5000.0 10000.0 25000.0
              *

2561          KK   DGRGL  DIVERT
2562          KM   Divert calculated full flow capapcity of 234 cfs into 60-inch storm drain
2563          KM   pipe at the intersection of Grand Avenue and Glendale Avenue
2564          DT   DPGRGL      0.0   234.0
2565          DI      0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
2566          DQ      0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

2567          KK  CIGR59 COMBINE
2568          KM   Combine diverts DRGL and DGR67 at the intersection of Grand Avenue and 59th
2569          KM   Avenue
2570          HC       2    3.15
              *
1                                        HEC-1 INPUT                                    PAGE 67

LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

2571          KK  RWGR67   ROUTE
2572          KM   Route diversion DGR67 west to combination point CGR67
2573          RS       0    FLOW
2574          RC   0.035   0.015   0.035    7222  0.0008    0.00
2575          RX    0.00    0.00   75.50   75.50  402.50  402.50  478.00  478.00
2576          RY    3.00    1.25    0.50    0.00    0.00    0.50    1.25    3.00
              *

2577          KK  DRGR67RETRIEVE
2578          KM   Retrieve divert DRGR67 from combination point CNO67 and divert south to
2579          KM   combination point CGR67
2580          DR  DSGR67
              *

2581          KK    GR67   BASIN
2582          KM   Runoff hydrograph for subbasin GR67 southeast of the intersection of Grand
2583          KM   Avenue and 67th Avenue
2584          BA   0.497
2585          LG    0.18    0.16    7.60    0.09      43
2586          UC   0.940   0.511
2587          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
2588          UA     100
              *

2589          KK  ERGR67  DIVERT
2590          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
2591          KM   retention developed after 1990 in subbasin GR67
2592          DT   XGR67      1.0     0.0
2593          DI      0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
2594          DQ      0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

2595          KK   CGR67 COMBINE
2596          KM   Combine route RWGR67, divert retrieval DRGR67, and subbasin GR67
2597          HC       3    6.83
              *

2598          KK  PRNO59RETRIEVE
2599          KM   Retrieve full flow capacity of 134 cfs from 72-inch storm drain pipe at the
2600          KM   intersection of Northern Avenue and 59th Avenue
2601          DR  DPNO59
              *

2602          KK  RPNO67   ROUTE
2603          KM   Route full flow capacity of 134 cfs through 72-inch storm drain pipe in
2604          KM   Grand Avenue to the intersection of Grand Avenue and 67th Avenue
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2605          RK    2688  0.0010   0.015            CIRC   6.000
              *
1                                        HEC-1 INPUT                                    PAGE 68

LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

2606          KK  PR59GLRETRIEVE
2607          KM   Retrieve full flow capacity of 217 cfs from 72-inch storm drain pipe at the
2608          KM   intersection of Glendale Avenue and 59th Avenue
2609          DR  DPS9GL
              *

2610          KK  PRGRGLRETRIEVE
2611          KM   Retrieve full flow capacity of 234 cfs from 60-inch storm drain pipe at the
2612          KM   intersection of Grand Avenue and Glendale Avenue
2613          DR  DPGRGL
              *

2614          KK  CPGL59 COMBINE
2615          KM   Combine pipe return PR59GL with pipe return PRGRGL at combination point
2616          KM   CGL59 near the intersection of Glendale Avenue and 59th Avenue
2617          HC       2    1.42
              *

2618          KK  RPGR67   ROUTE
2619          KM   Route combined full flow capacity of 451 cfs through 108-inch storm drain pip
2620          KM   Grand Avenue to the intersection of Grand Avenue and 67th Avenue
2621          RK    4247  0.0018   0.015            CIRC   9.000
              *

2622          KK  CPGR67 COMBINE
2623          KM   Combine pipe return PRNO59, pipe route RPGR67 and the runoff hydrograph at
2624          KM   combination point CGR67 at the intersection of Grand Avenue and 67th Avenue
2625          HC       3
              *

2626          KK  SRGR67 STORAGE
2627          KM   Storage route runoff hydrograph from combination point CPGR67 through
2628          KM     regional detention basin located near the intersection of Grand Avenue
2629          KM     and 67th Avenue
2630          KM   Stage-storage data from Orangewood Ave Storm Drain Sub-Phase "C" As-builts
2631          RS       1     STOR
2632          SV              2.25   11.38   31.32   57.76  140.64  378.04  409.71  478.76
2633          SQ             24.00   62.00  105.00  133.00  189.00  299.00 1529.00 6654.00
2634          SE  1130.0 1131.00 1132.00 1133.00 1134.00 1136.00 1142.00 1143.00 1145.00
              *

2635          KK   D67GR  DIVERT
2636          KM   Divert calculated full flow capapcity of 546 cfs into 108-inch storm drain
2637          KM   pipe at the intersection of Grand Avenue and 67th Avenue
2638          DT   DP67GR      0.0     546.0
2639          DI      0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
2640          DQ      0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *
1                                        HEC-1 INPUT                                    PAGE 69

LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

2641          KK  RSOW67   ROUTE
2642          KM   Route remainder of divert D67GR south to combination point COW67
2643          RS       1    FLOW
2644          RC   0.035   0.015   0.035    2640  0.0035    0.00
2645          RX    0.00    0.00   17.50   17.50  112.50  112.50  130.00  130.00
2646          RY    3.00    0.68    0.50    0.00    0.00    0.50    0.68    3.00
              *

2647          KK    OW67   BASIN
2648          KM   Runoff hydrograph for subbasin OW67 northeast of the intersection of
2649          KM   Orangewood Avenue and 67th Avenue
2650          BA   0.119
2651          LG    0.23    0.15    8.00    0.08      62
2652          UC   0.526   0.367
2653          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
2654          UA     100
              *

2655          KK   COW67 COMBINE
2656          KM   Combine route RWOW67 and subbasin OW67
2657          HC       2    6.95
              *

2658          KK  PRGR67RETRIEVE
2659          KM   Retrieve full flow capacity of 546 cfs from 108-inch storm drain pipe at the
2660          KM   intersection of Grand Avenue and 67th Avenue
2661          DR  DP67GR
              *

2662          KK  RPOW67   ROUTE
2663          KM   Route full flow capacity of 546 cfs through 108-inch storm drain pipe in
2664          KM   Orangewood Avenue to the intersection of Orangewood Avenue and 67th Avenue
2665          RK    2517  0.0019   0.015            CIRC   9.000
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                *
2666            KK  CPOW67 COMBINE
2667            KM   Combine pipe return PRGR67 with the runoff hydrograph at combination point
2668            KM   COW67 at the intersection of Orangewood Avenue and 67th Avenue
2669            HC       2
                *
2670            KK   DOW67  DIVERT
2671            KM   Divert calculated full flow capapcity of 181 cfs into 66-inch storm drain
2672            KM   pipe at the intersection of Orangewood Avenue and 67th Avenue
2673            DT  DPOW67      0.0   181.0
2674            DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
2675            DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
                *
1                                          HEC-1 INPUT                                          PAGE 70

LINE            ID.......1.......2.......3.......4.......5.......6.......7.......8.......9.....10

2676            KK  DWOW75  DIVERT
2677            KM   Divert remaining runoff hydrograph from combination point CPOW67 west to
2678            KM   combination point COW75
2679            DT  DSGL67      0.0     0.0
2680            DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
2681            DQ     0.0    51.0   102.0   255.0   510.0  1020.0  2040.0  5100.0 10200.0 25500.0
                *
2682            KK  RWOW75   ROUTE
2683            KM   Route diversion DWOW75 west to combination point COW75
2684            RS       10    FLOW
2685            RC   0.035   0.015   0.035    5280  0.0025    0.00
2686            RX    0.00    0.00   34.00   34.00  184.00  184.00  218.00  218.00
2687            RY    3.00    0.84    0.50    0.00    0.00    0.50    0.84    3.00
                *
2688            KK  DROW75RETRIEVE
2689            KM   Retrieve divert DROW75 from combination point CNO75 and divert south to
2690            KM   combination point COW75
2691            DR  DSOW75
                *
2692            KK  RSOW75   ROUTE
2693            KM   Route diversion retrieval DROW75 south to combination point COW75
2694            RS        1    FLOW
2695            RC   0.035   0.015   0.035    2640  0.0025    0.00
2696            RX    0.00    0.00   47.50   47.50  240.50  240.50  288.00  288.00
2697            RY    3.00    0.98    0.50    0.00    0.00    0.50    0.98    3.00
                *
2698            KK   OW75   BASIN
2699            KM   Runoff hydrograph for half square mile subbasin OW75 northeast of the
2700            KM   intersection of Orangewood Avenue and 75th Avenue
2701            BA   0.498
2702            LG    0.24    0.17    8.80    0.05      48
2703            UC   0.982   0.746
2704            UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
2705            UA     100
                *
2706            KK  EROW75  DIVERT
2707            KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
2708            KM   retention developed after 1990 in subbasin OW75
2709            DT  XOW75     19.1     0.0
2710            DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
2711            DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
                *
2712            KK   COW75 COMBINE
2713            KM   Combine route RWOW75, route RSOW75, and subbasin OW75
2714            HC       3    8.17
                *
1                                          HEC-1 INPUT                                          PAGE 71

LINE            ID.......1.......2.......3.......4.......5.......6.......7.......8.......9.....10

2715            KK  PROW67RETRIEVE
2716            KM   Retrieve full flow capacity of 181 cfs from 66-inch storm drain pipe at the
2717            KM   intersection of Orangewood Avenue and 67th Avenue
2718            DR  DPOW67
                *
2719            KK  RPOW71   ROUTE
2720            KM   Route full flow capacity of 181 cfs through 66-inch storm drain pipe in
2721            KM   Orangewood Avenue to the intersection of Orangewood Avenue and 71st Avenue
2722            RK    2145  0.0029   0.015            CIRC   5.500
                *
2723            KK  CPOW71 COMBINE
2724            KM   Combine pipe return PROW67 with the runoff hydrograph at combination point
2725            KM   COW71 at the intersection of Orangewood Avenue and 71st Avenue
2726            HC       2
```



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                *
2727            KK  SROW75 STORAGE
2728            KM   Storage route runoff hydrograph from combination point CPOW71 through
2729            KM     regional detention basin located near the intersection of Orangewood Avenue
2730            KM     and 71st Avenue
2731            KM   Stage-storage data from Orangewood Avenue Storm Drain As-builts, 1980
2732            RS        1     STOR
2733            SV             8.74   20.36   34.36   49.53   65.12   97.58  118.22
2734            SQ                           42.00  400.00 1044.00 2459.00 3812.00
2735            SE  1121.0 1122.00 1123.00 1124.00 1125.00 1126.00 1128.00 1129.00
                *
2736            KK   DOW71  DIVERT
2737            KM   Divert calculated full flow capapcity of 44 cfs into 42-inch storm drain
2738            KM   pipe at the intersection of Orangewood Avenue and 71st Avenue
2739            DT  DPOW71      0.0     44.0
2740            DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
2741            DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
                *
2742            KK  PROW71RETRIEVE
2743            KM   Retrieve full flow capacity of 44 cfs from 42-inch storm drain pipe at the
2744            KM   intersection of Orangewood Avenue and 71st Avenue
2745            DR  DPOW71
                *
2746            KK  RPOW75   ROUTE
2747            KM   Route full flow capacity of 44 cfs through 42-inch storm drain pipe in
2748            KM   Orangewood Avenue to the intersection of Orangewood Avenue and 75th Avenue
2749            RK    3391  0.0019   0.015            CIRC   3.500
                *
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LINE            ID.......1.......2.......3.......4.......5.......6.......7.......8.......9.....10

2750            KK  CPOW75 COMBINE
2751            KM   Combine pipe return PROW71 with the runoff hydrograph at combination point
2752            KM   COW75 at the intersection of Orangewood Avenue and 75th Avenue
2753            HC       2
                *
2754            KK   DOW75  DIVERT
2755            KM   Divert calculated full flow capapcity of 66 cfs into 48-inch storm drain
2756            KM   pipe at the intersection of Orangewood Avenue and 75th Avenue
2757            DT  DPOW75      0.0     66.0
2758            DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
2759            DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
                *
2760            KK  DWOW83  DIVERT
2761            KM   Divert remaining runoff hydrograph from combination point CPOW75 west to
2762            KM   combination point COW83
2763            DT  DSGL75      0.0     0.0
2764            DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
2765            DQ     0.0    76.0   152.0   380.0   760.0  1520.0  3040.0  7600.0 15200.0 38000.0
                *
2766            KK  RWOW83   ROUTE
2767            KM   Route diversion DWOW83 west to combination point COW83
2768            RS        3    FLOW
2769            RC   0.035   0.015   0.035    5280  0.0029    0.00
2770            RX    0.00    0.00   20.00   20.00   98.00   98.00  118.00  118.00
2771            RY    3.00    0.70    0.50    0.00    0.00    0.50    0.70    3.00
                *
2772            KK   OW83   BASIN
2773            KM   Runoff hydrograph for half square mile subbasin OW83 northeast of the
2774            KM   intersection of Orangewood Avenue and 83rd Avenue
2775            BA   0.496
2776            LG    0.29    0.17    8.40    0.07      21
2777            UC   1.499   1.196
2778            UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
2779            UA     100
                *
2780            KK  EROW83  DIVERT
2781            KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
2782            KM   retention developed after 1990 in subbasin OW83
2783            DT  XOW83      8.7     0.0
2784            DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
2785            DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
                *
2786            KK   COW83 COMBINE
2787            KM   Combine route RWOW83 and subbasin OW83
2788            HC       2    2.46
                *
1                                          HEC-1 INPUT                                          PAGE 73

LINE            ID.......1.......2.......3.......4.......5.......6.......7.......8.......9.....10
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2789          KK  PROW75RETRIEVE
2790          KM   Retrieve full flow capacity of 66 cfs from 48-inch storm drain pipe at the
2791          KM   intersection of Orangewood Avenue and 75th Avenue
2792          DR  DPOW75
              *

2793          KK  RPOW83   ROUTE
2794          KM   Route full flow capacity of 66 cfs through 48-inch storm drain pipe in
2795          KM   Orangewood Avenue to the intersection of Orangewood Avenue and 67th Avenue
2796          RK    5178  0.0021    0.015             CIRC   4.000
              *

2797          KK  CPOW83 COMBINE
2798          KM   Combine pipe return PROW75 with the runoff hydrograph at combination point
2799          KM   COW83 at the intersection of Orangewood Avenue and 83rd Avenue
2800          HC       2
              *

2801          KK   D83OW  DIVERT
2802          KM   Divert calculated full flow capapcity of 255 cfs into 72-inch storm drain
2803          KM   pipe at the intersection of Orangewood Avenue and 83rd Avenue
2804          DT  DP83OW      0.0   255.0
2805          DI      0.0 50000.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0
2806          DQ      0.0 50000.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0
              *

2807          KK  DWOW91  DIVERT
2808          KM   Divert remaining runoff hydrograph from combination point CPOW83 west to
2809          KM   combination point CGL91
2810          DT  DSGL83      0.0       0.0
2811          DI      0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
2812          DQ      0.0    85.0   170.0   425.0   850.0  1700.0  3400.0  8500.0 17000.0 42500.0
              *

2813          KK  RWOW91   ROUTE
2814          KM   Route diversion DWOW91 west to combination point COW91
2815          RS       5    FLOW
2816          RC   0.035   0.015   0.035    5280  0.0038     0.00
2817          RX    0.00    0.00    7.00    7.00   43.00   43.00   50.00   50.00
2818          RY    3.00    0.57    0.50    0.00    0.00    0.50    0.57    3.00
              *

2819          KK  DIGL67RETRIEVE
2820          KM   Retrieve arterial street flow diverted to Glendale Avenue at the intersection
2821          KM   of Glendale Avenue and 67th Avenue
2822          DR  DWGL67
              *

2823          KK  RWGL67   ROUTE
2824          KM   Route diversion retrieval DIGL67 at the intersection of Glendale Avenue
2825          KM   and 67th Avenue west to combination point CGL67
2826          RS       4    FLOW
2827          RC   0.035   0.015   0.035    5280  0.0037     0.00
2828          RX    0.00    0.00   41.50   41.50  218.50  218.50  260.00  260.00
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LINE          ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

2829          RY    3.00    0.92    0.50    0.00    0.00    0.50    0.92    3.00
              *

2830          KK    GL67   BASIN
2831          KM   Runoff hydrograph for square mile subbasin GL67 northeast of the intersection
2832          KM   of Glendale Avenue and 67th Avenue
2833          BA   0.359
2834          LG    0.19    0.25    5.40    0.19      63
2835          UC   0.809   0.507
2836          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
2837          UA     100
              *

2838          KK  DRGL67RETRIEVE
2839          KM   Retrieve divert DRGL67 from combination point CPOW67 and divert south to
2840          KM   combination point CGL67
2841          DR  DSGL67
              *

2842          KK  RSGL67   ROUTE
2843          KM   Route diversion retrieval DRGL67 south to combination point CGL67
2844          RS       2    FLOW
2845          RC   0.035   0.015   0.035    2640  0.0052     0.00
2846          RX    0.00    0.00   27.50   27.50  132.50  132.50  160.00  160.00
2847          RY    3.00    0.78    0.50    0.00    0.00    0.50    0.78    3.00
              *

2848          KK   CGL67 COMBINE
2849          KM   Combine route RWGL67, route RSGL67, and subbasin GL67
2850          HC       3    4.47
              *

2851          KK  DWGL75  DIVERT
2852          KM   Divert remaining runoff hydrograph from combination point CGL67 west to
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2853          KM   combination point CGL75
2854          DT  DSBH67      0.0       0.0
2855          DI      0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
2856          DQ      0.0    49.0    98.0   245.0   490.0   980.0  1960.0  4900.0  9800.0 24500.0
              *

2857          KK  RWGL75   ROUTE
2858          KM   Route diversion DWGL75 west to combination point CGL75
2859          RS       6    FLOW
2860          RC   0.035   0.015   0.035    5280  0.0034     0.00
2861          RX    0.00    0.00   47.00   47.00  283.00  283.00  330.00  330.00
2862          RY    3.00    0.97    0.50    0.00    0.00    0.50    0.97    3.00
              *

2863          KK  DRGL75RETRIEVE
2864          KM   Retrieve divert DRGL75 from combination point CPOW75 and divert south to
2865          KM   combination point CGL75
2866          DR  DSGL75
              *
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LINE          ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

2867          KK  RSGL75   ROUTE
2868          KM   Route diversion retrieval DRGL75 south to combination point CGL75
2869          RS       1    FLOW
2870          RC   0.035   0.015   0.035    2640  0.0035     0.00
2871          RX    0.00    0.00   54.50   54.50  283.50  283.50  338.00  338.00
2872          RY    3.00    1.04    0.50    0.00    0.00    0.50    1.04    3.00
              *

2873          KK    GL75   BASIN
2874          KM   Runoff hydrograph for half square mile subbasin GL75 northeast of the
2875          KM   intersection of Glendale Avenue and 75th Avenue
2876          BA   0.499
2877          LG    0.26    0.15    8.80    0.05      42
2878          UC   1.457   1.155
2879          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
2880          UA     100
              *

2881          KK  ERGL75  DIVERT
2882          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
2883          KM   retention developed after 1990 in subbasin GL75
2884          DT  XGL75      38.5       0.0
2885          DI      0.0 50000.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0
2886          DQ      0.0 50000.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0
              *

2887          KK   CGL75 COMBINE
2888          KM   Combine route RWGL75, route RSGL75, and subbasin GL75
2889          HC       3    8.97
              *

2890          KK  DWGL83  DIVERT
2891          KM   Divert remaining runoff hydrograph from combination point CGL75 west to
2892          KM   combination point CGL83
2893          DT  DSBH75      0.0       0.0
2894          DI      0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
2895          DQ      0.0    50.0   100.0   250.0   500.0  1000.0  2000.0  5000.0 10000.0 25000.0
              *

2896          KK  RWGL83   ROUTE
2897          KM   Route diversion DWGL83 west to combination point CGL83
2898          RS       3    FLOW
2899          RC   0.035   0.015   0.035    5280  0.0032     0.00
2900          RX    0.00    0.00   47.00   47.00  283.00  283.00  330.00  330.00
2901          RY    3.00    0.97    0.50    0.00    0.00    0.50    0.97    3.00
              *

2902          KK  DRGL83RETRIEVE
2903          KM   Retrieve divert DRGL83 from combination point CPOW83 and divert south to
2904          KM   combination point CGL83
2905          DR  DSGL83
              *
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LINE          ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

2906          KK  RSGL83   ROUTE
2907          KM   Route diversion retrieval DRGL83 south to combination point CGL83
2908          RS       2    FLOW
2909          RC   0.035   0.015   0.035    2640  0.0041     0.00
2910          RX    0.00    0.00   38.50   38.50  241.50  241.50  280.00  280.00
2911          RY    3.00    0.88    0.50    0.00    0.00    0.50    0.88    3.00
              *

2912          KK    GL83   BASIN
2913          KM   Runoff hydrograph for half square mile subbasin GL83 northeast of the
2914          KM   intersection of Glendale Avenue and 83rd Avenue
2915          BA   0.495
```

```
2916          LG    0.27    0.16    7.00    0.11      28
2917          UC   1.466   1.162
2918          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
2919          UA     100
              *

2920          KK  ERGL83  DIVERT
2921          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
2922          KM   retention developed after 1990 in subbasin GL83
2923          DT   XGL83    16.3     0.0
2924          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
2925          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

2926          KK   CGL83 COMBINE
2927          KM   Combine route RWGL83, route RSGL83, and subbasin GL83
2928          HC       3    7.11
              *

2929          KK  PR83OWRETRIEVE
2930          KM   Retrieve full flow capacity of 255 cfs from 72-inch storm drain pipe at the
2931          KM   intersection of Orangewood Avenue and 83rd Avenue
2932          DR  DP83OW
              *

2933          KK  RP83GL   ROUTE
2934          KM   Route full flow capacity of 255 cfs through 72-inch storm drain pipe in
2935          KM   83rd Avenue to the intersection of Glendale Avenue and 83rd Avenue
2936          RK    2644  0.0036   0.015            CIRC   6.000
              *

2937          KK  CPGL83 COMBINE
2938          KM   Combine pipe return PR83OW with the runoff hydrograph at combination point
2939          KM   CGL83 at the intersection of Glendale Avenue and 83rd Avenue
2940          HC       2
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

2941          KK   DGL83  DIVERT
2942          KM   Divert calculated full flow capapcity of 374 cfs into 84-inch storm drain
2943          KM   pipe at the intersection of Glendale Avenue and 83rd Avenue
2944          DT  DPGL83     0.0   374.0
2945          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
2946          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

2947          KK  DWGL91  DIVERT
2948          KM   Divert remaining runoff hydrograph from combination point CPGL83 west to
2949          KM   combination point CGL91
2950          DT  DSBH83      0.0     0.0
2951          DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
2952          DQ     0.0    63.0   126.0   315.0   630.0  1260.0  2520.0  6300.0 12600.0 31500.0
              *

2953          KK  RWGL91   ROUTE
2954          KM   Route diversion DWGL91 west to combination point CGL92
2955          RS       4    FLOW
2956          RC   0.035   0.015   0.035    5280  0.0032     0.00
2957          RX    0.00    0.00   33.00   33.00  197.00  197.00  230.00  230.00
2958          RY    3.00    0.83    0.50    0.00    0.00    0.50    0.83    3.00
              *

2959          KK  DRGL91RETRIEVE
2960          KM   Retrieve divert DRGL91 from combination point CCPNO91 and divert south to
2961          KM   combination point CGL91
2962          DR  DSGL91
              *

2963          KK  RSGL91   ROUTE
2964          KM   Route diversion retrieval DRGL91 south to combination point CGL91
2965          RS       2    FLOW
2966          RC   0.035   0.015   0.035    5280  0.0032     0.00
2967          RX    0.00    0.00   38.50   38.50  241.50  241.50  280.00  280.00
2968          RY    3.00    0.88    0.50    0.00    0.00    0.50    0.88    3.00
              *

2969          KK    GL91   BASIN
2970          KM   Runoff hydrograph for square mile subbasin GL91 northeast of the intersection
2971          KM   of Glendale Avenue and 91st Avenue
2972          BA   0.979
2973          LG    0.28    0.19    6.80    0.13      25
2974          UC   1.500   1.019
2975          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
2976          UA     100
              *

2977          KK  ERGL91  DIVERT
2978          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
2979          KM   retention developed after 1990 in subbasin GL91
2980          DT   XGL91    51.6     0.0
```



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2981          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
2982          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

2983          KK   CGL91 COMBINE
2984          KM   Combine route RWGL91, route RSGL91, route RWoW91, and subbasin GL91
2985          HC       4    9.02
              *

2986          KK  PRGL83RETRIEVE
2987          KM   Retrieve full flow capacity of 374 cfs from 84-inch storm drain pipe at the
2988          KM   intersection of Glendale Avenue and 83rd Avenue
2989          DR  DPGL83
              *

2990          KK  RPGL91   ROUTE
2991          KM   Route full flow capacity of 374 cfs through 84-inch storm drain pipe in
2992          KM   Glendale Avenue to the intersection of Glendale Avenue and 91st Avenue
2993          RK    5306  0.0034   0.015            CIRC   7.000
              *

2994          KK  CPGL91 COMBINE
2995          KM   Combine pipe return PRGL83 with the runoff hydrograph at combination point
2996          KM   CGL91 at the intersection of Glendale Avenue and 91st Avenue
2997          HC       2
              *

2998          KK   DGL91  DIVERT
2999          KM   Divert calculated full flow capapcity of 449 cfs into 90-inch storm drain
3000          KM   pipe at the intersection of Glendale Avenue and 91st Avenue
3001          DT  DPGL91     0.0   449.0
3002          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
3003          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

3004          KK  DWGLLO  DIVERT
3005          KM   Divert remaining runoff hydrograph from combination point CPGL91 west to
3006          KM   combination point CGLLO
3007          DT  DSBH91      0.0     0.0
3008          DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
3009          DQ     0.0    62.0   124.0   310.0   620.0  1240.0  2480.0  6200.0 12400.0 31000.0
              *

3010          KK  RWGLLO   ROUTE
3011          KM   Route diversion DWGLLO west to combination point CGLLO
3012          RS       3    FLOW
3013          RC   0.035   0.015   0.035    4441  0.0027     0.00
3014          RX    0.00    0.00   19.00   19.00  111.00  111.00  130.00  130.00
3015          RY    3.00    0.69    0.50    0.00    0.00    0.50    0.69    3.00
              *

3016          KK    GLLO   BASIN
3017          KM   Runoff hydrograph for subbasin GLLO northeast of the intersection of Glendale
3018          KM   Avenue and SR Loop 101
3019          BA   0.848
3020          LG    0.37    0.21    6.60    0.18      21
3021          UC   1.485   1.013
3022          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

3023          UA     100
              *

3024          KK  ERGLLO  DIVERT
3025          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
3026          KM   retention developed after 1990 in subbasin GLLO
3027          DT   XGLLO    17.5     0.0
3028          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
3029          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

3030          KK   CGLLO COMBINE
3031          KM   Combine route RWGLLO, route RSGLLO, and subbasin GLLO
3032          HC       3   15.23
              *

3033          KK  PRGL91RETRIEVE
3034          KM   Retrieve full flow capacity of 449 cfs from 90-inch storm drain pipe at the
3035          KM   intersection of Glendale Avenue and 91st Avenue
3036          DR  DPGL91
              *

3037          KK  RPGLLO   ROUTE
3038          KM   Route full flow capacity of 449 cfs through 90-inch storm drain pipe in
3039          KM   Glendale Avenue to the intersection of Glendale Avenue and SR Loop 101
3040          RK    4160  0.0034   0.015            CIRC   7.500
              *
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3041          KK  CPGLLO COMBINE
3042          KM   Combine pipe return PRGL91 with the runoff hydrograph at combination point
3043          KM   CGLLO at the intersection of Glendale Avenue and SR Loop 101
3044          HC       2
              *
3045          KK  RSBHLO   ROUTE
3046          KM   Route hydrograph at combination point CPGLLO south to combination point CBHLO
3047          RS       2    FLOW
3048          RC   0.035   0.015   0.035    5165  0.0005    0.00
3049          RX    0.00    4.00   16.00   34.00   57.00   74.00   86.00   89.00
3050          RY   10.24    9.24    9.00    0.00    0.20    8.70    8.97    9.94
              *
3051          KK  DIBH59RETRIEVE
3052          KM   Retrieve arterial street flow diverted to Bethany Home Road at the intersecti
3053          KM   of Bethany Home Road and Grand Avenue
3054          DR  DWBH59
              *
3055          KK  DRBH59RETRIEVE
3056          KM   Retrieve divert DRBH59 from combination point CGR59 and divert south to
3057          KM   combination point CIBHGR
3058          DR   DBH59
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

3059          KK  SRGR59 STORAGE
3060          KM   Storage route runoff hydrograph from divert retrieval DRBH59 through ponding
3061          KM     area at Grand Avenue between 51st and 59th Avenues
3062          KM   Storage routing ID RES8 in DMJM HEC-1 revision (model BHGC00C6, Nov 2004)
3063          KM   Comments from DMJM model:
3064          KM   PONDING AREA RESERVOIR ROUTE
3065          KM   PONDING AREA NORTHEAST OF GRAND AVENUE/RR EMBANKMENT
3066          KM   SUB-BASIN 8-22E
3067          RS       1     STOR
3068          SV            14.95   50.65   78.30  116.78  220.43
3069          SQ             0.10    0.20  310.00 1070.00 4090.00
3070          SE  1148.0 1149.00 1150.00 1150.50 1151.00 1152.00
              *
3071          KK  CIBHGR COMBINE
3072          KM   Combine arterial street flow from Bethany Home Road DIBH59 with runoff
3073          KM   hydrograph DRBH59 at the intersection of Bethany Home Road and Grand Avenue
3074          HC       2    2.13
              *
3075          KK  RWBH59   ROUTE
3076          KM   Route hydrograph at combination point CIBHGR at the intersection of Bethany
3077          KM   Home Road and Grand Avenue west to combination point CBH59
3078          RS       4     FLOW
3079          RC   0.035   0.015   0.035    5280  0.0025    0.00
3080          RX    0.00    0.00   47.50   47.50  230.50  230.50  278.00  278.00
3081          RY    3.00    0.98    0.50    0.00    0.00    0.50    0.98    3.00
              *
3082          KK  DI59BHRETRIEVE
3083          KM   Retrieve arterial street flow diverted to 59th Avenue at the intersection
3084          KM   of Bethany Home Road and Grand Avenue
3085          DR  DSBH59
              *
3086          KK  RSBH59   ROUTE
3087          KM   Route diversion retrieval DI59HB at the intersection of Bethany Home Road and
3088          KM   59th Avenue south to combination point CBH59
3089          RS       3     FLOW
3090          RC   0.035   0.015   0.035    5280  0.0024    0.00
3091          RX    0.00    0.00   30.50   30.50  167.50  167.50  198.00  198.00
3092          RY    3.00    0.80    0.50    0.00    0.00    0.50    0.80    3.00
              *
3093          KK    BH59   BASIN
3094          KM   Runoff hydrograph for subbasin BH59 northeast of the intersection of Bethany
3095          KM   Home Road and 59th Avenue
3096          BA   0.493
3097          LG    0.17    0.26    5.00    0.23      66
3098          UC   0.830   0.450
3099          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
3100          UA     100
              *
1                                        HEC-1 INPUT                                    PAGE 81

LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

3101          KK   CBH59 COMBINE
3102          KM   Combine route RWBH59, route RSBH59, and subbasin BH59
3103          HC       3    3.58
              *
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3104          KK  DWBH67  DIVERT
3105          KM   Divert remaining runoff hydrograph from combination point CBH59 west to
3106          KM   combination point CBH67
3107          DT  DSCB59      0.0      0.0
3108          DI      0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0  10000.0  20000.0  50000.0
3109          DQ      0.0     42.0     84.0    210.0    420.0    840.0   1680.0   4200.0   8400.0  21000.0
              *
3110          KK  RWBH67   ROUTE
3111          KM   Route diversion DWBH67 west to combination point CBH67
3112          RS       4     FLOW
3113          RC   0.035   0.015   0.035    5280  0.0028    0.00
3114          RX    0.00    0.00   68.50   68.50  359.50  359.50  428.00  428.00
3115          RY    3.00    1.18    0.50    0.00    0.00    0.50    1.18    3.00
              *
3116          KK  DRBH67RETRIEVE
3117          KM   Retrieve divert DRBH67 from combination point CGL75 and divert south to
3118          KM   combination point CBH67
3119          DR  DSBH67
              *
3120          KK  RSBH67   ROUTE
3121          KM   Route diversion retrieval DRBH67 south to combination point CBH67
3122          RS       8     FLOW
3123          RC   0.035   0.015   0.035    5280  0.0015    0.00
3124          RX    0.00    0.00   75.50   75.50  402.50  402.50  478.00  478.00
3125          RY    3.00    1.25    0.50    0.00    0.00    0.50    1.25    3.00
              *
3126          KK    BH67   BASIN
3127          KM   Runoff hydrograph for square mile subbasin BH67 northeast of the intersection
3128          KM   of Bethany Home Road and 67th Avenue
3129          BA   0.971
3130          LG    0.23    0.26    5.60    0.19      38
3131          UC   1.500   1.015
3132          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
3133          UA     100
              *
3134          KK   CBH67 COMBINE
3135          KM   Combine route RWBH67, route RSBH67, and subbasin BH67
3136          HC       3    5.24
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

3137          KK  DWBH75  DIVERT
3138          KM   Divert remaining runoff hydrograph from combination point CBH67 west to
3139          KM   combination point CBH75
3140          DT  DSCB67      0.0      0.0
3141          DI      0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0  10000.0  20000.0  50000.0
3142          DQ      0.0     44.0     88.0    220.0    440.0    880.0   1760.0   4400.0   8800.0  22000.0
              *
3143          KK  RWBH75   ROUTE
3144          KM   Route diversion DWBH75 west to combination point CBH75
3145          RS       3     FLOW
3146          RC   0.035   0.015   0.035    5280  0.0038    0.00
3147          RX    0.00    0.00   61.50   61.50  316.50  316.50  378.00  378.00
3148          RY    3.00    1.12    0.50    0.00    0.00    0.50    1.12    3.00
              *
3149          KK  DRBH75RETRIEVE
3150          KM   Retrieve divert DRBH75 from combination point CGL75 and divert south to
3151          KM   combination point CBH75
3152          DR  DSBH75
              *
3153          KK  RSBH75   ROUTE
3154          KM   Route diversion retrieval DRBH75 south to combination point CBH75
3155          RS       4     FLOW
3156          RC   0.035   0.015   0.035    5280  0.0019    0.00
3157          RX    0.00    0.00   68.50   68.50  359.50  359.50  428.00  428.00
3158          RY    3.00    1.18    0.50    0.00    0.00    0.50    1.18    3.00
              *
3159          KK    BH75   BASIN
3160          KM   Runoff hydrograph for square mile subbasin BH75 northeast of the intersection
3161          KM   of Bethany Home Road and 75th Avenue
3162          BA   1.003
3163          LG    0.27    0.15    9.70    0.05      32
3164          UC   1.500   1.009
3165          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
3166          UA     100
              *
3167          KK  ERBH75  DIVERT
3168          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
3169          KM   retention developed after 1990 in subbasin BH75
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3170          DT   XBH75     60.1      0.0
3171          DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
3172          DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

3173          KK   CBH75 COMBINE
3174          KM   Combine route RWBH75, route RSBH75, and subbasin BH75
3175          HC        3     8.42
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

3176          KK  DWBH83  DIVERT
3177          KM   Divert remaining runoff hydrograph from combination point CBH75 west to
3178          KM   combination point CBH83
3179          DT  DSCB75      0.0      0.0
3180          DI      0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0  10000.0  20000.0  50000.0
3181          DQ      0.0     53.0    106.0    265.0    530.0   1060.0   2120.0   5300.0  10600.0  26500.0
              *

3182          KK  RWBH83   ROUTE
3183          KM   Route diversion DWBH83 west to combination point CBH83
3184          RS        5     FLOW
3185          RC   0.035    0.015    0.035     5280   0.0034     0.00
3186          RX    0.00     0.00    47.50    47.50   230.50   230.50   278.00   278.00
3187          RY    3.00     0.98     0.50     0.00     0.00     0.50     0.98     3.00
              *

3188          KK  DRBH83RETRIEVE
3189          KM   Retrieve divert DRBH83 from combination point CGL83 and divert south to
3190          KM   combination point CBH83
3191          DR  DSBH83
              *

3192          KK  RSBH83   ROUTE
3193          KM   Route diversion retrieval DRBH83 south to combination point CBH83
3194          RS        5     FLOW
3195          RC   0.035    0.015    0.035     5280   0.0021     0.00
3196          RX    0.00     0.00    72.50    72.50   425.50   425.50   498.00   498.00
3197          RY    3.00     1.23     0.50     0.00     0.00     0.50     1.23     3.00
              *

3198          KK    BH83   BASIN
3199          KM   Runoff hydrograph for square mile subbasin BH83 northeast of the intersection
3200          KM   of Bethany Home Road and 83rd Avenue
3201          BA   0.998
3202          LG    0.27     0.19     7.60     0.09       24
3203          UC   1.500    1.016
3204          UA       0      5.0     16.0     30.0     65.0     77.0     84.0     90.0     94.0     97.0
3205          UA     100
              *

3206          KK  ERBH83  DIVERT
3207          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
3208          KM   retention developed after 1990 in subbasin BH83
3209          DT   XBH83     57.0      0.0
3210          DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
3211          DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

3212          KK   CBH83 COMBINE
3213          KM   Combine route RWBH83, route RSBH83, and subbasin BH83
3214          HC        3     9.47
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

3215          KK  DWBH91  DIVERT
3216          KM   Divert remaining runoff hydrograph from combination point CBH83 west to
3217          KM   combination point CIBH83
3218          DT  DSGC83      0.0      0.0
3219          DI      0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0  10000.0  20000.0  50000.0
3220          DQ      0.0     34.0     68.0    170.0    340.0    680.0   1360.0   3400.0   6800.0  17000.0
              *

3221          KK  DRCB27RETRIEVE
3222          KM   Retrieve divert DRCB27 from combination point CPBH27 and divert south to
3223          KM   combination point CCB27
3224          DR  DSCB27
              *

3225          KK  RSCB27   ROUTE
3226          KM   Route diversion retrieval DRCB27 south to combination point CCB27
3227          RS        4     FLOW
3228          RC   0.035    0.015    0.035     5280   0.0037     0.00
3229          RX    0.00     0.00    26.00    26.00   148.00   148.00   174.00   174.00
3230          RY    3.00     0.76     0.50     0.00     0.00     0.50     0.76     3.00
              *
```



```
3231          KK    CB27   BASIN
3232          KM   Runoff hydrograph for subbasin CB27 northeast of the intersection of
3233          KM   Camelback Road and 27th Avenue
3234          BA   0.262
3235          LG    0.20     0.25     5.10     0.22       54
3236          UC   1.047    0.842
3237          UA       0      5.0     16.0     30.0     65.0     77.0     84.0     90.0     94.0     97.0
3238          UA     100
              *

3239          KK   CCB27 COMBINE
3240          KM   Combine route RSCB27, and subbasin CB27
3241          HC        2     1.50
              *

3242          KK  PR27BHRETRIEVE
3243          KM   Retrieve full flow capacity of 132 cfs from 57-inch diameter pipe at the
3244          KM   intersection of Bethany Home Road and 27th Avenue
3245          DR  DP27BH
              *

3246          KK  RP27CB   ROUTE
3247          KM   Route full flow capacity of 132 cfs through 57-inch storm drain pipe in
3248          KM   27th Avenue to the intersection of 27th Avenue and Camelback Road
3249          RK     5336  0.0034   0.015             CIRC    4.750
              *
1                                          HEC-1 INPUT                                          PAGE 85

LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

3250          KK  CPCB27 COMBINE
3251          KM   Combine pipe return PR27BH with the runoff hydrograph at combination point
3252          KM   CGL83 at the intersection of Camelback Road and 27th Avenue
3253          HC        2
              *

3254          KK   D27CB  DIVERT
3255          KM   Divert calculated full flow capapcity of 132 cfs into 57-inch storm drain
3256          KM   pipe at the intersection of Camelback Road and 27th Avenue
3257          DT  DP27CB      0.0    132.0
3258          DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
3259          DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

3260          KK  DWCB35  DIVERT
3261          KM   Divert remaining runoff hydrograph from combination point CPCB27 west to
3262          KM   combination point CCB35
3263          DT  DSIS27      0.0      0.0
3264          DI      0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0  10000.0  20000.0  50000.0
3265          DQ      0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0  10000.0  20000.0  50000.0
              *

3266          KK  RWCB35   ROUTE
3267          KM   Route diversion DWCB35 west to combination point CCB35
3268          RS        1     FLOW
3269          RC   0.035    0.015    0.035     5280   0.0006     0.00
3270          RX    0.00     0.00   105.00   105.00   494.00   494.00   599.00   599.00
3271          RY    3.00     1.55     0.50     0.00     0.00     0.50     1.55     3.00
              *

3272          KK  DRCB35RETRIEVE
3273          KM   Retrieve divert DRCB35 from combination point CPBH35 and divert south to
3274          KM   combination point CCB35
3275          DR  DSCB35
              *

3276          KK  RSCB35   ROUTE
3277          KM   Route diversion retrieval DRCB35 south to combination point CCB35
3278          RS        3     FLOW
3279          RC   0.035    0.015    0.035     5280   0.0040     0.00
3280          RX    0.00     0.00    95.50    95.50   453.50   453.50   549.00   549.00
3281          RY    3.00     1.46     0.50     0.00     0.00     0.50     1.46     3.00
              *

3282          KK    CB35   BASIN
3283          KM   Runoff hydrograph for square mile subbasin CB35 northeast of the intersection
3284          KM   of Camelback Road and 35th Avenue
3285          BA   1.000
3286          LG    0.24     0.25     5.00     0.25       39
3287          UC   1.500    1.010
3288          UA       0      5.0     16.0     30.0     65.0     77.0     84.0     90.0     94.0     97.0
3289          UA     100
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

3290          KK   CCB35 COMBINE
3291          KM   Combine route RWCB35, route RSCB35, and subbasin CB35
3292          HC        3     2.94
              *
```

```
3293          KK  PR27CBRETRIEVE
3294          KM   Retrieve combined full flow capacity of 132 cfs from 57-inch equivalent
3295          KM   diameter pipe at the intersection of Camelback Road and 27th Avenue
3296          DR  DP27CB
              *
3297          KK  CPCB29 COMBINE
3298          KM   Combine pipe return PR27CB with the runoff hydrograph at combination point
3299          KM   CCB29 at the intersection of Camelback Road and 29thth Avenue
3300          HC       2
              *
3301          KK   D29CB  DIVERT
3302          KM   Divert calculated full flow capapcity of 132 cfs into 57-inch storm drain
3303          KM   pipe at the intersection of Camelback Road and 29th Avenue
3304          DT  DP29CB      0.0   132.0
3305          DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
3306          DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *
3307          KK  PR35BHRETRIEVE
3308          KM   Retrieve combined full flow capacity of 226 cfs from 69-inch equivalent
3309          KM   diameter pipe at the intersection of Bethany Home Road and 35th Avenue
3310          DR  DP35BH
              *
3311          KK  RP35CB   ROUTE
3312          KM   Route the combined full flow capacity of 226 cfs through an equivalent storm
3313          KM   drain pipe diameter of 69 inches in 35th Avenue to the intersection of
3314          KM   35th Avenue and Camelback Road
3315          RK    5249  0.0037   0.015            CIRC   5.750
              *
3316          KK  CPCB35 COMBINE
3317          KM   Combine pipe return PR35BH with the runoff hydrograph at combination point
3318          KM   CCB35 at the intersection of Camelback Road and 35th Avenue
3319          HC       2
              *
3320          KK   D35CB  DIVERT
3321          KM   Capacity of storm drain in 31st Avenue and 35th Avenue diverted together.
3322          KM   Divert combined calculated full flow capacity of 213 cfs in the 66-inch storm
3323          KM   drain pipe in 31st Avenue and 40 cfs in the 36-inch storm drain pipe in
3324          KM   35th Avenue. The total calculated combined full flow capacity diverted at the
3325          KM   intersection of 35th Avenue and Camelback Road is 253 cfs in an equivalent
3326          KM   diameter pipe of 73 inches
3327          DT  DP35CB      0.0   253.0
3328          DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
3329          DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

3330          KK  DWCB43  DIVERT
3331          KM   Divert remaining runoff hydrograph from combination point CPCB35 west to
3332          KM   combination point CCB43
3333          DT  DSI535      0.0      0.0
3334          DI      0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0  10000.0  20000.0  50000.0
3335          DQ      0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0  10000.0  20000.0  50000.0
              *
3336          KK  RWCB43   ROUTE
3337          KM   Route diversion DWCB43 west to combination point CCB43
3338          RS       1    FLOW
3339          RC   0.035   0.015   0.035    5280  0.0001    0.00
3340          RX    0.00    0.00   86.00   86.00  413.00  413.00  499.00  499.00
3341          RY    3.00    1.36    0.50    0.00    0.00    0.50    1.36    3.00
              *
3342          KK  DRCB43RETRIEVE
3343          KM   Retrieve divert DRCB43 from combination point CPBH43 and divert south to
3344          KM   combination point CCB43
3345          DR  DSCB43
              *
3346          KK  RSCB43   ROUTE
3347          KM   Route diversion retrieval DRCB43 south to combination point CCB43
3348          RS       4    FLOW
3349          RC   0.035   0.015   0.035    5280  0.0032    0.00
3350          RX    0.00    0.00   57.50   57.50  291.50  291.50  349.00  349.00
3351          RY    3.00    1.08    0.50    0.00    0.00    0.50    1.08    3.00
              *
3352          KK   CB43   BASIN
3353          KM   Runoff hydrograph for square mile subbasin CB43 northeast of the intersection
3354          KM   of Camelback Road and 43rd Avenue
3355          BA   0.999
3356          LG    0.24    0.25    4.80    0.26      35
3357          UC   1.233   0.467
3358          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
```



```
3359          UA     100
              *
3360          KK   CCB43 COMBINE
3361          KM   Combine route RWCB43, route RSCB43, and subbasin CB43
3362          HC       3    2.12
              *
3363          KK  PR43BHRETRIEVE
3364          KM   Retrieve combined full flow capacity of 385 cfs from 85-inch equivalent
3365          KM   diameter pipe at the intersection of Bethany Home Road and 43rd Avenue
3366          DR  DP43BH
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

3367          KK  RP43CB   ROUTE
3368          KM   Route the combined full flow capacity of 385 cfs through an equivalent storm
3369          KM   drain pipe diameter of 85 inches in 43rd Avenue to the intersection of
3370          KM   43rd Avenue and Camelback Road
3371          RK    5172  0.0035   0.015            CIRC   7.083
              *
3372          KK  CPCB43 COMBINE
3373          KM   Combine pipe return PR43BH with the runoff hydrograph at combination point
3374          KM   CCB43 at the intersection of Camelback Road and 43rd Avenue
3375          HC       2
              *
3376          KK   D39CB  DIVERT
3377          KM   Divert calculated full flow capapcity of 268 cfs into 72-inch storm drain
3378          KM   pipe at the intersection of Camelback Road and 39th Avenue
3379          DT  DP39CB      0.0   268.0
3380          DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
3381          DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *
3382          KK   D43CB  DIVERT
3383          KM   Divert calculated full flow capapcity of 155 cfs into 60-inch storm drain
3384          KM   pipe at the intersection of Camelback Road and 43rd Avenue
3385          DT  DP43CB      0.0   155.0
3386          DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
3387          DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *
3388          KK  DWGR43  DIVERT
3389          KM   Divert portion of runoff hydrograph from combination point CPCB43 west
3390          KM   through subbasin GR43 using the ratio of the widths and slopes of the streets
3391          KM   going west and the widths and slopes of the streets going south. The
3392          KM   remaining flow is diverted south through subbasin IS43
3393          DT  DSGR35      0.0      0.0
3394          DI      0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0  10000.0  20000.0  50000.0
3395          DQ      0.0     57.0    114.0    285.0    570.0   1140.0   2280.0   5700.0  11400.0  28500.0
              *
3396          KK   DGR43  DIVERT
3397          KM   Divert portion of DWGR43 west to subbasin GR43 using the ratio of the width
3398          KM   of the collector and local streets and the width of the arterial street. The
3399          KM   remaining flow is diverted west to subbasin CB51 along Camelback Road
3400          DT  DCB51       0.0      0.0
3401          DI      0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0  10000.0  20000.0  50000.0
3402          DQ      0.0     25.0     50.0    125.0    250.0    500.0   1000.0   2500.0   5000.0  12500.0
              *
3403          KK  DRGR43RETRIEVE
3404          KM   Retrieve divert DRGR43 from combination point CPBH51 and divert south to
3405          KM   combination point CGR43
3406          DR  DSGR43
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

3407          KK  RSGR43   ROUTE
3408          KM   Route diversion retrieval DRGR43 south to combination point CGR43
3409          RS       6    FLOW
3410          RC   0.035   0.015   0.035    7370  0.0013    0.00
3411          RX    0.00    0.00   31.50   31.50  143.50  143.50  175.00  175.00
3412          RY    3.00    0.82    0.50    0.00    0.00    0.50    0.82    3.00
              *
3413          KK    GR43   BASIN
3414          KM   Runoff hydrograph for subbasin GR43 northwest of the intersection of Grand
3415          KM   Avenue and 43rd Avenue
3416          BA   0.514
3417          LG    0.22    0.26    4.90    0.24      44
3418          UC   0.982   0.534
3419          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
3420          UA     100
              *
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3421          KK  ERGR43  DIVERT
3422          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
3423          KM   retention developed after 1990 in subbasin GR43
3424          DT   XGR43      2.4      0.0
3425          DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
3426          DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

3427          KK   CGR43 COMBINE
3428          KM   Combine route RSGR43, remainder of combination point CPCB43, and subbasin
3429          KM   GR43
3430          HC        3     2.28
              *

3431          KK  SRGR43 STORAGE
3432          KM   Combined storage routing IDs BCm1 and BCm2 from PEC model, Feb 2008
3433          KM   Storage routing through two basins along Grand Avenue between 51st Avenue and
3434          KM     Bethany Home and 43rd Avenue and Camelback
3435          RS        1     STOR
3436          SV             20.40    65.70   122.40   136.72   212.40   323.58   339.80
3437          SE   1126.0   1131.0   1136.0   1141.0   1142.0   1146.0   1150.0   1151.0
3438          SQ      0.0      0.0      0.0     10.0     17.0     40.0     80.0    100.0    160.0      200
3439          SQ    300.0    400.0    500.0    600.0    700.0    800.0    900.0   1000.0   1100.0
3440          SE   1126.0   1140.0   1142.5   1142.67  1142.7   1142.8   1142.91  1142.95  1143.05   1143.
3441          SE   1143.2   1143.38  1143.48  1143.58  1143.67  1143.75  1143.83  1143.91  1143.98
              *

3442          KK   DGR35  DIVERT
3443          KM   Divert portion of runoff hydrograph from combination point CGR43 west to
3444          KM   combination point CICBGR using the ratio of the widths and slopes of the
3445          KM   streets going east and the widths and slopes of the streets going south. The
3446          KM   remaining flow is diverted east through subbasin GR35 along Grand Avenue.
3447          DT   DEGR35      0.0      0.0
3448          DI      0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0  10000.0  20000.0  50000.0
3449          DQ      0.0     35.0     70.0    175.0    350.0    700.0   1400.0   3500.0   7000.0  17500.0
              *
```



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LINE          ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

3450          KK  DWCB51  DIVERT
3451          KM   Divert portion of DGR35 south to subbasin IS43 using the ratio of the width
3452          KM   of the collector and local streets and the width of the arterial street. The
3453          KM   remaining flow is diverted west to combination point CICBGR at the
3454          KM   intersection of Camelback Road and 51st Avenue
3455          DT   DSIS43      0.0      0.0
3456          DI      0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0  10000.0  20000.0  50000.0
3457          DQ      0.0     65.0    130.0    325.0    650.0   1300.0   2600.0   6500.0  13000.0  32500.0
              *

3458          KK  DICB51RETRIEVE
3459          KM   Retrieve arterial street flow diverted to Camelback Road at the intersection
3460          KM   of Bethany Home Road and 51st Avenue
3461          DR   DCB51
              *

3462          KK  CICBGR COMBINE
3463          KM   Combine arterial street flow from Camelback Rd DICB51 with runoff hydrograph
3464          KM   DWCB51 at the intersection of Camelback Road and 51st Avenue
3465          HC        2     0.74
              *

3466          KK  RWCB51   ROUTE
3467          KM   Route hydrograph at combination point CICBGR at the intersection of Camelback
3468          KM   Road and 51st Avenue west to combination point CCB51
3469          RS        5     FLOW
3470          RC    0.035    0.015    0.035     5280   0.0014     0.00
3471          RX     0.00     0.00    16.50    16.50   107.50   107.50   124.00   124.00
3472          RY     3.00     0.66     0.50     0.00     0.00     0.50     0.66     3.00
              *

3473          KK    CB51   BASIN
3474          KM   Runoff hydrograph for subbasin CB51 northeast of the intersection
3475          KM   of Camelback Road and 51st Avenue
3476          BA   0.483
3477          LG    0.15     0.25     5.00     0.23       80
3478          UC   0.536    0.276
3479          UA       0      5.0     16.0     30.0     65.0     77.0     84.0     90.0     94.0     97.0
3480          UA     100
              *

3481          KK   CCB51 COMBINE
3482          KM   Combine hydrograph at combination point CICBGR and subbasin CB51
3483          HC        2     1.23
              *

3484          KK  DWCB59  DIVERT
3485          KM   Divert remaining runoff hydrograph from combination point CCB51 west to
3486          KM   combination point CCB59
3487          DT   DSIS51      0.0      0.0
3488          DI      0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0  10000.0  20000.0  50000.0
```



```
3489          DQ      0.0     51.0    102.0    255.0    510.0   1020.0   2040.0   5100.0  10200.0  25500.0
              *
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LINE          ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

3490          KK  RWCB59   ROUTE
3491          KM   Route diversion DWCB59 west to combination point CCB59
3492          RS        4     FLOW
3493          RC    0.035    0.015    0.035     5280   0.0023     0.00
3494          RX     0.00     0.00    48.00    48.00   251.00   251.00   299.00   299.00
3495          RY     3.00     0.98     0.50     0.00     0.00     0.50     0.98     3.00
              *

3496          KK  DRCB59RETRIEVE
3497          KM   Retrieve divert DRCB59 from combination point CBH59 and divert south to
3498          KM   combination point CCB59
3499          DR   DSCB59
              *

3500          KK  RSCB59   ROUTE
3501          KM   Route diversion retrieval DRCB59 south to combination point CCB59
3502          RS        4     FLOW
3503          RC    0.035    0.015    0.035     5280   0.0030     0.00
3504          RX     0.00     0.00    48.00    48.00   251.00   251.00   299.00   299.00
3505          RY     3.00     0.98     0.50     0.00     0.00     0.50     0.98     3.00
              *

3506          KK    CB59   BASIN
3507          KM   Runoff hydrograph for square mile subbasin CB59 northeast of the intersection
3508          KM   of Camelback Road and 59th Avenue
3509          BA   1.010
3510          LG    0.18     0.27     5.10     0.22       60
3511          UC   1.311    0.872
3512          UA       0      5.0     16.0     30.0     65.0     77.0     84.0     90.0     94.0     97.0
3513          UA     100
              *

3514          KK  ERCB59  DIVERT
3515          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
3516          KM   retention developed after 1990 in subbasin CB59
3517          DT   XCB59      2.9      0.0
3518          DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
3519          DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

3520          KK   CCB59 COMBINE
3521          KM   Combine route RWCB59, route RSCB59, and subbasin CB59
3522          HC        3     3.11
              *

3523          KK  DWCB67  DIVERT
3524          KM   Divert remaining runoff hydrograph from combination point CCB59 west to
3525          KM   combination point CCB67
3526          DT   DSIS59      0.0      0.0
3527          DI      0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0  10000.0  20000.0  50000.0
3528          DQ      0.0     53.0    106.0    265.0    530.0   1060.0   2120.0   5300.0  10600.0  26500.0
              *
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LINE          ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

3529          KK  RWCB67   ROUTE
3530          KM   Route diversion DWCB67 west to combination point CCB67
3531          RS        3     FLOW
3532          RC    0.035    0.015    0.035     5280   0.0025     0.00
3533          RX     0.00     0.00    67.00    67.00   332.00   332.00   399.00   399.00
3534          RY     3.00     1.17     0.50     0.00     0.00     0.50     1.17     3.00
              *

3535          KK  DRCB67RETRIEVE
3536          KM   Retrieve divert DRCB67 from combination point CBH67 and divert south to
3537          KM   combination point CCB67
3538          DR   DSCB67
              *

3539          KK  RSCB67   ROUTE
3540          KM   Route diversion retrieval DRCB67 south to combination point CCB67
3541          RS        4     FLOW
3542          RC    0.035    0.015    0.035     5280   0.0027     0.00
3543          RX     0.00     0.00    57.50    57.50   291.50   291.50   349.00   349.00
3544          RY     3.00     1.08     0.50     0.00     0.00     0.50     1.08     3.00
              *

3545          KK    CB67   BASIN
3546          KM   Runoff hydrograph for square mile subbasin CB67 northeast of the intersection
3547          KM   of Camelback Road and 67th Avenue
3548          BA   0.970
3549          LG    0.24     0.15     7.60     0.08       35
3550          UC   1.500    1.016
3551          UA       0      5.0     16.0     30.0     65.0     77.0     84.0     90.0     94.0     97.0
```

```
3552          UA     100
              *

3553          KK  ERCB67  DIVERT
3554          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
3555          KM   retention developed after 1990 in subbasin CB67
3556          DT   XCB67      1.8      0.0
3557          DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
3558          DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

3559          KK   CCB67 COMBINE
3560          KM   Combine route RWCB67, route RSCB67, and subbasin CB67
3561          HC        3     4.73
              *

3562          KK  DWCB75  DIVERT
3563          KM   Divert remaining runoff hydrograph from combination point CCB67 west to
3564          KM   combination point CCB75
3565          DT  DSGC67      0.0      0.0
3566          DI      0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0 10000.0 20000.0 50000.0
3567          DQ      0.0     43.0     86.0    215.0    430.0    860.0   1720.0   4300.0   8600.0 21500.0
              *

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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

3568          KK  RWCB75    ROUTE
3569          KM   Route diversion DWCB75 west to combination point CCB75
3570          RS        4     FLOW
3571          RC    0.035    0.015    0.035     5280   0.0024     0.00
3572          RX     0.00     0.00    86.00    86.00   413.00   413.00   499.00   499.00
3573          RY     3.00     1.36     0.50     0.00     0.00     0.50     1.36     3.00
              *

3574          KK  DRCB75RETRIEVE
3575          KM   Retrieve divert DRCB75 from combination point CBH75 and divert south to
3576          KM   combination point CCB75
3577          DR  DSCB75
              *

3578          KK  RSCB75    ROUTE
3579          KM   Route diversion retrieval DRCB75 south to combination point CCB75
3580          RS        7     FLOW
3581          RC    0.035    0.015    0.035     5280   0.0013     0.00
3582          RX     0.00     0.00    86.00    86.00   413.00   413.00   499.00   499.00
3583          RY     3.00     1.36     0.50     0.00     0.00     0.50     1.36     3.00
              *

3584          KK    CB75    BASIN
3585          KM   Runoff hydrograph for square mile subbasin CB75 northeast of the intersection
3586          KM   of Camelback Road and 75th Avenue
3587          BA    0.998
3588          LG     0.25     0.15     7.30     0.10       32
3589          UC    1.500    1.012
3590          UA        0      5.0     16.0     30.0     65.0     77.0     84.0     90.0     94.0     97.0
3591          UA      100
              *

3592          KK  ERCB75  DIVERT
3593          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
3594          KM   retention developed after 1990 in subbasin CB75
3595          DT   XCB75     23.2      0.0
3596          DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
3597          DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

3598          KK   CCB75 COMBINE
3599          KM   Combine RWCB75, route RSCB75, and subbasin CB75
3600          HC        3     8.14
              *

3601          KK  DWGC83  DIVERT
3602          KM   Divert remaining runoff hydrograph from combination point CCB75 west to
3603          KM   combination point CICB75
3604          DT  DSGC75      0.0      0.0
3605          DI      0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0 10000.0 20000.0 50000.0
3606          DQ      0.0     44.0     88.0    220.0    440.0    880.0   1760.0   4400.0   8800.0 22000.0
              *

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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

3607          KK  DRIS27RETRIEVE
3608          KM   Retrieve divert DRIS27 from combination point CPCB27 and divert south to
3609          KM   combination point CIS27
3610          DR  DSIS27
              *

3611          KK  RSIS27    ROUTE
3612          KM   Route diversion retrieval DRIS27 south to combination point CIS27
```



```
3613          RS        3     FLOW
3614          RC    0.035    0.015    0.035     5280   0.0038     0.00
3615          RX     0.00     0.00    26.00    26.00   148.00   148.00   174.00   174.00
3616          RY     3.00     0.76     0.50     0.00     0.00     0.50     0.76     3.00
              *

3617          KK    IS27    BASIN
3618          KM   Runoff hydrograph for subbasin IS27 northeast of the intersection of Indian
3619          KM   School Road and 27th Avenue
3620          BA    0.239
3621          LG     0.20     0.15     7.30     0.09       58
3622          UC    1.270    1.090
3623          UA        0      5.0     16.0     30.0     65.0     77.0     84.0     90.0     94.0     97.0
3624          UA      100
              *

3625          KK   CIS27 COMBINE
3626          KM   Combine route RSIS27 and subbasin IS27
3627          HC        2     1.74
              *

3628          KK  PR29CBRETRIEVE
3629          KM   Retrieve full flow capacity of 132 cfs from 57-inch storm drain pipe at the
3630          KM   intersection of Camelback Road and 29th Avenue
3631          DR  DP29CB
              *

3632          KK  RP27IS    ROUTE
3633          KM   Route full flow capacity of 132 cfs through 57-inch storm drain pipe in
3634          KM   27th Avenue to the intersection of Indian School Road and 43rd Avenue
3635          RK     5210   0.0034    0.015              CIRC    4.750
              *

3636          KK  CPIS27 COMBINE
3637          KM   Combine pipe return PR29CB with the runoff hydrograph at combination point
3638          KM   CIS27 at the intersection of Indian School Road and 27th Avenue
3639          HC        2
              *

3640          KK   D27IS  DIVERT
3641          KM   Divert calculated full flow capapcity of 151 cfs into 60-inch storm drain
3642          KM   pipe at the intersection of Indian School Road and 27th Avenue
3643          DT  DP27IS      0.0    151.0
3644          DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
3645          DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

3646          KK  DWIS35  DIVERT
3647          KM   Divert remaining runoff hydrograph from combination point CIS27 west to
3648          KM   combination point CIS35
3649          DT  DSGC27      0.0      0.0
3650          DI      0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0 10000.0 20000.0 50000.0
3651          DQ      0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0 10000.0 20000.0 50000.0
              *

3652          KK  RWIS35    ROUTE
3653          KM   Route diversion DWIS35 west to combination point CIS35
3654          RS        1     FLOW
3655          RC    0.035    0.015    0.035     5280   0.0006     0.00
3656          RX     0.00     0.00    95.50    95.50   453.50   453.50   549.00   549.00
3657          RY     3.00     1.46     0.50     0.00     0.00     0.50     1.46     3.00
              *

3658          KK  DRIS35RETRIEVE
3659          KM   Retrieve divert DRIS35 from combination point CPCB35 and divert south to
3660          KM   combination point CIS35
3661          DR  DSIS35
              *

3662          KK  RSIS35    ROUTE
3663          KM   Route diversion retrieval DRIS35 south to combination point CIS35
3664          RS        3     FLOW
3665          RC    0.035    0.015    0.035     5280   0.0038     0.00
3666          RX     0.00     0.00    86.00    86.00   413.00   413.00   499.00   499.00
3667          RY     3.00     1.36     0.50     0.00     0.00     0.50     1.36     3.00
              *

3668          KK    IS35    BASIN
3669          KM   Runoff hydrograph for square mile subbasin IS35 northeast of the intersection
3670          KM   Indian School Road and 35th Avenue
3671          BA    0.990
3672          LG     0.24     0.15     7.60     0.09       31
3673          UC    1.087    0.408
3674          UA        0      5.0     16.0     30.0     65.0     77.0     84.0     90.0     94.0     97.0
3675          UA      100
              *

3676          KK   CIS35 COMBINE
3677          KM   Combine route RWIS35, route RSIS35, and subbasin IS35
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3678          HC       3    3.93
              *

3679          KK  PR35CBRETRIEVE
3680          KM   Retrieve combined full flow capacity of 253 cfs from 73-inch equivalent
3681          KM   diameter pipe at the intersection of Camelback Road and 35th Avenue
3682          DR  DP35CB
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

3683          KK  RP35IS   ROUTE
3684          KM   Route the combined full flow capacity of 253 cfs through an equivalent storm
3685          KM   drain pipe diameter of 73 inches in 35th Avenue to the intersection of
3686          KM   35th Avenue and Indian School Road
3687          RK    2083  0.0037   0.015            CIRC   6.083
              *

3688          KK  CPIS35 COMBINE
3689          KM   Combine pipe return PR35CB with the runoff hydrograph at combination point
3690          KM   CIS35 at the intersection of Indian School Road and 35th Avenue
3691          HC       2
              *

3692          KK   D31IS  DIVERT
3693          KM   Divert calculated full flow capapcity of 268 cfs into 72-inch storm drain
3694          KM   pipe at the intersection of Indian School Road and 31st Avenue
3695          DT  DP31IS      0.0   268.0
3696          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
3697          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

3698          KK   D35IS  DIVERT
3699          KM   Divert calculated full flow capapcity of 40 cfs into 36-inch storm drain
3700          KM   pipe at the intersection of Indian School Road and 35th Avenue
3701          DT  DP35IS      0.0    40.0
3702          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
3703          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

3704          KK  DWGR35  DIVERT
3705          KM   Divert remaining runoff hydrograph from combination point CIS35 west to
3706          KM   combination point CGR35
3707          DT  DSGC35      0.0     0.0
3708          DI      0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
3709          DQ      0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
              *

3710          KK  DIGR35RETRIEVE
3711          KM   Retrieve arterial street flow diverted to Grand Avenue at the intersection
3712          KM   of Grand Avenue and 35th Avenue
3713          DR  DEGR35
              *

3714          KK  DRGR35RETRIEVE
3715          KM   Retrieve subbasin flow diverted to the intersection of 43rd Avenue and
3716          KM   Grand Avenue
3717          DR  DSGR35
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

3718          KK   D35GR  DIVERT
3719          KM   Divert portion of divert return DRGR35 south to subbasin GR35 using the ratio
3720          KM   of the width of the collector and local streets and the width of the arterial
3721          KM   street. The remaining flow is diverted south to combination point CICB43
3722          KM   along 43rd Avenue
3723          DT  DS43IS      0.0     0.0
3724          DI      0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
3725          DQ      0.0    36.0    72.0   180.0   360.0   720.0  1440.0  3600.0  7200.0 18000.0
              *

3726          KK  CIGR43 COMBINE
3727          KM   Combine arterial street flow from Grand Avenue DIGR35 with runoff hydrograph
3728          KM   D35GR at the intersection of 43rd Avenue and Grand Avenue
3729          HC       2    1.58
              *

3730          KK  RSGR35   ROUTE
3731          KM   Route hydrograph at combination point CIGR43 at the intersection of Grand
3732          KM   Avenue and 43rd Avenue south to combination point CGR35
3733          RS       5    FLOW
3734          RC   0.035   0.015   0.035    7095  0.0033    0.00
3735          RX    0.00    0.00   48.00   48.00  251.00  251.00  299.00  299.00
3736          RY    3.00    0.98    0.50    0.00    0.00    0.50    0.98    3.00
              *

3737          KK    GR35   BASIN
3738          KM   Runoff hydrograph for subbasin GR35 northwest of the intersection of Grand
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3739          KM   Avenue, 35th Avenue, and Indian School Road
3740          BA   0.531
3741          LG    0.21    0.26    4.80    0.26      49
3742          UC   0.974   0.536
3743          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
3744          UA     100
              *

3745          KK   CGR35 COMBINE
3746          KM   Combine divert DWGR35, route RSGR35, and subbasin GR35
3747          HC       3    2.11
              *

3748          KK  PR39CBRETRIEVE
3749          KM   Retrieve full flow capacity of 268 cfs from 72-inch diameter pipe at the
3750          KM   intersection of Camelback Road and 39th Avenue
3751          DR  DP39CB
              *

3752          KK  RP39GR   ROUTE
3753          KM   Route the full flow capacity of 268 cfs through 72-inch storm drain pipe
3754          KM   diameter in 39th Avenue to the intersection of 39th Avenue and Indian School
3755          KM   Road
3756          RK    2846  0.0040   0.015            CIRC   6.000
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

3757          KK  CPGR35 COMBINE
3758          KM   Combine pipe return PR39CB with the runoff hydrograph at combination point
3759          KM   CGC35 at the intersection of Grand Avenue and 35th Avenue
3760          HC       2
              *

3761          KK  DP39GR  DIVERT
3762          KM   Divert calculated full flow capapcity of 251 cfs into 72-inch storm drain
3763          KM   pipe at the intersection of Grand Avenue and 39th Avenue. The pipe flow is
3764          KM   followed to combination point CPIS43 and the remaining surface flow is
3765          KM   diverted to combination point CIIS53 at the intersection of Indian School
3766          KM   Road and 35th Avenue
3767          DT  D39GR       0.0     0.0
3768          DI      0.0   251.0   251.1 50000.0     0.0     0.0     0.0     0.0     0.0     0.0
3769          DQ      0.0     0.0     0.1 49749.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

3770          KK  RP39IS   ROUTE
3771          KM   Route the full flow capacity of 251 cfs through 72-inch storm drain pipe
3772          KM   diameter in 39th Avenue to the intersection of 39th Avenue and Indian School
3773          KM   Road
3774          RK    2428  0.0035   0.015            CIRC   6.000
              *

3775          KK  DRIS43RETRIEVE
3776          KM   Retrieve divert DRIS43 in 43rd Avenue from combination point CGR43 and divert
3777          KM   south to intersection combination point CICB43
3778          DR  DSIS43
              *

3779          KK  DI43ISRETRIEVE
3780          KM   Retrieve subbasin flow diverted to the intersection of Camelback Road and
3781          KM   43rd Avenue
3782          DR  DS43IS
              *

3783          KK  CICB43 COMBINE
3784          KM   Combine arterial street flow from 43rd Avenue DRIS43 with arterial street
3785          KM   flow DI43IS at the intersection of 43rd Avenue and Camelback Road
3786          HC       2    1.40
              *

3787          KK  RSIS43   ROUTE
3788          KM   Route hydrograph at intersection combination point CICB43 at the intersection
3789          KM   of Camelback Road and 43rd Avenue south to combination point CIS43
3790          RS       3    FLOW
3791          RC   0.035   0.015   0.035    5280  0.0048    0.00
3792          RX    0.00    0.00   16.50   16.50  107.50  107.50  124.00  124.00
3793          RY    3.00    0.66    0.50    0.00    0.00    0.50    0.66    3.00
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

3794          KK    IS43   BASIN
3795          KM   Runoff hydrograph for subbasin IS43 northeast of the intersection of Indian
3796          KM   School Road and 43rd Avenue
3797          BA   0.467
3798          LG    0.15    0.25    4.80    0.25      80
3799          UC   0.544   0.274
3800          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
3801          UA     100
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                *
3802            KK  CIS43 COMBINE
3803            KM  Combine route RSIS43 and subbasin IS43
3804            HC      2    1.87
                *
3805            KK  PR43CBRETRIEVE
3806            KM  Retrieve full flow capacity of 155 cfs from 60-inch storm drain pipe at the
3807            KM  intersection of Camelback Road and 43rd Avenue
3808            DR  DP43CB
                *
3809            KK  RP431S   ROUTE
3810            KM  Route full flow capacity of 155 cfs through 60-inch storm drain pipe in
3811            KM  43rd Avenue to the intersection of Indian School Road and 43rd Avenue
3812            RK   5374  0.0035   0.015            CIRC   5.000
                *
3813            KK  CPIS43 COMBINE
3814            KM  Combine pipe return PR43CB with the runoff hydrograph at combination point
3815            KM  CIS43 at the intersection of Indian School Road and 43rd Avenue
3816            HC      3
                *
3817            KK  D43IS  DIVERT
3818            KM  Capacity of storm drain in 39th Avenue and 43rd Avenue diverted together.
3819            KM  Divert combined calculated full flow capacity of 251 cfs in the 72-inch storm
3820            KM  drain pipe in 39th Avenue and 154 cfs in the 60-inch storm drain pipe in
3821            KM  43rd Avenue. The total calculated combined full flow capacity diverted at the
3822            KM  intersection of 43rd Avenue and Indian School Road is 406 cfs in an
3823            KM  equivalent diameter pipe of 87 inches
3824            DT  DP431S     0.0    406.0
3825            DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
3826            DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
                *
3827            KK  DWIS51  DIVERT
3828            KM  Divert runoff hydrograph from combination point CPIS43 west to combination
3829            KM  point CIS51
3830            DT  DSGC43      0.0      0.0
3831            DI     0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0  10000.0  20000.0  50000.0
3832            DQ     0.0     83.0    166.0    415.0    830.0   1660.0   3320.0   8300.0  16600.0  41500.0
                *
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LINE            ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

3833            KK  RWIS51   ROUTE
3834            KM  Route diversion DWIS51 west to combination point CIS51
3835            RS      10     FLOW
3836            RC   0.035   0.015   0.035    5280  0.0003    0.00
3837            RX    0.00    0.00   45.00   45.00  229.00  229.00  274.00  274.00
3838            RY    3.00    0.95    0.50    0.00    0.00    0.50    0.95    3.00
                *
3839            KK  DRIS51RETRIEVE
3840            KM  Retrieve divert DRIS51 from combination point CCB51 and divert south to
3841            KM  combination point CIS51
3842            DR  DSIS51
                *
3843            KK  RSIS51   ROUTE
3844            KM  Route diversion retrieval DRIS51 south to combination point CIS51
3845            RS       3     FLOW
3846            RC   0.035   0.015   0.035    5280  0.0037    0.00
3847            RX    0.00    0.00   38.50   38.50  210.50  210.50  249.00  249.00
3848            RY    3.00    0.88    0.50    0.00    0.00    0.50    0.88    3.00
                *
3849            KK    IS51   BASIN
3850            KM  Runoff hydrograph for square mile subbasin IS51 northeast of the intersection
3851            KM  of Indian School Road and 51st Avenue
3852            BA  0.994
3853            LG   0.21    0.27    5.00    0.23      47
3854            UC  1.500   1.010
3855            UA      0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
3856            UA    100
                *
3857            KK  ERIS51  DIVERT
3858            KM  Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
3859            KM  retention developed after 1990 in subbasin IS51
3860            DT  XIS51    36.7      0.0
3861            DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
3862            DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
                *
3863            KK   CIS51 COMBINE
3864            KM  Combine route RWIS51, route RSIS51, and subbasin IS51
3865            HC       3    1.94
                *
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3866            KK   D51IS  DIVERT
3867            KM  Divert calculated full flow capapcity of 244 cfs into 72-inch storm drain
3868            KM  pipe at the intersection of Indian School Road and 51st Avenue
3869            DT  DP51IS      0.0    244.0
3870            DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
3871            DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
                *
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LINE            ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

3872            KK  DWIS59  DIVERT
3873            KM  Divert remaining runoff hydrograph from combination point CIS51 west to
3874            KM  combination point CIS59
3875            DT  DSGC51      0.0      0.0
3876            DI     0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0  10000.0  20000.0  50000.0
3877            DQ     0.0     62.0    124.0    310.0    620.0   1240.0   2480.0   6200.0  12400.0  31000.0
                *
3878            KK  RWIS59   ROUTE
3879            KM  Route diversion DWIS59 west to combination point CIS59
3880            RS       9     FLOW
3881            RC   0.035   0.015   0.035    5280  0.0016    0.00
3882            RX    0.00    0.00   67.00   67.00  332.00  332.00  399.00  399.00
3883            RY    3.00    1.17    0.50    0.00    0.00    0.50    1.17    3.00
                *
3884            KK  DRIS59RETRIEVE
3885            KM  Retrieve divert DRIS59 from combination point CCB59 and divert south to
3886            KM  combination point CIS59
3887            DR  DSIS59
                *
3888            KK  RSIS59   ROUTE
3889            KM  Route diversion retrieval DRIS59 south to combination point CIS59
3890            RS       3     FLOW
3891            RC   0.035   0.015   0.035    5280  0.0030    0.00
3892            RX    0.00    0.00   67.00   67.00  332.00  332.00  399.00  399.00
3893            RY    3.00    1.17    0.50    0.00    0.00    0.50    1.17    3.00
                *
3894            KK    IS59   BASIN
3895            KM  Runoff hydrograph for square mile subbasin IS59 northeast of the intersection
3896            KM  of Indian School Road and 59th Avenue
3897            BA  1.014
3898            LG   0.22    0.25    5.30    0.21      43
3899            UC  1.500   1.006
3900            UA      0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
3901            UA    100
                *
3902            KK   CIS59 COMBINE
3903            KM  Combine route RWIS59, route RSIS59, and subbasin IS59
3904            HC       3    3.38
                *
3905            KK   D59IS  DIVERT
3906            KM  Divert calculated full flow capapcity of 353 cfs into 81-inch storm drain
3907            KM  pipe at the intersection of Indian School Road and 59th Avenue
3908            DT  DP59IS      0.0    353.0
3909            DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
3910            DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
                *
1                                        HEC-1 INPUT                                                PAGE102

LINE            ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

3911            KK  DWGC67  DIVERT
3912            KM  Divert remaining runoff hydrograph from combination point CIS59 west to
3913            KM  combination point CGC67
3914            DT  DSGC59      0.0      0.0
3915            DI     0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0  10000.0  20000.0  50000.0
3916            DQ     0.0     60.0    120.0    300.0    600.0   1200.0   2400.0   6000.0  12000.0  30000.0
                *
3917            KK  RWGC67   ROUTE
3918            KM  Route diversion DWGC67 west to combination point CGC67
3919            RS       4     FLOW
3920            RC   0.035   0.015   0.035    3841  0.0016    0.00
3921            RX    0.00    0.00   48.00   48.00  251.00  251.00  299.00  299.00
3922            RY    3.00    0.98    0.50    0.00    0.00    0.50    0.98    3.00
                *
3923            KK  DRGC67RETRIEVE
3924            KM  Retrieve divert DRGC67 from combination point CCB67 and divert south to
3925            KM  combination point CGC67
3926            DR  DSGC67
                *
3927            KK  RSGC67   ROUTE
```

```
3928          KM   Route diversion retrieval DRGC67 south to combination point CGC67
3929          RS       4    FLOW
3930          RC  0.035   0.015   0.035    5280  0.0017    0.00
3931          RX   0.00    0.00   76.50   76.50  372.50  372.50  449.00  449.00
3932          RY   3.00    1.27    0.50    0.00    0.00    0.50    1.27    3.00
              *
3933          KK    GC67   BASIN
3934          KM   Runoff hydrograph for subbasin GC67 northeast of the intersection of the
3935          KM   Grand Canal and 67th Avenue
3936          BA   0.936
3937          LG    0.21    0.15    7.30    0.11      28
3938          UC   1.500   0.934
3939          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
3940          UA     100
              *
3941          KK   CGC67 COMBINE
3942          KM   Combine route RWGC67, route RSGC67, and subbasin GC67
3943          HC       3    4.34
              *
3944          KK   D67IS  DIVERT
3945          KM   Divert calculated full flow capapcity of 175 cfs into 66-inch storm drain
3946          KM   pipe at the intersection of Indian School Road and 67th Avenue
3947          DT  DP67IS     0.0   175.0
3948          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
3949          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *
1                                        HEC-1 INPUT                                        PAGE103

LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

3950          KK  DWGC75  DIVERT
3951          KM   Divert remaining runoff hydrograph from combination point CGC67 west to
3952          KM   combination point CGC75
3953          DT  DSISGC     0.0     0.0
3954          DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
3955          DQ     0.0    51.0   102.0   255.0   510.0  1020.0  2040.0  5100.0 10200.0 25500.0
              *
3956          KK  DRGR39RETRIEVE
3957          KM   Retrieve remaining surface flow runoff hydrograph DRGR39 following pipe
3958          KM   diversion DP39GR after combination point CPGR35 at the intersection of 39th
3959          KM   Avenue and Grand Avenue
3960          DR   D39GR
              *
3961          KK   DGC35  DIVERT
3962          KM   Divert runoff hydrograph DRGR39 along Grand Avenue.  Remaining hydrograph
3963          KM   flows along 35th Avenue to the intersection of 35th Avenue and the Grand
3964          KM   Canal
3965          DT  DEGCGR     0.0     0.0
3966          DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
3967          DQ     0.0    48.0    96.0   240.0   480.0   960.0  1920.0  4800.0  9600.0 24000.0
              *
3968          KK  DRGC35RETRIEVE
3969          KM   Retrieve remaining runoff hydrograph DRGC35 coming south from combination
3970          KM   point CPIS35 at the intersection of 35th Avenue and Grand Avenue
3971          DR  DSGC35
              *
3972          KK  DS35GC  DIVERT
3973          KM   Divert runoff hydrograph DRGC35 along Grand Avenue. Remaining hydrograph
3974          KM   flows along 35th Avenue to the intersection of 35th Avenue and the Grand
3975          KM   Canal
3976          DT  DSGCGR     0.0     0.0
3977          DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
3978          DQ     0.0    25.0    50.0   125.0   250.0   500.0  1000.0  2500.0  5000.0 12500.0
              *
3979          KK  CIIS35 COMBINE
3980          KM   Combine arterial street flow from 35th Avenue DIGC35 with areterial street
3981          KM   flow from 35th Avenue DRGC35 at the intersection of 35th Avenue and Indian
3982          KM   School Road
3983          HC       2    2.06
              *
3984          KK  RSGC35   ROUTE
3985          KM   Route hydrograph at combination point CIIS35 at the intersection of Indian
3986          KM   School Road and 35th Avenue south to combination point CGC35
3987          RS       1    FLOW
3988          RC   0.035   0.015   0.035    1973  0.0033    0.00
3989          RX    0.00    0.00   16.50   16.50  107.50  107.50  124.00  124.00
3990          RY    3.00    0.66    0.50    0.00    0.00    0.50    0.66    3.00
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10
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3991          KK    GC35   BASIN
3992          KM   Runoff hydrograph for subbasin GC35 northeast of the intersection of the
3993          KM   Grand Canal and 35th Avenue
3994          BA   0.077
3995          LG    0.15    0.25    4.25    0.35      80
3996          UC   0.407   0.266
3997          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
3998          UA     100
              *
3999          KK   CGC35 COMBINE
4000          KM   Combine route RSGC35 and subbasin GC35
4001          HC       2    2.14
              *
4002          KK  PR35ISRETRIEVE
4003          KM   Retrieve full flow capacity of 40 cfs from 36-inch diameter pipe at the
4004          KM   intersection of Indian School Road and 35th Avenue
4005          DR  DP35IS
              *
4006          KK  RP35GC   ROUTE
4007          KM   Route the full flow capacity of 40 cfs through 36-inch storm drain pipe
4008          KM   diameter in 35th Avenue to the intersection of 35th Avenue and the Grand
4009          KM   Canal
4010          RK    2327  0.0035   0.015            CIRC   3.000
              *
4011          KK  CPGC35 COMBINE
4012          KM   Combine pipe return PR35IS with the runoff hydrograph at combination point
4013          KM   CGC35 at the intersection of the Grand Canal and 35th Avenue
4014          HC       2
              *
4015          KK   D35GC  DIVERT
4016          KM   Divert calculated full flow capapcity of 40 cfs into 36-inch storm drain
4017          KM   pipe at the intersection of the Grand Canal and 35th Avenue
4018          DT  DP35GC     0.0    40.0
4019          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
4020          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *
4021          KK  DWGC43  DIVERT
4022          KM   Divert runoff hydrograph from combination point CGC35 west to combination
4023          KM   point CGC35
4024          DT  DSTM35     0.0     0.0
4025          DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
4026          DQ     0.0    85.0   170.0   425.0   850.0  1700.0  3400.0  8500.0 17000.0 42500.0
              *
1                                        HEC-1 INPUT                                        PAGE105

LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

4027          KK  RWGC43   ROUTE
4028          KM   Route hydrograph at combination point CGC35 at the intersection of the Grand
4029          KM   Canal and 35th Avenue west to combination point CGC43
4030          RS       5    FLOW
4031          RC   0.035   0.015   0.035    6627  0.0009    0.00
4032          RX    0.00    0.00    9.50    9.50   40.50   40.50   50.00   50.00
4033          RY    3.00    0.60    0.50    0.00    0.00    0.50    0.60    3.00
              *
4034          KK  DRGC43RETRIEVE
4035          KM   Retrieve divert DRGC43 from combination point CPIS43 and divert south to
4036          KM   combination point CGC43
4037          DR  DSGC43
              *
4038          KK  RSGC43   ROUTE
4039          KM   Route diversion retrieval DRGC43 south to combination point CGC43
4040          RS       1    FLOW
4041          RC   0.035   0.015   0.035    2155  0.0038    0.00
4042          RX    0.00    0.00   57.50   57.50  291.50  291.50  349.00  349.00
4043          RY    3.00    1.08    0.50    0.00    0.00    0.50    1.08    3.00
              *
4044          KK    GC43   BASIN
4045          KM   Runoff hydrograph for subbasin GC43 northeast of the intersection of the
4046          KM   Grand Canal and 43rd Avenue
4047          BA   0.370
4048          LG    0.15    0.25    6.00    0.15      80
4049          UC   0.991   0.879
4050          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
4051          UA     100
              *
4052          KK   CGC43 COMBINE
4053          KM   Combine route RWGC43, route RSGC43, and subbasin GC43
4054          HC       3    2.23
              *
4055          KK  PR43ISRETRIEVE
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 4056        KM   Retrieve combined full flow capacity of 406 cfs from 87-inch equivalent
 4057        KM   diameter pipe at the intersection of Indian School Road and 43rd Avenue
 4058        DR  DP43IS
             *

 4059        KK  RP43GC   ROUTE
 4060        KM   Route the combined full flow capacity of 406 cfs through an equivalent storm
 4061        KM   drain pipe diameter of 87 inches in 43rd Avenue to the intersection of
 4062        KM   43rd Avenue and the Grand Canal
 4063        RK    2347  0.0035   0.015           CIRC    6.083
             *
1                                       HEC-1 INPUT                                          PAGE106

 LINE        ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


 4064        KK  CPGC43 COMBINE
 4065        KM   Combine pipe return PR43IS with the runoff hydrograph at combination point
 4066        KM   CGC43 at the intersection of the Grand Canal and 43rd Avenue
 4067        HC       2
             *

 4068        KK   D43GC  DIVERT
 4069        KM   Capacity of storm drain in 39th Avenue and 43rd Avenue diverted together.
 4070        KM   Divert combined calculated full flow capacity of 251 cfs in the 72-inch storm
 4071        KM   drain pipe in 39th Avenue and 154 cfs in the 60-inch storm drain pipe in
 4072        KM   43rdAvenue. The total calculated combined full flow capacity diverted at the
 4073        KM   intersection of 43rd Avenue and the Grand Canal is 406 cfs in an
 4074        KM   equivalent diameter pipe of 87 inches
 4075        DT  DP43GC     0.0   406.0
 4076        DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
 4077        DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
             *

 4078        KK  SRGC43 STORAGE
 4079        KM     Storage routing ID PA43 in Maryvale ADMS, Feb 1997 - comments from ADMS:
 4080        KM     STORAGE ROUTING
 4081        KM     PONDING AREA IN THE VICINITY OF 43RD AVE
 4082        KM     PRELIMINARY COMPUTATIONS BY WPA 6/96
 4083        KM     CAPACITY OF SURFACE FLOW NORTH OF CANAL = 200 CFS
 4084        KM     DIVERSION OF FLOW UNDER THE GRAND CANAL BY AN EXISTING STORM DRAIN SYSTEM
 4085        KM     ESTIMATED STORM DRAIN CAPACITY(63") = 89 CFS
 4086        KM     TOP OF CANAL BANK ELEVATION = 1108
 4087        KM
 4088        KM   ============================================================================
 4089        KM   REVISED BY KHA ---> storm drain flows diverted previously. Subtracted out
 4090        KM                       pipe capacity from SQ cards
 4091        KM                       Confirmed capacity of surface flow on north side of bank
 4092        KM
 4093        KM   Storage route runoff hydrograph from divert D43GC through ponding
 4094        KM     area at the Grand Canal between 35th and 43rd Avenues
 4095        KM   ============================================================================
 4096        RS       1    STOR      -1   1104.
 4097        SV            0.01    0.10    0.64    4.77    6.79   29.76   33.00
 4098        SQ                                          200.00  200.00 2200.00
 4099        SE  1104.0 1104.10 1105.00 1106.00 1106.80 1107.00 1108.00 1109.00
             *

 4100        KK  DWGC51  DIVERT
 4101        KM     Divert ID D43 in Maryvale ADMS, Feb 1997 - comments from ADMS:
 4102        KM     FLOW DIVERSION AT 43RD AVE
 4103        KM     DIVERSION TO SOUTH
 4104        KM     PRELIMINARY COMPUTATIONS BY WPA 6/96
 4105        KM     CAPACITY OF SURFACE FLOW NORTH OF CANAL = 200 CFS
 4106        KM     DIVERSION OF FLOW SOUTH UNDER THE GRAND CANAL BY EXIST. STORM DRAIN SYSTEM
 4107        KM     ESTIMATED STORM DRAIN CAPACITY(63") = 89 CFS
 4108        KM   ============================================================================
 4109        KM   Divert runoff hydrograph from combination point CGC43 west to combination
 4110        KM   point CGC51
 4111        KM   ============================================================================
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 LINE        ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 4112        DT  DSTM43     0.0     0.0
 4113        DI     0.0   200.0  2200.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
 4114        DQ     0.0     0.0  2000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
             *

 4115        KK  RWGC51   ROUTE
 4116        KM   Route diversion DWGC51 west to combination point CGC51
 4117        RS      10    FLOW
 4118        RC   0.035   0.015   0.035    5614  0.0005    0.00
 4119        RX    0.00    0.00   19.00   19.00   81.00   81.00  100.00  100.00
 4120        RY    3.00    0.69    0.50    0.00    0.00    0.50    0.69    3.00
             *

 4121        KK  DRGC51RETRIEVE
 4122        KM   Retrieve divert DRGC51 from combination point CIS51 and divert south to
 4123        KM   combination point CGC51
 4124        DR  DSGC51
             *
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 4125        KK  RSGC51   ROUTE
 4126        KM   Route diversion retrieval DRGC51 south to combination point CGC51
 4127        RS       3    FLOW
 4128        RC   0.035   0.015   0.035    2155  0.0045    0.00
 4129        RX    0.00    0.00   67.00   67.00  332.00  332.00  399.00  399.00
 4130        RY    3.00    1.17    0.50    0.00    0.00    0.50    1.17    3.00
             *

 4131        KK    GC51   BASIN
 4132        KM   Runoff hydrograph for subbasin GC51 northeast of the intersection of the
 4133        KM   Grand Canal and 51st Avenue
 4134        BA   0.448
 4135        LG    0.24    0.25    5.00    0.24      36
 4136        UC   1.500   1.228
 4137        UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
 4138        UA     100
             *

 4139        KK   CGC51 COMBINE
 4140        KM   Combine route RWGC51, route RSGC51, and subbasin GC51
 4141        HC       3    2.04
             *

 4142        KK  PR51ISRETRIEVE
 4143        KM   Retrieve full flow capacity of 244 cfs from 72-inch storm drain pipe at the
 4144        KM   intersection of Indian School Road and 51st Avenue
 4145        DR  DP51IS
             *

 4146        KK  RP51ML   ROUTE
 4147        KM   Route full flow capacity of 244 cfs through 72-inch storm drain pipe in
 4148        KM   51st Avenue to the intersection of Mitchell Drive and 51st Avenue
 4149        RK    2089  0.0033   0.015           CIRC    6.000
             *
1                                       HEC-1 INPUT                                          PAGE108

 LINE        ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


 4150        KK  CPML51 COMBINE
 4151        KM   Combine pipe return PR51IS with the runoff hydrograph at combination point
 4152        KM   CGC51 at the intersection of the Grand Canal and 51st Avenue
 4153        HC       2
             *

 4154        KK   DML51  DIVERT
 4155        KM   Divert calculated full flow capapcity of 136 cfs into 72-inch storm drain
 4156        KM   pipe at the intersection of Mitchell Drive and 51st Avenue
 4157        DT  DPML51     0.0   136.0
 4158        DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
 4159        DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
             *

 4160        KK   D51GC  DIVERT
 4161        KM   Divert calculated full flow capapcity of 113 cfs into 54-inch storm drain
 4162        KM   pipe near the intersection of the Grand Canal and 51st Avenue
 4163        DT  DP51GC     0.0   113.0
 4164        DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
 4165        DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
             *

 4166        KK  SRGC51 STORAGE
 4167        KM     Storage routing ID PA47 in Maryvale ADMS, Feb 1997 - comments from ADMS:
 4168        KM     PONDING AREA IN THE VICINITY OF 47TH  AND 51ST AVE
 4169        KM
 4170        KM     PRELIMINARY COMPUTATIONS BY WPA 6/96
 4171        KM     CAPACITY OF FLOW NORTH OF CANAL = 300 CFS+(STORM DRAIN CAP)105CFS PER CVL
 4172        KM     DIVERSION OF FLOW OVER THE CANAL BANKS
 4173        KM     TOP OF CANAL BANK ELEV = 1105
 4174        KM   ============================================================================
 4175        KM   REVISION TO MARYVALE ADMS MODEL BY KHA --> COMBINE DIVERTS AT 47TH & 51ST AVE
 4176        KM                        SUBTRACTED OUT STORM DRAIN CAPACITY FROM SQ CARDS
 4177        KM                        CONFIRMED CAPACITY OF SURFACE FLOW ON NORTH SIDE OF BANK
 4178        KM
 4179        KM   Storage route runoff hydrograph from divert D51GC through ponding
 4180        KM     area at the Grand Canal between 43rd 51st Avenues
 4181        KM   ============================================================================
 4182        RS       1    STOR      -1
 4183        SV            4.82   23.64   29.62   63.89   86.57
 4184        SQ           25.00  275.00  350.00 1350.00 4250.00
 4185        SE  1103.0 1104.00 1104.80 1105.00 1105.50 1106.00
             *

 4186        KK  DWGC53  DIVERT
 4187        KM     Divert ID D47 in Maryvale ADMS, Feb 1997 - comments from ADMS:
 4188        KM     DIVERSION AT 47TH AVE
 4189        KM     PRELIMINARY COMPUTATIONS BY WPA 6/96
 4190        KM     AN EXISTING STORM DRAIN SYSTEM CONVEYS FLOW TO THE WEST ONLY
 4191        KM     CAPACITY OF FLOW NORTH OF CANAL = 300 CFS+(STORM DRAIN CAP)105CFS PER CVL
 4192        KM     DIVERSION OF FLOW OVER THE CANAL BANKS
 4193        KM   ============================================================================
 4194        KM   REVISION TO MARYVALE ADMS MODEL BY KHA --> COMBINE DIVERTS AT 47TH & 51ST AVE
 4195        KM                        SUBTRACTED OUT STORM DRAIN CAPACITY FROM SQ CARDS
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1                                  HEC-1 INPUT                                          PAGE109

 LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 4196          KM                       CONFIRMED CAPACITY OF SURFACE FLOW ON NORTH SIDE OF BANK
 4197          KM
 4198          KM   Divert remaining runoff hydrograph from combination point CPGC51 west to
 4199          KM   combination point CGC59
 4200          KM   ========================================================================
 4201          DT  DSTM51     0.0     0.0
 4202          DI     0.0   300.0  2300.0  4250.0     0.0     0.0     0.0     0.0     0.0     0.0
 4203          DQ     0.0     0.1  2000.0  3950.0     0.0     0.0     0.0     0.0     0.0     0.0
               *

 4204          KK  RWGC53   ROUTE
 4205          KM   Route diversion DWGC53 west to combination point CGC53
 4206          RS      10    FLOW
 4207          RC   0.035   0.015   0.035    1296  0.0012    0.00
 4208          RX    0.00    0.00    9.50    9.50   40.50   40.50   50.00   50.00
 4209          RY    3.00    0.60    0.50    0.00    0.00    0.50    0.60    3.00
               *

 4210          KK  DRGC59RETRIEVE
 4211          KM   Retrieve divert DRGC59 from combination point CIS59 and divert south to
 4212          KM   combination point CGC59
 4213          DR  DSGC59
               *

 4214          KK  RSGC59   ROUTE
 4215          KM   Route diversion retrieval DRGC59 south to combination point CGC59
 4216          RS       2    FLOW
 4217          RC   0.035   0.015   0.035    2502  0.0025    0.00
 4218          RX    0.00    0.00   57.50   57.50  291.50  291.50  349.00  349.00
 4219          RY    3.00    1.08    0.50    0.00    0.00    0.50    1.08    3.00
               *

 4220          KK    GC59   BASIN
 4221          KM   Runoff hydrograph for subbasin GC59 northeast of the intersection of the
 4222          KM   Grand Canal and 59th Avenue
 4223          BA   0.410
 4224          LG    0.24    0.23    6.20    0.16      42
 4225          UC   1.248   0.916
 4226          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
 4227          UA     100
               *

 4228          KK   CGC55 COMBINE
 4229          KM   Combine route RSGC59 and subbasin GC59
 4230          HC       2    2.42
               *

 4231          KK  DEGC53  DIVERT
 4232          KM   Divert portion of runoff hydrograph from combination point CGC55  to
 4233          KM   combination point CGC53 where it will be routed through the Maryvale Ball
 4234          KM   Park basin near the intersection of the Grand Canal and 53rd Avenue.  The
 4235          KM   remaining flow is diverted to combination point CPGC59. The diversion is
 4236          KM   based on topography
 4237          DT  DWGC59     0.0     0.0
 4238          DI     0.0   173.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0     0.0
1                                  HEC-1 INPUT                                          PAGE110

 LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 4239          DQ     0.0     0.0    14.0   167.0   422.0   932.0  1952.0  5012.0 10112.0     0.0
               *

 4240          KK  PRML51RETRIEVE
 4241          KM   Retrieve full flow capacity of 136 cfs from 72-inch storm drain pipe at the
 4242          KM   intersection of Mitchell Drive and 51st Avenue
 4243          DR  DPML51
               *

 4244          KK  RPML53   ROUTE
 4245          KM   Route full flow capacity of 136 cfs through 72-inch storm drain pipe in
 4246          KM   Mitchell Drive to the intersection of Mitchell Drive and 53rd Avenue
 4247          RK    1084  0.0010   0.015            CIRC   6.000
               *

 4248          KK   CGC53 COMBINE
 4249          KM   Combine route RWGC53, route RPML53, and divert DGC53
 4250          HC       3    2.27
               *

 4251          KK  SRGC53 STORAGE
 4252          KM   Storage route runoff hydrograph from combination point CPGC59 thru detention
 4253          KM     basin at Grand Avenue near the intersection of Grand Avenue and 59th Avenue
 4254          KM   Stage-storage data from Maryvale Baseball Park Grading and Drainage As-built
 4255          KM     Record, 1997
 4256          RS       1    STOR
 4257          SV            1.90    5.90   10.00   15.20   22.20   31.70   44.60   59.50   75.60
 4258          SV    93.0
 4259          SQ     0.0    10.0    28.0    44.0    56.0    65.0    73.0    81.0    88.0      94
 4260          SQ  1358.0
```



```
 4261          SE  1094.0  1095.0  1096.0  1097.0  1098.0  1099.0  1100.0  1101.0  1102.0    1103
 4262          SE  1104.0
               *

 4263          KK   DGC53  DIVERT
 4264          KM   Storm drain outflow from Maryvale Baseball Park basin. Divert calculated full
 4265          KM   flow capapcity of 20 cfs into 36-inch storm drain pipe at the intersection of
 4266          KM   the Grand Canal and 53rd Avenue
 4267          DT  DPGC53     0.0    20.0
 4268          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
 4269          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
               *

 4270          KK  PR59ISRETRIEVE
 4271          KM   Retrieve full flow capacity of 353 cfs from 81-inch storm drain pipe at the
 4272          KM   intersection of Indian School Road and 59th Avenue
 4273          DR  DP59IS
               *

 4274          KK  RP59GC   ROUTE
 4275          KM   Route full flow capacity of 353 cfs through 81-inch storm drain pipe in
 4276          KM   59th Avenue to the intersection of the Grand Canal and 59th Avenue
 4277          RK    1243  0.0037   0.015            CIRC   6.750
               *
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 4278          KK  DRGC59RETRIEVE
 4279          KM   Retrieve divert DRGC59 from combination point CGC55 and divert to
 4280          KM   combination point CPGC59
 4281          DR  DWGC59
               *

 4282          KK  CPGC59 COMBINE
 4283          KM   Combine pipe return PR59IS with the runoff hydrograph at combination point
 4284          KM   CGC59 at the intersection of the Grand Canal and 59th Avenue
 4285          HC       2    1.24
               *

 4286          KK   D59GC  DIVERT
 4287          KM   Divert calculated full flow capapcity of 258 cfs into 72-inch storm drain
 4288          KM   pipe at the intersection of the Grand Canal and 59th Avenue
 4289          DT  DP59GC     0.0   258.0
 4290          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
 4291          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
               *

 4292          KK   CGC59 COMBINE
 4293          KM   Combine divert DGC53 and divert D59GC
 4294          HC       2    3.50
               *

 4295          KK  DWISGC  DIVERT
 4296          KM    Divert ID D55 in Maryvale ADMS, Feb 1997 - comments from ADMS:
 4297          KM    FLOW DIVERSION TO SOUTH
 4298          KM    PRELIMINARY COMPUTATIONS BY WPA 6/96
 4299          KM    CAPACITY OF SURFACE FLOW NORTH OF CANAL =  50 CFS
 4300          KM    AN EXISTING STORM DRAIN SYSTEM CONVEYS FLOW TO THE WEST ONLY
 4301          KM    DIVERSION OF FLOW OVER THE GRAND CANAL
 4302          KM    STORM DRAIN CAPACITY WEST = 74 CFS PER CVL
 4303          KM    TOP OF CANAL BANK ELEV = 1103
 4304          KM   ========================================================================
 4305          KM   REVISION TO MARYVALE ADMS MODEL BY KHA --> COMBINE DIVERTS AT 55TH & 59TH AVE
 4306          KM                       SUBTRACTED OUT STORM DRAIN CAPACITY FROM SQ CARDS
 4307          KM                       CONFIRMED CAPACITY OF SURFACE FLOW ON NORTH SIDE OF BANK
 4308          KM
 4309          KM   Divert remaining runoff hydrograph from combination point CPGC59 west to
 4310          KM   combination point CISGC
 4311          KM   ========================================================================
 4312          DT  DSTM59     0.0     0.0
 4313          DI     0.0    50.0   555.0  2689.0     0.0     0.0     0.0     0.0     0.0     0.0
 4314          DQ     0.0     0.2   505.0  1030.0     0.0     0.0     0.0     0.0     0.0     0.0
               *

 4315          KK  RWISGC   ROUTE
 4316          KM   Route diversion DWISGC west to combination point CISGC
 4317          RS       3    FLOW
 4318          RC   0.035   0.015   0.035    4300  0.0009    0.00
 4319          RX    0.00    0.00    9.50    9.50   40.50   40.50   50.00   50.00
 4320          RY    3.00    0.60    0.50    0.00    0.00    0.50    0.60    3.00
               *
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 4321          KK  DRISGCRETRIEVE
 4322          KM   Retrieve divert DRISGC from combination point CGC67 and divert south to
 4323          KM   combination point CISGC
 4324          DR  DSISGC
               *
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4325          KK  RSISGC    ROUTE
4326          KM   Route diversion retrieval DRISGC south to combination point CISGC
4327          RS      1      FLOW
4328          RC   0.035    0.015    0.035     1231  0.0022     0.00
4329          RX    0.00     0.00    31.50    31.50  143.50  143.50  175.00  175.00
4330          RY    3.00     0.82     0.50     0.00    0.00    0.50    0.82    3.00
              *

4331          KK     ISGC    BASIN
4332          KM   Runoff hydrograph for subbasin ISGC southeast of the intersection of Indian
4333          KM   School Road and the Grand Canal
4334          BA   0.159
4335          LG    0.25     0.15     7.00     0.11       32
4336          UC   1.500    1.708
4337          UA       0      5.0     16.0     30.0     65.0     77.0     84.0     90.0     94.0     97.0
4338          UA     100
              *

4339          KK    CISGC COMBINE
4340          KM   Combine route RWISGC, route RSISGC, and subbasin ISGC
4341          HC       3     3.33
              *

4342          KK  PR59GCRETRIEVE
4343          KM   Retrieve full flow capacity of 258 cfs from 72-inch storm drain pipe at the
4344          KM   intersection of the Grand Canal and 59th Avenue
4345          DR  DP59GC
              *

4346          KK  CPISGC COMBINE
4347          KM   Combine pipe return PR59GC with the runoff hydrograph at combination point
4348          KM   CISGC at the intersection of Indian School Road and the Grand Canal
4349          HC       2
              *

4350          KK    DGC63   DIVERT
4351          KM   Divert calculated full flow capapcity of 258 cfs into 72-inch storm drain
4352          KM   pipe at the intersection of the Grand Canal and 63rd Avenue
4353          DT  DPGC63      0.0    258.0
4354          DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
4355          DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

4356          KK  SRISGC STORAGE
4357          KM   Storage route runoff hydrograph from combination point CPISGC through
4358          KM     regional detention basin located near the intersection of the Grand Canal
4359          KM     and Indian School Road (Sunset Basin).
4360          KM   Stage-storage data from Bethany Home Outfall Channel TDN for CLOMR, Jan 2003
4361          KM   Discharge data for 96-in outlet pipe under construction Dec 2009
4362          RS       1      STOR
4363          SV              1.52     4.61    12.85    22.46    33.32    45.48    48.72    52.06
4364          SQ              3.00    12.00    46.00    83.00    91.00   593.00  1600.00  3421.00
4365          SE    85.00    86.00    87.00    89.00    91.00    93.00    95.00    95.50    96.00
              *

4366          KK  DPGC67  DIVERT
4367          KM   Divert excess flow that overtops the subbasin to the south.  The calculated
4368          KM   full flow capapcity in the 96-inch storm drain pipe leaving the basin is
4369          KM   is diverted north to combination point CGC75
4370          DT  DSTM67      0.0      0.0
4371          DI      0.0      3.0     12.0     46.0     83.0     91.0    593.0   1600.0   3421.0      0.0
4372          DQ      0.0      0.0      0.0      0.0      0.0      0.0      0.0    983.0   2781.0      0.0
              *

4373          KK  DRGC75RETRIEVE
4374          KM   Retrieve divert DRGC75 from combination point CCB75 and divert south to
4375          KM   combination point CGC75
4376          DR  DSGC75
              *

4377          KK     GC75    BASIN
4378          KM   Runoff hydrograph for subbasin GC75 southeast of the intersection of the
4379          KM   Grand Canal and 75th Avenue
4380          BA   0.410
4381          LG    0.24     0.15     8.00     0.07       33
4382          UC   1.500    1.585
4383          UA       0      5.0     16.0     30.0     65.0     77.0     84.0     90.0     94.0     97.0
4384          UA     100
              *

4385          KK    CGC75 COMBINE
4386          KM   Combine divert DWGC75, pipe diversion DPGC67, divert retrieval DRGC75, and
4387          KM   subbasin GC75
4388          HC       4     9.44
              *

4389          KK  SRGC75 STORAGE
4390          KM   Storage route runoff hydrograph from combination point CGC75 through regional
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4391          KM     detention basin along the Grand Canal between 67th and 75th Avenues
4392          KM   Vol/Elev data taken from DMJM HEC-1 revision (model BHGC00C6, Nov 2004)
4393          KM     confirmd by comparing with Bethany Home Outfall Channel Reach B As-builts
4394          KM   Discharge data calculated from discharge channel in As-builts (Bethany Home
4395          KM     Outfall Channel Reach C - 83rd Ave to 73rd Ave, June 2007)
4396          KM     Rect concrete channel, width = 14 ft, slope = 0.000992 ft/ft
4397          RS       1      STOR
4398          SV              0.00     0.00     0.07     0.73     2.73     6.42    12.25    20.32    29.62
4399          SV  40.248   52.049   65.081   79.346   94.800   103.1    111.4
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4400          SQ      0.0      0.0      0.0     36.0    120.0    230.0    356.0    493.0    639.0      790
4401          SQ    947.0   1107.0   1270.0   1436.0   1604.0   1689.0   1774.0
4402          SE   1074.7   1078.0   1081.0   1083.0   1084.0   1085.0   1086.0   1087.0   1088.0     1089
4403          SE   1090.0   1091.0   1092.0   1093.0   1094.0   1094.5   1095.0
              *

4404          KK  CICB75 COMBINE
4405          KM   Combine runoff hydrograph DWGC83 with runoff hydrograph from combination
4406          KM   point CGC75 at the intersection of Camelback Road and 75th Avenue
4407          HC       2    14.03
              *

4408          KK  RWGC83    ROUTE
4409          KM   Route hydrograph at combination point CICB75 at the intersection of Camelback
4410          KM   Road and 75th Avenue west to combination point CGC83
4411          RS       3      FLOW
4412          RC   0.035    0.015    0.035     6563  0.0010     0.00
4413          RX    0.00     3.00    13.00    13.00    31.00    31.00    41.00    44.00
4414          RY   10.00     9.00     9.00     0.00     0.00     9.00     9.00    10.00
              *

4415          KK  DRGC83RETRIEVE
4416          KM   Retrieve divert DRGC83 from combination point CBH83 and divert south to
4417          KM   combination point CGC83
4418          DR  DSGC83
              *

4419          KK     GC83    BASIN
4420          KM   Runoff hydrograph for subbasin GC83 southeast of the intersection of the
4421          KM   Grand Canal and 83rd Avenue
4422          BA   0.426
4423          LG    0.25     0.15     8.40     0.07       26
4424          UC   1.500    1.722
4425          UA       0      5.0     16.0     30.0     65.0     77.0     84.0     90.0     94.0     97.0
4426          UA     100
              *

4427          KK  ERGC83  DIVERT
4428          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
4429          KM   retention developed after 1990 in subbasin GC83
4430          DT  XGC83      28.0      0.0
4431          DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
4432          DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

4433          KK    CGC83 COMBINE
4434          KM   Combine route RWGC83, divert retrieval DRGC83, and subbasin GC83
4435          HC       3    17.67
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

4436          KK  CIBH83 COMBINE
4437          KM   Combine runoff hydrograph DWBH91 with runoff hydrograph from combination
4438          KM   point CGC83 at the intersection of 83rd Avenue and Bethany Home Road
4439          HC       2    23.92
              *

4440          KK  RWBH91    ROUTE
4441          KM   Route hydrograph at combination point CIBH83 at the intersection of Bethany
4442          KM   Home Road and 91st Avenue west to combination point CBH91
4443          RS       3      FLOW
4444          RC   0.035    0.015    0.035     6508  0.0008     0.00
4445          RX    0.00     4.00    18.00    66.00   126.00   162.00   172.00   176.00
4446          RY   13.14    12.14    12.00     0.00     0.60     9.15     9.25    10.25
              *

4447          KK  DRBH91RETRIEVE
4448          KM   Retrieve divert DRBH91 from combination point CPGL91 and divert south to
4449          KM   combination point CBH91
4450          DR  DSBH91
              *

4451          KK  RSBH91    ROUTE
4452          KM   Route diversion retrieval DRBH91 south to combination point CBH91
4453          RS       4      FLOW
4454          RC   0.035    0.015    0.035     5280  0.0019     0.00
4455          RX    0.00     0.00    37.50    37.50   210.50   210.50   248.00   248.00
```

```
4456          RY    3.00    0.88    0.50    0.00    0.00    0.50    0.88    3.00
              *

4457          KK     BH91    BASIN
4458          KM    Runoff hydrograph for square mile subbasin BH91 northeast of the intersection
4459          KM    of Bethany Home Road and 91st Avenue
4460          BA    1.032
4461          LG     0.27     0.16     7.60     0.10       21
4462          UC    1.500    1.032
4463          UA        0      5.0     16.0     30.0     65.0     77.0     84.0     90.0     94.0     97.0
4464          UA      100
              *

4465          KK   ERBH91   DIVERT
4466          KM    Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
4467          KM    retention developed after 1990 in subbasin BH91
4468          DT    XBH91      3.8      0.0
4469          DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
4470          DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

4471          KK    CBH91 COMBINE
4472          KM    Combine route RWBH91, route RSBH91, and subbasin BH91
4473          HC        3    30.54
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

4474          KK   RWBHLO    ROUTE
4475          KM    Route hydrograph at combination point CBH91 west to combination point CBHLO
4476          RS        1     FLOW
4477          RC    0.035    0.015    0.035     4110   0.0011     0.00
4478          RX     0.00     4.00    18.00    46.50   135.50   153.40   167.40   171.40
4479          RY     8.26     7.26     7.12     0.00     0.85     5.32     5.46     6.46
              *

4480          KK     BHLO    BASIN
4481          KM    Runoff hydrograph for subbasin BHLO northeast of the intersection of Bethany
4482          KM    Home Road and SR Loop 101
4483          BA    0.788
4484          LG     0.10     0.15     7.30     0.09       81
4485          UC    0.903    0.592
4486          UA        0      5.0     16.0     30.0     65.0     77.0     84.0     90.0     94.0     97.0
4487          UA      100
              *

4488          KK   ERBHLO   DIVERT
4489          KM    Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
4490          KM    retention developed after 1990 in subbasin BHLO
4491          DT    XBHLO     41.5      0.0
4492          DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
4493          DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

4494          KK    CBHLO COMBINE
4495          KM    Combine route RWBHLO, route RSBHLO, and subbasin BHLO
4496          HC        3    46.47
              *

4497          KK   RWBH99    ROUTE
4498          KM    Route hydrograph at combination point CBHLO west to combination point CBH99
4499          RS        1     FLOW
4500          RC    0.035    0.015    0.035     1075   0.0011     0.00
4501          RX     0.00     4.00    18.00    46.50   135.50   153.40   167.40   171.40
4502          RY     8.26     7.26     7.12     0.00     0.85     5.32     5.46     6.46
              *

4503          KK     BH99    BASIN
4504          KM    Runoff hydrograph for subbasin BH99 northeast of the intersection of Bethany
4505          KM    Home Road and 99th Avenue
4506          BA    0.184
4507          LG     0.39     0.19     6.60     0.19       20
4508          UC    1.292    1.393
4509          UA        0      5.0     16.0     30.0     65.0     77.0     84.0     90.0     94.0     97.0
4510          UA      100
              *
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4511          KK    CBH99 COMBINE
4512          KM    Combine route RWBH99 and subbasin BH99
4513          HC        2    46.65
              *

4514          KK   RWBHRI    ROUTE
4515          KM    Route hydrograph at combination point CBH99 west to combination point CGLNR
4516          RS        1     FLOW
4517          RC    0.035    0.015    0.035     2392   0.0010     0.00
4518          RX     0.00     4.00    18.00    46.50   135.50   153.40   167.40   171.40
```



```
4519          RY     8.26     7.26     7.12     0.00     0.85     5.32     5.46     6.46
              *

4520          KK     GLNR    BASIN
4521          KM    Runoff hydrograph for subbasin GLNR north of Glendale Avenue and east of New
4522          KM    River
4523          BA    0.483
4524          LG     0.32     0.25     6.40     0.17       25
4525          UC    1.500    1.444
4526          UA        0      5.0     16.0     30.0     65.0     77.0     84.0     90.0     94.0     97.0
4527          UA      100
              *

4528          KK   ERGLNR   DIVERT
4529          KM    Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
4530          KM    retention developed after 1990 in subbasin GLNR
4531          DT    XGLNR      2.9      0.0
4532          DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
4533          DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

4534          KK   DSBHRI   DIVERT
4535          KM    Divert portion of runoff hydrograph from subbasin GLNR south to the
4536          KM    intersection of Bethany Home Road and the Roosevelt Irrigation District canal
4537          KM    and the remaining flow west to New River. The diversion is based on
4538          KM    topography
4539          KM    Divert remaining runoff hydrograph from subbasin GLNR south to combination
4540          KM    point CBHRI
4541          DT   DWNR04      0.0      0.0
4542          DI      0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0  10000.0  20000.0  50000.0
4543          DQ      0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0  10000.0  20000.0  50000.0
              *

4544          KK   RSBHRI    ROUTE
4545          KM    Route subbasin diversion DSBHRI south to combination point CBHRI
4546          RS        1     FLOW
4547          RC    0.035    0.015    0.035     5280   0.0015     0.00
4548          RX     0.00     0.00     7.00     7.00    43.00    43.00    50.00    50.00
4549          RY     3.00     0.57     0.50     0.00     0.00     0.50     0.57     3.00
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

4550          KK     BHRI    BASIN
4551          KM    Runoff hydrograph for subbasin BHRI north of Bethany Home Road and east of
4552          KM    the Roosevelt Irrigation District canal
4553          BA    0.512
4554          LG     0.48     0.24     6.20     0.25        0
4555          UC    1.500    1.106
4556          UA        0      5.0     16.0     30.0     65.0     77.0     84.0     90.0     94.0     97.0
4557          UA      100
              *

4558          KK    DBHNR   DIVERT
4559          KM    Divert portion of runoff hydrograph from subbasin BHRI west to the
4560          KM    intersection of Bethany Home Road and New River and the remaining flow
4561          KM    west to New River. The diversion is based on topography.
4562          DT   DWBHAF      0.0      0.0
4563          DI      0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0  10000.0  20000.0  50000.0
4564          DQ      0.0     79.0    158.0    395.0    790.0   1580.0   3160.0   7900.0  15800.0  39500.0
              *

4565          KK    CBHRI COMBINE
4566          KM    Combine route RWBHRI, route RSBHRI, and and divert DBHNR
4567          HC        3    47.17
              *

4568          KK   RWBHNR    ROUTE
4569          KM    Route remaining hydrograph at combination point CBHRI west to combination
4570          KM    point CBHNR
4571          RS        2     FLOW
4572          RC    0.035    0.015    0.035     3231   0.0010     0.00
4573          RX     0.00     4.00    18.00    46.50   135.50   153.40   167.40   171.40
4574          RY     8.26     7.26     7.12     0.00     0.85     5.32     5.46     6.46
              *

4575          KK     BHNR    BASIN
4576          KM    Runoff hydrograph for subbasin BHNR north of Bethany Home Road and east of
4577          KM    New River
4578          BA    0.258
4579          LG     0.45     0.25     6.20     0.24        0
4580          UC    1.309    0.858
4581          UA        0      5.0     16.0     30.0     65.0     77.0     84.0     90.0     94.0     97.0
4582          UA      100
              *

4583          KK    CBHNR COMBINE
4584          KM    Combine route RWBHNR and subbasin BHNR
4585          HC        2    47.42
              *
```

```
4586          KK    CB99   BASIN
4587          KM   Runoff hydrograph for subbasin CB99 northeast of the intersection of
4588          KM   Camelback Road and 99th Avenue
4589          BA   0.201
4590          LG    0.21    0.25    7.30    0.09      35
4591          UC   1.096   1.166
1                                    HEC-1 INPUT                                    PAGE119

LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

4592          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
4593          UA     100
              *

4594          KK  ERCB99  DIVERT
4595          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
4596          KM   retention developed after 1990 in subbasin CB99
4597          DT   XCB99     4.6     0.0
4598          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
4599          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

4600          KK  DWCBRI  DIVERT
4601          KM   Divert remaining runoff hydrograph from subbasin CB99 west to combination
4602          KM   point CCBRI
4603          DT  DSIS99      0.0     0.0
4604          DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
4605          DQ     0.0    49.0    98.0   245.0   490.0   980.0  1960.0  4900.0  9800.0 24500.0
              *

4606          KK  RWCBRI   ROUTE
4607          KM   Route diversion DWCBRI west to combination point CCBRI
4608          RS       6    FLOW
4609          RC   0.035   0.015   0.035    3883  0.0021    0.00
4610          RX    0.00    0.00   16.50   16.50  107.50  107.50  124.00  124.00
4611          RY    3.00    0.66    0.50    0.00    0.00    0.50    0.66    3.00
              *

4612          KK    CBRI   BASIN
4613          KM   Runoff hydrograph for subbasin CBRI north of Camelback Road and east of the
4614          KM   Roosevelt Irrigation District canal
4615          BA   0.698
4616          LG    0.34    0.15    7.00    0.13      21
4617          UC   1.500   1.250
4618          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
4619          UA     100
              *

4620          KK  ERCBRI  DIVERT
4621          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
4622          KM   retention developed after 1990 in subbasin CBRI
4623          DT   XCBRI    41.4     0.0
4624          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
4625          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

4626          KK   CCBRI COMBINE
4627          KM   Combine route RWCBRI and subbasin CBRI
4628          HC       2    0.80
              *
1                                    HEC-1 INPUT                                    PAGE120

LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

4629          KK  DWCB07  DIVERT
4630          KM   Divert runoff hydrograph from combination point CCBRI west to combination
4631          KM   point CCB07
4632          DT  DSIS07      0.0     0.0
4633          DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
4634          DQ     0.0    69.0   138.0   345.0   690.0  1380.0  2760.0  6900.0 13800.0 34500.0
              *

4635          KK    CB07   BASIN
4636          KM   Runoff hydrograph for subbasin CB07 northeast of the intersection of
4637          KM   Camelback Road and 107th Avenue
4638          BA   0.317
4639          LG    0.31    0.26    6.00    0.22       4
4640          UC   1.500   1.108
4641          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
4642          UA     100
              *

4643          KK   CCB07 COMBINE
4644          KM   Combine divert DWCB07 and subbasin CB07
4645          HC       2    0.56
              *

4646          KK  DWCBNR  DIVERT
4647          KM   Divert runoff hydrograph from combination point CCB07 west to combination
4648          KM   point CCBNR
4649          DT   DIS07      0.0     0.0
4650          DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
```



```
4651          DQ     0.0    69.0   138.0   345.0   690.0  1380.0  2760.0  6900.0 13800.0 34500.0
              *

4652          KK  RWCBNR   ROUTE
4653          KM   Route diversion DWCBNR west to combination point CCBNR
4654          RS       6    FLOW
4655          RC   0.035   0.015   0.035    3883  0.0010    0.00
4656          RX    0.00    0.00   16.50   16.50  107.50  107.50  124.00  124.00
4657          RY    3.00    0.66    0.50    0.00    0.00    0.50    0.66    3.00
              *

4658          KK    CBNR   BASIN
4659          KM   Runoff hydrograph for subbasin CBNR north of Camelback Road and east of New
4660          KM   River
4661          BA   0.466
4662          LG    0.13    0.30    5.80    0.24       3
4663          UC   1.500   1.384
4664          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
4665          UA     100
              *
1                                    HEC-1 INPUT                                    PAGE121

LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

4666          KK   CCBNR COMBINE
4667          KM   Combine route RWCBNR and subbasin CBNR
4668          HC       2    0.64
              *

4669          KK  DRIS99RETRIEVE
4670          KM   Retrieve divert DRIS99 from subbasin CB99 and divert south to
4671          KM   combination point CIS99
4672          DR  DSIS99
              *

4673          KK  RSIS99   ROUTE
4674          KM   Route diversion retrieval DRIS99 south to combination point CIS99
4675          RS       9    FLOW
4676          RC   0.035   0.015   0.035    5280  0.0020    0.00
4677          RX    0.00    0.00   16.50   16.50  107.50  107.50  124.00  124.00
4678          RY    3.00    0.66    0.50    0.00    0.00    0.50    0.66    3.00
              *

4679          KK    IS99   BASIN
4680          KM   Runoff hydrograph for subbasin IS99 northeast of the intersection of Indian
4681          KM   School Road and 99th Avenue
4682          BA   0.323
4683          LG    0.44    0.15    9.70    0.07      12
4684          UC   1.226   1.022
4685          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
4686          UA     100
              *

4687          KK   CIS99 COMBINE
4688          KM   Combine route RSIS99 and subbasin IS99
4689          HC       2    0.42
              *

4690          KK  DWIS07  DIVERT
4691          KM   Divert runoff hydrograph from combination point CIS99 west to combination
4692          KM   point CIS07
4693          DT  DSTM99      0.0     0.0
4694          DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
4695          DQ     0.0    26.0    52.0   130.0   260.0   520.0  1040.0  2600.0  5200.0 13000.0
              *

4696          KK  RWIS07   ROUTE
4697          KM   Route diversion DWIS07 west to combination point CIS07
4698          RS       5    FLOW
4699          RC   0.035   0.015   0.035    5280  0.0022    0.00
4700          RX    0.00    0.00   35.50   35.50  188.50  188.50  224.00  224.00
4701          RY    3.00    0.86    0.50    0.00    0.00    0.50    0.86    3.00
              *
1                                    HEC-1 INPUT                                    PAGE122

LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

4702          KK  DI07ISRETRIEVE
4703          KM   Retrieve arterial street flow diverted to 107th Avenue at the intersection
4704          KM   of 107th Avenue and Camelback Road
4705          DR   DIS07
              *

4706          KK  DRIS07RETRIEVE
4707          KM   Retrieve divert DRIS07 from combination point CCBRI and divert south to
4708          KM   combination point CICB07
4709          DR  DSIS07
              *

4710          KK  CICB07 COMBINE
4711          KM   Combine arterial street flow from 107th Avenue DI07IS with runoff hydrograph
```

```
4712          KM   DSIS07 at the intersection of 107th Avenue and Camelback Road
4713          HC       2    0.94
              *

4714          KK  RSIS07   ROUTE
4715          KM   Route hydrograph at combination point CICB07 at the intersection of Camelback
4716          KM   Road and 107th Avenue south to combination point CIS07
4717          RS      4    FLOW
4718          RC  0.035   0.015   0.035    5280  0.0026    0.00
4719          RX   0.00    0.00   26.00   26.00  148.00  148.00  174.00  174.00
4720          RY   3.00    0.76    0.50    0.00    0.00    0.50    0.76    3.00
              *

4721          KK    IS07   BASIN
4722          KM   Runoff hydrograph for square mile subbasin IS07 northeast of the intersection
4723          KM   of Indian Schhol Road and 107th Avenue
4724          BA   1.021
4725          LG    0.22    0.16    8.00    0.08      27
4726          UC   1.500   1.010
4727          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
4728          UA     100
              *

4729          KK  ERIS07  DIVERT
4730          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
4731          KM   retention developed after 1990 in subbasin IS07
4732          DT   XIS07    10.5     0.0
4733          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
4734          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

4735          KK   CIS07 COMBINE
4736          KM   Combine route RWIS07, route RSIS07 and subbasin IS07
4737          HC       3    2.28
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9.....10

4738          KK  DWISAF  DIVERT
4739          KM   Divert runoff hydrograph from combination point CIS07 west to combination
4740          KM   point CISAF
4741          DT  DSRI07     0.0     0.0
4742          DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
4743          DQ     0.0    25.0    50.0   125.0   250.0   500.0  1000.0  2500.0  5000.0 12500.0
              *

4744          KK  RWISAF   ROUTE
4745          KM   Route diversion DWISAF west to combination point CISAF
4746          RS      6    FLOW
4747          RC  0.035   0.015   0.035    6868  0.0013    0.00
4748          RX   0.00    0.00   67.00   67.00  332.00  332.00  399.00  399.00
4749          RY   3.00    1.17    0.50    0.00    0.00    0.50    1.17    3.00
              *

4750          KK    ISAF   BASIN
4751          KM   Runoff hydrograph for subbasin ISAF north of Indian School Road and east of
4752          KM   the Agua Fria River
4753          BA   0.989
4754          LG    0.23    0.25    4.80    0.26      45
4755          UC   1.500   1.137
4756          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
4757          UA     100
              *

4758          KK   CISAF COMBINE
4759          KM   Combine route RWISAF and subbasin ISAF
4760          HC       2    2.69
              *

4761          KK  DRTM99RETRIEVE
4762          KM   Retrieve divert DRTM99 from combination point CIS99 and divert south to
4763          KM   combination point CTM99
4764          DR  DSTM99
              *

4765          KK  RSTM99   ROUTE
4766          KM   Route diversion retrieval DRTM99 south to combination point CTM99
4767          RS      8    FLOW
4768          RC  0.035   0.015   0.035    5280  0.0009    0.00
4769          RX   0.00    0.00   16.50   16.50  107.50  107.50  124.00  124.00
4770          RY   3.00    0.66    0.50    0.00    0.00    0.50    0.66    3.00
              *

4771          KK    TM99   BASIN
4772          KM   Runoff hydrograph for subbasin TM99 northeast of the intersection of Thomas
4773          KM   Road and 99th Avenue
4774          BA   0.505
4775          LG    0.46    0.15    8.80    0.09       8
4776          UC   1.500   1.185
4777          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
4778          UA     100
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9.....10

4779          KK   CTM99 COMBINE
4780          KM   Combine route RSTM99 and subbasin TM99
4781          HC       2    0.62
              *

4782          KK  DWRI07  DIVERT
4783          KM   Divert runoff hydrograph from combination point CTM99 west to combination
4784          KM   point CRI07
4785          DT  DSMD99     0.0     0.0
4786          DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
4787          DQ     0.0    46.0    92.0   230.0   460.0   920.0  1840.0  4600.0  9200.0 23000.0
              *

4788          KK  RWRI07   ROUTE
4789          KM   Route diversion DWRI07 west to combination point CRI07
4790          RS      7    FLOW
4791          RC  0.035   0.015   0.035    5402  0.0013    0.00
4792          RX   0.00    0.00   16.50   16.50  107.50  107.50  124.00  124.00
4793          RY   3.00    0.66    0.50    0.00    0.00    0.50    0.66    3.00
              *

4794          KK  DRRI07RETRIEVE
4795          KM   Retrieve divert DRRI07 from combination point CIS07 and divert south to
4796          KM   combination point CRI07
4797          DR  DSRI07
              *

4798          KK  RSRI07   ROUTE
4799          KM   Route diversion retrieval DRRI07 south to combination point CRI07
4800          RS      3    FLOW
4801          RC  0.035   0.015   0.035    2640  0.0008    0.00
4802          RX   0.00    0.00   26.00   26.00  148.00  148.00  174.00  174.00
4803          RY   3.00    0.76    0.50    0.00    0.00    0.50    0.76    3.00
              *

4804          KK    RI07   BASIN
4805          KM   Runoff hydrograph for subbasin RI07 northeast of the intersection of the
4806          KM   Roosevelt Irrigation District Canal and 107th Avenue
4807          BA   0.759
4808          LG    0.41    0.15    8.80    0.08      12
4809          UC   1.498   0.948
4810          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
4811          UA     100
              *

4812          KK  ERRI07  DIVERT
4813          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
4814          KM   retention developed after 1990 in subbasin RI07
4815          DT   XRI07    21.1     0.0
4816          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
4817          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *
```



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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9.....10

4818          KK   CRI07 COMBINE
4819          KM   Combine route RWRI07, route RSRI07 and subbasin RI07
4820          HC       3    1.67
              *

4821          KK   DRIAF  DIVERT
4822          KM   Divert portion of runoff hydrograph from combination point CRIAF south to the
4823          KM   intersection of Thomas Road and 107th Avenue and the remaining flow
4824          KM   west to the intersection of the Roosevelt Irrigation District canal and the
4825          KM   Agua Fria River. The diversion is based on topography
4826          DT   DTM07     0.0     0.0
4827          DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
4828          DQ     0.0    49.0    98.0   245.0   490.0   980.0  1960.0  4900.0  9800.0 24500.0
              *

4829          KK  DWRIAF  DIVERT
4830          KM   Divert runoff hydrograph from combination point CRI07 west to combination
4831          KM   point CRIAF
4832          DT  DSTM07     0.0     0.0
4833          DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
4834          DQ     0.0    62.0   124.0   310.0   620.0  1240.0  2480.0  6200.0 12400.0 31000.0
              *

4835          KK  RWRIAF   ROUTE
4836          KM   Route diversion DWRIAF west to combination point CRIAF
4837          RS     10    FLOW
4838          RC  0.035   0.015   0.035   10904  0.0007    0.00
4839          RX   0.00    0.00   22.00   22.00  103.00  103.00  125.00  125.00
4840          RY   3.00    0.72    0.50    0.00    0.00    0.50    0.72    3.00
              *
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4841          KK    RIAF   BASIN
4842          KM   Runoff hydrograph for subbasin RIAF north of the Roosevelt Irrigation
4843          KM   District Canal and east of the Agua Fria River
4844          BA   0.659
4845          LG    0.22    0.18    6.60    0.13      41
4846          UC   1.500   1.317
4847          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
4848          UA     100
              *

4849          KK   CRIAF COMBINE
4850          KM   Combine route RWRIAF and subbasin RIAF
4851          HC       2    0.98
              *

4852          KK  DRBHAFRETRIEVE
4853          DR  DWBHAF
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

4854          KK  SRBHRI STORAGE
4855          KM   Storage route runoff hydrograph from combination point CRIAF through ponding
4856          KM     area at the Roosevelt Irrigation District Canal and the Agua Fria River
4857          KM   Stage-storage-discharge data from Maryvale ADMS, Feb 1997
4858          RS       1    STOR
4859          SV           15.00   34.70   63.80  107.60
4860          SQ            0.10    0.20 4536.0013441.00
4861          SE  1050.0 1052.00 1053.00 1054.00 1055.00
              *

4862          KK   CAF01 COMBINE
4863          KM   Combine combination point CCBNR, combination point CISAF, and combination
4864          KM   point CRIAF
4865          HC       5    4.31
              *

4866          KK    CB83   BASIN
4867          KM   Runoff hydrograph for subbasin CB83 northeast of the intersection of
4868          KM   Camelback Road and 83rd Avenue
4869          BA   0.554
4870          LG    0.27    0.15    8.00    0.08      20
4871          UC   1.187   0.636
4872          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
4873          UA     100
              *

4874          KK  ERCB83  DIVERT
4875          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
4876          KM   retention developed after 1990 in subbasin CB83
4877          DT   XCB83    18.0     0.0
4878          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
4879          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

4880          KK   D83CB  DIVERT
4881          KM   Divert calculated full flow capapcity of 10 cfs into 24-inch storm drain
4882          KM   pipe at the intersection of Camelback Road and 83rd Avenue
4883          DT  DP83CB     0.0    10.0
4884          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
4885          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

4886          KK  DWCB91   DIVERT
4887          KM   Divert remaining runoff hydrograph from subbasin CB83 west to combination
4888          KM   point CCB91
4889          DT  DSIS83     0.0     0.0
4890          DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
4891          DQ     0.0    44.0    88.0   220.0   440.0   880.0  1760.0  4400.0  8800.0 22000.0
              *
1                                        HEC-1 INPUT                                        PAGE127

LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

4892          KK  RWCB91   ROUTE
4893          KM   Route diversion DWCB91 west to combination point CCB91
4894          RS       6    FLOW
4895          RC   0.035   0.015   0.035    5280  0.0036    0.00
4896          RX    0.00    0.00   57.50   57.50  291.50  291.50  349.00  349.00
4897          RY    3.00    1.08    0.50    0.00    0.00    0.50    1.08    3.00
              *

4898          KK    CB91   BASIN
4899          KM   Runoff hydrograph for square mile subbasin CB91 northeast of the intersection
4900          KM   of Camelback Road and 91st Avenue
4901          BA   0.961
4902          LG    0.41    0.17    8.80    0.08       6
4903          UC   1.500   1.013
4904          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
```



```
4905          UA     100
              *

4906          KK  ERCB91  DIVERT
4907          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
4908          KM   retention developed after 1990 in subbasin CB91
4909          DT   XCB91    16.4     0.0
4910          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
4911          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

4912          KK   CCB91 COMBINE
4913          KM   Combine route RWCB91 and subbasin CB91
4914          HC       2    1.32
              *

4915          KK  DWCBLO  DIVERT
4916          KM   Divert remaining runoff hydrograph from combination point CCB91 west to
4917          KM   combination point CCBLO
4918          DT  DSIS91     0.0     0.0
4919          DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
4920          DQ     0.0    47.0    94.0   235.0   470.0   940.0  1880.0  4700.0  9400.0 23500.0
              *

4921          KK  RWCBLO   ROUTE
4922          KM   Route diversion DWCBLO west to combination point CCBLO
4923          RS       3    FLOW
4924          RC   0.035   0.015   0.035    4287  0.0028    0.00
4925          RX    0.00    0.00   48.00   48.00  251.00  251.00  299.00  299.00
4926          RY    3.00    0.98    0.50    0.00    0.00    0.50    0.98    3.00
              *

4927          KK    CBLO   BASIN
4928          KM   Runoff hydrograph for subbasin CBLO northeast of the intersection of
4929          KM   Camelback Road and SR Loop 101
4930          BA   0.818
4931          LG    0.39    0.15    8.80    0.08      14
4932          UC   1.418   0.987
4933          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
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4934          UA     100
              *

4935          KK  ERCBLO  DIVERT
4936          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
4937          KM   retention developed after 1990 in subbasin CBLO
4938          DT   XCBLO    13.0     0.0
4939          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
4940          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

4941          KK   CCBLO COMBINE
4942          KM   Combine route RWCBLO and subbasin CBLO
4943          HC       2    1.52
              *

4944          KK  RSISLO   ROUTE
4945          KM   Route hydrograph at combination point CCBLO south to combination point CISLO
4946          RS       3    FLOW
4947          RC   0.035   0.015   0.035    5583  0.0010    0.00
4948          RX    0.00    4.00   14.00   29.00   49.00   64.00   94.00   97.00
4949          RY   11.20   10.20   10.00    0.00    0.40   10.40   11.84   12.84
              *

4950          KK    IS75   BASIN
4951          KM   Runoff hydrograph for subbasin IS75 northeast of the intersection of Indian
4952          KM   School Road and 75th Avenue
4953          BA   0.615
4954          LG    0.23    0.15    7.60    0.08      41
4955          UC   1.288   0.793
4956          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
4957          UA     100
              *

4958          KK  ERIS75  DIVERT
4959          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
4960          KM   retention developed after 1990 in subbasin IS75
4961          DT   XIS75     0.8     0.0
4962          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
4963          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

4964          KK   D75IS  DIVERT
4965          KM   Divert calculated full flow capapcity of 123 cfs into 60-inch storm drain
4966          KM   pipe at the intersection of Indian School Road and 75th Avenue
4967          DT  DP75IS     0.0   123.0
4968          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
4969          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

4970          KK  DWIS83  DIVERT
4971          KM   Divert remaining runoff hydrograph from combination point CPIS75 west to
4972          KM   combination point CIS83
4973          DT  DSTM75      0.0      0.0
4974          DI      0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0 10000.0 20000.0 50000.0
4975          DQ      0.0     35.0     70.0    175.0    350.0    700.0   1400.0  3500.0  7000.0 17500.0
              *

4976          KK  RWIS83   ROUTE
4977          KM   Route diversion DWIS83 west to combination point CIS83
4978          RS       5    FLOW
4979          RC   0.035   0.015   0.035    5280  0.0028     0.00
4980          RX    0.00    0.00   76.50   76.50  372.50   372.50  449.00  449.00
4981          RY    3.00    1.27    0.50    0.00    0.00     0.50    1.27    3.00
              *

4982          KK  DRIS83RETRIEVE
4983          KM   Retrieve divert DRIS83 from subbasin CB83 and divert south to combination
4984          KM   point CIS83
4985          DR  DSIS83
              *

4986          KK  RSIS83   ROUTE
4987          KM   Route diversion retrieval DRIS83 south to combination point CIS83
4988          RS       8    FLOW
4989          RC   0.035   0.015   0.035    5280  0.0022     0.00
4990          RX    0.00    0.00   57.50   57.50  291.50   291.50  349.00  349.00
4991          RY    3.00    1.08    0.50    0.00    0.00     0.50    1.08    3.00
              *

4992          KK   IS83   BASIN
4993          KM   Runoff hydrograph for square mile subbasin IS83 northeast of the intersection
4994          KM   Indian School Road and 83rd Avenue
4995          BA   0.991
4996          LG    0.24    0.17    6.80    0.12      34
4997          UC   1.500   1.007
4998          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
4999          UA     100
              *

5000          KK   CIS83 COMBINE
5001          KM   Combine route RWIS83, route RSIS83 and subbasin IS83
5002          HC       3    1.64
              *

5003          KK  PR83CBRETRIEVE
5004          KM   Retrieve full flow capacity of 10 cfs from 24-inch storm drain pipe at the
5005          KM   intersection of Camelback Road and 83rd Avenue
5006          DR  DP83CB
              *
              * KKRP83IS   ROUTE
              * KM Route full flow capacity of 10 cfs through 24-inch storm drain pipe in
              * KM 83rd Avenue to the intersection of Indian School Road and 83rd Avenue
              * RK  5208  0.0019   0.015          CIRC    2.000
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

5007          KK  CPIS83 COMBINE
5008          KM   Combine pipe return PR83CB with the runoff hydrograph at combination point
5009          KM   CIS83 at the intersection of Indian School Road and 83rd Avenue
5010          HC       2
              *

5011          KK   D83IS  DIVERT
5012          KM   Divert calculated full flow capapcity of 187 cfs into 72-inch storm drain
5013          KM   pipe at the intersection of Indian School Road and 83rd Avenue
5014          DT  DP83IS      0.0    187.0
5015          DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
5016          DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

5017          KK  DWIS91  DIVERT
5018          KM   Divert remaining runoff hydrograph from combination point CPIS83 west to
5019          KM   combination point CIS91
5020          DT  DSTM83      0.0      0.0
5021          DI      0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0 10000.0 20000.0 50000.0
5022          DQ      0.0     55.0    110.0    275.0    550.0   1100.0   2200.0  5500.0 11000.0 27500.0
              *

5023          KK  RWIS91   ROUTE
5024          KM   Route diversion DWIS91 west to combination point CIS91
5025          RS       3    FLOW
5026          RC   0.035   0.015   0.035    5280  0.0030     0.00
5027          RX    0.00    0.00   54.50   54.50  269.50   269.50  324.00  324.00
5028          RY    3.00    1.04    0.50    0.00    0.00     0.50    1.04    3.00
              *
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```
5029          KK  DRIS91RETRIEVE
5030          KM   Retrieve divert DRIS91 from combination point CCB91 and divert south to
5031          KM   combination point CIS91
5032          DR  DSIS91
              *

5033          KK  RSIS91   ROUTE
5034          KM   Route diversion retrieval DRIS91 south to combination point CIS91
5035          RS       5    FLOW
5036          RC   0.035   0.015   0.035    5280  0.0017     0.00
5037          RX    0.00    0.00   57.50   57.50  291.50   291.50  349.00  349.00
5038          RY    3.00    1.08    0.50    0.00    0.00     0.50    1.08    3.00
              *

5039          KK   IS91   BASIN
5040          KM   Runoff hydrograph for square mile subbasin IS91 northeast of the intersection
5041          KM   Indian School Road and 91st Avenue
5042          BA   0.999
5043          LG    0.25    0.15    9.70    0.04      37
5044          UC   1.500   1.011
5045          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
5046          UA     100
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

5047          KK  ERIS91  DIVERT
5048          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
5049          KM   retention developed after 1990 in subbasin IS91
5050          DT   XIS91     24.3      0.0
5051          DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
5052          DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

5053          KK   CIS91 COMBINE
5054          KM   Combine route RWIS91, route RSIS91 and subbasin IS91
5055          HC       3    2.36
              *

5056          KK   D91IS  DIVERT
5057          KM   Divert calculated full flow capapcity of 190 cfs into 72-inch storm drain
5058          KM   pipe at the intersection of Indian School Road and 91st Avenue
5059          DT  DP91IS      0.0    190.0
5060          DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
5061          DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

5062          KK  DWISLO  DIVERT
5063          KM   Divert remaining runoff hydrograph from combination point CIS91 west to
5064          KM   combination point CISLO
5065          DT  DSTM91      0.0      0.0
5066          DI      0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0 10000.0 20000.0 50000.0
5067          DQ      0.0     57.0    114.0    285.0    570.0   1140.0   2280.0  5700.0 11400.0 28500.0
              *

5068          KK  RWISLO   ROUTE
5069          KM   Route diversion DWISLO west to combination point CISLO
5070          RS       1    FLOW
5071          RC   0.035   0.015   0.035    2651  0.0039     0.00
5072          RX    0.00    0.00   35.50   35.50  188.50   188.50  224.00  224.00
5073          RY    3.00    0.86    0.50    0.00    0.00     0.50    0.86    3.00
              *

5074          KK   ISLO   BASIN
5075          KM   Runoff hydrograph for subbasin ISLO northeast of the intersection of Indian
5076          KM   School Road and SR Loop 101
5077          BA   0.684
5078          LG    0.34    0.15    9.70    0.06      21
5079          UC   1.432   0.951
5080          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
5081          UA     100
              *

5082          KK  ERISLO  DIVERT
5083          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
5084          KM   retention developed after 1990 in subbasin ISLO
5085          DT   XISLO     29.8      0.0
5086          DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
5087          DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

5088          KK   CISLO COMBINE
5089          KM   Combine route RWISLO, route RSISLO and subbasin ISLO
5090          HC       3    3.22
              *
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5091          KK  RSTMLO    ROUTE
5092          KM   Route hydrograph at combination point CISLO south to combination point CTMLO
5093          RS       2     FLOW
5094          RC   0.035   0.015   0.035    5309  0.0010    0.00
5095          RX    0.00    4.00   14.00   29.00   44.00   59.00   73.00   76.00
5096          RY   11.20   10.20   10.00    0.00    0.30   10.30   10.58   11.58
              *

5097          KK  DRGCGRRETRIEVE
5098          KM   Retrieve divert DRGCGR from combination point CGR35 and divert south to
5099          KM   combination point CIGR35
5100          DR  DEGCGR
              *

5101          KK  DIGCGRRETRIEVE
5102          KM   Retrieve divert DIGCGR from combination point CPIS35 and divert south to
5103          KM   combination point CIGR35
5104          DR  DSGCGR
              *

5105          KK  CIGR35 COMBINE
5106          KM   Combine arterial street flow from Grand Avenue DEGCGR with runoff hydrograph
5107          KM   DGRGC at the intersection of 35th Avenue and Grand Avenue
5108          HC       2     3.97
              *

5109          KK  RSGCGR    ROUTE
5110          KM   Route hydrograph at combination point CIGR35 at the intersection of Grand
5111          KM   Avenue and 35th Avenue south to combination point CGCGR
5112          RS       2     FLOW
5113          RC   0.035   0.015   0.035    3104  0.0029    0.00
5114          RX    0.00    0.00   48.00   48.00  251.00  251.00  299.00  299.00
5115          RY    3.00    0.98    0.50    0.00    0.00    0.50    0.98    3.00
              *

5116          KK  DRGC27RETRIEVE
5117          KM   Retrieve divert DRGC27 from combination point CPIS27 and divert south to
5118          KM   combination point CGCGR
5119          DR  DSGC27
              *

5120          KK  RSGC27    ROUTE
5121          KM   Route diversion retrieval DRGC27 south to combination point CGC27
5122          RS       1     FLOW
5123          RC   0.035   0.015   0.035    1755  0.0028    0.00
5124          RX    0.00    0.00   16.50   16.50  107.50  107.50  124.00  124.00
5125          RY    3.00    0.66    0.50    0.00    0.00    0.50    0.66    3.00
              *

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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

5126          KK    GCGR    BASIN
5127          KM   Runoff hydrograph for subbasin GCGR northeast of the intersection of Grand
5128          KM   Avenue and the Grand Canal
5129          BA   0.376
5130          LG    0.15    0.25    5.00    0.23      77
5131          UC   0.335   0.079
5132          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
5133          UA     100
              *

5134          KK    CGCGR COMBINE
5135          KM   Combine route RSGCGR, route RSGC27, and subbasin GCGR
5136          HC       3    6.09
              *

5137          KK  PR31ISRETRIEVE
5138          KM   Retrieve full flow capacity of 268 cfs from 72-inch diameter pipe at the
5139          KM   intersection of Indian School Road and 31st Avenue
5140          DR  DP31IS
              *

5141          KK  RP31GC    ROUTE
5142          KM   Route full flow capacity of 268 cfs through 72-inch storm drain pipe
5143          KM   in 31st Avenue to the intersection of 31st Avenue and the Grand Canal
5144          RK    2506  0.0040   0.015             CIRC   6.000
              *

5145          KK  PR27ISRETRIEVE
5146          KM   Retrieve full flow capacity of 151 cfs from 60-inch diameter pipe at the
5147          KM   intersection of Indian School Road and 27th Avenue
5148          DR  DP27IS
              *

5149          KK  RP27GC    ROUTE
5150          KM   Route full flow capacity of 151 cfs through 60-inch storm drain pipe in
5151          KM   in 27th Avenue to the intersection of 27th Avenue and the Grand Canal
5152          RK    1763  0.0034   0.015             CIRC   5.000
              *

5153          KK  CPGCGR COMBINE
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5154          KM   Combine pipe return PR27IS and pipe return PR35IS with the runoff hydrograph
5155          KM   at combination point CGCGR at the intersection of the Grand Canal and Grand
5156          KM   Avenue
5157          HC       3
              *

5158          KK   DGCGR  DIVERT
5159          KM   Capacity of storm drain in 27th Avenue and 29th Avenue diverted together.
5160          KM   Divert combined calculated full flow capacity of 257 cfs in the 72-inch storm
5161          KM   drain pipe in 27th Avenue and 165 cfs in the 60-inch storm drain pipe in
5162          KM   29th Avenue. The total calculated combined full flow capacity diverted at the
5163          KM   intersection of the Grand Canal and Grand Avenue is 422 cfs in an equivalent
5164          KM   diameter pipe of 87 inches
5165          DT  DPGCGR      0.0   422.0

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5166          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
5167          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

5168          KK  SRGCGR STORAGE
5169          KM   Storage route runoff hydrograph from divert DGCGR through ponding
5170          KM     area at the Grand Canal between I-17 and Grand Avenue
5171          KM   Storage routing ID RES26E in Maryvale ADMS, Feb 1997 - comments from ADMS:
5172          KM   PONDING AREA RESERVOIR ROUTE
5173          KM   PONDING AREA NORTHEAST OF GRAND AVENUE/RR EMBANKMENT
5174          KM   SUB-BASIN 26-22E
5175          RS       1    STOR       0.
5176          SV            0.10   13.20   45.92   91.09  149.48
5177          SQ          160.00  160.00  376.00 1056.00 6078.00
5178          SE  1095.0 1096.00 1097.00 1098.00 1099.00 1100.00
              *

5179          KK  RSGR27    ROUTE
5180          KM   Route diversion retrieval DRGR27 south to combination point CGR27
5181          RS       3     FLOW
5182          RC   0.035   0.015   0.035    4632  0.0019    0.00
5183          RX    0.00    0.00   33.00   33.00  215.00  215.00  248.00  248.00
5184          RY    3.00    0.83    0.50    0.00    0.00    0.50    0.83    3.00
              *

5185          KK    GR27    BASIN
5186          KM   Runoff hydrograph for subbasin GR27 northwest of the intersection of Grand
5187          KM   Avenue and 27th Avenue
5188          BA   0.407
5189          LG    0.18    0.15    8.40    0.06      66
5190          UC   0.720   0.398
5191          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
5192          UA     100
              *

5193          KK    CTM27 COMBINE
5194          KM   Combine route RSGR27 and subbasin GR27
5195          HC       2    6.50
              *

5196          KK    DTM27  DIVERT
5197          KM   Divert portion of runoff hydrograph from combination point CTM27  to storage
5198          KM   route SRTM27 where it will be routed through the Verde Basin near the
5199          KM   intersection of Thomas and 27th Avenue.  The remaining flow is diverted to
5200          KM   combination point CGR27. The diversion is based on topography
5201          DT   DGR27      0.0     0.0
5202          DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
5203          DQ     0.0    50.0   100.0   250.0   500.0  1000.0  2000.0  5000.0 10000.0 25000.0
              *

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5204          KK  SRTM27 STORAGE
5205          KM   Storage route runoff hydrograph from storm drain route RP27TM thru regional
5206          KM     detention basin near the intersection of Thomas Road and 27th Avenue
5207          KM   Stage-storage-discharge data from 26th Avenue and Verde Lane Drainage
5208          KM     Improvement Project Phase II Plans, November 2005 (Verde Basin)
5209          RS       1    STOR
5210          SV            0.50    1.40    3.10    5.70    9.00   12.50   16.30   20.00   22.00
5211          SV    24.1
5212          SQ     0.0    49.0    20.0    25.0    29.0    33.0    36.0    39.0    42.0   521.0
5213          SQ  1395.0
5214          SE  1088.0  1089.0  1090.0  1091.0  1092.0  1093.0  1094.0  1095.0  1096.0  1096.5
5215          SE  1097.0
              *

5216          KK  PRGCGRRETRIEVE
5217          KM   Retrieve combined full flow capacity of 422 cfs from 87-inch equivalent
5218          KM   diameter pipe at the intersection of the Grand Canal and Grand Avenue
5219          DR  DPGCGR
              *

5220          KK    D31GR  DIVERT
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5221          KM   Divert calculated full flow capapcity of 257 cfs into 72-inch storm drain
5222          KM   pipe at the intersection of Grand Avenue and 31st Avenue
5223          DT  DP31GR      0.0   257.0
5224          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
5225          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

5226          KK  RP27TM   ROUTE
5227          KM   Route full flow capacity of 151 cfs through 60-inch storm drain pipe in
5228          KM   27th Avenue to the intersection of Thomas Road and 27th Avenue
5229          RK    3088  0.0034   0.015            CIRC   5.000
              *

5230          KK  CPGR27 COMBINE
5231          KM   Combine remainder of pipe return PRGCGR with the runoff hydrograph at
5232          KM   storage route SRTM27 at the intersection of Grand Avenue and 27th Avenue
5233          HC       2
              *

5234          KK   D27GR  DIVERT
5235          KM   Divert calculated full flow capapcity of 195 cfs into 66-inch storm drain
5236          KM   pipe at the intersection of Grand Avenue and 27th Avenue
5237          DT  DP27GR      0.0   195.0
5238          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
5239          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

5240          KK  DRGR27RETRIEVE
5241          KM   Retrieve divert DRGR27 from combination point CRM27 and divert south to
5242          KM   combination point CGR27
5243          DR   DGR27
              *
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5244          KK   CGR27 COMBINE
5245          KM   Combine divert D27GR and divert retrieval DRGR27
5246          HC       2    6.50
              *

5247          KK  SRGR27 STORAGE
5248          KM   Storage route runoff hydrograph from divert D27GR through regional detention
5249          KM     basin near the intersection of Grand Avenue and 27th Avenue.
5250          KM   Stage-storage-discharge data from State Highway Wickenburg-Phoenix Highway
5251          KM     (US 60), 27th Avnue/Thomas Road As-builts, ADOT, August 2006
5252          RS       1     STOR
5253          SV             0.30    2.10    8.50   15.80   23.90   32.70   42.20   47.30   49.93
5254          SV    52.6     57.8
5255          SQ       0        2       7      14      19      22      25      28      29       3
5256          SQ     813     1469
5257          SE  1084.0  1085.0  1086.0  1088.0  1090.0  1092.0  1094.0  1096.0  1097.0    1097
5258          SE  1098.0  1098.5
              *

5259          KK  DWTM35   DIVERT
5260          KM   Divert remaining runoff hydrograph from combination point CPGR27 west to
5261          KM   combination point CTM35
5262          DT  DSMD27      0.0     0.0
5263          DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
5264          DQ     0.0    68.0   136.0   340.0   680.0  1360.0  2720.0  6800.0 13600.0 34000.0
              *

5265          KK  RWTM35   ROUTE
5266          KM   Route diversion DWTM35 west to combination point CTM35
5267          RS       5     FLOW
5268          RC   0.035   0.015   0.035    5280  0.0008     0.00
5269          RX    0.00    0.00   16.50   16.50  107.50  107.50  124.00  124.00
5270          RY    3.00    0.66    0.50    0.00    0.00    0.50    0.66    3.00
              *

5271          KK  DRTM35RETRIEVE
5272          KM   Retrieve divert DRTM35 from combination point CGC35 and divert south to
5273          KM   combination point CTM35
5274          DR  DSTM35
              *

5275          KK  RSTM35   ROUTE
5276          KM   Route diversion retrieval DRTM35 south to combination point CTM35
5277          RS       1     FLOW
5278          RC   0.035   0.015   0.035    3050  0.0051     0.00
5279          RX    0.00    0.00   16.50   16.50  107.50  107.50  124.00  124.00
5280          RY    3.00    0.66    0.50    0.00    0.00    0.50    0.66    3.00
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9.....10

5281          KK    TM35   BASIN
5282          KM   Runoff hydrograph for subbasin TM35 northeast of the intersection of Thomas
5283          KM   Road and 35th Avenue
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5284          BA   0.393
5285          LG    0.14    0.15    7.60    0.08      80
5286          UC   0.649   0.381
5287          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
5288          UA     100
              *

5289          KK   CTM35 COMBINE
5290          KM   Combine route RWTM35, route RSTM35, and subbasin TM35
5291          HC       3    4.31
              *

5292          KK  PR31GRRETRIEVE
5293          KM   Retrieve full flow capacity of 257 cfs from 72-inch storm drain pipe at the
5294          KM   intersection of Grand Avenue and 31st Avenue
5295          DR  DP31GR
              *

5296          KK  RP31TM   ROUTE
5297          KM   Route full flow capacity of 257 cfs through 72-inch storm drain pipe in
5298          KM   31st Avenue to the intersection of Thomas Road and 31st Avenue
5299          RK    3862  0.0037   0.015            CIRC   6.000
              *

5300          KK  PR35GCRETRIEVE
5301          KM   Retrieve full flow capacity of 40 cfs from 36-inch storm drain pipe at the
5302          KM   intersection of the Grand Canal and 35th Avenue
5303          DR  DP35GC
              *

5304          KK  RP35TM   ROUTE
5305          KM   Route full flow capacity of 40 cfs through 36-inch storm drain pipe in
5306          KM   35th Avenue to the intersection of Thomas Road and 35th Avenue
5307          RK    3051  0.0035   0.015            CIRC   3.000
              *

5308          KK  CPTM35 COMBINE
5309          KM   Combine pipe returns PR31GR and PR35GC with the runoff hydrograph at
5310          KM   combination point CTM35 at the intersection of Thomas Road and 35th Avenue
5311          HC       3
              *

5312          KK   D35TM  DIVERT
5313          KM   Capacity of storm drain in 31st Avenue and 35th Avenue diverted together.
5314          KM   Divert combined calculated full flow capacity of 213 cfs in the 66-inch storm
5315          KM   drain pipe in 31st AVenue and 87 cfs in the 48-inch storm drain pipe in
5316          KM   35th Avenue. The total calculated combined full flow capacity diverted at the
5317          KM   intersection of 35th Avenue and Thomas Road is 300 cfs in an equivalent
5318          KM   diameter pipe of 77 inches
5319          DT  DP35TM      0.0     300.0
5320          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9.....10

5321          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

5322          KK  DWTM43   DIVERT
5323          KM   Divert remaining runoff hydrograph from combination point CPTM35 west to
5324          KM   combination point CTM43
5325          DT  DSMD35      0.0     0.0
5326          DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
5327          DQ     0.0    84.0   168.0   420.0   840.0  1680.0  3360.0  8400.0 16800.0 42000.0
              *

5328          KK  RWTM43   ROUTE
5329          KM   Route diversion DWTM43 west to combination point CTM43
5330          RS       9     FLOW
5331          RC   0.035   0.015   0.035    5280  0.0003     0.00
5332          RX    0.00    0.00   38.50   38.50  210.50  210.50  249.00  249.00
5333          RY    3.00    0.88    0.50    0.00    0.00    0.50    0.88    3.00
              *

5334          KK  DRTM43RETRIEVE
5335          KM   Retrieve divert DRTM43 from combination point CGC43 and divert south to
5336          KM   combination point CTM43
5337          DR  DSTM43
              *

5338          KK  RSTM43   ROUTE
5339          KM   Route diversion retrieval DRTM43 south to combination point CTM43
5340          RS       1     FLOW
5341          RC   0.035   0.015   0.035    3050  0.0045     0.00
5342          RX    0.00    0.00   16.50   16.50  107.50  107.50  124.00  124.00
5343          RY    3.00    0.66    0.50    0.00    0.00    0.50    0.66    3.00
              *

5344          KK    TM43   BASIN
5345          KM   Runoff hydrograph for subbasin TM43 northeast of the intersection of Thomas
5346          KM   Road and 43rd Avenue
5347          BA   0.636
5348          LG    0.23    0.15    8.80    0.05      37
```

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5349          UC   1.500    1.083
5350          UA       0      5.0     16.0     30.0     65.0     77.0     84.0     90.0     94.0     97.0
5351          UA     100
              *

5352          KK  ERTM43   DIVERT
5353          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
5354          KM   retention developed after 1990 in subbasin TM43
5355          DT   XTM43      1.7      0.0
5356          DI       0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
5357          DQ       0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *
1                                        HEC-1 INPUT                                                    PAGE139

LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

5358          KK   CTM43 COMBINE
5359          KM   Combine route RWTM43, route RSTM43, and subbasin TM43
5360          HC        3     3.16
              *

5361          KK  PR43GCRETRIEVE
5362          KM   Retrieve combined full flow capacity of 406 cfs from 87-inch equivalent
5363          KM   diameter pipe at the intersection of the Grand Canal and 43rd Avenue
5364          DR  DP43GC
              *

5365          KK  RP43TM    ROUTE
5366          KM   Route the combined full flow capacity of 406 cfs through an equivalent storm
5367          KM   drain pipe diameter of 87 inches in 43rd Avenue to the intersection of
5368          KM   43rd Avenue and Thomas Road
5369          RK    2924  0.0035    0.015             CIRC    7.250
              *

5370          KK  CPTM43 COMBINE
5371          KM   Combine pipe return PR43GC with the runoff hydrograph at combination point
5372          KM   CTM43 at the intersection of the Grand Canal and 43rd Avenue
5373          HC        2
              *

5374          KK   D43TM  DIVERT
5375          KM   Capacity of storm drain in 39th Avenue and 43rd Avenue diverted together.
5376          KM   Divert combined calculated full flow capacity of 404 cfs in the 84-inch storm
5377          KM   drain pipe in 39th AVenue and 225 cfs in the 69-inch storm drain pipe in
5378          KM   43rd Avenue. The total calculated combined full flow capacity diverted at the
5379          KM   intersection of 43rd Avenue and Thomas Road is 629 cfs in an equivalent
5380          KM   diameter pipe of 102 inches
5381          DT  DP43TM       0.0    629.0
5382          DI       0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
5383          DQ       0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

5384          KK  DWTM51   DIVERT
5385          KM   Divert remaining runoff hydrograph from combination point CTM43 west to
5386          KM   combination point CTM51
5387          DT  DSMD43       0.0      0.0
5388          DI       0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0  10000.0  20000.0  50000.0
5389          DQ       0.0     79.0    158.0    395.0    790.0   1580.0   3160.0   7900.0  15800.0  39500.0
              *

5390          KK  RWTM51    ROUTE
5391          KM   Route diversion DWTM51 west to combination point CTM51
5392          RS         9     FLOW
5393          RC   0.035    0.015    0.035     5280   0.0004     0.00
5394          RX    0.00     0.00    48.00    48.00   251.00   251.00   299.00   299.00
5395          RY    3.00     0.98     0.50     0.00     0.00     0.50     0.98     3.00
              *
1                                        HEC-1 INPUT                                                    PAGE140

LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

5396          KK  DRTM51RETRIEVE
5397          KM   Retrieve divert DRTM51 from combination point CPGC51 and divert south to
5398          KM   combination point CTM51
5399          DR  DSTM51
              *

5400          KK  RSTM51    ROUTE
5401          KM   Route diversion retrieval DRTM51 south to combination point CTM51
5402          RS         2     FLOW
5403          RC   0.035    0.015    0.035     2916   0.0044     0.00
5404          RX    0.00     0.00    29.00    29.00   170.00   170.00   199.00   199.00
5405          RY    3.00     0.79     0.50     0.00     0.00     0.50     0.79     3.00
              *

5406          KK    TM51    BASIN
5407          KM   Runoff hydrograph for subbasin TM51 northeast of the intersection of Thomas
5408          KM   Road and 51st Avenue
5409          BA   0.545
5410          LG    0.24     0.19     6.60     0.13       33
5411          UC   1.500    1.165
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5412          UA       0      5.0     16.0     30.0     65.0     77.0     84.0     90.0     94.0     97.0
5413          UA     100
              *

5414          KK   CTM51 COMBINE
5415          KM   Combine route RWTM51, route RSTM51, and subbasin TM51
5416          HC        3     2.15
              *

5417          KK  PR51GCRETRIEVE
5418          KM   Retrieve full flow capacity of 113 cfs from 54-inch storm drain pipe near the
5419          KM   intersection of the Grand Canal and 51st Avenue
5420          DR  DP51GC
              *

5421          KK  PRGC53RETRIEVE
5422          KM   Retrieve full flow capacity of 20 cfs from 36-inch storm drain pipe at the
5423          KM   intersection of the Grand Canal and 53rd Avenue
5424          DR  DPGC53
              *

5425          KK  RPGC51    ROUTE
5426          KM   Route full flow capacity of 20 cfs through 36-inch storm drain near the
5427          KM   Grand Canal to the intersection of the Grand Canal and 51st Avenue
5428          RK    1038  0.0009    0.015             CIRC    3.000
              *

5429          KK  CPGC51 COMBINE
5430          KM   Combine pipe return PR51GC with pipe route RPGC51 at the intersection of
5431          KM   the Grand Canal and 51st Avenue
5432          HC        2     2.15
              *
1                                        HEC-1 INPUT                                                    PAGE141

LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

5433          KK  RP51TM    ROUTE
5434          KM   Route combined full flow capacity of 133 cfs through a 72-inch storm drain
5435          KM   pipe in 51st Avenue to the intersection of Thomas Road and 51st Avenue
5436          RK    2803  0.0033    0.015             CIRC    6.000
              *

5437          KK  CPTM51 COMBINE
5438          KM   Combine the runoff hydrograph at combination point CTM51 with pipe route
5439          KM   RP51TM at the intersection of Thomas Road and 51st Avenue
5440          HC        2
              *

5441          KK   D51TM  DIVERT
5442          KM   Divert calculated full flow capapcity of 244 cfs into 72-inch storm drain
5443          KM   pipe at the intersection of Thomas Road and 51st Avenue
5444          DT  DP51TM       0.0    244.0
5445          DI       0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
5446          DQ       0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

5447          KK  DWTM59   DIVERT
5448          KM   Divert remaining runoff hydrograph from combination point CPTM51 west to
5449          KM   combination point CTM59
5450          DT  DSMD51       0.0      0.0
5451          DI       0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0  10000.0  20000.0  50000.0
5452          DQ       0.0     64.0    128.0    320.0    640.0   1280.0   2560.0   6400.0  12800.0  32000.0
              *

5453          KK  RWTM59    ROUTE
5454          KM   Route diversion DWTM59 west to combination point CTM59
5455          RS         6     FLOW
5456          RC   0.035    0.015    0.035     5280   0.0013     0.00
5457          RX    0.00     0.00    48.00    48.00   251.00   251.00   299.00   299.00
5458          RY    3.00     0.98     0.50     0.00     0.00     0.50     0.98     3.00
              *

5459          KK  DRTM59RETRIEVE
5460          KM   Retrieve divert DRTM59 from combination point CPGC59 and divert south to
5461          KM   combination point CTM59
5462          DR  DSTM59
              *

5463          KK  RSTM59    ROUTE
5464          KM   Route diversion retrieval DRTM59 south to combination point CTM59
5465          RS         2     FLOW
5466          RC   0.035    0.015    0.035     2752   0.0054     0.00
5467          RX    0.00     0.00    29.00    29.00   170.00   170.00   199.00   199.00
5468          RY    3.00     0.79     0.50     0.00     0.00     0.50     0.79     3.00
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

5469          KK    TM59    BASIN
5470          KM   Runoff hydrograph for subbasin TM59 northeast of the intersection of Thomas
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5471          KM   Road and 59th Avenue
5472          BA   0.599
5473          LG    0.24    0.21    6.60    0.13      31
5474          UC   1.500   1.092
5475          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
5476          UA     100
              *

5477          KK   CTM59 COMBINE
5478          KM   Combine route RWTM59, route RSTM59, and subbasin TM59
5479          HC       3    3.90
              *

5480          KK  PRGC63RETRIEVE
5481          KM   Retrieve full flow capacity of 258 cfs from 72-inch storm drain pipe at the
5482          KM   intersection of the Grand Canal and 63rd Avenue
5483          DR  DPGC63
              *

5484          KK  RP59TM   ROUTE
5485          KM   Route full flow capacity of 258 cfs through 72-inch storm drain pipe in
5486          KM   59th Avenue to the intersection of Thomas Road and 59th Avenue
5487          RK    4111  0.0037   0.015            CIRC   6.000
              *

5488          KK  CPTM59 COMBINE
5489          KM   Combine pipe return PRGC63 with the runoff hydrograph at combination point
5490          KM   CTM59 at the intersection of Thomas Road and 59th Avenue
5491          HC       2
              *

5492          KK   D59TM  DIVERT
5493          KM   Divert calculated full flow capapcity of 389 cfs into 84-inch storm drain
5494          KM   pipe at the intersection of Thomas Road and 59th Avenue
5495          DT  DP59TM      0.0    389.0
5496          DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
5497          DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

5498          KK  DWTM67  DIVERT
5499          KM   Divert remaining runoff hydrograph from combination point CPTM59 west to
5500          KM   combination point CTM67
5501          DT  DSMD59      0.0      0.0
5502          DI      0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0  10000.0  20000.0  50000.0
5503          DQ      0.0     41.0     82.0    205.0    410.0    820.0   1640.0   4100.0   8200.0  20500.0
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

5504          KK  RWTM67   ROUTE
5505          KM   Route diversion DWTM67 west to combination point CTM67
5506          RS       5    FLOW
5507          RC   0.035   0.015   0.035    5280  0.0015     0.00
5508          RX    0.00    0.00   95.50   95.50  453.50  453.50  549.00  549.00
5509          RY    3.00    1.46    0.50    0.00    0.00    0.50    1.46    3.00
              *

5510          KK  DRTM67RETRIEVE
5511          KM   Retrieve divert DRTM67 from combination point CPISGC and divert south to
5512          KM   combination point CTM67
5513          DR  DSTM67
              *

5514          KK  RSTM67   ROUTE
5515          KM   Route diversion DRTM67 south to combination point CTM67
5516          RS       4    FLOW
5517          RC   0.035   0.015   0.035    5280  0.0029     0.00
5518          RX    0.00    0.00    9.50    9.50   40.50   40.50   50.00   50.00
5519          RY    3.00    0.60    0.50    0.00    0.00    0.50    0.60    3.00
              *

5520          KK    TM67   BASIN
5521          KM   Runoff hydrograph for subbasin TM67 northeast of the intersection of Thomas
5522          KM   Road and 67th Avenue
5523          BA   0.813
5524          LG    0.24    0.15    8.00    0.07      36
5525          UC   1.500   1.003
5526          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
5527          UA     100
              *

5528          KK  ERTM67  DIVERT
5529          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
5530          KM   retention developed after 1990 in subbasin TM67
5531          DT   XTM67      1.1      0.0
5532          DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
5533          DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

5534          KK   CTM67 COMBINE
5535          KM   Combine route RWTM67, route RSTM67, and subbasin TM67
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5536          HC       3    3.12
              *

5537          KK  PR67ISRETRIEVE
5538          KM   Retrieve full flow capacity of 175 cfs from 66-inch storm drain pipe at the
5539          KM   intersection of Indian School Road and 67th Avenue
5540          DR  DP67IS
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

5541          KK  RP67TM   ROUTE
5542          KM   Route full flow capacity of 175 cfs through 66-inch storm drain pipe in
5543          KM   67th Avenue to the intersection of Thomas Road and 67th Avenue
5544          RK    5268  0.0027   0.015            CIRC   5.500
              *

5545          KK  CPTM67 COMBINE
5546          KM   Combine pipe flow at combination point CPIS67 with runoff hydrograph at
5547          KM   combination point CTM67 at the intersection of Thomas Road and 67th Avenue
5548          HC       2
              *

5549          KK   D67TM  DIVERT
5550          KM   Divert calculated full flow capapcity of 273 cfs into 78-inch storm drain
5551          KM   pipe at the intersection of Thomas Road and 67th Avenue
5552          DT  DP67TM      0.0    273.0
5553          DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
5554          DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

5555          KK  DWTM75  DIVERT
5556          KM   Divert remaining runoff hydrograph from combination point CPTM67 west to
5557          KM   combination point CTM75
5558          DT  DSMD67      0.0      0.0
5559          DI      0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0  10000.0  20000.0  50000.0
5560          DQ      0.0     45.0     90.0    225.0    450.0    900.0   1800.0   4500.0   9000.0  22500.0
              *

5561          KK  RWTM75   ROUTE
5562          KM   Route diversion DWTM75 west to combination point CTM75
5563          RS       4    FLOW
5564          RC   0.035   0.015   0.035    5280  0.0023     0.00
5565          RX    0.00    0.00   76.50   76.50  372.50  372.50  449.00  449.00
5566          RY    3.00    1.27    0.50    0.00    0.00    0.50    1.27    3.00
              *

5567          KK  DRTM75RETRIEVE
5568          KM   Retrieve divert DRTM75 from combination point CPIS75 and divert south to
5569          KM   combination point CTM75
5570          DR  DSTM75
              *

5571          KK  RSTM75   ROUTE
5572          KM   Route diversion retrieval DRTM75 south to combination point CTM75
5573          RS       6    FLOW
5574          RC   0.035   0.015   0.035    5280  0.0027     0.00
5575          RX    0.00    0.00   38.50   38.50  210.50  210.50  249.00  249.00
5576          RY    3.00    0.88    0.50    0.00    0.00    0.50    0.88    3.00
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

5577          KK    TM75   BASIN
5578          KM   Runoff hydrograph for square mile subbasin TM75 northeast of the intersection
5579          KM   of Thomas Road and 75th Avenue
5580          BA   0.997
5581          LG    0.23    0.15    9.70    0.04      41
5582          UC   1.500   1.012
5583          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
5584          UA     100
              *

5585          KK  ERTM75  DIVERT
5586          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
5587          KM   retention developed after 1990 in subbasin TM75
5588          DT   XTM75      0.9      0.0
5589          DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
5590          DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

5591          KK   CTM75 COMBINE
5592          KM   Combine route RWTM75, route RSTM75, and subbasin TM75
5593          HC       3    2.92
              *

5594          KK  PR75ISRETRIEVE
5595          KM   Retrieve full flow capacity of 123 cfs from 60-inch storm drain pipe at the
5596          KM   intersection of Indian School Road and 75th Avenue
```

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5597          DR  DP75IS
              *
5598          KK  RP75TM   ROUTE
5599          KM   Route full flow capacity of 123 cfs through 60-inch storm drain pipe in
5600          KM   75th Avenue to the intersection of Thomas Road and 75th Avenue
5601          RK    5256  0.0022   0.015            CIRC   5.000
              *
5602          KK  CPTM75 COMBINE
5603          KM   Combine pipe return PR75IS with the runoff hydrograph at combination point
5604          KM   CTM75 at the intersection of Thomas Road and 75th Avenue
5605          HC       2
              *
5606          KK   D75TM  DIVERT
5607          KM   Divert calculated full flow capapcity of 303 cfs into 84-inch storm drain
5608          KM   pipe at the intersection of Thomas Road and 75th Avenue
5609          DT  DP75TM     0.0   303.0
5610          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
5611          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

5612          KK  DWTM83  DIVERT
5613          KM   Divert remaining runoff hydrograph from combination point CPTM75 west to
5614          KM   combination point CTM83
5615          DT  DSMD75     0.0     0.0
5616          DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
5617          DQ     0.0    48.0    96.0   240.0   480.0   960.0  1920.0  4800.0  9600.0 24000.0
              *
5618          KK  RWTM83   ROUTE
5619          KM   Route diversion DWTM83 west to combination point CTM83
5620          RS       4    FLOW
5621          RC   0.035   0.015   0.035    5280  0.0025     0.00
5622          RX    0.00    0.00   76.50   76.50  372.50  372.50  449.00  449.00
5623          RY    3.00    1.27    0.50    0.00    0.00    0.50    1.27    3.00
              *
5624          KK  DRTM83RETRIEVE
5625          KM   Retrieve divert DRTM83 from combination point CPIS83 and divert south to
5626          KM   combination point CTM83
5627          DR  DSTM83
              *
5628          KK  RSTM83   ROUTE
5629          KM   Route diversion retrieval DRTM83 south to combination point CTM83
5630          RS       3    FLOW
5631          RC   0.035   0.015   0.035    5280  0.0023     0.00
5632          RX    0.00    0.00   76.50   76.50  372.50  372.50  449.00  449.00
5633          RY    3.00    1.27    0.50    0.00    0.00    0.50    1.27    3.00
              *
5634          KK   TM83   BASIN
5635          KM   Runoff hydrograph for square mile subbasin TM83 northeast of the intersection
5636          KM   of Thomas Road and 83rd Avenue
5637          BA   0.992
5638          LG    0.24    0.15    7.30    0.10      34
5639          UC   1.500   1.011
5640          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
5641          UA     100
              *
5642          KK   CTM83 COMBINE
5643          KM   Combine route RWTM83, route RSTM83, and subbasin TM83
5644          HC       3    3.41
              *
5645          KK  PR83ISRETRIEVE
5646          KM   Retrieve full flow capacity of 187 cfs from 72-inch storm drain pipe at the
5647          KM   intersection of Indian School Road and 83rd Avenue
5648          DR  DP83IS
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

5649          KK  RP83TM   ROUTE
5650          KM   Route full flow capacity of 187 cfs through 72-inch storm drain pipe in
5651          KM   83rd Avenue to the intersection of Thomas Road and 83rd Avenue
5652          RK    5330  0.0019   0.015            CIRC   6.000
              *
5653          KK  CPTM83 COMBINE
5654          KM   Combine pipe return PR83IS with the runoff hydrograph at combination point
5655          KM   CTM83 at the intersection of Thomas Road and 83rd Avenue
5656          HC       2
              *
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5657          KK   D83TM  DIVERT
5658          KM   Divert calculated full flow capapcity of 283 cfs into 84-inch storm drain
5659          KM   pipe at the intersection of Thomas Road and 83rd Avenue
5660          DT  DP83TM     0.0   283.0
5661          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
5662          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *
5663          KK  DWTM91  DIVERT
5664          KM   Divert remaining runoff hydrograph from combination point CPTM83 west to
5665          KM   combination point CTM91
5666          DT  DSMD83     0.0     0.0
5667          DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
5668          DQ     0.0    23.0    46.0   115.0   230.0   460.0   920.0  2300.0  4600.0 11500.0
              *
5669          KK  RWTM91   ROUTE
5670          KM   Route diversion DWTM91 west to combination point CTM91
5671          RS       4    FLOW
5672          RC   0.035   0.015   0.035    5280  0.0028     0.00
5673          RX    0.00    0.00  114.50  114.50  534.50  534.50  649.00  649.00
5674          RY    3.00    1.64    0.50    0.00    0.00    0.50    1.64    3.00
              *
5675          KK  DRTM91RETRIEVE
5676          KM   Retrieve divert DRTM91 from combination point CIS91 and divert south to
5677          KM   combination point CTM91
5678          DR  DSTM91
              *
5679          KK  RSTM91   ROUTE
5680          KM   Route diversion retrieval DRTM91 south to combination point CTM91
5681          RS       4    FLOW
5682          RC   0.035   0.015   0.035    5280  0.0021     0.00
5683          RX    0.00    0.00   67.00   67.00  332.00  332.00  399.00  399.00
5684          RY    3.00    1.17    0.50    0.00    0.00    0.50    1.17    3.00
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

5685          KK   TM91   BASIN
5686          KM   Runoff hydrograph for square mile subbasin TM91 northeast of the intersection
5687          KM   of Thomas Road and 91st Avenue
5688          BA   1.003
5689          LG    0.24    0.15    7.30    0.09      36
5690          UC   1.500   1.009
5691          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
5692          UA     100
              *
5693          KK  ERTM91  DIVERT
5694          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
5695          KM   retention developed after 1990 in subbasin TM91
5696          DT  XTM91     14.8     0.0
5697          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
5698          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *
5699          KK   CTM91 COMBINE
5700          KM   Combine route RWTM91, route RSTM91, and subbasin TM91
5701          HC       3    4.96
              *
5702          KK  PR91ISRETRIEVE
5703          KM   Retrieve full flow capacity of 190 cfs from 72-inch storm drain pipe at the
5704          KM   intersection of Indian School Road and 91st Avenue
5705          DR  DP91IS
              *
5706          KK  RP91TM   ROUTE
5707          KM   Route full flow capacity of 190 cfs through 72-inch storm drain pipe in
5708          KM   91st Avenue to the intersection of Thomas Road and 91st Avenue
5709          RK    5130  0.0020   0.015            CIRC   6.000
              *
5710          KK  CPTM91 COMBINE
5711          KM   Combine pipe return PR91IS with the runoff hydrograph at combination point
5712          KM   CTM91 at the intersection of Thomas Road and 91st Avenue
5713          HC       2
              *
5714          KK   D91TM  DIVERT
5715          KM   Divert calculated full flow capapcity of 287 cfs into 84-inch storm drain
5716          KM   pipe at the intersection of Thomas Road and 91st Avenue
5717          DT  DP91TM     0.0   287.0
5718          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
5719          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


5720          KK  DWTMLO  DIVERT
5721          KM   Divert remaining runoff hydrograph from combination point CPTM91 west to
5722          KM   combination point CTMLO
5723          DT  DSMD91      0.0      0.0
5724          DI     0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0  10000.0  20000.0  50000.0
5725          DQ     0.0     77.0    154.0    385.0    770.0   1540.0   3080.0   7700.0  15400.0  38500.0
              *

5726          KK  RWTMLO   ROUTE
5727          KM   Route diversion DWTMLO west to combination point CTMLO
5728          RS       2     FLOW
5729          RC   0.035    0.015    0.035     2623   0.0015     0.00
5730          RX    0.00     0.00    16.50    16.50   107.50   107.50   124.00   124.00
5731          RY    3.00     0.66     0.50     0.00     0.00     0.50     0.66     3.00
              *

5732          KK    TMLO   BASIN
5733          KM   Runoff hydrograph for subbasin TMLO northeast of the intersection of Thomas
5734          KM   Road and SR Loop 101
5735          BA   0.496
5736          LG    0.45     0.15     8.80     0.09        8
5737          UC   1.442    1.146
5738          UA       0      5.0     16.0     30.0     65.0     77.0     84.0     90.0     94.0     97.0
5739          UA     100
              *

5740          KK  ERTMLO  DIVERT
5741          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
5742          KM   retention developed after 1990 in subbasin TMLO
5743          DT   XTMLO      0.4      0.0
5744          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
5745          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

5746          KK   CTMLO COMBINE
5747          KM   Combine route RWTMLO, route RSTMLO, and subbasin TMLO
5748          HC       3     4.87
              *

5749          KK  RSMDLO   ROUTE
5750          KM   Route hydrograph at combination point CTMLO south to combination point CMDLO
5751          RS       1     FLOW
5752          RC   0.035    0.015    0.035     5729   0.0012     0.00
5753          RX    0.00     3.00     5.00    39.00    47.00    51.00    65.00    68.00
5754          RY   18.00    17.00    17.00     0.00     0.16    17.16    17.44    18.44
              *

5755          KK  DRMD27RETRIEVE
5756          KM   Retrieve divert DRMD27 from combination point CPGR27 and divert south to
5757          KM   combination point CMD27
5758          DR  DSMD27
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


5759          KK  RSMD27   ROUTE
5760          KM   Route diversion retrieval DRMD27 south to combination point CMD27
5761          RS       2     FLOW
5762          RC   0.035    0.015    0.035     5280   0.0034     0.00
5763          RX    0.00     0.00    16.50    16.50   107.50   107.50   124.00   124.00
5764          RY    3.00     0.66     0.50     0.00     0.00     0.50     0.66     3.00
              *

5765          KK    MD27   BASIN
5766          KM   Runoff hydrograph for subbasin MD27 northeast of the intersection of McDowell
5767          KM   Road and 27th Avenue
5768          BA   0.241
5769          LG    0.15     0.15     8.00     0.07       80
5770          UC   0.595    0.456
5771          UA       0      5.0     16.0     30.0     65.0     77.0     84.0     90.0     94.0     97.0
5772          UA     100
              *

5773          KK   CMD27 COMBINE
5774          KM   Combine route RSMD27 and subbasin MD27
5775          HC       2     4.65
              *

5776          KK  PR27GRRETRIEVE
5777          KM   Retrieve full flow capacity of 195 cfs from 66-inch storm drain pipe at the
5778          KM   intersection of Grand Avenue and 27th Avenue
5779          DR  DP27GR
              *

5780          KK  RP27MD   ROUTE
5781          KM   Route full flow capacity of 195 cfs through 66-inch storm drain pipe in
5782          KM   27th Avenue to the intersection of McDowell Road and 27th Avenue
5783          RK    5006  0.0034   0.015            CIRC   5.500
```



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              *

5784          KK  CPMD27 COMBINE
5785          KM   Combine pipe return PR27GR with the runoff hydrograph at combination point
5786          KM   CMD27 at the intersection of McDowell Road and 27th Avenue
5787          HC       2
              *

5788          KK   D27MD  DIVERT
5789          KM   Divert calculated full flow capapcity of 246 cfs into 72-inch storm drain
5790          KM   pipe at the intersection of McDowell Road and 27th Avenue
5791          DT  DP27MD      0.0    246.0
5792          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
5793          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


5794          KK  RWMD35   ROUTE
5795          KM   Route remainder of diversion D27MD west to combination point CMD35
5796          RS       5     FLOW
5797          RC   0.035    0.015    0.035     5280   0.0009     0.00
5798          RX    0.00     0.00    48.00    48.00   251.00   251.00   299.00   299.00
5799          RY    3.00     0.98     0.50     0.00     0.00     0.50     0.98     3.00
              *

5800          KK  DRMD35RETRIEVE
5801          KM   Retrieve divert DRMD35 from combination point CPTM35 and divert south to
5802          KM   combination point CMD35
5803          DR  DSMD35
              *

5804          KK  RSMD35   ROUTE
5805          KM   Route diversion retrieval DRMD35 south to combination point CMD35
5806          RS       2     FLOW
5807          RC   0.035    0.015    0.035     5280   0.0036     0.00
5808          RX    0.00     0.00    67.00    67.00   332.00   332.00   399.00   399.00
5809          RY    3.00     1.17     0.50     0.00     0.00     0.50     1.17     3.00
              *

5810          KK    MD35   BASIN
5811          KM   Runoff hydrograph for square mile subbasin MD35 northeast of the intersection
5812          KM   of McDowell Road and 35th Avenue
5813          BA   0.999
5814          LG    0.19     0.13    10.10     0.03       58
5815          UC   1.456    0.966
5816          UA       0      5.0     16.0     30.0     65.0     77.0     84.0     90.0     94.0     97.0
5817          UA     100
              *

5818          KK   CMD35 COMBINE
5819          KM   Combine route RWMD35, route RSMD35, and subbasin MD35
5820          HC       3     9.29
              *

5821          KK  PR35TMRETRIEVE
5822          KM   Retrieve combined full flow capacity of 300 cfs from 77-inch equivalent
5823          KM   diameter pipe at the intersection of Thomas Road and 35th Avenue
5824          DR  DP35TM
              *

5825          KK  RP35MD   ROUTE
5826          KM   Route the combined full flow capacity of 300 cfs through an equivalent storm
5827          KM   drain pipe diameter of 77 inches in 35th Avenue to the intersection of
5828          KM   McDowell Road and 35th Avenue
5829          RK    5093  0.0037   0.015            CIRC   6.417
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


5830          KK  CPMD35 COMBINE
5831          KM   Combine pipe return PR35TM with the runoff hydrograph at combination point
5832          KM   CMD35 at the intersection of McDowell Road and 35th Avenue
5833          HC       2
              *

5834          KK   D35MD  DIVERT
5835          KM   Capacity of storm drain in 31st Avenue and 35th Avenue diverted together.
5836          KM   Divert combined calculated full flow capacity of 405 cfs in the 84-inch storm
5837          KM   drain pipe in 31st AVenue and 102 cfs in the 51-inch storm drain pipe in
5838          KM   35th Avenue. The total calculated combined full flow capacity diverted at the
5839          KM   intersection of 35th Avenue and McDowell Road is 507 cfs in an equivalent
5840          KM   diameter pipe of 93 inches
5841          DT  DP35MD      0.0    507.0
5842          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
5843          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

5844          KK  DWMD43  DIVERT
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5845          KM   Divert remaining runoff hydrograph from combination point CPMD35 west to
5846          KM   combination point CMD43
5847          DT  DSIN35      0.0      0.0
5848          DI      0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0  10000.0  20000.0  50000.0
5849          DQ      0.0     63.0    126.0    315.0    630.0   1260.0   2520.0   6300.0  12600.0  31500.0
              *
5850          KK  RWMD43    ROUTE
5851          KM   Route diversion DWMD43 west to combination point CMD43
5852          RS        7     FLOW
5853          RC   0.035    0.015    0.035     5280   0.0004     0.00
5854          RX    0.00     0.00    95.50    95.50   453.50   453.50   549.00   549.00
5855          RY    3.00     1.46     0.50     0.00     0.00     0.50     1.46     3.00
              *
5856          KK  DRMD43RETRIEVE
5857          KM   Retrieve divert DRMD43 from combination point CTM43 and divert south to
5858          KM   combination point CMD43
5859          DR  DSMD43
              *
5860          KK  RSMD43    ROUTE
5861          KM   Route diversion retrieval DRMD43 south to combination point CMD43
5862          RS        3     FLOW
5863          RC   0.035    0.015    0.035     5280   0.0037     0.00
5864          RX    0.00     0.00    67.00    67.00   332.00   332.00   399.00   399.00
5865          RY    3.00     1.17     0.50     0.00     0.00     0.50     1.17     3.00
              *
5866          KK    MD43    BASIN
5867          KM   Runoff hydrograph for square mile subbasin MD43 northeast of the intersection
5868          KM   of McDowell Road and 43rd Avenue
5869          BA   0.999
5870          LG    0.22     0.15     9.70     0.04       41
5871          UC   1.107    0.414
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LINE          ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10
5872          UA        0      5.0     16.0     30.0     65.0     77.0     84.0     90.0     94.0     97.0
5873          UA      100
              *
5874          KK   CMD43 COMBINE
5875          KM   Combine route RWMD43, route RSMD43, and subbasin MD43
5876          HC        3     6.96
              *
5877          KK  PR43TMRETRIEVE
5878          KM   Retrieve combined full flow capacity of 629 cfs from 102-inch equivalent
5879          KM   diameter pipe at the intersection of Thomas Road and 43rd Avenue
5880          DR  DP43TM
              *
5881          KK  RP43MD    ROUTE
5882          KM   Route the combined full flow capacity of 629 cfs through an equivalent storm
5883          KM   drain pipe diameter of 102 inches in 43rd Avenue to the intersection of
5884          KM   43rd Avenue and McDowell Road
5885          RK     5212  0.0035   0.015             CIRC   8.500
              *
5886          KK  CPMD43 COMBINE
5887          KM   Combine pipe return PR43TM with the runoff hydrograph at combination point
5888          KM   CMD43 at the intersection of McDowell Road and 43rd Avenue
5889          HC        2
              *
5890          KK   D43MD  DIVERT
5891          KM   Capacity of storm drain in 39th Avenue and 43rd Avenue diverted together.
5892          KM   Divert combined calculated full flow capacity of 404 cfs in the 84-inch storm
5893          KM   drain pipe in 39th AVenue and 225 cfs in the 69-inch storm drain pipe in
5894          KM   43rd Avenue. The total calculated combined full flow capacity diverted at the
5895          KM   intersection of 35th Avenue and McDowell Road is 629 cfs in an equivalent
5896          KM   diameter pipe of 102 inches
5897          DT  DP43MD      0.0    629.0
5898          DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
5899          DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *
5900          KK  DWMD51   DIVERT
5901          KM   Divert remaining runoff hydrograph from combination point CPMD43 west to
5902          KM   combination point CMD51
5903          DT  DSIN43      0.0      0.0
5904          DI      0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0  10000.0  20000.0  50000.0
5905          DQ      0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0  10000.0  20000.0  50000.0
              *
5906          KK  RWMD51    ROUTE
5907          KM   Route diversion DWMD51 west to combination point CMD51
5908          RS        1     FLOW
5909          RC   0.035    0.015    0.035     5280   0.0002     0.00
5910          RX    0.00     0.00    57.50    57.50   291.50   291.50   349.00   349.00
5911          RY    3.00     1.08     0.50     0.00     0.00     0.50     1.08     3.00
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LINE          ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10
5912          KK  DRMD51RETRIEVE
5913          KM   Retrieve divert DRMD51 from combination point CPTM51 and divert south to
5914          KM   combination point CMD51
5915          DR  DSMD51
              *
5916          KK  RSMD51    ROUTE
5917          KM   Route diversion retrieval DRMD51 south to combination point CMD51
5918          RS        4     FLOW
5919          RC   0.035    0.015    0.035     5280   0.0035     0.00
5920          RX    0.00     0.00    54.50    54.50   269.50   269.50   324.00   324.00
5921          RY    3.00     1.04     0.50     0.00     0.00     0.50     1.04     3.00
              *
5922          KK    MD51    BASIN
5923          KM   Runoff hydrograph for square mile subbasin MD51 northeast of the intersection
5924          KM   of McDowell Road and 51st Avenue
5925          BA   1.001
5926          LG    0.23     0.15     8.40     0.07       35
5927          UC   1.500    1.010
5928          UA        0      5.0     16.0     30.0     65.0     77.0     84.0     90.0     94.0     97.0
5929          UA      100
              *
5930          KK   CMD51 COMBINE
5931          KM   Combine route RWMD51, route RSMD51, and subbasin MD51
5932          HC        3     2.37
              *
5933          KK  PR51TMRETRIEVE
5934          KM   Retrieve full flow capacity of 244 cfs from 72-inch storm drain pipe at the
5935          KM   intersection of Thomas Road and 51st Avenue
5936          DR  DP51TM
              *
5937          KK  RP51MD    ROUTE
5938          KM   Route full flow capacity of 244 cfs through 72-inch storm drain pipe in
5939          KM   51st Avenue to the intersection of McDowell Road and 51st Avenue
5940          RK     5322  0.0033    0.015             CIRC   6.000
              *
5941          KK  CPMD51 COMBINE
5942          KM   Combine pipe return PR51TM with the runoff hydrograph at combination point
5943          KM   CMD51 at the intersection of McDowell Road and 51st Avenue
5944          HC        2
              *
5945          KK   D51MD  DIVERT
5946          KM   Divert calculated full flow capapcity of 368 cfs into 84-inch storm drain
5947          KM   pipe at the intersection of McDowell Road and 51st Avenue
5948          DT  DP51MD      0.0    368.0
5949          DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
5950          DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *
```



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LINE          ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10
5951          KK  DWMD59   DIVERT
5952          KM   Divert remaining runoff hydrograph from combination point CPMD43 west to
5953          KM   combination point CMD51
5954          DT  DSIN51      0.0      0.0
5955          DI      0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0  10000.0  20000.0  50000.0
5956          DQ      0.0     39.0     78.0    195.0    390.0    780.0   1560.0   3900.0   7800.0  19500.0
              *
5957          KK  RWMD59    ROUTE
5958          KM   Route diversion DWMD59 west to combination point CMD59
5959          RS        3     FLOW
5960          RC   0.035    0.015    0.035     5280   0.0014     0.00
5961          RX    0.00     0.00    57.50    57.50   291.50   291.50   349.00   349.00
5962          RY    3.00     1.08     0.50     0.00     0.00     0.50     1.08     3.00
              *
5963          KK  DRMD59RETRIEVE
5964          KM   Retrieve divert DRMD59 from combination point CPTM59 and divert south to
5965          KM   combination point CMD59
5966          DR  DSMD59
              *
5967          KK  RSMD59    ROUTE
5968          KM   Route diversion retrieval DRMD59 south to combination point CMD59
5969          RS        3     FLOW
5970          RC   0.035    0.015    0.035     5280   0.0035     0.00
5971          RX    0.00     0.00    38.50    38.50   210.50   210.50   249.00   249.00
5972          RY    3.00     0.88     0.50     0.00     0.00     0.50     0.88     3.00
```

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                *
5973            KK    MD59   BASIN
5974            KM   Runoff hydrograph for square mile subbasin MD59 northeast of the intersection
5975            KM   of McDowell Road and 59th Avenue
5976            BA   1.005
5977            LG    0.25    0.15    7.60    0.08      33
5978            UC   1.500   1.008
5979            UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
5980            UA     100
                *

5981            KK   CMD59 COMBINE
5982            KM   Combine route RWMD59, route RSMD59, and subbasin MD59
5983            HC       3    4.05
                *

5984            KK  PR59TMRETRIEVE
5985            KM   Retrieve full flow capacity of 389 cfs from 84-inch storm drain pipe at the
5986            KM   intersection of Thomas Road and 59th Avenue
5987            DR  DP59TM
                *
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LINE            ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

5988            KK  RP59MD   ROUTE
5989            KM   Route full flow capacity of 389 cfs through 84-inch storm drain pipe in
5990            KM   59th Avenue to the intersection of McDowell Road and 59th Avenue
5991            RK    5206  0.0037   0.015            CIRC   7.000
                *

5992            KK  CPMD59 COMBINE
5993            KM   Combine pipe return PR59TM with the runoff hydrograph at combination point
5994            KM   CMD59 at the intersection of McDowell Road and 59th Avenue
5995            HC       2
                *

5996            KK   D59MD  DIVERT
5997            KM   Divert calculated full flow capapcity of 468 cfs into 90-inch storm drain
5998            KM   pipe at the intersection of McDowell Road and 59th Avenue
5999            DT  DP59MD      0.0   468.0
6000            DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
6001            DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
                *

6002            KK  DWMD67  DIVERT
6003            KM   Divert remaining runoff hydrograph from combination point CPMD59 west to
6004            KM   combination point CMD67
6005            DT  DSIN59      0.0     0.0
6006            DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
6007            DQ     0.0    50.0   100.0   250.0   500.0  1000.0  2000.0  5000.0 10000.0 25000.0
                *

6008            KK  RWMD67   ROUTE
6009            KM   Route diversion DWMD67 west to combination point CMD67
6010            RS       4    FLOW
6011            RC   0.035   0.015   0.035    5280  0.0015    0.00
6012            RX    0.00    0.00   67.00   67.00  332.00  332.00  399.00  399.00
6013            RY    3.00    1.17    0.50    0.00    0.00    0.50    1.17    3.00
                *

6014            KK  DRMD67RETRIEVE
6015            KM   Retrieve divert DRMD67 from combination point CPTM67 and divert south to
6016            KM   combination point CMD67
6017            DR  DSMD67
                *

6018            KK  RSMD67   ROUTE
6019            KM   Route diversion retrieval DRMD67 south to combination point CMD67
6020            RS       4    FLOW
6021            RC   0.035   0.015   0.035    5280  0.0035    0.00
6022            RX    0.00    0.00   48.00   48.00  251.00  251.00  299.00  299.00
6023            RY    3.00    0.98    0.50    0.00    0.00    0.50    0.98    3.00
                *
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LINE            ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

6024            KK    MD67   BASIN
6025            KM   Runoff hydrograph for square mile subbasin MD67 northeast of the intersection
6026            KM   of McDowell Road and 67th Avenue
6027            BA   0.978
6028            LG    0.22    0.15    8.40    0.07      29
6029            UC   1.500   1.015
6030            UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
6031            UA     100
                *

6032            KK  ERMD67  DIVERT
6033            KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
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6034            KM   retention developed after 1990 in subbasin MD67
6035            DT   XMD67     11.6      0.0
6036            DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
6037            DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
                *

6038            KK   CMD67 COMBINE
6039            KM   Combine route RWMD67, route RSMD67, and subbasin MD67
6040            HC       3    4.41
                *

6041            KK  PR67TMRETRIEVE
6042            KM   Retrieve full flow capacity of 273 cfs from 78-inch storm drain pipe at the
6043            KM   intersection of Thomas Road and 67th Avenue
6044            DR  DP67TM
                *

6045            KK  RP67MD   ROUTE
6046            KM   Route full flow capacity of 273 cfs through 78-inch storm drain pipe in
6047            KM   67th Avenue to the intersection of McDowell Road and 67th Avenue
6048            RK    5218  0.0027   0.015            CIRC   6.500
                *

6049            KK  CPMD67 COMBINE
6050            KM   Combine pipe return PR67TM with the runoff hydrograph at combination point
6051            KM   CMD67 at the intersection of McDowell Road and 67th Avenue
6052            HC       2
                *

6053            KK   D67MD  DIVERT
6054            KM   Divert calculated full flow capapcity of 400 cfs into 90-inch storm drain
6055            KM   pipe at the intersection of McDowell Road and 67th Avenue
6056            DT  DP67MD      0.0   400.0
6057            DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
6058            DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
                *
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LINE            ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

6059            KK  DWMD75  DIVERT
6060            KM   Divert remaining runoff hydrograph from combination point CPMD67 west to
6061            KM   combination point CMD75
6062            DT  DSIN67      0.0     0.0
6063            DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
6064            DQ     0.0    15.0    30.0    75.0   150.0   300.0   600.0  1500.0  3000.0  7500.0
                *

6065            KK  RWMD75   ROUTE
6066            KM   Route diversion DWMD75 west to combination point CMD75
6067            RS       5    FLOW
6068            RC   0.035   0.015   0.035    5280  0.0015    0.00
6069            RX    0.00    0.00   95.50   95.50  453.50  453.50  549.00  549.00
6070            RY    3.00    1.46    0.50    0.00    0.00    0.50    1.46    3.00
                *

6071            KK  DRMD75RETRIEVE
6072            KM   Retrieve divert DRMD75 from combination point CPTM75 and divert south to
6073            KM   combination point CMD75
6074            DR  DSMD75
                *

6075            KK  RSMD75   ROUTE
6076            KM   Route diversion retrieval DRMD75 south to combination point CMD75
6077            RS       4    FLOW
6078            RC   0.035   0.015   0.035    5280  0.0027    0.00
6079            RX    0.00    0.00   67.00   67.00  332.00  332.00  399.00  399.00
6080            RY    3.00    1.17    0.50    0.00    0.00    0.50    1.17    3.00
                *

6081            KK    MD75   BASIN
6082            KM   Runoff hydrograph for square mile subbasin MD75 northeast of the intersection
6083            KM   of McDowell Road and 75th Avenue
6084            BA   1.002
6085            LG    0.23    0.15    7.60    0.08      38
6086            UC   1.500   1.005
6087            UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
6088            UA     100
                *

6089            KK  ERMD75  DIVERT
6090            KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
6091            KM   retention developed after 1990 in subbasin MD75
6092            DT   XMD75      6.7      0.0
6093            DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
6094            DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
                *

6095            KK   CMD75 COMBINE
6096            KM   Combine route RWMD75, route RSMD75, and subbasin MD75
6097            HC       3    6.14
                *
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      LINE      ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


      6098      KK  PR75TMRETRIEVE
      6099      KM   Retrieve full flow capacity of 303 cfs from 84-inch storm drain pipe at the
      6100      KM   intersection of Thomas Road and 75th Avenue
      6101      DR  DP75TM
                *
      6102      KK  RP75MD   ROUTE
      6103      KM   Route full flow capacity of 303 cfs through 84-inch storm drain pipe in
      6104      KM   75th Avenue to the intersection of McDowell Road and 75th Avenue
      6105      RK    5222  0.0022   0.015            CIRC   7.000
                *
      6106      KK  CPMD75 COMBINE
      6107      KM   Combine pipe return PR75TM with the runoff hydrograph at combination point
      6108      KM   CMD75 at the intersection of McDowell Road and 75th Avenue
      6109      HC       2
                *
      6110      KK   D75MD  DIVERT
      6111      KM   Divert calculated full flow capapcity of 364 cfs into 90-inch storm drain
      6112      KM   pipe at the intersection of McDowell Road and 75th Avenue
      6113      DT  DP75MD      0.0   364.0
      6114      DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
      6115      DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
                *
      6116      KK  DWMD83  DIVERT
      6117      KM   Divert remaining runoff hydrograph from combination point CPMD75 west to
      6118      KM   combination point CMD83
      6119      DT  DSIN75      0.0      0.0
      6120      DI      0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0  10000.0  20000.0  50000.0
      6121      DQ      0.0     35.0     70.0    175.0    350.0    700.0   1400.0   3500.0   7000.0  17500.0
                *
      6122      KK  RWMD83   ROUTE
      6123      KM   Route diversion DWMD83 west to combination point CMD83
      6124      RS       3    FLOW
      6125      RC   0.035   0.015   0.035    5280  0.0026     0.00
      6126      RX    0.00    0.00   57.50   57.50  291.50  291.50  349.00  349.00
      6127      RY    3.00    1.08    0.50    0.00    0.00    0.50    1.08    3.00
                *
      6128      KK  DRMD83RETRIEVE
      6129      KM   Retrieve divert DRMD83 from combination point CPTM83 and divert south to
      6130      KM   combination point CMD83
      6131      DR  DSMD83
                *
      6132      KK  RSMD83   ROUTE
      6133      KM   Route diversion retrieval DRMD83 south to combination point CMD83
      6134      RS       4    FLOW
      6135      RC   0.035   0.015   0.035    5280  0.0028     0.00
      6136      RX    0.00    0.00   29.00   29.00  170.00  170.00  199.00  199.00
      6137      RY    3.00    0.79    0.50    0.00    0.00    0.50    0.79    3.00
                *
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      LINE      ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


      6138      KK    MD83   BASIN
      6139      KM   Runoff hydrograph for square mile subbasin MD83 northeast of the intersection
      6140      KM   of McDowell Road and 83rd Avenue
      6141      BA   0.992
      6142      LG    0.23    0.17    8.80    0.06      47
      6143      UC   1.154   0.762
      6144      UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
      6145      UA     100
                *
      6146      KK  ERMD83  DIVERT
      6147      KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
      6148      KM   retention developed after 1990 in subbasin MD83
      6149      DT  XMD83     28.9      0.0
      6150      DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
      6151      DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
                *
      6152      KK   CMD83 COMBINE
      6153      KM   Combine route RWMD83, route RSMD83, and subbasin MD83
      6154      HC       3    5.80
                *
      6155      KK  PR83TMRETRIEVE
      6156      KM   Retrieve full flow capacity of 283 cfs from 84-inch storm drain pipe at the
      6157      KM   intersection of Thomas Road and 83rd Avenue
      6158      DR  DP83TM
                *
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      6159      KK  RP83MD   ROUTE
      6160      KM   Route full flow capacity of 283 cfs through 84-inch storm drain pipe in
      6161      KM   83rd Avenue to the intersection of McDowell Road and 83rd Avenue
      6162      RK    5059  0.0019   0.015            CIRC   7.000
                *
      6163      KK  CPMD83 COMBINE
      6164      KM   Combine pipe return PR83TM with the runoff hydrograph at combination point
      6165      KM   CMD83 at the intersection of McDowell Road and 83rd Avenue
      6166      HC       2
                *
      6167      KK   D83MD  DIVERT
      6168      KM   Divert calculated full flow capapcity of 340 cfs into 90-inch storm drain
      6169      KM   pipe at the intersection of McDowell Road and 83rd Avenue
      6170      DT  DP83MD      0.0   340.0
      6171      DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
      6172      DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
                *
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      LINE      ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


      6173      KK  RWMD91   ROUTE
      6174      KM   Route remainder of diversion D83MD west to combination point CMD91
      6175      RS       3    FLOW
      6176      RC   0.035   0.015   0.035    5280  0.0021     0.00
      6177      RX    0.00    0.00   57.50   57.50  291.50  291.50  349.00  349.00
      6178      RY    3.00    1.08    0.50    0.00    0.00    0.50    1.08    3.00
                *
      6179      KK  DRMD91RETRIEVE
      6180      KM   Retrieve divert DRMD91 from combination point CPTM91 and divert south to
      6181      KM   combination point CMD91
      6182      DR  DSMD91
                *
      6183      KK  RSMD91   ROUTE
      6184      KM   Route diversion retrieval DRMD91 south to combination point CMD91
      6185      RS       3    FLOW
      6186      RC   0.035   0.015   0.035    5280  0.0021     0.00
      6187      RX    0.00    0.00   57.50   57.50  291.50  291.50  349.00  349.00
      6188      RY    3.00    1.08    0.50    0.00    0.00    0.50    1.08    3.00
                *
      6189      KK    MD91   BASIN
      6190      KM   Runoff hydrograph for square mile subbasin MD91 northeast of the intersection
      6191      KM   of McDowell Road and 91st Avenue
      6192      BA   1.007
      6193      LG    0.23    0.15    8.80    0.05      39
      6194      UC   1.500   1.006
      6195      UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
      6196      UA     100
                *
      6197      KK  ERMD91  DIVERT
      6198      KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
      6199      KM   retention developed after 1990 in subbasin MD91
      6200      DT  XMD91     21.4      0.0
      6201      DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
      6202      DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
                *
      6203      KK   CMD91 COMBINE
      6204      KM   Combine route RWMD91, route RSMD91, and subbasin MD91
      6205      HC       3   10.61
                *
      6206      KK  PR91TMRETRIEVE
      6207      KM   Retrieve full flow capacity of 287 cfs from 84-inch storm drain pipe at the
      6208      KM   intersection of Thomas Road and 91st Avenue
      6209      DR  DP91TM
                *
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      LINE      ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


      6210      KK  RP91MD   ROUTE
      6211      KM   Route full flow capacity of 287 cfs through 84-inch storm drain pipe in
      6212      KM   91st Avenue to the intersection of McDowell Road and 91st Avenue
      6213      RK    5271  0.0020   0.015            CIRC   7.000
                *
      6214      KK  CPMD91 COMBINE
      6215      KM   Combine pipe return PR91TM with the runoff hydrograph at combination point
      6216      KM   CMD91 at the intersection of McDowell Road and 91st Avenue
      6217      HC       2
                *
      6218      KK   D91MD  DIVERT
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6219          KM   Divert calculated full flow capapcity of 345 cfs into 90-inch storm drain
6220          KM   pipe at the intersection of McDowell Road and 83rd Avenue
6221          DT  DP91MD      0.0    345.0
6222          DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
6223          DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

6224          KK  DWMDLO  DIVERT
6225          KM   Divert remaining runoff hydrograph from combination point CPMD91 west to
6226          KM   combination point CMDLO
6227          DT  DSIN91      0.0      0.0
6228          DI      0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0 10000.0 20000.0 50000.0
6229          DQ      0.0     20.0     40.0    100.0    200.0    400.0    800.0   2000.0   4000.0 10000.0
              *

6230          KK  RWMDLO   ROUTE
6231          KM   Route diversion DWMDLO west to combination point CMDLO
6232          RS       3    FLOW
6233          RC   0.035    0.015    0.035     4061   0.0010     0.00
6234          RX    0.00     0.00    45.00    45.00   229.00   229.00   274.00   274.00
6235          RY    3.00     0.95     0.50     0.00     0.00     0.50     0.95     3.00
              *

6236          KK   MDLO   BASIN
6237          KM   Runoff hydrograph for subbasin MDLO northeast of the intersection of McDowell
6238          KM   Road and SR Loop 101
6239          BA   0.671
6240          LG    0.21     0.16     9.70     0.04       44
6241          UC   1.181    0.563
6242          UA       0      5.0     16.0     30.0     65.0     77.0     84.0     90.0     94.0     97.0
6243          UA     100
              *

6244          KK  ERMDLO  DIVERT
6245          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
6246          KM   retention developed after 1990 in subbasin MDLO
6247          DT  XMDLO     56.3      0.0
6248          DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
6249          DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

6250          KK   CMDLO COMBINE
6251          KM   Combine route RWMDLO, route RSMDLO, and subbasin MDLO
6252          HC       3    14.07
              *

6253          KK  RSINLO   ROUTE
6254          KM   Route hydrograph at combination point CMDLO south to combination point CINLO
6255          RS       1    FLOW
6256          RC   0.035    0.015    0.035     1374   0.0019     0.00
6257          RX    0.00     3.00     5.00    39.00    47.00    51.00    65.00    68.00
6258          RY   18.00    17.00    17.00     0.00     0.16    17.16    17.44    18.44
              *

6259          KK  DSINLO  DIVERT
6260          KM   Divert route RSINLO to detention basin northeast of L101 and I-10 Freeways.
6261          KM   Only the flow greater than the channel capacity is diverted to the basin.
6262          DT  DEIN95      0.0      0.0
6263          DI      0.0 10390.0 11211.0 12070.0 13910.0      0.0      0.0      0.0      0.0      0.0
6264          DQ      0.0      0.0    286.0    810.0   2291.0      0.0      0.0      0.0      0.0      0.0
              *

6265          KK    IN27   BASIN
6266          KM   Runoff hydrograph for subbasin IN27 northeast of the intersection of
6267          KM   Interstate 10 and 27th Avenue
6268          BA   0.105
6269          LG    0.14     0.25     5.60     0.18       80
6270          UC   0.559    0.484
6271          UA       0      5.0     16.0     30.0     65.0     77.0     84.0     90.0     94.0     97.0
6272          UA     100
              *

6273          KK  PR27MDRETRIEVE
6274          KM   Retrieve full flow capacity of 246 cfs from 72-inch diameter pipe at the
6275          KM   intersection of McDowell Road and 27th Avenue
6276          DR  DP27MD
              *

6277          KK  RP27IN   ROUTE
6278          KM   Route full flow capacity of 246 cfs through 72-inch storm drain pipe in
6279          KM   in 27th Avenue to the intersection of 27th Avenue and Interstate 10
6280          RK     959  0.0034   0.015             CIRC   6.000
              *

6281          KK  CPIN27 COMBINE
6282          KM   Combine pipe return PR27MD with the runoff hydrograph at combination point
6283          KM   CIN27 at the intersection of Interstate 10 and 27th Avenue
6284          HC       2
              *
```


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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

6285          KK  DWIN35  DIVERT
6286          KM   Divert remaining runoff hydrograph from combination point CPIN27 west to
6287          KM   combination point CIN35
6288          DT  DSVB27      0.0      0.0
6289          DI      0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0 10000.0 20000.0 50000.0
6290          DQ      0.0     72.0    144.0    360.0    720.0   1440.0   2880.0   7200.0 14400.0 36000.0
              *

6291          KK  RWIN35   ROUTE
6292          KM   Route diversion DWIN35 west to combination point CIN35
6293          RS       7    FLOW
6294          RC   0.035    0.015    0.035     5280   0.0005     0.00
6295          RX    0.00     0.00     9.50     9.50    40.50    40.50    50.00    50.00
6296          RY    3.00     0.60     0.50     0.00     0.00     0.50     0.60     3.00
              *

6297          KK  DRIN35RETRIEVE
6298          KM   Retrieve divert DRIN35 from combination point CPMD35 and divert south to
6299          KM   combination point CIN35
6300          DR  DSIN35
              *

6301          KK  RSIN35   ROUTE
6302          KM   Route diversion retrieval DRIN35 south to combination point CIN35
6303          RS       1    FLOW
6304          RC   0.035    0.015    0.035     1116   0.0019     0.00
6305          RX    0.00     0.00    76.50    76.50   372.50   372.50   449.00   449.00
6306          RY    3.00     1.27     0.50     0.00     0.00     0.50     1.27     3.00
              *

6307          KK    IN35   BASIN
6308          KM   Runoff hydrograph for subbasin IN35 northeast of the intersection of
6309          KM   Interstate 10 and 35th Avenue
6310          BA   0.242
6311          LG    0.17     0.13    10.10     0.03       64
6312          UC   0.425    0.089
6313          UA       0      5.0     16.0     30.0     65.0     77.0     84.0     90.0     94.0     97.0
6314          UA     100
              *

6315          KK   CIN35 COMBINE
6316          KM   Combine route RWIN35, route RSIN35, and subbasin IN35
6317          HC       3     6.11
              *

6318          KK  PR35MDRETRIEVE
6319          KM   Retrieve combined full flow capacity of 507 cfs from 93-inch equivalent
6320          KM   diameter pipe at the intersection of McDowell Road and 35th Avenue
6321          DR  DP35MD
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

6322          KK  RP35IN   ROUTE
6323          KM   Route the combined full flow capacity of 507 cfs through an equivalent storm
6324          KM   drain pipe diameter of 93 inches in 35th Avenue to the intersection of
6325          KM   35th Avenue and Interstate 10
6326          RK     937  0.0037   0.015             CIRC   7.750
              *

6327          KK  CPIN35 COMBINE
6328          KM   Combine pipe return PR35MD with the runoff hydrograph at combination point
6329          KM   CIN35 at the intersection of Interstate 10 and 35th Avenue
6330          HC       2
              *

6331          KK  DWIN43  DIVERT
6332          KM   Divert remaining runoff hydrograph from combination point CPIN35 west to
6333          KM   combination point CIN43
6334          DT  DSVB35      0.0      0.0
6335          DI      0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0 10000.0 20000.0 50000.0
6336          DQ      0.0     87.0    174.0    435.0    870.0   1740.0   3480.0   8700.0 17400.0 43500.0
              *

6337          KK  RWIN43   ROUTE
6338          KM   Route diversion DWIN43 west to combination point CIN43
6339          RS       4    FLOW
6340          RC   0.035    0.015    0.035     5280   0.0008     0.00
6341          RX    0.00     0.00     9.50     9.50    40.50    40.50    50.00    50.00
6342          RY    3.00     0.60     0.50     0.00     0.00     0.50     0.60     3.00
              *

6343          KK  DRIN43RETRIEVE
6344          KM   Retrieve divert DRIN43 from combination point CPMD43 and divert south to
6345          KM   combination point CIN43
6346          DR  DSIN43
```

```
                *
6347            KK  RSIN43    ROUTE
6348            KM   Route diversion retrieval DRIN43 south to combination point CIN43
6349            RS     1     FLOW
6350            RC   0.035   0.015   0.035     900  0.0042    0.00
6351            RX    0.00    0.00   57.50   57.50  291.50  291.50  349.00  349.00
6352            RY    3.00    1.08    0.50    0.00    0.00    0.50    1.08    3.00
                *
6353            KK    IN43    BASIN
6354            KM   Runoff hydrograph for subbasin IN43 northeast of the intersection of
6355            KM   Interstate 10 and 43rd Avenue
6356            BA   0.256
6357            LG    0.20    0.15    9.70    0.04      49
6358            UC   0.667   0.180
6359            UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
6360            UA     100
                *
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LINE            ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

6361            KK   CIN43 COMBINE
6362            KM   Combine route RWIN43, route RSIN43, and subbasin IN43
6363            HC       3    7.99
                *
6364            KK  PR43MDRETRIEVE
6365            KM   Retrieve combined full flow capacity of 629 cfs from 102-inch equivalent
6366            KM   diameter pipe at the intersection of McDowell Road and 43rd Avenue
6367            DR  DP43MD
                *
6368            KK  RP43IN    ROUTE
6369            KM   Route the combined full flow capacity of 629 cfs through an equivalent storm
6370            KM   drain pipe diameter of 102 inches in 43rd Avenue to the intersection of
6371            KM   35th Avenue and Interstate 10
6372            RK    1217  0.0035   0.015             CIRC   8.500
                *
6373            KK  CPIN43 COMBINE
6374            KM   Combine pipe return PR43MD with the runoff hydrograph at combination point
6375            KM   CIN43 at the intersection of Interstate 10 and 43rd Avenue
6376            HC       2
                *
6377            KK  DWIN51   DIVERT
6378            KM   Divert remaining runoff hydrograph from combination point CPIN43 west to
6379            KM   combination point CIN51
6380            DT  DSVB43      0.0     0.0
6381            DI       0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
6382            DQ       0.0    81.0   162.0   405.0   810.0  1620.0  3240.0  8100.0 16200.0 40500.0
                *
6383            KK  RWIN51    ROUTE
6384            KM   Route diversion DWIN51 west to combination point CIN51
6385            RS       2     FLOW
6386            RC   0.035   0.015   0.035    5290  0.0027    0.00
6387            RX    0.00    0.10   18.00   36.00   66.00   84.00  102.00  102.10
6388            RY   18.00   17.05    9.00    0.00    0.00    9.00   17.05   18.00
                *
6389            KK  DRIN51RETRIEVE
6390            KM   Retrieve divert DRIN51 from combination point CPMD51 and divert south to
6391            KM   combination point CIN51
6392            DR  DSIN51
                *
6393            KK  RSIN51    ROUTE
6394            KM   Route diversion retrieval DRIN51 south to combination point CIN51
6395            RS     1     FLOW
6396            RC   0.035   0.015   0.035    1143  0.0007    0.00
6397            RX    0.00    0.00   54.50   54.50  269.50  269.50  324.00  324.00
6398            RY    3.00    1.04    0.50    0.00    0.00    0.50    1.04    3.00
                *
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LINE            ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

6399            KK    IN51    BASIN
6400            KM   Runoff hydrograph for subbasin IN51 northeast of the intersection of
6401            KM   Interstate 10 and 51st Avenue
6402            BA   0.232
6403            LG    0.13    0.16    9.70    0.04      75
6404            UC   0.734   0.708
6405            UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
6406            UA     100
                *
6407            KK   CIN51 COMBINE
```



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6408            KM   Combine route RWIN51, route RSIN51, and subbasin IN51
6409            HC       3    2.68
                *
6410            KK  PR51MDRETRIEVE
6411            KM   Retrieve full flow capacity of 368 cfs from 84-inch storm drain pipe at the
6412            KM   intersection of McDowell Road and 51st Avenue
6413            DR  DP51MD
                *
6414            KK  RP51IN    ROUTE
6415            KM   Route full flow capacity of 368 cfs through 84-inch storm drain pipe in
6416            KM   51st Avenue to the intersection of Interstate 10 and 51st Avenue
6417            RK     731  0.0033   0.015             CIRC   7.000
                *
6418            KK  CPIN51 COMBINE
6419            KM   Combine pipe return PR51MD with the runoff hydrograph at combination point
6420            KM   CIN51 at the intersection of Interstate 10 and 51st Avenue
6421            HC       2
                *
6422            KK  DWIN59   DIVERT
6423            KM   Divert remaining runoff hydrograph from combination point CPIN51 west to
6424            KM   combination point CIN59
6425            DT  DSVB51      0.0     0.0
6426            DI       0.0 26494.0 26494.1 50000.0      0.0     0.0     0.0     0.0     0.0     0.0
6427            DQ       0.0     0.0 26494.1 50000.0      0.0     0.0     0.0     0.0     0.0     0.0
                *
6428            KK  RWIN59    ROUTE
6429            KM   Route diversion DWIN59 west to combination point CIN59
6430            RS       1     FLOW
6431            RC   0.035   0.015   0.035    5297  0.0017    0.00
6432            RX    0.00    0.10   18.00   36.00   66.00   84.00  102.00  102.10
6433            RY   18.00   17.05    9.00    0.00    0.00    9.00   17.05   18.00
                *
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LINE            ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

6434            KK  DRIN59RETRIEVE
6435            KM   Retrieve divert DRIN59 from combination point CPMD59 and divert south to
6436            KM   combination point CIN59
6437            DR  DSIN59
                *
6438            KK  RSIN59    ROUTE
6439            KM   Route diversion retrieval DRIN59 south to combination point CIN59
6440            RS       1     FLOW
6441            RC   0.035   0.015   0.035     730  0.0047    0.00
6442            RX    0.00    0.00   35.50   35.50  188.50  188.50  224.00  224.00
6443            RY    3.00    0.86    0.50    0.00    0.00    0.50    0.86    3.00
                *
6444            KK    IN59    BASIN
6445            KM   Runoff hydrograph for subbasin IN59 northeast of the intersection of
6446            KM   Interstate 10 and 59th Avenue
6447            BA   0.202
6448            LG    0.20    0.16    9.70    0.04      54
6449            UC   1.302   1.370
6450            UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
6451            UA     100
                *
6452            KK   CIN59 COMBINE
6453            KM   Combine route RWIN59, route RSIN59, and subbasin IN59
6454            HC       3    4.90
                *
6455            KK  PR59MDRETRIEVE
6456            KM   Retrieve full flow capacity of 468 cfs from 90-inch storm drain pipe at the
6457            KM   intersection of McDowell Road and 59th Avenue
6458            DR  DP59MD
                *
6459            KK  RP59IN    ROUTE
6460            KM   Route full flow capacity of 468 cfs through 90-inch storm drain pipe in
6461            KM   59th Avenue to the intersection of Interstate 10 and 59th Avenue
6462            RK     846  0.0037   0.015             CIRC   7.500
                *
6463            KK  CPIN59 COMBINE
6464            KM   Combine pipe return PR59MD with the runoff hydrograph at combination point
6465            KM   CIN59 at the intersection of Interstate 10 and 59th Avenue
6466            HC       2
                *
6467            KK  DWIN67   DIVERT
6468            KM   Divert remaining runoff hydrograph from combination point CPIN59 west to
6469            KM   combination point CIN67
6470            DT  DSVB59      0.0     0.0
```

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6471          DI     0.0 21022.0 21022.1 50000.0     0.0     0.0     0.0     0.0     0.0     0.0
6472          DQ     0.0     0.0 21022.1 50000.0     0.0     0.0     0.0     0.0     0.0     0.0
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


6473          KK  RWIN67   ROUTE
6474          KM   Route diversion DWIN67 west to combination point CIN67
6475          RS       2    FLOW
6476          RC   0.035   0.015   0.035    5145  0.0012    0.00
6477          RX    0.00    0.10   18.00   36.00   66.00   84.00  102.00  102.10
6478          RY   18.00   17.05    9.00    0.00    0.00    9.00   17.05   18.00
              *

6479          KK  DRIN67RETRIEVE
6480          KM   Retrieve divert DRIN67 from combination point CPMD67 and divert south to
6481          KM   combination point CIN67
6482          DR  DSIN67
              *

6483          KK  RSIN67   ROUTE
6484          KM   Route diversion retrieval DRIN67 south to combination point CIN67
6485          RS       1    FLOW
6486          RC   0.035   0.015   0.035     741  0.0027    0.00
6487          RX    0.00    0.00   12.50   12.50   62.50   62.50   75.00   75.00
6488          RY    3.00    0.62    0.50    0.00    0.00    0.50    0.62    3.00
              *

6489          KK   IN67   BASIN
6490          KM   Runoff hydrograph for subbasin IN67 northeast of the intersection of
6491          KM   Interstate 10 and 67th Avenue
6492          BA   0.197
6493          LG    0.21    0.16    9.70    0.04      53
6494          UC   1.500   1.604
6495          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
6496          UA     100
              *

6497          KK  ERIN67  DIVERT
6498          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
6499          KM   retention developed after 1990 in subbasin IN67
6500          DT   XIN67     9.1     0.0
6501          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
6502          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

6503          KK   CIN67 COMBINE
6504          KM   Combine route RWIN67, route RSIN67, and subbasin IN67
6505          HC       3    5.78
              *

6506          KK  PR67MDRETRIEVE
6507          KM   Retrieve full flow capacity of 400 cfs from 90-inch storm drain pipe at the
6508          KM   intersection of McDowell Road and 67th Avenue
6509          DR  DP67MD
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


6510          KK  RP67IN   ROUTE
6511          KM   Route full flow capacity of 400 cfs through 90-inch storm drain pipe in
6512          KM   67th Avenue to the intersection of Interstate 10 and 67th Avenue
6513          RK     824  0.0027   0.015            CIRC   7.500
              *

6514          KK  CPIN67 COMBINE
6515          KM   Combine pipe return PR67MD with the runoff hydrograph at combination point
6516          KM   CIN67 at the intersection of Interstate 10 and 67th Avenue
6517          HC       2
              *

6518          KK  DWIN75  DIVERT
6519          KM   Divert remaining runoff hydrograph from combination point CPIN67 west to
6520          KM   combination point CIN75
6521          DT  DSVB67     0.0     0.0
6522          DI     0.0 17662.0 17662.1 50000.0     0.0     0.0     0.0     0.0     0.0     0.0
6523          DQ     0.0     0.0 17662.1 50000.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

6524          KK  RWIN75   ROUTE
6525          KM   Route diversion DWIN75 west to combination point CIN75
6526          RS       1    FLOW
6527          RC   0.035   0.015   0.035    5237  0.0020    0.00
6528          RX    0.00    0.10   18.00   36.00   66.00   84.00  102.00  102.10
6529          RY   18.00   17.05    9.00    0.00    0.00    9.00   17.05   18.00
              *

6530          KK  DRIN75RETRIEVE
6531          KM   Retrieve divert DRIN75 from combination point CPMD75 and divert south to
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6532          KM   combination point CIN75
6533          DR  DSIN75
              *

6534          KK  RSIN75   ROUTE
6535          KM   Route diversion retrieval DRIN75 south to combination point CIN75
6536          RS       1    FLOW
6537          RC   0.035   0.015   0.035     731  0.0022    0.00
6538          RX    0.00    0.00   29.00   29.00  170.00  170.00  199.00  199.00
6539          RY    3.00    0.79    0.50    0.00    0.00    0.50    0.79    3.00
              *

6540          KK   IN75   BASIN
6541          KM   Runoff hydrograph for subbasin IN75 northeast of the intersection of
6542          KM   Interstate 10 and 75th Avenue
6543          BA   0.199
6544          LG    0.19    0.21    6.60    0.12      55
6545          UC   1.354   1.433
6546          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
6547          UA     100
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


6548          KK  ERIN75  DIVERT
6549          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
6550          KM   retention developed after 1990 in subbasin IN75
6551          DT   XIN75     2.8     0.0
6552          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
6553          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

6554          KK   CIN75 COMBINE
6555          KM   Combine route RWIN75, route RSIN75, and subbasin IN75
6556          HC       3    8.11
              *

6557          KK  PR75MDRETRIEVE
6558          KM   Retrieve full flow capacity of 364 cfs from 90-inch storm drain pipe at the
6559          KM   intersection of McDowell Road and 75th Avenue
6560          DR  DP75MD
              *

6561          KK  RP75IN   ROUTE
6562          KM   Route full flow capacity of 364 cfs through 90-inch storm drain pipe in
6563          KM   75th Avenue to the intersection of Interstate 10 and 75th Avenue
6564          RK     811  0.0022   0.015            CIRC   7.500
              *

6565          KK  CPIN75 COMBINE
6566          KM   Combine pipe return PR75MD with the runoff hydrograph at combination point
6567          KM   CIN75 at the intersection of Interstate 10 and 75th Avenue
6568          HC       2
              *

6569          KK  DWIN83  DIVERT
6570          KM   Divert remaining runoff hydrograph from combination point CPIN75 west to
6571          KM   combination point CIN83
6572          DT  DSVB75     0.0     0.0
6573          DI     0.0 22802.0 22802.1 50000.0     0.0     0.0     0.0     0.0     0.0     0.0
6574          DQ     0.0     0.0 22802.1 50000.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

6575          KK  RWIN83   ROUTE
6576          KM   Route diversion DWIN83 west to combination point CIN83
6577          RS       1    FLOW
6578          RC   0.035   0.015   0.035    5396  0.0016    0.00
6579          RX    0.00    0.10   18.00   36.00   66.00   84.00  102.00  102.10
6580          RY   18.00   17.05    9.00    0.00    0.00    9.00   17.05   18.00
              *

6581          KK   IN83   BASIN
6582          KM   Runoff hydrograph for subbasin IN83 northeast of the intersection of
6583          KM   Interstate 10 and 83rd Avenue
6584          BA   0.196
6585          LG    0.18    0.15    7.00    0.10      64
6586          UC   1.235   1.333
6587          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


6588          UA     100
              *

6589          KK  ERIN83  DIVERT
6590          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
6591          KM   retention developed after 1990 in subbasin IN83
6592          DT   XIN83    12.2     0.0
6593          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
6594          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
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                *
6595            KK   CIN83 COMBINE
6596            KM   Combine route RWIN83, route RSIN83, and subbasin IN83
6597            HC       2    8.31
                *

6598            KK  PR83MDRETRIEVE
6599            KM   Retrieve full flow capacity of 340 cfs from 90-inch storm drain pipe at the
6600            KM   intersection of McDowell Road and 83rd Avenue
6601            DR  DP83MD
                *

6602            KK  RP83IN   ROUTE
6603            KM   Route full flow capacity of 340 cfs through 90-inch storm drain pipe in
6604            KM   83rd Avenue to the intersection of Interstate 10 and 83rd Avenue
6605            RK     824  0.0019   0.015             CIRC   7.500
                *

6606            KK  CPIN83 COMBINE
6607            KM   Combine pipe return PR83MD with the runoff hydrograph at combination point
6608            KM   CIN83 at the intersection of Interstate 10 and 83rd Avenue
6609            HC       2
                *

6610            KK  DWIN91  DIVERT
6611            KM   Divert remaining runoff hydrograph from combination point CPIN83 west to
6612            KM   combination point CIN91
6613            DT  DSVB83      0.0      0.0
6614            DI     0.0 20395.0 20395.1 50000.0      0.0      0.0      0.0      0.0      0.0      0.0
6615            DQ     0.0      0.0 20395.1 50000.0      0.0      0.0      0.0      0.0      0.0      0.0
                *

6616            KK  RWIN91   ROUTE
6617            KM   Route diversion DWIN91 west to combination point CIN91
6618            RS       1    FLOW
6619            RC   0.035    0.015    0.035     5217  0.0016     0.00
6620            RX    0.00     0.10    18.00    36.00    66.00    84.00   102.00   102.10
6621            RY   18.00    17.05     9.00     0.00     0.00     9.00    17.05    18.00
                *

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LINE            ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

6622            KK  DRIN91RETRIEVE
6623            KM   Retrieve divert DRIN91 from combination point CPMD91 and divert south to
6624            KM   combination point CIN91
6625            DR  DSIN91
                *

6626            KK  RSIN91   ROUTE
6627            KM   Route diversion retrieval DRIN91 south to combination point CIN91
6628            RS       1    FLOW
6629            RC   0.035    0.015    0.035      535  0.0019     0.00
6630            RX    0.00     0.00     9.50     9.50    40.50    40.50    50.00    50.00
6631            RY    3.00     0.60     0.50     0.00     0.00     0.50     0.60     3.00
                *

6632            KK    IN91   BASIN
6633            KM   Runoff hydrograph for subbasin IN91 northeast of the intersection of
6634            KM   Interstate 10 and 91st Avenue
6635            BA   0.185
6636            LG    0.11     0.17     9.70     0.04       64
6637            UC   0.753    0.780
6638            UA       0      5.0     16.0     30.0     65.0     77.0     84.0     90.0     94.0     97.0
6639            UA     100
                *

6640            KK   CIN91 COMBINE
6641            KM   Combine route RWIN91, route RSIN91, and subbasin IN91
6642            HC       3   10.57
                *

6643            KK  PR91MDRETRIEVE
6644            KM   Retrieve full flow capacity of 345 cfs from 90-inch storm drain pipe at the
6645            KM   intersection of McDowell Road and 91st Avenue
6646            DR  DP91MD
                *

6647            KK  RP91IN   ROUTE
6648            KM   Route full flow capacity of 345 cfs through 90-inch storm drain pipe in
6649            KM   91st Avenue to the intersection of Interstate 10 and 91st Avenue
6650            RK     729  0.0020   0.015             CIRC   7.500
                *

6651            KK  CPIN91 COMBINE
6652            KM   Combine pipe return PR91MD with the runoff hydrograph at combination point
6653            KM   CIN91 at the intersection of Interstate 10 and 91st Avenue
6654            HC       2
                *

6655            KK  DWINLO  DIVERT
```



```
6656            KM   Divert remaining runoff hydrograph from combination point CPIN91 west to
6657            KM   combination point CINLO
6658            DT  DSVB91      0.0      0.0
6659            DI     0.0 11110.0 11110.1 50000.0      0.0      0.0      0.0      0.0      0.0      0.0
6660            DQ     0.0      0.0 11110.1 50000.0      0.0      0.0      0.0      0.0      0.0      0.0
                *

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LINE            ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

6661            KK  RWINLO   ROUTE
6662            KM   Route diversion DWINLO west to combination point CINLO
6663            RS       1    FLOW
6664            RC   0.035    0.015    0.035     4153  0.0008     0.00
6665            RX    0.00     0.10    18.00    36.00    66.00    84.00   102.00   102.10
6666            RY   18.00    17.05     9.00     0.00     0.00     9.00    17.05    18.00
                *

6667            KK  DWIN07  DIVERT
6668            KM   Divert route RWINLO to detention basin northeast of L101 and I-10 Freeways.
6669            KM   Only the flow greater than the channel capacity is diverted to the basin.
6670            DT  DNINLO      0.0      0.0
6671            DI     0.0  9505.0 10216.0 10958.0 12536.0      0.0      0.0      0.0      0.0      0.0
6672            DQ     0.0      0.0    620.0   1755.0   4964.0      0.0      0.0      0.0      0.0      0.0
                *

6673            KK    INLO   BASIN
6674            KM   Runoff hydrograph for subbasin INLO northeast of the intersection of
6675            KM   Interstate 10 and SR Loop 101
6676            BA   0.147
6677            LG    0.10     0.21     9.70     0.04       35
6678            UC   0.884    0.877
6679            UA       0      5.0     16.0     30.0     65.0     77.0     84.0     90.0     94.0     97.0
6680            UA     100
                *

6681            KK  ERINLO  DIVERT
6682            KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
6683            KM   retention developed after 1990 in subbasin INLO
6684            DT   XINLO      0.3      0.0
6685            DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
6686            DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
                *

6687            KK  DRINLORETRIEVE
6688            KM   Retrieve divert DRINLO from route RWINLO and route north to combination point
6689            KM   CIN95 to route thru the detention basin northeast of L101 and I-10 Freeways
6690            DR  DNINLO
                *

6691            KK  DRIN95RETRIEVE
6692            KM   Retrieve divert DRIN95 from route RSINLO and route east to combination point
6693            KM   CIN95 to route thru the detention basin northeast of L101 and I-10 Freeways
6694            DR  DEIN95
                *

6695            KK   CIN95 COMBINE
6696            KM   Combine retrieve DRINLO, retreive DRIN95, and subbasin INLO
6697            HC       3   24.79
                *

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LINE            ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

6698            KK  SRINLO STORAGE
6699            KM   Storage route runoff hydrograph from combination CIN95 through detention
6700            KM     basin northeast of L101 and I-10 freeways
6701            KM   Stage-storage-discharge data from Agua Fria Freeway (101L) RAM-600-0-526
6702            KM     As-built Records, ADOT, October 2001
6703            RS       1    STOR
6704            SV           15.50  206.50  210.50  220.50  251.20  293.90
6705            SQ           33.00  159.00  367.00 1534.00 8123.0022263.00
6706            SE  1002.3 1004.50 1015.80 1016.00 1016.50 1018.00 1020.00
                *

6707            KK   CINLO COMBINE
6708            KM   Combine route RSINLO, route RWINLO, and storage route SRINLO
6709            HC       3   24.79
                *

6710            KK  RWIN07   ROUTE
6711            KM   Route diversion DWIN07 west to combination point CIN07
6712            RS       1    FLOW
6713            RC   0.035    0.015    0.035     6475  0.0017     0.00
6714            RX    0.00     0.10    18.00    36.00    66.00    84.00   102.00   102.10
6715            RY   18.00    17.05     9.00     0.00     0.00     9.00    17.05    18.00
                *

6716            KK  DITM07RETRIEVE
6717            KM   Retrieve divert DITM07 from combination point CRI07 and divert south to
6718            KM   combination point CTM07
```

```
6719          DR   DTM07
              *
6720          KK  SRRI03 STORAGE
6721          KM   Storage route runoff hydrograph from divert retrieval DITM07 through ponding
6722          KM     area at the Roosevelt Irrigation District Canal near the intersection of
6723          KM     canal and 103rd Avenue.
6724          KM   Stage-storage-discharge data from Maryvale ADMS, February 1997
6725          RS       1    STOR
6726          SV           16.40   50.70   71.40   77.20  109.70
6727          SQ            0.10    0.20    0.30   96.00 1160.00
6728          SE  1019.0 1020.00 1021.00 1021.40 1021.50 1022.00
              *
6729          KK  RWTM07   ROUTE
6730          KM   Route diversion retrieval DRRIAF west to combination point CTM07
6731          RS      10    FLOW
6732          RC   0.035   0.015   0.035    2719  0.0029    0.00
6733          RX    0.00    0.00   16.50   16.50  107.50  107.50  124.00  124.00
6734          RY    3.00    0.66    0.50    0.00    0.00    0.50    0.66    3.00
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

6735          KK  DRTM07RETRIEVE
6736          KM   Retrieve divert DRTM07 from combination point CRI07 and divert south to
6737          KM   combination point CTM07
6738          DR  DSTM07
              *
6739          KK  RSTM07   ROUTE
6740          KM   Route diversion retrieval DRTM07 south to combination point CTM07
6741          RS       3    FLOW
6742          RC   0.035   0.015   0.035    2640  0.0019    0.00
6743          RX    0.00    0.00   16.50   16.50  107.50  107.50  124.00  124.00
6744          RY    3.00    0.66    0.50    0.00    0.00    0.50    0.66    3.00
              *
6745          KK    TM07   BASIN
6746          KM   Runoff hydrograph for subbasin TM07 northeast of the intersection of Thomas
6747          KM   Road and 107th Avenue
6748          BA   0.265
6749          LG    0.29    0.16    9.70    0.05      13
6750          UC   1.500   1.207
6751          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
6752          UA     100
              *
6753          KK   CTM07 COMBINE
6754          KM   Combine route RWTM07, route RSTM07, and subbasin TM07
6755          HC       3    1.61
              *
6756          KK  DSMD07  DIVERT
6757          DT  DWTMAF      0.0     0.0
6758          DI      0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
6759          DQ      0.0    65.0   130.0   325.0   650.0  1300.0  2600.0  6500.0 13000.0 32500.0
              *
6760          KK  RSMD07   ROUTE
6761          KM   Route diversion DSMD07 south to combination point CMD07
6762          RS       9    FLOW
6763          RC   0.035   0.015   0.035    5280  0.0006    0.00
6764          RX    0.00    0.00   26.00   26.00  148.00  148.00  174.00  174.00
6765          RY    3.00    0.76    0.50    0.00    0.00    0.50    0.76    3.00
              *
6766          KK  DRMD99RETRIEVE
6767          KM   Retrieve divert DRMD99 from combination point CTM99 and divert south to
6768          KM   combination point CMD99
6769          DR  DSMD99
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

6770          KK  RSMD99   ROUTE
6771          KM   Route diversion retrieval DRMD99 south to combination point CMD99
6772          RS       8    FLOW
6773          RC   0.035   0.015   0.035    5508  0.0010    0.00
6774          RX    0.00    0.00   16.50   16.50  107.50  107.50  124.00  124.00
6775          RY    3.00    0.66    0.50    0.00    0.00    0.50    0.66    3.00
              *
6776          KK    MD99   BASIN
6777          KM   Runoff hydrograph for subbasin MD99 northeast of the intersection of McDowell
6778          KM   Road and 99th Avenue
6779          BA   0.319
6780          LG    0.43    0.15    9.70    0.07      13
6781          UC   1.500   1.523
```



```
6782          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
6783          UA     100
              *
6784          KK   CMD99 COMBINE
6785          KM   Combine route RSMD99 and subbasin MD99
6786          HC       2    0.60
              *
6787          KK  DWTMRI  DIVERT
6788          KM   Divert portion of runoff hydrograph from combination point CMD99 west to the
6789          KM   intersection of Thomas Road and the Roosevelt Irrigation Distric canal and
6790          KM   the remaining flow west to the intersection of McDowell Road and 107th
6791          KM   Avenue. The diversion is based on topography
6792          DT   DMD99      0.0     0.0
6793          DI      0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
6794          DQ      0.0    56.0   112.0   280.0   560.0  1120.0  2240.0  5600.0 11200.0 28000.0
              *
6795          KK  RWTMRI   ROUTE
6796          KM   Route diversion DWTMRI west to combination point CTMRI
6797          RS       2    FLOW
6798          RC   0.035   0.015   0.035    2601  0.0023    0.00
6799          RX    0.00    0.00    9.50    9.50   40.50   40.50   50.00   50.00
6800          RY    3.00    0.60    0.50    0.00    0.00    0.50    0.60    3.00
              *
6801          KK    TMRI   BASIN
6802          KM   Runoff hydrograph for subbasin TMRI southeast of the intersection of Thomas
6803          KM   Road and the Roosevelt Irrigation District canal
6804          BA   0.240
6805          LG    0.30    0.15    9.70    0.07       2
6806          UC   0.640   0.288
6807          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
6808          UA     100
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

6809          KK   CTMRI COMBINE
6810          KM   Combine route RWTMRI and subbasin TMRI
6811          HC       2    0.51
              *
6812          KK  SRTMRI STORAGE
6813          KM   Storage route runoff hydrograph from combination point CTMRI through ponding
6814          KM     area at the Roosevelt Irrigation District canal near the intersection of th
6815          KM     canal and Thomas Road.
6816          KM   Stage-storage-discharge data from Maryvale ADMS, February 1997
6817          RS       1    STOR
6818          SV           15.73   25.07   35.38   85.58
6819          SQ            0.10 1069.00 3077.0011170.00
6820          SE  1020.0 1021.00 1021.50 1022.00 1023.00
              *
6821          KK   RMD07   ROUTE
6822          KM   Route runoff hydrograph from combination point CTMRI south to combination
6823          KM   point CMD07
6824          RS       8    FLOW
6825          RC   0.035   0.015   0.035    6743  0.0013    0.00
6826          RX    0.00    0.00   12.50   12.50   62.50   62.50   75.00   75.00
6827          RY    3.00    0.62    0.50    0.00    0.00    0.50    0.62    3.00
              *
6828          KK  DIMD99RETRIEVE
6829          KM   Retrieve subbasin flow diverted at the intersection of McDowell Road and 99th
6830          KM   Avenue
6831          DR   DMD99
              *
6832          KK  DWMD07  DIVERT
6833          KM   Divert remaining runoff hydrograph from combination point CTMRI west to
6834          KM   combination point CMD07
6835          DT  DSIN99      0.0     0.0
6836          DI      0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
6837          DQ      0.0    50.0   100.0   250.0   500.0  1000.0  2000.0  5000.0 10000.0 25000.0
              *
6838          KK  SRMD99 STORAGE
6839          KM   Storage route runoff hydrograph from divert DWMD07 through ponding area at
6840          KM     the Roosevelt Irrigation District canal near the intersection of the canal
6841          KM     and McDowell Road.
6842          KM   Stage-storage-discharge data from Maryvale ADMS, Feb 1997
6843          RS       1    STOR
6844          SV           11.90   27.50   38.50   54.00   98.80
6845          SQ                        1604.00 7290.0028409.00
6846          SE  1022.0 1023.00 1024.00 1024.50 1025.00 1026.00
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10
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6847          KK  RWMD07    ROUTE
6848          KM   Route diversion retrieval DRMD07 west to combination point CMD07
6849          RS      1      FLOW
6850          RC   0.035   0.015   0.035    5792  0.0019    0.00
6851          RX    0.00    0.00   16.50   16.50  107.50  107.50  124.00  124.00
6852          RY    3.00    0.66    0.50    0.00    0.00    0.50    0.66    3.00
              *

6853          KK    MD07    BASIN
6854          KM   Runoff hydrograph for subbasin MD07 northeast of the intersection of McDowell
6855          KM   Road and 107th Avenue
6856          BA   0.783
6857          LG    0.24    0.15    8.80    0.05      36
6858          UC   1.500   0.947
6859          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
6860          UA     100
              *

6861          KK  ERMD07  DIVERT
6862          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
6863          KM   retention developed after 1990 in subbasin MD07
6864          DT   XMD07     49.9      0.0
6865          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
6866          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

6867          KK   CMD07 COMBINE
6868          KM   Combine route RWMD07, route RSMD07, route RMD07 and subbasin MD07
6869          HC       4    2.50
              *

6870          KK  DSIN07  DIVERT
6871          KM   Divert runoff hydrograph from combination point CMD07 sout to combination
6872          KM   point CIN07
6873          DT  DWMDAV      0.0      0.0
6874          DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
6875          DQ     0.0    75.0   150.0   375.0   750.0  1500.0  3000.0  7500.0 15000.0 37500.0
              *

6876          KK  RSIN07    ROUTE
6877          KM   Route diversion DSIN07 south to combination point CIN07
6878          RS       2     FLOW
6879          RC   0.035   0.015   0.035     844  0.0008    0.00
6880          RX    0.00    0.00   16.50   16.50  107.50  107.50  124.00  124.00
6881          RY    3.00    0.66    0.50    0.00    0.00    0.50    0.66    3.00
              *

6882          KK  DRIN99RETRIEVE
6883          KM   Retrieve divert DRIN99 from combination point CTMRI and divert south to
6884          KM   combination point CIN07
6885          DR  DSIN99
              *
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LINE          ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

6886          KK  RSIN99    ROUTE
6887          KM   Route divert retrieveal DRIN99 south to combination point CIN07
6888          RS       6     FLOW
6889          RC   0.035   0.015   0.035    6080  0.0019    0.00
6890          RX    0.00    0.00   16.50   16.50  107.50  107.50  124.00  124.00
6891          RY    3.00    0.66    0.50    0.00    0.00    0.50    0.66    3.00
              *

6892          KK    IN07    BASIN
6893          KM   Runoff hydrograph for subbasin IN07 northeast of the intersection of
6894          KM   Interstate 10 and 107th Avenue
6895          BA   0.256
6896          LG    0.26    0.15    8.40    0.08      50
6897          UC   0.806   0.766
6898          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
6899          UA     100
              *

6900          KK  ERIN07  DIVERT
6901          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
6902          KM   retention developed after 1990 in subbasin IN07
6903          DT   XIN07      8.1      0.0
6904          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
6905          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

6906          KK   CIN07 COMBINE
6907          KM   Combine route RWIN07, route RSIN99, route RSIN07, and subbasin IN07
6908          HC       4   27.09
              *

6909          KK  DWINAV  DIVERT
6910          KM   Divert remaining runoff hydrograph from combination point CIN07 west to
6911          KM   combination point CINAV
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```
6912          DT  DSVB07      0.0      0.0
6913          DI      0.0 21022.0 21022.1 50000.0     0.0     0.0     0.0     0.0     0.0     0.0
6914          DQ      0.0      0.0 21022.1 50000.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

6915          KK  RWINAV    ROUTE
6916          KM   Route diversion DWINAV west to combination point CINAV
6917          RS       1     FLOW
6918          RC   0.035   0.015   0.035    5174  0.0019    0.00
6919          RX    0.00    0.10   18.00   36.00   66.00   84.00  102.00  102.10
6920          RY   18.00   17.05    9.00    0.00    0.00    9.00   17.05   18.00
              *

6921          KK  DRTMAFRETRIEVE
6922          KM   Retrieve divert DRTMAF from combination point CTM07 and divert south to
6923          KM   combination point CTMAF
6924          DR  DWTMAF
              *
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LINE          ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

6925          KK  RWTMAF    ROUTE
6926          KM   Route diversion retrieval DRTMAF west to combination point CTMAF
6927          RS       7     FLOW
6928          RC   0.035   0.015   0.035    8219  0.0020    0.00
6929          RX    0.00    0.00   26.00   26.00  148.00  148.00  174.00  174.00
6930          RY    3.00    0.76    0.50    0.00    0.00    0.50    0.76    3.00
              *

6931          KK    TMAF    BASIN
6932          KM   Runoff hydrograph for subbasin TMAF north of Thomas Road and east of the Agua
6933          KM   Fria River
6934          BA   0.762
6935          LG    0.22    0.16    6.80    0.11      38
6936          UC   1.500   1.208
6937          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
6938          UA     100
              *

6939          KK   CTMAF COMBINE
6940          KM   Combine route RWTMAF and subbasin TMAF
6941          HC       2    1.33
              *

6942          KK  DSMDAV  DIVERT
6943          KM   Divert portion of runoff hydrograph from combination point CTMAF south to the
6944          KM   intersection of McDowell Road and Avondale Boulevard and the remaining flow
6945          KM   west to the Agua Fria River. The diversion is based on topography
6946          DT  DWAF02      0.0      0.0
6947          DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
6948          DQ     0.0    89.0   178.0   445.0   890.0  1780.0  3560.0  8900.0 17800.0 44500.0
              *

6949          KK  RSMDAV    ROUTE
6950          KM   Route diversion DSMDAV south to combination point CMDAV
6951          RS       7     FLOW
6952          RC   0.035   0.015   0.035    5280  0.0017    0.00
6953          RX    0.00    0.00   38.50   38.50  210.50  210.50  249.00  249.00
6954          RY    3.00    0.88    0.50    0.00    0.00    0.50    0.88    3.00
              *

6955          KK  DRMDAVRETRIEVE
6956          KM   Retrieve divert DRMDAV from combination point CMD07 and divert south to
6957          KM   combination point CMDAV
6958          DR  DWMDAV
              *

6959          KK  RWMDAV    ROUTE
6960          KM   Route diversion retrieval DRMDAV west to combination point CMDAV
6961          RS       5     FLOW
6962          RC   0.035   0.015   0.035    5280  0.0023    0.00
6963          RX    0.00    0.00   35.50   35.50  188.50  188.50  224.00  224.00
6964          RY    3.00    0.86    0.50    0.00    0.00    0.50    0.86    3.00
              *
1                                        HEC-1 INPUT                                    PAGE182

LINE          ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

6965          KK    MDAV    BASIN
6966          KM   Runoff hydrograph for square mile subbasin MDAV northeast of the intersection
6967          KM   McDowell Road and Avondale Boulevard
6968          BA   0.954
6969          LG    0.23    0.14    7.60    0.09      25
6970          UC   1.500   1.038
6971          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
6972          UA     100
              *

6973          KK  ERMDAV  DIVERT
6974          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
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```
6975          KM   retention developed after 1990 in subbasin MDAV
6976          DT   XMDAV     75.6      0.0
6977          DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
6978          DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

6979          KK   CMDAV COMBINE
6980          KM   Combine route RWMDAV, route RSMDAV, and subbasin MDAV
6981          HC        3    1.72
              *

6982          KK  DSINAV  DIVERT
6983          KM   Divert remaining runoff hydrograph from combination point CMDAV south to
6984          KM   combination point CINAV
6985          DT  DWMDAF      0.0      0.0
6986          DI     0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0  10000.0  20000.0  50000.0
6987          DQ     0.0     73.0    146.0    365.0    730.0   1460.0   2920.0   7300.0  14600.0  36500.0
              *

6988          KK  RSINAV   ROUTE
6989          KM   Route diversion DSINAV south to combination point CINAV
6990          RS        2    FLOW
6991          RC   0.035    0.015    0.035     1317   0.0022     0.00
6992          RX    0.00     0.00    16.50    16.50   107.50   107.50   124.00   124.00
6993          RY    3.00     0.66     0.50     0.00     0.00     0.50     0.66     3.00
              *

6994          KK    INAV   BASIN
6995          KM   Runoff hydrograph for subbasin INAV north of Interstate 10 and east of the
6996          KM   Agua Fria River
6997          BA   0.235
6998          LG    0.32     0.15     8.00     0.10       37
6999          UC   0.797    0.729
7000          UA       0      5.0     16.0     30.0     65.0     77.0     84.0     90.0     94.0     97.0
7001          UA     100
              *
```



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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

7002          KK  ERINAV  DIVERT
7003          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
7004          KM   retention developed after 1990 in subbasin INAV
7005          DT   XINAV      3.6      0.0
7006          DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
7007          DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

7008          KK   CINAV COMBINE
7009          KM   Combine route RWINAV, route RSINAV, and subbasin INAV
7010          HC        3   28.58
              *

7011          KK  DWINAF  DIVERT
7012          KM   Divert remaining runoff hydrograph from combination point CINAV west to
7013          KM   combination point CINAF
7014          DT  DSVBAF      0.0      0.0
7015          DI      0.0 22225.0 22225.1 50000.0      0.0      0.0      0.0      0.0      0.0      0.0
7016          DQ      0.0      0.0 22225.1 50000.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

7017          KK  RWINAF   ROUTE
7018          KM   Route diversion DWINAF west to combination point CINAF
7019          RS        1    FLOW
7020          RC   0.035    0.015    0.035     7360   0.0009     0.00
7021          RX    0.00     0.10    18.00    36.00    66.00    84.00   102.00   102.10
7022          RY   18.00    17.05     9.00     0.00     0.00     9.00    17.05    18.00
              * Need to re-evaluate divert, flow is greater than channel capacity
              *

7023          KK  DRMDAFRETRIEVE
7024          KM   Retrieve divert DRMDAF from combination point CMDAV and divert south to
7025          KM   combination point CMDAF
7026          DR  DWMDAF
              *

7027          KK  RWMDAF   ROUTE
7028          KM   Route diversion retrieval DRMDAF west to combination point CMDAF
7029          RS        4    FLOW
7030          RC   0.035    0.015    0.035     6890   0.0027     0.00
7031          RX    0.00     0.00    48.00    48.00   251.00   251.00   299.00   299.00
7032          RY    3.00     0.98     0.50     0.00     0.00     0.50     0.98     3.00
              *

7033          KK    MDAF   BASIN
7034          KM   Runoff hydrograph for subbasin MDAF north of McDowell Road and east of the
7035          KM   Interstate 10 and east of the Agua Fria River
7036          BA   0.834
7037          LG    0.25     0.29     5.20     0.23       19
7038          UC   1.500    1.253
7039          UA       0      5.0     16.0     30.0     65.0     77.0     84.0     90.0     94.0     97.0
7040          UA     100
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              *
```



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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

7041          KK   CMDAF COMBINE
7042          KM   Combine route RWMDAF and subbasin MDAF
7043          HC        2    1.30
              *

7044          KK  DSINAF  DIVERT
7045          KM   Divert portion of runoff hydrograph from combination point CMDAF south to the
7046          KM   intersection of Interstate 10 and the Agua Fria River and the remaining flow
7047          KM   west to the Agua Fria River. The diversion is based on topography
7048          DT  DWAF03      0.0      0.0
7049          DI     0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0  10000.0  20000.0  50000.0
7050          DQ     0.0     76.0    152.0    380.0    760.0   1520.0   3040.0   7600.0  15200.0  38000.0
              *

7051          KK  RSINAF   ROUTE
7052          KM   Route diversion DSINAF south to combination point CINAF
7053          RS        1    FLOW
7054          RC   0.035    0.015    0.035     1317   0.0022     0.00
7055          RX    0.00     0.00    22.00    22.00   103.00   103.00   125.00   125.00
7056          RY    3.00     0.72     0.50     0.00     0.00     0.50     0.72     3.00
              *

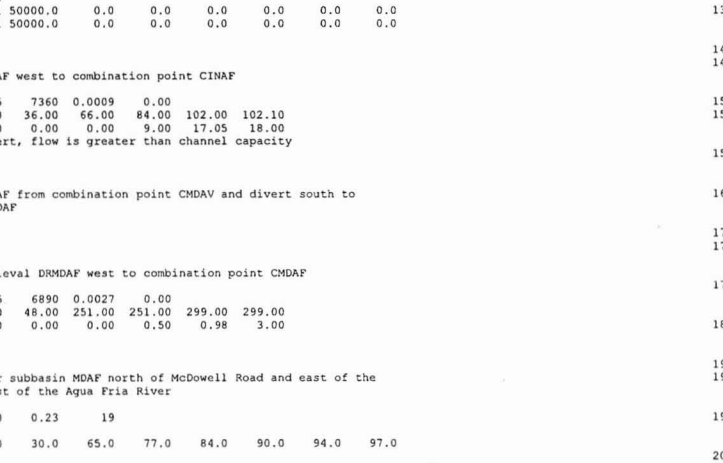
7057          KK    INAF   BASIN
7058          KM   Runoff hydrograph for subbasin INAf north of Interstate 10 and east of the
7059          KM   Agua Fria River
7060          BA   0.472
7061          LG    0.23     0.30     6.20     0.16       20
7062          UC   1.500    1.329
7063          UA       0      5.0     16.0     30.0     65.0     77.0     84.0     90.0     94.0     97.0
7064          UA     100
              *

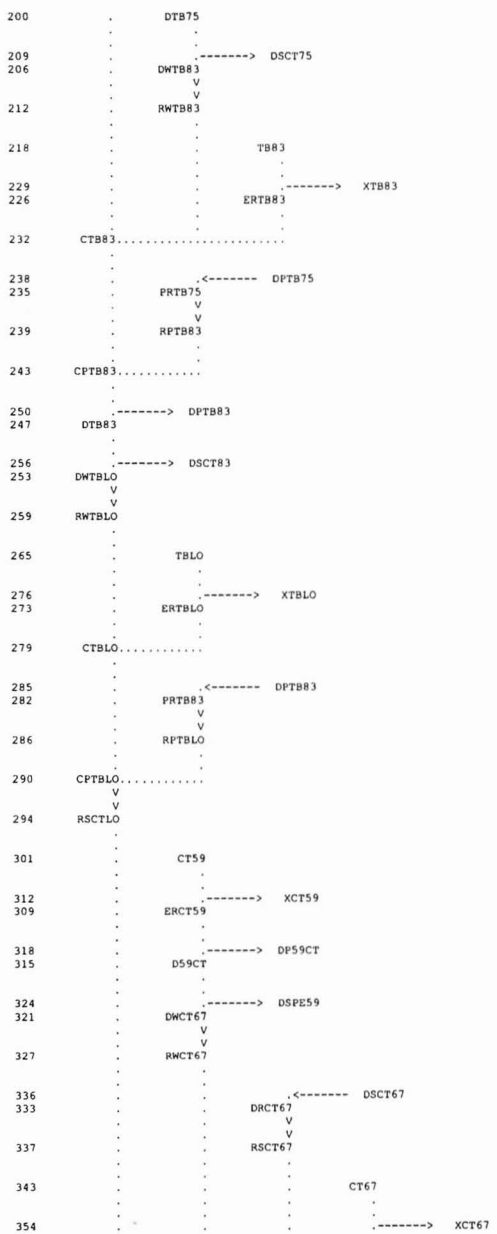
7065          KK  ERINAF  DIVERT
7066          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
7067          KM   retention developed after 1990 in subbasin INAF
7068          DT   XINAF      8.4      0.0
7069          DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
7070          DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

7071          KK   CINAF COMBINE
7072          KM   Combine route RWINAF, route RSINAF, and subbasin INAF
7073          HC        3   29.36
              *
7074          ZZ
```

1

SCHEMATIC DIAGRAM OF STREAM NETWORK

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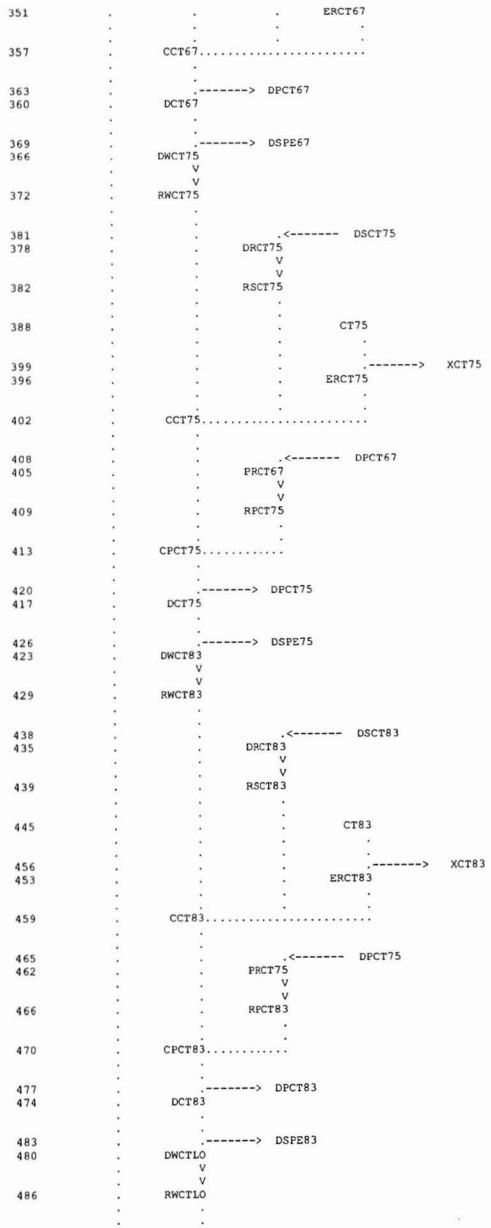
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396 ERCT75
402 CCT75
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409 RPCT75
413 CPCT75
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417 DCT75
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439 RSCT83
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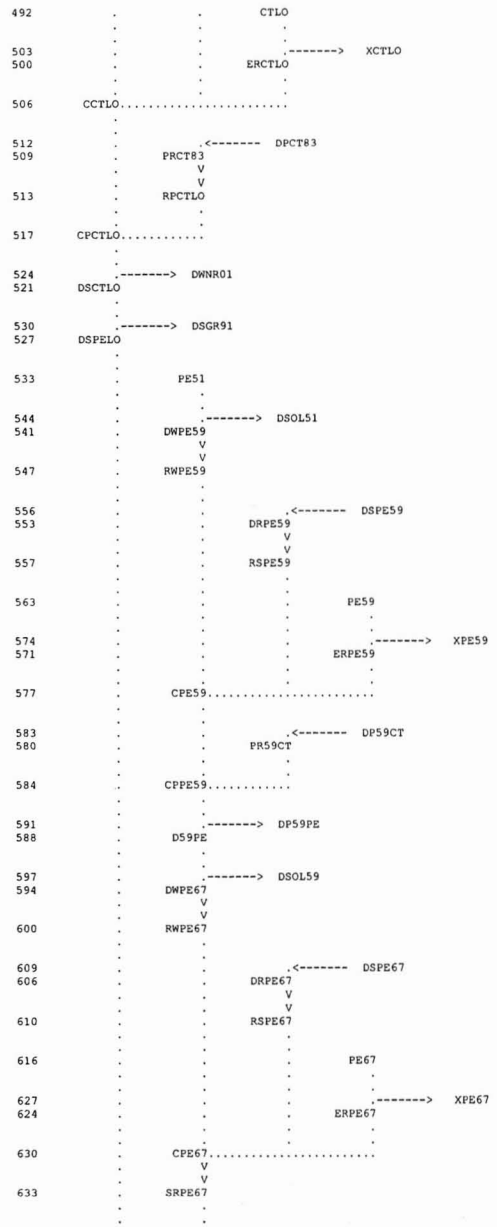
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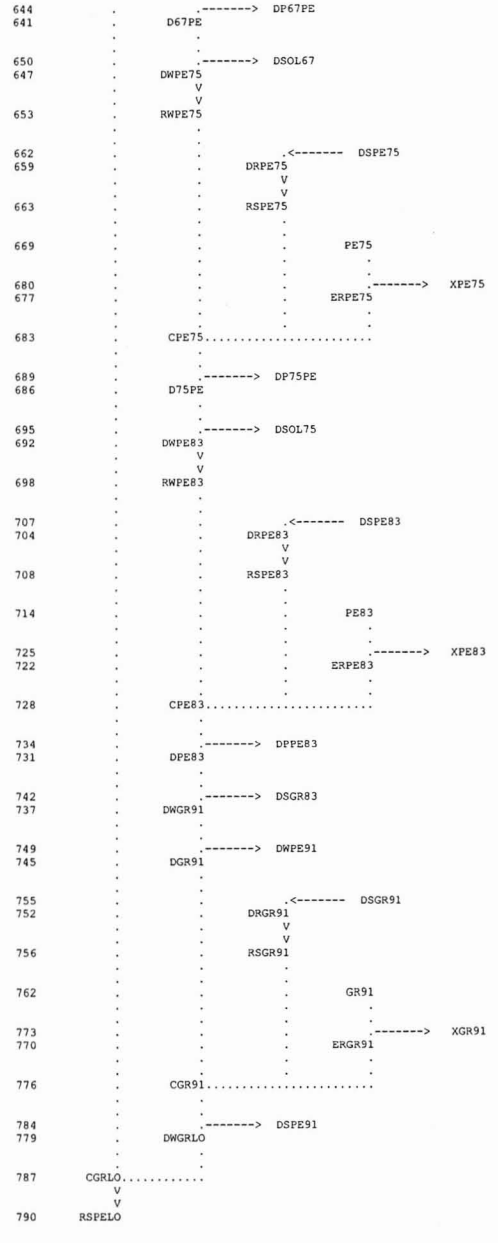
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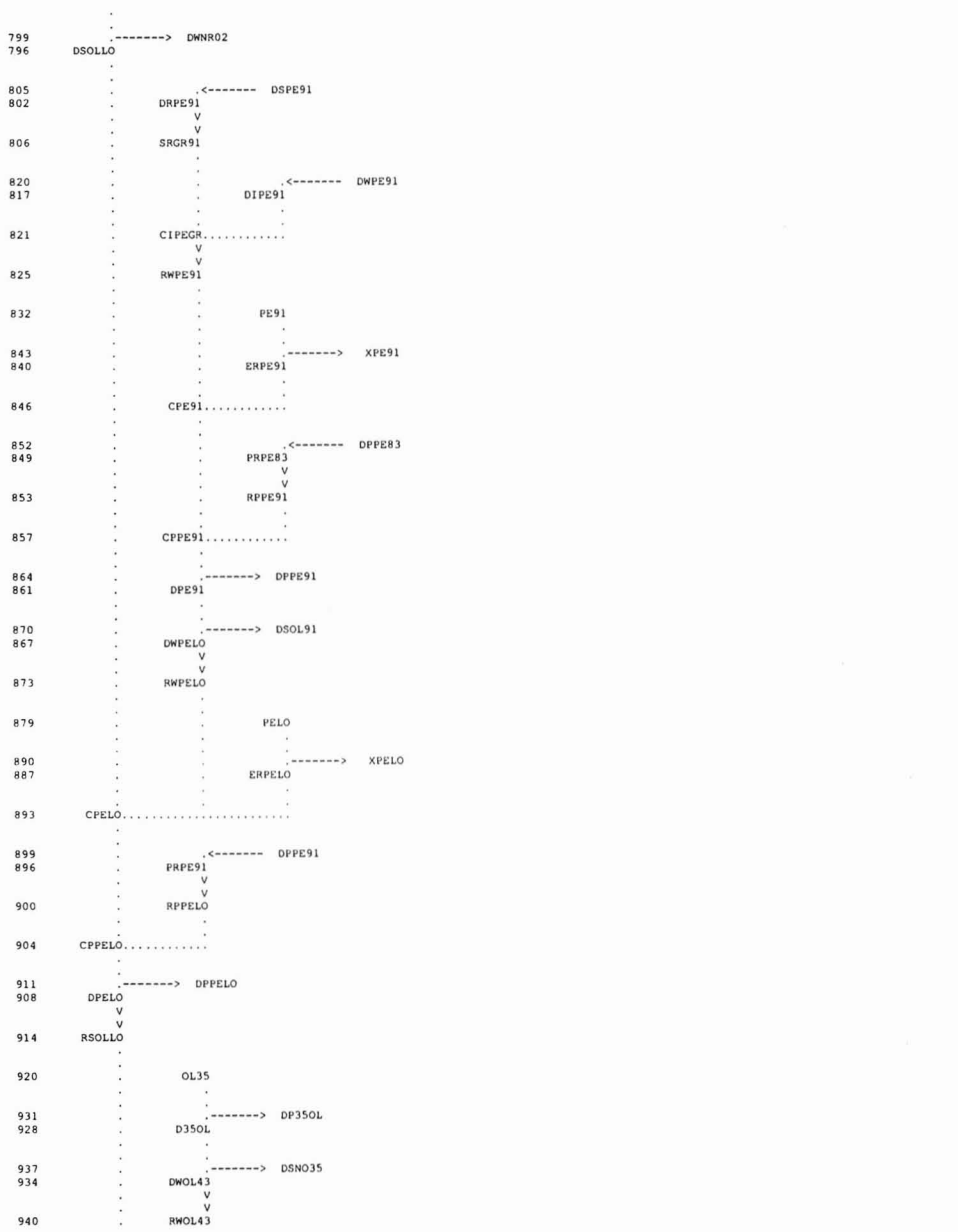
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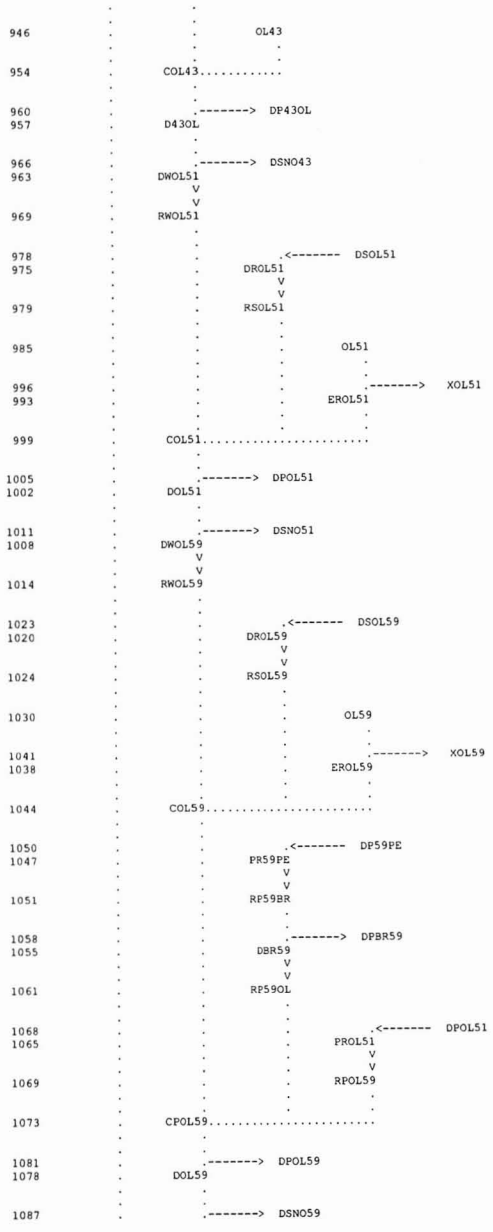
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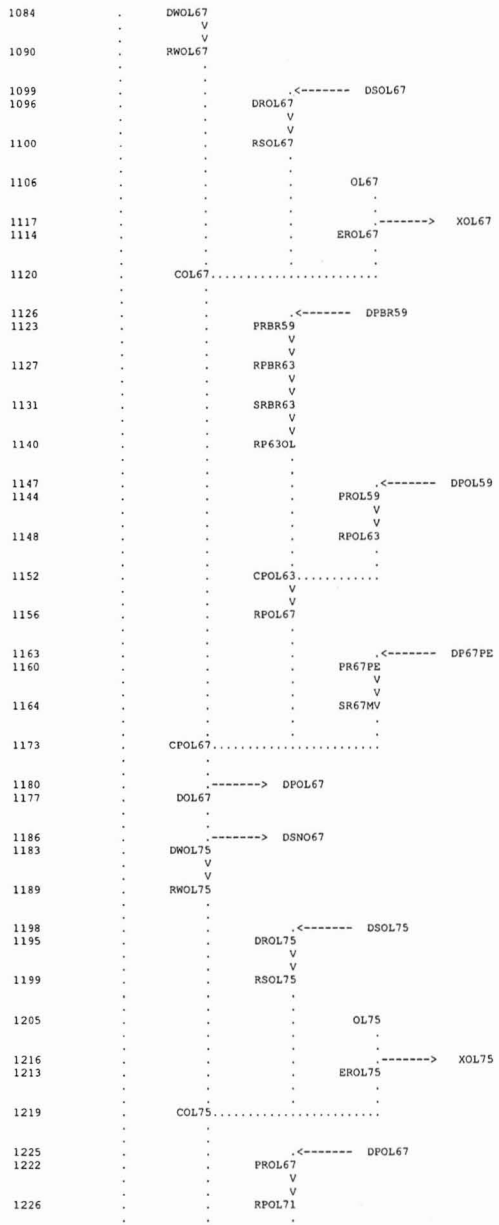
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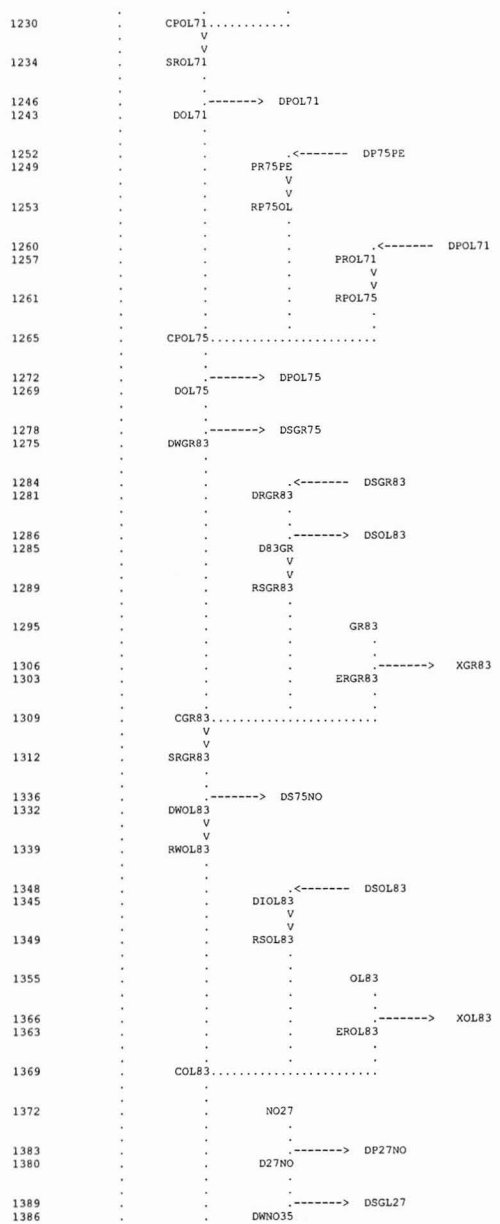
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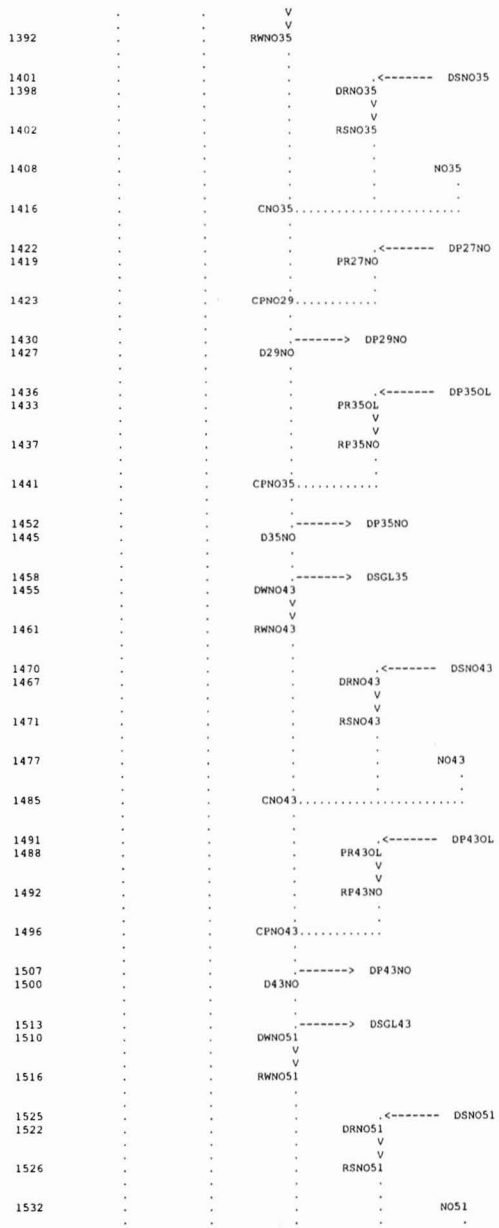
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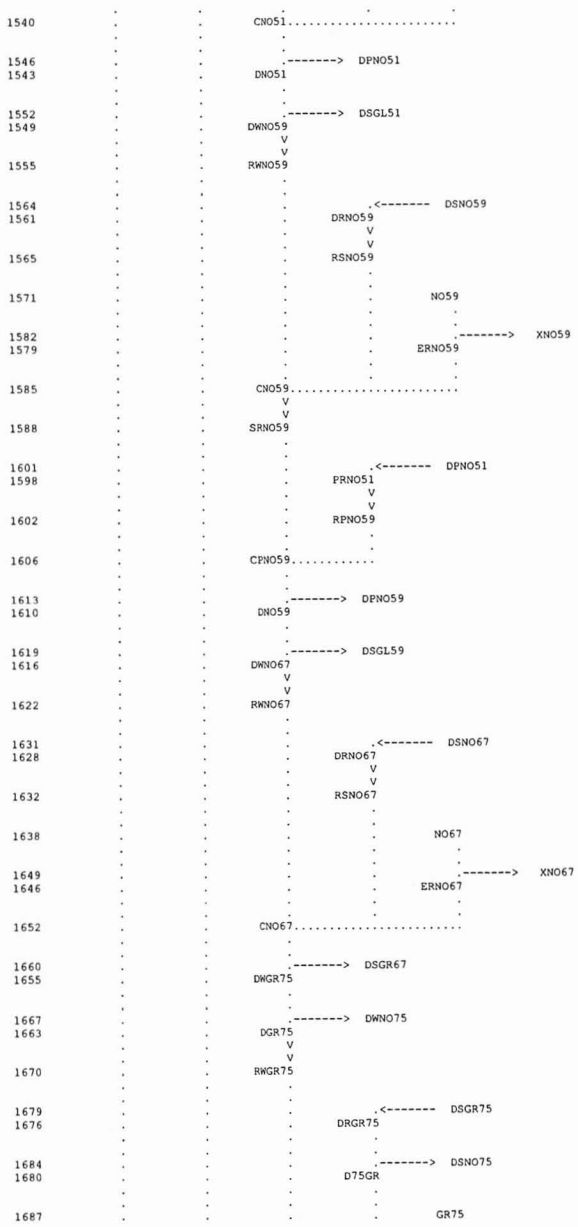
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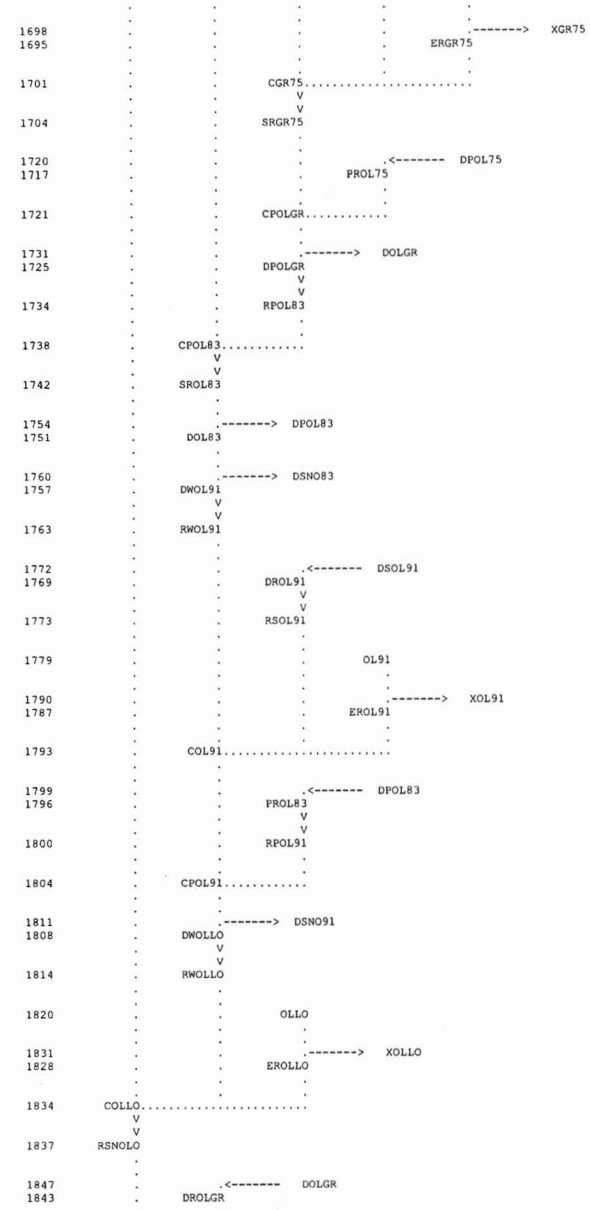
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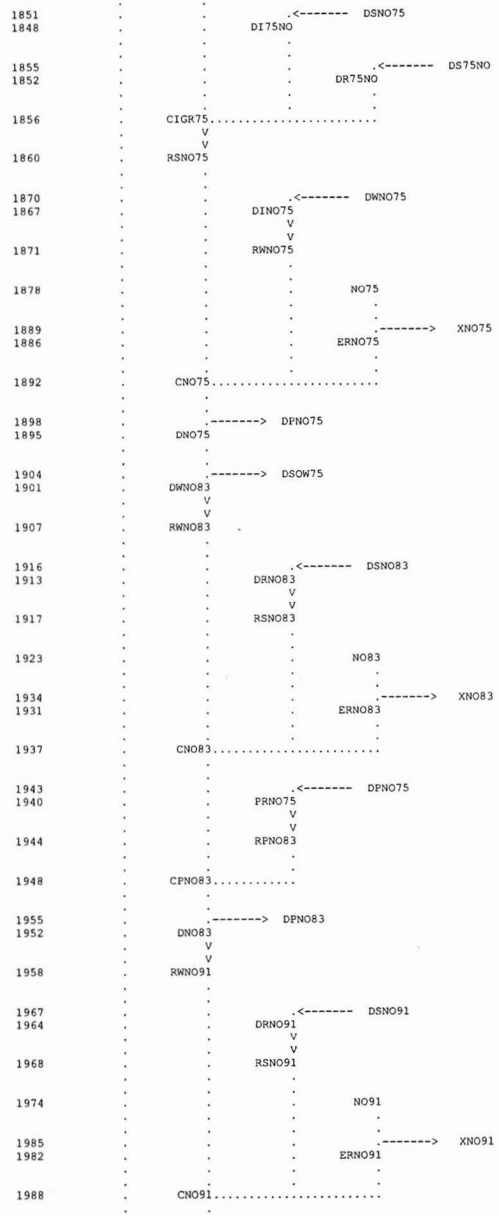
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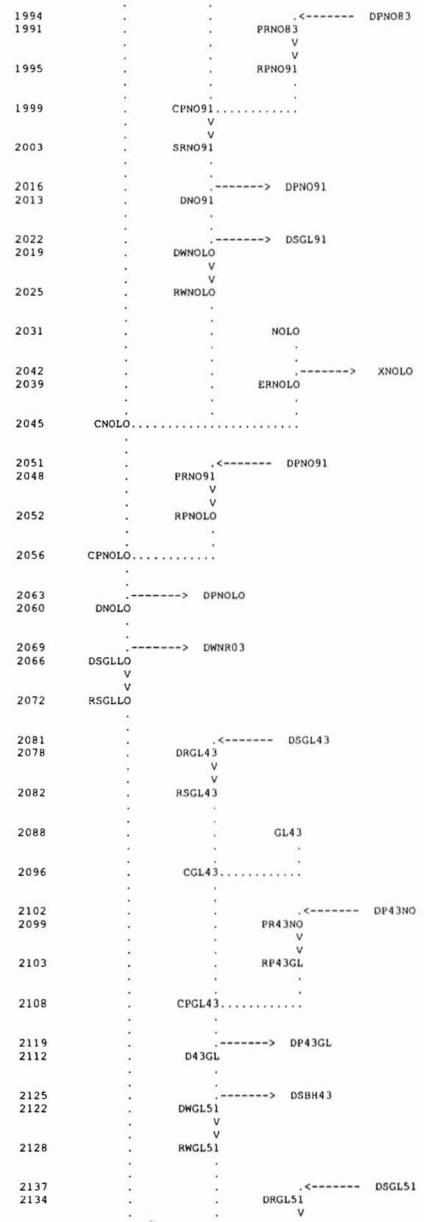
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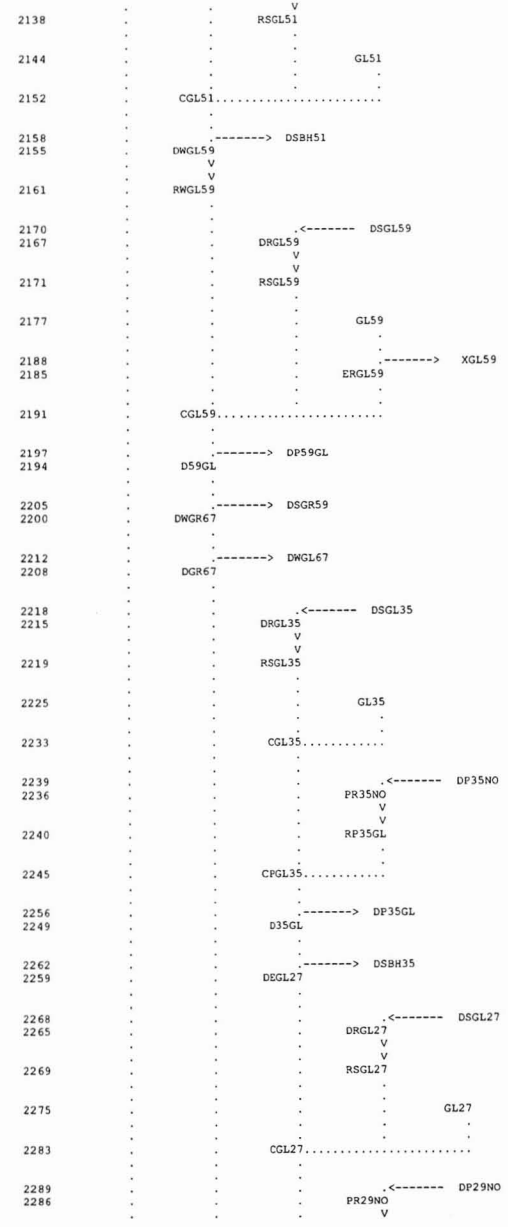
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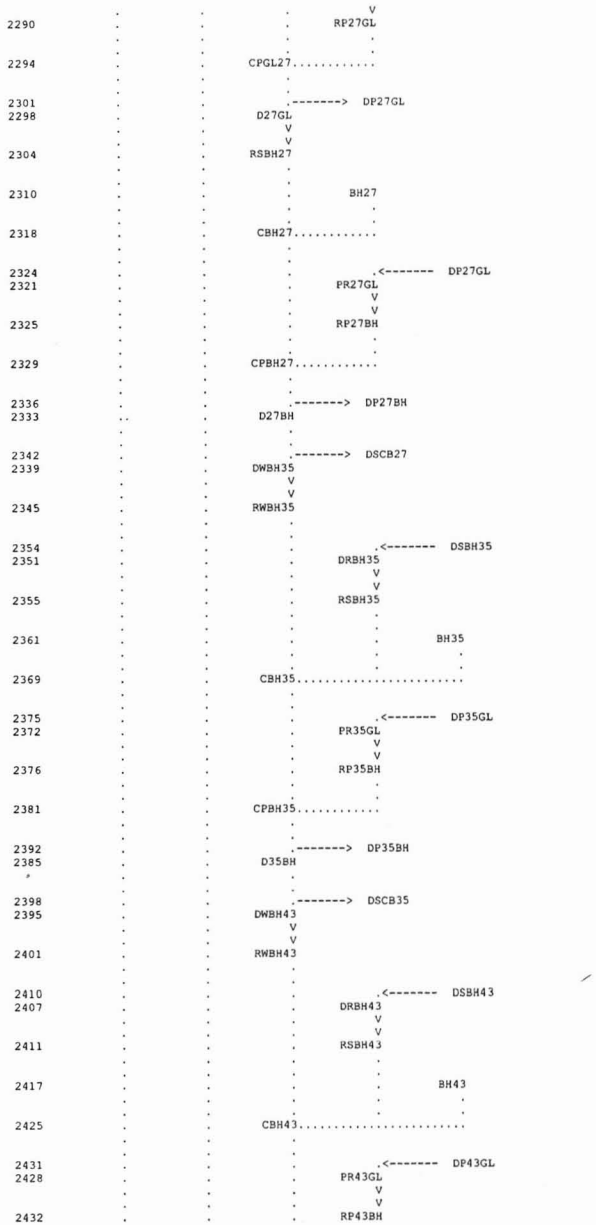
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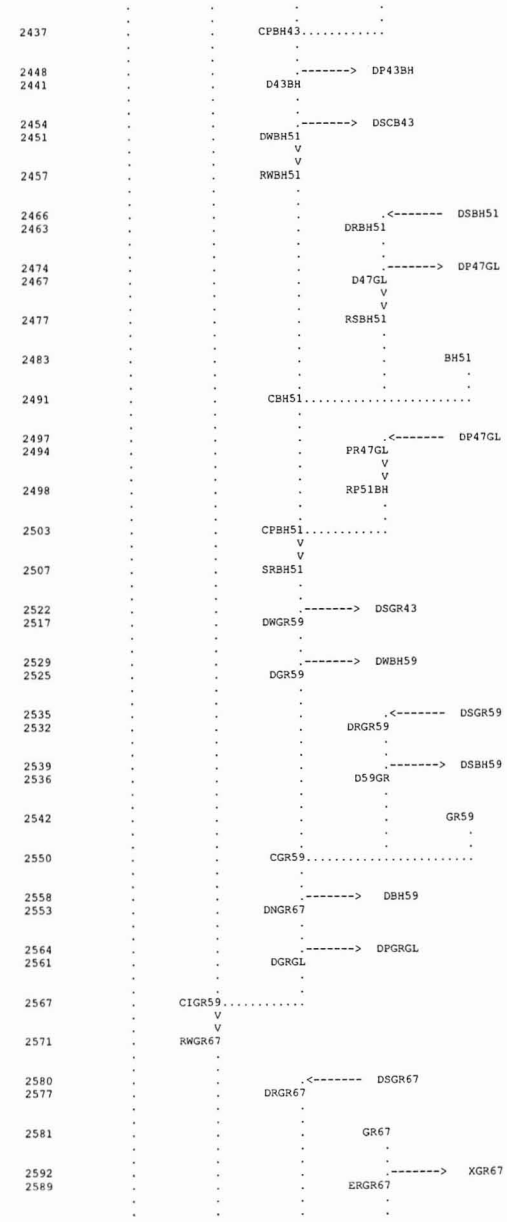
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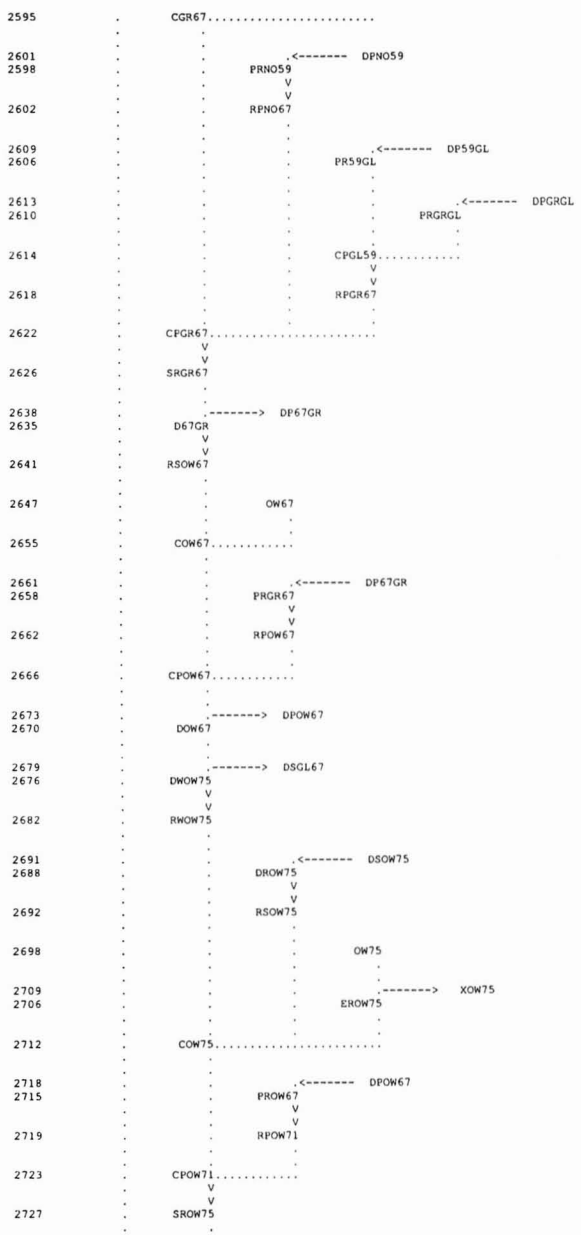
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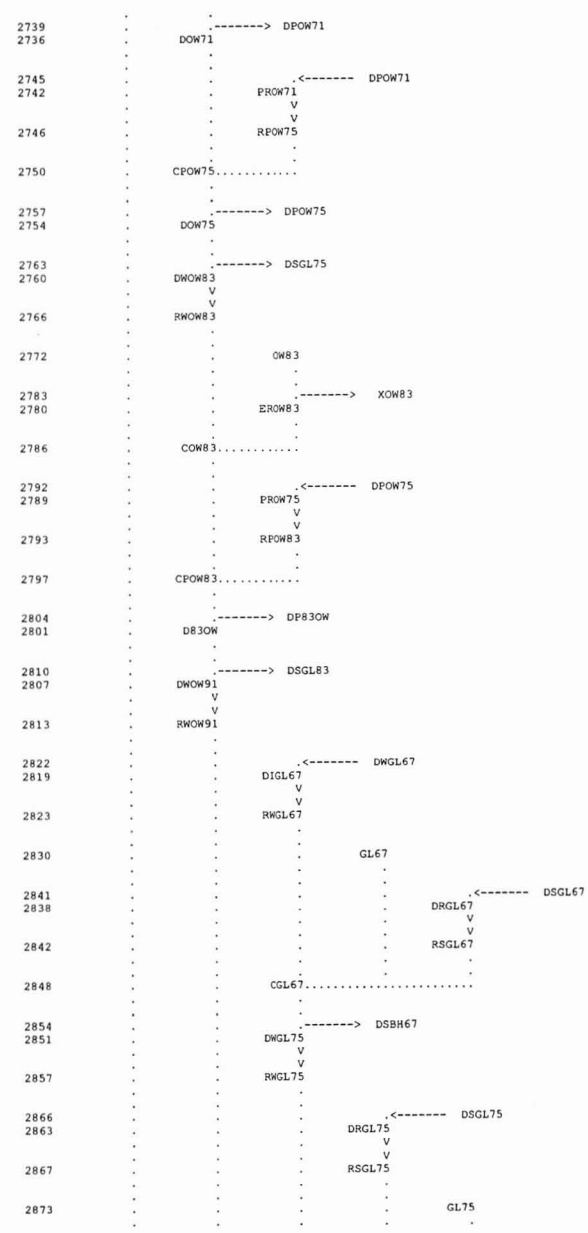
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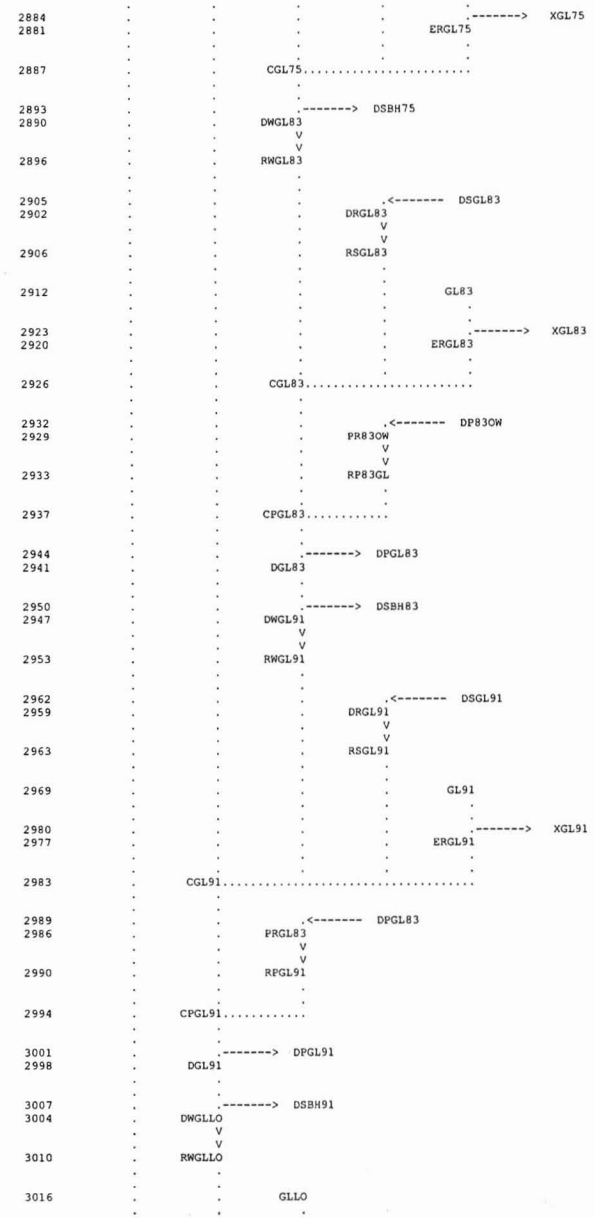
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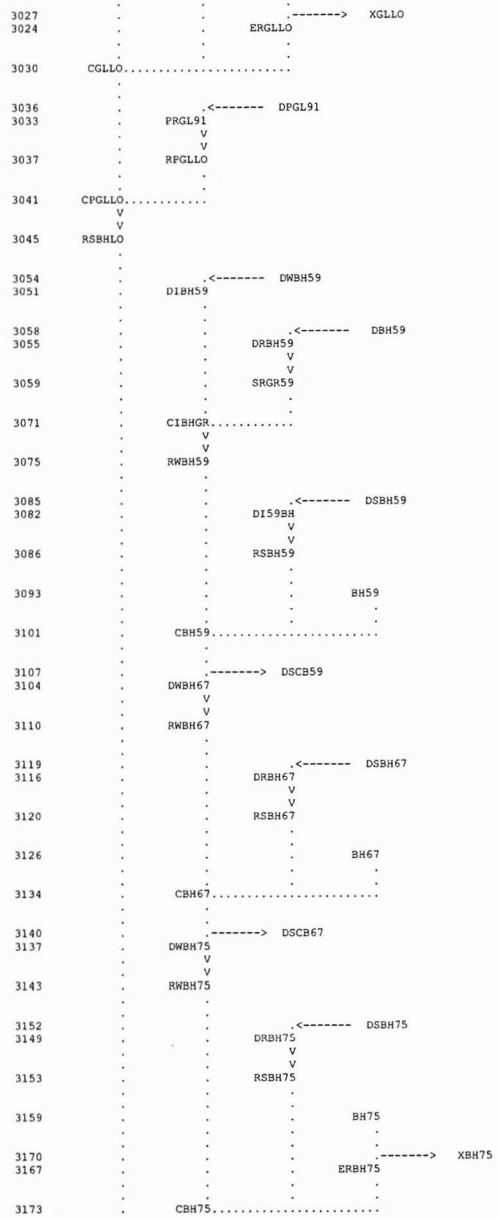
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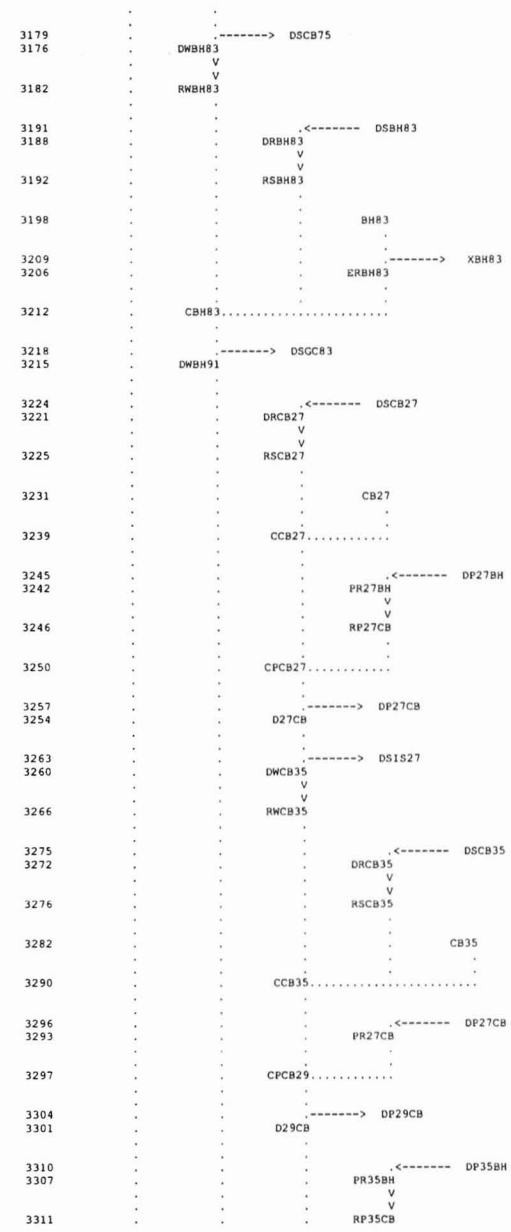
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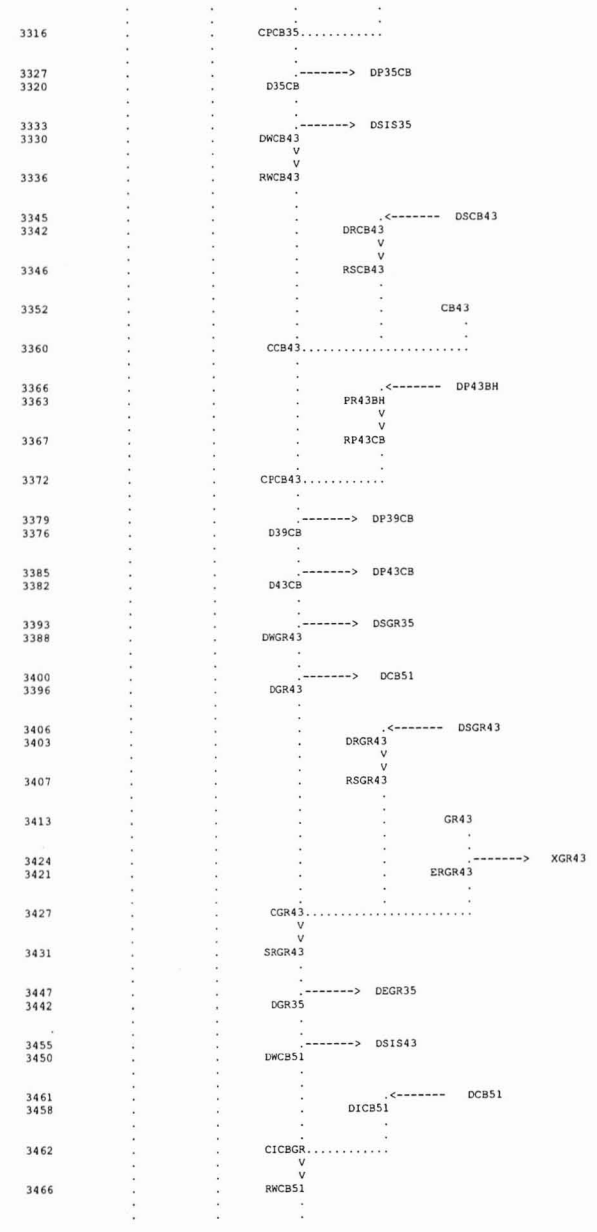
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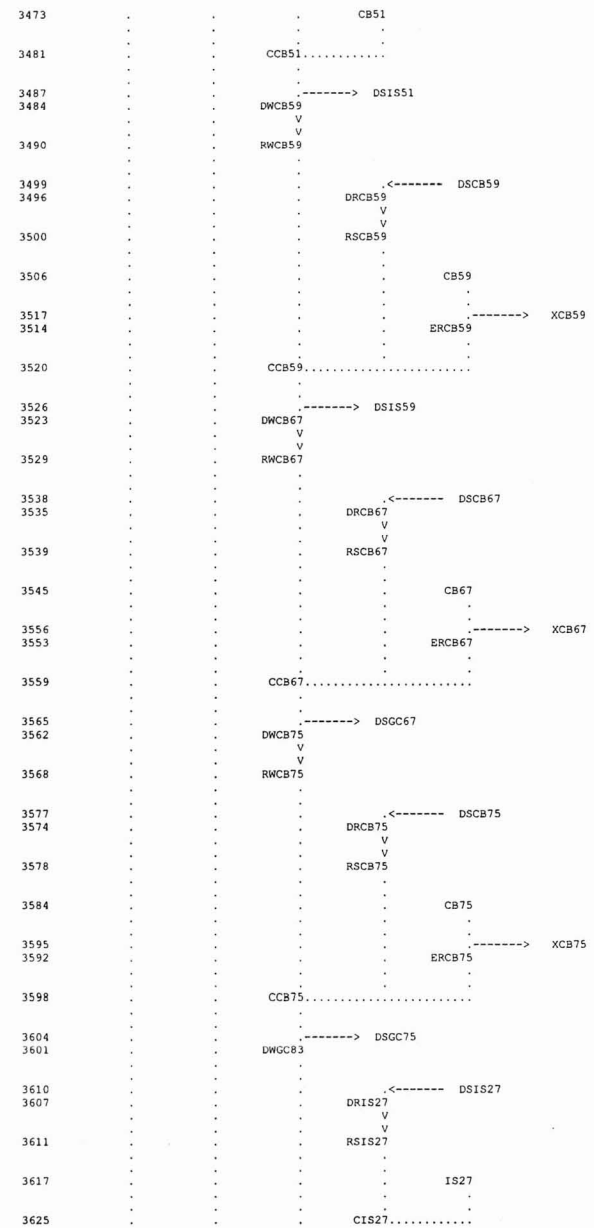
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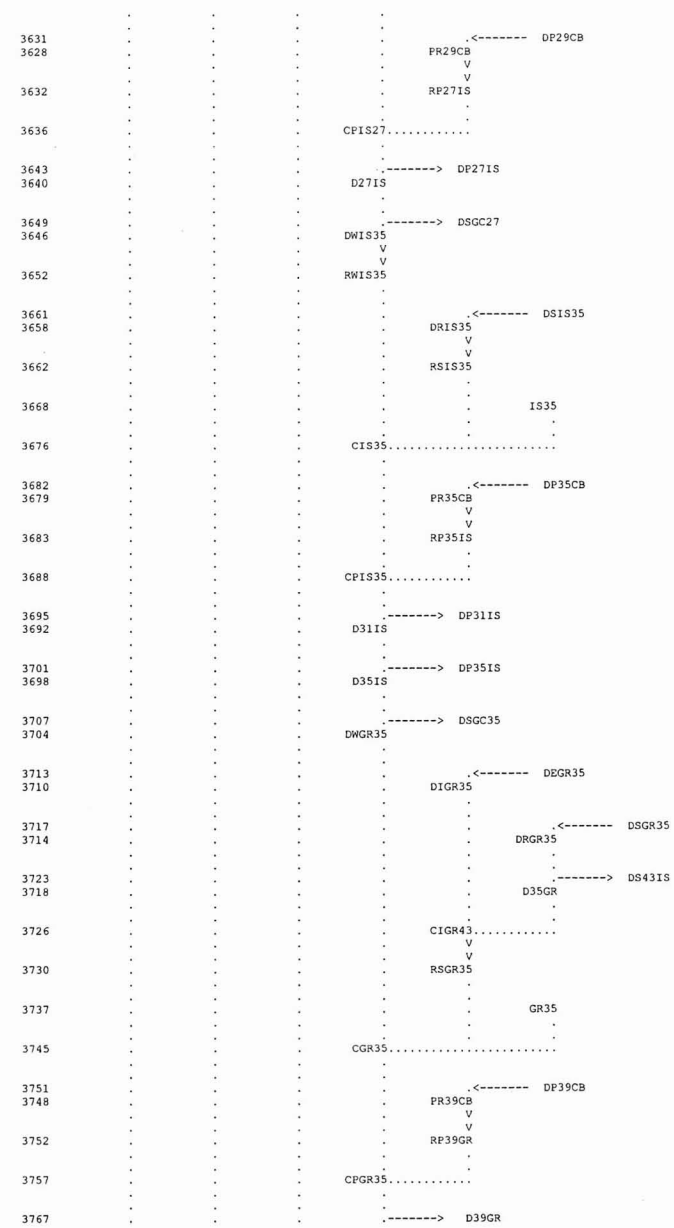
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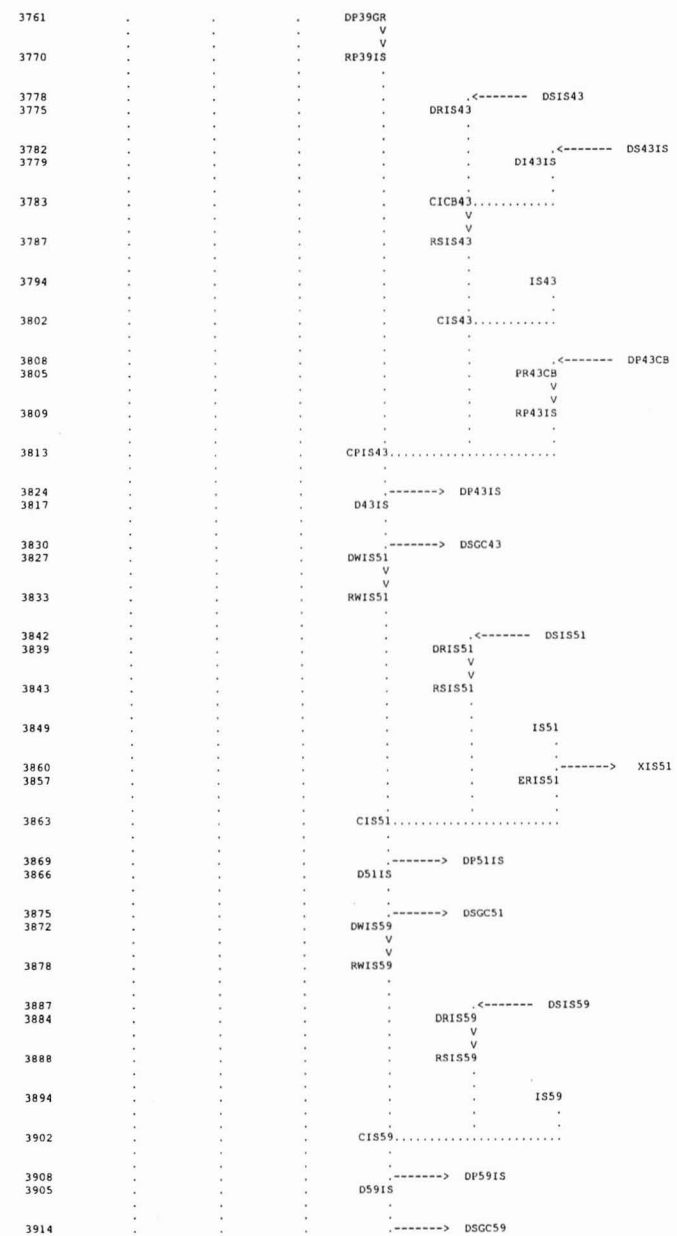
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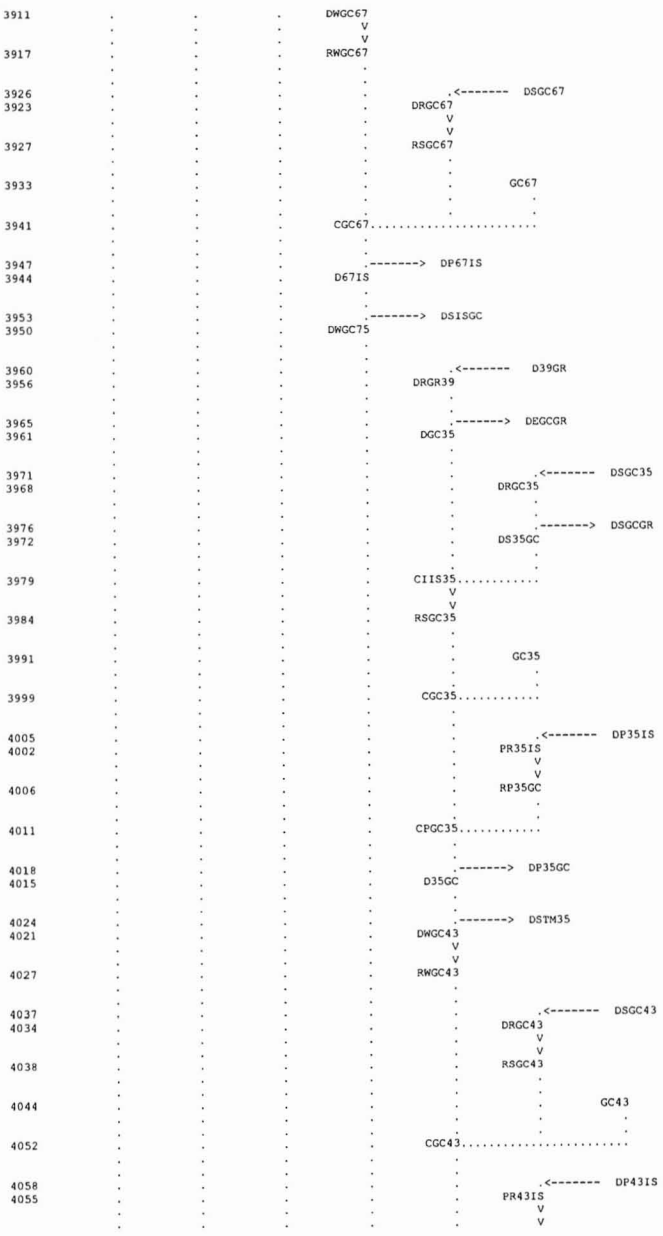
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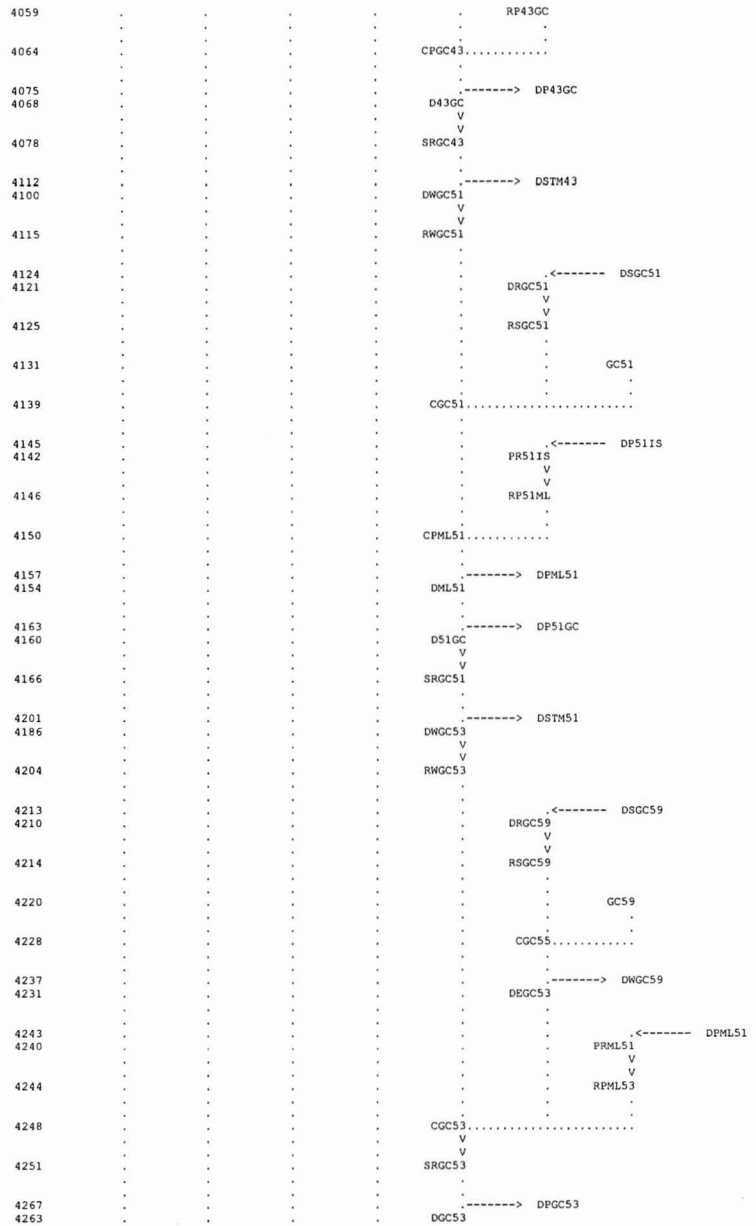
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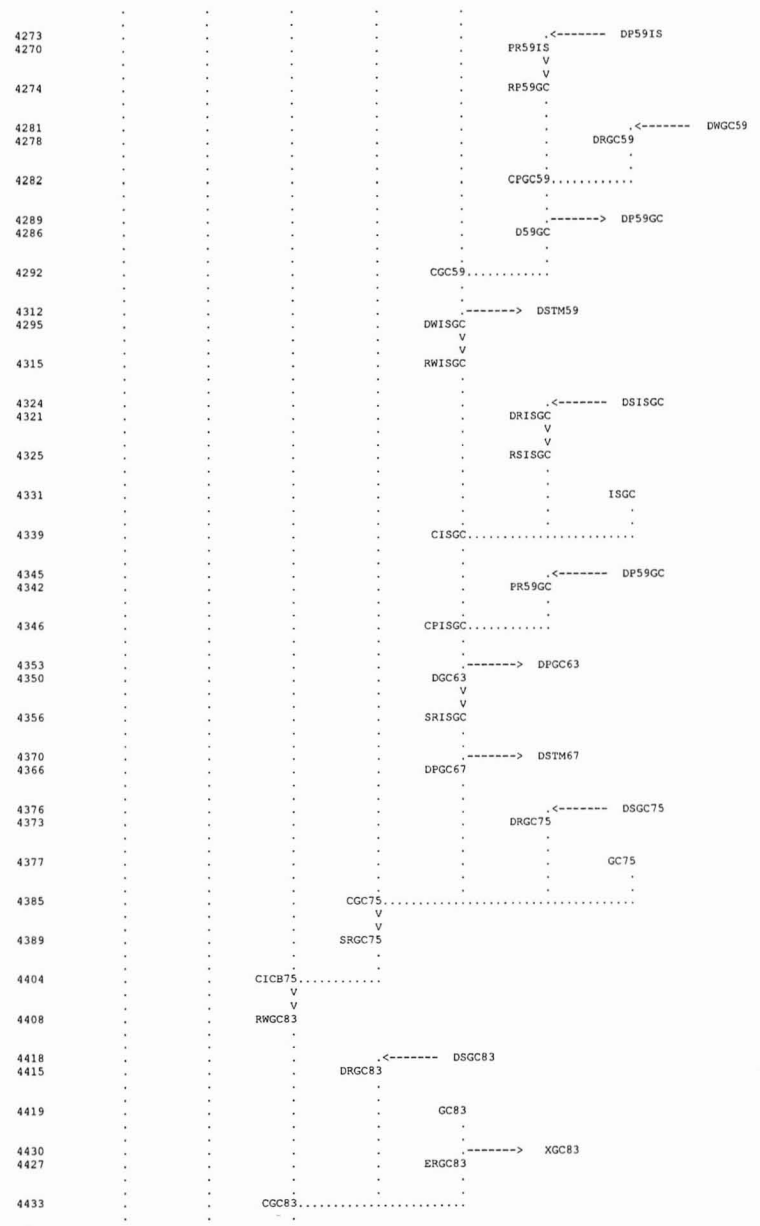
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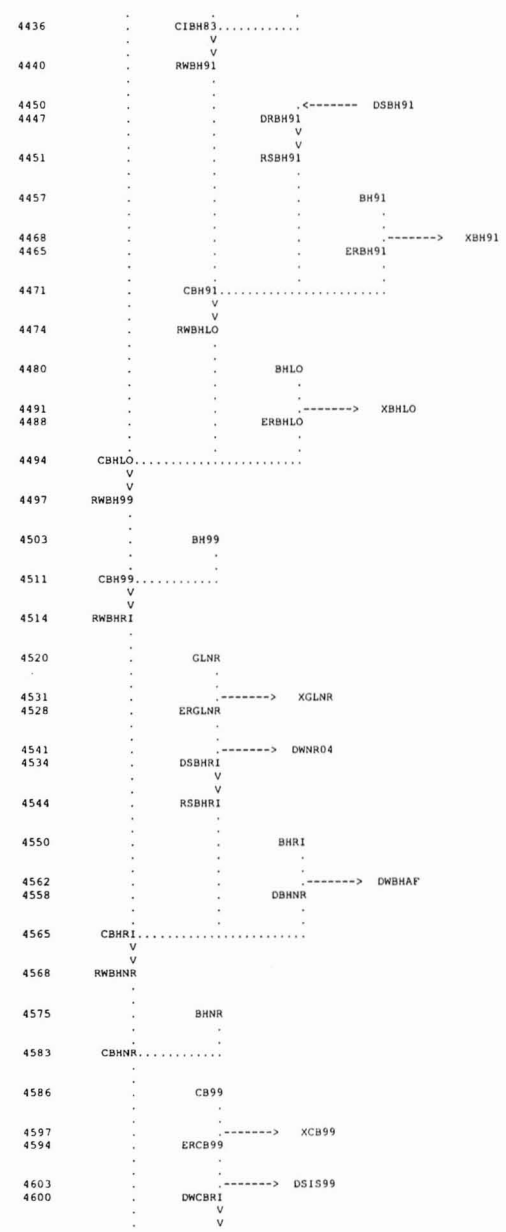
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4550 BHRI
4562 DWBHAF
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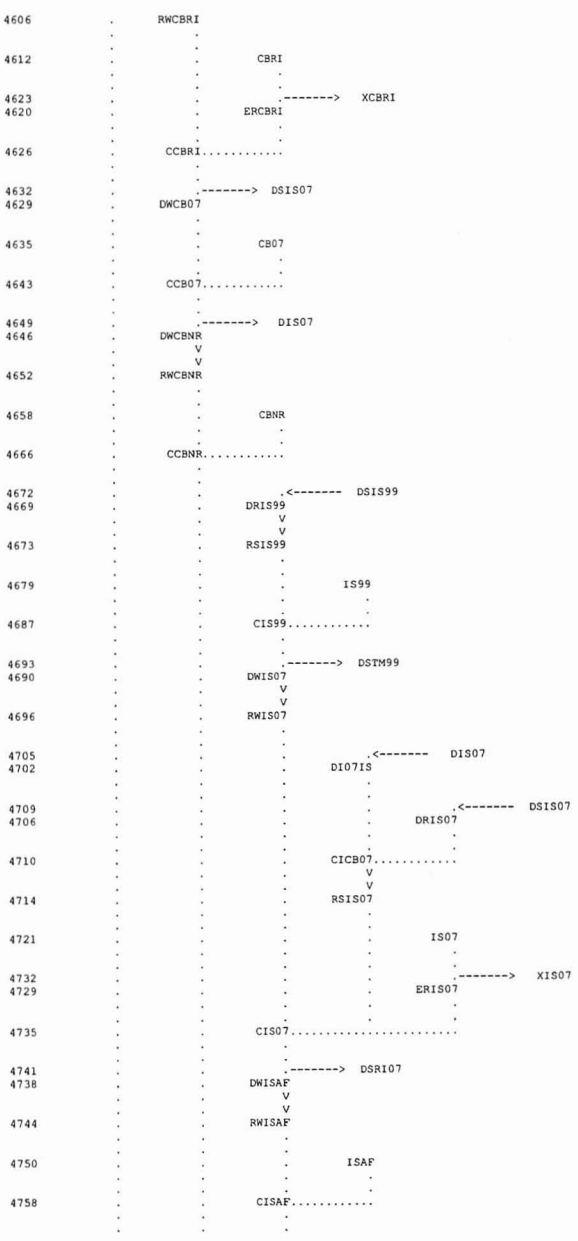
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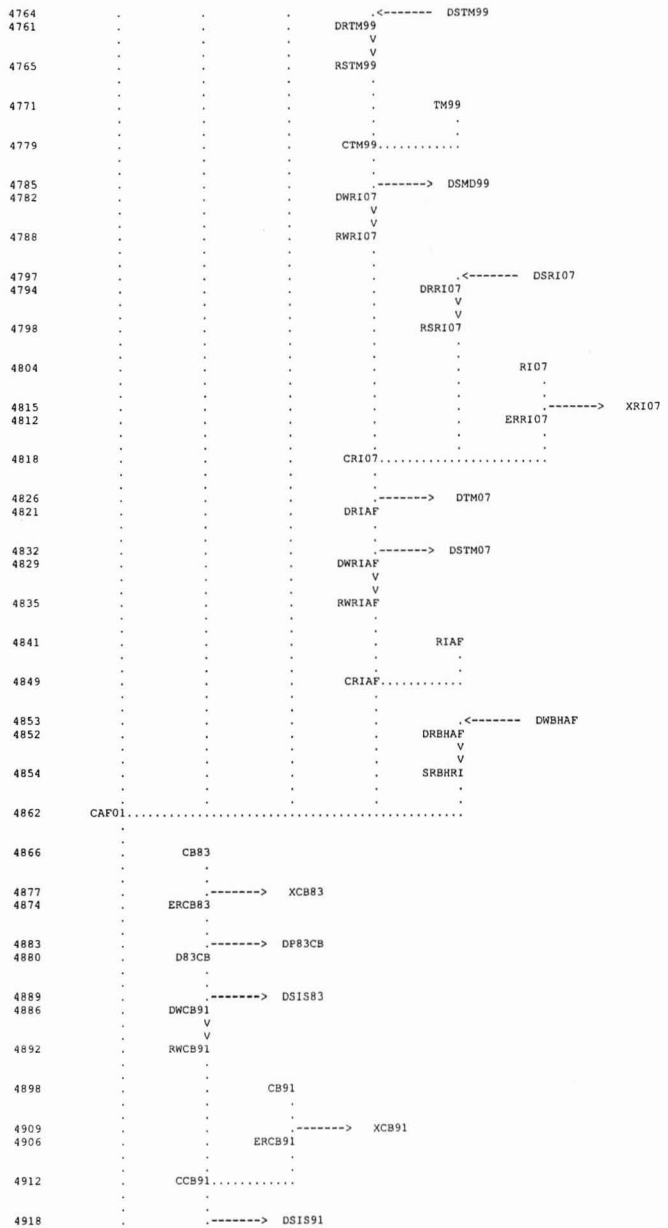
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4854 SRBHRI
4862 CAF01
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4877 XCB83
4874 ERCB83
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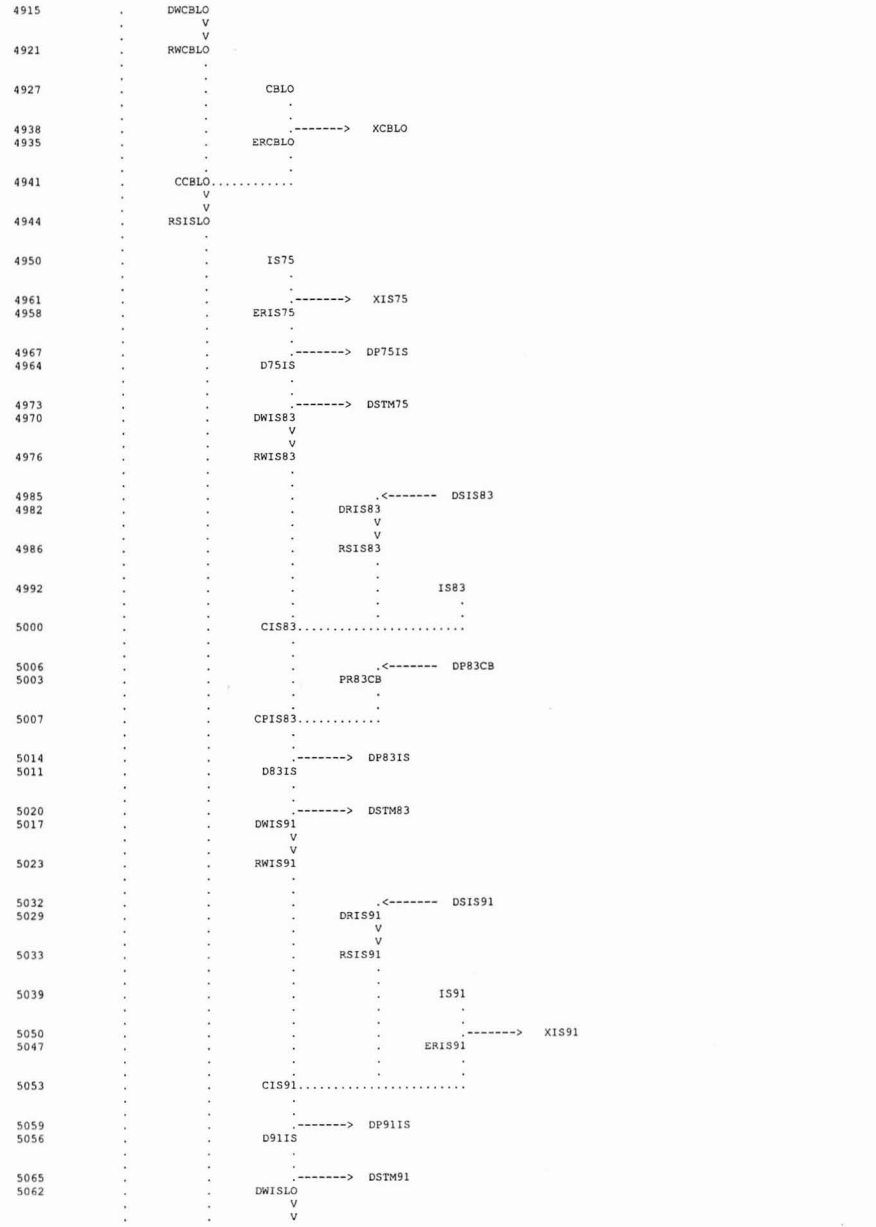
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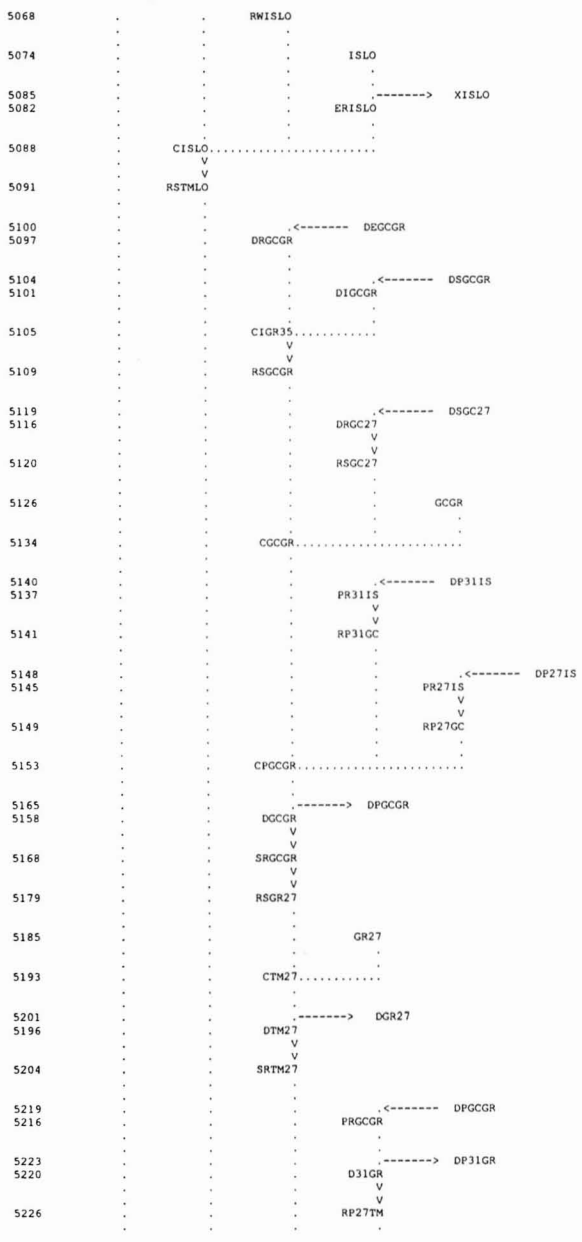
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DSGCGR
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DIGCGR
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RSGC27
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GCGR
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CGCGR
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DGR27
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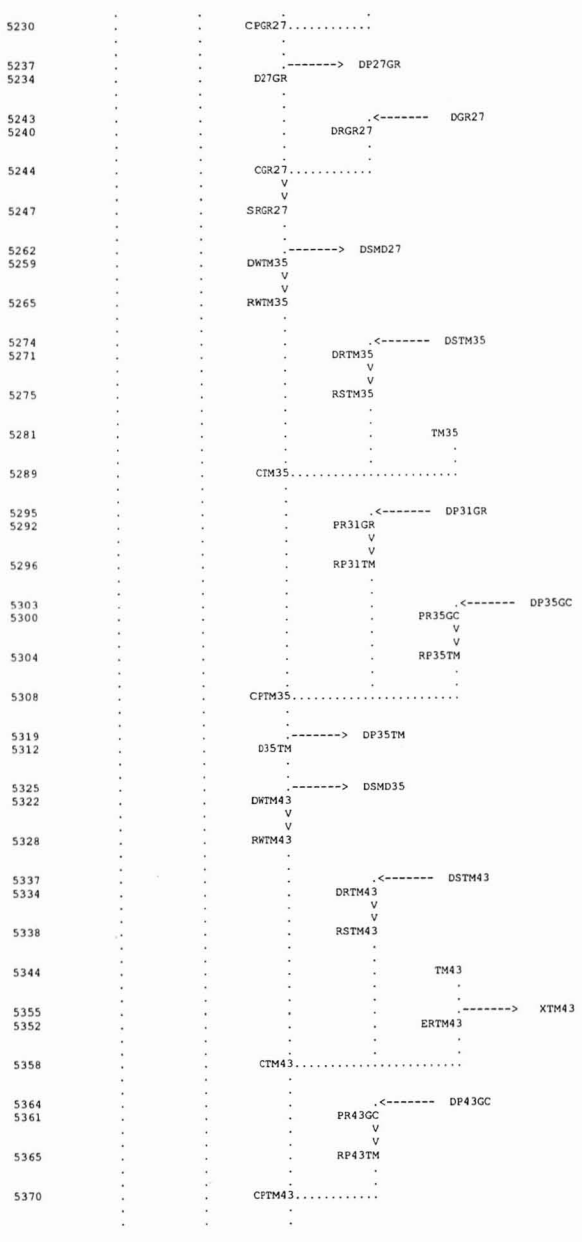
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DSTM35
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DRTM35
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TM35
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CTM35
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TM43
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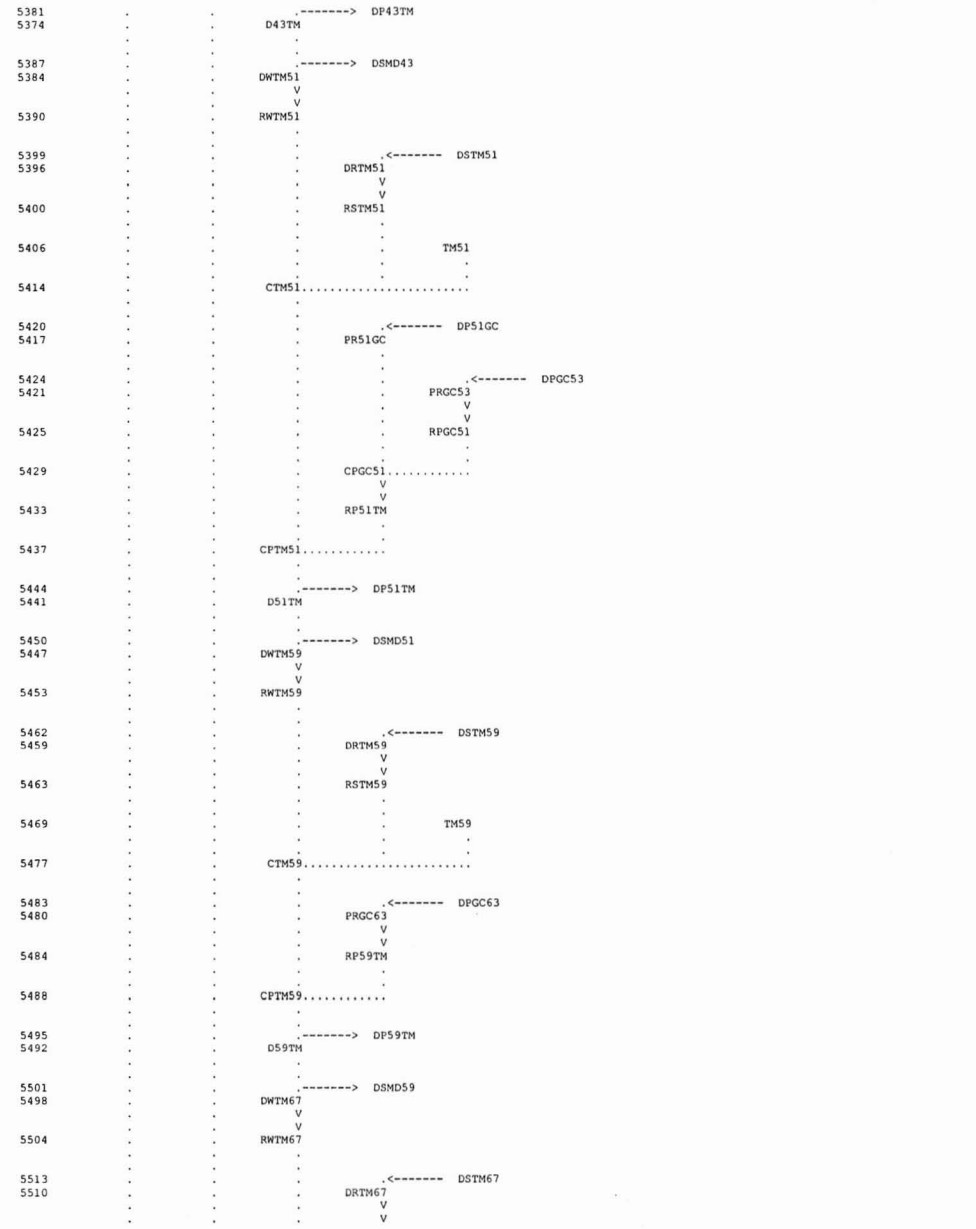
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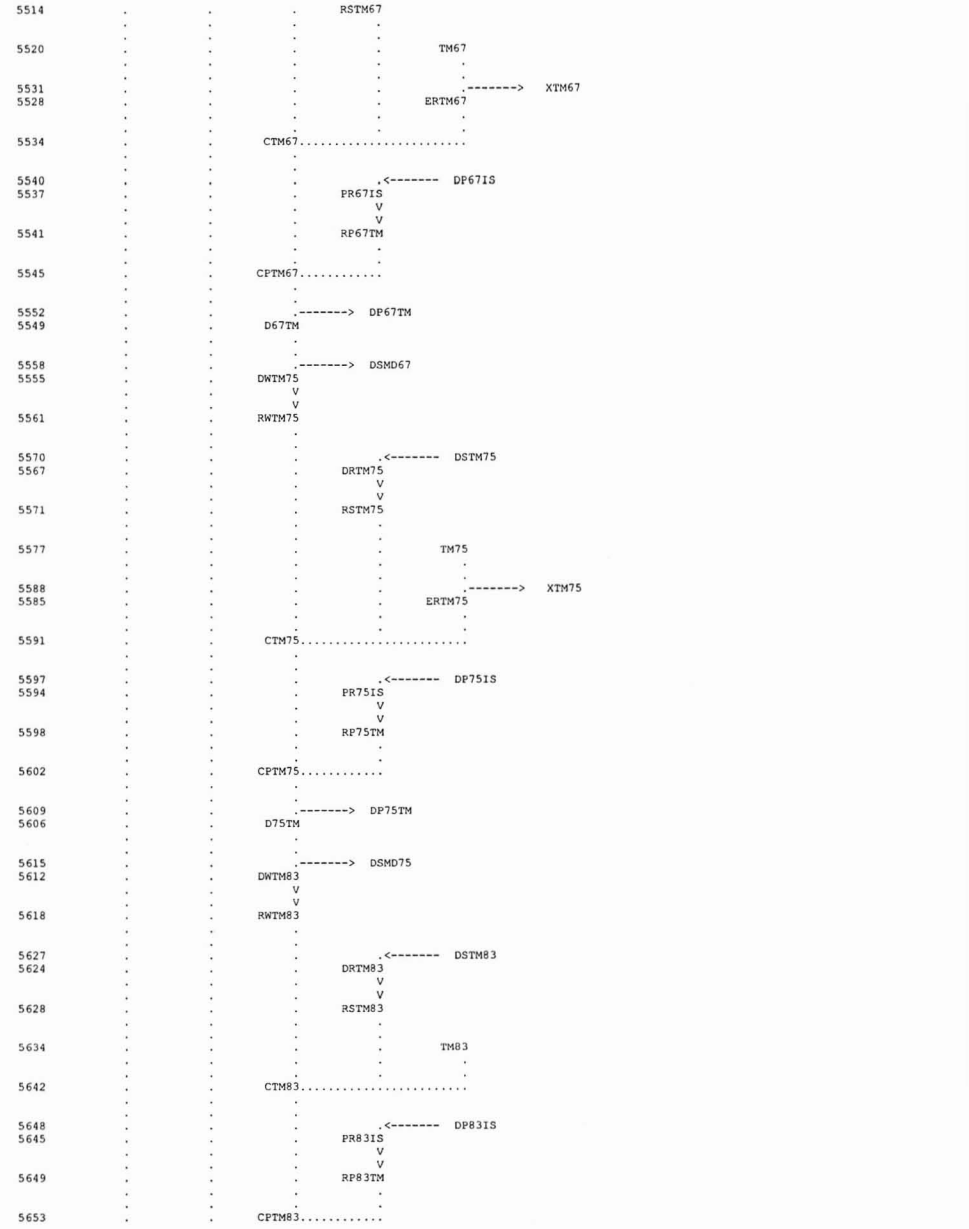
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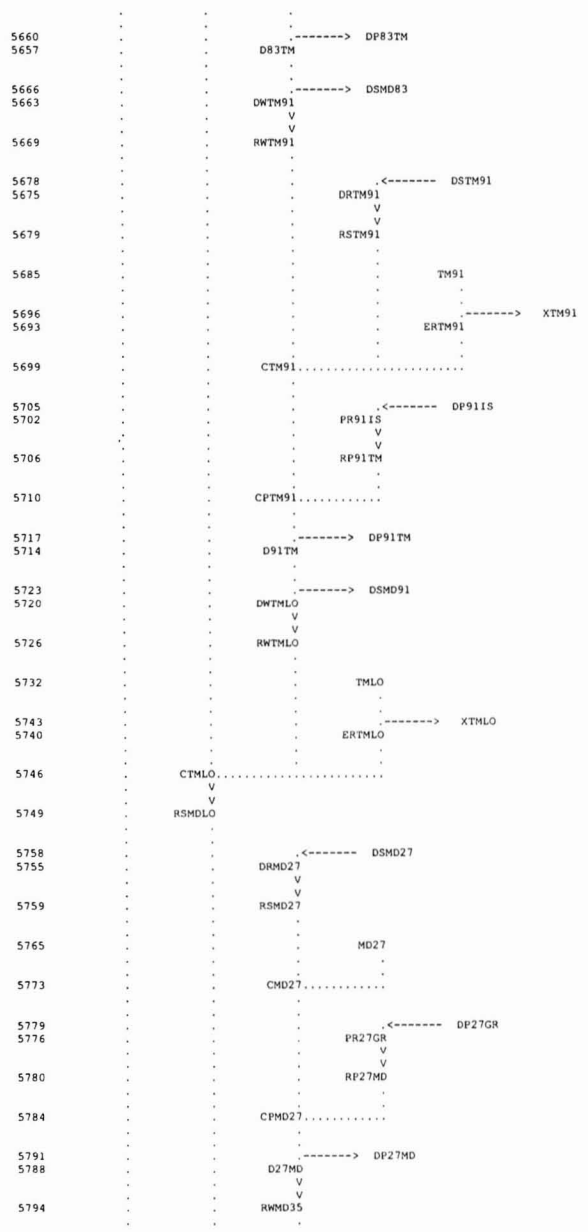
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TMLO
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XTMLO
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CMD27
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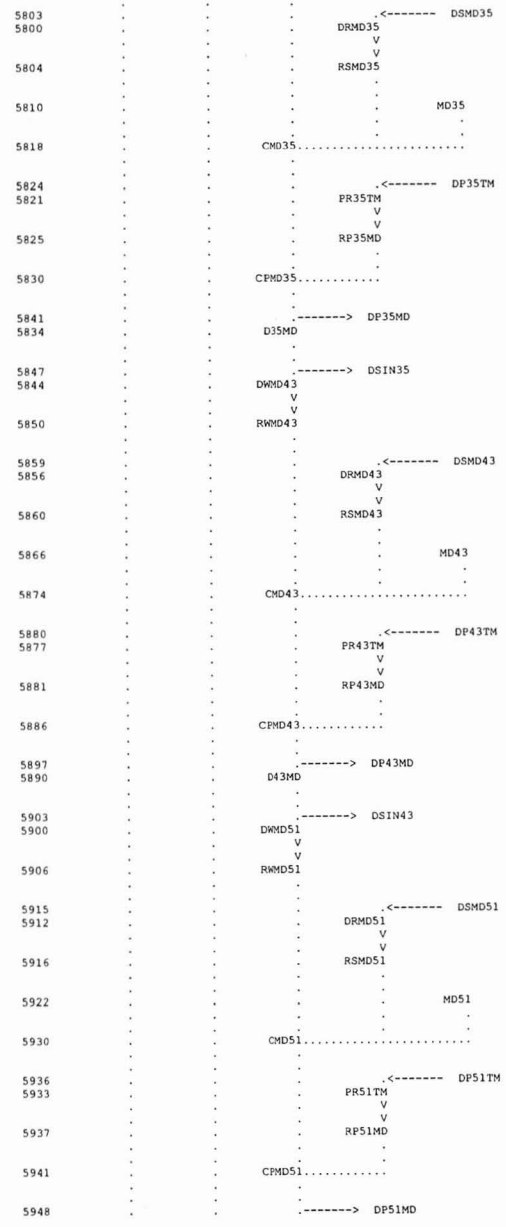
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RSMD51
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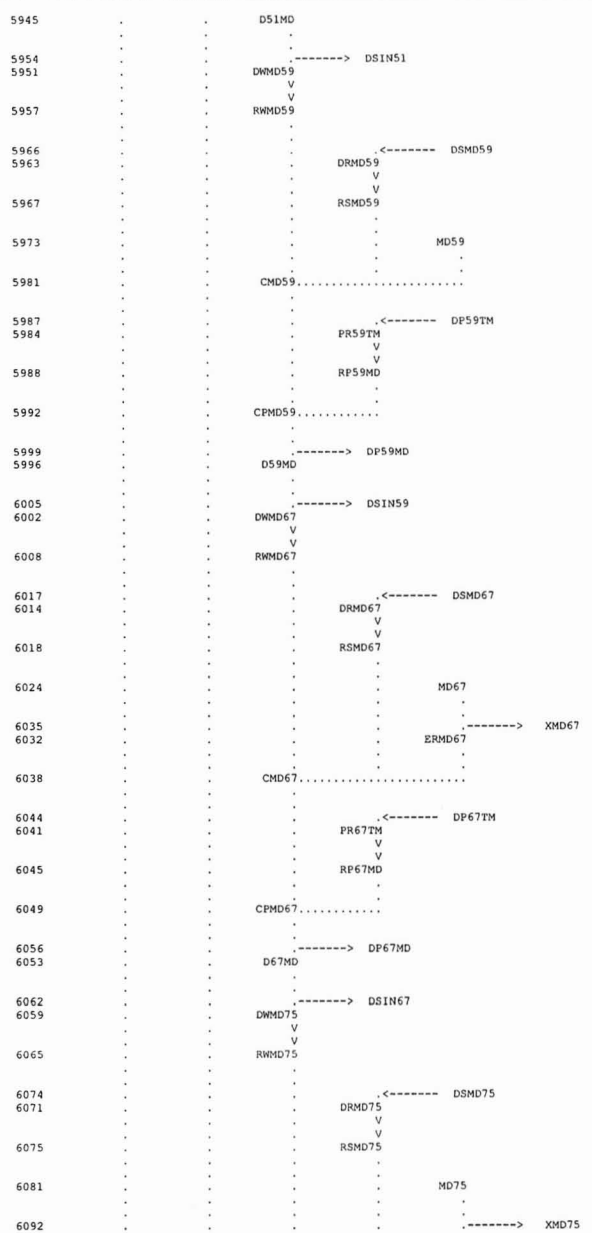
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5992 CPMD59.....
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5996 D59MD
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6018 RSMD67
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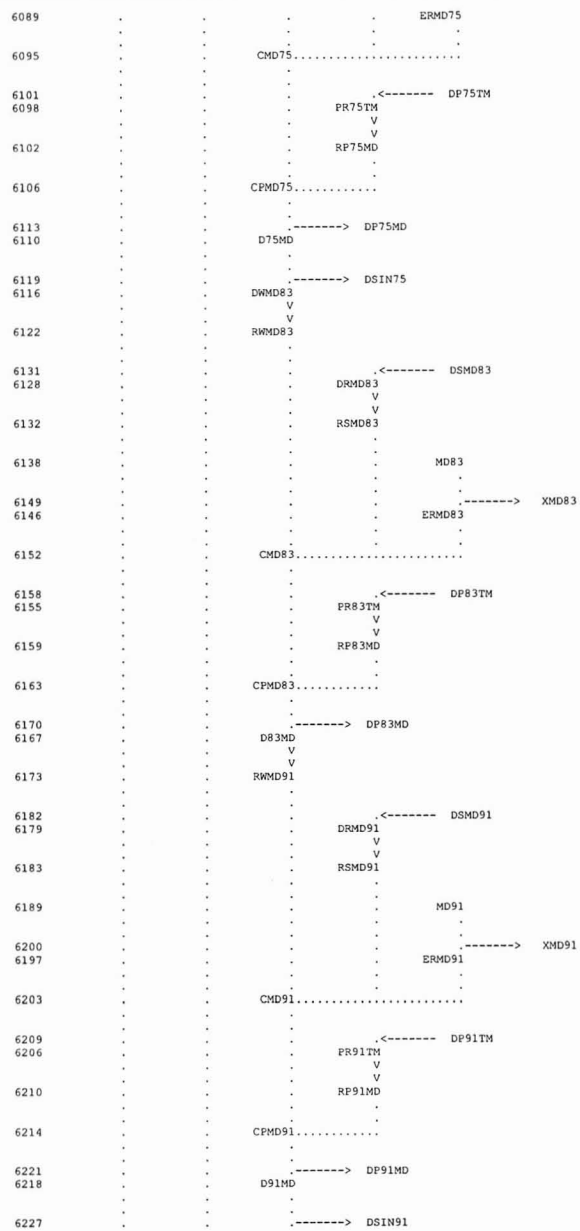
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6159 RP83MD
6163 CPMD83.....
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6173 RWMD91
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6183 RSMD91
6189 MD91
6200 .-------> XMD91
6197 ERMD91
6203 CMD91.....
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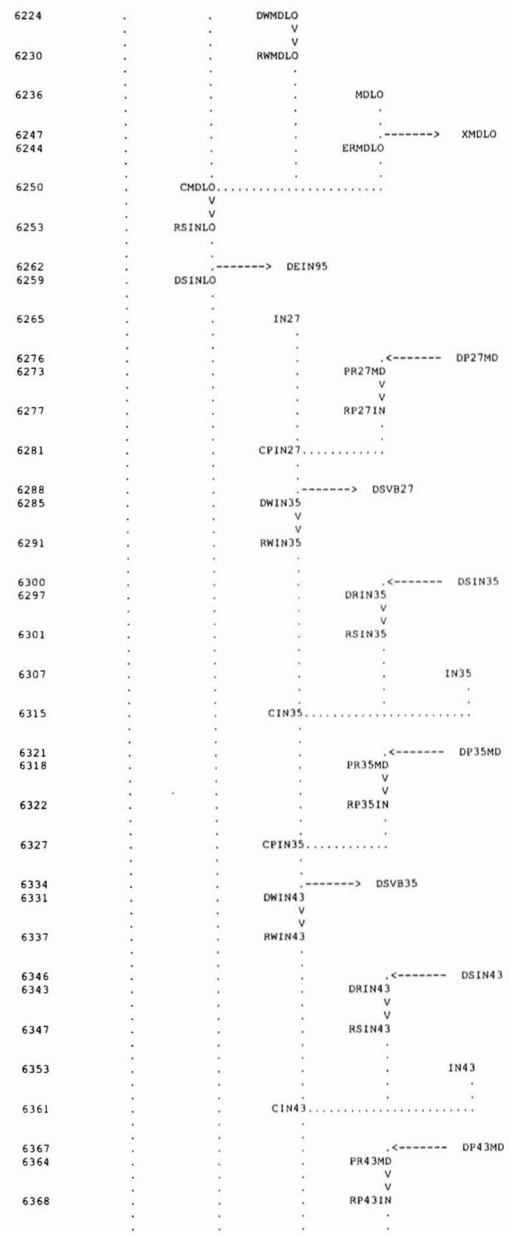
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DSINLO
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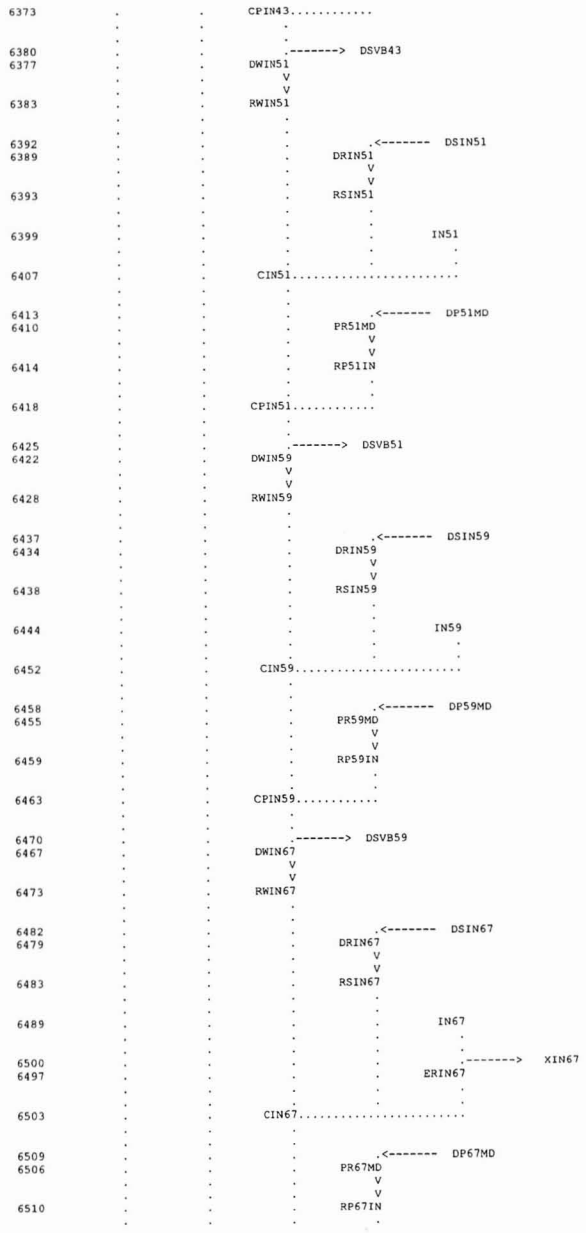
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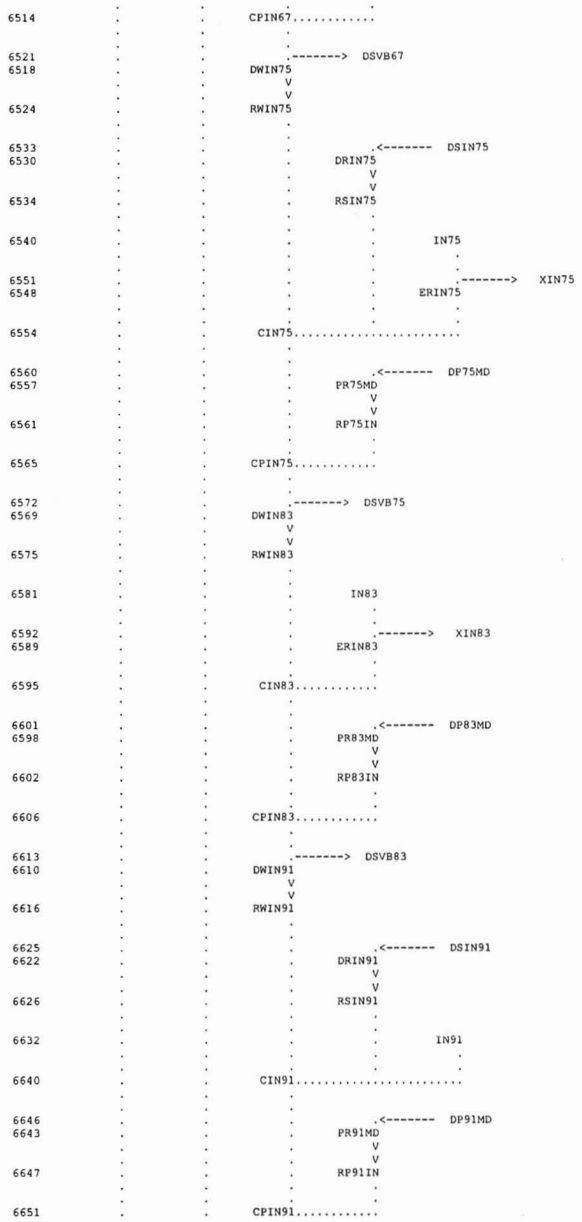
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CIN75
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PR75MD
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RP75IN
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CPIN75
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DWIN83
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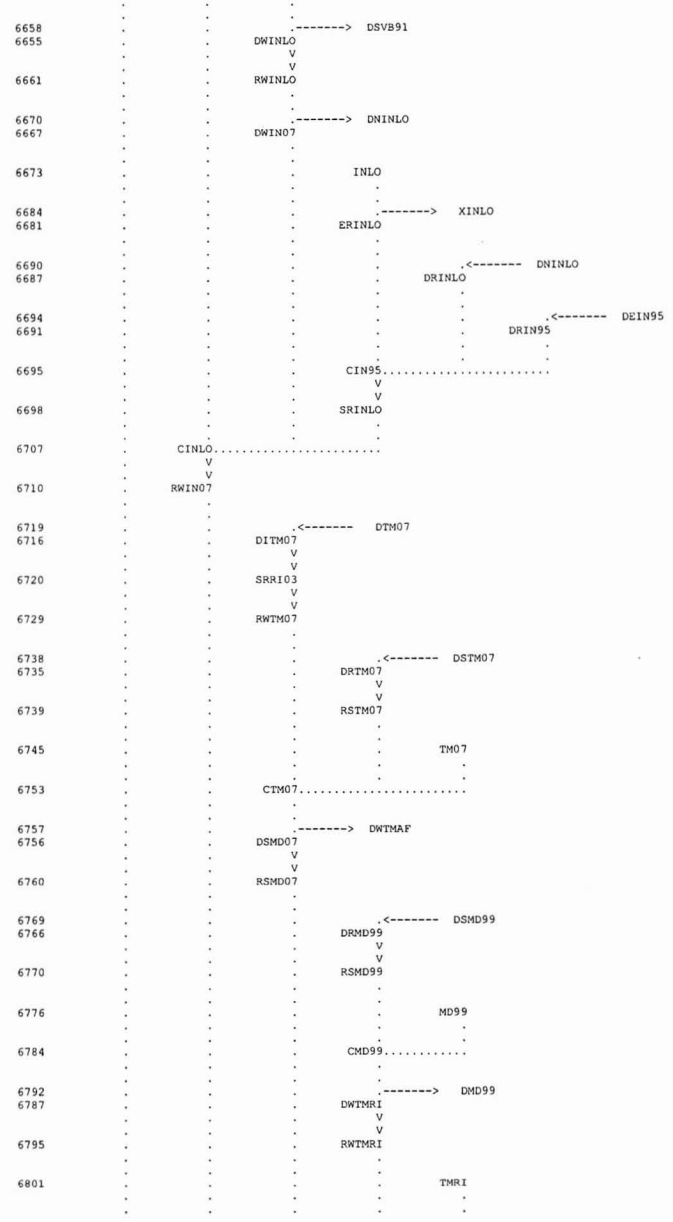
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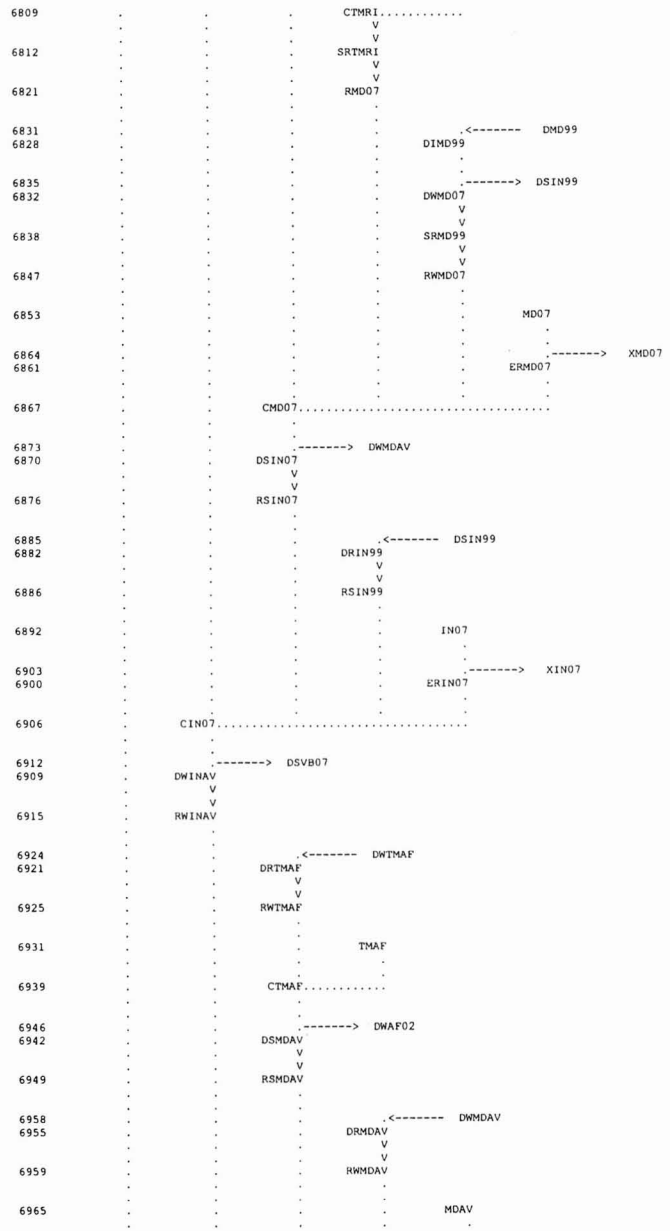

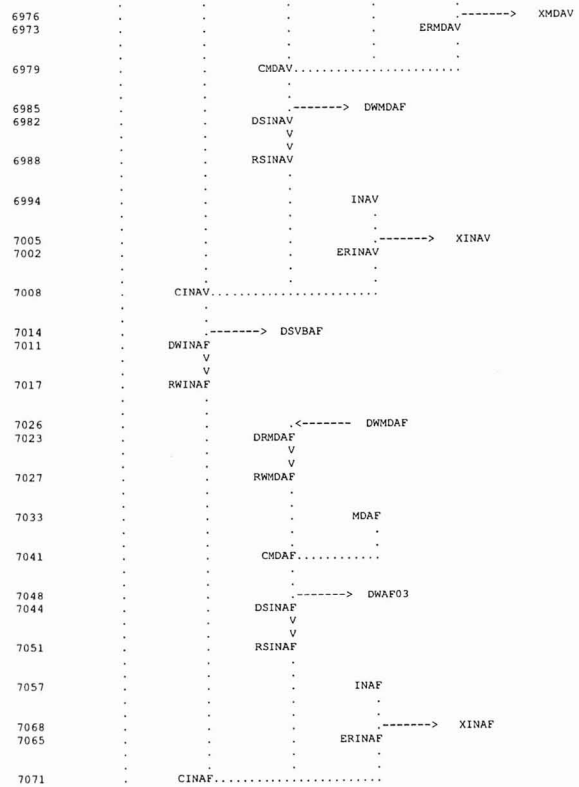

(***) RUNOFF ALSO COMPUTED AT THIS LOCATION

```
1*****************************************
*                                       *
*   FLOOD HYDROGRAPH PACKAGE  (HEC-1)   *
*             JUN  1998                 *
*           VERSION 4.1                 *
*                                       *
*  RUN DATE   01NOV10  TIME  11:01:36   *
*                                       *
*****************************************
```

```
*****************************************
*                                       *
*    U.S. ARMY CORPS OF ENGINEERS       *
*    HYDROLOGIC ENGINEERING CENTER      *
*          609 SECOND STREET            *
*       DAVIS, CALIFORNIA 95616         *
*           (916) 756-1104              *
*                                       *
*****************************************
```

GLENDALE STORMWATER MANAGEMENT PLAN
Model for Maryvale Watershed
Existing Conditions

Prepared for the City of Glendale
In Association with the Flood Control District of Maricopa County
City Project Number 089017

Prepared by Kimley-Horn and Associates, Inc.
KHA Project Number 091910009
October 2010

MODELING PARAMETERS
- 10 Year 6 Hour Storm Event
- NOAA 14 Rainfall Data
- Clark Unit Hydrograph
- Green and Ampt Rainfall Loss Method

```
     Topo data extracted from Flood Control District database July 24, 2009
     Land use obtained from City of Glendale General Plan August 2009, City of
          Phoenix General Plan August 2009, and MAG General Plan Land Use 2007

     Storage routing data obtained from As-built records where possible
     When As-built data was not available data was obtained from HEC-1 models
          and checked for accuracy. HEC-1 models used include:
          - Maryvale ADMS, February 1997
          - Maryvale model modified by DMJM for improvements along the Bethany
            Home Outfall Channel, file BHGC00C6.dat, November 2004
          - Update to ponding areas along Grand Canal in the City of Glendale
            for a CLOMR by PEC, February 2008
     The source of data is identified on each individual storage routing card

*************************************************************************

     MODELING NOMENCLATURE
     SUBBASIN HYDROGRAPH:
        Example: OL51   - the subbasin northeast of Olive and 51st Avenue

     STORM DRAIN DIVERSION:
        Example: DOL51  - flow from subbasin OL51 is diverted to a storm drain

     SUBBASIN DIVERSION:
        Example: DWOL59 - flow is diverted west towards Olive and 59th Avenue
        Example: DSNO51 - flow is diverted south towards Northern and 51st Ave

     ROUTE HYDROGRAPH:
        Example: RWOL59 - flow is routed west towards Olive and 59th Avenue
        Example: RSNO59 - flow is routed south towards Northern and 59th Ave

     COMBINE HYDROGRAPH:
        Example: COL59  - combine flow at Olive and 59th Avenue

     NAME ABBREVIATIONS
        Jomax Road              JM
        Happy Valley Road       HV
        Pinnacle Peak Road      PP
        Deer Valley Road        DV
        Loop 101                LO
        Beardsley Road          BY
        Union Hills Drive       UH
        Bell Road               BL
        Greenway Road           GW
        Thunderbird Road        TB
        Cactus Road             CT
        Peoria Avenue           PE
        Olive Avenue            OL
        Northern Avenue         NO
        Glendale Avenue         GL
        Bethany Home Road       BH
        Camelback Road          CB
        Indian School Road      IS
        Thomas Road             TM
        McDowell Road           MD
        Interstate 10           IN
        Van Buren Street        VB
        Avondale Boulevard      AV
        Grand Avenue            GR
        Grand Canal             GC
        Brown Street            BR
        Mountain View Road      MV
        Orangewood Avenue       OW
        Mitchell Drive          ML
        Agua Fria River         AF
        New River               NR
        Skunk Creek             SK
        Roosevelt Irrigation    RI

     PREFIXES FOR MODELING OPERATIONS
        RW      Routing flow in the west direction
        RS      Routing flow in the south direction
        RP      Routing storm drain pipe flow
        C       Combination point
        CI      Combination point at an intersection
        CP      Combination point for storm drain pipe flow
        SR      Storage for detention/retention basins
        DW      Divert flow to the west
        DE      Divert flow to the east
        DS      Divert flow to the south
        DN      Divert flow to the north
        ER      Divert flow for existing 100-yr 2-hr retention
        X       Existing retention divertion does not return to model
        DR      Divert retrieval from surface flow
        DI      Divert retrieval from intersection flow
        D       Divert surface flow (remains after storm drain divert)
        DP      Divert flow to a storm drain pipe
        PR      Divert retrieval from a storm drain pipe

*************************************************************************

111 IO          OUTPUT CONTROL VARIABLES
```



```
                IPRNT          5  PRINT CONTROL
                IPLOT          0  PLOT CONTROL
                QSCAL          0.  HYDROGRAPH PLOT SCALE

 IT         HYDROGRAPH TIME DATA
                NMIN           5  MINUTES IN COMPUTATION INTERVAL
                IDATE      1   0  STARTING DATE
                ITIME       0000  STARTING TIME
                  NQ        1000  NUMBER OF HYDROGRAPH ORDINATES
              NDDATE       4   0  ENDING DATE
              NDTIME        1115  ENDING TIME
               ICENT          19  CENTURY MARK

            COMPUTATION INTERVAL     .08 HOURS
                TOTAL TIME BASE   83.25 HOURS

       ENGLISH UNITS
            DRAINAGE AREA         SQUARE MILES
            PRECIPITATION DEPTH   INCHES
            LENGTH, ELEVATION     FEET
            FLOW                  CUBIC FEET PER SECOND
            STORAGE VOLUME        ACRE-FEET
            SURFACE AREA          ACRES
            TEMPERATURE           DEGREES FAHRENHEIT

 112 JD     INDEX STORM NO. 1
                STRM        1.73  PRECIPITATION DEPTH
                TRDA         .00  TRANSPOSITION DRAINAGE AREA

 113 PI       PRECIPITATION PATTERN
              .00   .00   .00   .00   .00   .00   .00   .00   .00   .00
              .00   .00   .00   .00   .00   .00   .00   .00   .00   .00
              .00   .00   .00   .00   .00   .00   .00   .00   .00   .00
              .00   .00   .00   .01   .01   .01   .01   .01   .01   .03
              .03   .03   .05   .05   .15   .15   .15   .15   .03   .03
              .03   .01   .01   .01   .01   .01   .01   .00   .00   .00
              .00   .00   .00   .00   .00   .00   .00   .00   .00   .00
              .00   .00

 116 JD     INDEX STORM NO. 2
                STRM        1.72  PRECIPITATION DEPTH
                TRDA         .50  TRANSPOSITION DRAINAGE AREA

 117 PI       PRECIPITATION PATTERN
              .00   .00   .00   .00   .00   .00   .00   .00   .00   .00
              .00   .00   .00   .00   .00   .00   .00   .00   .00   .00
              .00   .00   .00   .00   .00   .00   .00   .00   .00   .00
              .00   .00   .00   .01   .01   .01   .01   .01   .01   .03
              .03   .03   .05   .05   .05   .15   .15   .15   .03   .03
              .03   .01   .01   .01   .01   .01   .01   .00   .00   .00
              .00   .00   .00   .00   .00   .00   .00   .00   .00   .00
              .00   .00

 120 JD     INDEX STORM NO. 3
                STRM        1.68  PRECIPITATION DEPTH
                TRDA        2.80  TRANSPOSITION DRAINAGE AREA

 121 PI       PRECIPITATION PATTERN
              .00   .00   .00   .00   .00   .00   .00   .00   .00   .00
              .00   .00   .00   .00   .00   .00   .00   .00   .00   .00
              .00   .00   .00   .00   .00   .00   .00   .00   .00   .00
              .00   .00   .00   .01   .01   .01   .01   .01   .01   .03
              .03   .03   .07   .07   .07   .08   .08   .08   .05   .05
              .05   .02   .02   .02   .01   .01   .01   .00   .00   .00
              .00   .00   .00   .00   .00   .00   .00   .00   .00   .00
              .00   .00

 124 JD     INDEX STORM NO. 4
                STRM        1.59  PRECIPITATION DEPTH
                TRDA       16.00  TRANSPOSITION DRAINAGE AREA

 125 PI       PRECIPITATION PATTERN
              .01   .01   .00   .00   .00   .00   .00   .00   .00   .01
              .01   .01   .00   .01   .00   .00   .00   .00   .00   .00
              .00   .00   .01   .00   .00   .00   .00   .01   .01   .01
              .01   .01   .01   .01   .01   .01   .02   .02   .02   .03
              .03   .03   .06   .06   .06   .07   .07   .07   .04   .04
              .04   .02   .02   .02   .01   .01   .01   .01   .01   .01
              .00   .00   .00   .00   .00   .00   .00   .00   .00   .00
              .00   .00

 128 JD     INDEX STORM NO. 5
                STRM        1.40  PRECIPITATION DEPTH
                TRDA       90.00  TRANSPOSITION DRAINAGE AREA

 129 PI       PRECIPITATION PATTERN
              .01   .01   .01   .00   .00   .00   .01   .01   .01   .01
              .01   .01   .01   .01   .01   .01   .01   .01   .01   .01
              .01   .01   .01   .01   .01   .01   .01   .01   .01   .01
              .01   .01   .01   .01   .01   .01   .02   .02   .02   .03
              .03   .03   .05   .05   .05   .05   .05   .05   .04   .04
              .04   .02   .02   .02   .02   .02   .02   .01   .01   .01
              .01   .01   .01   .01   .01   .01   .01   .01   .01   .01
```

.01 .01

132 JD INDEX STORM NO. 6
STRM 1.38 PRECIPITATION DEPTH
TRDA 100.00 TRANSPOSITION DRAINAGE AREA

133 PI PRECIPITATION PATTERN

.01	.01	.01	.00	.01	.00	.01	.01	.01	.01
.01	.01	.01	.01	.01	.01	.01	.01	.01	.01
.01	.01	.01	.01	.01	.01	.01	.01	.01	.01
.01	.01	.01	.01	.01	.01	.02	.02	.02	.03
.03	.03	.04	.04	.04	.05	.05	.05	.04	.04
.04	.02	.02	.02	.02	.02	.02	.01	.01	.01
.01	.01	.01	.01	.01	.01	.01	.01	.01	.01
.01	.01								

*** FDKRUT WARNING TIME STEP CALCULATION FAILED TO CONVERGE. STABILITY PROBLEMS MAY RESULT

*** Multiple FDKRUT Warnings deleted from model for brevity and in consideration of the environment when printing ***

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RUNOFF SUMMARY
FLOW IN CUBIC FEET PER SECOND
TIME IN HOURS, AREA IN SQUARE MILES

+	OPERATION	STATION	PEAK FLOW	TIME OF PEAK	AVERAGE FLOW FOR MAXIMUM PERIOD 6-HOUR	24-HOUR	72-HOUR	BASIN AREA	MAXIMUM STAGE	TIME OF MAX STAGE
+	HYDROGRAPH AT	GW83	63.	4.75	24.	6.	2.	.29		
+	DIVERSION TO	DPGW83	45.	4.42	21.	6.	2.	.29		
+	HYDROGRAPH AT	DGW83	18.	4.75	2.	1.	0.	.29		
+	DIVERSION TO	DWSK01	10.	4.75	1.	0.	0.	.29		
+	HYDROGRAPH AT	DSTB83	8.	4.75	1.	0.	0.	.29		
+	ROUTED TO	RSTB83	6.	5.92	1.	0.	0.	.29		
+	HYDROGRAPH AT	TB67	168.	4.33	30.	8.	3.	.26		
+	DIVERSION TO	DSCT67	67.	4.33	12.	3.	1.	.26		
+	HYDROGRAPH AT	DWTB75	101.	4.33	18.	5.	2.	.26		
+	ROUTED TO	RWTB75	81.	5.00	18.	5.	2.	.26		
+	HYDROGRAPH AT	TB75	408.	4.67	117.	30.	10.	1.03		
+	DIVERSION TO	XTB75	234.	4.25	18.	4.	1.	1.03		
+	HYDROGRAPH AT	ERTB75	408.	4.67	102.	25.	8.	1.03		
+	2 COMBINED AT	CTB75	441.	4.83	118.	29.	10.	1.18		
+	DIVERSION TO	DPTB75	161.	4.33	68.	17.	6.	1.18		
+	HYDROGRAPH AT	DTB75	280.	4.83	49.	12.	4.	1.18		
+	DIVERSION TO	DSCT75	126.	4.83	22.	6.	2.	1.18		
+	HYDROGRAPH AT	DWTB83	154.	4.83	27.	7.	2.	1.18		
+	ROUTED TO	RWTB83	130.	5.33	27.	7.	2.	1.18		
+	HYDROGRAPH AT	TB83	295.	4.75	99.	26.	9.	.99		
+	DIVERSION TO	XTB83	295.	4.75	39.	10.	3.	.99		

+	HYDROGRAPH AT	ERTB83	270.	5.08	63.	16.	5.	.99
+	3 COMBINED AT	CTB83	343.	5.33	84.	21.	7.	1.77
+	HYDROGRAPH AT	PRTB75	161.	4.33	68.	17.	6.	1.18
+	ROUTED TO	RPTB83	161.	4.67	68.	17.	6.	1.18
+	2 COMBINED AT	CPTB83	504.	5.33	152.	38.	13.	1.77
+	DIVERSION TO	DPTB83	247.	5.00	110.	28.	9.	1.77
+	HYDROGRAPH AT	DTB83	257.	5.33	42.	10.	3.	1.77
+	DIVERSION TO	DSCT83	183.	5.33	30.	7.	2.	1.77
+	HYDROGRAPH AT	DWTBLO	75.	5.33	12.	3.	1.	1.77
+	ROUTED TO	RWTBLO	71.	5.50	12.	3.	1.	1.77
+	HYDROGRAPH AT	TBLO	47.	4.50	15.	4.	1.	.10
+	DIVERSION TO	XTBLO	47.	4.50	15.	4.	1.	.10
+	HYDROGRAPH AT	ERTBLO	0.	.00	0.	0.	0.	.10
+	2 COMBINED AT	CTBLO	90.	5.33	16.	4.	1.	.62
+	HYDROGRAPH AT	PRTB83	247.	5.00	110.	28.	9.	1.77
+	ROUTED TO	RPTBLO	247.	5.08	110.	28.	9.	1.77
+	2 COMBINED AT	CPTBLO	337.	5.33	128.	32.	11.	.62
+	ROUTED TO	RSCTLO	333.	5.58	128.	32.	11.	.62
+	HYDROGRAPH AT	CT59	148.	4.50	36.	9.	3.	.30
+	DIVERSION TO	XCT59	148.	4.50	36.	9.	3.	.30
+	HYDROGRAPH AT	ERCT59	0.	.00	0.	0.	0.	.30
+	DIVERSION TO	DP59CT	0.	.00	0.	0.	0.	.30
+	HYDROGRAPH AT	D59CT	0.	.00	0.	0.	0.	.30
+	DIVERSION TO	DSPE59	0.	.00	0.	0.	0.	.30
+	HYDROGRAPH AT	DWCT67	0.	.00	0.	0.	0.	.30
+	ROUTED TO	RWCT67	0.	.00	0.	0.	0.	.30
+	HYDROGRAPH AT	DRCT67	67.	4.33	12.	3.	1.	.26
+	ROUTED TO	RSCT67	54.	4.92	12.	3.	1.	.26
+	HYDROGRAPH AT	CT67	338.	4.67	94.	24.	8.	.91
+	DIVERSION TO	XCT67	338.	4.67	42.	11.	4.	.91
+	HYDROGRAPH AT	ERCT67	294.	5.00	54.	14.	5.	.91

+	3 COMBINED AT	CCT67	336.	5.00	64.	16.	5.	1.11
+	DIVERSION TO	DPCT67	268.	5.00	61.	15.	5.	1.11
+	HYDROGRAPH AT	DCT67	68.	5.00	4.	1.	0.	1.11
+	DIVERSION TO	DSPE67	29.	5.00	2.	0.	0.	1.11
+	HYDROGRAPH AT	DWCT75	39.	5.00	2.	1.	0.	1.11
+	ROUTED TO	RWCT75	13.	5.83	2.	1.	0.	1.11
+	HYDROGRAPH AT	DRCT75	126.	4.83	22.	6.	2.	1.18
+	ROUTED TO	RSCT75	103.	5.33	22.	6.	2.	1.18
+	HYDROGRAPH AT	CT75	337.	4.75	111.	28.	9.	1.00
+	DIVERSION TO	XCT75	337.	4.75	48.	12.	4.	1.00
+	HYDROGRAPH AT	ERCT75	298.	5.17	66.	16.	5.	1.00
+	3 COMBINED AT	CCT75	354.	5.25	82.	21.	7.	2.17
+	HYDROGRAPH AT	PRCT67	268.	5.00	61.	15.	5.	1.11
+	ROUTED TO	RPCT75	268.	5.17	61.	15.	5.	1.11
+	2 COMBINED AT	CPCT75	622.	5.17	140.	35.	12.	2.17
+	DIVERSION TO	DPCT75	616.	5.25	139.	35.	12.	2.17
+	HYDROGRAPH AT	DCT75	7.	5.17	0.	0.	0.	2.17
+	DIVERSION TO	DSPE75	3.	5.17	0.	0.	0.	2.17
+	HYDROGRAPH AT	DWCT83	3.	5.17	0.	0.	0.	2.17
+	ROUTED TO	RWCT83	1.	5.92	0.	0.	0.	2.17
+	HYDROGRAPH AT	DRCT83	183.	5.33	30.	7.	2.	1.77
+	ROUTED TO	RSCT83	149.	5.83	30.	7.	2.	1.77
+	HYDROGRAPH AT	CT83	353.	4.75	117.	30.	10.	1.01
+	DIVERSION TO	XCT83	353.	4.75	58.	15.	5.	1.01
+	HYDROGRAPH AT	ERCT83	289.	5.25	63.	16.	5.	1.01
+	3 COMBINED AT	CCT83	313.	5.75	80.	20.	7.	3.34
+	HYDROGRAPH AT	PRCT75	616.	5.25	139.	35.	12.	2.17
+	ROUTED TO	RPCT83	615.	5.25	140.	35.	12.	2.17
+	2 COMBINED AT	CPCT83	847.	5.42	213.	53.	18.	3.34
+	DIVERSION TO	DPCT83	663.	5.50	195.	49.	16.	3.34
+	HYDROGRAPH AT	DCT83	204.	5.33	18.	5.	2.	3.34

+	DIVERSION TO	DSPE83	84.	5.33	7.	2.	1.	3.34
+	HYDROGRAPH AT	DWCTLO	120.	5.33	11.	3.	1.	3.34
+	ROUTED TO	RWCTLO	51.	6.17	11.	3.	1.	3.34
+	HYDROGRAPH AT	CTLO	293.	4.83	110.	29.	10.	.87
+	DIVERSION TO	XCTLO	293.	4.83	93.	23.	8.	.87
+	HYDROGRAPH AT	ERCTLO	84.	6.83	23.	6.	2.	.87
+	3 COMBINED AT	CCTLO	340.	6.00	144.	36.	12.	3.46
+	HYDROGRAPH AT	PRCT83	663.	5.50	195.	49.	16.	3.34
+	ROUTED TO	RPCTLO	661.	5.67	194.	49.	16.	3.34
+	2 COMBINED AT	CPCTLO	991.	5.83	338.	85.	28.	3.46
+	DIVERSION TO	DWNR01	991.	5.83	338.	85.	28.	3.46
+	HYDROGRAPH AT	DSCTLO	0.	.00	0.	0.	0.	3.46
+	DIVERSION TO	DSGR91	0.	.00	0.	0.	0.	3.46
+	HYDROGRAPH AT	DSPELO	0.	.00	0.	0.	0.	3.46
+	HYDROGRAPH AT	PE51	226.	4.50	55.	14.	5.	.42
+	DIVERSION TO	DSOL51	90.	4.50	22.	6.	2.	.42
+	HYDROGRAPH AT	DWPE59	135.	4.50	33.	8.	3.	.42
+	ROUTED TO	RWPE59	108.	5.33	33.	8.	3.	.42
+	HYDROGRAPH AT	DRPE59	0.	.00	0.	0.	0.	.30
+	ROUTED TO	RSPE59	0.	.00	0.	0.	0.	.30
+	HYDROGRAPH AT	PE59	360.	4.75	118.	31.	10.	.99
+	DIVERSION TO	XPE59	235.	4.33	17.	4.	1.	.99
+	HYDROGRAPH AT	ERPE59	360.	4.75	105.	26.	9.	.99
+	3 COMBINED AT	CPE59	414.	5.00	134.	34.	11.	1.44
+	HYDROGRAPH AT	PR59CT	0.	.00	0.	0.	0.	.30
+	2 COMBINED AT	CPPE59	414.	5.00	134.	34.	11.	1.44
+	DIVERSION TO	DP59PE	235.	4.42	102.	26.	9.	1.44
+	HYDROGRAPH AT	D59PE	179.	5.00	31.	8.	3.	1.44
+	DIVERSION TO	DSOL59	102.	5.00	18.	4.	1.	1.44
+	HYDROGRAPH AT	DWPE67	77.	5.00	14.	3.	1.	1.44
+	ROUTED TO	RWPE67	56.	5.75	14.	3.	1.	1.44

+	HYDROGRAPH AT	DRPE67	29.	5.00	2.	0.	0.	1.11
+	ROUTED TO	RSPE67	9.	5.92	2.	0.	0.	1.11
+	HYDROGRAPH AT	PE67	335.	4.75	113.	29.	10.	.96
+	DIVERSION TO	XPE67	335.	4.75	108.	28.	9.	.96
+	HYDROGRAPH AT	ERPE67	33.	7.17	6.	1.	0.	.96
+	3 COMBINED AT	CPE67	56.	5.92	15.	4.	1.	2.06
+	ROUTED TO	SRPE67	5.	7.83	1.	0.	0.	2.06
+	DIVERSION TO	DP67PE	5.	7.83	1.	0.	0.	2.06
+	HYDROGRAPH AT	D67PE	0.	.00	0.	0.	0.	2.06
+	DIVERSION TO	DSOL67	0.	.00	0.	0.	0.	2.06
+	HYDROGRAPH AT	DWPE75	0.	.00	0.	0.	0.	2.06
+	ROUTED TO	RWPE75	0.	.00	0.	0.	0.	2.06
+	HYDROGRAPH AT	DRPE75	3.	5.17	0.	0.	0.	2.17
+	ROUTED TO	RSPE75	1.	5.92	0.	0.	0.	2.17
+	HYDROGRAPH AT	PE75	354.	4.75	118.	31.	10.	1.01
+	DIVERSION TO	XPE75	230.	4.33	19.	5.	2.	1.01
+	HYDROGRAPH AT	ERPE75	354.	4.75	103.	26.	9.	1.01
+	3 COMBINED AT	CPE75	313.	4.83	96.	24.	8.	3.36
+	DIVERSION TO	DP75PE	179.	4.50	75.	19.	6.	3.36
+	HYDROGRAPH AT	D75PE	134.	4.83	21.	5.	2.	3.36
+	DIVERSION TO	DSOL75	70.	4.83	11.	3.	1.	3.36
+	HYDROGRAPH AT	DWPE83	64.	4.83	10.	2.	1.	3.36
+	ROUTED TO	RWPE83	37.	5.83	10.	2.	1.	3.36
+	HYDROGRAPH AT	DRPE83	84.	5.33	7.	2.	1.	3.34
+	ROUTED TO	RSPE83	35.	6.33	7.	2.	1.	3.34
+	HYDROGRAPH AT	PE83	383.	4.75	129.	33.	11.	1.00
+	DIVERSION TO	XPE83	383.	4.75	70.	17.	6.	1.00
+	HYDROGRAPH AT	ERPE83	293.	5.42	63.	16.	5.	1.00
+	3 COMBINED AT	CPE83	286.	5.58	73.	18.	6.	3.97
+	DIVERSION TO	DPPE83	112.	5.50	46.	11.	4.	3.97
+	HYDROGRAPH AT	DPE83	174.	5.58	27.	7.	2.	3.97

+	DIVERSION TO	DSGR83	83.	5.58	13.	3.	1.	3.97
+	HYDROGRAPH AT	DWGR91	90.	5.58	14.	4.	1.	3.97
+	DIVERSION TO	DWPE91	33.	5.58	5.	1.	0.	3.97
+	HYDROGRAPH AT	DGR91	58.	5.58	9.	2.	1.	3.97
+	HYDROGRAPH AT	DRGR91	0.	.00	0.	0.	0.	3.46
+	ROUTED TO	RSGR91	0.	.00	0.	0.	0.	3.46
+	HYDROGRAPH AT	GR91	315.	4.50	70.	18.	6.	.51
+	DIVERSION TO	XGR91	315.	4.50	51.	13.	4.	.51
+	HYDROGRAPH AT	ERGR91	159.	5.17	19.	5.	2.	.51
+	3 COMBINED AT	CGR91	163.	5.33	25.	6.	2.	3.58
+	DIVERSION TO	DSPE91	109.	5.33	16.	4.	1.	3.58
+	HYDROGRAPH AT	DWGRLO	54.	5.33	8.	2.	1.	3.58
+	2 COMBINED AT	CGRLO	61.	5.33	9.	2.	1.	2.91
+	ROUTED TO	RSPELO	47.	5.67	9.	2.	1.	2.91
+	DIVERSION TO	DWNR02	47.	5.67	9.	2.	1.	2.91
+	HYDROGRAPH AT	DSOLLO	0.	.00	0.	0.	0.	2.91
+	HYDROGRAPH AT	DRPE91	109.	5.33	16.	4.	1.	3.58
+	ROUTED TO	SRGR91	51.	6.08	6.	2.	1.	3.58
+	HYDROGRAPH AT	DIPE91	33.	5.58	5.	1.	0.	3.97
+	2 COMBINED AT	CIPEGR	78.	6.08	12.	3.	1.	3.14
+	ROUTED TO	RWPE91	45.	6.83	12.	3.	1.	3.14
+	HYDROGRAPH AT	PE91	325.	4.42	71.	18.	6.	.51
+	DIVERSION TO	XPE91	313.	4.42	26.	7.	2.	.51
+	HYDROGRAPH AT	ERPE91	318.	4.50	45.	11.	4.	.51
+	2 COMBINED AT	CPE91	244.	4.67	52.	13.	4.	3.65
+	HYDROGRAPH AT	PRPE83	112.	5.50	46.	11.	4.	3.97
+	ROUTED TO	RPPE91	112.	5.67	46.	11.	4.	3.97
+	2 COMBINED AT	CPPE91	244.	4.67	98.	25.	8.	3.65
+	DIVERSION TO	DPPE91	147.	4.58	82.	21.	7.	3.65
+	HYDROGRAPH AT	DPE91	97.	4.67	16.	4.	1.	3.65
+	DIVERSION TO	DSOL91	53.	4.67	9.	2.	1.	3.65

+	HYDROGRAPH AT	DWPELO	44.	4.67	7.	2.	1.	3.65
+	ROUTED TO	RWPELO	26.	4.92	7.	2.	1.	3.65
+	HYDROGRAPH AT	PELO	95.	4.67	31.	8.	3.	.27
+	DIVERSION TO	XPELO	95.	4.67	17.	4.	1.	.27
+	HYDROGRAPH AT	ERPELO	73.	5.25	16.	4.	1.	.27
+	3 COMBINED AT	CPELO	61.	5.67	17.	4.	1.	4.81
+	HYDROGRAPH AT	PRPE91	147.	4.58	82.	21.	7.	3.65
+	ROUTED TO	RPPELO	147.	4.67	82.	21.	7.	3.65
+	2 COMBINED AT	CPPELO	208.	5.67	97.	24.	8.	4.81
+	DIVERSION TO	DPPELO	208.	5.67	97.	24.	8.	4.81
+	HYDROGRAPH AT	DPELO	0.	.00	0.	0.	0.	4.81
+	ROUTED TO	RSOLLO	0.	.00	0.	0.	0.	4.81
+	HYDROGRAPH AT	OL35	101.	4.42	28.	7.	2.	.21
+	DIVERSION TO	DP35OL	61.	4.17	24.	6.	2.	.21
+	HYDROGRAPH AT	D35OL	40.	4.42	4.	1.	0.	.21
+	DIVERSION TO	DSNO35	28.	4.42	3.	1.	0.	.21
+	HYDROGRAPH AT	DWOL43	12.	4.42	1.	0.	0.	.21
+	ROUTED TO	RWOL43	7.	5.58	1.	0.	0.	.21
+	HYDROGRAPH AT	OL43	198.	4.67	62.	16.	5.	.63
+	2 COMBINED AT	COL43	195.	4.67	63.	16.	5.	.70
+	DIVERSION TO	DP43OL	85.	4.25	43.	11.	4.	.70
+	HYDROGRAPH AT	D43OL	110.	4.67	20.	5.	2.	.70
+	DIVERSION TO	DSNO43	65.	4.67	12.	3.	1.	.70
+	HYDROGRAPH AT	DWOL51	45.	4.67	8.	2.	1.	.70
+	ROUTED TO	RWOL51	35.	5.67	8.	2.	1.	.70
+	HYDROGRAPH AT	DROL51	90.	4.50	22.	6.	2.	.42
+	ROUTED TO	RSOL51	70.	5.50	22.	6.	2.	.42
+	HYDROGRAPH AT	OL51	339.	4.75	114.	29.	10.	.99
+	DIVERSION TO	XOL51	139.	4.17	12.	3.	1.	.99
+	HYDROGRAPH AT	EROL51	339.	4.75	106.	26.	9.	.99
+	3 COMBINED AT	COL51	366.	5.00	130.	33.	11.	1.45

+	DIVERSION TO	DPOL51	297.	4.67	120.	30.	10.	1.45
+	HYDROGRAPH AT	DOL51	69.	5.00	10.	2.	1.	1.45
+	DIVERSION TO	DSNO51	23.	5.00	3.	1.	0.	1.45
+	HYDROGRAPH AT	DWOL59	46.	5.00	6.	2.	1.	1.45
+	ROUTED TO	RWOL59	31.	5.83	6.	2.	1.	1.45
+	HYDROGRAPH AT	DROL59	102.	5.00	18.	4.	1.	1.44
+	ROUTED TO	RSOL59	71.	5.83	18.	4.	1.	1.44
+	HYDROGRAPH AT	OL59	361.	4.75	121.	31.	10.	.99
+	DIVERSION TO	XOL59	361.	4.75	44.	11.	4.	.99
+	HYDROGRAPH AT	EROL59	344.	5.00	81.	20.	7.	.99
+	3 COMBINED AT	COL59	331.	5.00	95.	24.	8.	2.78
+	HYDROGRAPH AT	PR59PE	235.	4.42	102.	26.	9.	1.44
+	ROUTED TO	RP59BR	235.	4.50	102.	26.	9.	1.44
+	DIVERSION TO	DPBR59	161.	4.42	81.	20.	7.	1.44
+	HYDROGRAPH AT	DBR59	74.	4.50	22.	5.	2.	1.44
+	ROUTED TO	RP59OL	74.	4.58	22.	5.	2.	1.44
+	HYDROGRAPH AT	PROL51	297.	4.67	120.	30.	10.	1.45
+	ROUTED TO	RPOL59	297.	4.83	120.	30.	10.	1.45
+	3 COMBINED AT	CPOL59	681.	5.08	225.	57.	19.	4.22
+	DIVERSION TO	DPOL59	475.	5.00	195.	49.	16.	4.22
+	HYDROGRAPH AT	DOL59	206.	5.08	30.	7.	2.	4.22
+	DIVERSION TO	DSNO59	125.	5.08	18.	5.	2.	4.22
+	HYDROGRAPH AT	DWOL67	80.	5.08	12.	3.	1.	4.22
+	ROUTED TO	RWOL67	52.	6.00	12.	3.	1.	4.22
+	HYDROGRAPH AT	DROL67	0.	.00	0.	0.	0.	2.06
+	ROUTED TO	RSOL67	0.	.00	0.	0.	0.	2.06
+	HYDROGRAPH AT	OL67	360.	4.75	115.	30.	10.	.96
+	DIVERSION TO	XOL67	360.	4.75	80.	20.	7.	.96
+	HYDROGRAPH AT	EROL67	188.	5.75	39.	10.	3.	.96
+	3 COMBINED AT	COL67	232.	5.75	46.	12.	4.	2.84
+	HYDROGRAPH AT	PRBR59	161.	4.42	81.	20.	7.	1.44

+	ROUTED TO RPBR63	161.	4.50	81.	20.	7.	1.44
+	ROUTED TO SRBR63	166.	5.17	77.	20.	7.	1.44
+	ROUTED TO RP63OL	162.	5.25	77.	20.	7.	1.44
+	HYDROGRAPH AT PROL59	475.	5.00	195.	49.	16.	4.22
+	ROUTED TO RPOL63	475.	5.08	195.	49.	16.	4.22
+	2 COMBINED AT CPOL63	636.	5.33	276.	71.	24.	2.84
+	ROUTED TO RPOL67	636.	5.42	276.	71.	24.	2.84
+	HYDROGRAPH AT PR67PE	5.	7.83	1.	0.	0.	2.06
+	ROUTED TO SR67MV	2.	9.00	1.	0.	0.	2.06
+	3 COMBINED AT CPOL67	783.	5.75	305.	78.	26.	5.68
+	DIVERSION TO DPOL67	662.	6.17	294.	75.	25.	5.68
+	HYDROGRAPH AT DOL67	123.	5.75	12.	3.	1.	5.68
+	DIVERSION TO DSNO67	54.	5.75	5.	1.	0.	5.68
+	HYDROGRAPH AT DWOL75	69.	5.75	7.	2.	1.	5.68
+	ROUTED TO RWOL75	28.	6.33	7.	2.	1.	5.68
+	HYDROGRAPH AT DROL75	70.	4.83	11.	3.	1.	3.36
+	ROUTED TO RSOL75	42.	5.75	11.	3.	1.	3.36
+	HYDROGRAPH AT OL75	356.	4.75	119.	31.	10.	1.00
+	DIVERSION TO XOL75	356.	4.75	81.	20.	7.	1.00
+	HYDROGRAPH AT EROL75	190.	5.83	41.	10.	3.	1.00
+	3 COMBINED AT COL75	191.	5.83	50.	13.	4.	4.34
+	HYDROGRAPH AT PROL67	662.	6.17	294.	75.	25.	5.68
+	ROUTED TO RPOL71	661.	5.92	294.	75.	25.	5.68
+	2 COMBINED AT CPOL71	852.	5.83	347.	89.	30.	4.34
+	ROUTED TO SROL71	554.	6.75	227.	88.	30.	4.34
+	DIVERSION TO DPOL71	342.	7.25	214.	85.	28.	4.34
+	HYDROGRAPH AT DOL71	214.	6.75	13.	3.	1.	4.34
+	HYDROGRAPH AT PR75PE	179.	4.50	75.	19.	6.	3.36
+	ROUTED TO RP75OL	179.	4.67	75.	19.	6.	3.36
+	HYDROGRAPH AT PROL71	342.	7.25	214.	85.	28.	4.34
+	ROUTED TO RPOL75	342.	7.25	214.	85.	28.	4.34

+	3 COMBINED AT CPOL75	641.	6.75	286.	107.	36.	4.34
+	DIVERSION TO DPOL75	239.	4.92	225.	92.	31.	4.34
+	HYDROGRAPH AT DOL75	402.	6.75	61.	15.	5.	4.34
+	DIVERSION TO DSGR75	205.	6.75	31.	8.	3.	4.34
+	HYDROGRAPH AT DWGR83	197.	6.75	30.	8.	3.	4.34
+	HYDROGRAPH AT DRGR83	83.	5.58	13.	3.	1.	3.97
+	DIVERSION TO DSOL83	23.	5.58	4.	1.	0.	3.97
+	HYDROGRAPH AT D83GR	60.	5.58	9.	2.	1.	3.97
+	ROUTED TO RSGR83	18.	8.92	9.	2.	1.	3.97
+	HYDROGRAPH AT GR83	302.	4.42	70.	18.	6.	.47
+	DIVERSION TO XGR83	302.	4.42	60.	15.	5.	.47
+	HYDROGRAPH AT ERGR83	82.	5.58	11.	3.	1.	.47
+	3 COMBINED AT CGR83	227.	6.75	46.	12.	4.	3.99
+	ROUTED TO SRGR83	0.	13.25	0.	0.	0.	3.99
+	DIVERSION TO DS75NO	0.	13.25	0.	0.	0.	3.99
+	HYDROGRAPH AT DWOL83	0.	.00	0.	0.	0.	3.99
+	ROUTED TO RWOL83	0.	.00	0.	0.	0.	3.99
+	HYDROGRAPH AT DIOL83	23.	5.58	4.	1.	0.	3.97
+	ROUTED TO RSOL83	16.	6.58	4.	1.	0.	3.97
+	HYDROGRAPH AT OL83	293.	4.50	65.	16.	5.	.54
+	DIVERSION TO XOL83	293.	4.50	28.	7.	2.	.54
+	HYDROGRAPH AT EROL83	265.	4.67	38.	9.	3.	.54
+	3 COMBINED AT COL83	245.	4.75	42.	10.	3.	1.06
+	HYDROGRAPH AT NO27	56.	4.50	19.	5.	2.	.13
+	DIVERSION TO DP27NO	56.	4.50	19.	5.	2.	.13
+	HYDROGRAPH AT D27NO	0.	.00	0.	0.	0.	.13
+	DIVERSION TO DSGL27	0.	.00	0.	0.	0.	.13
+	HYDROGRAPH AT DWNO35	0.	.00	0.	0.	0.	.13
+	ROUTED TO RWNO35	0.	.00	0.	0.	0.	.13
+	HYDROGRAPH AT DRNO35	28.	4.42	3.	1.	0.	.21
+	ROUTED TO RSNO35	20.	5.33	3.	1.	0.	.21

+	HYDROGRAPH AT	NO35	313.	4.75	102.	26.	9.	.99
+	3 COMBINED AT	CNO35	310.	4.75	102.	27.	9.	1.14
+	HYDROGRAPH AT	PR27NO	56.	4.50	19.	5.	2.	.13
+	2 COMBINED AT	CPNO29	359.	4.75	121.	31.	10.	1.14
+	DIVERSION TO	DP29NO	114.	4.08	69.	18.	6.	1.14
+	HYDROGRAPH AT	D29NO	245.	4.75	52.	13.	4.	1.14
+	HYDROGRAPH AT	PR35OL	61.	4.17	24.	6.	2.	.21
+	ROUTED TO	RP35NO	61.	4.33	24.	6.	2.	.21
+	2 COMBINED AT	CPNO35	306.	4.75	76.	19.	6.	1.14
+	DIVERSION TO	DP35NO	113.	4.25	43.	11.	4.	1.14
+	HYDROGRAPH AT	D35NO	193.	4.75	33.	8.	3.	1.14
+	DIVERSION TO	DSGL35	89.	4.75	15.	4.	1.	1.14
+	HYDROGRAPH AT	DWNO43	104.	4.75	18.	4.	1.	1.14
+	ROUTED TO	RWNO43	74.	5.75	18.	4.	1.	1.14
+	HYDROGRAPH AT	DRNO43	65.	4.67	12.	3.	1.	.70
+	ROUTED TO	RSNO43	51.	5.67	12.	3.	1.	.70
+	HYDROGRAPH AT	NO43	303.	4.75	101.	26.	9.	1.00
+	3 COMBINED AT	CNO43	292.	5.33	119.	31.	10.	2.02
+	HYDROGRAPH AT	PR43OL	85.	4.25	43.	11.	4.	.70
+	ROUTED TO	RP43NO	85.	4.42	43.	11.	4.	.70
+	2 COMBINED AT	CPNO43	377.	5.33	161.	42.	14.	2.02
+	DIVERSION TO	DP43NO	241.	4.33	128.	33.	11.	2.02
+	HYDROGRAPH AT	D43NO	136.	5.33	34.	8.	3.	2.02
+	DIVERSION TO	DSGL43	70.	5.33	17.	4.	1.	2.02
+	HYDROGRAPH AT	DWNO51	67.	5.33	17.	4.	1.	2.02
+	ROUTED TO	RWNO51	55.	6.17	17.	4.	1.	2.02
+	HYDROGRAPH AT	DRNO51	23.	5.00	3.	1.	0.	1.45
+	ROUTED TO	RSNO51	15.	6.08	3.	1.	0.	1.45
+	HYDROGRAPH AT	NO51	295.	4.75	100.	26.	9.	.99
+	3 COMBINED AT	CNO51	262.	4.83	109.	28.	9.	2.47
+	DIVERSION TO	DPNO51	168.	4.33	91.	24.	8.	2.47

+	HYDROGRAPH AT	DNO51	94.	4.83	18.	4.	1.	2.47
+	DIVERSION TO	DSGL51	41.	4.83	8.	2.	1.	2.47
+	HYDROGRAPH AT	DWNO59	53.	4.83	10.	3.	1.	2.47
+	ROUTED TO	RWNO59	38.	5.75	10.	3.	1.	2.47
+	HYDROGRAPH AT	DRNO59	125.	5.08	18.	5.	2.	4.22
+	ROUTED TO	RSNO59	77.	6.25	18.	5.	2.	4.22
+	HYDROGRAPH AT	NO59	327.	4.75	108.	28.	9.	.99
+	DIVERSION TO	XNO59	324.	4.67	33.	8.	3.	.99
+	HYDROGRAPH AT	ERNO59	319.	4.92	78.	20.	7.	.99
+	3 COMBINED AT	CNO59	286.	5.00	94.	23.	8.	4.06
+	ROUTED TO	SRNO59	268.	5.42	78.	20.	7.	4.06
+	HYDROGRAPH AT	PRNO51	168.	4.33	91.	24.	8.	2.47
+	ROUTED TO	RPNO59	168.	4.50	91.	24.	8.	2.47
+	2 COMBINED AT	CPNO59	436.	5.42	165.	43.	14.	4.06
+	DIVERSION TO	DPNO59	134.	4.50	90.	24.	8.	4.06
+	HYDROGRAPH AT	DNO59	302.	5.42	76.	19.	6.	4.06
+	DIVERSION TO	DSGL59	100.	5.42	25.	6.	2.	4.06
+	HYDROGRAPH AT	DWNO67	202.	5.42	51.	13.	4.	4.06
+	ROUTED TO	RWNO67	179.	6.25	51.	13.	4.	4.06
+	HYDROGRAPH AT	DRNO67	54.	5.75	5.	1.	0.	5.68
+	ROUTED TO	RSNO67	20.	6.83	5.	1.	0.	5.68
+	HYDROGRAPH AT	NO67	342.	4.75	115.	30.	10.	.96
+	DIVERSION TO	XNO67	342.	4.75	79.	20.	7.	.96
+	HYDROGRAPH AT	ERNO67	184.	5.83	40.	10.	3.	.96
+	3 COMBINED AT	CNO67	303.	6.25	84.	21.	7.	4.93
+	DIVERSION TO	DSGR67	197.	6.25	54.	14.	5.	4.93
+	HYDROGRAPH AT	DWGR75	106.	6.25	29.	7.	2.	4.93
+	DIVERSION TO	DWNO75	35.	6.25	10.	2.	1.	4.93
+	HYDROGRAPH AT	DGR75	71.	6.25	20.	5.	2.	4.93
+	ROUTED TO	RWGR75	46.	7.75	19.	5.	2.	4.93
+	HYDROGRAPH AT	DRGR75	205.	6.75	31.	8.	3.	4.34

+	DIVERSION TO	DSNO75	74.	6.75	11.	3.	1.	4.34
+	HYDROGRAPH AT	D75GR	131.	6.75	20.	5.	2.	4.34
+	HYDROGRAPH AT	GR75	322.	4.42	66.	17.	6.	.50
+	DIVERSION TO	XGR75	322.	4.42	36.	9.	3.	.50
+	HYDROGRAPH AT	ERGR75	251.	4.75	31.	8.	3.	.50
+	3 COMBINED AT	CGR75	198.	4.83	70.	18.	6.	3.09
+	ROUTED TO	SRGR75	41.	8.42	38.	18.	6.	3.09
+	HYDROGRAPH AT	PROL75	239.	4.92	225.	92.	31.	4.34
+	2 COMBINED AT	CPOLGR	280.	7.92	260.	110.	37.	3.09
+	DIVERSION TO	DOLGR	41.	7.92	23.	6.	2.	3.09
+	HYDROGRAPH AT	DPOLGR	239.	4.92	237.	104.	35.	3.09
+	ROUTED TO	RPOL83	239.	5.17	237.	104.	35.	3.09
+	2 COMBINED AT	CPOL83	424.	4.92	270.	112.	37.	4.15
+	ROUTED TO	SROL83	297.	5.92	243.	112.	37.	4.15
+	DIVERSION TO	DPOL83	243.	5.92	233.	109.	36.	4.15
+	HYDROGRAPH AT	DOL83	54.	5.92	10.	3.	1.	4.15
+	DIVERSION TO	DSNO83	21.	5.92	4.	1.	0.	4.15
+	HYDROGRAPH AT	DWOL91	33.	5.92	6.	2.	1.	4.15
+	ROUTED TO	RWOL91	24.	7.17	6.	2.	1.	4.15
+	HYDROGRAPH AT	DROL91	53.	4.67	9.	2.	1.	3.65
+	ROUTED TO	RSOL91	20.	6.25	9.	2.	1.	3.65
+	HYDROGRAPH AT	OL91	386.	4.75	131.	34.	11.	1.02
+	DIVERSION TO	XOL91	386.	4.75	91.	23.	8.	1.02
+	HYDROGRAPH AT	EROL91	209.	5.83	46.	11.	4.	1.02
+	3 COMBINED AT	COL91	195.	5.83	54.	14.	5.	3.68
+	HYDROGRAPH AT	PROL83	243.	5.92	233.	109.	36.	4.15
+	ROUTED TO	RPOL91	243.	6.17	233.	109.	36.	4.15
+	2 COMBINED AT	CPOL91	426.	6.08	286.	123.	41.	3.68
+	DIVERSION TO	DSNO91	285.	6.08	191.	83.	28.	3.68
+	HYDROGRAPH AT	DWOLLO	140.	6.08	94.	41.	14.	3.68
+	ROUTED TO	RWOLLO	140.	6.17	94.	41.	14.	3.68

+	HYDROGRAPH AT	OLLO	95.	4.42	27.	7.	2.	.16
+	DIVERSION TO	XOLLO	95.	4.42	23.	6.	2.	.16
+	HYDROGRAPH AT	EROLLO	28.	5.83	5.	1.	0.	.16
+	3 COMBINED AT	COLLO	153.	6.17	96.	41.	14.	6.18
+	ROUTED TO	RSNOLO	139.	6.58	94.	40.	13.	6.18
+	HYDROGRAPH AT	DROLGR	41.	7.92	23.	6.	2.	3.09
+	HYDROGRAPH AT	DI75NO	74.	6.75	11.	3.	1.	4.34
+	HYDROGRAPH AT	DR75NO	0.	13.25	0.	0.	0.	3.99
+	3 COMBINED AT	CIGR75	76.	6.75	27.	7.	2.	7.85
+	ROUTED TO	RSNO75	60.	7.25	27.	7.	2.	7.85
+	HYDROGRAPH AT	DINO75	35.	6.25	10.	2.	1.	4.93
+	ROUTED TO	RWNO75	28.	6.92	10.	2.	1.	4.93
+	HYDROGRAPH AT	NO75	366.	4.33	74.	19.	6.	.51
+	DIVERSION TO	XNO75	154.	4.00	13.	3.	1.	.51
+	HYDROGRAPH AT	ERNO75	366.	4.33	61.	15.	5.	.51
+	3 COMBINED AT	CNO75	244.	4.50	85.	22.	7.	8.93
+	DIVERSION TO	DPNO75	161.	4.17	77.	20.	7.	8.93
+	HYDROGRAPH AT	DNO75	83.	4.50	9.	2.	1.	8.93
+	DIVERSION TO	DSOW75	40.	4.50	4.	1.	0.	8.93
+	HYDROGRAPH AT	DWNO83	43.	4.50	4.	1.	0.	8.93
+	ROUTED TO	RWNO83	23.	5.00	4.	1.	0.	8.93
+	HYDROGRAPH AT	DRNO83	21.	5.92	4.	1.	0.	4.15
+	ROUTED TO	RSNO83	16.	7.00	4.	1.	0.	4.15
+	HYDROGRAPH AT	NO83	357.	4.75	114.	30.	10.	1.00
+	DIVERSION TO	XNO83	357.	4.75	45.	11.	4.	1.00
+	HYDROGRAPH AT	ERNO83	333.	5.00	73.	18.	6.	1.00
+	3 COMBINED AT	CNO83	303.	5.08	70.	18.	6.	6.05
+	HYDROGRAPH AT	PRNO75	161.	4.17	77.	20.	7.	8.93
+	ROUTED TO	RPNO83	161.	4.33	76.	20.	7.	8.93
+	2 COMBINED AT	CPNO83	461.	5.08	151.	38.	13.	6.05
+	DIVERSION TO	DPNO83	233.	5.00	131.	33.	11.	6.05

+	HYDROGRAPH AT	DNO83	228.	5.08	20.	5.	2.	6.05
+	ROUTED TO	RWNO91	113.	5.75	20.	5.	2.	6.05
+	HYDROGRAPH AT	DRNO91	285.	6.08	191.	83.	28.	3.68
+	ROUTED TO	RSNO91	270.	6.50	189.	83.	28.	3.68
+	HYDROGRAPH AT	NO91	310.	4.75	101.	26.	9.	.99
+	DIVERSION TO	XNO91	310.	4.75	71.	18.	6.	.99
+	HYDROGRAPH AT	ERNO91	142.	5.92	33.	8.	3.	.99
+	3 COMBINED AT	CNO91	345.	6.67	205.	85.	28.	9.52
+	HYDROGRAPH AT	PRNO83	233.	5.00	131.	33.	11.	6.05
+	ROUTED TO	RPNO91	233.	5.17	131.	34.	11.	6.05
+	2 COMBINED AT	CPNO91	503.	6.67	299.	117.	39.	9.52
+	ROUTED TO	SRNO91	437.	7.17	218.	97.	39.	9.52
+	DIVERSION TO	DPNO91	69.	7.08	69.	51.	24.	9.52
+	HYDROGRAPH AT	DNO91	368.	7.17	152.	45.	15.	9.52
+	DIVERSION TO	DSGL91	195.	7.17	80.	24.	8.	9.52
+	HYDROGRAPH AT	DWNOLO	173.	7.17	71.	21.	7.	9.52
+	ROUTED TO	RWNOLO	143.	7.75	69.	21.	7.	9.52
+	HYDROGRAPH AT	NOLO	147.	4.50	46.	12.	4.	.28
+	DIVERSION TO	XNOLO	147.	4.50	40.	10.	3.	.28
+	HYDROGRAPH AT	ERNOLO	42.	6.17	8.	2.	1.	.28
+	3 COMBINED AT	CNOLO	257.	7.67	158.	60.	20.	10.91
+	HYDROGRAPH AT	PRNO91	69.	7.08	69.	51.	24.	9.52
+	ROUTED TO	RPNOLO	69.	7.25	69.	51.	24.	9.52
+	2 COMBINED AT	CPNOLO	326.	7.67	223.	111.	44.	10.91
+	DIVERSION TO	DPNOLO	15.	5.00	15.	15.	10.	10.91
+	HYDROGRAPH AT	DNOLO	311.	7.67	208.	96.	34.	10.91
+	DIVERSION TO	DWNR03	311.	7.67	208.	96.	34.	10.91
+	HYDROGRAPH AT	DSGLLO	0.	.00	0.	0.	0.	10.91
+	ROUTED TO	RSGLLO	0.	.00	0.	0.	0.	10.91
+	HYDROGRAPH AT	DRGL43	70.	5.33	17.	4.	1.	2.02
+	ROUTED TO	RSGL43	62.	5.92	17.	4.	1.	2.02

+	HYDROGRAPH AT	GL43	348.	4.75	117.	30.	10.	1.00
+	2 COMBINED AT	CGL43	331.	4.92	129.	33.	11.	2.03
+	HYDROGRAPH AT	PR43NO	241.	4.33	128.	33.	11.	2.02
+	ROUTED TO	RP43GL	241.	4.50	128.	33.	11.	2.02
+	2 COMBINED AT	CPGL43	572.	4.92	257.	67.	22.	2.03
+	DIVERSION TO	DP43GL	385.	4.33	213.	56.	19.	2.03
+	HYDROGRAPH AT	D43GL	187.	4.92	44.	11.	4.	2.03
+	DIVERSION TO	DSBH43	111.	4.92	26.	6.	2.	2.03
+	HYDROGRAPH AT	DWGL51	77.	4.92	18.	5.	2.	2.03
+	ROUTED TO	RWGL51	60.	6.00	18.	5.	2.	2.03
+	HYDROGRAPH AT	DRGL51	41.	4.83	8.	2.	1.	2.47
+	ROUTED TO	RSGL51	29.	5.92	8.	2.	1.	2.47
+	HYDROGRAPH AT	GL51	303.	4.75	104.	27.	9.	1.00
+	3 COMBINED AT	CGL51	265.	4.92	118.	31.	10.	2.91
+	DIVERSION TO	DSBH51	124.	4.92	55.	14.	5.	2.91
+	HYDROGRAPH AT	DWGL59	140.	4.92	62.	16.	5.	2.91
+	ROUTED TO	RWGL59	137.	5.42	62.	16.	5.	2.91
+	HYDROGRAPH AT	DRGL59	100.	5.42	25.	6.	2.	4.06
+	ROUTED TO	RSGL59	86.	6.42	25.	6.	2.	4.06
+	HYDROGRAPH AT	GL59	318.	4.75	111.	29.	10.	1.01
+	DIVERSION TO	XGL59	318.	4.75	45.	11.	4.	1.01
+	HYDROGRAPH AT	ERGL59	292.	5.08	71.	18.	6.	1.01
+	3 COMBINED AT	CGL59	370.	5.17	144.	37.	12.	3.91
+	DIVERSION TO	DP59GL	217.	5.17	112.	29.	10.	3.91
+	HYDROGRAPH AT	D59GL	153.	5.17	32.	8.	3.	3.91
+	DIVERSION TO	DSGR59	70.	5.17	15.	4.	1.	3.91
+	HYDROGRAPH AT	DWGR67	83.	5.17	17.	4.	1.	3.91
+	DIVERSION TO	DWGL67	21.	5.17	5.	1.	0.	3.91
+	HYDROGRAPH AT	DGR67	61.	5.17	13.	3.	1.	3.91
+	HYDROGRAPH AT	DRGL35	89.	4.75	15.	4.	1.	1.14
+	ROUTED TO	RSGL35	66.	5.50	15.	4.	1.	1.14

+	HYDROGRAPH AT	GL35	300.	4.75	101.	26.	9.	1.00
+	2 COMBINED AT	CGL35	296.	4.92	111.	29.	10.	1.53
+	HYDROGRAPH AT	PR35NO	113.	4.25	43.	11.	4.	1.14
+	ROUTED TO	RP35GL	113.	4.42	43.	11.	4.	1.14
+	2 COMBINED AT	CPGL35	409.	4.92	154.	40.	13.	1.53
+	DIVERSION TO	DP35GL	226.	4.33	112.	29.	10.	1.53
+	HYDROGRAPH AT	D35GL	183.	4.92	42.	11.	4.	1.53
+	DIVERSION TO	DSBH35	111.	4.92	26.	6.	2.	1.53
+	HYDROGRAPH AT	DEGL27	71.	4.92	16.	4.	1.	1.53
+	HYDROGRAPH AT	DRGL27	0.	.00	0.	0.	0.	.13
+	ROUTED TO	RSGL27	0.	.00	0.	0.	0.	.13
+	HYDROGRAPH AT	GL27	111.	4.58	33.	8.	3.	.26
+	3 COMBINED AT	CGL27	177.	4.75	50.	13.	4.	.98
+	HYDROGRAPH AT	PR29NO	114.	4.08	69.	18.	6.	1.14
+	ROUTED TO	RP27GL	114.	4.25	69.	18.	6.	1.14
+	2 COMBINED AT	CPGL27	291.	4.75	118.	31.	10.	.98
+	DIVERSION TO	DP27GL	132.	4.08	82.	22.	7.	.98
+	HYDROGRAPH AT	D27GL	159.	4.75	37.	9.	3.	.98
+	ROUTED TO	RSBH27	145.	5.17	37.	9.	3.	.98
+	HYDROGRAPH AT	BH27	117.	4.50	32.	8.	3.	.26
+	2 COMBINED AT	CBH27	213.	5.00	66.	17.	6.	1.24
+	HYDROGRAPH AT	PR27GL	132.	4.08	82.	22.	7.	.98
+	ROUTED TO	RP27BH	132.	4.25	82.	22.	7.	.98
+	2 COMBINED AT	CPBH27	345.	5.00	147.	39.	13.	1.24
+	DIVERSION TO	DP27BH	132.	4.08	90.	24.	8.	1.24
+	HYDROGRAPH AT	D27BH	213.	5.00	58.	14.	5.	1.24
+	DIVERSION TO	DSCB27	213.	5.00	58.	14.	5.	1.24
+	HYDROGRAPH AT	DWBH35	0.	.00	0.	0.	0.	1.24
+	ROUTED TO	RWBH35	0.	.00	0.	0.	0.	1.24
+	HYDROGRAPH AT	DRBH35	111.	4.92	26.	6.	2.	1.53
+	ROUTED TO	RSBH35	99.	5.58	26.	6.	2.	1.53

+	HYDROGRAPH AT	BH35	470.	4.50	100.	25.	8.	1.00
+	3 COMBINED AT	CBH35	410.	4.50	117.	30.	10.	1.94
+	HYDROGRAPH AT	PR35GL	226.	4.33	112.	29.	10.	1.53
+	ROUTED TO	RP35BH	226.	4.50	112.	29.	10.	1.53
+	2 COMBINED AT	CPBH35	636.	4.50	226.	59.	20.	1.94
+	DIVERSION TO	DP35BH	226.	4.08	133.	35.	12.	1.94
+	HYDROGRAPH AT	D35BH	410.	4.50	93.	23.	8.	1.94
+	DIVERSION TO	DSCB35	410.	4.50	93.	23.	8.	1.94
+	HYDROGRAPH AT	DWBH43	0.	.00	0.	0.	0.	1.94
+	ROUTED TO	RWBH43	0.	.00	0.	0.	0.	1.94
+	HYDROGRAPH AT	DRBH43	111.	4.92	26.	6.	2.	2.03
+	ROUTED TO	RSBH43	96.	5.58	26.	6.	2.	2.03
+	HYDROGRAPH AT	BH43	264.	4.75	89.	23.	8.	.99
+	3 COMBINED AT	CBH43	270.	5.33	106.	27.	9.	2.19
+	HYDROGRAPH AT	PR43GL	385.	4.33	213.	56.	19.	2.03
+	ROUTED TO	RP43BH	385.	4.50	213.	56.	19.	2.03
+	2 COMBINED AT	CPBH43	655.	5.33	319.	83.	28.	2.19
+	DIVERSION TO	DP43BH	385.	4.25	237.	63.	21.	2.19
+	HYDROGRAPH AT	D43BH	270.	5.33	82.	20.	7.	2.19
+	DIVERSION TO	DSCB43	138.	5.33	42.	10.	3.	2.19
+	HYDROGRAPH AT	DWBH51	133.	5.33	40.	10.	3.	2.19
+	ROUTED TO	RWBH51	125.	5.92	40.	10.	3.	2.19
+	HYDROGRAPH AT	DRBH51	124.	4.92	55.	14.	5.	2.91
+	DIVERSION TO	DP47GL	124.	4.92	55.	14.	5.	2.91
+	HYDROGRAPH AT	D47GL	0.	.00	0.	0.	0.	2.91
+	ROUTED TO	RSBH51	0.	.00	0.	0.	0.	2.91
+	HYDROGRAPH AT	BH51	319.	4.75	110.	29.	10.	1.00
+	3 COMBINED AT	CBH51	293.	5.50	137.	36.	12.	3.42
+	HYDROGRAPH AT	PR47GL	124.	4.92	55.	14.	5.	2.91
+	ROUTED TO	RP51BH	124.	4.92	55.	14.	5.	2.91
+	2 COMBINED AT	CPBH51	405.	5.50	191.	50.	17.	3.42

+	ROUTED TO	SRBH51	403.	5.58	173.	49.	17.	3.42
+	DIVERSION TO	DSGR43	129.	5.58	55.	16.	5.	3.42
+	HYDROGRAPH AT	DWGR59	274.	5.58	118.	34.	11.	3.42
+	DIVERSION TO	DWBH59	63.	5.58	27.	8.	3.	3.42
+	HYDROGRAPH AT	DGR59	211.	5.58	90.	26.	9.	3.42
+	HYDROGRAPH AT	DRGR59	70.	5.17	15.	4.	1.	3.91
+	DIVERSION TO	DSBH59	37.	5.17	8.	2.	1.	3.91
+	HYDROGRAPH AT	D59GR	34.	5.17	7.	2.	1.	3.91
+	HYDROGRAPH AT	GR59	393.	4.33	71.	18.	6.	.52
+	3 COMBINED AT	CGR59	410.	4.67	159.	44.	15.	3.18
+	DIVERSION TO	DBH59	205.	4.67	79.	22.	7.	3.18
+	HYDROGRAPH AT	DNGR67	205.	4.67	79.	22.	7.	3.18
+	DIVERSION TO	DPGRGL	205.	4.67	79.	22.	7.	3.18
+	HYDROGRAPH AT	DGRGL	0.	.00	0.	0.	0.	3.18
+	2 COMBINED AT	CIGR59	66.	5.17	14.	4.	1.	3.15
+	ROUTED TO	RWGR67	35.	7.92	14.	4.	1.	3.15
+	HYDROGRAPH AT	DRGR67	197.	6.25	54.	14.	5.	4.93
+	HYDROGRAPH AT	GR67	322.	4.42	65.	17.	6.	.50
+	DIVERSION TO	XGR67	8.	2.33	2.	1.	0.	.50
+	HYDROGRAPH AT	ERGR67	322.	4.42	64.	16.	5.	.50
+	3 COMBINED AT	CGR67	220.	4.50	109.	28.	9.	6.83
+	HYDROGRAPH AT	PRNO59	134.	4.50	90.	24.	8.	4.06
+	ROUTED TO	RPNO67	134.	4.67	90.	24.	8.	4.06
+	HYDROGRAPH AT	PR59GL	217.	5.17	112.	29.	10.	3.91
+	HYDROGRAPH AT	PRGRGL	205.	4.67	79.	22.	7.	3.18
+	2 COMBINED AT	CPGL59	420.	5.00	206.	55.	18.	1.42
+	ROUTED TO	RPGR67	417.	5.08	206.	55.	18.	1.42
+	3 COMBINED AT	CPGR67	648.	6.25	365.	97.	32.	8.25
+	ROUTED TO	SRGR67	178.	8.17	167.	97.	32.	8.25
+	DIVERSION TO	DP67GR	178.	8.17	167.	97.	32.	8.25
+	HYDROGRAPH AT	D67GR	0.	.00	0.	0.	0.	8.25

+	ROUTED TO	RSOW67	0.	.00	0.	0.	0.	8.25
+	HYDROGRAPH AT	OW67	109.	4.25	18.	4.	1.	.12
+	2 COMBINED AT	COW67	69.	4.25	16.	4.	1.	6.95
+	HYDROGRAPH AT	PRGR67	178.	8.17	167.	97.	32.	8.25
+	ROUTED TO	RPOW67	178.	8.17	167.	97.	32.	8.25
+	2 COMBINED AT	CPOW67	180.	8.25	170.	103.	34.	6.95
+	DIVERSION TO	DPOW67	175.	8.08	168.	102.	34.	6.95
+	HYDROGRAPH AT	DOW67	5.	8.42	2.	0.	0.	6.95
+	DIVERSION TO	DSGL67	3.	8.42	1.	0.	0.	6.95
+	HYDROGRAPH AT	DWOW75	3.	8.42	1.	0.	0.	6.95
+	ROUTED TO	RWOW75	2.	9.42	1.	0.	0.	6.95
+	HYDROGRAPH AT	DROW75	40.	4.50	4.	1.	0.	8.93
+	ROUTED TO	RSOW75	24.	4.75	4.	1.	0.	8.93
+	HYDROGRAPH AT	OW75	269.	4.42	68.	17.	6.	.50
+	DIVERSION TO	XOW75	269.	4.42	39.	10.	3.	.50
+	HYDROGRAPH AT	EROW75	205.	4.92	31.	8.	3.	.50
+	3 COMBINED AT	COW75	143.	5.25	28.	7.	2.	8.17
+	HYDROGRAPH AT	PROW67	175.	8.08	168.	102.	34.	6.95
+	ROUTED TO	RPOW71	175.	8.08	168.	102.	34.	6.95
+	2 COMBINED AT	CPOW71	280.	5.25	189.	107.	36.	8.17
+	ROUTED TO	SROW75	181.	7.67	171.	96.	33.	8.17
+	DIVERSION TO	DPOW71	44.	6.00	44.	38.	13.	8.17
+	HYDROGRAPH AT	DOW71	137.	7.67	127.	58.	19.	8.17
+	HYDROGRAPH AT	PROW71	44.	6.00	44.	38.	13.	8.17
+	ROUTED TO	RPOW75	44.	6.17	44.	38.	13.	8.17
+	2 COMBINED AT	CPOW75	181.	7.67	171.	96.	33.	8.17
+	DIVERSION TO	DPOW75	66.	6.08	66.	52.	18.	8.17
+	HYDROGRAPH AT	DOW75	115.	7.67	105.	44.	15.	8.17
+	DIVERSION TO	DSGL75	87.	7.67	80.	33.	11.	8.17
+	HYDROGRAPH AT	DWOW83	28.	7.67	25.	11.	4.	8.17
+	ROUTED TO	RWOW83	27.	8.25	25.	11.	4.	8.17

+	HYDROGRAPH AT	OW83	151.	4.75	53.	14.	5.	.50
+	DIVERSION TO	XOW83	151.	4.75	18.	4.	1.	.50
+	HYDROGRAPH AT	EROW83	144.	5.00	37.	9.	3.	.50
+	2 COMBINED AT	COW83	124.	5.08	51.	21.	7.	2.46
+	HYDROGRAPH AT	PROW75	66.	6.08	66.	52.	18.	8.17
+	ROUTED TO	RPOW83	66.	6.33	66.	52.	18.	8.17
+	2 COMBINED AT	CPOW83	136.	6.00	109.	77.	27.	2.46
+	DIVERSION TO	DP83OW	136.	6.00	109.	77.	27.	2.46
+	HYDROGRAPH AT	D83OW	0.	.00	0.	0.	0.	2.46
+	DIVERSION TO	DSGL83	0.	.00	0.	0.	0.	2.46
+	HYDROGRAPH AT	DWOW91	0.	.00	0.	0.	0.	2.46
+	ROUTED TO	RWOW91	0.	.00	0.	0.	0.	2.46
+	HYDROGRAPH AT	DIGL67	21.	5.17	5.	1.	0.	3.91
+	ROUTED TO	RWGL67	16.	6.42	5.	1.	0.	3.91
+	HYDROGRAPH AT	GL67	243.	4.33	50.	13.	4.	.36
+	HYDROGRAPH AT	DRGL67	3.	8.42	1.	0.	0.	6.95
+	ROUTED TO	RSGL67	3.	8.75	1.	0.	0.	6.95
+	3 COMBINED AT	CGL67	243.	4.42	68.	18.	6.	4.47
+	DIVERSION TO	DSBH67	83.	4.42	24.	6.	2.	4.47
+	HYDROGRAPH AT	DWGL75	87.	4.42	25.	7.	2.	4.47
+	ROUTED TO	RWGL75	74.	5.00	25.	7.	2.	4.47
+	HYDROGRAPH AT	DRGL75	87.	7.67	80.	33.	11.	8.17
+	ROUTED TO	RSGL75	87.	8.00	79.	33.	11.	8.17
+	HYDROGRAPH AT	GL75	185.	4.75	65.	17.	6.	.50
+	DIVERSION TO	XGL75	185.	4.75	65.	17.	6.	.50
+	HYDROGRAPH AT	ERGL75	0.	.00	0.	0.	0.	.50
+	3 COMBINED AT	CGL75	94.	7.58	81.	39.	13.	8.97
+	DIVERSION TO	DSBH75	47.	7.58	40.	19.	6.	8.97
+	HYDROGRAPH AT	DWGL83	47.	7.58	40.	19.	6.	8.97
+	ROUTED TO	RWGL83	45.	8.75	40.	19.	6.	8.97
+	HYDROGRAPH AT	DRGL83	0.	.00	0.	0.	0.	2.46

+	ROUTED TO	RSGL83	0.	.00	0.	0.	0.	2.46
+	HYDROGRAPH AT	GL83	155.	4.75	54.	14.	5.	.50
+	DIVERSION TO	XGL83	155.	4.75	33.	8.	3.	.50
+	HYDROGRAPH AT	ERGL83	105.	5.58	23.	6.	2.	.50
+	3 COMBINED AT	CGL83	73.	6.42	51.	23.	8.	7.11
+	HYDROGRAPH AT	PR83OW	136.	6.00	109.	77.	27.	2.46
+	ROUTED TO	RP83GL	135.	6.08	109.	77.	27.	2.46
+	2 COMBINED AT	CPGL83	191.	6.33	153.	93.	32.	7.11
+	DIVERSION TO	DPGL83	191.	6.33	153.	93.	32.	7.11
+	HYDROGRAPH AT	DGL83	0.	.00	0.	0.	0.	7.11
+	DIVERSION TO	DSBH83	0.	.00	0.	0.	0.	7.11
+	HYDROGRAPH AT	DWGL91	0.	.00	0.	0.	0.	7.11
+	ROUTED TO	RWGL91	0.	.00	0.	0.	0.	7.11
+	HYDROGRAPH AT	DRGL91	195.	7.17	80.	24.	8.	9.52
+	ROUTED TO	RSGL91	150.	7.92	77.	24.	8.	9.52
+	HYDROGRAPH AT	GL91	280.	4.75	92.	24.	8.	.98
+	DIVERSION TO	XGL91	280.	4.75	92.	24.	8.	.98
+	HYDROGRAPH AT	ERGL91	0.	.00	0.	0.	0.	.98
+	4 COMBINED AT	CGL91	152.	7.92	78.	24.	8.	9.02
+	HYDROGRAPH AT	PRGL83	191.	6.33	153.	93.	32.	7.11
+	ROUTED TO	RPGL91	189.	6.50	153.	93.	32.	7.11
+	2 COMBINED AT	CPGL91	311.	7.92	222.	114.	39.	9.02
+	DIVERSION TO	DPGL91	311.	7.92	222.	114.	39.	9.02
+	HYDROGRAPH AT	DGL91	0.	.00	0.	0.	0.	9.02
+	DIVERSION TO	DSBH91	0.	.00	0.	0.	0.	9.02
+	HYDROGRAPH AT	DWGLLO	0.	.00	0.	0.	0.	9.02
+	ROUTED TO	RWGLLO	0.	.00	0.	0.	0.	9.02
+	HYDROGRAPH AT	GLLO	206.	4.75	67.	17.	6.	.85
+	DIVERSION TO	XGLLO	206.	4.75	35.	9.	3.	.85
+	HYDROGRAPH AT	ERGLLO	134.	5.17	33.	8.	3.	.85
+	3 COMBINED AT	CGLLO	50.	6.25	10.	2.	1.	15.23

+	HYDROGRAPH AT	PRGL91	311.	7.92	222.	114.	39.	9.02
+	ROUTED TO	RPGLLO	311.	8.00	222.	114.	39.	9.02
+	2 COMBINED AT	CPGLLO	294.	8.08	213.	107.	36.	15.23
+	ROUTED TO	RSBHLO	288.	8.33	212.	107.	36.	15.23
+	HYDROGRAPH AT	DIBH59	63.	5.58	27.	8.	3.	3.42
+	HYDROGRAPH AT	DRBH59	205.	4.67	79.	22.	7.	3.18
+	ROUTED TO	SRGR59	0.	18.92	0.	0.	0.	3.18
+	2 COMBINED AT	CIBHGR	68.	5.58	29.	9.	3.	2.13
+	ROUTED TO	RWBH59	67.	6.00	29.	9.	3.	2.13
+	HYDROGRAPH AT	DI59BH	37.	5.17	8.	2.	1.	3.91
+	ROUTED TO	RSBH59	24.	6.58	8.	2.	1.	3.91
+	HYDROGRAPH AT	BH59	355.	4.33	70.	18.	6.	.49
+	3 COMBINED AT	CBH59	252.	4.42	93.	26.	9.	3.58
+	DIVERSION TO	DSCB59	106.	4.42	39.	11.	4.	3.58
+	HYDROGRAPH AT	DWBH67	146.	4.42	54.	15.	5.	3.58
+	ROUTED TO	RWBH67	128.	4.92	54.	15.	5.	3.58
+	HYDROGRAPH AT	DRBH67	83.	4.42	24.	6.	2.	4.47
+	ROUTED TO	RSBH67	63.	5.33	24.	6.	2.	4.47
+	HYDROGRAPH AT	BH67	285.	4.75	97.	25.	8.	.97
+	3 COMBINED AT	CBH67	376.	5.00	156.	42.	14.	5.24
+	DIVERSION TO	DSCB67	165.	5.00	69.	19.	6.	5.24
+	HYDROGRAPH AT	DWBH75	211.	5.00	88.	24.	8.	5.24
+	ROUTED TO	RWBH75	201.	5.42	87.	24.	8.	5.24
+	HYDROGRAPH AT	DRBH75	47.	7.58	40.	19.	6.	8.97
+	ROUTED TO	RSBH75	44.	9.08	40.	19.	6.	8.97
+	HYDROGRAPH AT	BH75	355.	4.75	118.	31.	10.	1.00
+	DIVERSION TO	XBH75	355.	4.75	117.	30.	10.	1.00
+	HYDROGRAPH AT	ERBH75	19.	7.75	3.	1.	0.	1.00
+	3 COMBINED AT	CBH75	201.	5.50	111.	42.	14.	8.42
+	DIVERSION TO	DSCB75	107.	5.50	59.	22.	7.	8.42
+	HYDROGRAPH AT	DWBH83	95.	5.50	52.	20.	7.	8.42

+	ROUTED TO	RWBH83	92.	6.00	52.	20.	7.	8.42
+	HYDROGRAPH AT	DRBH83	0.	.00	0.	0.	0.	7.11
+	ROUTED TO	RSBH83	0.	.00	0.	0.	0.	7.11
+	HYDROGRAPH AT	BH83	305.	4.75	100.	26.	9.	1.00
+	DIVERSION TO	XBH83	305.	4.75	100.	26.	9.	1.00
+	HYDROGRAPH AT	ERBH83	0.	.00	0.	0.	0.	1.00
+	3 COMBINED AT	CBH83	92.	6.00	52.	20.	7.	9.47
+	DIVERSION TO	DSGC83	31.	6.00	17.	7.	2.	9.47
+	HYDROGRAPH AT	DWBH91	60.	6.00	34.	13.	4.	9.47
+	HYDROGRAPH AT	DRCB27	213.	5.00	58.	14.	5.	1.24
+	ROUTED TO	RSCB27	208.	5.33	58.	14.	5.	1.24
+	HYDROGRAPH AT	CB27	117.	4.50	33.	8.	3.	.26
+	2 COMBINED AT	CCB27	266.	5.25	87.	22.	7.	1.50
+	HYDROGRAPH AT	PR27BH	132.	4.08	90.	24.	8.	1.24
+	ROUTED TO	RP27CB	132.	4.25	90.	24.	8.	1.24
+	2 COMBINED AT	CPCB27	398.	5.25	176.	46.	15.	1.50
+	DIVERSION TO	DP27CB	132.	4.08	97.	26.	9.	1.50
+	HYDROGRAPH AT	D27CB	266.	5.25	79.	20.	7.	1.50
+	DIVERSION TO	DSIS27	266.	5.25	79.	20.	7.	1.50
+	HYDROGRAPH AT	DWCB35	0.	.00	0.	0.	0.	1.50
+	ROUTED TO	RWCB35	0.	.00	0.	0.	0.	1.50
+	HYDROGRAPH AT	DRCB35	410.	4.50	93.	23.	8.	1.94
+	ROUTED TO	RSCB35	358.	5.00	93.	23.	8.	1.94
+	HYDROGRAPH AT	CB35	285.	4.75	98.	25.	8.	1.00
+	3 COMBINED AT	CCB35	561.	5.00	173.	44.	15.	2.94
+	HYDROGRAPH AT	PR27CB	132.	4.08	97.	26.	9.	1.50
+	2 COMBINED AT	CPCB29	693.	5.00	270.	71.	24.	2.94
+	DIVERSION TO	DP29CB	132.	3.92	107.	30.	10.	2.94
+	HYDROGRAPH AT	D29CB	561.	5.00	163.	41.	14.	2.94
+	HYDROGRAPH AT	PR35BH	226.	4.08	133.	35.	12.	1.94
+	ROUTED TO	RP35CB	226.	4.25	134.	35.	12.	1.94

+	2 COMBINED AT	CPCB35	787.	5.00	296.	76.	25.	2.94
+	DIVERSION TO	DP35CB	253.	4.08	159.	42.	14.	2.94
+	HYDROGRAPH AT	D35CB	534.	5.00	137.	34.	11.	2.94
+	DIVERSION TO	DSIS35	534.	5.00	137.	34.	11.	2.94
+	HYDROGRAPH AT	DWCB43	0.	.00	0.	0.	0.	2.94
+	ROUTED TO	RWCB43	0.	.00	0.	0.	0.	2.94
+	HYDROGRAPH AT	DRCB43	138.	5.33	42.	10.	3.	2.19
+	ROUTED TO	RSCB43	133.	5.75	42.	10.	3.	2.19
+	HYDROGRAPH AT	CB43	432.	4.50	95.	24.	8.	1.00
+	3 COMBINED AT	CCB43	361.	4.58	128.	33.	11.	2.12
+	HYDROGRAPH AT	PR43BH	385.	4.25	237.	63.	21.	2.19
+	ROUTED TO	RP43CB	385.	4.42	237.	63.	21.	2.19
+	2 COMBINED AT	CPCB43	746.	4.58	363.	95.	32.	2.12
+	DIVERSION TO	DP39CB	268.	4.08	198.	54.	18.	2.12
+	HYDROGRAPH AT	D39CB	478.	4.58	166.	41.	14.	2.12
+	DIVERSION TO	DP43CB	155.	4.17	78.	20.	7.	2.12
+	HYDROGRAPH AT	D43CB	323.	4.58	87.	22.	7.	2.12
+	DIVERSION TO	DSGR35	184.	4.58	50.	12.	4.	2.12
+	HYDROGRAPH AT	DWGR43	139.	4.58	38.	9.	3.	2.12
+	DIVERSION TO	DCB51	35.	4.58	9.	2.	1.	2.12
+	HYDROGRAPH AT	DGR43	104.	4.58	28.	7.	2.	2.12
+	HYDROGRAPH AT	DRGR43	129.	5.58	55.	16.	5.	3.42
+	ROUTED TO	RSGR43	127.	6.08	54.	16.	5.	3.42
+	HYDROGRAPH AT	GR43	276.	4.42	59.	15.	5.	.51
+	DIVERSION TO	XGR43	26.	3.67	5.	1.	0.	.51
+	HYDROGRAPH AT	ERGR43	276.	4.42	55.	14.	5.	.51
+	3 COMBINED AT	CGR43	308.	4.50	130.	35.	12.	2.28
+	ROUTED TO	SRGR43	0.	.00	0.	0.	0.	2.28
+	DIVERSION TO	DEGR35	0.	.00	0.	0.	0.	2.28
+	HYDROGRAPH AT	DGR35	0.	.00	0.	0.	0.	2.28
+	DIVERSION TO	DSIS43	0.	.00	0.	0.	0.	2.28

+	HYDROGRAPH AT	DWCB51	0.	.00	0.	0.	0.	2.28
+	HYDROGRAPH AT	DICB51	35.	4.58	9.	2.	1.	2.12
+	2 COMBINED AT	CICBGR	46.	4.50	12.	3.	1.	.74
+	ROUTED TO	RWCB51	35.	5.58	12.	3.	1.	.74
+	HYDROGRAPH AT	CB51	505.	4.17	77.	19.	6.	.48
+	2 COMBINED AT	CCB51	421.	4.17	82.	22.	7.	1.23
+	DIVERSION TO	DSIS51	214.	4.17	42.	11.	4.	1.23
+	HYDROGRAPH AT	DWCB59	206.	4.17	40.	11.	4.	1.23
+	ROUTED TO	RWCB59	166.	4.67	40.	11.	4.	1.23
+	HYDROGRAPH AT	DRCB59	106.	4.42	39.	11.	4.	3.58
+	ROUTED TO	RSCB59	94.	4.92	39.	11.	4.	3.58
+	HYDROGRAPH AT	CB59	398.	4.67	128.	33.	11.	1.01
+	DIVERSION TO	XCB59	22.	2.83	6.	1.	0.	1.01
+	HYDROGRAPH AT	ERCB59	398.	4.67	126.	32.	11.	1.01
+	3 COMBINED AT	CCB59	576.	4.75	196.	51.	17.	3.11
+	DIVERSION TO	DSIS59	305.	4.75	104.	27.	9.	3.11
+	HYDROGRAPH AT	DWCB67	271.	4.75	92.	24.	8.	3.11
+	ROUTED TO	RWCB67	251.	5.17	91.	24.	8.	3.11
+	HYDROGRAPH AT	DRCB67	165.	5.00	69.	19.	6.	5.24
+	ROUTED TO	RSCB67	158.	5.50	68.	19.	6.	5.24
+	HYDROGRAPH AT	CB67	340.	4.75	114.	30.	10.	.97
+	DIVERSION TO	XCB67	14.	3.17	4.	1.	0.	.97
+	HYDROGRAPH AT	ERCB67	340.	4.75	114.	29.	10.	.97
+	3 COMBINED AT	CCB67	644.	5.17	259.	68.	23.	4.73
+	DIVERSION TO	DSGC67	277.	5.17	111.	29.	10.	4.73
+	HYDROGRAPH AT	DWCB75	367.	5.17	147.	39.	13.	4.73
+	ROUTED TO	RWCB75	355.	5.58	146.	39.	13.	4.73
+	HYDROGRAPH AT	DRCB75	107.	5.50	59.	22.	7.	8.42
+	ROUTED TO	RSCB75	101.	6.33	58.	22.	7.	8.42
+	HYDROGRAPH AT	CB75	332.	4.75	111.	29.	10.	1.00
+	DIVERSION TO	XCB75	332.	4.75	47.	12.	4.	1.00

+	HYDROGRAPH AT	ERCB75	305.	5.08	68.	17.	6.	1.00
+	3 COMBINED AT	CCB75	551.	5.42	245.	72.	24.	8.14
+	DIVERSION TO	DSGC75	242.	5.42	108.	32.	11.	8.14
+	HYDROGRAPH AT	DWGCB3	309.	5.42	137.	41.	14.	8.14
+	HYDROGRAPH AT	DRIS27	266.	5.25	79.	20.	7.	1.50
+	ROUTED TO	RSIS27	260.	5.50	79.	20.	7.	1.50
+	HYDROGRAPH AT	IS27	99.	4.67	33.	9.	3.	.24
+	2 COMBINED AT	CIS27	317.	5.42	110.	28.	9.	1.74
+	HYDROGRAPH AT	PR29CB	132.	3.92	107.	30.	10.	2.94
+	ROUTED TO	RP27IS	132.	4.08	107.	30.	10.	2.94
+	2 COMBINED AT	CPIS27	449.	5.42	217.	58.	19.	1.74
+	DIVERSION TO	DP27IS	151.	4.00	124.	35.	12.	1.74
+	HYDROGRAPH AT	D27IS	298.	5.42	93.	23.	8.	1.74
+	DIVERSION TO	DSGC27	298.	5.42	93.	23.	8.	1.74
+	HYDROGRAPH AT	DWIS35	0.	.00	0.	0.	0.	1.74
+	ROUTED TO	RWIS35	0.	.00	0.	0.	0.	1.74
+	HYDROGRAPH AT	DRIS35	534.	5.00	137.	34.	11.	2.94
+	ROUTED TO	RSIS35	508.	5.33	137.	34.	11.	2.94
+	HYDROGRAPH AT	IS35	582.	4.42	114.	29.	10.	.99
+	3 COMBINED AT	CIS35	675.	5.17	231.	59.	20.	3.93
+	HYDROGRAPH AT	PR35CB	253.	4.08	159.	42.	14.	2.94
+	ROUTED TO	RP35IS	253.	4.17	159.	42.	14.	2.94
+	2 COMBINED AT	CPIS35	928.	5.17	389.	100.	33.	3.93
+	DIVERSION TO	DP31IS	268.	4.00	185.	49.	16.	3.93
+	HYDROGRAPH AT	D31IS	660.	5.17	204.	51.	17.	3.93
+	DIVERSION TO	DP35IS	40.	4.00	21.	5.	2.	3.93
+	HYDROGRAPH AT	D35IS	620.	5.17	183.	46.	15.	3.93
+	DIVERSION TO	DSGC35	620.	5.17	183.	46.	15.	3.93
+	HYDROGRAPH AT	DWGR35	0.	.00	0.	0.	0.	3.93
+	HYDROGRAPH AT	DIGR35	0.	.00	0.	0.	0.	2.28
+	HYDROGRAPH AT	DRGR35	184.	4.58	50.	12.	4.	2.12

+	DIVERSION TO	DS43IS	66.	4.58	18.	4.	1.	2.12
+	HYDROGRAPH AT	D35GR	118.	4.58	32.	8.	3.	2.12
+	2 COMBINED AT	CIGR43	128.	4.50	34.	8.	3.	1.58
+	ROUTED TO	RSGR35	105.	5.50	34.	8.	3.	1.58
+	HYDROGRAPH AT	GR35	292.	4.42	63.	16.	5.	.53
+	3 COMBINED AT	CGR35	223.	4.50	87.	22.	7.	2.11
+	HYDROGRAPH AT	PR39CB	268.	4.08	198.	54.	18.	2.12
+	ROUTED TO	RP39GR	268.	4.17	198.	54.	18.	2.12
+	2 COMBINED AT	CPGR35	491.	4.50	284.	76.	25.	2.11
+	DIVERSION TO	D39GR	240.	4.50	87.	22.	7.	2.11
+	HYDROGRAPH AT	DP39GR	251.	4.00	197.	55.	18.	2.11
+	ROUTED TO	RP39IS	251.	4.08	197.	55.	18.	2.11
+	HYDROGRAPH AT	DRIS43	0.	.00	0.	0.	0.	2.28
+	HYDROGRAPH AT	DI43IS	66.	4.58	18.	4.	1.	2.12
+	2 COMBINED AT	CICB43	74.	4.50	20.	5.	2.	1.40
+	ROUTED TO	RSIS43	64.	5.08	20.	5.	2.	1.40
+	HYDROGRAPH AT	IS43	486.	4.17	74.	19.	6.	.47
+	2 COMBINED AT	CIS43	368.	4.25	88.	23.	8.	1.87
+	HYDROGRAPH AT	PR43CB	155.	4.17	78.	20.	7.	2.12
+	ROUTED TO	RP43IS	155.	4.33	79.	20.	7.	2.12
+	3 COMBINED AT	CPIS43	711.	4.33	353.	95.	32.	3.98
+	DIVERSION TO	DP43IS	406.	3.92	296.	81.	27.	3.98
+	HYDROGRAPH AT	D43IS	305.	4.33	57.	14.	5.	3.98
+	DIVERSION TO	DSGC43	253.	4.33	47.	12.	4.	3.98
+	HYDROGRAPH AT	DWIS51	52.	4.33	10.	2.	1.	3.98
+	ROUTED TO	RWIS51	22.	6.25	10.	2.	1.	3.98
+	HYDROGRAPH AT	DRIS51	214.	4.17	42.	11.	4.	1.23
+	ROUTED TO	RSIS51	179.	4.50	42.	11.	4.	1.23
+	HYDROGRAPH AT	IS51	311.	4.75	108.	28.	9.	.99
+	DIVERSION TO	XIS51	311.	4.75	74.	19.	6.	.99
+	HYDROGRAPH AT	ERIS51	158.	5.92	39.	10.	3.	.99

+	3 COMBINED AT	CIS51	214.	5.92	83.	22.	7.	1.94
+	DIVERSION TO	DP51IS	214.	5.92	82.	22.	7.	1.94
+	HYDROGRAPH AT	D51IS	11.	5.50	0.	0.	0.	1.94
+	DIVERSION TO	DSGC51	7.	5.50	0.	0.	0.	1.94
+	HYDROGRAPH AT	DWIS59	4.	5.50	0.	0.	0.	1.94
+	ROUTED TO	RWIS59	1.	6.75	0.	0.	0.	1.94
+	HYDROGRAPH AT	DRIS59	305.	4.75	104.	27.	9.	3.11
+	ROUTED TO	RSIS59	287.	5.17	103.	27.	9.	3.11
+	HYDROGRAPH AT	IS59	311.	4.75	107.	28.	9.	1.01
+	3 COMBINED AT	CIS59	534.	5.08	197.	52.	17.	3.38
+	DIVERSION TO	DP59IS	353.	4.75	174.	46.	16.	3.38
+	HYDROGRAPH AT	D59IS	181.	5.08	23.	6.	2.	3.38
+	DIVERSION TO	DSGC59	108.	5.08	14.	3.	1.	3.38
+	HYDROGRAPH AT	DWGC67	72.	5.08	9.	2.	1.	3.38
+	ROUTED TO	RWGC67	52.	5.58	9.	2.	1.	3.38
+	HYDROGRAPH AT	DRGC67	277.	5.17	111.	29.	10.	4.73
+	ROUTED TO	RSGC67	264.	5.67	110.	29.	10.	4.73
+	HYDROGRAPH AT	GC67	321.	4.75	101.	26.	9.	.94
+	3 COMBINED AT	CGC67	494.	5.50	204.	55.	18.	4.34
+	DIVERSION TO	DP67IS	175.	4.42	127.	35.	12.	4.34
+	HYDROGRAPH AT	D67IS	319.	5.50	77.	19.	6.	4.34
+	DIVERSION TO	DSISGC	163.	5.50	39.	10.	3.	4.34
+	HYDROGRAPH AT	DWGC75	157.	5.50	38.	9.	3.	4.34
+	HYDROGRAPH AT	DRGR39	240.	4.50	87.	22.	7.	2.11
+	DIVERSION TO	DEGCGR	115.	4.50	42.	10.	3.	2.11
+	HYDROGRAPH AT	DGC35	125.	4.50	45.	11.	4.	2.11
+	HYDROGRAPH AT	DRGC35	620.	5.17	183.	46.	15.	3.93
+	DIVERSION TO	DSGCGR	155.	5.17	46.	11.	4.	3.93
+	HYDROGRAPH AT	DS35GC	465.	5.17	137.	34.	11.	3.93
+	2 COMBINED AT	CIIS35	641.	5.08	199.	50.	17.	2.06
+	ROUTED TO	RSGC35	634.	5.17	199.	50.	17.	2.06

+	HYDROGRAPH AT	GC35	85.	4.17	12.	3.	1.	.08
+	2 COMBINED AT	CGC35	637.	5.17	208.	52.	17.	2.14
+	HYDROGRAPH AT	PR35IS	40.	4.00	21.	5.	2.	3.93
+	ROUTED TO	RP35GC	40.	4.17	21.	5.	2.	3.93
+	2 COMBINED AT	CPGC35	677.	5.17	230.	58.	19.	2.14
+	DIVERSION TO	DP35GC	40.	3.92	28.	7.	2.	2.14
+	HYDROGRAPH AT	D35GC	637.	5.17	202.	51.	17.	2.14
+	DIVERSION TO	DSTM35	542.	5.17	172.	43.	14.	2.14
+	HYDROGRAPH AT	DWGC43	96.	5.17	30.	8.	3.	2.14
+	ROUTED TO	RWGC43	88.	5.75	30.	8.	3.	2.14
+	HYDROGRAPH AT	DRGC43	253.	4.33	47.	12.	4.	3.98
+	ROUTED TO	RSGC43	213.	4.50	47.	12.	4.	3.98
+	HYDROGRAPH AT	GC43	195.	4.50	58.	15.	5.	.37
+	3 COMBINED AT	CGC43	402.	4.50	136.	35.	12.	2.23
+	HYDROGRAPH AT	PR43IS	406.	3.92	296.	81.	27.	3.98
+	ROUTED TO	RP43GC	406.	4.00	296.	81.	27.	3.98
+	2 COMBINED AT	CPGC43	808.	4.50	434.	116.	39.	2.23
+	DIVERSION TO	DP43GC	406.	3.92	309.	85.	28.	2.23
+	HYDROGRAPH AT	D43GC	402.	4.50	124.	31.	10.	2.23
+	ROUTED TO	SRGC43	402.	4.50	125.	31.	10.	2.23
+	DIVERSION TO	DSTM43	202.	4.50	32.	8.	3.	2.23
+	HYDROGRAPH AT	DWGC51	200.	4.25	93.	23.	8.	2.23
+	ROUTED TO	RWGC51	200.	5.58	93.	23.	8.	2.23
+	HYDROGRAPH AT	DRGC51	7.	5.50	0.	0.	0.	1.94
+	ROUTED TO	RSGC51	3.	5.83	0.	0.	0.	1.94
+	HYDROGRAPH AT	GC51	123.	4.75	45.	12.	4.	.45
+	3 COMBINED AT	CGC51	294.	5.08	131.	34.	11.	2.04
+	HYDROGRAPH AT	PR51IS	214.	5.92	82.	22.	7.	1.94
+	ROUTED TO	RP51ML	209.	6.00	82.	22.	7.	1.94
+	2 COMBINED AT	CPML51	467.	6.00	213.	55.	18.	2.04
+	DIVERSION TO	DPML51	136.	4.33	102.	27.	9.	2.04

+	HYDROGRAPH AT	DML51	331.	6.00	111.	28.	9.	2.04
+	DIVERSION TO	DP51GC	113.	4.67	58.	15.	5.	2.04
+	HYDROGRAPH AT	D51GC	218.	6.00	53.	13.	4.	2.04
+	ROUTED TO	SRGC51	130.	6.50	49.	13.	4.	2.04
+	DIVERSION TO	DSTM51	0.	6.50	0.	0.	0.	2.04
+	HYDROGRAPH AT	DWGC53	130.	6.50	49.	13.	4.	2.04
+	ROUTED TO	RWGC53	130.	6.58	49.	13.	4.	2.04
+	HYDROGRAPH AT	DRGC59	108.	5.08	14.	3.	1.	3.38
+	ROUTED TO	RSGC59	93.	5.33	14.	3.	1.	3.38
+	HYDROGRAPH AT	GC59	156.	4.58	47.	12.	4.	.41
+	2 COMBINED AT	CGC55	203.	5.25	58.	15.	5.	2.42
+	DIVERSION TO	DWGC59	15.	5.25	1.	0.	0.	2.42
+	HYDROGRAPH AT	DEGC53	187.	5.25	57.	15.	5.	2.42
+	HYDROGRAPH AT	PRML51	136.	4.33	102.	27.	9.	2.04
+	ROUTED TO	RPML53	136.	4.42	102.	27.	9.	2.04
+	3 COMBINED AT	CGC53	359.	5.42	203.	55.	18.	2.27
+	ROUTED TO	SRGC53	107.	7.75	91.	54.	18.	2.27
+	DIVERSION TO	DPGC53	20.	4.17	20.	17.	6.	2.27
+	HYDROGRAPH AT	DGC53	87.	7.75	71.	37.	12.	2.27
+	HYDROGRAPH AT	PR59IS	353.	4.75	174.	46.	16.	3.38
+	ROUTED TO	RP59GC	353.	4.83	174.	46.	16.	3.38
+	HYDROGRAPH AT	DRGC59	15.	5.25	1.	0.	0.	2.42
+	2 COMBINED AT	CPGC59	386.	5.17	182.	48.	16.	1.24
+	DIVERSION TO	DP59GC	258.	4.50	153.	41.	14.	1.24
+	HYDROGRAPH AT	D59GC	128.	5.17	29.	7.	2.	1.24
+	2 COMBINED AT	CGC59	152.	5.33	86.	41.	14.	3.50
+	DIVERSION TO	DSTM59	102.	5.33	36.	11.	4.	3.50
+	HYDROGRAPH AT	DWISGC	50.	5.25	50.	30.	10.	3.50
+	ROUTED TO	RWISGC	50.	6.42	50.	30.	10.	3.50
+	HYDROGRAPH AT	DRISGC	163.	5.50	39.	10.	3.	4.34
+	ROUTED TO	RSISGC	161.	5.58	39.	10.	3.	4.34

+	HYDROGRAPH AT	ISGC	40.	4.83	17.	5.	2.	.16
+	3 COMBINED AT	CISGC	249.	5.58	102.	45.	15.	3.33
+	HYDROGRAPH AT	PR59GC	258.	4.50	153.	41.	14.	1.24
+	2 COMBINED AT	CPISGC	507.	5.58	246.	85.	28.	3.33
+	DIVERSION TO	DPGC63	258.	4.50	185.	69.	23.	3.33
+	HYDROGRAPH AT	DGC63	249.	5.58	62.	15.	5.	3.33
+	ROUTED TO	SRISGC	81.	6.50	48.	15.	5.	3.33
+	DIVERSION TO	DSTM67	0.	.00	0.	0.	0.	3.33
+	HYDROGRAPH AT	DPGC67	81.	6.50	48.	15.	5.	3.33
+	HYDROGRAPH AT	DRGC75	242.	5.42	108.	32.	11.	8.14
+	HYDROGRAPH AT	GC75	116.	4.83	48.	13.	4.	.41
+	4 COMBINED AT	CGC75	475.	5.50	210.	62.	21.	9.44
+	ROUTED TO	SRGC75	423.	6.08	210.	62.	21.	9.44
+	2 COMBINED AT	CICB75	665.	6.00	325.	96.	32.	14.03
+	ROUTED TO	RWGC83	663.	6.08	324.	96.	32.	14.03
+	HYDROGRAPH AT	DRGC83	31.	6.00	17.	7.	2.	9.47
+	HYDROGRAPH AT	GC83	108.	4.83	47.	13.	4.	.43
+	DIVERSION TO	XGC83	108.	4.83	47.	13.	4.	.43
+	HYDROGRAPH AT	ERGC83	0.	.00	0.	0.	0.	.43
+	3 COMBINED AT	CGC83	663.	6.08	326.	98.	33.	17.67
+	2 COMBINED AT	CIBH83	669.	6.17	334.	102.	34.	23.92
+	ROUTED TO	RWBH91	657.	6.42	332.	102.	34.	23.92
+	HYDROGRAPH AT	DRBH91	0.	.00	0.	0.	0.	9.02
+	ROUTED TO	RSBH91	0.	.00	0.	0.	0.	9.02
+	HYDROGRAPH AT	BH91	307.	4.75	101.	26.	9.	1.03
+	DIVERSION TO	XBH91	87.	4.17	8.	2.	1.	1.03
+	HYDROGRAPH AT	ERBH91	307.	4.75	96.	24.	8.	1.03
+	3 COMBINED AT	CBH91	686.	6.42	364.	112.	38.	30.54
+	ROUTED TO	RWBHLO	674.	6.58	361.	112.	38.	30.54
+	HYDROGRAPH AT	BHLO	518.	4.42	129.	33.	11.	.79
+	DIVERSION TO	XBHLO	518.	4.42	84.	21.	7.	.79

+	HYDROGRAPH AT	ERBHLO	318.	5.00	47.	12.	4.	.79
+	3 COMBINED AT	CBHLO	739.	6.75	467.	182.	62.	46.47
+	ROUTED TO	RWBH99	739.	6.75	467.	182.	62.	46.47
+	HYDROGRAPH AT	BH99	41.	4.67	15.	4.	1.	.18
+	2 COMBINED AT	CBH99	744.	6.75	470.	183.	62.	46.65
+	ROUTED TO	RWBHR1	740.	6.83	469.	183.	62.	46.65
+	HYDROGRAPH AT	GLNR	107.	4.75	42.	11.	4.	.48
+	DIVERSION TO	XGLNR	79.	4.42	6.	1.	0.	.48
+	HYDROGRAPH AT	ERGLNR	107.	4.75	38.	10.	3.	.48
+	DIVERSION TO	DWNR04	107.	4.75	38.	10.	3.	.48
+	HYDROGRAPH AT	DSBHRI	0.	.00	0.	0.	0.	.48
+	ROUTED TO	RSBHRI	0.	.00	0.	0.	0.	.48
+	HYDROGRAPH AT	BHRI	77.	4.67	24.	6.	2.	.51
+	DIVERSION TO	DWBHAF	60.	4.67	19.	5.	2.	.51
+	HYDROGRAPH AT	DBHNR	16.	4.67	5.	1.	0.	.51
+	3 COMBINED AT	CBHRI	740.	6.83	469.	183.	62.	47.17
+	ROUTED TO	RWBHNR	734.	7.00	466.	183.	62.	47.17
+	HYDROGRAPH AT	BHNR	51.	4.58	13.	3.	1.	.26
+	2 COMBINED AT	CBHNR	733.	7.00	466.	183.	62.	47.42
+	HYDROGRAPH AT	CB99	70.	4.58	23.	6.	2.	.20
+	DIVERSION TO	XCB99	70.	4.58	9.	2.	1.	.20
+	HYDROGRAPH AT	ERCB99	64.	4.92	15.	4.	1.	.20
+	DIVERSION TO	DSIS99	31.	4.92	7.	2.	1.	.20
+	HYDROGRAPH AT	DWCBRI	33.	4.92	7.	2.	1.	.20
+	ROUTED TO	RWCBRI	23.	5.75	7.	2.	1.	.20
+	HYDROGRAPH AT	CBRI	179.	4.75	65.	17.	6.	.70
+	DIVERSION TO	XCBRI	179.	4.75	65.	17.	6.	.70
+	HYDROGRAPH AT	ERCBRI	0.	.00	0.	0.	0.	.70
+	2 COMBINED AT	CCBRI	23.	5.75	7.	2.	1.	.80
+	DIVERSION TO	DSIS07	14.	5.75	5.	1.	0.	.80
+	HYDROGRAPH AT	DWCB07	6.	5.75	2.	1.	0.	.80

+	HYDROGRAPH AT	CB07	62.	4.67	20.	5.	2.	.32
+	2 COMBINED AT	CCB07	60.	4.67	21.	5.	2.	.56
+	DIVERSION TO	DIS07	41.	4.67	15.	4.	1.	.56
+	HYDROGRAPH AT	DWCBNR	19.	4.67	7.	2.	1.	.56
+	ROUTED TO	RWCBNR	16.	5.75	7.	2.	1.	.56
+	HYDROGRAPH AT	CBNR	79.	4.75	29.	7.	2.	.47
+	2 COMBINED AT	CCBNR	76.	4.92	33.	9.	3.	.64
+	HYDROGRAPH AT	DRIS99	31.	4.92	7.	2.	1.	.20
+	ROUTED TO	RSIS99	20.	6.08	7.	2.	1.	.20
+	HYDROGRAPH AT	IS99	98.	4.67	29.	7.	2.	.32
+	2 COMBINED AT	CIS99	98.	4.67	36.	9.	3.	.42
+	DIVERSION TO	DSTM99	25.	4.67	9.	2.	1.	.42
+	HYDROGRAPH AT	DWIS07	72.	4.67	26.	7.	2.	.42
+	ROUTED TO	RWIS07	64.	5.33	26.	7.	2.	.42
+	HYDROGRAPH AT	DI07IS	41.	4.67	15.	4.	1.	.56
+	HYDROGRAPH AT	DRIS07	14.	5.75	5.	1.	0.	.80
+	2 COMBINED AT	CICB07	41.	5.67	18.	5.	2.	.94
+	ROUTED TO	RSIS07	35.	6.08	17.	4.	1.	.94
+	HYDROGRAPH AT	IS07	340.	4.75	112.	29.	10.	1.02
+	DIVERSION TO	XIS07	265.	4.42	21.	5.	2.	1.02
+	HYDROGRAPH AT	ERIS07	340.	4.75	94.	24.	8.	1.02
+	3 COMBINED AT	CIS07	335.	5.08	125.	32.	11.	2.28
+	DIVERSION TO	DSRI07	84.	5.08	31.	8.	3.	2.28
+	HYDROGRAPH AT	DWISAF	251.	5.08	94.	24.	8.	2.28
+	ROUTED TO	RWISAF	234.	5.83	91.	24.	8.	2.28
+	HYDROGRAPH AT	ISAF	280.	4.75	103.	27.	9.	.99
+	2 COMBINED AT	CISAF	389.	5.67	176.	48.	16.	2.69
+	HYDROGRAPH AT	DRTM99	25.	4.67	9.	2.	1.	.42
+	ROUTED TO	RSTM99	20.	5.75	9.	2.	1.	.42
+	HYDROGRAPH AT	TM99	120.	4.75	40.	10.	3.	.50
+	2 COMBINED AT	CTM99	117.	4.75	48.	12.	4.	.62

+	DIVERSION TO	DSMD99	54.	4.75	22.	6.	2.	.62
+	HYDROGRAPH AT	DWRI07	63.	4.75	26.	7.	2.	.62
+	ROUTED TO	RWRI07	60.	5.42	26.	7.	2.	.62
+	HYDROGRAPH AT	DRRI07	84.	5.08	31.	8.	3.	2.28
+	ROUTED TO	RSRI07	82.	5.42	31.	8.	3.	2.28
+	HYDROGRAPH AT	RI07	218.	4.75	66.	17.	6.	.76
+	DIVERSION TO	XRI07	218.	4.75	43.	11.	4.	.76
+	HYDROGRAPH AT	ERRI07	115.	5.50	24.	6.	2.	.76
+	3 COMBINED AT	CRI07	225.	5.83	74.	19.	6.	1.67
+	DIVERSION TO	DTM07	110.	5.83	36.	9.	3.	1.67
+	HYDROGRAPH AT	DRIAF	115.	5.83	38.	10.	3.	1.67
+	DIVERSION TO	DSTM07	71.	5.83	23.	6.	2.	1.67
+	HYDROGRAPH AT	DWRIAF	44.	5.83	14.	4.	1.	1.67
+	ROUTED TO	RWRIAF	26.	8.08	13.	4.	1.	1.67
+	HYDROGRAPH AT	RIAF	197.	4.75	76.	20.	7.	.66
+	2 COMBINED AT	CRIAF	189.	4.83	83.	24.	8.	.98
+	HYDROGRAPH AT	DRBHAF	60.	4.67	19.	5.	2.	.51
+	ROUTED TO	SRBHRI	0.	10.08	0.	0.	0.	.51
+	5 COMBINED AT	CAF01	1616.	6.50	978.	369.	126.	4.31
+	HYDROGRAPH AT	CB83	264.	4.50	60.	15.	5.	.55
+	DIVERSION TO	XCB83	264.	4.50	36.	9.	3.	.55
+	HYDROGRAPH AT	ERCB83	182.	5.00	24.	6.	2.	.55
+	DIVERSION TO	DP83CB	10.	5.17	4.	1.	0.	.55
+	HYDROGRAPH AT	D83CB	173.	5.00	20.	5.	2.	.55
+	DIVERSION TO	DSIS83	76.	5.00	9.	2.	1.	.55
+	HYDROGRAPH AT	DWCB91	97.	5.00	11.	3.	1.	.55
+	ROUTED TO	RWCB91	51.	6.08	11.	3.	1.	.55
+	HYDROGRAPH AT	CB91	237.	4.75	73.	19.	6.	.96
+	DIVERSION TO	XCB91	237.	4.75	33.	8.	3.	.96
+	HYDROGRAPH AT	ERCB91	189.	5.33	41.	10.	3.	.96
+	2 COMBINED AT	CCB91	186.	5.33	48.	12.	4.	1.32

+	DIVERSION TO	DSIS91	87.	5.33	23.	6.	2.	1.32
+	HYDROGRAPH AT	DWCBLO	99.	5.33	25.	6.	2.	1.32
+	ROUTED TO	RWCBLO	76.	6.17	25.	6.	2.	1.32
+	HYDROGRAPH AT	CBLO	238.	4.75	73.	19.	6.	.82
+	DIVERSION TO	XCBLO	238.	4.75	26.	7.	2.	.82
+	HYDROGRAPH AT	ERCBLO	221.	5.00	48.	12.	4.	.82
+	2 COMBINED AT	CCBLO	208.	5.00	69.	17.	6.	1.52
+	ROUTED TO	RSISLO	175.	5.58	69.	17.	6.	1.52
+	HYDROGRAPH AT	IS75	280.	4.58	78.	20.	7.	.62
+	DIVERSION TO	XIS75	8.	2.17	2.	0.	0.	.62
+	HYDROGRAPH AT	ERIS75	280.	4.58	78.	20.	7.	.62
+	DIVERSION TO	DP75IS	123.	4.17	55.	14.	5.	.62
+	HYDROGRAPH AT	D75IS	157.	4.58	23.	6.	2.	.62
+	DIVERSION TO	DSTM75	55.	4.58	8.	2.	1.	.62
+	HYDROGRAPH AT	DWIS83	102.	4.58	15.	4.	1.	.62
+	ROUTED TO	RWIS83	67.	5.50	15.	4.	1.	.62
+	HYDROGRAPH AT	DRIS83	76.	5.00	9.	2.	1.	.55
+	ROUTED TO	RSIS83	38.	6.33	9.	2.	1.	.55
+	HYDROGRAPH AT	IS83	323.	4.75	108.	28.	9.	.99
+	3 COMBINED AT	CIS83	318.	4.92	124.	32.	11.	1.64
+	HYDROGRAPH AT	PR83CB	10.	5.17	4.	1.	0.	.55
+	2 COMBINED AT	CPIS83	322.	5.17	128.	33.	11.	1.64
+	DIVERSION TO	DP83IS	187.	4.33	100.	26.	9.	1.64
+	HYDROGRAPH AT	D83IS	135.	5.17	28.	7.	2.	1.64
+	DIVERSION TO	DSTM83	74.	5.17	15.	4.	1.	1.64
+	HYDROGRAPH AT	DWIS91	61.	5.17	13.	3.	1.	1.64
+	ROUTED TO	RWIS91	46.	5.75	13.	3.	1.	1.64
+	HYDROGRAPH AT	DRIS91	87.	5.33	23.	6.	2.	1.32
+	ROUTED TO	RSIS91	61.	6.58	22.	6.	2.	1.32
+	HYDROGRAPH AT	IS91	373.	4.75	126.	33.	11.	1.00
+	DIVERSION TO	XIS91	373.	4.75	49.	12.	4.	1.00

+	HYDROGRAPH AT	ERIS91	356.	5.00	81.	20.	7.	1.00
+	3 COMBINED AT	CIS91	351.	5.00	108.	27.	9.	2.36
+	DIVERSION TO	DP91IS	190.	5.00	87.	22.	7.	2.36
+	HYDROGRAPH AT	D91IS	161.	5.00	21.	5.	2.	2.36
+	DIVERSION TO	DSTM91	92.	5.00	12.	3.	1.	2.36
+	HYDROGRAPH AT	DWISLO	69.	5.00	9.	2.	1.	2.36
+	ROUTED TO	RWISLO	43.	5.50	9.	2.	1.	2.36
+	HYDROGRAPH AT	ISLO	234.	4.67	71.	18.	6.	.68
+	DIVERSION TO	XISLO	234.	4.67	60.	15.	5.	.68
+	HYDROGRAPH AT	ERISLO	71.	6.08	13.	3.	1.	.68
+	3 COMBINED AT	CISLO	190.	5.58	73.	18.	6.	3.22
+	ROUTED TO	RSTMLO	175.	5.92	73.	18.	6.	3.22
+	HYDROGRAPH AT	DRGCGR	115.	4.50	42.	10.	3.	2.11
+	HYDROGRAPH AT	DIGCGR	155.	5.17	46.	11.	4.	3.93
+	2 COMBINED AT	CIGR35	241.	5.25	84.	21.	7.	3.97
+	ROUTED TO	RSGCGR	238.	5.33	84.	21.	7.	3.97
+	HYDROGRAPH AT	DRGC27	298.	5.42	93.	23.	8.	1.74
+	ROUTED TO	RSGC27	295.	5.50	93.	23.	8.	1.74
+	HYDROGRAPH AT	GCGR	608.	4.08	59.	15.	5.	.38
+	3 COMBINED AT	CGCGR	466.	5.50	203.	52.	17.	6.09
+	HYDROGRAPH AT	PR31IS	268.	4.00	185.	49.	16.	3.93
+	ROUTED TO	RP31GC	268.	4.08	185.	49.	16.	3.93
+	HYDROGRAPH AT	PR27IS	151.	4.00	124.	35.	12.	1.74
+	ROUTED TO	RP27GC	151.	4.08	124.	35.	12.	1.74
+	3 COMBINED AT	CPGCGR	885.	5.50	512.	136.	45.	6.09
+	DIVERSION TO	DPGCGR	422.	3.83	333.	92.	31.	6.09
+	HYDROGRAPH AT	DGCGR	463.	5.50	179.	45.	15.	6.09
+	ROUTED TO	SRGCGR	284.	6.33	179.	45.	15.	6.09
+	ROUTED TO	RSGR27	282.	6.67	177.	45.	15.	6.09
+	HYDROGRAPH AT	GR27	347.	4.25	63.	16.	5.	.41
+	2 COMBINED AT	CTM27	350.	4.58	223.	59.	20.	6.50

+	DIVERSION TO	DGR27	175.	4.58	111.	29.	10.	6.50
+	HYDROGRAPH AT	DTM27	175.	4.58	111.	29.	10.	6.50
+	ROUTED TO	SRTM27	141.	6.83	75.	29.	10.	6.50
+	HYDROGRAPH AT	PRGCGR	422.	3.83	333.	92.	31.	6.09
+	DIVERSION TO	DP31GR	257.	3.58	227.	65.	22.	6.09
+	HYDROGRAPH AT	D31GR	165.	3.83	107.	27.	9.	6.09
+	ROUTED TO	RP27TM	165.	3.92	107.	27.	9.	6.09
+	2 COMBINED AT	CPGR27	290.	6.83	167.	53.	18.	12.59
+	DIVERSION TO	DP27GR	195.	3.83	151.	49.	16.	12.59
+	HYDROGRAPH AT	D27GR	95.	6.83	16.	4.	1.	12.59
+	HYDROGRAPH AT	DRGR27	175.	4.58	111.	29.	10.	6.50
+	2 COMBINED AT	CGR27	252.	6.75	135.	35.	12.	6.50
+	ROUTED TO	SRGR27	155.	7.25	44.	27.	12.	6.50
+	DIVERSION TO	DSMD27	105.	7.25	30.	19.	8.	6.50
+	HYDROGRAPH AT	DWTM35	49.	7.25	14.	9.	4.	6.50
+	ROUTED TO	RWTM35	30.	8.17	14.	9.	4.	6.50
+	HYDROGRAPH AT	DRTM35	542.	5.17	172.	43.	14.	2.14
+	ROUTED TO	RSTM35	532.	5.25	172.	43.	14.	2.14
+	HYDROGRAPH AT	TM35	363.	4.25	65.	16.	5.	.39
+	3 COMBINED AT	CTM35	569.	4.58	219.	62.	22.	4.31
+	HYDROGRAPH AT	PR31GR	257.	3.58	227.	65.	22.	6.09
+	ROUTED TO	RP31TM	257.	3.67	227.	65.	22.	6.09
+	HYDROGRAPH AT	PR35GC	40.	3.92	28.	7.	2.	2.14
+	ROUTED TO	RP35TM	40.	4.08	28.	7.	2.	2.14
+	3 COMBINED AT	CPTM35	866.	4.58	471.	133.	46.	4.31
+	DIVERSION TO	DP35TM	300.	3.58	266.	82.	29.	4.31
+	HYDROGRAPH AT	D35TM	566.	4.58	204.	51.	17.	4.31
+	DIVERSION TO	DSMD35	475.	4.58	172.	43.	14.	4.31
+	HYDROGRAPH AT	DWTM43	91.	4.58	33.	8.	3.	4.31
+	ROUTED TO	RWTM43	83.	6.00	32.	8.	3.	4.31
+	HYDROGRAPH AT	DRTM43	202.	4.50	32.	8.	3.	2.23

+	ROUTED TO	RSTM43	170.	4.75	32.	8.	3.	2.23
+	HYDROGRAPH AT	TM43	236.	4.75	81.	21.	7.	.64
+	DIVERSION TO	XTM43	15.	3.67	3.	1.	0.	.64
+	HYDROGRAPH AT	ERTM43	236.	4.75	80.	20.	7.	.64
+	3 COMBINED AT	CTM43	358.	4.83	135.	34.	11.	3.16
+	HYDROGRAPH AT	PR43GC	406.	3.92	309.	85.	28.	2.23
+	ROUTED TO	RP43TM	406.	4.00	309.	85.	28.	2.23
+	2 COMBINED AT	CPTM43	764.	4.83	441.	119.	40.	3.16
+	DIVERSION TO	DP43TM	629.	4.75	420.	114.	38.	3.16
+	HYDROGRAPH AT	D43TM	135.	4.83	21.	5.	2.	3.16
+	DIVERSION TO	DSMD43	106.	4.83	16.	4.	1.	3.16
+	HYDROGRAPH AT	DWTM51	28.	4.83	4.	1.	0.	3.16
+	ROUTED TO	RWTM51	12.	7.33	4.	1.	0.	3.16
+	HYDROGRAPH AT	DRTM51	0.	6.50	0.	0.	0.	2.04
+	ROUTED TO	RSTM51	0.	6.92	0.	0.	0.	2.04
+	HYDROGRAPH AT	TM51	168.	4.75	59.	15.	5.	.55
+	3 COMBINED AT	CTM51	144.	4.83	59.	15.	5.	2.15
+	HYDROGRAPH AT	PR51GC	113.	4.67	58.	15.	5.	2.04
+	HYDROGRAPH AT	PRGC53	20.	4.17	20.	17.	6.	2.27
+	ROUTED TO	RPGC51	20.	4.25	20.	17.	6.	2.27
+	2 COMBINED AT	CPGC51	133.	4.67	78.	32.	11.	2.15
+	ROUTED TO	RP51TM	133.	4.75	78.	32.	11.	2.15
+	2 COMBINED AT	CPTM51	265.	4.92	129.	45.	15.	4.30
+	DIVERSION TO	DP51TM	244.	4.92	127.	44.	15.	4.30
+	HYDROGRAPH AT	D51TM	21.	4.83	2.	1.	0.	4.30
+	DIVERSION TO	DSMD51	14.	4.83	1.	0.	0.	4.30
+	HYDROGRAPH AT	DWTM59	8.	4.83	1.	0.	0.	4.30
+	ROUTED TO	RWTM59	3.	6.17	1.	0.	0.	4.30
+	HYDROGRAPH AT	DRTM59	102.	5.33	36.	11.	4.	3.50
+	ROUTED TO	RSTM59	99.	5.50	35.	11.	4.	3.50
+	HYDROGRAPH AT	TM59	184.	4.75	63.	16.	5.	.60

+	3 COMBINED AT	CTM59	221.	5.25	86.	25.	8.	3.90
+	HYDROGRAPH AT	PRGC63	258.	4.50	185.	69.	23.	3.33
+	ROUTED TO	RP59TM	258.	4.67	185.	69.	23.	3.33
+	2 COMBINED AT	CPTM59	479.	5.25	269.	94.	31.	3.90
+	DIVERSION TO	DP59TM	389.	4.83	253.	90.	30.	3.90
+	HYDROGRAPH AT	D59TM	90.	5.25	16.	4.	1.	3.90
+	DIVERSION TO	DSMD59	37.	5.25	7.	2.	1.	3.90
+	HYDROGRAPH AT	DWTM67	53.	5.25	10.	2.	1.	3.90
+	ROUTED TO	RWTM67	35.	6.50	10.	2.	1.	3.90
+	HYDROGRAPH AT	DRTM67	0.	.00	0.	0.	0.	3.33
+	ROUTED TO	RSTM67	0.	.00	0.	0.	0.	3.33
+	HYDROGRAPH AT	TM67	297.	4.75	98.	25.	8.	.81
+	DIVERSION TO	XTM67	9.	2.58	2.	1.	0.	.81
+	HYDROGRAPH AT	ERTM67	297.	4.75	98.	25.	8.	.81
+	3 COMBINED AT	CTM67	260.	4.83	102.	26.	9.	3.12
+	HYDROGRAPH AT	PR67IS	175.	4.42	127.	35.	12.	4.34
+	ROUTED TO	RP67TM	175.	4.58	127.	35.	12.	4.34
+	2 COMBINED AT	CPTM67	435.	4.83	228.	62.	21.	3.12
+	DIVERSION TO	DP67TM	273.	4.33	190.	52.	17.	3.12
+	HYDROGRAPH AT	D67TM	162.	4.83	38.	9.	3.	3.12
+	DIVERSION TO	DSMD67	73.	4.83	17.	4.	1.	3.12
+	HYDROGRAPH AT	DWTM75	89.	4.83	21.	5.	2.	3.12
+	ROUTED TO	RWTM75	65.	5.83	21.	5.	2.	3.12
+	HYDROGRAPH AT	DRTM75	55.	4.58	8.	2.	1.	.62
+	ROUTED TO	RSTM75	37.	5.58	8.	2.	1.	.62
+	HYDROGRAPH AT	TM75	380.	4.75	129.	33.	11.	1.00
+	DIVERSION TO	XTM75	11.	2.00	2.	0.	0.	1.00
+	HYDROGRAPH AT	ERTM75	380.	4.75	129.	33.	11.	1.00
+	3 COMBINED AT	CTM75	369.	5.08	151.	39.	13.	2.92
+	HYDROGRAPH AT	PR75IS	123.	4.17	55.	14.	5.	.62
+	ROUTED TO	RP75TM	123.	4.33	55.	14.	5.	.62

+	2 COMBINED AT	CPTM75	492.	5.08	207.	53.	18.	2.92
+	DIVERSION TO	DP75TM	303.	4.33	164.	42.	14.	2.92
+	HYDROGRAPH AT	D75TM	189.	5.08	43.	11.	4.	2.92
+	DIVERSION TO	DSMD75	91.	5.08	21.	5.	2.	2.92
+	HYDROGRAPH AT	DWTM83	98.	5.08	22.	6.	2.	2.92
+	ROUTED TO	RWTM83	87.	5.75	22.	6.	2.	2.92
+	HYDROGRAPH AT	DRTM83	74.	5.17	15.	4.	1.	1.64
+	ROUTED TO	RSTM83	52.	5.83	15.	4.	1.	1.64
+	HYDROGRAPH AT	TM83	336.	4.75	112.	29.	10.	.99
+	3 COMBINED AT	CTM83	316.	5.25	136.	35.	12.	3.41
+	HYDROGRAPH AT	PR83IS	187.	4.33	100.	26.	9.	1.64
+	ROUTED TO	RP83TM	187.	4.50	100.	26.	9.	1.64
+	2 COMBINED AT	CPTM83	503.	5.25	235.	61.	20.	3.41
+	DIVERSION TO	DP83TM	283.	4.42	169.	44.	15.	3.41
+	HYDROGRAPH AT	D83TM	220.	5.25	66.	16.	5.	3.41
+	DIVERSION TO	DSMD83	51.	5.25	15.	4.	1.	3.41
+	HYDROGRAPH AT	DWTM91	169.	5.25	50.	13.	4.	3.41
+	ROUTED TO	RWTM91	165.	5.83	50.	13.	4.	3.41
+	HYDROGRAPH AT	DRTM91	92.	5.00	12.	3.	1.	2.36
+	ROUTED TO	RSTM91	45.	6.25	12.	3.	1.	2.36
+	HYDROGRAPH AT	TM91	349.	4.75	117.	30.	10.	1.00
+	DIVERSION TO	XTM91	312.	4.50	30.	7.	2.	1.00
+	HYDROGRAPH AT	ERTM91	349.	4.75	91.	23.	8.	1.00
+	3 COMBINED AT	CTM91	363.	5.50	134.	33.	11.	4.96
+	HYDROGRAPH AT	PR91IS	190.	5.00	87.	22.	7.	2.36
+	ROUTED TO	RP91TM	190.	5.17	87.	22.	7.	2.36
+	2 COMBINED AT	CPTM91	553.	5.50	215.	54.	18.	4.96
+	DIVERSION TO	DP91TM	287.	5.25	154.	39.	13.	4.96
+	HYDROGRAPH AT	D91TM	266.	5.50	60.	15.	5.	4.96
+	DIVERSION TO	DSMD91	205.	5.50	46.	12.	4.	4.96
+	HYDROGRAPH AT	DWTMLO	61.	5.50	14.	3.	1.	4.96

+	ROUTED TO	RWTMLO	57.	5.92	14.	3.	1.	4.96
+	HYDROGRAPH AT	TMLO	123.	4.75	40.	10.	3.	.50
+	DIVERSION TO	XTMLO	8.	3.92	1.	0.	0.	.50
+	HYDROGRAPH AT	ERTMLO	123.	4.75	40.	10.	3.	.50
+	3 COMBINED AT	CTMLO	259.	5.92	106.	27.	9.	4.87
+	ROUTED TO	RSMDLO	242.	6.17	105.	27.	9.	4.87
+	HYDROGRAPH AT	DRMD27	105.	7.25	30.	19.	8.	6.50
+	ROUTED TO	RSMD27	77.	7.75	30.	19.	8.	6.50
+	HYDROGRAPH AT	MD27	209.	4.25	40.	10.	3.	.24
+	2 COMBINED AT	CMD27	151.	4.33	62.	28.	12.	4.65
+	HYDROGRAPH AT	PR27GR	195.	3.83	151.	49.	16.	12.59
+	ROUTED TO	RP27MD	195.	4.00	151.	49.	16.	12.59
+	2 COMBINED AT	CPMD27	339.	4.42	219.	78.	29.	4.65
+	DIVERSION TO	DP27MD	246.	3.92	201.	74.	27.	4.65
+	HYDROGRAPH AT	D27MD	93.	4.42	18.	4.	1.	4.65
+	ROUTED TO	RWMD35	59.	5.25	17.	4.	1.	4.65
+	HYDROGRAPH AT	DRMD35	475.	4.58	172.	43.	14.	4.31
+	ROUTED TO	RSMD35	447.	5.00	171.	43.	14.	4.31
+	HYDROGRAPH AT	MD35	431.	4.75	147.	38.	13.	1.00
+	3 COMBINED AT	CMD35	776.	5.00	297.	77.	26.	9.29
+	HYDROGRAPH AT	PR35TM	300.	3.58	266.	82.	29.	4.31
+	ROUTED TO	RP35MD	300.	3.75	266.	82.	29.	4.31
+	2 COMBINED AT	CPMD35	1076.	5.00	562.	159.	54.	9.29
+	DIVERSION TO	DP35MD	507.	4.17	406.	120.	41.	9.29
+	HYDROGRAPH AT	D35MD	569.	5.00	156.	39.	13.	9.29
+	DIVERSION TO	DSIN35	358.	5.00	98.	25.	8.	9.29
+	HYDROGRAPH AT	DWMD43	210.	5.00	58.	14.	5.	9.29
+	ROUTED TO	RWMD43	180.	6.08	58.	14.	5.	9.29
+	HYDROGRAPH AT	DRMD43	106.	4.83	16.	4.	1.	3.16
+	ROUTED TO	RSMD43	66.	5.67	16.	4.	1.	3.16
+	HYDROGRAPH AT	MD43	647.	4.42	134.	34.	11.	1.00

+	3 COMBINED AT	CMD43	492.	4.50	184.	49.	16.	6.96
+	HYDROGRAPH AT	PR43TM	629.	4.75	420.	114.	38.	3.16
+	ROUTED TO	RP43MD	629.	4.92	420.	114.	38.	3.16
+	2 COMBINED AT	CPMD43	1093.	4.67	594.	161.	54.	6.96
+	DIVERSION TO	DP43MD	629.	4.00	466.	129.	43.	6.96
+	HYDROGRAPH AT	D43MD	464.	4.67	129.	32.	11.	6.96
+	DIVERSION TO	DSIN43	464.	4.67	129.	32.	11.	6.96
+	HYDROGRAPH AT	DWMD51	0.	.00	0.	0.	0.	6.96
+	ROUTED TO	RWMD51	0.	.00	0.	0.	0.	6.96
+	HYDROGRAPH AT	DRMD51	14.	4.83	1.	0.	0.	4.30
+	ROUTED TO	RSMD51	7.	5.67	1.	0.	0.	4.30
+	HYDROGRAPH AT	MD51	355.	4.75	119.	31.	10.	1.00
+	3 COMBINED AT	CMD51	326.	4.83	116.	30.	10.	2.37
+	HYDROGRAPH AT	PR51TM	244.	4.92	127.	44.	15.	4.30
+	ROUTED TO	RP51MD	244.	5.00	127.	44.	15.	4.30
+	2 COMBINED AT	CPMD51	570.	4.83	247.	76.	26.	2.37
+	DIVERSION TO	DP51MD	368.	4.50	211.	67.	23.	2.37
+	HYDROGRAPH AT	D51MD	202.	4.83	36.	9.	3.	2.37
+	DIVERSION TO	DSIN51	79.	4.83	14.	4.	1.	2.37
+	HYDROGRAPH AT	DWMD59	123.	4.83	22.	5.	2.	2.37
+	ROUTED TO	RWMD59	87.	5.75	22.	5.	2.	2.37
+	HYDROGRAPH AT	DRMD59	37.	5.25	7.	2.	1.	3.90
+	ROUTED TO	RSMD59	27.	6.08	7.	2.	1.	3.90
+	HYDROGRAPH AT	MD59	347.	4.75	116.	30.	10.	1.00
+	3 COMBINED AT	CMD59	307.	5.42	131.	34.	11.	4.05
+	HYDROGRAPH AT	PR59TM	389.	4.83	253.	90.	30.	3.90
+	ROUTED TO	RP59MD	389.	5.00	253.	90.	30.	3.90
+	2 COMBINED AT	CPMD59	696.	5.42	382.	123.	41.	4.05
+	DIVERSION TO	DP59MD	468.	4.50	317.	107.	36.	4.05
+	HYDROGRAPH AT	D59MD	228.	5.42	64.	16.	5.	4.05
+	DIVERSION TO	DSIN59	114.	5.42	32.	8.	3.	4.05

+	HYDROGRAPH AT	DWMD67	114.	5.42	32.	8.	3.	4.05
+	ROUTED TO	RWMD67	107.	6.00	32.	8.	3.	4.05
+	HYDROGRAPH AT	DRMD67	73.	4.83	17.	4.	1.	3.12
+	ROUTED TO	RSMD67	59.	5.58	17.	4.	1.	3.12
+	HYDROGRAPH AT	MD67	338.	4.75	112.	29.	10.	.98
+	DIVERSION TO	XMD67	264.	4.42	23.	6.	2.	.98
+	HYDROGRAPH AT	ERMD67	338.	4.75	92.	23.	8.	.98
+	3 COMBINED AT	CMD67	348.	5.50	129.	32.	11.	4.41
+	HYDROGRAPH AT	PR67TM	273.	4.33	190.	52.	17.	3.12
+	ROUTED TO	RP67MD	273.	4.50	190.	52.	17.	3.12
+	2 COMBINED AT	CPMD67	621.	5.50	318.	84.	28.	4.41
+	DIVERSION TO	DP67MD	400.	4.67	258.	69.	23.	4.41
+	HYDROGRAPH AT	D67MD	221.	5.50	60.	15.	5.	4.41
+	DIVERSION TO	DSIN67	33.	5.50	9.	2.	1.	4.41
+	HYDROGRAPH AT	DWMD75	188.	5.50	51.	13.	4.	4.41
+	ROUTED TO	RWMD75	173.	6.08	51.	13.	4.	4.41
+	HYDROGRAPH AT	DRMD75	91.	5.08	21.	5.	2.	2.92
+	ROUTED TO	RSMD75	81.	5.75	21.	5.	2.	2.92
+	HYDROGRAPH AT	MD75	359.	4.75	121.	31.	10.	1.00
+	DIVERSION TO	XMD75	150.	4.17	14.	3.	1.	1.00
+	HYDROGRAPH AT	ERMD75	359.	4.75	111.	28.	9.	1.00
+	3 COMBINED AT	CMD75	380.	5.83	161.	40.	13.	6.14
+	HYDROGRAPH AT	PR75TM	303.	4.33	164.	42.	14.	2.92
+	ROUTED TO	RP75MD	303.	4.50	164.	42.	14.	2.92
+	2 COMBINED AT	CPMD75	683.	5.83	321.	82.	27.	6.14
+	DIVERSION TO	DP75MD	364.	4.33	223.	57.	19.	6.14
+	HYDROGRAPH AT	D75MD	319.	5.83	98.	25.	8.	6.14
+	DIVERSION TO	DSIN75	112.	5.83	34.	9.	3.	6.14
+	HYDROGRAPH AT	DWMD83	208.	5.83	64.	16.	5.	6.14
+	ROUTED TO	RWMD83	199.	6.17	64.	16.	5.	6.14
+	HYDROGRAPH AT	DRMD83	51.	5.25	15.	4.	1.	3.41

+	ROUTED TO	RSMD83	49.	5.92	15.	4.	1.	3.41
+	HYDROGRAPH AT	MD83	463.	4.58	130.	33.	11.	.99
+	DIVERSION TO	XMD83	463.	4.58	58.	15.	5.	.99
+	HYDROGRAPH AT	ERMD83	425.	4.83	75.	19.	6.	.99
+	3 COMBINED AT	CMD83	430.	5.17	142.	35.	12.	5.80
+	HYDROGRAPH AT	PR83TM	283.	4.42	169.	44.	15.	3.41
+	ROUTED TO	RP83MD	283.	4.58	169.	44.	15.	3.41
+	2 COMBINED AT	CPMD83	713.	5.17	308.	79.	26.	5.80
+	DIVERSION TO	DP83MD	340.	4.92	205.	53.	18.	5.80
+	HYDROGRAPH AT	D83MD	373.	5.17	103.	26.	9.	5.80
+	ROUTED TO	RWMD91	345.	5.75	103.	26.	9.	5.80
+	HYDROGRAPH AT	DRMD91	205.	5.50	46.	12.	4.	4.96
+	ROUTED TO	RSMD91	180.	6.17	46.	12.	4.	4.96
+	HYDROGRAPH AT	MD91	377.	4.75	127.	33.	11.	1.01
+	DIVERSION TO	XMD91	373.	4.67	43.	11.	4.	1.01
+	HYDROGRAPH AT	ERMD91	368.	4.92	89.	22.	7.	1.01
+	3 COMBINED AT	CMD91	579.	5.92	192.	48.	16.	10.61
+	HYDROGRAPH AT	PR91TM	287.	5.25	154.	39.	13.	4.96
+	ROUTED TO	RP91MD	287.	5.42	154.	39.	13.	4.96
+	2 COMBINED AT	CPMD91	866.	5.92	338.	85.	28.	10.61
+	DIVERSION TO	DP91MD	345.	4.92	195.	49.	16.	10.61
+	HYDROGRAPH AT	D91MD	521.	5.92	143.	36.	12.	10.61
+	DIVERSION TO	DSIN91	104.	5.92	29.	7.	2.	10.61
+	HYDROGRAPH AT	DWMDLO	417.	5.92	115.	29.	10.	10.61
+	ROUTED TO	RWMDLO	406.	6.25	115.	29.	10.	10.61
+	HYDROGRAPH AT	MDLO	394.	4.50	92.	23.	8.	.67
+	DIVERSION TO	XMDLO	394.	4.50	92.	23.	8.	.67
+	HYDROGRAPH AT	ERMDLO	0.	.00	0.	0.	0.	.67
+	3 COMBINED AT	CMDLO	541.	6.25	177.	45.	15.	14.07
+	ROUTED TO	RSINLO	541.	6.33	177.	45.	15.	14.07
+	DIVERSION TO	DEIN95	0.	.00	0.	0.	0.	14.07

+	HYDROGRAPH AT	DSINLO	541.	6.33	177.	45.	15.	14.07
+	HYDROGRAPH AT	IN27	86.	4.25	17.	4.	1.	.10
+	HYDROGRAPH AT	PR27MD	246.	3.92	201.	74.	27.	4.65
+	ROUTED TO	RP27IN	246.	4.00	201.	74.	27.	4.65
+	2 COMBINED AT	CPIN27	332.	4.25	232.	83.	31.	.10
+	DIVERSION TO	DSVB27	239.	4.25	167.	60.	22.	.10
+	HYDROGRAPH AT	DWIN35	93.	4.25	65.	23.	9.	.10
+	ROUTED TO	RWIN35	87.	5.00	64.	23.	9.	.10
+	HYDROGRAPH AT	DRIN35	358.	5.00	98.	25.	8.	9.29
+	ROUTED TO	RSIN35	356.	5.08	98.	25.	8.	9.29
+	HYDROGRAPH AT	IN35	383.	4.08	39.	10.	3.	.24
+	3 COMBINED AT	CIN35	490.	5.08	194.	57.	20.	6.11
+	HYDROGRAPH AT	PR35MD	507.	4.17	406.	120.	41.	9.29
+	ROUTED TO	RP35IN	507.	4.25	406.	120.	41.	9.29
+	2 COMBINED AT	CPIN35	997.	5.08	599.	177.	61.	6.11
+	DIVERSION TO	DSVB35	867.	5.08	521.	154.	53.	6.11
+	HYDROGRAPH AT	DWIN43	130.	5.08	78.	23.	8.	6.11
+	ROUTED TO	RWIN43	127.	5.50	78.	23.	8.	6.11
+	HYDROGRAPH AT	DRIN43	464.	4.67	129.	32.	11.	6.96
+	ROUTED TO	RSIN43	462.	4.67	129.	32.	11.	6.96
+	HYDROGRAPH AT	IN43	292.	4.17	37.	9.	3.	.26
+	3 COMBINED AT	CIN43	640.	4.58	231.	62.	21.	7.99
+	HYDROGRAPH AT	PR43MD	629.	4.00	466.	129.	43.	6.96
+	ROUTED TO	RP43IN	629.	4.08	466.	129.	43.	6.96
+	2 COMBINED AT	CPIN43	1269.	4.58	695.	191.	64.	7.99
+	DIVERSION TO	DSVB43	1028.	4.58	563.	154.	52.	7.99
+	HYDROGRAPH AT	DWIN51	241.	4.58	132.	36.	12.	7.99
+	ROUTED TO	RWIN51	238.	4.75	132.	36.	12.	7.99
+	HYDROGRAPH AT	DRIN51	79.	4.83	14.	4.	1.	2.37
+	ROUTED TO	RSIN51	70.	5.17	14.	4.	1.	2.37
+	HYDROGRAPH AT	IN51	152.	4.33	37.	10.	3.	.23

+	3 COMBINED AT	CIN51	407.	4.83	190.	51.	17.	2.68
+	HYDROGRAPH AT	PR51MD	368.	4.50	211.	67.	23.	2.37
+	ROUTED TO	RP51IN	368.	4.58	211.	67.	23.	2.37
+	2 COMBINED AT	CPIN51	775.	4.83	400.	118.	40.	2.68
+	DIVERSION TO	DSVB51	0.	.00	0.	0.	0.	2.68
+	HYDROGRAPH AT	DWIN59	775.	4.83	400.	118.	40.	2.68
+	ROUTED TO	RWIN59	765.	5.00	399.	118.	40.	2.68
+	HYDROGRAPH AT	DRIN59	114.	5.42	32.	8.	3.	4.05
+	ROUTED TO	RSIN59	114.	5.50	32.	8.	3.	4.05
+	HYDROGRAPH AT	IN59	74.	4.75	28.	7.	2.	.20
+	3 COMBINED AT	CIN59	909.	5.00	441.	129.	43.	4.90
+	HYDROGRAPH AT	PR59MD	468.	4.50	317.	107.	36.	4.05
+	ROUTED TO	RP59IN	468.	4.58	317.	107.	36.	4.05
+	2 COMBINED AT	CPIN59	1377.	5.00	756.	235.	79.	4.90
+	DIVERSION TO	DSVB59	0.	.00	0.	0.	0.	4.90
+	HYDROGRAPH AT	DWIN67	1377.	5.00	756.	235.	79.	4.90
+	ROUTED TO	RWIN67	1373.	5.17	756.	235.	79.	4.90
+	HYDROGRAPH AT	DRIN67	33.	5.50	9.	2.	1.	4.41
+	ROUTED TO	RSIN67	33.	5.58	9.	2.	1.	4.41
+	HYDROGRAPH AT	IN67	62.	4.83	27.	7.	2.	.20
+	DIVERSION TO	XIN67	62.	4.83	18.	5.	2.	.20
+	HYDROGRAPH AT	ERIN67	37.	6.08	10.	3.	1.	.20
+	3 COMBINED AT	CIN67	1389.	5.17	764.	236.	79.	5.78
+	HYDROGRAPH AT	PR67MD	400.	4.67	258.	69.	23.	4.41
+	ROUTED TO	RP67IN	400.	4.75	258.	69.	23.	4.41
+	2 COMBINED AT	CPIN67	1789.	5.17	1020.	305.	102.	5.78
+	DIVERSION TO	DSVB67	0.	.00	0.	0.	0.	5.78
+	HYDROGRAPH AT	DWIN75	1789.	5.17	1020.	305.	102.	5.78
+	ROUTED TO	RWIN75	1782.	5.33	1019.	305.	102.	5.78
+	HYDROGRAPH AT	DRIN75	112.	5.83	34.	9.	3.	6.14
+	ROUTED TO	RSIN75	111.	5.92	34.	9.	3.	6.14

+	HYDROGRAPH AT	IN75	65.	4.75	26.	7.	2.	.20
+	DIVERSION TO	XIN75	60.	4.50	6.	1.	0.	.20
+	HYDROGRAPH AT	ERIN75	65.	4.75	22.	5.	2.	.20
+	3 COMBINED AT	CIN75	1888.	5.33	1050.	311.	104.	8.11
+	HYDROGRAPH AT	PR75MD	364.	4.33	223.	57.	19.	6.14
+	ROUTED TO	RP75IN	364.	4.42	223.	57.	19.	6.14
+	2 COMBINED AT	CPIN75	2252.	5.33	1268.	368.	123.	8.11
+	DIVERSION TO	DSVB75	0.	.00	0.	0.	0.	8.11
+	HYDROGRAPH AT	DWIN83	2252.	5.33	1268.	368.	123.	8.11
+	ROUTED TO	RWIN83	2246.	5.42	1266.	368.	123.	8.11
+	HYDROGRAPH AT	IN83	74.	4.67	28.	7.	2.	.20
+	DIVERSION TO	XIN83	74.	4.67	25.	6.	2.	.20
+	HYDROGRAPH AT	ERIN83	23.	6.75	5.	1.	0.	.20
+	2 COMBINED AT	CIN83	2246.	5.42	1268.	368.	123.	8.31
+	HYDROGRAPH AT	PR83MD	340.	4.92	205.	53.	18.	5.80
+	ROUTED TO	RP83IN	340.	5.00	205.	53.	18.	5.80
+	2 COMBINED AT	CPIN83	2584.	5.42	1464.	421.	141.	8.31
+	DIVERSION TO	DSVB83	0.	.00	0.	0.	0.	8.31
+	HYDROGRAPH AT	DWIN91	2584.	5.42	1464.	421.	141.	8.31
+	ROUTED TO	RWIN91	2580.	5.58	1463.	421.	141.	8.31
+	HYDROGRAPH AT	DRIN91	104.	5.92	29.	7.	2.	10.61
+	ROUTED TO	RSIN91	104.	6.00	29.	7.	2.	10.61
+	HYDROGRAPH AT	IN91	111.	4.42	28.	7.	2.	.19
+	3 COMBINED AT	CIN91	2687.	5.58	1494.	429.	143.	10.57
+	HYDROGRAPH AT	PR91MD	345.	4.92	195.	49.	16.	10.61
+	ROUTED TO	RP91IN	345.	5.00	195.	49.	16.	10.61
+	2 COMBINED AT	CPIN91	3032.	5.58	1688.	477.	160.	10.57
+	DIVERSION TO	DSVB91	0.	.00	0.	0.	0.	10.57
+	HYDROGRAPH AT	DWINLO	3032.	5.58	1688.	477.	160.	10.57
+	ROUTED TO	RWINLO	3027.	5.75	1686.	477.	160.	10.57
+	DIVERSION TO	DNINLO	0.	.00	0.	0.	0.	10.57

+	HYDROGRAPH AT	DWIN07	3027.	5.75	1686.	477.	160.	10.57
+	HYDROGRAPH AT	INLO	73.	4.42	19.	5.	2.	.15
+	DIVERSION TO	XINLO	2.	3.00	1.	0.	0.	.15
+	HYDROGRAPH AT	ERINLO	73.	4.42	19.	5.	2.	.15
+	HYDROGRAPH AT	DRINLO	0.	.00	0.	0.	0.	10.57
+	HYDROGRAPH AT	DRIN95	0.	.00	0.	0.	0.	14.07
+	3 COMBINED AT	CIN95	73.	4.58	22.	6.	2.	24.79
+	ROUTED TO	SRINLO	11.	6.42	9.	4.	1.	24.79
+	3 COMBINED AT	CINLO	3233.	6.08	1700.	479.	160.	24.79
+	ROUTED TO	RWIN07	3225.	6.25	1697.	479.	160.	24.79
+	HYDROGRAPH AT	DITM07	110.	5.83	36.	9.	3.	1.67
+	ROUTED TO	SRRI03	0.	11.75	0.	0.	0.	1.67
+	ROUTED TO	RWTM07	0.	11.75	0.	0.	0.	1.67
+	HYDROGRAPH AT	DRTM07	71.	5.83	23.	6.	2.	1.67
+	ROUTED TO	RSTM07	62.	6.17	23.	6.	2.	1.67
+	HYDROGRAPH AT	TM07	81.	4.75	28.	7.	2.	.26
+	3 COMBINED AT	CTM07	100.	5.75	48.	13.	4.	1.61
+	DIVERSION TO	DWTMAF	65.	5.75	31.	8.	3.	1.61
+	HYDROGRAPH AT	DSMD07	35.	5.75	17.	4.	2.	1.61
+	ROUTED TO	RSMD07	33.	6.83	16.	4.	2.	1.61
+	HYDROGRAPH AT	DRMD99	54.	4.75	22.	6.	2.	.62
+	ROUTED TO	RSMD99	50.	5.58	22.	6.	2.	.62
+	HYDROGRAPH AT	MD99	71.	4.83	28.	7.	2.	.32
+	2 COMBINED AT	CMD99	108.	5.42	49.	13.	4.	.60
+	DIVERSION TO	DMD99	61.	5.42	27.	7.	2.	.60
+	HYDROGRAPH AT	DWTMRI	48.	5.42	21.	6.	2.	.60
+	ROUTED TO	RWTMRI	46.	5.67	21.	6.	2.	.60
+	HYDROGRAPH AT	TMRI	191.	4.25	22.	5.	2.	.24
+	2 COMBINED AT	CTMRI	193.	4.25	43.	11.	4.	.51
+	ROUTED TO	SRTMRI	36.	6.42	13.	3.	1.	.51
+	ROUTED TO	RMD07	29.	7.42	12.	3.	1.	.51

+	HYDROGRAPH AT	DIMD99	61.	5.42	27.	7.	2.	.60
+	DIVERSION TO	DSIN99	30.	5.42	14.	4.	1.	.60
+	HYDROGRAPH AT	DWMD07	30.	5.42	14.	4.	1.	.60
+	ROUTED TO	SRMD99	0.	.00	0.	0.	0.	.60
+	ROUTED TO	RWMD07	0.	.00	0.	0.	0.	.60
+	HYDROGRAPH AT	MD07	306.	4.75	98.	25.	8.	.78
+	DIVERSION TO	XMD07	306.	4.75	98.	25.	8.	.78
+	HYDROGRAPH AT	ERMD07	12.	8.08	2.	0.	0.	.78
+	4 COMBINED AT	CMD07	32.	7.17	21.	6.	2.	2.50
+	DIVERSION TO	DWMDAV	23.	7.17	15.	4.	2.	2.50
+	HYDROGRAPH AT	DSIN07	8.	7.17	5.	1.	1.	2.50
+	ROUTED TO	RSIN07	8.	7.33	5.	1.	1.	2.50
+	HYDROGRAPH AT	DRIN99	30.	5.42	14.	4.	1.	.60
+	ROUTED TO	RSIN99	27.	6.25	13.	4.	1.	.60
+	HYDROGRAPH AT	IN07	139.	4.42	34.	9.	3.	.26
+	DIVERSION TO	XIN07	139.	4.42	16.	4.	1.	.26
+	HYDROGRAPH AT	ERIN07	123.	4.67	19.	5.	2.	.26
+	4 COMBINED AT	CIN07	3224.	6.17	1698.	479.	160.	27.09
+	DIVERSION TO	DSVB07	0.	.00	0.	0.	0.	27.09
+	HYDROGRAPH AT	DWINAV	3218.	6.17	1694.	478.	160.	27.09
+	ROUTED TO	RWINAV	3213.	6.25	1693.	478.	160.	27.09
+	HYDROGRAPH AT	DRTMAF	65.	5.75	31.	8.	3.	1.61
+	ROUTED TO	RWTMAF	61.	6.67	31.	8.	3.	1.61
+	HYDROGRAPH AT	TMAF	242.	4.75	89.	23.	8.	.76
+	2 COMBINED AT	CTMAF	231.	4.83	114.	31.	10.	1.33
+	DIVERSION TO	DWAF02	206.	4.83	101.	28.	9.	1.33
+	HYDROGRAPH AT	DSMDAV	25.	4.83	13.	3.	1.	1.33
+	ROUTED TO	RSMDAV	22.	6.33	12.	3.	1.	1.33
+	HYDROGRAPH AT	DRMDAV	23.	7.17	15.	4.	2.	2.50
+	ROUTED TO	RWMDAV	21.	8.00	15.	4.	2.	2.50
+	HYDROGRAPH AT	MDAV	312.	4.75	103.	27.	9.	.95

+	DIVERSION TO	XMDAV	312.	4.75	103.	27.	9.	.95
+	HYDROGRAPH AT	ERMDAV	0.	.00	0.	0.	0.	.95
+	3 COMBINED AT	CMDAV	41.	7.83	27.	8.	3.	1.72
+	DIVERSION TO	DWMDAF	30.	7.83	20.	6.	2.	1.72
+	HYDROGRAPH AT	DSINAV	11.	7.83	7.	2.	1.	1.72
+	ROUTED TO	RSINAV	11.	8.08	7.	2.	1.	1.72
+	HYDROGRAPH AT	INAV	118.	4.42	28.	7.	2.	.23
+	DIVERSION TO	XINAV	109.	4.25	7.	2.	1.	.23
+	HYDROGRAPH AT	ERINAV	118.	4.42	21.	5.	2.	.23
+	3 COMBINED AT	CINAV	3208.	6.25	1694.	478.	160.	28.58
+	DIVERSION TO	DSVBAF	0.	.00	0.	0.	0.	28.58
+	HYDROGRAPH AT	DWINAF	3208.	6.25	1694.	478.	160.	28.58
+	ROUTED TO	RWINAF	3189.	6.42	1688.	478.	160.	28.58
+	HYDROGRAPH AT	DRMDAF	30.	7.83	20.	6.	2.	1.72
+	ROUTED TO	RWMDAF	27.	9.00	19.	6.	2.	1.72
+	HYDROGRAPH AT	MDAF	167.	4.75	61.	16.	5.	.83
+	2 COMBINED AT	CMDAF	152.	4.83	69.	21.	7.	1.30
+	DIVERSION TO	DWAF03	115.	4.83	53.	16.	5.	1.30
+	HYDROGRAPH AT	DSINAF	36.	4.83	17.	5.	2.	1.30
+	ROUTED TO	RSINAF	36.	5.00	16.	5.	2.	1.30
+	HYDROGRAPH AT	INAF	108.	4.75	40.	10.	3.	.47
+	DIVERSION TO	XINAF	108.	4.75	17.	4.	1.	.47
+	HYDROGRAPH AT	ERINAF	96.	5.25	25.	6.	2.	.47
+	3 COMBINED AT	CINAF	3206.	6.42	1694.	480.	160.	29.36

1

SUMMARY OF KINEMATIC WAVE - MUSKINGUM-CUNGE ROUTING
(FLOW IS DIRECT RUNOFF WITHOUT BASE FLOW)

ISTAQ	ELEMENT	DT	PEAK	TIME TO PEAK	VOLUME	DT	INTERPOLATED TO COMPUTATION INTERVAL PEAK	TIME TO PEAK	VOLUME
		(MIN)	(CFS)	(MIN)	(IN)	(MIN)	(CFS)	(MIN)	(IN)
FOR STORM = 1	STORM AREA (SQ MI) =		.00						
RPTB83	MANE	.92	161.00	269.59	.54	5.00	161.00	270.00	.54

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3404E+02 EXCESS= .0000E+00 OUTFLOW= .3414E+02 BASIN STORAGE= .6612E-10 PERCENT ERROR= -.3

FOR STORM = 2	STORM AREA (SQ MI) =		.50						
RPTB83	MANE	.87	161.00	269.17	.54	5.00	161.00	270.00	.54

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3397E+02 EXCESS= .0000E+00 OUTFLOW= .3402E+02 BASIN STORAGE= .6683E-10 PERCENT ERROR= -.2

FOR STORM = 3	STORM AREA (SQ MI) =		2.80						
RPTB83	MANE	1.05	161.00	279.55	.54	5.00	161.00	280.00	.54

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3408E+02 EXCESS= .0000E+00 OUTFLOW= .3395E+02 BASIN STORAGE= .6587E-10 PERCENT ERROR= .4

FOR STORM = 4	STORM AREA (SQ MI) =		16.00						
RPTB83	MANE	.93	161.00	269.45	.53	5.00	161.00	270.00	.53

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3321E+02 EXCESS= .0000E+00 OUTFLOW= .3332E+02 BASIN STORAGE= .6565E-10 PERCENT ERROR= -.3

FOR STORM = 5	STORM AREA (SQ MI) =		90.00						
RPTB83	MANE	1.62	161.00	273.29	.47	5.00	161.00	275.00	.47

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2967E+02 EXCESS= .0000E+00 OUTFLOW= .2969E+02 BASIN STORAGE= .1187E-09 PERCENT ERROR= -.1

FOR STORM = 6	STORM AREA (SQ MI) =		100.00						
RPTB83	MANE	2.37	161.00	278.92	.47	5.00	161.00	280.00	.46

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2922E+02 EXCESS= .0000E+00 OUTFLOW= .2927E+02 BASIN STORAGE= .1664E-09 PERCENT ERROR= -.1

FOR STORM = 1	STORM AREA (SQ MI) =		.00						
RPTBLO	MANE	.85	247.00	292.05	.60	5.00	247.00	295.00	.60

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5636E+02 EXCESS= .0000E+00 OUTFLOW= .5637E+02 BASIN STORAGE= .7324E-10 PERCENT ERROR= .0

FOR STORM = 2	STORM AREA (SQ MI) =		.50						
RPTBLO	MANE	.86	247.00	292.11	.60	5.00	247.00	295.00	.60

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5622E+02 EXCESS= .0000E+00 OUTFLOW= .5622E+02 BASIN STORAGE= .7390E-10 PERCENT ERROR= .0

FOR STORM = 3	STORM AREA (SQ MI) =		2.80						
RPTBLO	MANE	.83	247.00	301.73	.58	5.00	247.00	305.00	.58

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5447E+02 EXCESS= .0000E+00 OUTFLOW= .5448E+02 BASIN STORAGE= .7285E-10 PERCENT ERROR= .0

FOR STORM = 4	STORM AREA (SQ MI) =		16.00						
RPTBLO	MANE	.87	247.00	312.27	.55	5.00	247.00	315.00	.55

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5151E+02 EXCESS= .0000E+00 OUTFLOW= .5151E+02 BASIN STORAGE= .7271E-10 PERCENT ERROR= .0

FOR STORM = 5	STORM AREA (SQ MI) =		90.00						
RPTBLO	MANE	.74	247.00	347.12	.43	5.00	247.00	350.00	.43

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4064E+02 EXCESS= .0000E+00 OUTFLOW= .4065E+02 BASIN STORAGE= .1068E-09 PERCENT ERROR= .0

FOR STORM = 6	STORM AREA (SQ MI) =		100.00						
RPTBLO	MANE	.77	230.50	351.45	.41	5.00	225.27	355.00	.41

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3911E+02 EXCESS= .0000E+00 OUTFLOW= .3911E+02 BASIN STORAGE= .1320E-09 PERCENT ERROR= .0

FOR STORM = 1	STORM AREA (SQ MI) =		.00						
RPCT75	MANE	2.74	268.00	296.74	.54	5.00	268.00	300.00	.54

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3213E+02 EXCESS= .0000E+00 OUTFLOW= .3212E+02 BASIN STORAGE= .1943E-09 PERCENT ERROR= .0

FOR STORM = 2	STORM AREA (SQ MI) =		.50						
RPCT75	MANE	2.85	268.00	297.19	.54	5.00	268.00	300.00	.54

*** The remainder of the continuity summary has been deleted for brevity, but the entire output is included on the CD ***

*** NORMAL END OF HEC-1 ***

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1**************************************
*                                    *
*   FLOOD HYDROGRAPH PACKAGE  (HEC-1)*
*              JUN  1998             *
*            VERSION 4.1             *
*                                    *
*  RUN DATE   01NOV10  TIME  13:51:48*
*                                    *
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**************************************
*                                    *
*    U.S. ARMY CORPS OF ENGINEERS    *
*    HYDROLOGIC ENGINEERING CENTER   *
*         609 SECOND STREET          *
*       DAVIS, CALIFORNIA 95616      *
*           (916) 756-1104           *
*                                    *
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X     X  XXXXXXX   XXXXX          X
X     X  X        X     X        XX
X     X  X        X              X
XXXXXXX  XXXX     X        XXXXX  X
X     X  X        X              X
X     X  X        X     X        X
X     X  XXXXXXX   XXXXX         XXX
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THIS PROGRAM REPLACES ALL PREVIOUS VERSIONS OF HEC-1 KNOWN AS HEC1 (JAN 73), HEC1GS, HEC1DB, AND HEC1KW.

THE DEFINITIONS OF VARIABLES -RTIMP- AND -RTIOR- HAVE CHANGED FROM THOSE USED WITH THE 1973-STYLE INPUT STRUCTURE.
THE DEFINITION OF -AMSKK- ON RM-CARD WAS CHANGED WITH REVISIONS DATED 28 SEP 81. THIS IS THE FORTRAN77 VERSION
NEW OPTIONS: DAMBREAK OUTFLOW SUBMERGENCE , SINGLE EVENT DAMAGE CALCULATION, DSS:WRITE STAGE FREQUENCY,
DSS:READ TIME SERIES AT DESIRED CALCULATION INTERVAL LOSS RATE:GREEN AND AMPT INFILTRATION
KINEMATIC WAVE: NEW FINITE DIFFERENCE ALGORITHM

1 HEC-1 INPUT PAGE 1

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LINE          ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10
    1         ID      GLENDALE STORMWATER MANAGEMENT PLAN
    2         ID      Model for Glendale/Peoria Watershed
    3         ID      Existing Conditions
    4         ID
    5         ID      Prepared for the City of Glendale
    6         ID      In Association with the Flood Control District of Maricopa County
    7         ID      City Project Number 089017
    8         ID
    9         ID      Prepared by Kimley-Horn and Associates, Inc.
   10         ID      KHA Project Number 091910009
   11         ID      October 2010
   12         ID
   13         ID      MODELING PARAMETERS
   14         ID      - 10 Year  6 Hour Storm Event
   15         ID      - NOAA 14 Rainfall Data
   16         ID      - Clark Unit Hydrograph
   17         ID      - Green and Ampt Rainfall Loss Method
   18         ID
   19         ID      Topo data extracted from Flood Control District database July 24, 2009
   20         ID      Land use obtained from City of Glendale General Plan August 2009, City of
   21         ID           Phoenix General Plan August 2009, and MAG General Plan Land Use 2007
   22         ID
   23         ID      Storage routing data obtained from As-built Records or Final Drainage
   24         ID           Reports where possible
   25         ID      When As-built data/Drainage reports were not available data was obtained
   26         ID           from HEC-1 models and checked for accuracy.
   27         ID      Storage routing data obtained from the following HEC-1 models:
   28         ID           - Glendale/Peoria ADMPU, May 2001
   29         ID           - Glendale/Peoria ADMP Northwest Region Update, May 2007
   30         ID      The source of data is identified on each individual storage routing card
   31         ID
   32         ID      ********************************************************************
   33         ID
   34         ID      MODELING NOMENCLATURE
   35         ID      SUBBASIN HYDROGRAPH:
   36         ID         Example: JMRS   - the subbasin upstream of Jomax and Rock Springs Wash
   37         ID
   38         ID      STORM DRAIN DIVERSION:
   39         ID         Example: DBL59  - flow from subbasin BL59 is diverted to a storm drain
   40         ID
   41         ID      SUBBASIN DIVERSION:
   42         ID         Example: DWBL59 - flow is diverted west towards Bell and 59th Avenue
   43         ID         Example: DSGW51 - flow is diverted south towards Greenway and 51st Ave
   44         ID
   45         ID      ROUTE HYDROGRAPH:
   46         ID         Example: RWBL51 - flow is routed west towards Bell and 51st Avenue
   47         ID         Example: RSGW59 - flow is routed south towards Greenway and 59th Ave
   48         ID
   49         ID      COMBINE HYDROGRAPH:
   50         ID         Example: CJMRS  - combine flow at Jomax and Rock Springs Wash
   51         ID
   52         ID      STREET NAME ABBREVIATIONS
   53         ID         Jomax Road              JM
   54         ID         Happy Valley Road       HV
   55         ID         Pinnacle Peak Road      PP
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1 HEC-1 INPUT PAGE 2

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LINE          ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10
   56         ID         Deer Valley Road        DV
   57         ID         SR Loop 101             LO
   58         ID         Beardsley Road          BY
   59         ID         Union Hills Drive       UH
   60         ID         Bell Road               BL
   61         ID         Greenway Road           GW
   62         ID         Thunderbird Road        TB
   63         ID         Cactus Road             CT
   64         ID         Peoria Avenue           PE
   65         ID         Olive Avenue            OL
   66         ID         Northern Avenue         NO
   67         ID         Glendale Avenue         GL
   68         ID         Bethany Home Road       BH
   69         ID         Camelback Road          CB
   70         ID         Indian School Road      IS
   71         ID         Thomas Road             TM
   72         ID         McDowell Road           MD
   73         ID         Interstate 10           IN
   74         ID         Grand Avenue            GR
   75         ID         Mountain View Road      MV
   76         ID         Pinnacle Hill Road      PH
   77         ID         Greenbriar Drive        GB
   78         ID         Utopia Road             UT
   79         ID         Pyramid Peak Boulevard  PY
   80         ID         Bent Tree Drive         BT
   81         ID         Glen Harbor Boulevard   GH
   82         ID         Black Rock Boulevard    BR
   83         ID         Rose Garden Lane        RG
   84         ID         Calle Lejos             CL
   85         ID         Rock Springs Wash       RS
   86         ID         Williams Road           WL
   87         ID         Del Webb Boulevard      DW
   88         ID         Westwing Parkway        WW
   89         ID         Lake Pleasant Parkway   LP
   90         ID         Thunderbird Park Road   TP
   91         ID         Talisman Road           TL
   92         ID         Royal Oak Road          RO
   93         ID         Yearling Road           YL
   94         ID         Meade Drive             ME
   95         ID         Acoma Drive             AM
   96         ID         Athens Street           AT
   97         ID
   98         ID
   99         ID      PREFIXES FOR MODELING OPERATIONS
  100         ID         RW     Routing flow in the west direction
  101         ID         RS     Routing flow in the south direction
  102         ID         RP     Routing storm drain pipe flow
  103         ID         C      Combination point
  104         ID         CI     Combination point at an intersection
  105         ID         CP     Combination point for storm drain pipe flow
  106         ID         SR     Storage for detention/retention basins
  107         ID         DW     Divert flow to the west
  108         ID         DE     Divert flow to the east
  109         ID         DS     Divert flow to the south
  110         ID         DN     Divert flow to the north
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1 HEC-1 INPUT PAGE 3

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LINE          ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10
  111         ID         ER     Divert flow for existing 100-yr 2-hr retention
  112         ID         X      Existing retention diversion does not return to model
  113         ID         DR     Divert retrieval from surface flow
  114         ID         DI     Divert retrieval from intersection flow
  115         ID         D      Divert surface flow (remains after storm drain divert)
  116         ID         DP     Divert flow to a storm drain pipe
  117         ID         PR     Divert retrieval from a storm drain pipe
  118         ID
  119         ID      ********************************************************************
  120         IT      5       0       0    1000
  121         IN     15
  122         IO      5
              *DIAGRAM
              *
  123         JD   1.762  0.0001
  124         PC   0.000  0.008  0.016  0.025  0.033  0.041  0.050  0.058  0.066  0.074
  125         PC   0.087  0.099  0.118  0.138  0.216  0.377  0.834  0.911  0.931  0.950
  126         PC   0.962  0.972  0.983  0.991  1.000
  127         JD   1.751  0.5000
  128         PC   0.000  0.008  0.016  0.025  0.033  0.041  0.050  0.058  0.066  0.074
  129         PC   0.087  0.099  0.118  0.138  0.216  0.377  0.834  0.911  0.931  0.950
  130         PC   0.962  0.972  0.983  0.991  1.000
  131         JD   1.718    2.8
  132         PC   0.000  0.009  0.016  0.025  0.034  0.042  0.051  0.059  0.068  0.077
  133         PC   0.088  0.101  0.121  0.164  0.253  0.451  0.694  0.836  0.900  0.938
  134         PC   0.950  0.963  0.975  0.988  1.000
  135         JD   1.625   16.0
  136         PC   0.000  0.015  0.020  0.030  0.048  0.063  0.076  0.090  0.105  0.119
  137         PC   0.135  0.152  0.175  0.222  0.304  0.472  0.670  0.796  0.868  0.912
  138         PC   0.946  0.960  0.973  0.987  1.000
```

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JD  1.427    90.0
PC  0.000   0.021   0.035   0.051   0.071   0.087   0.105   0.125   0.143   0.160
PC  0.179   0.201   0.232   0.281   0.364   0.500   0.658   0.773   0.841   0.888
PC  0.927   0.945   0.964   0.982   1.000
JD  1.410   100.0
PC  0.000   0.021   0.036   0.052   0.072   0.088   0.106   0.126   0.145   0.162
PC  0.182   0.204   0.235   0.284   0.368   0.501   0.656   0.770   0.839   0.886
PC  0.925   0.944   0.963   0.982   1.000
*

KK   UH35   BASIN
KM  Runoff hydrograph for subbasin UH35 northeast of the intersection of Union
KM  Hills Drive and 35th Avenue
BA  1.136
LG   0.20    0.13   10.10    0.03      51
UC  1.233   0.786
UA      0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
UA    100
*
```



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LINE  ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

KK  ERUH35  DIVERT
KM  Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
KM  retention developed after 1990 in subbasin UH35
DT  XUH35     47.3     0.0
DI      0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
DQ      0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
*

KK   DUH35  DIVERT
KM  Divert calculated full flow capacity of 875 cfs into a 114-inch storm drain
KM  pipe at the intersection of Union Hills Drive and 35th Avenue
DT  DPUH35      0.0   875.0
DI      0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
DQ      0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
*

KK  DSBL35  DIVERT
KM  Divert remaining runoff hydrograph from subbasin UH35 south to combination
KM  point CBL35
DT  DWUH43      0.0     0.0
DI      0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
DQ      0.0    51.0   102.0   255.0   510.0  1020.0  2040.0  5100.0 10200.0 25500.0
*

KK  RSBL35   ROUTE
KM  Route diversion DSBL35 south to combination point CBL35
RS       6     FLOW
RC  0.035   0.015   0.035    5280  0.0030     0.00
RX   0.00    0.00   76.50   76.50  372.50  372.50  449.00  449.00
RY   3.00    1.27    0.50    0.00    0.00    0.50    1.27    3.00
*

KK   BL35   BASIN
KM  Runoff hydrograph for subbasin BL35 northeast of the intersection of Bell
KM  Road and 35th Avenue
BA  1.139
LG   0.22    0.15    7.30    0.09      42
UC  1.475   0.954
UA      0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
UA    100
*

KK  ERBL35  DIVERT
KM  Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
KM  retention developed after 1990 in subbasin BL35
DT  XBL35      8.0     0.0
DI      0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
DQ      0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
*
```



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LINE  ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

KK   CBL35 COMBINE
KM  Combine route RSBL35 and subbasin BL35
HC       2    1.70
*

KK   D35BL  DIVERT
KM  Divert calculated full flow capacity of 158 cfs into a 60-inch storm drain
KM  pipe at the intersection of Bell Road and 35th Avenue
DT  DP35BL      0.0   158.0
DI      0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
DQ      0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
*

KK  DSGW35  DIVERT
KM  Divert remaining runoff hydrograph from combination point CBL35 south to
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KM  combination point CGW35
DT  DWBL43      0.0     0.0
DI      0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
DQ      0.0    66.0   132.0   330.0   660.0  1320.0  2640.0  6600.0 13200.0 33000.0
*

KK  RSGW35   ROUTE
KM  Route diversion DSGW35 south to combination point CGW35
RS       3     FLOW
RC  0.035   0.015   0.035    5280  0.0041     0.00
RX   0.00    0.00   45.00   45.00  229.00  229.00  274.00  274.00
RY   3.00    0.95    0.50    0.00    0.00    0.50    0.95    3.00
*

KK   GW35   BASIN
KM  Runoff hydrograph for subbasin GW35 northeast of the intersection of Greenway
KM  Road and 35th Avenue
BA  1.008
LG   0.21    0.17    6.80    0.12      45
UC  1.500   0.998
UA      0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
UA    100
*

KK   CGW35 COMBINE
KM  Combine route RSGW35 and subbasin GW35
HC       2    1.58
*

KK  PR35BLRETRIEVE
KM  Retrieve full flow capacity of 158 cfs from 60-inch storm drain pipe at the
KM  intersection of Bell Road and 35th Avenue
DR  DP35BL
*
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LINE  ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

KK  RP35GW   ROUTE
KM  Route full flow capacity of 158 cfs through 60-inch storm drain pipe in
KM  35th Avenue to the intersection of Greenway Road and 35th Avenue
RK    5260  0.0037   0.015            CIRC   5.000
*

KK  CPGW35 COMBINE
KM  Combine pipe return PR35BL with the runoff hydrograph at combination point
KM  CGW35 at the intersection of Greenway Road and 35th Avenue
HC       2
*

KK   D35GW  DIVERT
KM  Divert calculated full flow capacity of 318 cfs into a 78-inch storm drain
KM  pipe at the intersection of Greenway Road and 35th Avenue
DT  DP35GW      0.0   318.0
DI      0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
DQ      0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
*

KK  DSTB35  DIVERT
KM  Divert remaining runoff hydrograph from combination point CGW35 south to
KM  combination point CTB35
DT  DWGW43      0.0     0.0
DI      0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
DQ      0.0    58.0   116.0   290.0   580.0  1160.0  2320.0  5800.0 11600.0 29000.0
*

KK  RSTB35   ROUTE
KM  Route diversion DSTB35 south to combination point CTB35
RS       4     FLOW
RC  0.035   0.015   0.035    5280  0.0035     0.00
RX   0.00    0.00   54.50   54.50  269.50  269.50  324.00  324.00
RY   3.00    1.04    0.50    0.00    0.00    0.50    1.04    3.00
*

KK   TB35   BASIN
KM  Runoff hydrograph for subbasin TB35 northeast of the intersection of
KM  Thunderbird Road and 35th Avenue
BA  0.976
LG   0.23    0.15    7.60    0.08      36
UC  1.500   1.012
UA      0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
UA    100
*

KK   CTB35 COMBINE
KM  Combine route RSTB35 and subbasin TB35
HC       2    1.65
*
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LINE  ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10
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KK  PR35GWRETRIEVE
KM   Retrieve full flow capacity of 318 cfs from 78-inch storm drain pipe at the
KM   intersection of Greenway Road and 35th Avenue
DR  DP35GW
*

KK  RP35TB   ROUTE
KM   Route full flow capacity of 318 cfs through 78-inch storm drain pipe in
KM   35th Avenue to the intersection of Thunderbird Road and 35th Avenue
RK    5252  0.0037   0.015            CIRC   6.500
*

KK  CPTB35 COMBINE
KM   Combine pipe return PR35GW with the runoff hydrograph at combination point
KM   CTB35 at the intersection of Thundebird Road and 35th Avenue
HC       2
*

KK   D35TB  DIVERT
KM   Divert calculated full flow capacity of 554 cfs into a 96-inch storm drain
KM   pipe at the intersection of Thunderbird Road and 35th Avenue
DT  DP35TB      0.0    554.0
DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
*

KK  DSCT35  DIVERT
KM   Divert remaining runoff hydrograph from combination point CTB35 south to
KM   combination point CCT35
DT  DWTB43      0.0      0.0
DI      0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0  10000.0  20000.0  50000.0
DQ      0.0     52.0    104.0    260.0    520.0   1040.0   2080.0   5200.0  10400.0  26000.0
*

KK  RSCT35   ROUTE
KM   Route diversion DSCT35 south to combination point CCT35
RS        3     FLOW
RC    0.035    0.015    0.035     5280  0.0036     0.00
RX     0.00     0.00    86.00    86.00  413.00   413.00   499.00   499.00
RY     3.00     1.36     0.50     0.00    0.00     0.50     1.36     3.00
*

KK    CT35   BASIN
KM   Runoff hydrograph for subbasin CT35 northeast of the intersection of Cactus
KM   Road and 35th Avenue
BA   0.976
LG    0.21     0.25     5.20     0.21       47
UC   1.500    1.012
UA        0      5.0     16.0     30.0     65.0     77.0     84.0     90.0     94.0     97.0
UA      100
*
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LINE  ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

KK   CCT35 COMBINE
KM   Combine route RSCT35 and subbasin CT35
HC        2    1.76
*

KK  PR35TBRETRIEVE
KM   Retrieve full flow capacity of 554 cfs from 96-inch storm drain pipe at the
KM   intersection of Thunderbird Road and 35th Avenue
DR  DP35TB
*

KK  RP35CT   ROUTE
KM   Route full flow capacity of 554 cfs through 96-inch storm drain pipe in
KM   35th Avenue to the intersection of Cactus Road and 35th Avenue
RK    5200  0.0037   0.015            CIRC   8.000
*

KK  CPCT35 COMBINE
KM   Combine pipe return PR35TB with the runoff hydrograph at combination point
KM   CCT35 at the intersection of Cactus Road and 35th Avenue
HC        2
*

KK   D35CT  DIVERT
KM   Divert calculated full flow capacity of 554 cfs into a 96-inch storm drain
KM   pipe at the intersection of Cactus Road and 35th Avenue
DT  DP35CT      0.0    554.0
DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
*

KK  DSPE35  DIVERT
KM   Divert remaining runoff hydrograph from combination point CCT35 south to
KM   combination point CPE35
DT  DWCT43      0.0      0.0
DI      0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0  10000.0  20000.0  50000.0
```



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DQ      0.0     58.0    116.0    290.0    580.0   1160.0   2320.0   5800.0  11600.0  29000.0
*

KK  RSPE35   ROUTE
KM   Route diversion DSPE35 south to combination point CPE35
RS        4     FLOW
RC    0.035    0.015    0.035     5280  0.0023     0.00
RX     0.00     0.00    67.00    67.00  332.00   332.00   399.00   399.00
RY     3.00     1.17     0.50     0.00    0.00     0.50     1.17     3.00
*

KK    PE35   BASIN
KM   Runoff hydrograph for subbasin PE35 northeast of the intersection of Peoria
KM   Avenue and 35th Avenue
BA   0.977
LG    0.23     0.24     4.70     0.27       40
UC   1.500    1.016
UA        0      5.0     16.0     30.0     65.0     77.0     84.0     90.0     94.0     97.0
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LINE  ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

UA      100
*

KK   CPE35 COMBINE
KM   Combine route RSPE35 and subbasin PE35
HC        2    1.71
*

KK  PR35CTRETRIEVE
KM   Retrieve full flow capacity of 554 cfs from 96-inch storm drain pipe at the
KM   intersection of Cactus Road and 35th Avenue
DR  DP35CT
*

KK  RP35PE   ROUTE
KM   Route full flow capacity of 554 cfs through 96-inch storm drain pipe in
KM   35th Avenue to the intersection of Peoria Avenue and 35th Avenue
RK    5256  0.0037   0.015            CIRC   8.000
*

KK  CPPE35 COMBINE
KM   Combine pipe return PR35CT with the runoff hydrograph at combination point
KM   CPE35 at the intersection of Peoria Avenue and 35th Avenue
HC        2
*

KK   D35PE  DIVERT
KM   Divert calculated full flow capacity of 466 cfs into a 90-inch storm drain
KM   pipe at the intersection of Peoria Avenue and 35th Avenue
DT  DP35PE      0.0    466.0
DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
*

KK  DSAC35  DIVERT
KM   Divert remaining runoff hydrograph from combination point CPE35 south to
KM   combination pointCAC01
DT  DWPE43      0.0      0.0
DI      0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0  10000.0  20000.0  50000.0
DQ      0.0     70.0    140.0    350.0    700.0   1400.0   2800.0   7000.0  14000.0  35000.0
*

KK  RSAC35   ROUTE
KM   Route diversion DSAC35 south to combination pointCAC01
RS        2     FLOW
RC    0.035    0.015    0.035     3447  0.0041     0.00
RX     0.00     0.00    41.00    41.00  184.00   184.00   225.00   225.00
RY     3.00     0.91     0.50     0.00    0.00     0.50     0.91     3.00
*
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LINE  ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

KK    AC35   BASIN
KM   Runoff hydrograph for subbasin AC35 northeast of the intersection of the ACDC
KM   Canal and 35th Avenue
BA   0.755
LG    0.15     0.25     5.30     0.20       67
UC   1.068    0.721
UA        0      5.0     16.0     30.0     65.0     77.0     84.0     90.0     94.0     97.0
UA      100
*

KK   CAC01 COMBINE
KM   Combine route RSAC35 and subbasin AC35
HC        2    1.27
*

KK  PR35PERETRIEVE
KM   Retrieve full flow capacity of 446 cfs from 90-inch storm drain pipe at the
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391          KM   intersection of Peoria Avenue and 35th Avenue
392          DR  DP35PE
                 *
393          KK  RP35AC    ROUTE
394          KM   Route full flow capacity of 446 cfs through 90-inch storm drain pipe in
395          KM   35th Avenue to the intersection of ACDC and 35th Avenue
396          RK    3523  0.0037   0.015            CIRC   7.500
                 *
397          KK  CPAC01 COMBINE
398          KM   Combine pipe return PR35PE with the runoff hydrograph at combination point
399          KM   CAC01 at the intersection of ACDC and 35th Avenue
400          HC       2
                 *
401          KK  DRUH43RETRIEVE
402          KM   Retrieve divert DRUH43 from combination point CUH35 and divert west to
403          KM   combination point CUH43
404          DR  DWUH43
                 *
405          KK  RWUH43    ROUTE
406          KM   Route diversion retrieval DRUH43 west to combination point CUH43
407          RS       5     FLOW
408          RC   0.035   0.015   0.035    5280  0.0041    0.00
409          RX    0.00    0.00   67.00   67.00  332.00  332.00  399.00  399.00
410          RY    3.00    1.17    0.50    0.00    0.00    0.50    1.17    3.00
                 *
411          KK    UH43    BASIN
412          KM   Runoff hydrograph for subbasin UH43 northeast of the intersection of Unioin
413          KM   Hills Drive and 43rd Avenue
414          BA   1.025
415          LG    0.26    0.17    7.30    0.11      17
416          UC   1.500   0.996
417          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
1                                          HEC-1 INPUT                                    PAGE 11
           LINE      ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10
418          UA     100
                 *
419          KK  ERUH43  DIVERT
420          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
421          KM   retention developed after 1990 in subbasin UH43
422          DT   XUH43     26.8      0.0
423          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
424          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
                 *
425          KK   CUH43 COMBINE
426          KM   Combine route RWUH43 and subbasin UH43
427          HC       2    1.60
                 *
428          KK  PRUH35RETRIEVE
429          KM   Retrieve full flow capacity of 875 cfs from 114-inch storm drain pipe at the
430          KM   intersection of Union Hills Drive and 35th Avenue
431          DR  DPUH35
                 *
432          KK  RPUH43    ROUTE
433          KM   Route full flow capacity of 875 cfs through 114-inch storm drain pipe in
434          KM   Union Hills Drive to the intersection of Union Hills Drive and 43rd Avenue
435          RK    5324  0.0037   0.015            CIRC   9.500
                 *
436          KK  CPUH43 COMBINE
437          KM   Combine pipe return PRUH35 with the runoff hydrograph at combination point
438          KM   CUH43 at the intersection of Union Hills Drive and 43rd Avenue
439          HC       2
                 *
440          KK    DUH43  DIVERT
441          KM   Divert calculated full flow capacity of 1268 cfs into a 132-inch storm drain
442          KM   pipe at the intersection of Union Hills Drive and 43rd Avenue
443          DT   DPUH43      0.0  1268.0
444          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
445          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
                 *
446          KK  DSBL43  DIVERT
447          KM   Divert remaining runoff hydrograph from combination point CUH43 south to
448          KM   combination point CBL43
449          DT   DWUH51      0.0      0.0
450          DI     0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0  10000.0  20000.0  50000.0
451          DQ     0.0     42.0     84.0    210.0    420.0    840.0   1680.0   4200.0   8400.0  21000.0
                 *
1                                          HEC-1 INPUT                                    PAGE 12
           LINE      ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10
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452          KK  RSBL43    ROUTE
453          KM   Route diversion DSBL43 south to combination point CBL43
454          RS       3     FLOW
455          RC   0.035   0.015   0.035    5280  0.0037    0.00
456          RX    0.00    0.00   48.00   48.00  251.00  251.00  299.00  299.00
457          RY    3.00    0.98    0.50    0.00    0.00    0.50    0.98    3.00
                 *
458          KK  DRBL43RETRIEVE
459          KM   Retrieve divert DRBL43 from combination point CBL35 and divert west to
460          KM   combination point CBL43
461          DR  DWBL43
                 *
462          KK  RWBL43    ROUTE
463          KM   Route diversion retrieval DRBL43 west to combination point CBL43
464          RS       3     FLOW
465          RC   0.035   0.015   0.035    5280  0.0047    0.00
466          RX    0.00    0.00   86.00   86.00  413.00  413.00  499.00  499.00
467          RY    3.00    1.36    0.50    0.00    0.00    0.50    1.36    3.00
                 *
468          KK    BL43    BASIN
469          KM   Runoff hydrograph for subbasin BL43 northeast of the intersection of Bell
470          KM   Road and 43rd Avenue
471          BA   1.049
472          LG    0.24    0.15    8.00    0.07      33
473          UC   1.500   0.999
474          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
475          UA     100
                 *
476          KK    CBL43 COMBINE
477          KM   Combine route RSBL43, route RWBL43, and subbasin BL43
478          HC       3    3.10
                 *
479          KK    D43BL  DIVERT
480          KM   Divert calculated full flow capacity of 117 cfs into a 54-inch storm drain
481          KM   pipe at the intersection of Bell Road and 43rd Avenue
482          DT   DP43BL      0.0   117.0
483          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
484          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
                 *
485          KK  DSGW43  DIVERT
486          KM   Divert remaining runoff hydrograph from combination point CBL43 south to
487          KM   combination point CGW43
488          DT   DWBL51      0.0      0.0
489          DI     0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0  10000.0  20000.0  50000.0
490          DQ     0.0     46.0     92.0    230.0    460.0    920.0   1840.0   4600.0   9200.0  23000.0
                 *
1                                          HEC-1 INPUT                                    PAGE 13
           LINE      ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10
491          KK  RSGW43    ROUTE
492          KM   Route diversion DSGW43 south to combination point CGW43
493          RS       3     FLOW
494          RC   0.035   0.015   0.035    5280  0.0028    0.00
495          RX    0.00    0.00   57.50   57.50  291.50  291.50  349.00  349.00
496          RY    3.00    1.08    0.50    0.00    0.00    0.50    1.08    3.00
                 *
497          KK  DRGW43RETRIEVE
498          KM   Retrieve divert DRGW43 from combination point CGW35 and divert west to
499          KM   combination point CGW43
500          DR  DWGW43
                 *
501          KK  RWGW43    ROUTE
502          KM   Route diversion retrieval DRGW43 west to combination point CGW43
503          RS       4     FLOW
504          RC   0.035   0.015   0.035    5280  0.0034    0.00
505          RX    0.00    0.00   76.50   76.50  372.50  372.50  449.00  449.00
506          RY    3.00    1.27    0.50    0.00    0.00    0.50    1.27    3.00
                 *
507          KK    GW43    BASIN
508          KM   Runoff hydrograph for subbasin GW43 northeast of the intersection of Greenway
509          KM   Road and 43rd Avenue
510          BA   0.987
511          LG    0.24    0.19    6.60    0.13      36
512          UC   1.500   1.018
513          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
514          UA     100
                 *
515          KK  ERGW43  DIVERT
516          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
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KM   retention developed after 1990 in subbasin GW43
DT   XGW43       5.5       0.0
DI       0.0 50000.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0
DQ       0.0 50000.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0
*

KK   CGW43 COMBINE
KM   Combine route RSGW43, route RWGW43, and subbasin GW43
HC        3     3.57
*

KK  PR43BLRETRIEVE
KM   Retrieve full flow capacity of 117 cfs from 54-inch storm drain pipe at the
KM   intersection of Bell Road and 43rd Avenue
DR  DP43BL
*
```



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LINE      ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

KK  RP43GW    ROUTE
KM   Route full flow capacity of 117 cfs through 54-inch storm drain pipe in
KM   43rd Avenue to the intersection of Greenway Road and 43rd Avenue
RK     5150  0.0035    0.015             CIRC    4.500
*

KK  CPGW43 COMBINE
KM   Combine pipe return PR43BL with the runoff hydrograph at combination point
KM   CGW43 at the intersection of Greenway Road and 43rd Avenue
HC        2
*

KK   D43GW  DIVERT
KM   Divert calculated full flow capacity of 155 cfs into a 60-inch storm drain
KM   pipe at the intersection of Greenway Road and 43rd Avenue
DT  DP43GW       0.0       155.0
DI       0.0 50000.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0
DQ       0.0 50000.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0
*

KK  DSTB43  DIVERT
KM   Divert remaining runoff hydrograph from combination point CGW43 south to
KM   combination point CTB43
DT  DWGW51       0.0       0.0
DI       0.0     100.0     200.0     500.0    1000.0    2000.0    4000.0   10000.0   20000.0   50000.0
DQ       0.0      53.0     106.0     265.0     530.0    1060.0    2120.0    5300.0   10600.0   26500.0
*

KK  RSTB43    ROUTE
KM   Route diversion DSTB43 south to combination point CTB43
RS         2     FLOW
RC    0.035    0.015    0.035     5280   0.0038     0.00
RX     0.00     0.00    67.00    67.00   332.00   332.00   399.00   399.00
RY     3.00     1.17     0.50     0.00     0.00     0.50     1.17     3.00
*

KK  DRTB43RETRIEVE
KM   Retrieve divert DRTB43 from combination point CTB35 and divert west to
KM   combination point CTB43
DR  DWTB43
*

KK  RWTB43    ROUTE
KM   Route diversion retrieval DRTB43 west to combination point CTB43
RS         3     FLOW
RC    0.035    0.015    0.035     5280   0.0037     0.00
RX     0.00     0.00    95.50    95.50   453.50   453.50   549.00   549.00
RY     3.00     1.46     0.50     0.00     0.00     0.50     1.46     3.00
*
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LINE      ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

KK    TB43   BASIN
KM   Runoff hydrograph for subbasin TB43 northeast of the intersection of
KM   Thunderbird Road and 43rd Avenue
BA   0.995
LG    0.26     0.15     7.30     0.10       25
UC   1.500    1.013
UA       0      5.0     16.0     30.0     65.0     77.0     84.0     90.0     94.0     97.0
UA     100
*

KK   CTB43 COMBINE
KM   Combine route RSTB43, route RWTB43, and subbasin TB43
HC        3     3.55
*

KK  PR43GWRETRIEVE
KM   Retrieve full flow capacity of 155 cfs from 60-inch storm drain pipe at the
KM   intersection of Greenway Road and 43rd Avenue
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DR  DP43GW
*

KK  RP43TB    ROUTE
KM   Route full flow capacity of 155 cfs through 60-inch storm drain pipe in
KM   43rd Avenue to the intersection of Thunderbird Road and 43rd Avenue
RK     5245  0.0035    0.015             CIRC    5.000
*

KK  CPTB43 COMBINE
KM   Combine pipe return PR43GW with the runoff hydrograph at combination point
KM   CTB43 at the intersection of Thunderbird Road and 43rd Avenue
HC        2
*

KK   D43TB  DIVERT
KM   Divert calculated full flow capacity of 312 cfs into a 78-inch storm drain
KM   pipe at the intersection of Thunderbird Road and 43rd Avenue
DT  DP43TB       0.0       312.0
DI       0.0 50000.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0
DQ       0.0 50000.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0
*

KK  DSCT43  DIVERT
KM   Divert remaining runoff hydrograph from combination point CTB43 south to
KM   combination point CCT43
DT  DWTB51       0.0       0.0
DI       0.0     100.0     200.0     500.0    1000.0    2000.0    4000.0   10000.0   20000.0   50000.0
DQ       0.0      63.0     126.0     315.0     630.0    1260.0    2520.0    6300.0   12600.0   31500.0
*
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LINE      ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

KK  RSCT43    ROUTE
KM   Route diversion DSCT43 south to combination point CCT43
RS         3     FLOW
RC    0.035    0.015    0.035     5280   0.0030     0.00
RX     0.00     0.00    48.00    48.00   251.00   251.00   299.00   299.00
RY     3.00     0.98     0.50     0.00     0.00     0.50     0.98     3.00
*

KK  DRCT43RETRIEVE
KM   Retrieve divert DRCT43 from combination point CCT35 and divert west to
KM   combination point CCT43
DR  DWCT43
*

KK  RWCT43    ROUTE
KM   Route diversion retrieval DRCT43 west to combination point CCT43
RS         4     FLOW
RC    0.035    0.015    0.035     5280   0.0029     0.00
RX     0.00     0.00    86.00    86.00   413.00   413.00   499.00   499.00
RY     3.00     1.36     0.50     0.00     0.00     0.50     1.36     3.00
*

KK    CT43   BASIN
KM   Runoff hydrograph for subbasin CT43 northeast of the intersection of Cactus
KM   Road and 43rd Avenue
BA   0.996
LG    0.23     0.15     8.00     0.07       37
UC   1.500    1.013
UA       0      5.0     16.0     30.0     65.0     77.0     84.0     90.0     94.0     97.0
UA     100
*

KK  ERCT43  DIVERT
KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
KM   retention developed after 1990 in subbasin CT43
DT   XCT43      41.4       0.0
DI       0.0 50000.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0
DQ       0.0 50000.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0
*

KK   CCT43 COMBINE
KM   Combine route RSCT43, route RWCT43, and subbasin CT43
HC        3     3.35
*

KK  PR43TBRETRIEVE
KM   Retrieve full flow capacity of 312 cfs from 78-inch storm drain pipe at the
KM   intersection of Thunderbird Road and 43rd Avenue
DR  DP43TB
*
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LINE      ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

KK  RP43CT    ROUTE
KM   Route full flow capacity of 312 cfs through 78-inch storm drain pipe in
KM   43rd Avenue to the intersection of Cactus Road and 43rd Avenue
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639          RK    5194  0.0035   0.015            CIRC   6.500
             *

640          KK  CPCT43 COMBINE
641          KM   Combine pipe return PR43TB with the runoff hydrograph at combination point
642          KM   CCT43 at the intersection of Cactus Road and 43rd Avenue
643          HC       2
             *

644          KK   D43CT  DIVERT
645          KM   Divert calculated full flow capacity of 380 cfs into an 84-inch storm drain
646          KM   pipe at the intersection of Cactus Road and 43rd Avenue
647          DT  DP43CT      0.0   380.0
648          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
649          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
             *

650          KK  DSPE43  DIVERT
651          KM   Divert remaining runoff hydrograph from combination point CCT43 south to
652          KM   combination point CPE43
653          DT  DWCT51      0.0     0.0
654          DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
655          DQ     0.0    63.0   126.0   315.0   630.0  1260.0  2520.0  6300.0 12600.0 31500.0
             *

656          KK  RSPE43   ROUTE
657          KM   Route diversion DSPE43 south to combination point CPE43
658          RS       4    FLOW
659          RC   0.035   0.015   0.035    5280  0.0024    0.00
660          RX    0.00    0.00   48.00   48.00  251.00  251.00  299.00  299.00
661          RY    3.00    0.98    0.50    0.00    0.00    0.50    0.98    3.00
             *

662          KK  DRPE43RETRIEVE
663          KM   Retrieve divert DRPE43 from combination point CPE35 and divert west to
664          KM   combination point CPE43
665          DR  DWPE43
             *

666          KK  RWPE43   ROUTE
667          KM   Route diversion retrieval DRPE43 west to combination point CPE43
668          RS       4    FLOW
669          RC   0.035   0.015   0.035    5280  0.0030    0.00
670          RX    0.00    0.00  105.00  105.00  494.00  494.00  599.00  599.00
671          RY    3.00    1.55    0.50    0.00    0.00    0.50    1.55    3.00
             *
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LINE         ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

672          KK    PE43   BASIN
673          KM   Runoff hydrograph for subbasin PE43 northeast of the intersection of Peoria
674          KM   Avenue and 43rd Avenue
675          BA   0.997
676          LG    0.24    0.25    5.70    0.19      32
677          UC   1.500   1.012
678          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
679          UA     100
             *

680          KK   CPE43 COMBINE
681          KM   Combine route RSPE43, route RWPE43, and subbasin PE43
682          HC       3    3.42
             *

683          KK  PR43CTRETRIEVE
684          KM   Retrieve full flow capacity of 380 cfs from 84-inch storm drain pipe at the
685          KM   intersection of Cactus Road and 43rd Avenue
686          DR  DP43CT
             *

687          KK  RP43PE   ROUTE
688          KM   Route full flow capacity of 380 cfs through 84-inch storm drain pipe in
689          KM   43rd Avenue to the intersection of Peoria Avenue and 43rd Avenue
690          RK    4928  0.0035   0.015            CIRC   7.000
             *

691          KK  CPPE43 COMBINE
692          KM   Combine pipe return PR43CT with the runoff hydrograph at combination point
693          KM   CPE43 at the intersection of Peoria Avenue and 43rd Avenue
694          HC       2
             *

695          KK   D43PE  DIVERT
696          KM   Capacity of storm drain in Peoria Avenue and 43rd Avenue diverted together.
697          KM   Divert combined calculated full flow capacity of 456 cfs in the 90-inch storm
698          KM   drain pipe in Peoria Avenue and 64 cfs in the 42-inch storm drain pipe in
699          KM   43rd Avenue. The total calculated combined full flow capacity diverted at the
700          KM   intersection of Peoria Avenue and 43rd Avenue is 520 cfs in an equivalent
701          KM   diameter pipe of 96 inches
702          DT  DP43PE      0.0   520.0
703          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
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704          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
             *

705          KK  DSAC43  DIVERT
706          KM   Divert remaining runoff hydrograph from combination point CPE43 south to
707          KM   combination point CAC02
708          DT  DWAC51      0.0     0.0
709          DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
710          DQ     0.0    38.0    76.0   190.0   380.0   760.0  1520.0  3800.0  7600.0 19000.0
             *
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LINE         ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

711          KK    AC43   BASIN
712          KM   Runoff hydrograph for subbasin AC43 northeast of the intersection of the ACDC
713          KM   Canal and 43rd Avenue
714          BA   0.362
715          LG    0.23    0.25    4.35    0.35      37
716          UC   1.500   1.657
717          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
718          UA     100
             *

719          KK   CAC02 COMBINE
720          KM   Combine divert DSAC43, subbasin AC43, and combination point CPAC01
721          HC       3    3.75
             *

722          KK  PR43PERETRIEVE
723          KM   Retrieve combined full flow capacity of 520 cfs from 96-inch equivalent
724          KM   diameter pipe at the intersection of Peoria Avenue and 43rd Avenue
725          DR  DP43PE
             *

726          KK  CPAC02 COMBINE
727          KM   Combine pipe return PR43PE with the runoff hydrograph at combination point
728          KM   CAC02 at the intersection of ACDC and 43rd Avenue
729          HC       2
             *

730          KK  DRUH51RETRIEVE
731          KM   Retrieve divert DRUH51 from combination point CUH43 and divert west to
732          KM   combination point CUH51
733          DR  DWUH51
             *

734          KK  RWUH51   ROUTE
735          KM   Route diversion retrieval DRUH51 west to combination point CUH51
736          RS       4    FLOW
737          RC   0.035   0.015   0.035    5280  0.0037    0.00
738          RX    0.00    0.00   76.50   76.50  372.50  372.50  449.00  449.00
739          RY    3.00    1.27    0.50    0.00    0.00    0.50    1.27    3.00
             *

740          KK    UH51   BASIN
741          KM   Runoff hydrograph for subbasin UH51 northeast of the intersection of Union
742          KM   Hills Drive and 51st Avenue
743          BA   0.990
744          LG    0.23    0.26    4.60    0.29      36
745          UC   1.500   1.008
746          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
747          UA     100
             *
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LINE         ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

748          KK  ERUH51  DIVERT
749          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
750          KM   retention developed after 1990 in subbasin UH51
751          DT   XUH51     48.6     0.0
752          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
753          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
             *

754          KK   CUH51 COMBINE
755          KM   Combine route RWUH51 and subbasin UH51
756          HC       2    1.66
             *

757          KK  DSBL51  DIVERT
758          KM   Divert remaining runoff hydrograph from combination point CUH51 south to
759          KM   combination point CBL51
760          DT  DWUHSK      0.0     0.0
761          DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
762          DQ     0.0    61.0   122.0   305.0   610.0  1220.0  2440.0  6100.0 12200.0 30500.0
             *

763          KK  PRUH43RETRIEVE
764          KM   Retrieve full flow capacity of 1268 cfs from 132-inch storm drain pipe at the
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765          KM   intersection of Union Hills Drive and 43rd Avenue
766          DR  DPUH43
             *
767          KK  RPUH51    ROUTE
768          KM   Route full flow capacity of 1268 cfs through 132-inch storm drain pipe in
769          KM   Union Hills Drive to the intersection of Union Hills Drive and 51st Avenue
770          RK    5152  0.0035    0.015             CIRC  11.000
             *
771          KK  CPUH51 COMBINE
772          KM   Combine pipe return PRUH43 with diversion DSBL51 at the intersection of Union
773          KM   Hills Drive and 51st Avenue
774          HC       2
             *
775          KK   DUH51  DIVERT
776          KM   Divert calculated full flow capacity of 1548 cfs into a 144-inch storm drain
777          KM   pipe at the intersection of Union Hills Drive and 51st Avenue.
778          KM   Storm drain flow discharges to Skunk Creek and is not returned to the model.
779          DT  DPUH51      0.0  1548.0
780          DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
781          DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
             *
782          KK  RSBL51    ROUTE
783          KM   Route diversion DUH51 south to combination point CBL51
784          RS        5     FLOW
785          RC   0.035    0.015    0.035     5280   0.0040     0.00
786          RX    0.00     0.00    48.00    48.00   251.00   251.00   299.00   299.00
787          RY    3.00     0.98     0.50     0.00     0.00     0.50     0.98     3.00
             *
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LINE         ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

788          KK  DRBL51RETRIEVE
789          KM   Retrieve divert DRBL51 from combination point CBL43 and divert west to
790          KM   combination point CBL51
791          DR  DWBL51
             *
792          KK  RWBL51    ROUTE
793          KM   Route diversion retrieval DRBL51 west to combination point CBL51
794          RS        3     FLOW
795          RC   0.035    0.015    0.035     5280   0.0040     0.00
796          RX    0.00     0.00    38.50    38.50   210.50   210.50   249.00   249.00
797          RY    3.00     0.88     0.50     0.00     0.00     0.50     0.88     3.00
             *
798          KK   BL51   BASIN
799          KM   Runoff hydrograph for subbasin BL51 northeast of the intersection of Bell
800          KM   Road and 51st Avenue
801          BA   1.045
802          LG    0.22     0.19     6.60     0.14       31
803          UC   1.500    1.005
804          UA       0      5.0     16.0     30.0     65.0     77.0     84.0     90.0     94.0     97.0
805          UA     100
             *
806          KK  ERBL51  DIVERT
807          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
808          KM   retention developed after 1990 in subbasin BL51
809          DT   XBL51     23.0      0.0
810          DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
811          DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
             *
812          KK   CBL51 COMBINE
813          KM   Combine route RSBL51, route RWBL51, and subbasin BL51
814          HC        3    3.12
             *
815          KK   D51BL  DIVERT
816          KM   Divert calculated full flow capacity of 38 cfs into a 36-inch storm drain
817          KM   pipe at the intersection of Bell Road and 51st Avenue
818          DT  DP51BL      0.0     38.0
819          DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
820          DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
             *
821          KK  DSGW51  DIVERT
822          KM   Divert remaining runoff hydrograph from combination point CBL51 south to
823          KM   combination point CGW51
824          DT  DWBL59      0.0      0.0
825          DI      0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0  10000.0  20000.0  50000.0
826          DQ      0.0     52.0    104.0    260.0    520.0   1040.0   2080.0   5200.0  10400.0  26000.0
             *
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LINE         ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10
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827          KK  RSGW51    ROUTE
828          KM   Route diversion DSGW51 south to combination point CGW51
829          RS        3     FLOW
830          RC   0.035    0.015    0.035     5280   0.0035     0.00
831          RX    0.00     0.00    48.00    48.00   251.00   251.00   299.00   299.00
832          RY    3.00     0.98     0.50     0.00     0.00     0.50     0.98     3.00
             *
833          KK  DRGW51RETRIEVE
834          KM   Retrieve divert DRGW51 from combination point CGW43 and divert west to
835          KM   combination point CGW51
836          DR  DWGW51
             *
837          KK  RWGW51    ROUTE
838          KM   Route diversion retrieval DRGW51 west to combination point CGW51
839          RS        2     FLOW
840          RC   0.035    0.015    0.035     5280   0.0047     0.00
841          RX    0.00     0.00    67.00    67.00   332.00   332.00   399.00   399.00
842          RY    3.00     1.17     0.50     0.00     0.00     0.50     1.17     3.00
             *
843          KK    GW51   BASIN
844          KM   Runoff hydrograph for subbasin GW51 northeast of the intersection of Greenway
845          KM   Road and 51st Avenue
846          BA   0.962
847          LG    0.26     0.21     6.40     0.17       21
848          UC   1.500    1.021
849          UA       0      5.0     16.0     30.0     65.0     77.0     84.0     90.0     94.0     97.0
850          UA     100
             *
851          KK  ERGW51  DIVERT
852          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
853          KM   retention developed after 1990 in subbasin GW51
854          DT   XGW51      1.3      0.0
855          DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
856          DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
             *
857          KK   CGW51 COMBINE
858          KM   Combine route RSGW51, route RWGW51, and subbasin GW51
859          HC        3    4.34
             *
860          KK  PR51BLRETRIEVE
861          KM   Retrieve full flow capacity of 38 cfs from 36-inch storm drain pipe at the
862          KM   intersection of Bell Road and 51st Avenue
863          DR  DP51BL
             *
```



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LINE         ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

864          KK  RP51GW    ROUTE
865          KM   Route full flow capacity of 38 cfs through 36-inch storm drain pipe in
866          KM   51st Avenue to the intersection of Greenway Road and 51st Avenue
867          RK    4986  0.0033    0.015             CIRC   3.000
             *
868          KK  CPGW51 COMBINE
869          KM   Combine pipe return PR51BL with the runoff hydrograph at combination point
870          KM   CGW51 at the intersection of Greenway Road and 51st Avenue
871          HC        2
             *
872          KK   D51GW  DIVERT
873          KM   Divert calculated full flow capacity of 150 cfs into a 60-inch storm drain
874          KM   pipe at the intersection of Greenway Road and 51st Avenue
875          DT  DP51GW      0.0     150.0
876          DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
877          DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
             *
878          KK  DSTB51  DIVERT
879          KM   Divert remaining runoff hydrograph from combination point CGW51 south to
880          KM   combination point CTB51
881          DT  DWGW59      0.0      0.0
882          DI      0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0  10000.0  20000.0  50000.0
883          DQ      0.0     65.0    130.0    325.0    650.0   1300.0   2600.0   6500.0  13000.0  32500.0
             *
884          KK  RSTB51    ROUTE
885          KM   Route diversion DSTB51 south to combination point CTB51
886          RS        4     FLOW
887          RC   0.035    0.015    0.035     5280   0.0027     0.00
888          RX    0.00     0.00    38.50    38.50   210.50   210.50   249.00   249.00
889          RY    3.00     0.88     0.50     0.00     0.00     0.50     0.88     3.00
             *
890          KK  DRTB51RETRIEVE
```

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          KM   Retrieve divert DRTB51 from combination point CTB43 and divert west to
          KM   combination point CTB51
          DR  DWTB51
          *

          KK  RWTB51    ROUTE
          KM   Route diversion retrieval DRTB51 west to combination point CTB51
          RS       3    FLOW
          RC  0.035   0.015   0.035    5280  0.0037    0.00
          RX   0.00    0.00   76.50   76.50  372.50  372.50  449.00  449.00
          RY   3.00    1.27    0.50    0.00    0.00    0.50    1.27    3.00
          *
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        LINE          ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

          KK    TB51   BASIN
          KM   Runoff hydrograph for subbasin TB51 northeast of the intersection of
          KM   Thunderbird Road and 51st Avenue
          BA   0.990
          LG    0.27    0.19    6.60    0.15      21
          UC   1.500   1.012
          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
          UA     100
          *

          KK   CTB51 COMBINE
          KM   Combine route RSTB51, route RWTB51, and subbasin TB51
          HC       3    4.70
          *

          KK  PR51GWRETRIEVE
          KM   Retrieve full flow capacity of 150 cfs from 60-inch storm drain pipe at the
          KM   intersection of Greenway Road and 51st Avenue
          DR  DP51GW
          *

          KK  RP51TB   ROUTE
          KM   Route full flow capacity of 150 cfs through 60-inch storm drain pipe in
          KM   51st Avenue to the intersection of Thunderbird Road and 51st Avenue
          RK    5283  0.0033   0.015            CIRC   5.000
          *

          KK  CPTB51 COMBINE
          KM   Combine pipe return PR51GW with the runoff hydrograph at combination point
          KM   CTB51 at the intersection of Thunderbird Road and 51st Avenue
          HC       2
          *

          KK   D51TB  DIVERT
          KM   Divert calculated full flow capacity of 244 cfs into a 72-inch storm drain
          KM   pipe at the intersection of Thunderbird Road and 51st Avenue
          DT  DP51TB      0.0   244.0
          DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
          DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
          *

          KK  DSCT51  DIVERT
          KM   Divert remaining runoff hydrograph from combination point CTB51 south to
          KM   combination point CCT51
          DT  DWTB59      0.0      0.0
          DI      0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0 10000.0 20000.0 50000.0
          DQ      0.0     61.0    122.0    305.0    610.0   1220.0   2440.0  6100.0 12200.0 30500.0
          *
1                                      HEC-1 INPUT                                    PAGE 25

        LINE          ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

          KK  RSCT51   ROUTE
          KM   Route diversion DSCT51 south to combination point CCT51
          RS       3    FLOW
          RC  0.035   0.015   0.035    5280  0.0026    0.00
          RX   0.00    0.00   26.00   26.00  148.00  148.00  174.00  174.00
          RY   3.00    0.76    0.50    0.00    0.00    0.50    0.76    3.00
          *

          KK  DRCT51RETRIEVE
          KM   Retrieve divert DRCT51 from combination point CCT43 and divert west to
          KM   combination point CCT51
          DR  DWCT51
          *

          KK  RWCT51   ROUTE
          KM   Route diversion retrieval DRCT51 west to combination point CCT51
          RS       4    FLOW
          RC  0.035   0.015   0.035    5280  0.0032    0.00
          RX   0.00    0.00   76.50   76.50  372.50  372.50  449.00  449.00
          RY   3.00    1.27    0.50    0.00    0.00    0.50    1.27    3.00
          *

          KK    CT51   BASIN
```



```
          KM   Runoff hydrograph for subbasin CT51 northeast of the intersection of Cactus
          KM   Road and 51st Avenue
          BA   0.988
          LG    0.24    0.26    6.40    0.13      32
          UC   1.500   1.013
          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
          UA     100
          *

          KK  ERCT51  DIVERT
          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
          KM   retention developed after 1990 in subbasin CT51
          DT   XCT51     29.9      0.0
          DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
          DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
          *

          KK   CCT51 COMBINE
          KM   Combine route RSCT51, route RWCT51, and subbasin CT51
          HC       3    4.94
          *

          KK  PR51TBRETRIEVE
          KM   Retrieve full flow capacity of 244 cfs from 72-inch storm drain pipe at the
          KM   intersection of Thunderbird Road and 51st Avenue
          DR  DP51TB
          *
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        LINE          ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

          KK  RP51CT   ROUTE
          KM   Route full flow capacity of 244 cfs through 72-inch storm drain pipe in
          KM   51st Avenue to the intersection of Cactus Road and 51st Avenue
          RK    5189  0.0033   0.015            CIRC   6.000
          *

          KK  CPCT51 COMBINE
          KM   Combine pipe return PR51TB with the runoff hydrograph at combination point
          KM   CCT51 at the intersection of Cactus Road and 51st Avenue
          HC       2
          *

          KK   D51CT  DIVERT
          KM   Divert calculated full flow capacity of 244 cfs into a 72-inch storm drain
          KM   pipe at the intersection of Cactus Road and 51st Avenue
          DT  DP51CT      0.0   244.0
          DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
          DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
          *

          KK  DSAC51  DIVERT
          KM   Divert remaining runoff hydrograph from combination point CCT51 south to
          KM   combination pointCAC03
          DT  DWAC59      0.0      0.0
          DI      0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0 10000.0 20000.0 50000.0
          DQ      0.0     33.0     66.0    165.0    330.0    660.0   1320.0  3300.0  6600.0 16500.0
          *

          KK  DRAC51RETRIEVE
          KM   Retrieve divert DRAC51 from combination point CPE43 and divert west to
          KM   combination point CAC03
          DR  DWAC51
          *

          KK    AC51   BASIN
          KM   Runoff hydrograph for subbasin AC51 northeast of the intersection of the ACDC
          KM   Canal and 51st Avenue
          BA   0.576
          LG    0.23    0.15    8.00    0.07      35
          UC   1.500   1.622
          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
          UA     100
          *

          KK   CAC03 COMBINE
          KM   Combine divert DSAC51, subbasin AC51, divert retrieval DRAC51, and
          KM   combination point CPAC02
          HC       4    8.95
          *
1                                      HEC-1 INPUT                                    PAGE 27

        LINE          ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

          KK  PR51CTRETRIEVE
          KM   Retrieve full flow capacity of 244 cfs from 72-inch storm drain pipe at the
          KM   intersection of Cactus Road and 51st Avenue
          DR  DP51CT
          *

          KK  CPAC03 COMBINE
```

```
1013          KM   Combine pipe return PR51CT with the runoff hydrograph at combination point
1014          KM   CAC03 at the intersection of ACDC and 51st Avenue
1015          HC       2
              *

1016          KK  DRBL59RETRIEVE
1017          KM   Retrieve divert DRBL59 from combination point CBL51 and divert west to
1018          KM   combination point CBL59
1019          DR  DWBL59
              *

1020          KK  RWBL59    ROUTE
1021          KM   Route diversion retrieval DRBL59 west to combination point CBL59
1022          RS       5     FLOW
1023          RC   0.035   0.015   0.035    5280  0.0031    0.00
1024          RX    0.00    0.00   51.50   51.50  296.50  296.50  348.00  348.00
1025          RY    3.00    1.02    0.50    0.00    0.00    0.50    1.02    3.00
              *

1026          KK    BL59    BASIN
1027          KM   Runoff hydrograph for subbasin BL59 northeast of the intersection of Bell
1028          KM   Road and 59th Avenue
1029          BA   1.075
1030          LG    0.23    0.18    6.80    0.12      38
1031          UC   1.500   0.997
1032          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
1033          UA     100
              *

1034          KK  ERBL59   DIVERT
1035          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
1036          KM   retention developed after 1990 in subbasin BL59
1037          DT   XBL59     72.8      0.0
1038          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
1039          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

1040          KK   CBL59 COMBINE
1041          KM   Combine route RWBL59 and subbasin BL59
1042          HC       2    2.71
              *

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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1043          KK   D59BL   DIVERT
1044          KM   Divert calculated full flow capacity of 108 cfs into 54-inch storm drain
1045          KM   pipe at the intersection of Bell Road and 59th Avenue
1046          DT   DP59BL      0.0    108.0
1047          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
1048          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

1049          KK  DSGW59   DIVERT
1050          KM   Divert remaining runoff hydrograph from combination point CBL59 south to
1051          KM   combination point CGW59
1052          DT   DWBL67      0.0      0.0
1053          DI      0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0  10000.0  20000.0  50000.0
1054          DQ      0.0     31.0     62.0    155.0    310.0    620.0   1240.0   3100.0   6200.0  15500.0
              *

1055          KK  RSGW59    ROUTE
1056          KM   Route diversion DSGW59 south to combination point CGW59
1057          RS       4     FLOW
1058          RC   0.035   0.015   0.035    5280  0.0038    0.00
1059          RX    0.00    0.00   38.50   38.50  241.50  241.50  280.00  280.00
1060          RY    3.00    0.88    0.50    0.00    0.00    0.50    0.88    3.00
              *

1061          KK  DRGW59RETRIEVE
1062          KM   Retrieve divert DRGW59 from combination point CGW51 and divert west to
1063          KM   combination point CGW59
1064          DR  DWGW59
              *

1065          KK  RWGW59    ROUTE
1066          KM   Route diversion retrieval DRGW59 west to combination point CGW59
1067          RS       4     FLOW
1068          RC   0.035   0.015   0.035    5280  0.0033    0.00
1069          RX    0.00    0.00   68.50   68.50  359.50  359.50  428.00  428.00
1070          RY    3.00    1.18    0.50    0.00    0.00    0.50    1.18    3.00
              *

1071          KK    GW59    BASIN
1072          KM   Runoff hydrograph for subbasin GW59 northeast of the intersection of Greenway
1073          KM   Road and 59th Avenue
1074          BA   0.944
1075          LG    0.21    0.16    7.30    0.10      40
1076          UC   1.500   1.027
1077          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
1078          UA     100
              *
```



```
1079          KK  ERGW59   DIVERT
1080          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
1081          KM   retention developed after 1990 in subbasin GW59
1082          DT   XGW59     35.3      0.0
1083          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
1084          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1085          KK   CGW59 COMBINE
1086          KM   Combine route RSGW59, route RWGW59, and subbasin GW59
1087          HC       3    5.64
              *

1088          KK  PR59BLRETRIEVE
1089          KM   Retrieve full flow capacity of 108 cfs from 54-inch storm drain pipe at the
1090          KM   intersection of Bell Road and 59th Avenue
1091          DR  DP59BL
              *

1092          KK  RP59GW    ROUTE
1093          KM   Route full flow capacity of 108 cfs through 54-inch storm drain pipe in
1094          KM   59th Avenue to the intersection of Greenway Road and 59th Avenue
1095          RK    4995  0.0030   0.015             CIRC   4.500
              *

1096          KK  CPGW59 COMBINE
1097          KM   Combine pipe return PR59BL with the runoff hydrograph at combination point
1098          KM   CGW59 at the intersection of Greenway Road and 59th Avenue
1099          HC       2
              *

1100          KK   D59GW   DIVERT
1101          KM   Divert calculated full flow capacity of 273 cfs into 78-inch storm drain
1102          KM   pipe at the intersection of Greenway Road and 59th Avenue
1103          DT   DP59GW      0.0    273.0
1104          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
1105          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

1106          KK  DSTB59   DIVERT
1107          KM   Divert remaining runoff hydrograph from combination point CPGW59 south to
1108          KM   combination point CTB59
1109          DT   DWGW67      0.0      0.0
1110          DI      0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0  10000.0  20000.0  50000.0
1111          DQ      0.0     45.0     90.0    225.0    450.0    900.0   1800.0   4500.0   9000.0  22500.0
              *

1112          KK  RSTB59    ROUTE
1113          KM   Route diversion DSTB59 south to combination point CTB59
1114          RS       4     FLOW
1115          RC   0.035   0.015   0.035    5280  0.0026    0.00
1116          RX    0.00    0.00   65.50   65.50  382.50  382.50  448.00  448.00
1117          RY    3.00    1.16    0.50    0.00    0.00    0.50    1.16    3.00
              *

1118          KK  DRTB59RETRIEVE
1119          KM   Retrieve divert DRTB59 from combination point CTB51 and divert west to
1120          KM   combination point CTB59
1121          DR  DWTB59
              *

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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1122          KK  RWTB59    ROUTE
1123          KM   Route diversion retrieval DRTB59 west to combination point CTB59
1124          RS       2     FLOW
1125          RC   0.035   0.015   0.035    5280  0.0032    0.00
1126          RX    0.00    0.00   37.50   37.50  210.50  210.50  248.00  248.00
1127          RY    3.00    0.88    0.50    0.00    0.00    0.50    0.88    3.00
              *

1128          KK    TB59    BASIN
1129          KM   Runoff hydrograph for subbasin TB59 northeast of the intersection of
1130          KM   Thunderbird Road and 59th Avenue
1131          BA   0.995
1132          LG    0.25    0.25    6.20    0.15      34
1133          UC   1.500   1.013
1134          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
1135          UA     100
              *

1136          KK   CTB59 COMBINE
1137          KM   Combine route RSTB59, route RWTB59, and subbasin TB59
1138          HC       3    6.96
              *
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1139          KK  PR59GWRETRIEVE
1140          KM   Retrieve full flow capacity of 273 cfs from 78-inch storm drain pipe at the
1141          KM   intersection of Greenway Road and 59th Avenue
1142          DR  DP59GW
              *

1143          KK  RP59AM    ROUTE
1144          KM   Route full flow capacity of 273 cfs through 78-inch storm drain pipe in
1145          KM   59th Avenue to the intersection of Acoma Drive and 59th Avenue
1146          RK    2519  0.0027   0.015            CIRC   6.500
              *

1147          KK  SRAM59 STORAGE
1148          KM   Storage route pipe flow PR59GW through the regional retention basin located
1149          KM     in subbasin TB59 near the intersection of Acoma Drive and 59th Avenue
1150          KM   Stage-storage data from 59th Avenue Detention Basin As-built records, 1990
1151          RS      1    STOR
1152          SV           0.20    2.80   10.90   11.80   12.70   14.90
1153          SQ           3.00  118.00  206.00  478.00  970.00 2354.00
1154          SE  1214.5 1215.00 1218.00 1224.00 1224.50 1225.00 1226.00
              *

1155          KK  RP59TB    ROUTE
1156          KM   Route full flow capacity of 135 cfs through 60-inch storm drain pipe in
1157          KM   59th Avenue to the intersection of Thunderbird Road and 59th Avenue
1158          RK    2759  0.0027   0.015            CIRC   5.000
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1159          KK  CPTB59 COMBINE
1160          KM   Combine pipe return PR59GW with the runoff hydrograph at combination point
1161          KM   CTB59 at the intersection of Thunderbird Road and 59th Avenue
1162          HC       2
              *

1163          KK   DTB59  DIVERT
1164          KM   Divert calculated full flow capacity of 578 cfs into 96-inch storm drain
1165          KM   pipe at the intersection of Olive Avenue and 43rd Avenue
1166          DT  DPTB59      0.0   578.0
1167          DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
1168          DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

1169          KK  DSAC59  DIVERT
1170          KM   Divert remaining runoff hydrograph from combination point CPTB59 south to
1171          KM   combination point CAC04
1172          DT  DWAC67      0.0      0.0
1173          DI      0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0 10000.0 20000.0 50000.0
1174          DQ      0.0     41.0     82.0    205.0    410.0    820.0   1640.0  4100.0  8200.0 20500.0
              *

1175          KK  DRAC59RETRIEVE
1176          KM   Retrieve divert DRAC59 from combination point CCT51 and divert west to
1177          KM   combination point CAC04
1178          DR  DWAC59
              *

1179          KK    AC59   BASIN
1180          KM   Runoff hydrograph for subbasin AC59 northeast of the intersection of the ACDC
1181          KM   Canal and 59th Avenue
1182          BA   0.742
1183          LG    0.18     0.15     8.00     0.08       38
1184          UC   1.500    1.459
1185          UA       0      5.0     16.0     30.0     65.0     77.0     84.0     90.0     94.0     97.0
1186          UA     100
              *

1187          KK  ERAC59  DIVERT
1188          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
1189          KM   retention developed after 1990 in subbasin AC59
1190          DT  XAC59     56.5      0.0
1191          DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
1192          DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

1193          KK   CAC04 COMBINE
1194          KM   Combine divert DSAC59 and subbasin AC59
1195          HC       4   15.39
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1196          KK  PRTB59RETRIEVE
1197          KM   Retrieve full flow capacity of 578 cfs from 96-inch storm drain pipe at the
1198          KM   intersection of Thunderbird Road and 59th Avenue
1199          DR  DPTB59
              *
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1200          KK  CPAC04 COMBINE
1201          KM   Combine pipe return PRTB59 with the runoff hydrograph at combination point
1202          KM   CAC04 at the intersection of the ACDC canal and 59th Avenue
1203          HC       2
              *

1204          KK  DRBL67RETRIEVE
1205          KM   Retrieve divert DRBL67 from combination point CBL59 and divert west to
1206          KM   combination point CBL67
1207          DR  DWBL67
              *

1208          KK   DBL67  DIVERT
1209          KM   Divert portion of diversion retrieval DRBL67 west to subbasin SK67 and the
1210          KM   remaining flow follow to subbasin BL67 at combination point CBL67
1211          DT  DWSK67      0.0      0.0
1212          DI      0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0 10000.0 20000.0 50000.0
1213          DQ      0.0     74.0    148.0    370.0    740.0   1480.0   2960.0  7400.0 14800.0 37000.0
              *

1214          KK  RWBL67    ROUTE
1215          KM   Route diversion retrieval DRBL67 west to combination point CBL67
1216          RS       7     FLOW
1217          RC   0.035    0.015    0.035     5280   0.0037     0.00
1218          RX    0.00     0.00    17.50    17.50   112.50   112.50   130.00   130.00
1219          RY    3.00     0.68     0.50     0.00     0.00     0.50     0.68     3.00
              *

1220          KK    BL67   BASIN
1221          KM   Runoff hydrograph for subbasin BL67 northeast of the intersection of Bell
1222          KM   Road and 67th Avenue
1223          BA   0.233
1224          LG    0.19     0.26     6.20     0.15       45
1225          UC   1.052    1.039
1226          UA       0      5.0     16.0     30.0     65.0     77.0     84.0     90.0     94.0     97.0
1227          UA     100
              *

1228          KK  ERBL67  DIVERT
1229          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
1230          KM   retention developed after 1990 in subbasin BL67
1231          DT  XBL67     13.0      0.0
1232          DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
1233          DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1234          KK   CBL67 COMBINE
1235          KM   Combine route RWBL67 and subbasin BL67
1236          HC       2     0.46
              *

1237          KK   D67BL  DIVERT
1238          KM   Divert calculated full flow capacity of 32 cfs into 36-inch storm drain
1239          KM   pipe at the intersection of Bell Road and 67th Avenue
1240          DT  DP67BL      0.0     32.0
1241          DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
1242          DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

1243          KK  DSGW67  DIVERT
1244          KM   Divert remaining runoff hydrograph from combination point CBL67 south to
1245          KM   combination point CGW67
1246          DT  DWBL75      0.0      0.0
1247          DI      0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0 10000.0 20000.0 50000.0
1248          DQ      0.0     61.0    122.0    305.0    610.0   1220.0   2440.0  6100.0 12200.0 30500.0
              *

1249          KK  RSGW67    ROUTE
1250          KM   Route diversion DSGW67 south to combination point CGW67
1251          RS      10     FLOW
1252          RC   0.035    0.015    0.035     5280   0.0025     0.00
1253          RX    0.00     0.00    44.50    44.50   253.50   253.50   298.00   298.00
1254          RY    3.00     0.94     0.50     0.00     0.00     0.50     0.94     3.00
              *

1255          KK  DRGW67RETRIEVE
1256          KM   Retrieve divert DRGW67 from combination point CGW59 and divert west to
1257          KM   combination point CGW67
1258          DR  DWGW67
              *

1259          KK  RWGW67    ROUTE
1260          KM   Route diversion retrieval DRGW67 west to combination point CGW67
1261          RS       4     FLOW
1262          RC   0.035    0.015    0.035     5280   0.0025     0.00
1263          RX    0.00     0.00    61.50    61.50   316.50   316.50   378.00   378.00
1264          RY    3.00     1.12     0.50     0.00     0.00     0.50     1.12     3.00
              *
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1265          KK    GW67    BASIN
1266          KM   Runoff hydrograph for subbasin GW67 northeast of the intersection of Greenway
1267          KM   Road and 67th Avenue
1268          BA   0.892
1269          LG    0.24    0.16    8.40    0.06      35
1270          UC   1.479   1.019
1271          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
1272          UA     100
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


1273          KK  ERGW67  DIVERT
1274          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
1275          KM   retention developed after 1990 in subbasin GW67
1276          DT   XGW67    47.9     0.0
1277          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
1278          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

1279          KK   CGW67 COMBINE
1280          KM   Combine route RSGW67, route RWGW67, and subbasin GW67
1281          HC       3    3.63
              *

1282          KK  PR67BLRETRIEVE
1283          KM   Retrieve full flow capacity of 32 cfs from 36-inch storm drain pipe at the
1284          KM   intersection of Bell Road and 67th Avenue
1285          DR  DP67BL
              *
              * KKRP67GW    ROUTE
              * KM Route full flow capacity of 32 cfs through 36-inch storm drain pipe in
              * KM 67th Avenue to the intersection of Greenway Road and 67th Avenue
              * RK  5072  0.0023   0.015            CIRC   3.000
              *

1286          KK  CPGW67 COMBINE
1287          KM   Combine pipe return PR67BL with the runoff hydrograph at combination point
1288          KM   CGW67 at the intersection of Greenway Road and 67th Avenue
1289          HC       2
              *

1290          KK   D67GW  DIVERT
1291          KM   Divert calculated full flow capacity of 608 cfs into 84-inch storm drain
1292          KM   pipe at the intersection of Greenway Road and 67th Avenue
1293          DT  DP67GW      0.0   608.0
1294          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
1295          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

1296          KK  DSAC67  DIVERT
1297          KM   Divert remaining runoff hydrograph from combination point CPGW67 south to
1298          KM   combination point CAC05
1299          DT  DWAC75       0.0       0.0
1300          DI      0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
1301          DQ      0.0    84.0   168.0   420.0   840.0  1680.0  3360.0  8400.0 16800.0 42000.0
              *

1302          KK  RSAC67   ROUTE
1303          KM   Route diversion DSAC67 south to combination point CAC05
1304          RS       1    FLOW
1305          RC   0.035   0.015   0.035    1216  0.0020    0.00
1306          RX    0.00    0.00   34.00   34.00  184.00  184.00  218.00  218.00
1307          RY    3.00    0.84    0.50    0.00    0.00    0.50    0.84    3.00
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


1308          KK  DRAC67RETRIEVE
1309          KM   Retrieve divert DRAC67 from combination point CPTB59 and divert west to
1310          KM   combination point CAC05
1311          DR  DWAC67
              *

1312          KK  RWAC67   ROUTE
1313          KM   Route diversion retrieval DRAC67 west to combination point CAC05
1314          RS       1    FLOW
1315          RC   0.035   0.015   0.035    1071  0.0029    0.00
1316          RX    0.00    0.00   28.00   28.00  172.00  172.00  200.00  200.00
1317          RY    3.00    0.78    0.50    0.00    0.00    0.50    0.78    3.00
              *

1318          KK    AC67    BASIN
1319          KM   Runoff hydrograph for subbasin AC67 northeast of the intersection of the ACDC
1320          KM   Canal and 67th Avenue
1321          BA   0.698
1322          LG    0.22    0.15    8.40    0.07      29
1323          UC   1.500   1.392
1324          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
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1325          UA     100
              *

1326          KK   CAC05 COMBINE
1327          KM   Combine route RSAC67, and subbasin AC67
1328          HC       4   19.52
              *

1329          KK  PR67GWRETRIEVE
1330          KM   Retrieve full flow capacity of 608 cfs from 84-inch storm drain pipe at the
1331          KM   intersection of Greenway Road and 67th Avenue
1332          DR  DP67GW
              *
              * KKRP67AC    ROUTE
              * KM Route full flow capacity of 608 cfs through 84-inch storm drain pipe in
              * KM 67th Avenue to the intersection of the ACDC canal and 67th Avenue
              * RK  1168  0.0090   0.015            CIRC   7.000
              *

1333          KK  CPAC05 COMBINE
1334          KM   Combine pipe return PR67GW with the runoff hydrograph at combination point
1335          KM   CAC05 at the intersection of the ACDC canal and 67th Avenue
1336          HC       2   19.55
              *

1337          KK  DRAC75RETRIEVE
1338          KM   Retrieve divert DRAC75 from combination point CPGW67 and divert west to
1339          KM   combination point CAC06
1340          DR  DWAC75
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


1341          KK    AC75    BASIN
1342          KM   Runoff hydrograph for subbasin AC75 near the intersection of the ACDC Canal
1343          KM   75th Avenue
1344          BA   0.842
1345          LG    0.21    0.26    5.80    0.18      28
1346          UC   1.500   1.251
1347          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
1348          UA     100
              *

1349          KK  ERAC75  DIVERT
1350          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
1351          KM   retention developed after 1990 in subbasin AC75
1352          DT   XAC75    10.9     0.0
1353          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
1354          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

1355          KK   CAC06 COMBINE
1356          KM   Combine route RAC75 and subbasin AC75
1357          HC       3   23.43
              *

1358          KK    HV55    BASIN
1359          KM   Runoff hydrograph for subbasin HV55 near the intersection of Happy Valley
1360          KM   Road and 55th Avenue
1361          BA   2.054
1362          LG    0.20    0.30    4.40    0.32      29
1363          UC   1.475   0.816
1364          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
1365          UA     100
              *

1366          KK  ERHV55  DIVERT
1367          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
1368          KM   retention developed after 1990 in subbasin HV55
1369          DT   XHV55    94.8     0.0
1370          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
1371          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

1372          KK   RCL57   ROUTE
1373          KM   Route runoff hydrograph at subbasin HV55 to combination point CCL57
1374          RS       3    FLOW
1375          RC   0.045   0.035   0.045    5676  0.0078    0.00
1376          RX    0.00    0.00   40.00   50.00   60.00   70.00  110.00  110.00
1377          RY    6.20    5.20    5.00    0.00    0.00    5.00    5.20    6.20
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


1378          KK    CL57    BASIN
1379          KM   Runoff hydrograph for subbasin CL57 near the intersection of Pinnacle Hill
1380          KM   Road and 57th Avenue
1381          BA   0.746
1382          LG    0.22    0.28    4.55    0.32      27
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1383          UC   1.160   0.632
1384          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
1385          UA     100
              *

1386          KK  ERCL57  DIVERT
1387          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
1388          KM   retention developed after 1990 in subbasin CL57
1389          DT   XCL57     41.3      0.0
1390          DI     0.0 50000.0      0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
1391          DQ     0.0 50000.0      0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

1392          KK   CCL57 COMBINE
1393          KM   Combine route RCL57 and subbasin CL57
1394          HC        2    2.80
              *

1395          KK   RWL59   ROUTE
1396          KM   Route runoff hydrograph at combination point CCL57 to combination point CWL59
1397          RS        5    FLOW
1398          RC   0.045   0.035   0.045    8099  0.0061    0.00
1399          RX    0.00    0.00   40.00   50.00   60.00   70.00  110.00  110.00
1400          RY    6.20    5.20    5.00    0.00    0.00    5.00    5.20    6.20
              *

1401          KK    WL59   BASIN
1402          KM   Runoff hydrograph for subbasin WL59 near the intersection of Williams Road
1403          KM   and 59th Avenue
1404          BA   0.562
1405          LG    0.17    0.32    4.70    0.29      22
1406          UC   1.430   1.136
1407          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
1408          UA     100
              *

1409          KK  ERWL59  DIVERT
1410          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
1411          KM   retention developed after 1990 in subbasin WL59
1412          DT   XWL59     11.1      0.0
1413          DI     0.0 50000.0      0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
1414          DQ     0.0 50000.0      0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1415          KK   CWL59 COMBINE
1416          KM   Combine route RWL59 and subbasin WL59
1417          HC        2    3.36
              *

1418          KK    DV56   BASIN
1419          KM   Runoff hydrograph for subbasin DV56 near the intersection of Deer Valley Road
1420          KM   and 56th Avenue
1421          BA   0.287
1422          LG    0.10    0.33    4.65    0.27      38
1423          UC   0.711   0.401
1424          UA       0     3.0     5.0     8.0    12.0    20.0    43.0    75.0    90.0    96.0
1425          UA     100
              *

1426          KK   CDV56 COMBINE
1427          KM   Combine route RDV56 and subbasin DV56
1428          HC        2    3.65
              *

1429          KK  SRDV56 STORAGE
1430          KM   Storage route runoff hydrograph from combination point CDV56 through
1431          KM     regional detention basin located in subbasin DV56 (Arrowhead Lake 1)
1432          KM   Stage-storage-discharge data from Glendale/Peoria ADMPU Arrowhead Lakes
1433          KM     Hydrology Report (Volume AL), 2001
1434          RS        1    STOR
1435          SV             8.50   17.19   26.06   35.12   44.34   53.71   63.24   72.91
1436          SQ           139.00  399.00  732.00 1146.00 1639.00 2202.00 2814.00 3516.00
1437          SE             0.50    1.00    1.50    2.00    2.50    3.00    3.50    4.00
              *

1438          KK    LO51   BASIN
1439          KM   Runoff hydrograph for subbasin LO51 near the intersection of SR Loop 101
1440          KM   and 51st Avenue
1441          BA   1.130
1442          LG    0.14    0.25    4.25    0.35      44
1443          UC   1.500   0.866
1444          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
1445          UA     100
              *

1446          KK   CLO51 COMBINE
1447          KM   Combine route RLO51 and subbasin LO51
1448          HC        2    4.78
              *
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1449          KK   D51LO  DIVERT
1450          KM   Divert calculated full flow capacity of 38 cfs into a 36-inch storm drain
1451          KM   pipe at the intersection of SR Loop 101 and 51st Avenue.
1452          KM   Storm drain flow discharges to Skunk Creek and is not returned to the model.
1453          DT   DP51LO      0.0     38.0
1454          DI     0.0 50000.0      0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
1455          DQ     0.0 50000.0      0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1456          KK  SRLO51 STORAGE
1457          KM   Storage route runoff hydrograph from combination point CLO51 through
1458          KM     regional detention basin located in subbasin LO51 (Arrowhead Lakes 2-5)
1459          KM   Stage-storage-discharge data from Glendale/Peoria ADMPU Arrowhead Lakes
1460          KM     Hydrology Report (Volume AL), 2001
1461          RS        1    STOR
1462          SV            62.29  129.43  199.09  270.01  340.91  411.82  482.73  582.60
1463          SQ           120.00  346.00  634.00  993.00 1421.00 1908.00 2439.00 3047.00
1464          SE             0.50    1.00    1.50    2.00    2.50    3.00    3.50    4.00
              *

1465          KK  RUHSKA   ROUTE
1466          KM   Route runoff hydrograph at combination point CLO51 to combination point CSK01
1467          RS        4    FLOW
1468          RC   0.045   0.035   0.045    4440  0.0034    0.00
1469          RX    0.00    0.00   55.00   75.00  100.00  120.00  175.00  175.00
1470          RY   11.20   10.20   10.00    0.00    0.00   10.00   10.20   11.20
              *

1471          KK  DRUHSKRETRIEVE
1472          KM   Retrieve divert DRUHSK from combination point CUH51 and divert west to
1473          KM   combination point CSK01
1474          DR  DWUHSK
              *

1475          KK   D51SK  DIVERT
1476          KM   Divert calculated full flow capacity of 24 cfs into a 30-inch storm drain
1477          KM   pipe near the intersection of Skunk Creek and 51st Avenue.
1478          KM   Storm drain flow discharges to Skunk Creek and is not returned to the model.
1479          DT   DP51SK      0.0     24.0
1480          DI     0.0 50000.0      0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
1481          DQ     0.0 50000.0      0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

1482          KK  RUHSKB   ROUTE
1483          KM   Route diversion D51SK to combination point CSK01
1484          RS        5    FLOW
1485          RC   0.035   0.015   0.035    6960  0.0034    0.00
1486          RX    0.00    0.00   17.50   17.50  112.50  112.50  130.00  130.00
1487          RY    3.00    0.68    0.50    0.00    0.00    0.50    0.68    3.00
              *

1488          KK    UHSK   BASIN
1489          KM   Runoff hydrograph for subbasin UHSK northeast of the intersection of Union
1490          KM   Hills Drive and 59th Avenue
1491          BA   0.933
1492          LG    0.22    0.28    5.00    0.24      26
1493          UC   1.417   0.943
1494          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
1495          UA     100
              *
```



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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1496          KK  ERUHSK  DIVERT
1497          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
1498          KM   retention developed after 1990 in subbasin UHSK
1499          DT   XUHSK     15.2      0.0
1500          DI     0.0 50000.0      0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
1501          DQ     0.0 50000.0      0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

1502          KK   CSK01 COMBINE
1503          KM   Combine route RUHSKA, route RUHSKB, and subbasin UHSK
1504          HC        3    6.73
              *

1505          KK   DUHSK  DIVERT
1506          KM   Divert calculated full flow capacity of 10 cfs into 24-inch storm drain
1507          KM   pipe at the intersection of Union Hills Drive and 59th Avenue
1508          DT   DPUHSK      0.0     10.0
1509          DI     0.0 50000.0      0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
1510          DQ     0.0 50000.0      0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

1511          KK  DRSK67RETRIEVE
1512          KM   Retrieve divert DRSK67 from combination point CBL59 and divert west to
```

```
1513          KM   combination point CSK67
1514          DR  DWSK67
              *
1515          KK   RSK67   ROUTE
1516          KM   Route diversion retrieval DRSK67 to combination point CSK67
1517          RS       7    FLOW
1518          RC   0.035   0.015   0.035    5113  0.0037    0.00
1519          RX    0.00    0.00   68.50   68.50  359.50  359.50  428.00  428.00
1520          RY    3.00    1.18    0.50    0.00    0.00    0.50    1.18    3.00
              *
1521          KK    SK67   BASIN
1522          KM   Runoff hydrograph for subbasin SK67 northeast of the intersection of
1523          KM   Greenbriar Drive and 67th Avenue
1524          BA   0.942
1525          LG    0.26    0.26    5.20    0.24      27
1526          UC   1.433   0.789
1527          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
1528          UA     100
              *
1529          KK  ERSK67  DIVERT
1530          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
1531          KM   retention developed after 1990 in subbasin SK67
1532          DT   XSK67    25.1      0.0
1533          DI     0.0 50000.0      0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
1534          DQ     0.0 50000.0      0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *
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LINE          ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

1535          KK   CSK02 COMBINE
1536          KM   Combine route RSK67 and subbasin SK67
1537          HC       3    8.30
              *
1538          KK  PRUHSKRETRIEVE
1539          KM   Retrieve full flow capacity of 10 cfs from 24-inch storm drain pipe at the
1540          KM   intersection of Union Hills Drive and 59th Avenue
1541          DR  DPUHSK
              *
1542          KK  RPSK67   ROUTE
1543          KM   Route full flow capacity of 10 cfs through 24-inch storm drain pipe in
1544          KM   67th Avenue to the intersection of Greenbriar Drive and 67th Avenue
1545          RK    6044  0.0020   0.015            CIRC   2.000
              *
1546          KK  CPSK02 COMBINE
1547          KM   Combine pipe return PRUHSK with the runoff hydrograph at combination point
1548          KM   CSK67 at the intersection of Greenbriar Drive and 67th Avenue
1549          HC       2
              *
1550          KK    UH67   BASIN
1551          KM   Runoff hydrograph for subbasin UH67 near the intersection of Utopia Road
1552          KM   67th Avenue
1553          BA   0.784
1554          LG    0.23    0.26    5.80    0.17      40
1555          UC   1.320   0.950
1556          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
1557          UA     100
              *
1558          KK  ERUH67  DIVERT
1559          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
1560          KM   retention developed after 1990 in subbasin UH67
1561          DT   XUH67    66.1      0.0
1562          DI     0.0 50000.0      0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
1563          DQ     0.0 50000.0      0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *
1564          KK   RUH75   ROUTE
1565          KM   Route runoff hydrograph at subbasin UH67 to combination point CUH75
1566          RS       10    FLOW
1567          RC   0.045   0.035   0.045    7047  0.0021    0.00
1568          RX    0.00    0.00   19.00   25.00   30.00   36.00   55.00   55.00
1569          RY    4.10    3.10    3.00    0.00    0.00    3.00    3.10    4.10
              *
1                                        HEC-1 INPUT                                        PAGE 42

LINE          ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

1570          KK    UH75   BASIN
1571          KM   Runoff hydrograph for subbasin UH75 near the intersection of Union Hills
1572          KM   Road and 75th Avenue
1573          BA   0.814
1574          LG    0.22    0.15    7.30    0.11      29
1575          UC   1.500   1.021
```



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1576          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
1577          UA     100
              *
1578          KK  ERUH75  DIVERT
1579          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
1580          KM   retention developed after 1990 in subbasin UH75
1581          DT   XUH75    65.2      0.0
1582          DI     0.0 50000.0      0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
1583          DQ     0.0 50000.0      0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *
1584          KK   CUH75 COMBINE
1585          KM   Combine route RUH75 and subbasin UH75
1586          HC       2    1.60
              *
1587          KK  RBL75A   ROUTE
1588          KM   Route runoff hydrograph at combination point CUH75 to combination point CSK03
1589          RS       5    FLOW
1590          RC   0.045   0.035   0.045    4730  0.0037    0.00
1591          RX    0.00    0.00   19.00   25.00   30.00   36.00   55.00   55.00
1592          RY    4.10    3.10    3.00    0.00    0.00    3.00    3.10    4.10
              *
1593          KK  DRBL75RETRIEVE
1594          KM   Retrieve divert DRBL75 from combination point CBL67 and divert west to
1595          KM   combination point CSK03
1596          DR  DWBL75
              *
1597          KK  RBL75B   ROUTE
1598          KM   Route diversion retrieval DRBL75 to combination point CSK03
1599          RS      10    FLOW
1600          RC   0.035   0.015   0.035    2940  0.0048    0.00
1601          RX    0.00    0.00   17.50   17.50  112.50  112.50  130.00  130.00
1602          RY    3.00    0.68    0.50    0.00    0.00    0.50    0.68    3.00
              *
1603          KK    BL75   BASIN
1604          KM   Runoff hydrograph for subbasin BL75 near the intersection of Bell Road
1605          KM   75th Avenue
1606          BA   1.063
1607          LG    0.24    0.26    5.20    0.24      30
1608          UC   1.500   0.980
1609          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
1610          UA     100
              *
1                                        HEC-1 INPUT                                        PAGE 43

LINE          ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

1611          KK  ERBL75  DIVERT
1612          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
1613          KM   retention developed after 1990 in subbasin BL75
1614          DT   XBL75    13.2      0.0
1615          DI     0.0 50000.0      0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
1616          DQ     0.0 50000.0      0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *
1617          KK   CSK03 COMBINE
1618          KM   Combine route RBL75A, route RBL75B and subbasin BL75
1619          HC       4   11.24
              *
1620          KK    UHLO   BASIN
1621          KM   Runoff hydrograph for subbasin UHLO near the intersection of SR Loop 101 and
1622          KM   Union Hills Drive
1623          BA   0.822
1624          LG    0.21    0.25    5.80    0.19      31
1625          UC   1.246   0.619
1626          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
1627          UA     100
              *
1628          KK  ERUHLO  DIVERT
1629          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
1630          KM   retention developed after 1990 in subbasin UHLO
1631          DT   XUHLO    66.5      0.0
1632          DI     0.0 50000.0      0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
1633          DQ     0.0 50000.0      0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *
1634          KK  RBLLO   ROUTE
1635          KM   Route runoff hydrograph at subbasin UHLO to combination point CBLLO
1636          RS       9    FLOW
1637          RC   0.035   0.015   0.035    9255  0.0033    0.00
1638          RX    0.00    0.00   17.50   17.50  112.50  112.50  130.00  130.00
1639          RY    3.00    0.68    0.50    0.00    0.00    0.50    0.68    3.00
              *
1640          KK    BLLO   BASIN
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1641          KM   Runoff hydrograph for subbasin BLLO near the intersection of Bell Road and
1642          KM   SR Loop 101
1643          BA   0.765
1644          LG    0.18    0.25    4.35    0.34      55
1645          UC  1.327   0.923
1646          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
1647          UA     100
              *
1                                        HEC-1 INPUT                                    PAGE 44

LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


1648          KK  ERBLLO  DIVERT
1649          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
1650          KM   retention developed after 1990 in subbasin BLLO
1651          DT   XBLLO     70.9      0.0
1652          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
1653          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

1654          KK   CBLLO COMBINE
1655          KM   Combine route RBLLO and subbasin BLLO
1656          HC       2    1.59
              *

1657          KK   DBLLO  DIVERT
1658          KM   Divert calculated full flow capacity of 169 cfs into 84-inch storm drain
1659          KM   pipe at the intersection of Bell Road and SR Loop 101
1660          DT  DPBLLO      0.0    169.0
1661          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
1662          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

1663          KK   RGWLO   ROUTE
1664          KM   Route diversion DBLLO to combination point CSK04
1665          RS       3    FLOW
1666          RC   0.035   0.015   0.035    6833  0.0066     0.00
1667          RX    0.00    0.00   16.50   16.50  107.50  107.50  124.00  124.00
1668          RY    3.00    0.66    0.50    0.00    0.00    0.50    0.66    3.00
              *

1669          KK    GWLO   BASIN
1670          KM   Runoff hydrograph for subbasin GWLO near the intersection of Greenway Road
1671          KM   and SR Loop 101
1672          BA   0.814
1673          LG    0.10    0.25    4.20    0.43      59
1674          UC  0.754   0.471
1675          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
1676          UA     100
              *

1677          KK  ERGWLO  DIVERT
1678          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
1679          KM   retention developed after 1990 in subbasin GWLO
1680          DT   XGWLO     53.2      0.0
1681          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
1682          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

1683          KK   CSK04 COMBINE
1684          KM   Combine route RGWLO and subbasin GWLO
1685          HC       4   37.07
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


1686          KK  PRBLLORETRIEVE
1687          KM   Retrieve full flow capacity of 169 cfs from 84-inch storm drain pipe at the
1688          KM   intersection of Bell Road and SR Loop 101
1689          DR  DPBLLO
              *
              * KKRPGWLO   ROUTE
              * KM Route full flow capacity of 169 cfs through 84-inch storm drain pipe in
              * KM Greenway Road to the intersection of Greenway Road and SR Loop 101
              * RK  2236  0.0007   0.015            CIRC   7.000
              *

1690          KK  CPSK04 COMBINE
1691          KM   Combine pipe return PRBLLO with the runoff hydrograph at combination point
1692          KM   CSK04 at the intersection of Greenway Road and SR Loop 101
1693          HC       2
              *

1694          KK    JM63   BASIN
1695          KM   Runoff hydrograph for subbasin JM63 near the intersection of Pyramid Peak
1696          KM   Boulevard and Bent Tree Drive
1697          BA   0.840
1698          LG    0.18    0.30    5.10    0.23      21
1699          UC  1.093   0.584
1700          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
```



```
1701          UA     100
              *

1702          KK  ERJM63  DIVERT
1703          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
1704          KM   retention developed after 1990 in subbasin JM63
1705          DT   XJM63     50.3      0.0
1706          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
1707          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

1708          KK   RJM67   ROUTE
1709          KM   Route runoff hydrograph at subbasin JM63 to combination point CJM67
1710          RS       2    FLOW
1711          RC   0.045   0.020   0.045    4129  0.0076     0.00
1712          RX    0.00    0.00   19.00   25.00   30.00   36.00   55.00   55.00
1713          RY    4.10    3.10    3.00    0.00    0.00    3.00    3.10    4.10
              *

1714          KK    JM67   BASIN
1715          KM   Runoff hydrograph for subbasin JM67 near the intersection of Pyramid Peak
1716          KM   Boulevard and and 67th Avenue
1717          BA   0.381
1718          LG    0.20    0.29    4.35    0.33      34
1719          UC  0.970   0.674
1720          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
1721          UA     100
              *
1                                        HEC-1 INPUT                                    PAGE 46

LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


1722          KK  ERJM67  DIVERT
1723          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
1724          KM   retention developed after 1990 in subbasin JM67
1725          DT   XJM67     20.3      0.0
1726          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
1727          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

1728          KK   CJM67 COMBINE
1729          KM   Combine route RJM67 and subbasin JM67
1730          HC       2    1.22
              *

1731          KK   RHV75   ROUTE
1732          KM   Route runoff hydrograph at combination point CJM67 to combination point CHV75
1733          RS       3    FLOW
1734          RC   0.045   0.020   0.045    7197  0.0099     0.00
1735          RX    0.00    0.00   40.00   50.00   60.00   70.00  110.00  110.00
1736          RY    6.20    5.20    5.00    0.00    0.00    5.00    5.20    6.20
              *

1737          KK    HV75   BASIN
1738          KM   Runoff hydrograph for subbasin HV75 near the intersection of Happy Valley
1739          KM   Road and 75th Avenue
1740          BA   0.958
1741          LG    0.24    0.26    4.10    0.40      26
1742          UC  1.345   0.775
1743          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
1744          UA     100
              *

1745          KK  ERHV75  DIVERT
1746          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
1747          KM   retention developed after 1990 in subbasin HV75
1748          DT   XHV75     70.0      0.0
1749          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
1750          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

1751          KK   CHV75 COMBINE
1752          KM   Combine route RHV75 and subbasin HV75
1753          HC       2    2.18
              *

1754          KK    JM80   BASIN
1755          KM   Runoff hydrograph for subbasin JM80 near the intersection of Jomax Road
1756          KM   and 80th Avenue
1757          BA   0.164
1758          LG    0.24    0.35    3.88    0.42       5
1759          UC  0.773   0.572
1760          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
1761          UA     100
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


1762          KK    JM76   BASIN
1763          KM   Runoff hydrograph for subbasin JM76 near the intersection of Jomax Road
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1764          KM   and 76th Avenue
1765          BA   0.169
1766          LG    0.25    0.35    3.92    0.41       0
1767          UC   0.979   0.849
1768          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
1769          UA     100
              *

1770          KK    JMNR    BASIN
1771          KM   Runoff hydrograph for subbasin JMNR near the intersection of Jomax Road
1772          KM   and New River
1773          BA   0.149
1774          LG    0.16    0.35    3.29    0.63       1
1775          UC   1.457   1.663
1776          UA       0     3.0     5.0     8.0    12.0    20.0    43.0    75.0    90.0    96.0
1777          UA     100
              *

1778          KK   CNR01 COMBINE
1779          KM   Combine route subbasin JM76, and subbasin JMNR
1780          HC       3    0.48
              *

1781          KK    JM75    BASIN
1782          KM   Runoff hydrograph for subbasin JM75 near the intersection of Jomax Road
1783          KM   and 75th Avenue
1784          BA   1.112
1785          LG    0.11    0.34    4.30    0.34      12
1786          UC   0.989   0.458
1787          UA       0     3.0     5.0     8.0    12.0    20.0    43.0    75.0    90.0    96.0
1788          UA     100
              *

1789          KK   ERJM75  DIVERT
1790          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
1791          KM   retention developed after 1990 in subbasin JM75
1792          DT   XJM75      5.6     0.0
1793          DI       0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
1794          DQ       0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

1795          KK    HVNR    BASIN
1796          KM   Runoff hydrograph for subbasin HVNR near the intersection of Happy Valley
1797          KM   Road and New River
1798          BA   0.202
1799          LG    0.10    0.35    3.48    0.55       0
1800          UC   1.500   1.615
1801          UA       0     3.0     5.0     8.0    12.0    20.0    43.0    75.0    90.0    96.0
1802          UA     100
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1803          KK   CNR02 COMBINE
1804          KM   Combine subbasin HVNR
1805          HC       4    3.98
              *

1806          KK    HV67    BASIN
1807          KM   Runoff hydrograph for subbasin HV67 near the intersection of Happy Valley
1808          KM   Road and 67th Avenue
1809          BA   0.544
1810          LG    0.16    0.30    4.20    0.36      57
1811          UC   0.726   0.436
1812          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
1813          UA     100
              *

1814          KK   ERHV67  DIVERT
1815          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
1816          KM   retention developed after 1990 in subbasin HV67
1817          DT   XHV67     23.4     0.0
1818          DI       0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
1819          DQ       0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

1820          KK   RCL67   ROUTE
1821          KM   Route runoff hydrograph at subbasin HV67 to combination point CCL67
1822          RS       2    FLOW
1823          RC   0.045   0.035   0.045    3990  0.0076    0.00
1824          RX    0.00    0.00   40.00   50.00   60.00   70.00  110.00  110.00
1825          RY    6.20    5.20    5.00    0.00    0.00    5.00    5.20    6.20
              *

1826          KK    CL67    BASIN
1827          KM   Runoff hydrograph for subbasin CL67 near the intersection of Calle Lejos Road
1828          KM   67th Avenue
1829          BA   0.275
1830          LG    0.22    0.27    4.40    0.38      23
1831          UC   1.186   1.144
1832          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
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```
1833          UA     100
              *

1834          KK   ERCL67  DIVERT
1835          KM    Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
1836          KM   retention developed after 1990 in subbasin CL67
1837          DT   XCL67     16.5     0.0
1838          DI       0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
1839          DQ       0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1840          KK   CCL67 COMBINE
1841          KM   Combine route RCL67 and subbasin CL67
1842          HC       2    0.82
              *

1843          KK   RPP73A   ROUTE
1844          KM    Route runoff hydrograph at combination point CCL67 to combination point CPP73
1845          RS       4    FLOW
1846          RC   0.045   0.035   0.045    5599  0.0045    0.00
1847          RX    0.00    0.00   40.00   50.00   60.00   70.00  110.00  110.00
1848          RY    6.20    5.20    5.00    0.00    0.00    5.00    5.20    6.20
              *

1849          KK    PP67    BASIN
1850          KM    Runoff hydrograph for subbasin PP67 near the intersection of Pinnacle Peak
1851          KM    Road and 67th Avenue
1852          BA   0.096
1853          LG    0.30    0.25    4.55    0.41       6
1854          UC   1.212   1.354
1855          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
1856          UA     100
              *

1857          KK   ERPP67  DIVERT
1858          KM    Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
1859          KM    retention developed after 1990 in subbasin PP67
1860          DT   XPP67      5.8     0.0
1861          DI       0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
1862          DQ       0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

1863          KK   DWPP73  DIVERT
1864          KM    Divert remaining runoff hydrograph at subbasin PP67 west to combination point
1865          KM    CPP73
1866          DT   DSWL67     0.0     0.0
1867          DI       0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
1868          DQ       0.0    32.0    64.0   160.0   320.0   640.0  1280.0  3200.0  6400.0 16000.0
              *

1869          KK   RPP73B   ROUTE
1870          KM    Route diversion DWPP73 west to combination point CPP73
1871          RS       2    FLOW
1872          RC   0.035   0.015   0.035    3886  0.0064    0.00
1873          RX    0.00    0.00   16.50   16.50  107.50  107.50  124.00  124.00
1874          RY    3.00    0.66    0.50    0.00    0.00    0.50    0.66    3.00
              *

1875          KK    PP73    BASIN
1876          KM    Runoff hydrograph for subbasin PP73 near the intersection of Pinnacle Peak
1877          KM    Road and 73rd Avenue
1878          BA   0.545
1879          LG    0.29    0.25    4.70    0.31      18
1880          UC   1.251   0.806
1881          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1882          UA     100
              *

1883          KK   ERPP73  DIVERT
1884          KM    Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
1885          KM    retention developed after 1990 in subbasin PP73
1886          DT   XPP73     10.3     0.0
1887          DI       0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
1888          DQ       0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

1889          KK   CPP73 COMBINE
1890          KM    Combine route RPP73A, route RPP73B, and subbasin PP73
1891          HC       3    1.43
              *

1892          KK   DWPP75  DIVERT
1893          KM    Divert remaining runoff hydrograph at combination point CPP73 west to
1894          KM    combination point CPP75
1895          DT   DSWL75     0.0     0.0
```

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1896          DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
1897          DQ     0.0    41.0    82.0   205.0   410.0   820.0  1640.0  4100.0  8200.0 20500.0
              *

1898          KK   RPPNR   ROUTE
1899          KM   Route diversion DWPP75 west to combination point CNR03
1900          RS       1    FLOW
1901          RC   0.045   0.020   0.045    1225  0.0052    0.00
1902          RX    0.00    0.00   40.00   50.00   60.00   70.00  110.00  110.00
1903          RY    6.20    5.20    5.00    0.00    0.00    5.00    5.20    6.20
              *

1904          KK    PP75   BASIN
1905          KM   Runoff hydrograph for subbasin PP75 near the intersection of Pinnacle Peak
1906          KM   Road and 75th Avenue
1907          BA   0.420
1908          LG    0.28    0.29    4.25    0.40      18
1909          UC   0.960   0.675
1910          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
1911          UA     100
              *

1912          KK  ERPP75  DIVERT
1913          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
1914          KM   retention developed after 1990 in subbasin PP75
1915          DT   XPP75    12.5     0.0
1916          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
1917          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

1                                        HEC-1 INPUT                                        PAGE 51

LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


1918          KK    PPNR   BASIN
1919          KM   Runoff hydrograph for subbasin PPNR near the intersection of Pinnacle Peak
1920          KM   Road and New River
1921          BA   0.237
1922          LG    0.13    0.34    3.53    0.53       1
1923          UC   1.500   1.444
1924          UA       0     3.0     5.0     8.0    12.0    20.0    43.0    75.0    90.0    96.0
1925          UA     100
              *

1926          KK   CNR03 COMBINE
1927          KM   Combine route RPPNR and subbasin PPNR
1928          HC       4    5.47
              *

1929          KK  DRWL75RETRIEVE
1930          KM   Retrieve divert DRWL75 from combination point CPP73 and divert to
1931          KM   combination point CWL75
1932          DR  DSWL75
              *

1933          KK  RWL75B   ROUTE
1934          KM   Route diversion retrieval DRWL75 to combination point CWL75
1935          RS       2    FLOW
1936          RC   0.035   0.015   0.035    2577  0.0049    0.00
1937          RX    0.00    0.00    7.00    7.00   43.00   43.00   50.00   50.00
1938          RY    3.00    0.57    0.50    0.00    0.00    0.50    0.57    3.00
              *

1939          KK  DRWL67RETRIEVE
1940          KM   Retrieve divert DRWL67 from subbasin PP67 and divert to combination point
1941          KM   CTB67
1942          DR  DSWL67
              *

1943          KK   RWL67   ROUTE
1944          KM   Route diversion retrieval DRWL67 to combination point CWL67
1945          RS       1    FLOW
1946          RC   0.035   0.015   0.035    1195  0.0014    0.00
1947          RX    0.00    0.00   20.50   20.50   89.50   89.50  110.00  110.00
1948          RY    3.00    0.70    0.50    0.00    0.00    0.50    0.70    3.00
              *

1949          KK    WL67   BASIN
1950          KM   Runoff hydrograph for subbasin WL67 near the intersection of Thunderbird Park
1951          KM   Road and 67th Avenue
1952          BA   0.103
1953          LG    0.24    0.28    4.70    0.34       6
1954          UC   1.246   1.371
1955          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
1956          UA     100
              *

1                                        HEC-1 INPUT                                        PAGE 52

LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


1957          KK  ERWL67  DIVERT
1958          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
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1959          KM   retention developed after 1990 in subbasin WL67
1960          DT   XWL67     4.3     0.0
1961          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
1962          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

1963          KK   CWL67 COMBINE
1964          KM   Combine route RWL67 and subbasin WL67
1965          HC       2    0.13
              *

1966          KK  RWL75A   ROUTE
1967          KM   Route runoff hydrograph at combination point CWL67 to combination point CWL75
1968          RS       7    FLOW
1969          RC   0.035   0.015   0.035    5062  0.0072    0.00
1970          RX    0.00    0.00    7.00    7.00   43.00   43.00   50.00   50.00
1971          RY    3.00    0.57    0.50    0.00    0.00    0.50    0.57    3.00
              *

1972          KK    WL75   BASIN
1973          KM   Runoff hydrograph for subbasin WL75 near the intersection of Williams Road
1974          KM   Road and 75th Avenue
1975          BA   0.475
1976          LG    0.29    0.25    4.70    0.31      25
1977          UC   1.152   0.755
1978          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
1979          UA     100
              *

1980          KK  ERWL75  DIVERT
1981          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
1982          KM   retention developed after 1990 in subbasin WL75
1983          DT   XWL75    18.0     0.0
1984          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
1985          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

1986          KK   CWL75 COMBINE
1987          KM   Combine route RWL75A, route RWL75B, and subbasin WL75
1988          HC       3    1.20
              *

1989          KK    WWBR   BASIN
1990          KM   Runoff hydrograph for subbasin WWBR near the intersection of Westwing Parkway
1991          KM   and Black Rock Boulevard
1992          BA   0.184
1993          LG    0.22    0.19    7.00    0.10      25
1994          UC   0.470   0.294
1995          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
1996          UA     100
              *

1                                        HEC-1 INPUT                                        PAGE 53

LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


1997          KK  ERWWBR  DIVERT
1998          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
1999          KM   retention developed after 1990 in subbasin WWBR
2000          DT   XWWBR    12.2     0.0
2001          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
2002          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

2003          KK   RWWRS   ROUTE
2004          KM   Route runoff hydrograph at subbasin WWBR to combination point CWWRS
2005          RS       2    FLOW
2006          RC   0.045   0.035   0.045    2599  0.0063    0.00
2007          RX    0.00    0.00   19.00   25.00   30.00   36.00   55.00   55.00
2008          RY    4.10    3.10    3.00    0.00    0.00    3.00    3.10    4.10
              *

2009          KK    WWRS   BASIN
2010          KM   Runoff hydrograph for subbasin WWRS near the intersection of Westwing Parkway
2011          KM   and Rock Springs wash
2012          BA   0.144
2013          LG    0.20    0.26    4.30    0.44      32
2014          UC   0.707   0.610
2015          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
2016          UA     100
              *

2017          KK  ERWWRS  DIVERT
2018          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
2019          KM   retention developed after 1990 in subbasin WWRS
2020          DT   XWWRS     7.1     0.0
2021          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
2022          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

2023          KK   CWWRS COMBINE
2024          KM   Combine route RWWRS and subbasin WWRS
2025          HC       2    0.33
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                *
2026            KK   RJMRS    ROUTE
2027            KM   Route runoff hydrograph at combination point CWRS to combination point CJMRS
2028            RS       2     FLOW
2029            RC   0.045   0.035   0.045    4005  0.0060    0.00
2030            RX    0.00    0.00   40.00   50.00   60.00   70.00  110.00  110.00
2031            RY    6.20    5.20    5.00    0.00    0.00    5.00    5.20    6.20
                *
2032            KK    JMRS    BASIN
2033            KM   Runoff hydrograph for subbasin JMRS near the intersection of Jomax Road and
2034            KM   Rock Springs wash
2035            BA   0.567
2036            LG    0.20    0.31    5.30    0.20      18
2037            UC   1.052   0.708
2038            UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
1                                          HEC-1 INPUT                                          PAGE 54
LINE            ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10
2039            UA     100
                *
2040            KK  ERJMRS  DIVERT
2041            KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
2042            KM   retention developed after 1990 in subbasin JMRS
2043            DT   XJMRS     27.7      0.0
2044            DI     0.0 50000.0      0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
2045            DQ     0.0 50000.0      0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
                *
2046            KK   CJMRS COMBINE
2047            KM   Combine route RJMRS and subbasin JMRS
2048            HC       2    0.90
                *
2049            KK  RHVRSB    ROUTE
2050            KM   Route runoff hydrograph at combination point CJMRS to combination point CHVRS
2051            RS       3     FLOW
2052            RC   0.045   0.035   0.045    5791  0.0051    0.00
2053            RX    0.00    0.00   19.00   25.00   30.00   36.00   55.00   55.00
2054            RY    4.10    3.10    3.00    0.00    0.00    3.00    3.10    4.10
                *
2055            KK    83RS    BASIN
2056            KM   Runoff hydrograph for subbasin 83RS near the intersection of 83rd Avenue and
2057            KM   Rock Springs wash
2058            BA   0.638
2059            LG    0.18    0.30    4.50    0.30      38
2060            UC   0.655   0.277
2061            UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
2062            UA     100
                *
2063            KK  ER83RS  DIVERT
2064            KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
2065            KM   retention developed after 1990 in subbasin 83RS
2066            DT   X83RS     27.5      0.0
2067            DI     0.0 50000.0      0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
2068            DQ     0.0 50000.0      0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
                *
2069            KK  RHVRSA    ROUTE
2070            KM   Route runoff hydrograph at subbasin 83RS to combination point CHVRS
2071            RS       3     FLOW
2072            RC   0.045   0.035   0.045    6390  0.0071    0.00
2073            RX    0.00    0.00   40.00   50.00   60.00   70.00  110.00  110.00
2074            RY    6.20    5.20    5.00    0.00    0.00    5.00    5.20    6.20
                *
1                                          HEC-1 INPUT                                          PAGE 55
LINE            ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10
2075            KK    HVRS    BASIN
2076            KM   Runoff hydrograph for subbasin HVRS near the intersection of Happy Valley
2077            KM   Road and Rock Springs wash
2078            BA   0.630
2079            LG    0.10    0.35    4.10    0.38       1
2080            UC   1.500   1.017
2081            UA       0     3.0     5.0     8.0    12.0    20.0    43.0    75.0    90.0    96.0
2082            UA     100
                *
2083            KK  ERHVRS  DIVERT
2084            KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
2085            KM   retention developed after 1990 in subbasin HVRS
2086            DT   XHVRS     1.1      0.0
2087            DI     0.0 50000.0      0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
2088            DQ     0.0 50000.0      0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
                *
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2089            KK   CHVRS COMBINE
2090            KM   Combine route RHVRSA, route RHVRSB, and subbasin HVRS
2091            HC       3    2.16
                *
2092            KK  RCL77B    ROUTE
2093            KM   Route runoff hydrograph at combination point CHVRS to combination point CCL77
2094            RS       1     FLOW
2095            RC   0.045   0.035   0.045    2864  0.0057    0.00
2096            RX    0.00  480.00  500.00  518.00  544.00  609.00  900.00 1121.00
2097            RY   11.00   10.00    0.00    0.20   10.00   11.00   12.00   13.00
                *
2098            KK    HV83    BASIN
2099            KM   Runoff hydrograph for subbasin HV83 near the intersection of Happy Valley
2100            KM   Road and 83rd Avenue
2101            BA   0.035
2102            LG    0.10    0.35    4.15    0.37      20
2103            UC   0.434   0.456
2104            UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
2105            UA     100
                *
2106            KK  RCL77A    ROUTE
2107            KM   Route runoff hydrograph at subbasin HV83 to combination point CCL77
2108            RS       2     FLOW
2109            RC   0.045   0.035   0.045    3884  0.0111    0.00
2110            RX    0.00    0.00   19.00   25.00   30.00   36.00   55.00   55.00
2111            RY    4.10    3.10    3.00    0.00    0.00    3.00    3.10    4.10
                *
1                                          HEC-1 INPUT                                          PAGE 56
LINE            ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10
2112            KK    CL77    BASIN
2113            KM   Runoff hydrograph for subbasin CL77 near the intersection of Calle Lejos Road
2114            KM   and 77th Avenue
2115            BA   0.316
2116            LG    0.24    0.31    4.40    0.34       6
2117            UC   0.870   0.557
2118            UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
2119            UA     100
                *
2120            KK  ERCL77  DIVERT
2121            KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
2122            KM   retention developed after 1990 in subbasin CL77
2123            DT   XCL77     12.3      0.0
2124            DI     0.0 50000.0      0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
2125            DQ     0.0 50000.0      0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
                *
2126            KK   CCL77 COMBINE
2127            KM   Combine route RCL77A, route RCL77B, and subbasin CL77
2128            HC       3    2.51
                *
2129            KK    RPP77    ROUTE
2130            KM   Route runoff hydrograph at combination point CCL77 to combination point CPP77
2131            RS       2     FLOW
2132            RC   0.045   0.035   0.045    2947  0.0041    0.00
2133            RX    0.00  480.00  500.00  518.00  544.00  609.00  900.00 1121.00
2134            RY   11.00   10.00    0.00    0.20   10.00   11.00   12.00   13.00
                *
2135            KK     PP77    BASIN
2136            KM   Runoff hydrograph for subbasin PP77 near the intersection of Pinnacle Peak
2137            KM   Road and 77th Avenue
2138            BA   0.270
2139            LG    0.27    0.30    4.20    0.39       7
2140            UC   1.363   1.248
2141            UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
2142            UA     100
                *
2143            KK  ERPP77  DIVERT
2144            KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
2145            KM   retention developed after 1990 in subbasin PP77
2146            DT   XPP77      0.6      0.0
2147            DI     0.0 50000.0      0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
2148            DQ     0.0 50000.0      0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
                *
1                                          HEC-1 INPUT                                          PAGE 57
LINE            ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10
2149            KK   CPP77 COMBINE
2150            KM   Combine route RPP77 and subbasin PP77
2151            HC       2    2.78
                *
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KK  RWLNR   ROUTE
KM  Route runoff hydrograph at combination point CPP77 to combination point CNR04
RS     2    FLOW
RC  0.045   0.035   0.045    3822  0.0048     0.00
RX   0.00  256.00  372.00  397.00  407.00  419.00  464.00  800.00
RY  12.00   10.00    8.00    0.00    0.00    6.00    8.00   12.00
*

KK   WLNR   BASIN
KM  Runoff hydrograph for subbasin WLNR near the intersection of Williams Road
KM  New River
BA  0.390
LG   0.28    0.31    4.70    0.27       7
UC  1.211   0.801
UA      0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
UA    100
*

KK  CNR04 COMBINE
KM  Combine route RWLNR and subbasin WLNR
HC      4    9.84
*

KK   DV75   BASIN
KM  Runoff hydrograph for subbasin DV75 near the intersection of Deer Valley Road
KM  and 75th Avenue
BA  0.501
LG   0.24    0.25    4.90    0.26       34
UC  1.354   1.051
UA      0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
UA    100
*

KK  ERDV75  DIVERT
KM  Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
KM  retention developed after 1990 in subbasin DV75
DT  XDV75     22.6      0.0
DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
*

KK  DWDVNR  DIVERT
KM  Divert remaining runoff hydrograph at subbasin DV75 west to combination point
KM  CNR05
DT  DSLO75      0.0      0.0
DI      0.0      1.0     92.0    274.0    365.0    456.0    546.0    700.0    800.0   1000.0
DQ      0.0      0.0     26.0     70.0     87.0    109.0    131.0    167.0    191.0    239.0
*
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LINE  ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

KK  RDVNR   ROUTE
KM  Route diversion DWDVNR west to combination point CNR05
RS     2    FLOW
RC  0.045   0.015   0.045    2707  0.0015     0.00
RX   0.00    0.00   19.00   25.00   30.00   36.00   55.00   55.00
RY   4.10    3.10    3.00    0.00    0.00    3.00    3.10    4.10
*

KK   DVNR   BASIN
KM  Runoff hydrograph for subbasin DVNR near the intersection of Deer Valley Road
KM  and New River
BA  0.401
LG   0.23    0.26    4.35    0.34       33
UC  1.376   0.965
UA      0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
UA    100
*

KK  CNR05 COMBINE
KM  Combine route RDVNR and subbasin DVNR
HC      3   10.50
*

KK   DV67   BASIN
KM  Runoff hydrograph for subbasin DV67 near the intersection of Deer Valley Road
KM  and 67th Avenue
BA  0.503
LG   0.18    0.29    4.55    0.32       38
UC  0.518   0.205
UA      0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
UA    100
*

KK  SRDV67 STORAGE
KM  Storage route runoff hydrograph from combination point CDV67 thru regional
KM    detention basin located in subbasin DV67 (Arrowhead Lakes 6, 7, and 11-13)
KM  Stage-storage-discharge data from Glendale/Peoria ADMPU Arrowhead Lakes
KM    Hydrology Report (Volume AL), 2001
RS     1    STOR
SV          4.49    9.21   14.15   19.27   24.51   29.86   35.24   40.67
```



```
SQ         91.00  285.00  566.00  886.00 1243.00 1638.00 2064.00 2523.00
SE          0.50    1.00    1.50    2.00    2.50    3.00    3.50    4.00
*

KK   LO67   BASIN
KM  Runoff hydrograph for subbasin LO67 near the intersection of SR Loop 101 and
KM  67th Avenue
BA  1.217
LG   0.20    0.25    5.70    0.20       33
UC  1.345   0.643
UA      0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
UA    100
*
```



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LINE  ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

KK   CLO67 COMBINE
KM  Combine route RLO67 and subbasin LO67
HC      2    1.72
*

KK  SRLO67 STORAGE
KM  Storage route runoff hydrograph from combination point CLO67 thru regional
KM    detention basin located in subbasin LO67 (Arrowhead Lakes 8-10 and 14-20)
KM  Stage-storage-discharge data from Glendale/Peoria ADMPU Arrowhead Lakes
KM    Hydrology Report (Volume AL), 2001
RS     1    STOR
SV         12.86   26.19   39.86   53.86   69.64   84.08  100.17  114.88  149.69
SV  188.50
SQ     9      41     100     175     245     326     396     502     657     703
SQ   749
SE  0.00    0.50    1.00    1.50    2.00    2.50    3.00    3.50    4.00    4.50
SE  5.00
*

KK   LO75   BASIN
KM  Runoff hydrograph for subbasin LO75 near the intersection of SR Loop 101 and
KM  75th Avenue
BA  0.970
LG   0.24    0.25    6.00    0.16       34
UC  1.342   0.691
UA      0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
UA    100
*

KK  ERLO75  DIVERT
KM  Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
KM  retention developed after 1990 in subbasin LO75
DT  XLO75     34.3      0.0
DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
*

KK   CLO75 COMBINE
KM  Combine storage route SRLO67 and subbasin LO75
HC      2    2.69
*

KK  SRLO75 STORAGE
KM  Storage route runoff hydrograph from combination point CLO75 thru regional
KM    detention basin located in subbasin LO75 (Arrowhead Lakes L21AP1 to L21AP5)
KM  Stage-storage-discharge data from Glendale/Peoria ADMPU Arrowhead Lakes
KM    Hydrology Report (Volume AL), 2001
RS     1    STOR
SV         12.58   31.24   52.02
SQ         46.00  418.00  768.00
SE          0.50    1.00    1.50
*
```



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LINE  ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

KK  DRLO75RETRIEVE
KM  Retrieve divert DROL75 from subbasin DV75 and divert to combination point
KM  CLO75
DR  DSLO75
*

KK   RLO75   ROUTE
KM  Route diversion DRLO75 to combination point CLO75
RS     7    FLOW
RC  0.035   0.015   0.035    7499  0.0047     0.00
RX   0.00    0.00   13.00   13.00   55.00   55.00   68.00   68.00
RY   3.00    0.63    0.50    0.00    0.00    0.50    0.63    3.00
*

KK  CILO75 COMBINE
KM  Combine route RLO75A and storage route SRLO75
HC      2    2.94
*
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2285          KK  RBYNRB    ROUTE
2286          KM   Route runoff hydrograph at combination point CLO75 to combination point CBYNR
2287          RS       1     FLOW
2288          RC   0.045    0.015    0.045     3176  0.0058     0.00
2289          RX    0.00     3.00     5.00    29.00   41.00    65.00   67.00   70.00
2290          RY   13.00    12.00    12.00     0.00    0.00    12.00   12.00   13.00
              *
2291          KK    PP81    BASIN
2292          KM   Runoff hydrograph for subbasin PP81 near the intersection of Pinnacle Peak
2293          KM   Road and 81st Avenue
2294          BA   0.197
2295          LG    0.30     0.25     6.00     0.18       15
2296          UC   0.890    0.523
2297          UA       0      5.0     16.0     30.0     65.0     77.0    84.0    90.0    94.0    97.0
2298          UA     100
              *
2299          KK  ERPP81  DIVERT
2300          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
2301          KM   retention developed after 1990 in subbasin PP81
2302          DT   XPP81     12.8      0.0
2303          DI     0.0 50000.0      0.0      0.0      0.0      0.0     0.0     0.0     0.0     0.0
2304          DQ     0.0 50000.0      0.0      0.0      0.0      0.0     0.0     0.0     0.0     0.0
              *
2305          KK   RWL83    ROUTE
2306          KM   Route runoff hydrograph at subbasin PP81 to combination point CWL83
2307          RS       4     FLOW
2308          RC   0.045    0.035    0.045     3222  0.0050     0.00
2309          RX    0.00     0.00    19.00    25.00   30.00    36.00   55.00   55.00
2310          RY    4.10     3.10     3.00     0.00    0.00     3.00    3.10    4.10
              *
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LINE          ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

2311          KK    WL83    BASIN
2312          KM   Runoff hydrograph for subbasin WL83 near the intersection of Williams Road
2313          KM   and 83rd Avenue
2314          BA   0.125
2315          LG    0.30     0.10    11.20     0.02       15
2316          UC   1.029    0.982
2317          UA       0      5.0     16.0     30.0     65.0     77.0    84.0    90.0    94.0    97.0
2318          UA     100
              *
2319          KK  ERWL83  DIVERT
2320          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
2321          KM   retention developed after 1990 in subbasin WL83
2322          DT   XWL83     4.3      0.0
2323          DI     0.0 50000.0      0.0      0.0      0.0      0.0     0.0     0.0     0.0     0.0
2324          DQ     0.0 50000.0      0.0      0.0      0.0      0.0     0.0     0.0     0.0     0.0
              *
2325          KK   CWL83 COMBINE
2326          KM   Combine route RW183 and subbasin WL83
2327          HC       2    0.32
              *
2328          KK    HV87    BASIN
2329          KM   Runoff hydrograph for subbasin HV87 near the intersection of Happy Valley
2330          KM   Road and 87th Avenue
2331          BA   0.285
2332          LG    0.10     0.35     4.00     0.39       35
2333          UC   0.424    0.173
2334          UA       0      3.0      5.0      8.0     12.0     20.0    43.0    75.0    90.0    96.0
2335          UA     100
              *
2336          KK   RPP87    ROUTE
2337          KM   Route runoff hydrograph at subbasin HV87 to combination point CPP87
2338          RS       1     FLOW
2339          RC   0.045    0.020    0.045     5446  0.0172     0.00
2340          RX    0.00     0.00    40.00    50.00   60.00    70.00  110.00  110.00
2341          RY    6.20     5.20     5.00     0.00    0.00     5.00    5.20    6.20
              *
2342          KK    PP87    BASIN
2343          KM   Runoff hydrograph for subbasin PP87 near the intersection of Pinnacle Peak
2344          KM   Road and 87th Avenue
2345          BA   0.981
2346          LG    0.25     0.28     4.45     0.35       10
2347          UC   0.942    0.359
2348          UA       0      5.0     16.0     30.0     65.0     77.0    84.0    90.0    94.0    97.0
2349          UA     100
              *
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LINE          ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10
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2350          KK  ERPP87  DIVERT
2351          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
2352          KM   retention developed after 1990 in subbasin PP87
2353          DT   XPP87     29.0      0.0
2354          DI     0.0 50000.0      0.0      0.0      0.0      0.0     0.0     0.0     0.0     0.0
2355          DQ     0.0 50000.0      0.0      0.0      0.0      0.0     0.0     0.0     0.0     0.0
              *
2356          KK   CPP87 COMBINE
2357          KM   Combine route RPP87 and subbasin PP87
2358          HC       2    1.27
              *
2359          KK  SRPP87 STORAGE
2360          KM   Storage route runoff hydrograph from combination point CPP87 through the
2361          KM     regional detention basin located near the intersection of Pinnacle Peak Rd
2362          KM     and 87th Avenue
2363          KM   Stage-storage-discharge data from 83rd Avenue/Pinnacle Peak Road Drainage
2364          KM     Improvements Final Drainage Report, 2006
2365          RS       1     STOR
2366          SV              0.81     3.43     7.18    11.20    15.45    19.87   24.47   29.24   32.60
2367          SV    34.10    36.28    38.47
2368          SQ                     34.13    53.39    68.62    81.63    93.17  103.66  113.33  120.0
2369          SQ   208.0    499.0    814.0
2370          SE  1313.0 1314.00 1315.00 1316.00 1317.00 1318.00 1319.00 1320.00 1321.00  1321.7
2371          SE  1322.0   1322.5   1322.9
              *
2372          KK   DPP87  DIVERT
2373          KM   Divert calculated full flow capacity of 128 cfs into 48-inch storm drain
2374          KM   pipe at the intersection of Pinnacle Peak Road and 87th Avenue
2375          DT  DPPP87      0.0    128.0
2376          DI     0.0 50000.0      0.0      0.0      0.0      0.0     0.0     0.0     0.0     0.0
2377          DQ     0.0 50000.0      0.0      0.0      0.0      0.0     0.0     0.0     0.0     0.0
              *
2378          KK  PRPP87RETRIEVE
2379          KM   Retrieve full flow capacity of 128 cfs from 48-inch storm drain pipe at the
2380          KM   intersection of Pinnacle Peak Road and 87th Avenue
2381          DR  DPPP87
              *
2382          KK  RP87PP    ROUTE
2383          KM   Route full flow capacity of 128 cfs through 48-inch storm drain pipe in
2384          KM   87th Avenue to the intersection of Pinnacle Peak Road and 87th Avenue
2385          RK    1251  0.0079    0.015             CIRC    4.000
              *
2386          KK    PP91    BASIN
2387          KM   Runoff hydrograph for subbasin PP91 near the intersection of Pinnacle Peak
2388          KM   Road and 91st Avenue
2389          BA   0.161
2390          LG    0.30     0.25     4.20     0.44       15
2391          UC   1.224    1.042
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2392          UA       0      5.0     16.0     30.0     65.0     77.0    84.0    90.0    94.0    97.0
2393          UA     100
              *
2394          KK  ERPP91  DIVERT
2395          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
2396          KM   retention developed after 1990 in subbasin PP91
2397          DT   XPP91      7.7      0.0
2398          DI     0.0 50000.0      0.0      0.0      0.0      0.0     0.0     0.0     0.0     0.0
2399          DQ     0.0 50000.0      0.0      0.0      0.0      0.0     0.0     0.0     0.0     0.0
              *
2400          KK  DPPP91  DIVERT
2401          KM   Divert calculated full flow capacity of 88 cfs into 54-inch storm drain
2402          KM   pipe at the intersection of Pinnacle Peak Road and 91st Avenue
2403          DT   DPP91      0.0      0.0
2404          DI     0.0     88.0     88.1 50000.0      0.0     0.0     0.0     0.0     0.0     0.0
2405          DQ     0.0      0.0      0.1 49912.0      0.0     0.0     0.0     0.0     0.0     0.0
              *
              * KKRPPP87   ROUTE
              * KM Route full flow capacity of 88 cfs through 54-inch storm drain pipe in
              * KM Pinnacle Peak Road to the intersection of Pinnacle Peak Road and 87th Avenu
              * RK  2635  0.0020    0.015             CIRC    4.500
              *
2406          KK   CPPP87 COMBINE
2407          KM   Combine pipe flow DPPP91 with pipe return flow PRPP87 at the intersection of
2408          KM   Pinnacle Peak Road and 87th Avenue
2409          HC       2
              *
2410          KK   RPPP83    ROUTE
2411          KM   Route full flow capacity of 127 cfs through 72-inch storm drain pipe in
2412          KM   Pinnacle Peak Road to the intersection of Pinnacle Peak Road and 83rd Avenue
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2413          RK    1891  0.0009   0.015            CIRC   6.000
              *

2414          KK  CPPP83 COMBINE
2415          KM   Combine pipe flow from combination point CPPP87 with the runoff hydrograph at
2416          KM   combination point CPP87 at the intersection of Pinnacle Peak Road and 83rd
2417          KM   Avenue
2418          HC       2
              *

2419          KK  SRPP83 STORAGE
2420          KM   Storage route runoff hydrograph from combination point CPPP83 through the
2421          KM     regional detention basin located near the intersection of Pinnacle Peak Rd
2422          KM     and 83rd Avenue
2423          KM   Stage-storage-discharge data from 83rd Avenue/Pinnacle Peak Road Drainage
2424          KM     Improvements Final Drainage Report, 2006
2425          RS       1    STOR
2426          SV     0.41    1.96    4.32    6.86    9.60   12.51   15.62   18.93   22.43   26.13
2427          SV    30.04   34.15   38.47   43.00   47.74   52.69
2428          SQ                                    1.03    2.10   11.31   13.59   15.65   17.54
2429          SQ    19.29   20.95   22.51   24.00   25.43   26.79
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2430          SE  1298.0  1299.0  1300.0  1301.0  1302.0  1303.0  1304.0  1305.0  1306.0  1307.0
2431          SE  1308.0  1309.0  1310.0  1311.0  1312.0  1313.0
              *

2432          KK  DP83PP  DIVERT
2433          KM   Divert calculated full flow capacity of 31 cfs into 36-inch storm drain
2434          KM   pipe at the intersection of Pinnacle Peak Road and 83rd Avenue
2435          DT   D83PP      0.0      0.0
2436          DI     0.0     31.0     31.1 50000.0      0.0      0.0      0.0      0.0      0.0      0.0
2437          DQ     0.0      0.0      0.1 49969.0      0.0      0.0      0.0      0.0      0.0      0.0
              *
              * KKRP83WL   ROUTE
              * KM Route full flow capacity of 31 cfs through 36-inch storm drain pipe in
              * KM 83rd Avenue to the intersection of Williams Road and 83rd Avenue
              * RK  2980  0.0022   0.015            CIRC   3.000
              *

2438          KK  CPWL83 COMBINE
2439          KM   Combine pipe flow DP83PP with the runoff hydrograph at combination point
2440          KM   CWL83 at the intersection of Williams Road and 83rd Avenue
2441          HC       2
              *

2442          KK   RDV83   ROUTE
2443          KM   Route runoff hydrograph at combination point CPWL83 to combination point
2444          KM   CDV83
2445          RS       5    FLOW
2446          RC   0.045   0.015   0.045    2933  0.0051    0.00
2447          RX    0.00    0.00   40.00   50.00   60.00   70.00  110.00  110.00
2448          RY    6.20    5.20    5.00    0.00    0.00    5.00    5.20    6.20
              *

2449          KK    DV83   BASIN
2450          KM   Runoff hydrograph for subbasin DV83 near the intersection of Deer Valley
2451          KM   Road and 83rd Avenue
2452          BA   0.107
2453          LG    0.25    0.10   11.20    0.02      30
2454          UC   1.142   1.282
2455          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
2456          UA     100
              *

2457          KK  ERDV83  DIVERT
2458          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
2459          KM   retention developed after 1990 in subbasin DV83
2460          DT   XDV83     1.7      0.0
2461          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
2462          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

2463          KK   CDV83 COMBINE
2464          KM   Combine route RDV83 and subbasin DV83
2465          HC       2    0.43
              *

2466          KK  RBYNRA   ROUTE
2467          KM   Route runoff hydrograph at combination point CDV83 to combination point CBYNR
2468          RS       6    FLOW
2469          RC   0.045   0.035   0.045    6713  0.0060    0.00
2470          RX    0.00    0.00   19.00   25.00   30.00   36.00   55.00   55.00
2471          RY    4.10    3.10    3.00    0.00    0.00    3.00    3.10    4.10
              *

2472          KK    BYNR   BASIN
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2473          KM   Runoff hydrograph for subbasin BYNR near the intersection of Beardsley Road
2474          KM   Road and New River
2475          BA   1.034
2476          LG    0.22    0.27    5.80    0.17      27
2477          UC   1.430   0.779
2478          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
2479          UA     100
              *

2480          KK  ERBYNR  DIVERT
2481          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
2482          KM   retention developed after 1990 in subbasin BYNR
2483          DT   XBYNR      4.5      0.0
2484          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
2485          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

2486          KK   CNR06 COMBINE
2487          KM   Combine route RBYNRA, route RBYNRB, and subbasin BYNR
2488          HC       4   14.90
              *

2489          KK  DR83PPRETRIEVE
2490          KM   Retrieve divert DR83PP from combination point CPPP83 and divert to
2491          KM   combination point CDV87
2492          DR   D83PP
              *

2493          KK   RDV87   ROUTE
2494          KM   Route diversion retrieval DR83PP to combination point CDV87
2495          RS       1    FLOW
2496          RC   0.035   0.015   0.035    5316  0.0063    0.00
2497          RX    0.00    0.00   12.50   12.50   62.50   62.50   75.00   75.00
2498          RY    3.00    0.62    0.50    0.00    0.00    0.50    0.62    3.00
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

2499          KK    DV87   BASIN
2500          KM   Runoff hydrograph for subbasin DV87 near the intersection of Deer Valley Road
2501          KM   and 87th Avenue
2502          BA   1.004
2503          LG    0.30    0.17    6.80    0.13      15
2504          UC   1.083   0.406
2505          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
2506          UA     100
              *

2507          KK  ERDV87  DIVERT
2508          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
2509          KM   retention developed after 1990 in subbasin DV87
2510          DT   XDV87      5.3      0.0
2511          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
2512          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

2513          KK   CDV87 COMBINE
2514          KM   Combine route RDV87 and subbasin DV87
2515          HC       2    2.27
              *

2516          KK   RBY87   ROUTE
2517          KM   Route runoff hydrograph at combination point CDV87 to combination point CBY87
2518          RS       2    FLOW
2519          RC   0.045   0.035   0.045    6699  0.0045    0.00
2520          RX    0.00    0.00   55.00   75.00  100.00  120.00  175.00  175.00
2521          RY   11.20   10.20   10.00    0.00    0.00   10.00   10.20   11.20
              *

2522          KK    BY87   BASIN
2523          KM   Runoff hydrograph for subbasin BY87 near the intersection of Beardsley Road
2524          KM   and 87th Avenue
2525          BA   0.959
2526          LG    0.24    0.15    8.00    0.08      33
2527          UC   1.241   0.627
2528          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
2529          UA     100
              *

2530          KK  ERBY87  DIVERT
2531          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
2532          KM   retention developed after 1990 in subbasin BY87
2533          DT   XBY87     76.7      0.0
2534          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
2535          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *
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2536          KK   CBY87 COMBINE
2537          KM   Combine route RBY87 and subbasin BY87
2538          HC       2    3.23
              *

2539          KK   RUH87   ROUTE
2540          KM   Route runoff hydrograph at combination point CBY87 to combination point CUH87
2541          RS       3    FLOW
2542          RC   0.045   0.035   0.045    6701  0.0037    0.00
2543          RX    0.00    0.00   40.00   50.00   60.00   70.00  110.00  110.00
2544          RY    6.20    5.20    5.00    0.00    0.00    5.00    5.20    6.20
              *

2545          KK    UH87   BASIN
2546          KM   Runoff hydrograph for subbasin UH87 near the intersection of Union Hills
2547          KM   Drive and 87th Avenue
2548          BA   0.998
2549          LG    0.21    0.15    7.60    0.10      26
2550          UC   1.143   0.549
2551          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
2552          UA     100
              *

2553          KK  ERUH87  DIVERT
2554          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
2555          KM   retention developed after 1990 in subbasin UH87
2556          DT   XUH87    71.9     0.0
2557          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
2558          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

2559          KK   CUH87 COMBINE
2560          KM   Combine route RUH87 and subbasin UH87
2561          HC       2    4.23
              *

2562          KK  DSBLNR  DIVERT
2563          KM   Divert remaining runoff hydrograph from combination point CUH87 south to
2564          KM   combination point CBLNR
2565          DT  DSBL91      0.0     0.0
2566          DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
2567          DQ     0.0    59.0   118.0   295.0   590.0  1180.0  2360.0  5900.0 11800.0 29500.0
              *

2568          KK  DPUHNR  DIVERT
2569          KM   Divert calculated full flow capacity of 50 cfs into 42-inch storm drain
2570          KM   pipe at the intersection of Union Hills Drive and 87th Avenue
2571          DT   DUHNR      0.0     0.0
2572          DI     0.0    50.0    50.1 50000.0     0.0     0.0     0.0     0.0     0.0     0.0
2573          DQ     0.0     0.0     0.1 49950.0     0.0     0.0     0.0     0.0     0.0     0.0
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

2574          KK  RPUHNR   ROUTE
2575          KM   Route full flow capacity of 50 cfs through 42-inch storm drain pipe in
2576          KM   Union Hills Drive to the intersection of Union Hills Drive and New River
2577          RK    1703  0.0025   0.015            CIRC   3.500
              *

2578          KK    UHNR   BASIN
2579          KM   Runoff hydrograph for subbasin UHNR near the intersection of Union Hills
2580          KM   Drive and New River
2581          BA   0.386
2582          LG    0.14    0.29    4.60    0.28      40
2583          UC   1.168   0.893
2584          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
2585          UA     100
              *

2586          KK  ERUHNR  DIVERT
2587          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
2588          KM   retention developed after 1990 in subbasin UHNR
2589          DT   XUHNR      0.1     0.0
2590          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
2591          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

2592          KK   CNR07 COMBINE
2593          KM   Combine route RPUHNR, and subbasin UHNR
2594          HC       3   15.29
              *

2595          KK  DRUHNRRETRIEVE
2596          KM   Retrieve divert DRUHNR from combination point CUH87 and divert to
2597          KM   combination point CNR08
2598          DR   DUHNR
              *

2599          KK   RBLNR   ROUTE
2600          KM   Route diversion retrieval DRUHNR to combination point CNR08
```



```
2601          RS       1    FLOW
2602          RC   0.035   0.015   0.035    2700  0.0028    0.00
2603          RX    0.00    0.00    7.00    7.00   43.00   43.00   50.00   50.00
2604          RY    3.00    0.57    0.50    0.00    0.00    0.50    0.57    3.00
              *

2605          KK    BLNR   BASIN
2606          KM   Runoff hydrograph for subbasin BLNR near the intersection of Bell Road and
2607          KM   New River
2608          BA   0.603
2609          LG    0.18    0.27    5.20    0.21      44
2610          UC   1.164   0.786
2611          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
2612          UA     100
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

2613          KK  ERBLNR  DIVERT
2614          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
2615          KM   retention developed after 1990 in subbasin BLNR
2616          DT   XBLNR      5.1     0.0
2617          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
2618          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

2619          KK   CNR08 COMBINE
2620          KM   Combine route RBLNR and subbasin BLNR
2621          HC       3   17.63
              *

2622          KK  DRPP91RETRIEVE
2623          KM   Retrieve divert DRPP91 from subbasin PP91 and divert to combination point
2624          KM   CRG93
2625          DR   DPP91
              *

2626          KK   RDV91   ROUTE
2627          KM   Route diversion retrieval DRPP91 to combination point CDV91
2628          RS       1    FLOW
2629          RC   0.035   0.015   0.035    5295  0.0064    0.00
2630          RX    0.00    0.00   16.50   16.50  107.50  107.50  124.00  124.00
2631          RY    3.00    0.66    0.50    0.00    0.00    0.50    0.66    3.00
              *

2632          KK   RRG93   ROUTE
2633          KM   Route runoff hydrograph at route RDV91 to combination point CRG93
2634          RS       1    FLOW
2635          RC   0.045   0.015   0.045    4406  0.0036    0.00
2636          RX    0.00    0.00   19.00   25.00   30.00   36.00   55.00   55.00
2637          RY    4.10    3.10    3.00    0.00    0.00    3.00    3.10    4.10
              *

2638          KK    RG93   BASIN
2639          KM   Runoff hydrograph for subbasin RG93 near the intersection of Rose Garden Lane
2640          KM   93rd Avenue
2641          BA   0.248
2642          LG    0.25    0.25    4.60    0.30      30
2643          UC   1.258   0.911
2644          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
2645          UA     100
              *

2646          KK  ERRG93  DIVERT
2647          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
2648          KM   retention developed after 1990 in subbasin RG93
2649          DT   XRG93      20.3     0.0
2650          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
2651          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *
```



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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

2652          KK   CRG93 COMBINE
2653          KM   Combine route RRG93 and subbasin RG93
2654          HC       2    0.41
              *

2655          KK  DSBY91  DIVERT
2656          KM   Divert remaining runoff hydrograph from combination point CRG93 south to
2657          KM   combination point CBY91
2658          DT  DWRGLP      0.0     0.0
2659          DI     0.0     5.0     9.0    50.0    84.0   113.0   140.0   205.0     0.0     0.0
2660          DQ     0.0     0.0     0.0    35.0    66.0    93.0   118.0   182.0     0.0     0.0
              *

2661          KK   RBY91   ROUTE
2662          KM   Route diversion DSBY91 south to combination point CBY91
2663          RS       9    FLOW
```

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2664          RC   0.045   0.035   0.045    2901  0.0041    0.00
2665          RX    0.00    0.00   19.00   25.00   30.00   36.00   55.00   55.00
2666          RY    4.10    3.10    3.00    0.00    0.00    3.00    3.10    4.10
              *
2667          KK    BY91   BASIN
2668          KM   Runoff hydrograph for subbasin BY91 near the intersection of Beardsley Road
2669          KM   91st Avenue
2670          BA   0.501
2671          LG    0.23    0.25    4.50    0.34      27
2672          UC   0.947   0.436
2673          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
2674          UA     100
              *
2675          KK  ERBY91  DIVERT
2676          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
2677          KM   retention developed after 1990 in subbasin BY91
2678          DT   XBY91    38.6     0.0
2679          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
2680          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *
2681          KK   CBY91 COMBINE
2682          KM   Combine route RBY91 and subbasin BY91
2683          HC       2    0.71
              *
2684          KK   RUH91   ROUTE
2685          KM   Route runoff hydrograph at combination point CBY91 to combination point CUH91
2686          RS       9    FLOW
2687          RC   0.045   0.035   0.045    9978  0.0027    0.00
2688          RX    0.00    0.00   19.00   25.00   30.00   36.00   55.00   55.00
2689          RY    4.10    3.10    3.00    0.00    0.00    3.00    3.10    4.10
              *
1                                      HEC-1 INPUT                                      PAGE 71
LINE          ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10
2690          KK    UH91   BASIN
2691          KM   Runoff hydrograph for subbasin UH91 near the intersection of Union Hills
2692          KM   Drive and 91st Avenue
2693          BA   0.929
2694          LG    0.21    0.25    4.80    0.31      27
2695          UC   1.500   1.066
2696          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
2697          UA     100
              *
2698          KK  ERUH91  DIVERT
2699          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
2700          KM   retention developed after 1990 in subbasin UH91
2701          DT   XUH91     4.0     0.0
2702          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
2703          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *
2704          KK   CUH91 COMBINE
2705          KM   Combine route RUH91 and subbasin UH91
2706          HC       2    1.63
              *
2707          KK  DRBL91RETRIEVE
2708          KM   Retrieve divert DRBL91 from combination point CBL59 and divert to
2709          KM   combination point CIUH91
2710          DR  DSBL91
              *
2711          KK   DUH91  DIVERT
2712          KM   Capacity of storm drain in 89th Avenue and 91st Avenue diverted together.
2713          KM   Divert combined calculated full flow capacity of 454 cfs in the 78-inch storm
2714          KM   drain pipe in 89th Avenue and 129 cfs in the 54-inch storm drain pipe in
2715          KM   91st Avenue. The total calculated combined full flow capacity diverted at the
2716          KM   intersection of 91st Avenue and Union Hills Drive is 583 cfs in an equivalent
2717          KM   diameter pipe of 96 inches
2718          DT  DPUH91     0.0   583.0
2719          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
2720          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *
2721          KK  CIUH91 COMBINE
2722          KM   Combine diversion DUH91 with runoff hydrograph at combination point CUH91
2723          KM   at the intersection of 91st Avenue and Union Hills Drive
2724          HC       2    4.12
              *
2725          KK   RBL91   ROUTE
2726          KM   Route runoff hydrograph at combination point CIUH91 to combination point CBL9
2727          RS       2    FLOW
2728          RC   0.035   0.015   0.035    5280  0.0045    0.00
2729          RX    0.00    0.00   38.50   38.50  210.50  210.50  249.00  249.00
2730          RY    3.00    0.88    0.50    0.00    0.00    0.50    0.88    3.00
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              *
1                                      HEC-1 INPUT                                      PAGE 72
LINE          ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10
2731          KK    BL91   BASIN
2732          KM   Runoff hydrograph for subbasin BL91 near the intersection of Bell Road and
2733          KM   91st Avenue
2734          BA   0.901
2735          LG    0.19    0.16    7.00    0.10      51
2736          UC   1.173   0.606
2737          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
2738          UA     100
              *
2739          KK  ERBL91  DIVERT
2740          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
2741          KM   retention developed after 1990 in subbasin BL91
2742          DT   XBL91     79.1     0.0
2743          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
2744          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *
2745          KK   CBL91 COMBINE
2746          KM   Combine route RBL91 and subbasin BL91
2747          HC       2    5.02
              *
2748          KK  PRUH91RETRIEVE
2749          KM   Retrieve combined full flow capacity of 583 cfs from 96-inch equivalent
2750          KM   diameter pipe at the intersection of Union Hills Drive and 91st Avenue
2751          DR  DPUH91
              *
2752          KK  RP91AT   ROUTE
2753          KM   Route the combined full flow capacity of 583 cfs through an equivalent storm
2754          KM   drain pipe diameter of 96 inches in 91st Avenue to the intersection of
2755          KM   91st Avenue and Athens Street
2756          RK    1467  0.0043   0.015            CIRC   8.000
              *
2757          KK  SRAT91 STORAGE
2758          KM   Storage route pipe flow PRUH91 through the regional detention basin located
2759          KM     in subbasin BL91 near the intersection of Athens Street and 91st Avenue
2760          KM   Storage routing ID S-DET in Glendale/Peoria ADMPU, May 2001
2761          KM   Comments from ADMPU:
2762          KM   * PROPOSED DESERT AMETHYST DETENTION BASIN
2763          KM   * **** LTM: Use design-level storage volume/elevation data provided by Wood
2764          KM   *      Patel. Basin size reduced to accommodate potential landscaping req'mts
2765          RS       1    STOR
2766          SV           0.00    0.04    0.38    1.53    3.87    7.06   10.53   14.03   17.61
2767          SV   21.25  24.973  28.766  32.634  36.576  40.594  44.688  44.689    44.8    44.9
2768          SQ       0      60      68      80      96     117     148     188     237     288
2769          SQ     329     333     337     341     345     348     357     500    1000    1500
2770          SE  1201.6  1203.0  1203.5  1204.0  1204.5  1205.0  1205.5  1206.0  1206.5  1207.0
2771          SE  1207.5  1208.0  1208.5  1209.0  1209.5  1210.0  1210.5  1210.6  1211.0  1211.3
              *
1                                      HEC-1 INPUT                                      PAGE 73
LINE          ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10
2772          KK  RP91BL   ROUTE
2773          KM   Route full flow capacity of 311 cfs through 78-inch storm drain pipe in
2774          KM   91st Avenue to the intersection of Bell Road and 91st Avenue
2775          RK    3333  0.0035   0.015            CIRC   6.500
              *
2776          KK  CPBL91 COMBINE
2777          KM   Combine pipe return PRUH91 with the runoff hydrograph at combination point
2778          KM   CBL91 at the intersection of Bell Road and 87th Avenue
2779          HC       2
              *
2780          KK  DSGWNR  DIVERT
2781          KM   Divert remaining runoff hydrograph from combination point CPBL91 south to
2782          KM   combination point CNR09
2783          DT  DSGW91     0.0     0.0
2784          DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
2785          DQ     0.0    58.0   116.0   290.0   580.0  1160.0  2320.0  5800.0 11600.0 29000.0
              *
2786          KK  DPBLNR  DIVERT
2787          KM   Divert calculated full flow capacity of 159 cfs into 72-inch storm drain
2788          KM   pipe at the intersection of Bell Road and 87th Avenue
2789          DT   DBLNR     0.0     0.0
2790          DI     0.0   159.0   159.1 50000.0     0.0     0.0     0.0     0.0     0.0     0.0
2791          DQ     0.0     0.0     0.1 49841.0     0.0     0.0     0.0     0.0     0.0     0.0
              *
2792          KK  RPBLNR   ROUTE
2793          KM   Route full flow capacity of 159 cfs through 72-inch storm drain pipe in
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2794          KM   Bell Road to the intersection of Bell Road and New River
2795          RK    1896  0.0014    0.015             CIRC    6.000
              *

2796          KK  CPNR08 COMBINE
2797          KM   Combine pipe flow DPBLNR with the runoff hydrograph at combination point
2798          KM   CNR08 at the intersection of Bell Road and New River
2799          HC        2   17.63
              *

2800          KK  DRBLNRRETRIEVE
2801          KM   Retrieve divert DRBLNR from combination point CPBL91 and divert to
2802          KM   combination point CNR09
2803          DR   DBLNR
              *

2804          KK  RGWNRB    ROUTE
2805          KM   Route diversion retrieval DRBLNR to combination point CNR09
2806          RS        4     FLOW
2807          RC   0.035    0.015    0.035     9106  0.0029     0.00
2808          RX    0.00     0.00    12.50    12.50   62.50    62.50    75.00    75.00
2809          RY    3.00     0.62     0.50     0.00    0.00     0.50     0.62     3.00
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9.....10

2810          KK  DRGW91RETRIEVE
2811          KM   Retrieve divert DRGW91 from combination point CPBL91 and divert to
2812          KM   combination point CGW91
2813          DR  DSGW91
              *

2814          KK   RGW91    ROUTE
2815          KM   Route diversion retrieval DRGW91 to combination point CGW91
2816          RS        3     FLOW
2817          RC   0.035    0.015    0.035     5450  0.0039     0.00
2818          RX    0.00     0.00    16.50    16.50  107.50   107.50   124.00   124.00
2819          RY    3.00     0.66     0.50     0.00    0.00     0.50     0.66     3.00
              *

2820          KK    GW91    BASIN
2821          KM   Runoff hydrograph for subbasin GW91 near the intersection of Greenway Road
2822          KM   91st Avenue
2823          BA   0.477
2824          LG    0.20     0.25     5.60     0.19       42
2825          UC   1.076    0.626
2826          UA       0      5.0     16.0     30.0     65.0     77.0     84.0     90.0     94.0     97.0
2827          UA     100
              *

2828          KK  ERGW91   DIVERT
2829          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
2830          KM   retention developed after 1990 in subbasin GW91
2831          DT   XGW91      22.0      0.0
2832          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
2833          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

2834          KK   CGW91 COMBINE
2835          KM   Combine route RGW91 and subbasin GW91
2836          HC        2    3.40
              *

2837          KK  DEGWNR  DIVERT
2838          KM   Divert remaining runoff hydrograph at combination point CGW91 east to
2839          KM   combination point CNR09
2840          DT  DSTBNR      0.0      0.0
2841          DI     0.0  1350.0  1350.1 50000.0      0.0      0.0      0.0      0.0      0.0      0.0
2842          DQ     0.0     0.0  1350.1 50000.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

2843          KK  RGWNRA    ROUTE
2844          KM   Route diversion DEGWNR east to combination point CNR09
2845          RS        5     FLOW
2846          RC   0.045    0.015    0.045     6001  0.0010     0.00
2847          RX    0.00     0.00    40.00    50.00   60.00    70.00   110.00   110.00
2848          RY    6.20     5.20     5.00     0.00    0.00     5.00     5.20     6.20
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9.....10

2849          KK    GWNR    BASIN
2850          KM   Runoff hydrograph for subbasin GWNR near the intersection of Greenway Road
2851          KM   and New River
2852          BA   0.696
2853          LG    0.18     0.27     4.65     0.29       32
2854          UC   1.384    0.960
2855          UA       0      5.0     16.0     30.0     65.0     77.0     84.0     90.0     94.0     97.0
2856          UA     100
```



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              *

2857          KK  ERGWNR  DIVERT
2858          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
2859          KM   retention developed after 1990 in subbasin GWNR
2860          DT   XGWNR     26.6      0.0
2861          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
2862          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

2863          KK   CNR09 COMBINE
2864          KM   Combine route RGWNRA, route RGWNRB and subbasin
2865          KM   DV87
2866          HC        5   59.19
              *

2867          KK  DRTBNRRETRIEVE
2868          KM   Retrieve divert DRTBNR from combination point CGW91 and divert to
2869          KM   combination point CNR10
2870          DR  DSTBNR
              *

2871          KK   RTBNR    ROUTE
2872          KM   Route diversion retrieval DRTBNR to combination point CNR10
2873          RS        1     FLOW
2874          RC   0.035    0.015    0.035     6342  0.0031     0.00
2875          RX    0.00     0.00    16.50    16.50  107.50   107.50   124.00   124.00
2876          RY    3.00     0.66     0.50     0.00    0.00     0.50     0.66     3.00
              *

2877          KK    TBNR    BASIN
2878          KM   Runoff hydrograph for subbasin TBNR near the intersection of Thunderbird Road
2879          KM   and New River
2880          BA   1.123
2881          LG    0.19     0.24     4.65     0.30       30
2882          UC   1.500    0.707
2883          UA       0      5.0     16.0     30.0     65.0     77.0     84.0     90.0     94.0     97.0
2884          UA     100
              *

2885          KK  ERTBNR  DIVERT
2886          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
2887          KM   retention developed after 1990 in subbasin TBNR
2888          DT   XTBNR     15.5      0.0
2889          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
2890          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9.....10

2891          KK   CNR10 COMBINE
2892          KM   Combine route RTBNR and subbasin TBNR
2893          HC        3   62.01
              *

2894          KK    HV93    BASIN
2895          KM   Runoff hydrograph for subbasin HV93 near the intersection of Happy Valley
2896          KM   Road and 93rd Avenue
2897          BA   0.172
2898          LG    0.24     0.28     4.15     0.42       30
2899          UC   0.545    0.374
2900          UA       0      5.0     16.0     30.0     65.0     77.0     84.0     90.0     94.0     97.0
2901          UA     100
              *

2902          KK  DSPPLP  DIVERT
2903          KM   Divert remaining runoff hydrograph from subbasin HV93 south to combination
2904          KM   point CPPLP
2905          DT  DWHVLP      0.0      0.0
2906          DI     0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0  10000.0  20000.0  50000.0
2907          DQ     0.0     42.0     84.0    210.0    420.0    840.0   1680.0   4200.0   8400.0  21000.0
              *

2908          KK   RPPLP    ROUTE
2909          KM   Route diversion DSPPLP south to combination point CPPLP
2910          RS        4     FLOW
2911          RC   0.035    0.015    0.035     8751  0.0066     0.00
2912          RX    0.00     0.00     9.50     9.50   40.50    40.50    50.00    50.00
2913          RY    3.00     0.60     0.50     0.00    0.00     0.50     0.60     3.00
              *

2914          KK    PPLP    BASIN
2915          KM   Runoff hydrograph for subbasin PPLP near the intersection of Pinnacle Peak
2916          KM   Road and Lake Pleasant Parkway
2917          BA   0.885
2918          LG    0.23     0.28     4.35     0.37       13
2919          UC   1.500    1.083
2920          UA       0      5.0     16.0     30.0     65.0     77.0     84.0     90.0     94.0     97.0
2921          UA     100
              *
```

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2922          KK  ERPPLP  DIVERT
2923          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
2924          KM   retention developed after 1990 in subbasin PPLP
2925          DT   XPPLP    19.3     0.0
2926          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
2927          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *
1                                        HEC-1 INPUT                                        PAGE 77
LINE          ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10


2928          KK   CPPLP COMBINE
2929          KM   Combine route RPPLP and subbasin PPLP
2930          HC       2    0.98
              *

2931          KK  DSDV99  DIVERT
2932          KM   Divert remaining runoff hydrograph from combination point CPPLP south to
2933          KM   combination point CDV99
2934          DT  DWPP03     0.0     0.0
2935          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
2936          DQ     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

2937          KK   DDV99  DIVERT
2938          KM   Divert portion of diversion DSDV99 south to subbasin DVLP and the
2939          KM   remaining flow follow to subbasin DV99 at combination point CDV99
2940          DT  DSDVLP     0.0     0.0
2941          DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
2942          DQ     0.0    33.0    66.0   165.0   330.0   660.0  1320.0  3300.0  6600.0 16500.0
              *

2943          KK    DV99   BASIN
2944          KM   Runoff hydrograph for subbasin DV99 near the intersection of Deer Valley
2945          KM   Road and 99th Avenue
2946          BA   1.217
2947          LG    0.12    0.34    4.40    0.32       4
2948          UC   1.379   0.510
2949          UA       0     3.0     5.0     8.0    12.0    20.0    43.0    75.0    90.0    96.0
2950          UA     100
              *

2951          KK  ERDV99  DIVERT
2952          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
2953          KM   retention developed after 1990 in subbasin DV99
2954          DT   XDV99     7.9     0.0
2955          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
2956          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

2957          KK   CDV99 COMBINE
2958          KM   Combine divert DDV99 and subbasin DV99
2959          HC       2    1.88
              *

2960          KK  RRGLPA   ROUTE
2961          KM   Route runoff hydrograph at combination point CDV99 to combination point CRGLP
2962          RS       1    FLOW
2963          RC   0.045   0.020   0.045    2633  0.0048    0.00
2964          RX    0.00    0.00   40.00   50.00   60.00   70.00  110.00  110.00
2965          RY    6.20    5.20    5.00    0.00    0.00    5.00    5.20    6.20
              *
1                                        HEC-1 INPUT                                        PAGE 78
LINE          ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10


2966          KK  DRRGLPRETRIEVE
2967          KM   Retrieve divert DRRGLP from combination point CRG93 and divert to
2968          KM   combination point CRGLP
2969          DR  DWRGLP
              *

2970          KK  RRGLPB   ROUTE
2971          KM   Route diversion retrieval DRRGLP to combination point CRGLP
2972          RS       6    FLOW
2973          RC   0.045   0.020   0.045    3160  0.0003    0.00
2974          RX    0.00    0.00   19.00   25.00   30.00   36.00   55.00   55.00
2975          RY    4.10    3.10    3.00    0.00    0.00    3.00    3.10    4.10
              *

2976          KK    RGLP   BASIN
2977          KM   Runoff hydrograph for subbasin RGLP near the intersection of Rose Garden Lane
2978          KM   and Lake Pleasant Parkway
2979          BA   0.410
2980          LG    0.26    0.33    4.35    0.33      19
2981          UC   1.072   0.712
2982          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
2983          UA     100
              *

2984          KK  ERRGLP  DIVERT
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2985          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
2986          KM   retention developed after 1990 in subbasin RGLP
2987          DT   XRGLP    28.3     0.0
2988          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
2989          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

2990          KK   CRGLP COMBINE
2991          KM   Combine route RRGLPA, route RRGLPB, and subbasin RGLP
2992          HC       3    2.49
              *

2993          KK  DSBY07  DIVERT
2994          KM   Divert remaining runoff hydrograph from combination point CRGLP south to
2995          KM   combination point CBY07
2996          DT  DWRG07     0.0     0.0
2997          DI     0.0    50.0   100.0   300.0   750.0  1200.0  2000.0     0.0     0.0     0.0
2998          DQ     0.0    40.0    80.0   240.0   600.0  1050.0  1850.0     0.0     0.0     0.0
              *

2999          KK   RBY99   ROUTE
3000          KM   Route diversion DSBY07 south to combination point CBY99
3001          RS       4    FLOW
3002          RC   0.045   0.035   0.045    3939  0.0041    0.00
3003          RX    0.00    1.00   16.00   36.00   51.00  123.00  148.00  648.00
3004          RY   16.00    8.00    0.00    0.00    8.00    8.00    9.00   11.00
              *
1                                        HEC-1 INPUT                                        PAGE 79
LINE          ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10


3005          KK    BY07   BASIN
3006          KM   Runoff hydrograph for subbasin BY07 near the intersection of Beardsley Road
3007          KM   and 87th Avenue
3008          BA   0.513
3009          LG    0.23    0.25    5.10    0.23      34
3010          UC   1.090   0.557
3011          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
3012          UA     100
              *

3013          KK  ERBY07  DIVERT
3014          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
3015          KM   retention developed after 1990 in subbasin BY07
3016          DT   XBY07    36.1     0.0
3017          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
3018          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

3019          KK   CBY07 COMBINE
3020          KM   Combine route RBY99 and subbasin BY07
3021          HC       2    1.76
              *

3022          KK  DSUH99  DIVERT
3023          KM   Divert remaining runoff hydrograph from combination point CBY07 south to
3024          KM   combination point CUH99
3025          DT  DWBYAF     0.0     0.0
3026          DI     0.0    10.0    30.0    50.0   100.0   500.0   700.0  1000.0     0.0     0.0
3027          DQ     0.0    10.0    30.0    50.0   100.0   420.0   450.0   500.0     0.0     0.0
              *

3028          KK   RUH99   ROUTE
3029          KM   Route diversion DSUH99 south to combination point CUH99
3030          RS       3    FLOW
3031          RC   0.045   0.015   0.045    5347  0.0042    0.00
3032          RX    0.00    0.00   19.00   25.00   30.00   36.00   55.00   55.00
3033          RY    4.10    3.10    3.00    0.00    0.00    3.00    3.10    4.10
              *

3034          KK    UH99   BASIN
3035          KM   Runoff hydrograph for subbasin UH99 near the intersection of Union Hills
3036          KM   Drive and 99th Avenue
3037          BA   0.563
3038          LG    0.25    0.15    7.00    0.10      35
3039          UC   1.500   1.114
3040          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
3041          UA     100
              *
1                                        HEC-1 INPUT                                        PAGE 80
LINE          ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10


3042          KK   CUH99 COMBINE
3043          KM   Combine route RUH99 and subbasin UH99
3044          HC       2    1.44
              *

3045          KK  RDW99A   ROUTE
3046          KM   Route runoff hydrograph at combination point CUH99 to combination point CDW99
3047          RS       1    FLOW
```

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3048          RC   0.045   0.015   0.045    2292  0.0029    0.00
3049          RX    0.00    0.00   40.00   50.00   60.00   70.00  110.00  110.00
3050          RY    6.20    5.20    5.00    0.00    0.00    5.00    5.20    6.20
              *

3051          KK    UH97   BASIN
3052          KM   Runoff hydrograph for subbasin UH97 near the intersection of Happy Valley
3053          KM   Road and Palo Verde Drive
3054          BA   0.272
3055          LG    0.21    0.25    5.60    0.22      28
3056          UC   1.277   1.187
3057          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
3058          UA     100
              *

3059          KK  RDW99B   ROUTE
3060          KM   Route runoff hydrograph at subbasin UH97 to combination point CDW99
3061          RS       4    FLOW
3062          RC   0.045   0.035   0.045    2848  0.0034    0.00
3063          RX    0.00    0.00   19.00   25.00   30.00   36.00   55.00   55.00
3064          RY    4.10    3.10    3.00    0.00    0.00    3.00    3.10    4.10
              *

3065          KK    DW99   BASIN
3066          KM   Runoff hydrograph for subbasin DW99 near the intersection of Del Webb
3067          KM   Boulevard and 99th Avenue
3068          BA   0.155
3069          LG    0.18    0.16    7.00    0.12      35
3070          UC   0.974   0.913
3071          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
3072          UA     100
              *

3073          KK   CDW99 COMBINE
3074          KM   Combine route RDW99 and subbasin DW99
3075          HC       3    1.87
              *

3076          KK  DSBL99  DIVERT
3077          KM   Divert remaining runoff hydrograph from combination point CDW99 south to
3078          KM   combination point CBL99
3079          DT  DWDW07      0.0   550.0
3080          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
3081          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

1                                    HEC-1 INPUT                                    PAGE 81

LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

3082          KK   RBL99   ROUTE
3083          KM   Route diversion DSBL99 south to combination point CBL99
3084          RS       2    FLOW
3085          RC   0.035   0.015   0.035    3206  0.0041    0.00
3086          RX    0.00    0.00   16.50   16.50  107.50  107.50  124.00  124.00
3087          RY    3.00    0.66    0.50    0.00    0.00    0.50    0.66    3.00
              *

3088          KK    BL99   BASIN
3089          KM   Runoff hydrograph for subbasin BL99 near the intersection of Bell Road and
3090          KM   99th Avenue
3091          BA   1.133
3092          LG    0.22    0.21    6.40    0.14      36
3093          UC   1.441   0.753
3094          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
3095          UA     100
              *

3096          KK   CBL99 COMBINE
3097          KM   Combine route RBL99 and subbasin BL99
3098          HC       2    2.07
              *

3099          KK   RBN99   ROUTE
3100          KM   Route runoff hydrograph at combination point CBL99 to combination point CBN99
3101          RS       1    FLOW
3102          RC   0.045   0.015   0.045    3854  0.0052    0.00
3103          RX    0.00    0.00   40.00   50.00   60.00   70.00  110.00  110.00
3104          RY    6.20    5.20    5.00    0.00    0.00    5.00    5.20    6.20
              *

3105          KK    BN99   BASIN
3106          KM   Runoff hydrograph for subbasin BN99 near the intersection of Burns Road and
3107          KM   99th Avenue
3108          BA   1.037
3109          LG    0.21    0.25    6.00    0.17      34
3110          UC   1.418   0.695
3111          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
3112          UA     100
              *

3113          KK   CBN99 COMBINE
3114          KM   Combine route RBN99 and subbasin BN99
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3115          HC       2    3.10
              *

3116          KK   RTB99   ROUTE
3117          KM   Route runoff hydrograph at combination point CBN99 to combination point CTB99
3118          RS       3    FLOW
3119          RC   0.045   0.015   0.045    6842  0.0039    0.00
3120          RX    0.00    0.00   40.00   50.00   60.00   70.00  110.00  110.00
3121          RY    6.20    5.20    5.00    0.00    0.00    5.00    5.20    6.20
              *

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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

3122          KK    TB99   BASIN
3123          KM   Runoff hydrograph for subbasin TB99 near the intersection of Thunderbird Road
3124          KM   and 99th Avenue
3125          BA   0.976
3126          LG    0.23    0.25    5.80    0.18      30
3127          UC   1.500   0.883
3128          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
3129          UA     100
              *

3130          KK   CTB99 COMBINE
3131          KM   Combine route RTB99 and subbasin TB99
3132          HC       2    4.08
              *

3133          KK  RGRNRA   ROUTE
3134          KM   Route runoff hydrograph at combination point CTB99 to combination point CNR11
3135          RS       1    FLOW
3136          RC   0.045   0.015   0.045    6205  0.0045    0.00
3137          RX    0.00    0.00   55.00   75.00  100.00  120.00  175.00  175.00
3138          RY   11.20   10.20   10.00    0.00    0.00   10.00   10.20   11.20
              *

3139          KK  DRDW07RETRIEVE
3140          KM   Retrieve divert DRDW07 from combination point CDW99 and divert to
3141          KM   combination point CDW07
3142          DR  DWDW07
              *

3143          KK   RDW07   ROUTE
3144          KM   Route diversion retrieval DRDW07 to combination point CDW07
3145          RS       5    FLOW
3146          RC   0.045   0.015   0.045    4743  0.0007    0.00
3147          RX    0.00    0.00   40.00   50.00   60.00   70.00  110.00  110.00
3148          RY    6.20    5.20    5.00    0.00    0.00    5.00    5.20    6.20
              *

3149          KK    DW07   BASIN
3150          KM   Runoff hydrograph for subbasin DW07 near the intersection of Del Webb
3151          KM   Boulevard and 107th Avenue
3152          BA   0.484
3153          LG    0.19    0.19    6.60    0.16      28
3154          UC   1.500   1.076
3155          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
3156          UA     100
              *

3157          KK   CDW07 COMBINE
3158          KM   Combine route RDW07 and subbasin DW07
3159          HC       2    1.42
              *

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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

3160          KK  DSTL07  DIVERT
3161          KM   Divert remaining runoff hydrograph from combination point CDW07 south to
3162          KM   combination point CTL07
3163          DT  DWBL15      0.0   550.0
3164          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
3165          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

3166          KK   RTL07   ROUTE
3167          KM   Route diversion DSTL07 south to combination point CTL07
3168          RS       6    FLOW
3169          RC   0.035   0.015   0.035    8131  0.0048    0.00
3170          RX    0.00    0.00   16.50   16.50  107.50  107.50  124.00  124.00
3171          RY    3.00    0.66    0.50    0.00    0.00    0.50    0.66    3.00
              *

3172          KK    TL07   BASIN
3173          KM   Runoff hydrograph for subbasin TL07 near the intersection of Talisman Road
3174          KM   and 107th Avenue
3175          BA   0.580
3176          LG    0.21    0.25    5.00    0.29      27
3177          UC   1.374   1.035
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3178          UA      0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
3179          UA    100
              *

3180          KK   CTL07 COMBINE
3181          KM   Combine route RTL07 and subbasin TL07
3182          HC       2    1.29
              *

3183          KK  RGR99A   ROUTE
3184          KM   Route runoff hydrograph at combination point CTL07 to combination point CGR99
3185          RS       4    FLOW
3186          RC   0.045   0.020   0.045   12358  0.0025    0.00
3187          RX    0.00    0.00   40.00   50.00   60.00   70.00  110.00  110.00
3188          RY    6.20    5.20    5.00    0.00    0.00    5.00    5.20    6.20
              *

3189          KK    RO99   BASIN
3190          KM   Runoff hydrograph for subbasin RO99 near the intersection of Royal Oak Road
3191          KM   and 99th Avenue
3192          BA   0.414
3193          LG    0.20    0.22    4.70    0.26      38
3194          UC   1.500   1.341
3195          UA      0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
3196          UA    100
              *
1                                        HEC-1 INPUT                                        PAGE 84

LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

3197          KK  RGR99B   ROUTE
3198          KM   Route runoff hydrograph at subbasin RO99 to combination point CGR99
3199          RS       1    FLOW
3200          RC   0.045   0.015   0.045    1046  0.0060    0.00
3201          RX    0.00    0.00   19.00   25.00   30.00   36.00   55.00   55.00
3202          RY    4.10    3.10    3.00    0.00    0.00    3.00    3.10    4.10
              *

3203          KK    GR99   BASIN
3204          KM   Runoff hydrograph for subbasin GR99 near the intersection of Grand Avenue
3205          KM   and 99th Avenue
3206          BA   1.309
3207          LG    0.20    0.17    6.80    0.12      41
3208          UC   1.500   1.089
3209          UA      0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
3210          UA    100
              *

3211          KK   CGR99 COMBINE
3212          KM   Combine route RGR99A, route RGR99B, and subbasin GR99
3213          HC       3    3.01
              *

3214          KK  RGRNRB   ROUTE
3215          KM   Route runoff hydrograph at combination point CGR99 to combination point CNR11
3216          RS       1    FLOW
3217          RC   0.045   0.015   0.045    3071  0.0051    0.00
3218          RX    0.00    0.00   55.00   75.00  100.00  120.00  175.00  175.00
3219          RY   11.20   10.20   10.00    0.00    0.00   10.00   10.20   11.20
              *

3220          KK    GRNR   BASIN
3221          KM   Runoff hydrograph for subbasin GRNR near the intersection of Grand Avenue
3222          KM   and New River
3223          BA   0.947
3224          LG    0.20    0.29    5.00    0.23      33
3225          UC   1.214   0.606
3226          UA      0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
3227          UA    100
              *

3228          KK  ERGRNR  DIVERT
3229          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
3230          KM   retention developed after 1990 in subbasin GRNR
3231          DT   XGRNR      3.0     0.0
3232          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
3233          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *
1                                        HEC-1 INPUT                                        PAGE 85

LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

3234          KK   CNR11 COMBINE
3235          KM   Combine route RGRNRA, route RGRNRB and subbasin GRNR
3236          HC       4   70.05
              *

3237          KK    PE99   BASIN
3238          KM   Runoff hydrograph for subbasin PE99 near the intersection of Peoria Avenue
3239          KM   and 99th Avenue
3240          BA   0.294
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3241          LG    0.21    0.25    4.90    0.28      33
3242          UC   1.500   1.849
3243          UA      0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
3244          UA    100
              *

3245          KK  DEPE97  DIVERT
3246          KM   Divert remaining runoff hydrograph at subbasin PE99 east to combination point
3247          KM   CNR12
3248          DT   DSOL99      0.0     0.0
3249          DI      0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
3250          DQ      0.0    30.0    60.0   150.0   300.0   600.0  1200.0  3000.0  6000.0 15000.0
              *

3251          KK   RPE97   ROUTE
3252          KM   Route diversion DEPE97 east to combination point CNR12
3253          RS       2    FLOW
3254          RC   0.035   0.015   0.035    1508  0.0023    0.00
3255          RX    0.00    0.00   64.00   64.00  310.00  310.00  374.00  374.00
3256          RY    3.00    1.14    0.50    0.00    0.00    0.50    1.14    3.00
              *

3257          KK    PENR   BASIN
3258          KM   Runoff hydrograph for subbasin PENR near the intersection of Peoria Avenue
3259          KM   and New River
3260          BA   0.197
3261          LG    0.10    0.28    4.70    0.26      59
3262          UC   1.389   1.035
3263          UA      0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
3264          UA    100
              *

3265          KK  ERPENR  DIVERT
3266          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
3267          KM   retention developed after 1990 in subbasin PENR
3268          DT   XPENR      6.9     0.0
3269          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
3270          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

3271          KK  DWPE99  DIVERT
3272          KM   Divert remaining runoff hydrograph at subbasin PENR west to combination point
3273          KM   CNR12
3274          DT   DSOLNR      0.0     0.0
3275          DI      0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
3276          DQ      0.0    44.0    88.0   220.0   440.0   880.0  1760.0  4400.0  8800.0 22000.0
              *

3277          KK    PE97   BASIN
3278          KM   Runoff hydrograph for subbasin PE97 near the intersection of Peoria Avenue
3279          KM   Road and 97th Avenue
3280          BA   0.560
3281          LG    0.18    0.26    4.65    0.31      29
3282          UC   1.311   1.018
3283          UA      0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
3284          UA    100
              *

3285          KK   CNR12 COMBINE
3286          KM   Combine route RPE97, divert DWPE99, and subbasin PE97
3287          HC       4   70.93
              *

3288          KK  DROL99RETRIEVE
3289          KM   Retrieve divert DROL99 from subbasin PE99 and divert to combination point
3290          KM   CNR13
3291          DR   DSOL99
              *

3292          KK  ROL99A   ROUTE
3293          KM   Route diversion retrieval DROL99 to combination point CNR13
3294          RS       7    FLOW
3295          RC   0.035   0.015   0.035    5677  0.0038    0.00
3296          RX    0.00    0.00   16.50   16.50  107.50  107.50  124.00  124.00
3297          RY    3.00    0.66    0.50    0.00    0.00    0.50    0.66    3.00
              *

3298          KK    PE11   BASIN
3299          KM   Runoff hydrograph for subbasin PE11 near the intersection of Peoria Avenue
3300          KM   and 111th Avenue
3301          BA   0.924
3302          LG    0.20    0.25    6.00    0.18      30
3303          UC   1.500   1.103
3304          UA      0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
3305          UA    100
              *

3306          KK  ROL03A   ROUTE
3307          KM   Route runoff hydrograph at subbasin PE11 to combination point COL03
```

```
3308          RS       2    FLOW
3309          RC   0.045   0.015   0.045    7132  0.0024    0.00
3310          RX    0.00    0.00   40.00   50.00   60.00   70.00  110.00  110.00
3311          RY    6.20    5.20    5.00    0.00    0.00    5.00    5.20    6.20
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


3312          KK    PE07    BASIN
3313          KM   Runoff hydrograph for subbasin PE07 near the intersection of Peoria Avenue
3314          KM   and 107th Avenue
3315          BA   0.575
3316          LG    0.18    0.25    5.30    0.27      23
3317          UC   1.500   1.250
3318          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
3319          UA     100
              *

3320          KK  ROL03B    ROUTE
3321          KM   Route runoff hydrograph at subbasin PE07 to combination point COL03
3322          RS       4    FLOW
3323          RC   0.035   0.015   0.035    6517  0.0026    0.00
3324          RX    0.00    0.00    9.50    9.50   40.50   40.50   50.00   50.00
3325          RY    3.00    0.60    0.50    0.00    0.00    0.50    0.60    3.00
              *

3326          KK    PE03    BASIN
3327          KM   Runoff hydrograph for subbasin PE03 near the intersection of Peoria Avenue
3328          KM   and 103rd Avenue
3329          BA   0.409
3330          LG    0.20    0.25    4.80    0.32      29
3331          UC   1.402   1.219
3332          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
3333          UA     100
              *

3334          KK  ROL03C    ROUTE
3335          KM   Route runoff hydrograph at subbasin PE03 to combination point COL03
3336          RS       5    FLOW
3337          RC   0.035   0.015   0.035    5865  0.0030    0.00
3338          RX    0.00    0.00   12.50   12.50   62.50   62.50   75.00   75.00
3339          RY    3.00    0.62    0.50    0.00    0.00    0.50    0.62    3.00
              *

3340          KK    OL03    BASIN
3341          KM   Runoff hydrograph for subbasin OL03 near the intersection of Olive Avenue and
3342          KM   103rd Avenue
3343          BA   1.099
3344          LG    0.22    0.25    5.20    0.24      33
3345          UC   1.500   0.864
3346          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
3347          UA     100
              *

3348          KK    COL03 COMBINE
3349          KM   Combine route ROL03A, route ROL03B, route ROL03C, and subbasin OL03
3350          HC       4    3.01
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


3351          KK  ROL99B    ROUTE
3352          KM   Route runoff hydrograph at combination point COL03 to combination point CNR13
3353          RS       1    FLOW
3354          RC   0.045   0.015   0.045    1627  0.0124    0.00
3355          RX    0.00    0.00   40.00   50.00   60.00   70.00  110.00  110.00
3356          RY    6.20    5.20    5.00    0.00    0.00    5.00    5.20    6.20
              *

3357          KK  DROLNRRETRIEVE
3358          KM   Retrieve divert DROLNR from subbasin PENR and divert to combination point
3359          KM   COLNR
3360          DR  DSOLNR
              *

3361          KK    ROLNR    ROUTE
3362          KM   Route diversion retreival DROLNR to combination point COLNR
3363          RS      10    FLOW
3364          RC   0.035   0.015   0.035    8150  0.0031    0.00
3365          RX    0.00    0.00   12.50   12.50   62.50   62.50   75.00   75.00
3366          RY    3.00    0.62    0.50    0.00    0.00    0.50    0.62    3.00
              *

3367          KK     OLNR    BASIN
3368          KM   Runoff hydrograph for subbasin OLNR near the intersection of Olive Avenue
3369          KM   and New River
3370          BA   0.696
3371          LG    0.24    0.19    6.80    0.11      34
3372          UC   1.500   1.147
```



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3373          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
3374          UA     100
              *

3375          KK  EROLNR  DIVERT
3376          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
3377          KM   retention developed after 1990 in subbasin OLNR
3378          DT   XOLNR    24.5     0.0
3379          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
3380          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

3381          KK    COLNR COMBINE
3382          KM   Combine route ROLNR and subbasin OLNR
3383          HC       2    0.78
              *

3384          KK  DWOL99  DIVERT
3385          KM   Divert runoff hydrograph at combination point COLNR west to combination point
3386          KM   CNR13
3387          DT  DSNONR     0.0     0.0
3388          DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
3389          DQ     0.0    33.0    66.0   165.0   330.0   660.0  1320.0  3300.0  6600.0 16500.0
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


3390          KK    OL99    BASIN
3391          KM   Runoff hydrograph for subbasin OL99 near the intersection of Olive Avenue
3392          KM   and 99th Avenue
3393          BA   0.436
3394          LG    0.21    0.28    4.25    0.36      28
3395          UC   1.369   1.146
3396          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
3397          UA     100
              *

3398          KK    CNR13 COMBINE
3399          KM   Combine route ROL99A, route ROL99B and subbasin OL99
3400          HC       5   74.98
              *

3401          KK  DRNONRRETRIEVE
3402          KM   Retrieve divert DRNONR from subbasin OLNR and divert to combination point
3403          KM   CNONR
3404          DR  DSNONR
              *

3405          KK    RNONR    ROUTE
3406          KM   Route diversion retrieval DRNONR to combination point CNONR
3407          RS       9    FLOW
3408          RC   0.035   0.015   0.035    8560  0.0031    0.00
3409          RX    0.00    0.00   12.50   12.50   62.50   62.50   75.00   75.00
3410          RY    3.00    0.62    0.50    0.00    0.00    0.50    0.62    3.00
              *

3411          KK     NONR    BASIN
3412          KM   Runoff hydrograph for subbasin NONR near the intersection of Northern Avenue
3413          KM   and New River
3414          BA   0.830
3415          LG    0.27    0.15    7.60    0.10      34
3416          UC   1.500   1.128
3417          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
3418          UA     100
              *

3419          KK  ERNONR  DIVERT
3420          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
3421          KM   retention developed after 1990 in subbasin NONR
3422          DT   XNONR    34.6     0.0
3423          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
3424          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

3425          KK    CNONR COMBINE
3426          KM   Combine route RNONR and subbasin NONR
3427          HC       2    1.09
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


3428          KK     NO99    BASIN
3429          KM   Runoff hydrograph for subbasin NO99 near the intersection of Northern Avenue
3430          KM   and 99th Avenue
3431          BA   0.858
3432          LG    0.23    0.29    4.25    0.38      19
3433          UC   1.500   0.932
3434          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
3435          UA     100
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                *
3436            KK  ERNO99  DIVERT
3437            KM  Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
3438            KM  retention developed after 1990 in subbasin NO99
3439            DT  XNO99      7.0      0.0
3440            DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
3441            DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
                *
3442            KK   CNR14 COMBINE
3443            KM   Combine combination point CNONR, and subbasin NO99
3444            HC        3   76.93
                *
3445            KK    GL03   BASIN
3446            KM   Runoff hydrograph for subbasin GL03 near the intersection of Glendale Avenue
3447            KM   and 103rd Avenue
3448            BA   0.649
3449            LG    0.17    0.30    4.10    0.38      41
3450            UC   1.180   0.757
3451            UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
3452            UA     100
                *
3453            KK  ERGL03  DIVERT
3454            KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
3455            KM   retention developed after 1990 in subbasin GL03
3456            DT   XGL03     27.6      0.0
3457            DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
3458            DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
                *
3459            KK   CNR15 COMBINE
3460            KM   Combine subbasin GL03
3461            HC        2   77.58
                *
3462            KK    GLGH   BASIN
3463            KM   Runoff hydrograph for subbasin GLGH near the intersection of Glendale Avenue
3464            KM   and Glen Harbor Boulevard
3465            BA   0.079
3466            LG    0.30    0.35    4.40    0.32      16
3467            UC   0.660   0.560
3468            UA       0     3.0     5.0     8.0    12.0    20.0    43.0    75.0    90.0    96.0
3469            UA     100
                *
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LINE            ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

3470            KK   RGHNR   ROUTE
3471            KM   Route runoff hydrograph at subbasin GLGH to combination point CNR16
3472            RS        5    FLOW
3473            RC    0.045   0.035   0.045    7516  0.0045    0.00
3474            RX     0.00    0.00   19.00   25.00   30.00   36.00   55.00   55.00
3475            RY     4.10    3.10    3.00    0.00    0.00    3.00    3.10    4.10
                *
3476            KK    GHNR   BASIN
3477            KM   Runoff hydrograph for subbasin GHNR near the intersection of Glen Harbor
3478            KM   Boulevard and New River
3479            BA   0.841
3480            LG    0.16    0.30    3.71    0.47      32
3481            UC   1.474   1.005
3482            UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
3483            UA     100
                *
3484            KK   CNR16 COMBINE
3485            KM   Combine route RGHNR and subbasin GHNR
3486            HC        3   78.50
                *
3487            KK    AF11   BASIN
3488            KM   Runoff hydrograph for subbasin AF11 near the intersection of the Agua Fria
3489            KM   River and 111th Avenue
3490            BA   0.375
3491            LG    0.14    0.29    3.07    0.74      70
3492            UC   0.682   0.364
3493            UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
3494            UA     100
                *
3495            KK    GHAF   BASIN
3496            KM   Runoff hydrograph for subbasin GHAF near the intersection of Glen Harbor
3497            KM   Boulevard and the Agua Fria River
3498            BA   0.563
3499            LG    0.10    0.34    3.03    0.76       9
3500            UC   1.500   1.066
3501            UA       0     3.0     5.0     8.0    12.0    20.0    43.0    75.0    90.0    96.0
3502            UA     100
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                *
3503            KK   CAF06 COMBINE
3504            KM   Combine combination point CNR16, subbasin AF11, and subbasin GHAF
3505            HC        3   79.31
                *
3506            KK    JMAF   BASIN
3507            KM   Runoff hydrograph for subbasin JMAF near the intersection of Jomax Road and
3508            KM   the Agua Fria River
3509            BA   0.147
3510            LG    0.19    0.35    4.90    0.24       5
3511            UC   0.625   0.570
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LINE            ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

3512            UA       0     3.0     5.0     8.0    12.0    20.0    43.0    75.0    90.0    96.0
3513            UA     100
                *
3514            KK  ERJMAF  DIVERT
3515            KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
3516            KM   retention developed after 1990 in subbasin JMAF
3517            DT   XJMAF      4.2      0.0
3518            DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
3519            DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
                *
3520            KK    HV07   BASIN
3521            KM   Runoff hydrograph for subbasin HV07 near the intersection of Happy Valley
3522            KM   Road and 107th Avenue
3523            BA   0.304
3524            LG    0.28    0.32    3.92    0.41      11
3525            UC   0.542   0.252
3526            UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
3527            UA     100
                *
3528            KK  ERHV07  DIVERT
3529            KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
3530            KM   retention developed after 1990 in subbasin HV07
3531            DT   XHV07     13.1      0.0
3532            DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
3533            DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
                *
3534            KK   RHVAF   ROUTE
3535            KM   Route runoff hydrograph at subbasin HV07 to combination point CHVAF
3536            RS        1    FLOW
3537            RC    0.045   0.020   0.045    2397  0.0013    0.00
3538            RX     0.00    0.00   19.00   25.00   30.00   36.00   55.00   55.00
3539            RY     4.10    3.10    3.00    0.00    0.00    3.00    3.10    4.10
                *
3540            KK    HVAF   BASIN
3541            KM   Runoff hydrograph for subbasin HVAF near the intersection of Happy Valley
3542            KM   Road and the Agua Fria River
3543            BA   0.215
3544            LG    0.30    0.35    3.92    0.41       0
3545            UC   0.611   0.271
3546            UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
3547            UA     100
                *
3548            KK  ERHVAF  DIVERT
3549            KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
3550            KM   retention developed after 1990 in subbasin HVAF
3551            DT   XHVAF     12.4      0.0
3552            DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
3553            DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
                *
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LINE            ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

3554            KK    JM99   BASIN
3555            KM   Runoff hydrograph for subbasin HV07 near the intersection of Jomax Road and
3556            KM   99th Avenue
3557            BA   0.568
3558            LG    0.23    0.16   10.10    0.03      21
3559            UC   0.904   0.493
3560            UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
3561            UA     100
                *
3562            KK  ERJM99  DIVERT
3563            KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
3564            KM   retention developed after 1990 in subbasin JM99
3565            DT   XJM99     38.5      0.0
3566            DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
3567            DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
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                *
3568            KK    WWLP   BASIN
3569            KM   Runoff hydrograph for subbasin WWLP near the intersection of Westwing Parkway
3570            KM   and Lake Pleasant Parkway
3571            BA   0.136
3572            LG    0.16    0.27    7.00    0.10      15
3573            UC   0.373   0.178
3574            UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
3575            UA     100
                *
3576            KK  ERWWLP  DIVERT
3577            KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
3578            KM   retention developed after 1990 in subbasin WWLP
3579            DT   XWWLP     6.7      0.0
3580            DI     0.0 50000.0      0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
3581            DQ     0.0 50000.0      0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
                *
3582            KK   RJMLP   ROUTE
3583            KM   Route runoff hydrograph at subbasin WWLP to combination point CJMLP
3584            RS       4    FLOW
3585            RC   0.045   0.035   0.045    5973  0.0084    0.00
3586            RX    0.00    0.00   40.00   50.00   60.00   70.00  110.00  110.00
3587            RY    6.20    5.20    5.00    0.00    0.00    5.00    5.20    6.20
                *
3588            KK    JMLP   BASIN
3589            KM   Runoff hydrograph for subbasin JMLP near the intersection of Jomax Road and
3590            KM   Lake Pleasant Parkway
3591            BA   0.705
3592            LG    0.22    0.28    6.00    0.16      27
3593            UC   1.011   0.550
3594            UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
3595            UA     100
                *
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LINE            ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

3596            KK  ERJMLP  DIVERT
3597            KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
3598            KM   retention developed after 1990 in subbasin JMLP
3599            DT   XJMLP    44.9      0.0
3600            DI     0.0 50000.0      0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
3601            DQ     0.0 50000.0      0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
                *
3602            KK   CJMLP COMBINE
3603            KM   Combine route RJMLP, subbasin JM99, and subbasin JMLP
3604            HC       3    1.41
                *
3605            KK  RHV01A   ROUTE
3606            KM   Route runoff hydrograph at combination point CJMLP to combination point CHV01
3607            RS       3    FLOW
3608            RC   0.045   0.035   0.045    5774  0.0093    0.00
3609            RX    0.00    0.00   55.00   75.00  100.00  120.00  175.00  175.00
3610            RY   11.20   10.20   10.00    0.00    0.00   10.00   10.20   11.20
                *
3611            KK    YLLP   BASIN
3612            KM   Runoff hydrograph for subbasin YLLP near the intersection of Yearling Road
3613            KM   and Lake Pleasant Parkway
3614            BA   0.595
3615            LG    0.22    0.28    4.35    0.37      30
3616            UC   0.919   0.636
3617            UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
3618            UA     100
                *
3619            KK  ERYLLP  DIVERT
3620            KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
3621            KM   retention developed after 1990 in subbasin YLLP
3622            DT   XYLLP     6.0      0.0
3623            DI     0.0 50000.0      0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
3624            DQ     0.0 50000.0      0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
                *
3625            KK  RHV01B   ROUTE
3626            KM   Route runoff hydrograph at subbasin YLLP to combination point CHV01
3627            RS       1    FLOW
3628            RC   0.045   0.035   0.045    2017  0.0107    0.00
3629            RX    0.00    0.00   40.00   50.00   60.00   70.00  110.00  110.00
3630            RY    6.20    5.20    5.00    0.00    0.00    5.00    5.20    6.20
                *
3631            KK  DRHVLPRETRIEVE
3632            KM   Retrieve divert DRHVLP from subbasin HV93 and divert to combination point
3633            KM   CHVLP
3634            DR  DWHVLP
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                *
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LINE            ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

3635            KK   RHVLP   ROUTE
3636            KM   Route diversion retrieval DRHVLP to combination point CHVLP
3637            RS       2    FLOW
3638            RC   0.045   0.020   0.045    4021  0.0052    0.00
3639            RX    0.00    0.00   19.00   25.00   30.00   36.00   55.00   55.00
3640            RY    4.10    3.10    3.00    0.00    0.00    3.00    3.10    4.10
                *
3641            KK    HVLP   BASIN
3642            KM   Runoff hydrograph for subbasin HVLP near the intersection of Happy Valley
3643            KM   Road and Lake Pleasant Parkway
3644            BA   0.198
3645            LG    0.19    0.26    4.30    0.36      43
3646            UC   0.795   0.751
3647            UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
3648            UA     100
                *
3649            KK  ERHVLP  DIVERT
3650            KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
3651            KM   retention developed after 1990 in subbasin HVLP
3652            DT   XHVLP     7.3      0.0
3653            DI     0.0 50000.0      0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
3654            DQ     0.0 50000.0      0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
                *
3655            KK   CHVLP COMBINE
3656            KM   Combine route RHVLP and subbasin HVLP
3657            HC       2    0.27
                *
3658            KK  RHV01C   ROUTE
3659            KM   Route runoff hydrograph at combination point CHVLP to combination point CHV01
3660            RS       1    FLOW
3661            RC   0.045   0.020   0.045    1200  0.0174    0.00
3662            RX    0.00    0.00   40.00   50.00   60.00   70.00  110.00  110.00
3663            RY    6.20    5.20    5.00    0.00    0.00    5.00    5.20    6.20
                *
3664            KK    HV01   BASIN
3665            KM   Runoff hydrograph for subbasin HV01 near the intersection of Happy Valley
3666            KM   Road and 101st Avenue
3667            BA   0.444
3668            LG    0.15    0.30    5.30    0.20      35
3669            UC   0.856   0.530
3670            UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
3671            UA     100
                *
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LINE            ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

3672            KK  ERHV01  DIVERT
3673            KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
3674            KM   retention developed after 1990 in subbasin HV01
3675            DT   XHV01    18.2      0.0
3676            DI     0.0 50000.0      0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
3677            DQ     0.0 50000.0      0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
                *
3678            KK   CHV01 COMBINE
3679            KM   Combine route RHV01A, route RHV01B, route RHV01C, and subbasin HV01
3680            HC       4    2.72
                *
3681            KK   RCL07   ROUTE
3682            KM   Route runoff hydrograph at combination point CHV01 to combination point CCL07
3683            RS       1    FLOW
3684            RC   0.045   0.035   0.045    5019  0.0120    0.00
3685            RX    0.00    0.00   55.00   75.00  100.00  120.00  175.00  175.00
3686            RY   11.20   10.20   10.00    0.00    0.00   10.00   10.20   11.20
                *
3687            KK  RCLAFA   ROUTE
3688            KM   Route runoff hydrograph from route RCL07 to combination point CCLAF
3689            RS       1    FLOW
3690            RC   0.045   0.020   0.045    2211  0.0045    0.00
3691            RX    0.00    0.00   40.00   50.00   60.00   70.00  110.00  110.00
3692            RY    6.20    5.20    5.00    0.00    0.00    5.00    5.20    6.20
                *
3693            KK    CL07   BASIN
3694            KM   Runoff hydrograph for subbasin CL07 near the intersection of Calle Lejos Road
3695            KM   and 107th Avenue
3696            BA   0.524
3697            LG    0.19    0.31    4.55    0.29      17
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3698          UC   1.104   0.790
3699          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
3700          UA     100
              *

3701          KK  ERCL07  DIVERT
3702          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
3703          KM   retention developed after 1990 in subbasin CL07
3704          DT   XCL07     25.2      0.0
3705          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
3706          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

3707          KK  DWCLAF  DIVERT
3708          KM   Divert remaining runoff hydrograph at subbasin CL07 west to combination point
3709          KM   CCLAF
3710          DT   DSPP03      0.0      0.0
3711          DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
3712          DQ     0.0    12.0    24.0    60.0   120.0   240.0   480.0  1200.0  2400.0  6000.0
              *
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LINE          ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

3713          KK  RCLAFB   ROUTE
3714          KM   Route diversion DWCLAF west to combination point CCLAF
3715          RS       3    FLOW
3716          RC   0.045   0.035   0.045    2215  0.0045    0.00
3717          RX    0.00    0.00   19.00   25.00   30.00   36.00   55.00   55.00
3718          RY    4.10    3.10    3.00    0.00    0.00    3.00    3.10    4.10
              *

3719          KK    CLAF   BASIN
3720          KM   Runoff hydrograph for subbasin CLAF near the intersection of Calle Lejos Road
3721          KM   and the Agua Fria River
3722          BA   0.289
3723          LG    0.18    0.35    3.95    0.40       0
3724          UC   1.051   0.736
3725          UA       0     3.0     5.0     8.0    12.0    20.0    43.0    75.0    90.0    96.0
3726          UA     100
              *

3727          KK  ERCLAF  DIVERT
3728          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
3729          KM   retention developed after 1990 in subbasin CLAF
3730          DT   XCLAF       6.7      0.0
3731          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
3732          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

3733          KK   CCLAF COMBINE
3734          KM   Combine route RCLAFA, route RCLAFB, and subbasin CLAF
3735          HC       3    3.47
              *

3736          KK   CAF01 COMBINE
3737          KM   Combine route RHVAF, subbasin JMAF, subbasin HVAF, and combination point
3738          KM   CCLAF
3739          HC       4    4.13
              *

3740          KK  DR03PPRETRIEVE
3741          KM   Retrieve divert DR03PP from combination point CPPLP and divert to
3742          KM   combination point CPP03
3743          DR   DWPP03
              *

3744          KK  RPP03B   ROUTE
3745          KM   Route diversion retrieval DR03PP to combination point CPP03
3746          RS       1    FLOW
3747          RC   0.035   0.015   0.035    1900  0.0047    0.00
3748          RX    0.00    0.00    9.50    9.50   40.50   40.50   50.00   50.00
3749          RY    3.00    0.60    0.50    0.00    0.00    0.50    0.60    3.00
              *
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LINE          ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

3750          KK  DRPP03RETRIEVE
3751          KM   Retrieve divert DRPP03 from subbasin CL07 and divert to combination point
3752          KM   CPP03
3753          DR   DSPP03
              *

3754          KK  RPP03A   ROUTE
3755          KM   Route diversion retrieval DRPP03 to combination point CPP03
3756          RS       4    FLOW
3757          RC   0.045   0.035   0.045    2970  0.0057    0.00
3758          RX    0.00    0.00   19.00   25.00   30.00   36.00   55.00   55.00
3759          RY    4.10    3.10    3.00    0.00    0.00    3.00    3.10    4.10
              *
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3760          KK    PP03   BASIN
3761          KM   Runoff hydrograph for subbasin PP03 near the intersection of Pinnacle Peak
3762          KM   Road and 103rd Avenue
3763          BA   0.325
3764          LG    0.30    0.25    4.45    0.38      15
3765          UC   1.500   1.214
3766          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
3767          UA     100
              *

3768          KK  ERPP03  DIVERT
3769          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
3770          KM   retention developed after 1990 in subbasin PP03
3771          DT   XPP03       3.4      0.0
3772          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
3773          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

3774          KK   CPP03 COMBINE
3775          KM   Combine route RPP03A, route RPP03B, and subbasin PP03
3776          HC       3    0.39
              *

3777          KK  DWPP07  DIVERT
3778          KM   Divert remaining runoff hydrograph at combination point CPP03 west to
3779          KM   combination point CPP07
3780          DT   DSDV07      0.0      0.0
3781          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
3782          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

3783          KK   RPP07   ROUTE
3784          KM   Route diversion DWPP07 west to combination point CPP07
3785          RS       1    FLOW
3786          RC   0.045   0.035   0.045    2508  0.0128    0.00
3787          RX    0.00    0.00   19.00   25.00   30.00   36.00   55.00   55.00
3788          RY    4.10    3.10    3.00    0.00    0.00    3.00    3.10    4.10
              *
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LINE          ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

3789          KK    PP07   BASIN
3790          KM   Runoff hydrograph for subbasin PP07 near the intersection of Pinnacle Peak
3791          KM   Road and 107th Avenue
3792          BA   0.195
3793          LG    0.21    0.31    5.30    0.22       8
3794          UC   0.892   0.671
3795          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
3796          UA     100
              *

3797          KK   CPP07 COMBINE
3798          KM   Combine route RPP07 and subbasin PP07
3799          HC       2    0.20
              *

3800          KK   RDVAF   ROUTE
3801          KM   Route runoff hydrograph at combination point CPP07 to combination point CDVAF
3802          RS       2    FLOW
3803          RC   0.045   0.035   0.045    3702  0.0135    0.00
3804          RX    0.00    0.00   19.00   25.00   30.00   36.00   55.00   55.00
3805          RY    4.10    3.10    3.00    0.00    0.00    3.00    3.10    4.10
              *

3806          KK    DVAF   BASIN
3807          KM   Runoff hydrograph for subbasin DVAF near the intersection of Deer Valley Road
3808          KM   and the Agua Fria River
3809          BA   0.412
3810          LG    0.15    0.34    5.60    0.18       9
3811          UC   1.019   0.611
3812          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
3813          UA     100
              *

3814          KK  ERDVAF  DIVERT
3815          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
3816          KM   retention developed after 1990 in subbasin DVAF
3817          DT   XDVAF      10.3      0.0
3818          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
3819          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

3820          KK   CDVAF COMBINE
3821          KM   Combine route RDVAF and subbasin DVAF
3822          HC       2    0.61
              *

3823          KK    PPAF   BASIN
3824          KM   Runoff hydrograph for subbasin PPAF near the intersection of Pinnacle Peak
3825          KM   Road and the Agua Fria River
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3826          BA   0.270
3827          LG    0.15    0.25    4.20    0.36      80
3828          UC   0.387   0.264
3829          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
3830          UA     100
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


3831          KK   CAF02 COMBINE
3832          KM   Combine combination point CDVAF and subbasin PPAF
3833          HC        2    0.88
              *


3834          KK  DRDV07RETRIEVE
3835          KM   Retrieve divert DRDV07 from combination point CPP03 and divert to
3836          KM   combination point CDV07
3837          DR  DSDV07
              *


3838          KK   RDV07   ROUTE
3839          KM   Route diversion retrieval DRDV07 to combination point CDV07
3840          RS        5    FLOW
3841          RC   0.045   0.035   0.045    6455  0.0071    0.00
3842          RX    0.00    0.00   40.00   50.00   60.00   70.00  110.00  110.00
3843          RY    6.20    5.20    5.00    0.00    0.00    5.00    5.20    6.20
              *


3844          KK    DV07   BASIN
3845          KM   Runoff hydrograph for subbasin DV07 near the intersection of Deer Valley Road
3846          KM   and 107th Avenue
3847          BA   0.645
3848          LG    0.25    0.25    4.65    0.29      27
3849          UC   1.228   0.759
3850          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
3851          UA     100
              *


3852          KK  ERDV07  DIVERT
3853          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
3854          KM   retention developed after 1990 in subbasin DV07
3855          DT   XDV07    44.0     0.0
3856          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
3857          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *


3858          KK   CDV07 COMBINE
3859          KM   Combine route RDV07 and subbasin DV07
3860          HC        2    1.03
              *


3861          KK  RRG07A   ROUTE
3862          KM   Route runoff hydrograph at combination point CDV07 to combination point CRG07
3863          RS        2    FLOW
3864          RC   0.045   0.015   0.045    2573  0.0027    0.00
3865          RX    0.00    0.00   19.00   25.00   30.00   36.00   55.00   55.00
3866          RY    4.10    3.10    3.00    0.00    0.00    3.00    3.10    4.10
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


3867          KK  DRRG07RETRIEVE
3868          KM   Retrieve divert DRRG07 from combination point CRGLP and divert to
3869          KM   combination point CRG07
3870          DR  DWRG07
              *


3871          KK  RRG07C   ROUTE
3872          KM   Route diversion retrieval DRRG07 to combination point CRG07
3873          RS        1    FLOW
3874          RC   0.045   0.020   0.045    4816  0.0056    0.00
3875          RX    0.00    0.00   40.00   50.00   60.00   70.00  110.00  110.00
3876          RY    6.20    5.20    5.00    0.00    0.00    5.00    5.20    6.20
              *


3877          KK  DRDVLPRETRIEVE
3878          KM   Retrieve divert DRDVLP from combination point CPPLP and divert to
3879          KM   combination point CDVLP
3880          DR  DSDVLP
              *


3881          KK   RDVLP   ROUTE
3882          KM   Route diversion retrieval DRDVLP to combination point CDVLP
3883          RS        4    FLOW
3884          RC   0.045   0.035   0.045    5616  0.0059    0.00
3885          RX    0.00    0.00   19.00   25.00   30.00   36.00   55.00   55.00
3886          RY    4.10    3.10    3.00    0.00    0.00    3.00    3.10    4.10
              *
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3887          KK    DVLP   BASIN
3888          KM   Runoff hydrograph for subbasin DVLP near the intersection of Deer Valley Road
3889          KM   and Lake Pleasant Parkway
3890          BA   0.136
3891          LG    0.12    0.32    4.45    0.31      21
3892          UC   1.204   1.475
3893          UA       0     3.0     5.0     8.0    12.0    20.0    43.0    75.0    90.0    96.0
3894          UA     100
              *


3895          KK  ERDVLP  DIVERT
3896          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
3897          KM   retention developed after 1990 in subbasin DVLP
3898          DT   XDVLP     1.8     0.0
3899          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
3900          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *


3901          KK   CDVLP COMBINE
3902          KM   Combine route RDVLP and subbasin DVLP
3903          HC        2    0.46
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


3904          KK  RRG07B   ROUTE
3905          KM   Route runoff hydrograph at combination point CDVLP to combination point CRG07
3906          RS        2    FLOW
3907          RC   0.045   0.020   0.045    5903  0.0059    0.00
3908          RX    0.00    0.00   40.00   50.00   60.00   70.00  110.00  110.00
3909          RY    6.20    5.20    5.00    0.00    0.00    5.00    5.20    6.20
              *


3910          KK    RG07   BASIN
3911          KM   Runoff hydrograph for subbasin RG07 near the intersection of Rose Garden Lane
3912          KM   and 107th Avenue
3913          BA   0.350
3914          LG    0.28    0.32    4.55    0.29       7
3915          UC   1.321   0.982
3916          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
3917          UA     100
              *


3918          KK  ERRG07  DIVERT
3919          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
3920          KM   retention developed after 1990 in subbasin RG07
3921          DT   XRG07    22.0     0.0
3922          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
3923          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *


3924          KK   CRG07 COMBINE
3925          KM   Combine route RRG07A, route RRG07B, route RRG07C, and subbasin RG07
3926          HC        4    3.09
              *


3927          KK   RRGAF   ROUTE
3928          KM   Route runoff hydrograph at combination point CRG07 to combination point CRGAF
3929          RS        1    FLOW
3930          RC   0.045   0.020   0.045    4328  0.0083    0.00
3931          RX    0.00    0.00   40.00   50.00   60.00   70.00  110.00  110.00
3932          RY    6.20    5.20    5.00    0.00    0.00    5.00    5.20    6.20
              *


3933          KK    RGAF   BASIN
3934          KM   Runoff hydrograph for subbasin RGAF near the intersection of Rose Garden Lane
3935          KM   and the Agua Fria River
3936          BA   0.332
3937          LG    0.16    0.33    6.20    0.14      12
3938          UC   1.351   1.195
3939          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
3940          UA     100
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


3941          KK  ERRGAF  DIVERT
3942          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
3943          KM   retention developed after 1990 in subbasin RGAF
3944          DT   XRGAF    10.4     0.0
3945          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
3946          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *


3947          KK   CRGAF COMBINE
3948          KM   Combine route RRGAF and subbasin RGAF
3949          HC        2    3.42
              *
```

```
3950          KK  DRBYAFRETRIEVE
3951          KM   Retrieve divert DRBYAF from combination point CBY07 and divert to
3952          KM   combination point CBYAF
3953          DR  DWBYAF
              *

3954          KK   RBY07   ROUTE
3955          KM   Route diversion retrieval DRBYAF to route RBY07
3956          RS       2    FLOW
3957          RC  0.045   0.020   0.045    3085  0.0019    0.00
3958          RX   0.00    1.00   16.00   36.00   51.00  123.00  148.00  648.00
3959          RY  16.00    8.00    0.00    0.00    8.00    8.00    9.00   11.00
              *

3960          KK   RBYAF   ROUTE
3961          KM   Route runoff hydrograph at route RBY07 to combination point CBYAF
3962          RS       6    FLOW
3963          RC  0.045   0.035   0.045    8144  0.0065    0.00
3964          RX   0.00    0.00   19.00   25.00   30.00   36.00   55.00   55.00
3965          RY   4.10    3.10    3.00    0.00    0.00    3.00    3.10    4.10
              *

3966          KK    BYAF   BASIN
3967          KM   Runoff hydrograph for subbasin BYAF near the intersection of Beardsley Road
3968          KM   and the Agua Fria River
3969          BA   0.609
3970          LG    0.23    0.28    4.70    0.27      24
3971          UC   1.275   1.043
3972          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
3973          UA     100
              *

3974          KK  ERBYAF  DIVERT
3975          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
3976          KM   retention developed after 1990 in subbasin BYAF
3977          DT   XBYAF    13.2     0.0
3978          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
3979          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *
```



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LINE          ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

3980          KK   CBYAF COMBINE
3981          KM   Combine route RBYAF and subbasin BYAF
3982          HC       2    1.49
              *

3983          KK    UHAF   BASIN
3984          KM   Runoff hydrograph for subbasin UHAF near the intersection of Union Hills
3985          KM   Drive and the Agua Fria River
3986          BA   0.489
3987          LG    0.15    0.30    3.50    0.54      12
3988          UC   1.500   1.290
3989          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
3990          UA     100
              *

3991          KK  ERUHAF  DIVERT
3992          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
3993          KM   retention developed after 1990 in subbasin UHAF
3994          DT   XUHAF    19.8     0.0
3995          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
3996          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

3997          KK   CAF03 COMBINE
3998          KM   Combine combination point CRGAF, combination point CBYAF, and subbasin UHAF
3999          HC       3    5.56
              *

4000          KK    UH07   BASIN
4001          KM   Runoff hydrograph for subbasin UH07 near the intersection of Union Hills
4002          KM   Drive and 107th Avenue
4003          BA   0.252
4004          LG    0.20    0.25    4.80    0.34      22
4005          UC   1.500   1.580
4006          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
4007          UA     100
              *

4008          KK   RUH11   ROUTE
4009          KM   Route runoff hydrograph at subbasin UH07 to route RUH15
4010          RS       1    FLOW
4011          RC  0.045   0.020   0.045    2740  0.0090    0.00
4012          RX   0.00    1.00   13.00   23.00   53.00   83.00  108.00  109.00
4013          RY  14.00    6.00    0.00    0.00    6.00    6.00    7.00   15.00
              *

4014          KK   RUH15   ROUTE
4015          KM   Route runoff hydrograph at route RUH11 to combination point CUH15
4016          RS       2    FLOW
```



```
4017          RC  0.045   0.035   0.045    2598  0.0120    0.00
4018          RX   0.00   50.00   62.00   72.00   84.00  104.00  139.00  640.00
4019          RY   9.00    6.00    0.00    0.00    6.00    7.00    7.00    9.00
              *
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LINE          ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

4020          KK    UH15   BASIN
4021          KM   Runoff hydrograph for subbasin UH15 near the intersection of Union Hills
4022          KM   Drive and 115th Avenue
4023          BA   1.019
4024          LG    0.28    0.31    5.80    0.17      18
4025          UC   1.300   0.688
4026          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
4027          UA     100
              *

4028          KK  ERUH15  DIVERT
4029          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
4030          KM   retention developed after 1990 in subbasin UH15
4031          DT   XUH15    20.8     0.0
4032          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
4033          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

4034          KK   CUH15 COMBINE
4035          KM   Combine route RUH15 and subbasin UH15
4036          HC       2    1.27
              *

4037          KK  RBL15B   ROUTE
4038          KM   Route runoff hydrograph at combination point CUH15 to combination point CBL15
4039          RS       4    FLOW
4040          RC  0.045   0.035   0.045    4894  0.0020    0.00
4041          RX   0.00  100.00  112.00  147.00  159.00  179.00  214.00  580.00
4042          RY   8.00    6.00    0.00    0.00    6.00    7.00    7.00    9.00
              *

4043          KK  DRBL15RETRIEVE
4044          KM   Retrieve divert DRBL15 from combination point CDW07 and divert to
4045          KM   combination point CBL15
4046          DR  DWBL15
              *

4047          KK  RBL15A   ROUTE
4048          KM   Route diversion retrieval DRBL15 to combination point CBL15
4049          RS       2    FLOW
4050          RC  0.045   0.015   0.045    6041  0.0082    0.00
4051          RX   0.00    0.00   40.00   50.00   60.00   70.00  110.00  110.00
4052          RY   6.20    5.20    5.00    0.00    0.00    5.00    5.20    6.20
              *

4053          KK    BL15   BASIN
4054          KM   Runoff hydrograph for subbasin Bl15 near the intersection of Bell Road and
4055          KM   115th Avenue
4056          BA   0.962
4057          LG    0.24    0.27    4.60    0.32      24
4058          UC   1.329   0.687
4059          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
4060          UA     100
              *
```



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LINE          ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

4061          KK  ERBL15  DIVERT
4062          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
4063          KM   retention developed after 1990 in subbasin BL15
4064          DT   XBL15    31.6     0.0
4065          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
4066          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

4067          KK   CBL15 COMBINE
4068          KM   Combine route RBL15A, route RBL15B, and subbasin BL15
4069          HC       3    2.94
              *

4070          KK   RMEAF   ROUTE
4071          KM   Route runoff hydrograph at combination point CBL15 to combination point CMEAF
4072          RS       3    FLOW
4073          RC  0.045   0.020   0.045    5783  0.0053    0.00
4074          RX   0.00    0.00   40.00   50.00   60.00   70.00  110.00  110.00
4075          RY   6.20    5.20    5.00    0.00    0.00    5.00    5.20    6.20
              *

4076          KK    MEAF   BASIN
4077          KM   Runoff hydrograph for subbasin MEAF near the intersection of Meade Drive and
4078          KM   the Agua Fria River
4079          BA   1.369
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4080          LG    0.17    0.28    4.65    0.30      22
4081          UC   1.330   0.697
4082          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
4083          UA     100
              *

4084          KK  ERMEAF  DIVERT
4085          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
4086          KM   retention developed after 1990 in subbasin MEAF
4087          DT   XMEAF     9.9     0.0
4088          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
4089          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

4090          KK   CMEAF COMBINE
4091          KM   Combine route RMEAF and subbasin MEAF
4092          HC       2    4.31
              *

4093          KK    BLAF   BASIN
4094          KM   Runoff hydrograph for subbasin BLAF near the intersection of Bell Road and
4095          KM   the Agua Fria River
4096          BA   0.283
4097          LG    0.17    0.29    3.55    0.52      16
4098          UC   1.500   1.613
4099          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
4100          UA     100
              *

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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

4101          KK  ERBLAF  DIVERT
4102          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
4103          KM   retention developed after 1990 in subbasin BLAF
4104          DT   XBLAF    12.5     0.0
4105          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
4106          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

4107          KK    GRAF   BASIN
4108          KM   Runoff hydrograph for subbasin GRAF near the intersection of Grand Avenue and
4109          KM   the Agua Fria River
4110          BA   0.859
4111          LG    0.21    0.17    7.00    0.11      34
4112          UC   1.483   1.153
4113          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
4114          UA     100
              *

4115          KK    PEAF   BASIN
4116          KM   Runoff hydrograph for subbasin PEAF near the intersection of Kansas Avenue
4117          KM   and the Agua Fria River
4118          BA   0.531
4119          LG    0.19    0.25    4.20    0.36      48
4120          UC   0.875   0.425
4121          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
4122          UA     100
              *

4123          KK   CAF04 COMBINE
4124          KM   Combine combination point CMEAF, subbasin BLAF, subbasin GRAF, and subbasin
4125          KM   PEAF
4126          HC       4    5.94
              *

4127          KK    OL11   BASIN
4128          KM   Runoff hydrograph for subbasin OL11 near the intersection of Olive Avenue and
4129          KM   111th Avenue
4130          BA   0.339
4131          LG    0.23    0.27    4.25    0.40      21
4132          UC   1.143   0.678
4133          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
4134          UA     100
              *

4135          KK   RNO11   ROUTE
4136          KM   Route runoff hydrograph at subbasin OL11 to combination point CNO11
4137          RS       3    FLOW
4138          RC   0.045   0.020   0.045    6339  0.0057    0.00
4139          RX    0.00    0.00   19.00   25.00   30.00   36.00   55.00   55.00
4140          RY    4.10    3.10    3.00    0.00    0.00    3.00    3.10    4.10
              *

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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

4141          KK    NO11   BASIN
4142          KM   Runoff hydrograph for subbasin NO11 near the intersection of Northern Avenue
4143          KM   and 111th Avenue
4144          BA   0.860
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4145          LG    0.19    0.26    3.95    0.40      49
4146          UC   0.917   0.449
4147          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
4148          UA     100
              *

4149          KK  ERNO11  DIVERT
4150          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
4151          KM   retention developed after 1990 in subbasin NO11
4152          DT   XNO11    16.3     0.0
4153          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
4154          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

4155          KK   CNO11 COMBINE
4156          KM   Combine route RNO11 and subbasin NO11
4157          HC       2    1.20
              *

4158          KK  RGL14A   ROUTE
4159          KM   Route runoff hydrograph at combination point CNO11 to combination point CGL14
4160          RS       7    FLOW
4161          RC   0.045   0.035   0.045    7959  0.0008    0.00
4162          RX    0.00    0.00   55.00   75.00  100.00  120.00  175.00  175.00
4163          RY   11.20   10.20   10.00    0.00    0.00   10.00   10.20   11.20
              *

4164          KK    NO07   BASIN
4165          KM   Runoff hydrograph for subbasin NO07 near the intersection of Northern Avenue
4166          KM   and 107th Avenue
4167          BA   0.340
4168          LG    0.21    0.26    4.55    0.35      27
4169          UC   1.225   0.864
4170          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
4171          UA     100
              *

4172          KK  ERNO07  DIVERT
4173          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
4174          KM   retention developed after 1990 in subbasin NO07
4175          DT   XNO07     8.6     0.0
4176          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
4177          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

4178          KK   RGL11   ROUTE
4179          KM   Route runoff hydrograph at subbasin NO07 to combination point CGL11
4180          RS       5    FLOW
4181          RC   0.035   0.015   0.035    5370  0.0041    0.00
4182          RX    0.00    0.00   13.00   13.00   55.00   55.00   68.00   68.00
4183          RY    3.00    0.63    0.50    0.00    0.00    0.50    0.63    3.00
              *

4184          KK    GL11   BASIN
4185          KM   Runoff hydrograph for subbasin GL11 near the intersection of Glendale Avenue
4186          KM   and 111th Avenue
4187          BA   0.426
4188          LG    0.19    0.26    4.35    0.33      57
4189          UC   1.161   0.716
4190          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
4191          UA     100
              *

4192          KK  ERGL11  DIVERT
4193          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
4194          KM   retention developed after 1990 in subbasin GL11
4195          DT   XGL11    36.6     0.0
4196          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
4197          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

4198          KK   CGL11 COMBINE
4199          KM   Combine route RG111 and subbasin GL11
4200          HC       2    0.77
              *

4201          KK  RGL14B   ROUTE
4202          KM   Route runoff hydrograph at combination point CGL11 to combination point CGL14
4203          RS       4    FLOW
4204          RC   0.045   0.035   0.045    4950  0.0021    0.00
4205          RX    0.00    0.00   40.00   50.00   60.00   70.00  110.00  110.00
4206          RY    6.20    5.20    5.00    0.00    0.00    5.00    5.20    6.20
              *

4207          KK    GL14   BASIN
4208          KM   Runoff hydrograph for subbasin GL14 near the intersection of Glendale Avenue
4209          KM   and 114th Avenue
4210          BA   0.481
4211          LG    0.30    0.35    3.81    0.44       1
```

```
          4212          UC   1.500   1.159
          4213          UA      0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
          4214          UA    100
                        *
1                                          HEC-1 INPUT                                                    PAGE110

          LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


          4215          KK   CGL14 COMBINE
          4216          KM   Combine route RGL14A, RGL14B, and subbasin GL14
          4217          HC       3    2.45
                        *


          4218          KK   RGLAF   ROUTE
          4219          KM   Route runoff hydrograph at combination point CGL14 to combination point CGLAF
          4220          RS       3    FLOW
          4221          RC   0.045   0.035   0.045    3487  0.0023    0.00
          4222          RX    0.00    0.00   55.00   75.00  100.00  120.00  175.00  175.00
          4223          RY   11.20   10.20   10.00    0.00    0.00   10.00   10.20   11.20
                        *


          4224          KK    GLAF   BASIN
          4225          KM   Runoff hydrograph for subbasin GLAF near the intersection of Glendale Avenue
          4226          KM   and the Agua Fria River
          4227          BA   0.388
          4228          LG    0.18    0.29    3.07    0.74      65
          4229          UC   1.035   0.975
          4230          UA      0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
          4231          UA    100
                        *


          4232          KK   CGLAF COMBINE
          4233          KM   Combine route RGLAF and subbasin GLAF
          4234          HC       2    2.83
                        *


          4235          KK    OLAF   BASIN
          4236          KM   Runoff hydrograph for subbasin OLAF near the intersection of Olive Avenue and
          4237          KM   the Agua Fria River
          4238          BA   1.026
          4239          LG    0.18    0.30    3.60    0.50      19
          4240          UC   1.500   0.988
          4241          UA      0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
          4242          UA    100
                        *


          4243          KK  EROLAF  DIVERT
          4244          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
          4245          KM   retention developed after 1990 in subbasin OLAF
          4246          DT   XOLAF    22.0     0.0
          4247          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
          4248          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
                        *


          4249          KK    NOAF   BASIN
          4250          KM   Runoff hydrograph for subbasin NOAF near the intersection of Northern Avenue
          4251          KM   and the Agua Fria River
          4252          BA   0.285
          4253          LG    0.11    0.33    2.92    0.82      23
          4254          UC   1.338   1.177
          4255          UA      0     3.0     5.0     8.0    12.0    20.0    43.0    75.0    90.0    96.0
          4256          UA    100
                        *
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          LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


          4257          KK   CAF05 COMBINE
          4258          KM   Combine combination point CGLAF, subbasin OLAF, and subbasin NOAF
          4259          HC       3    4.15
                        *
          4260          ZZ
1
               SCHEMATIC DIAGRAM OF STREAM NETWORK

 INPUT
  LINE      (V) ROUTING           (--->) DIVERSION OR PUMP FLOW

   NO.      (.) CONNECTOR         (<---) RETURN OF DIVERTED OR PUMPED FLOW

   147        UH35
              .
              .
   158        .-------->   XUH35
   155     ERUH35
              .
              .
   164        .-------->  DPUH35
   161      DUH35
              .
              .
   170        .-------->  DWUH43
```



```
   167      DSBL35
              V
              V
   173      RSBL35
              .
              .
   179        .        BL35
              .          .
              .          .
   190        .          .-------->   XBL35
   187        .      ERBL35
              .          .
              .          .
   193      CBL35.............
              .
              .
   199        .-------->  DP35BL
   196      D35BL
              .
              .
   205        .-------->  DWBL43
   202      DSGW35
              V
              V
   208      RSGW35
              .
              .
   214        .        GW35
              .          .
              .          .
   222      CGW35.............
              .
              .
   228        .          .<-------  DP35BL
   225        .      PR35BL
              .          V
              .          V
   229        .      RP35GW
              .          .
              .          .
   233      CPGW35.............
              .
              .
   240        .-------->  DP35GW
   237      D35GW
              .
              .
   246        .-------->  DWGW43
   243      DSTB35
              V
              V
   249      RSTB35
              .
              .
   255        .        TB35
              .          .
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   269        .          .<-------  DP35GW
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              .          V
              .          V
   270        .      RP35TB
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   274      CPTB35.............
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   281        .-------->  DP35TB
   278      D35TB
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              .
   287        .-------->  DWTB43
   284      DSCT35
              V
              V
   290      RSCT35
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   296        .        CT35
              .          .
              .          .
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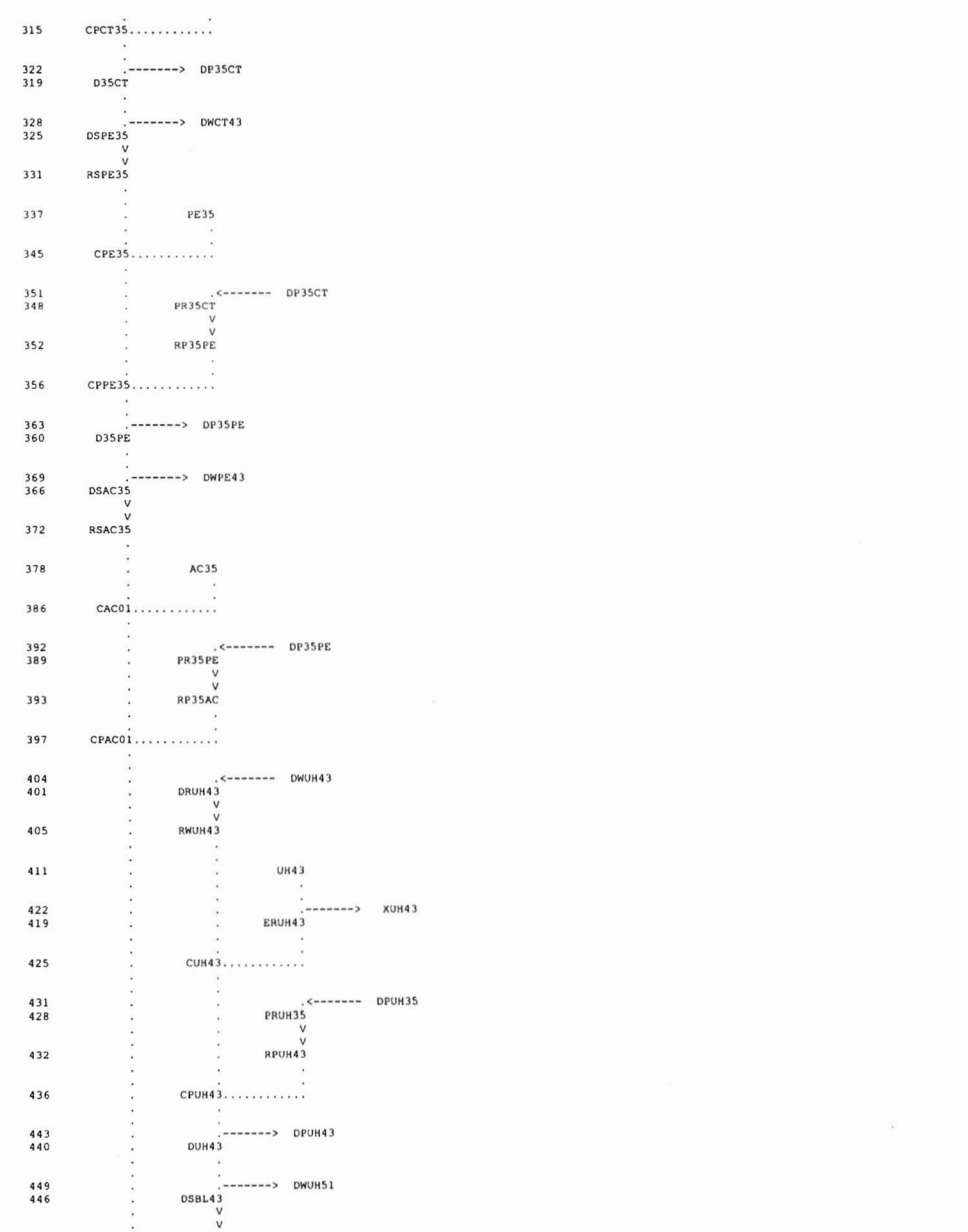
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CAC01
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RWUH43
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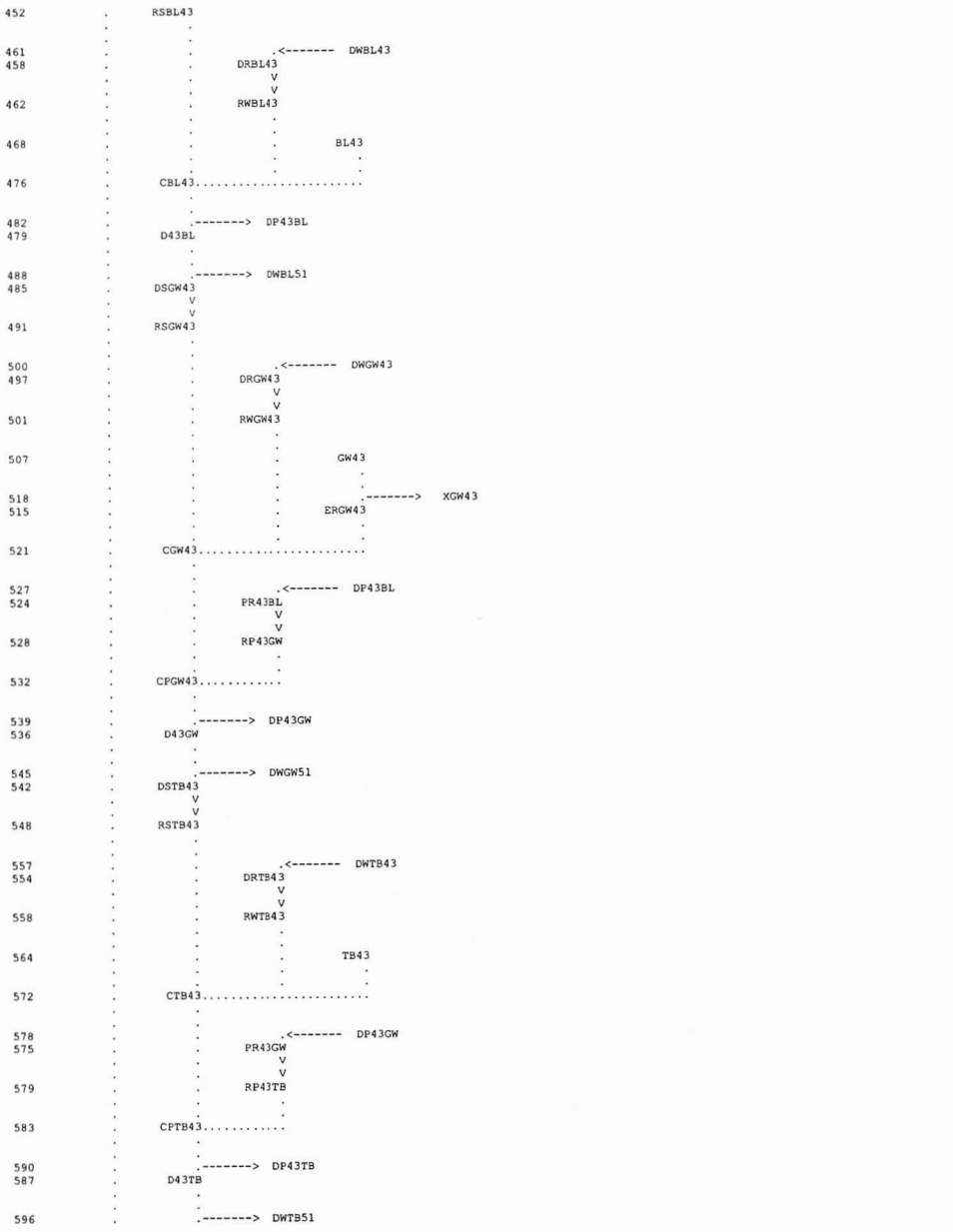
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XGW43
ERGW43
CGW43
DP43BL
PR43BL
RP43GW
CPGW43
DP43GW
D43GW
DWGW51
DSTB43
RSTB43
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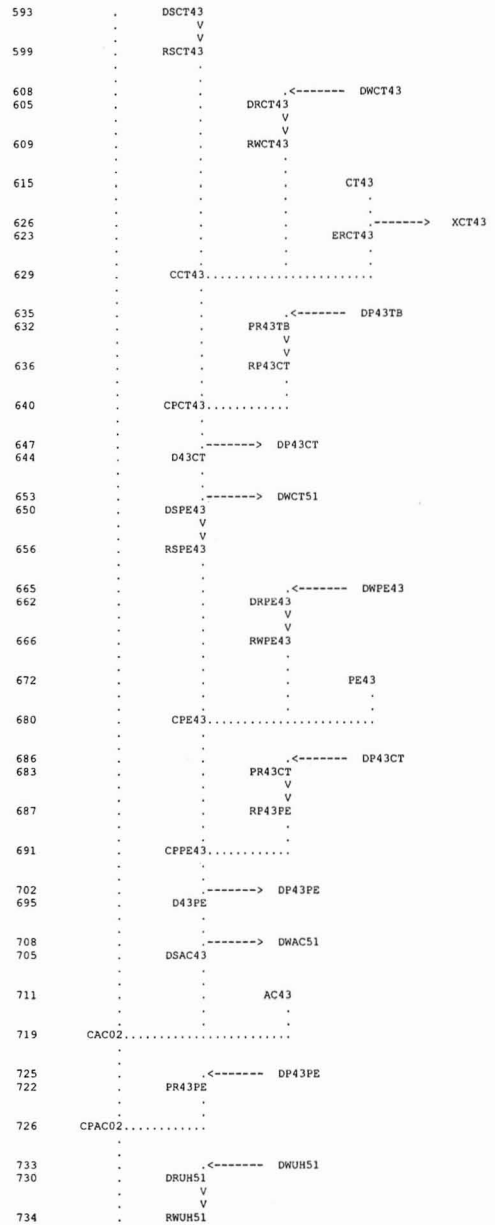
DWTB51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D43CT
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RSPE43
DWPE43
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RWPE43
PE43
CPE43
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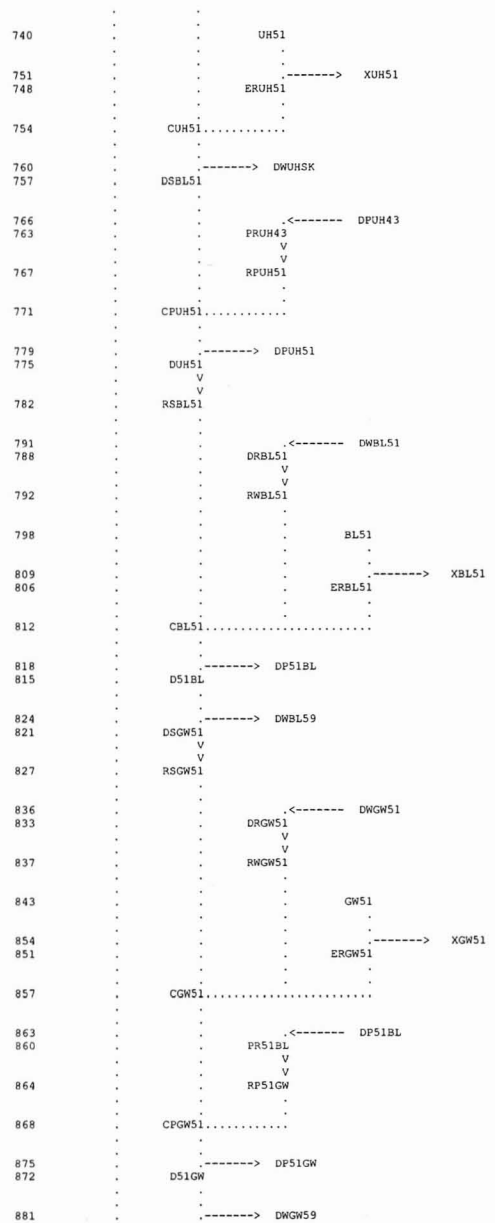
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DRBL51
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ERBL51
CBL51
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DSGW51
RSGW51
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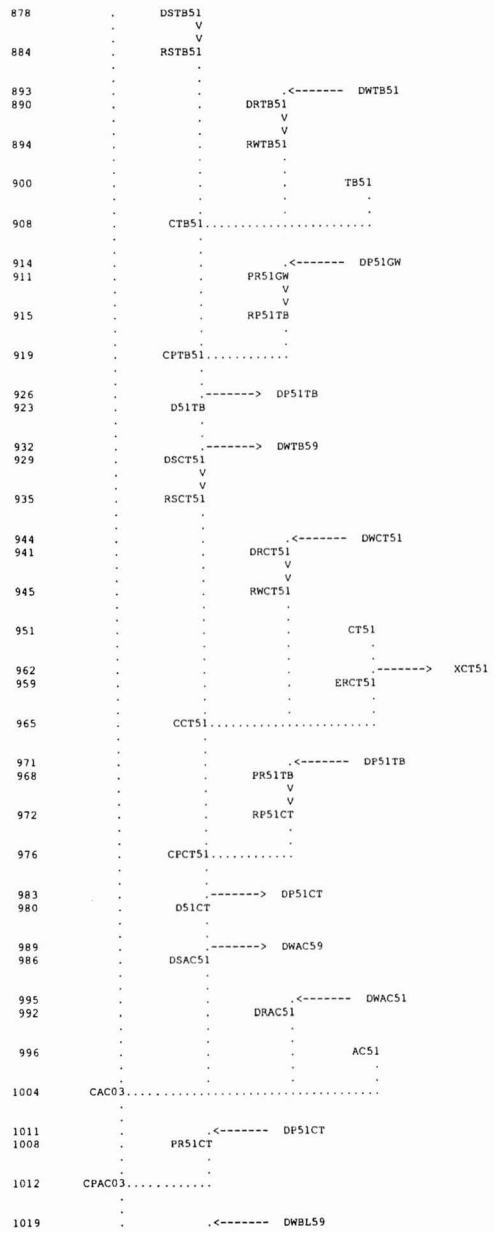
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919 CPTB51
926 DP51TB
923 D51TB
932 DWTB59
929 DSCT51
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941 DRCT51
945 RWCT51
951 CT51
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968 PR51TB
972 RP51CT
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980 D51CT
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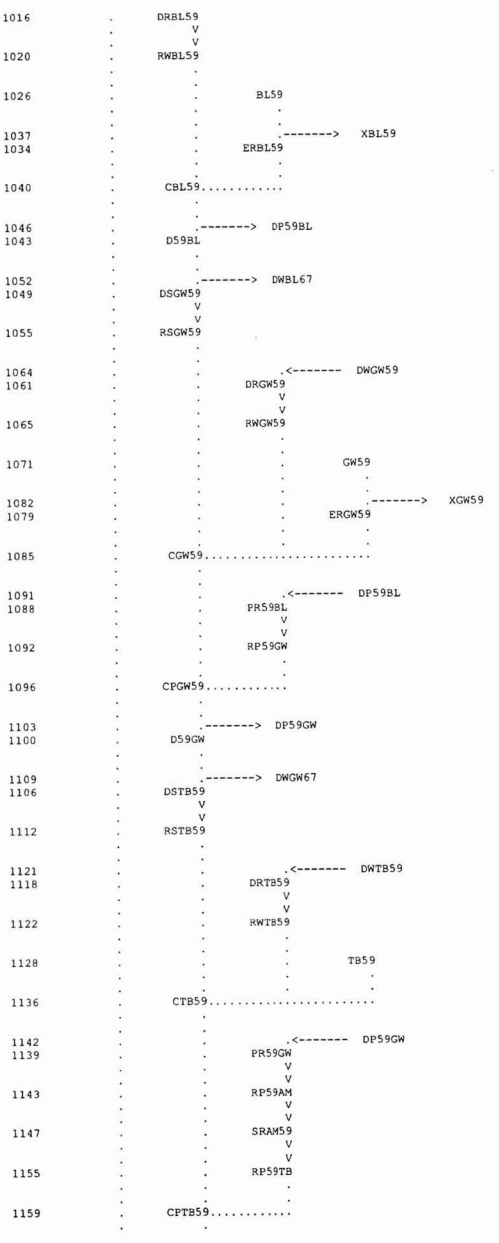
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1061 DRGW59
1065 RWGW59
1071 GW59
1082 XGW59
1079 ERGW59
1085 CGW59
1091 DP59BL
1088 PR59BL
1092 RP59GW
1096 CPGW59
1103 DP59GW
1100 D59GW
1109 DWGW67
1106 DSTB59
1112 RSTB59
1121 DWTB59
1118 DRTB59
1122 RWTB59
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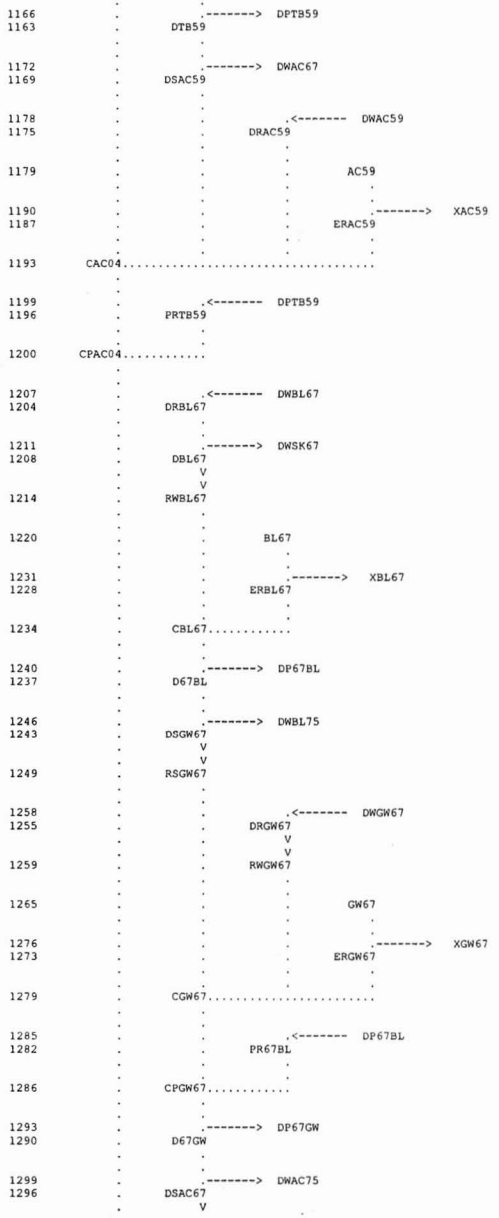
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1172
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1178
1175 DRAC59
1179 AC59
1190
1187 ERAC59
1193 CAC04
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1196 PRTB59
1200 CPAC04
1207
1204 DRBL67
1211
1208 DBL67
1214 RWBL67
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1231
1228 ERBL67
1234 CBL67
1240
1237 D67BL
1246
1243 DSGW67
1249 RSGW67
1258
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1259 RWGW67
1265 GW67
1276
1273 ERGW67
1279 CGW67
1285
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DWAC59
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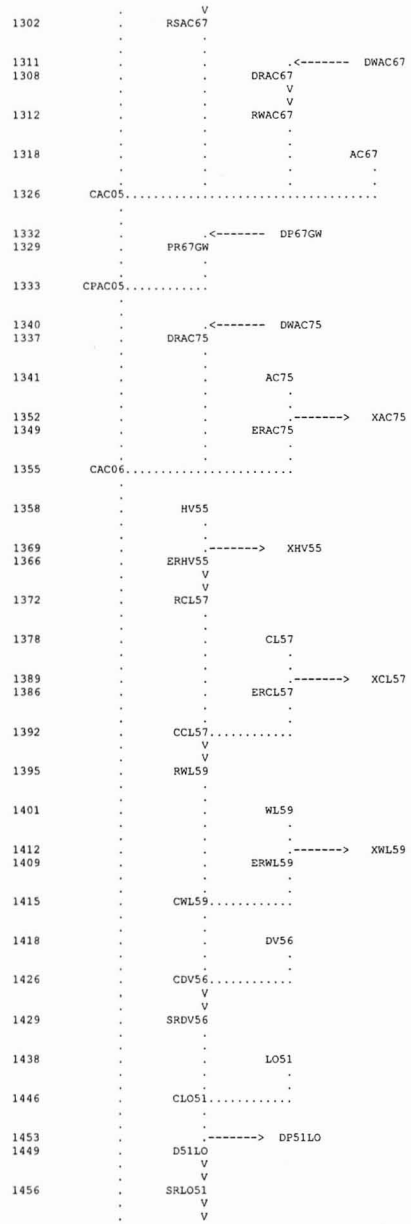
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1341 AC75
1352
1349 ERAC75
1355 CAC06
1358 HV55
1369
1366 ERHV55
1372 RCL57
1378 CL57
1389
1386 ERCL57
1392 CCL57
1395 RWL59
1401 WL59
1412
1409 ERWL59
1415 CWL59
1418 DV56
1426 CDV56
1429 SRDV56
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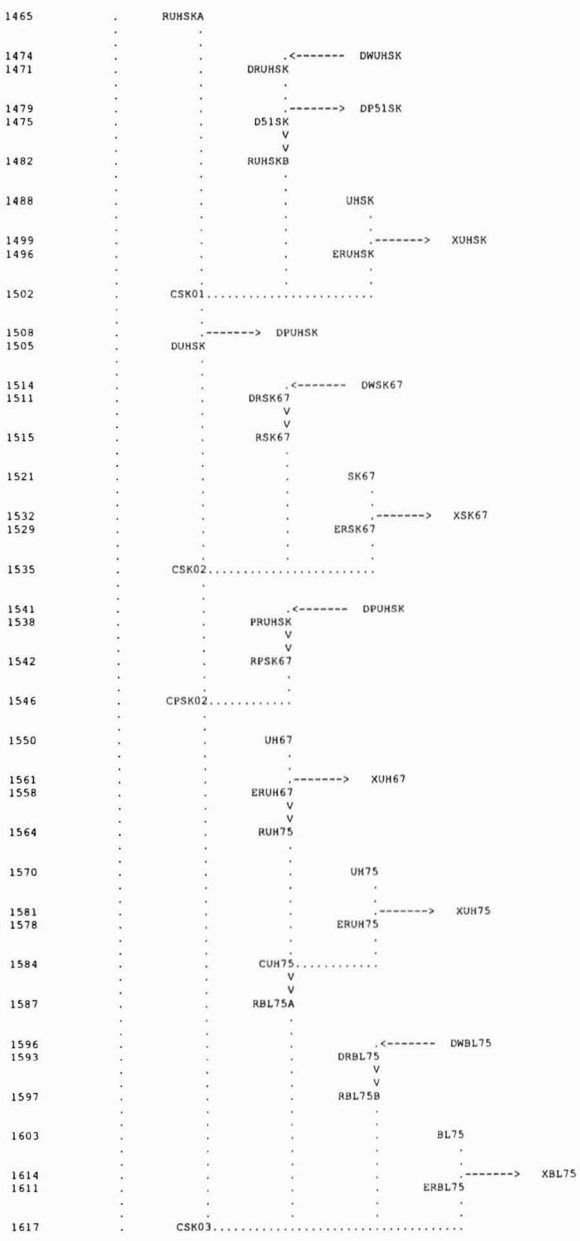
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1471 DRUHSK
1479 DP51SK
1475 D51SK
1482 RUHSKB
1488 UHSK
1499 XUHSK
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1502 CSK01
1508 DPUHSK
1505 DUHSK
1514 DWSK67
1511 DRSK67
1515 RSK67
1521 SK67
1532 XSK67
1529 ERSK67
1535 CSK02
1541 DPUHSK
1538 PRUHSK
1542 RPSK67
1546 CPSK02
1550 UH67
1561 XUH67
1558 ERUH67
1564 RUH75
1570 UH75
1581 XUH75
1578 ERUH75
1584 CUH75
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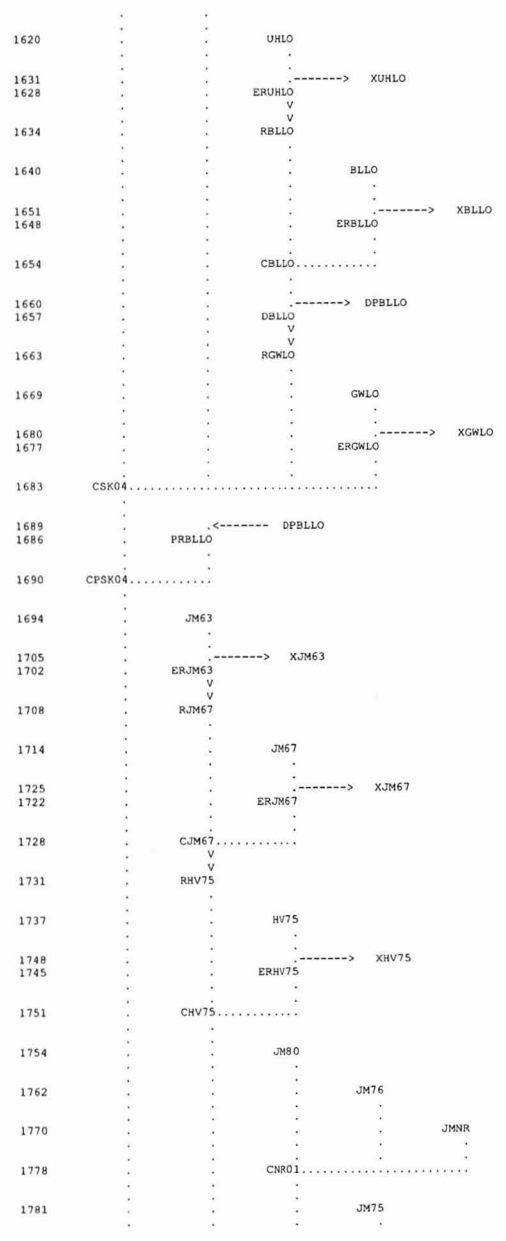
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1657 DBLLO
1663 RGWLO
1669 GWLO
1680 XGWLO
1677 ERGWLO
1683 CSK04
1689 DPBLLO
1686 PRBLLO
1690 CPSK04
1694 JM63
1705 XJM63
1702 ERJM63
1708 RJM67
1714 JM67
1725 XJM67
1722 ERJM67
1728 CJM67
1731 RHV75
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1770 JMNR
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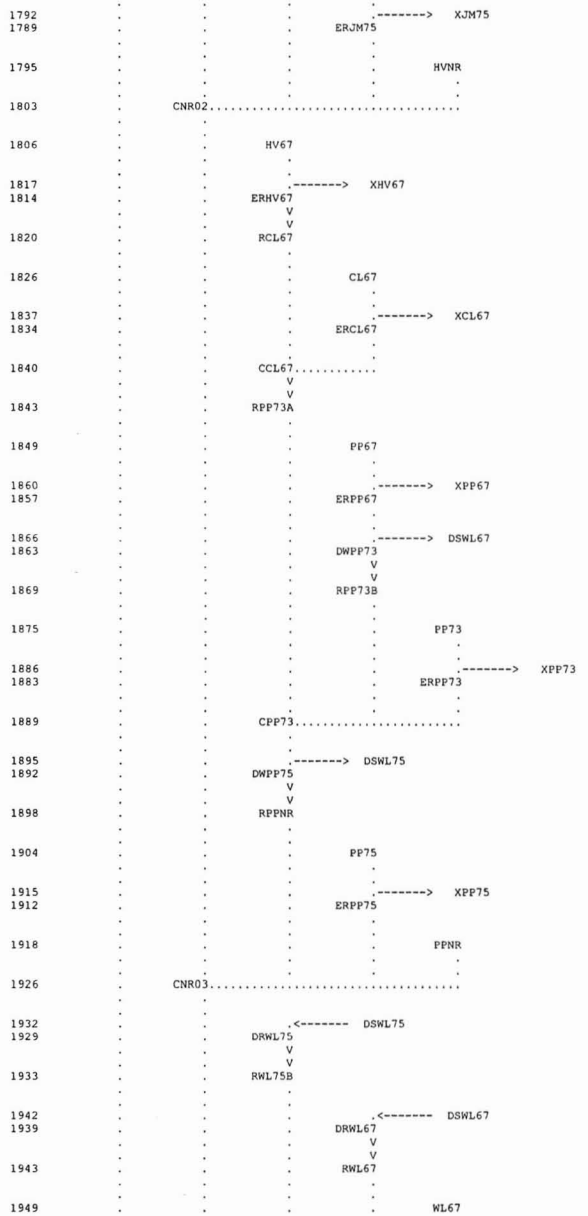
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1814 ERHV67
XHV67
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1826 CL67
1837
1834 ERCL67
XCL67
1840 CCL67
1843 RPP73A
1849 PP67
1860
1857 ERPP67
XPP67
1866
1863 DWPP73
DSWL67
1869 RPP73B
1875 PP73
1886
1883 ERPP73
XPP73
1889 CPP73
1895
1892 DWPP75
DSWL75
1898 RPPNR
1904 PP75
1915
1912 ERPP75
XPP75
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1933 RWL75B
1942
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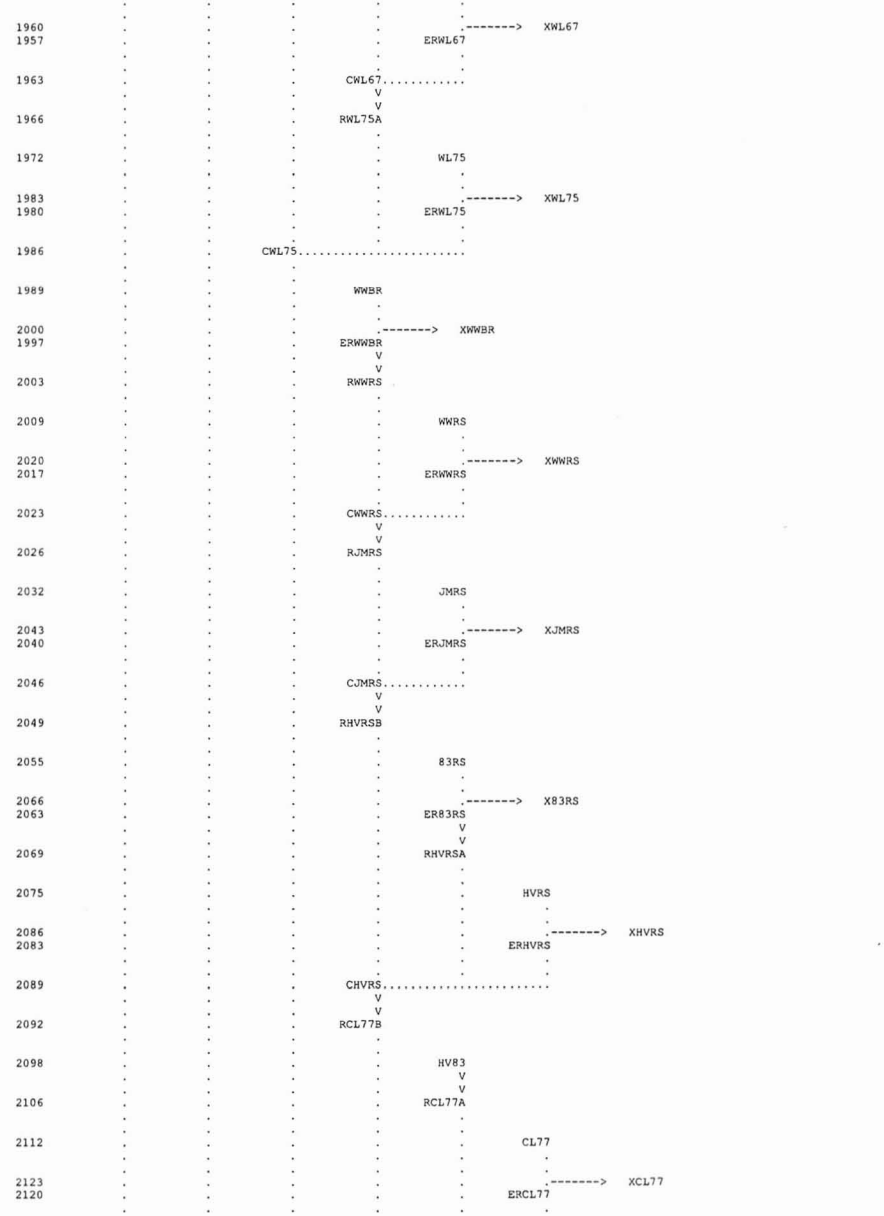
1943 RWL67
1949 WL67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XWL67
1963 CWL67
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1972 WL75
1983
1980 ERWL75
XWL75
1986 CWL75
1989 WWBR
2000
1997 ERWWBR
XWWBR
2003 RWWRS
2009 WWRS
2020
2017 ERWWRS
XWWRS
2023 CWWRS
2026 RJMRS
2032 JMRS
2043
2040 ERJMRS
XJMRS
2046 CJMRS
2049 RHVRSB
2055 83RS
2066
2063 ER83RS
X83RS
2069 RHVRSA
2075 HVRS
2086
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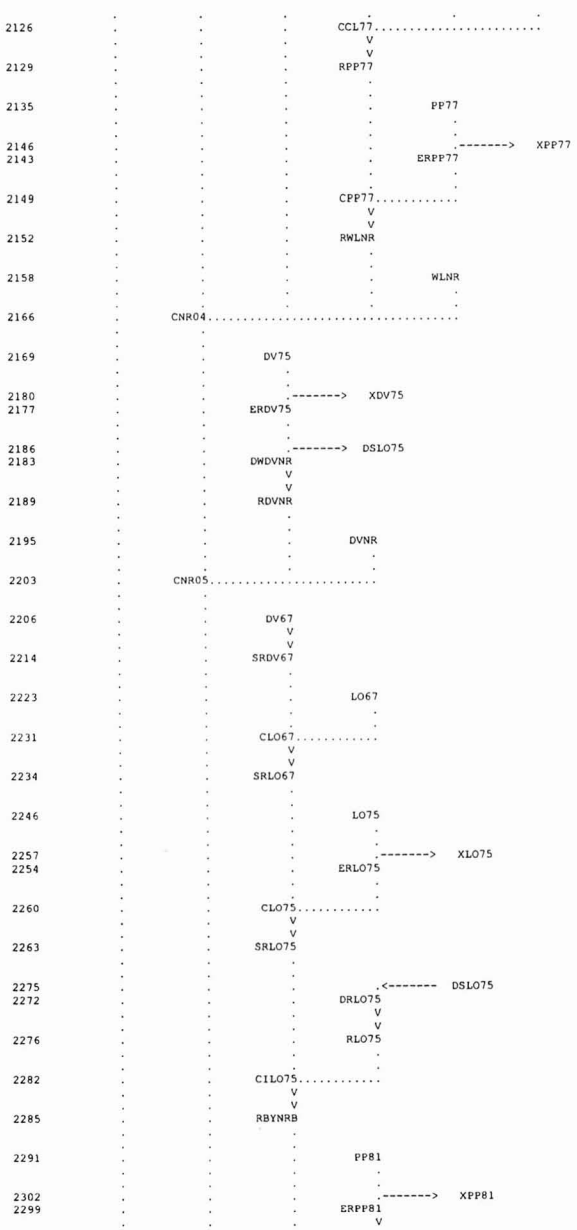
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CPP77
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2158
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2166
CNR04
2169
DV75
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2177
XDV75
ERDV75
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DSLO75
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RDVNR
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DVNR
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2206
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CLO67
2234
SRLO67
2246
LO75
2257
2254
XLO75
ERLO75
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CLO75
2263
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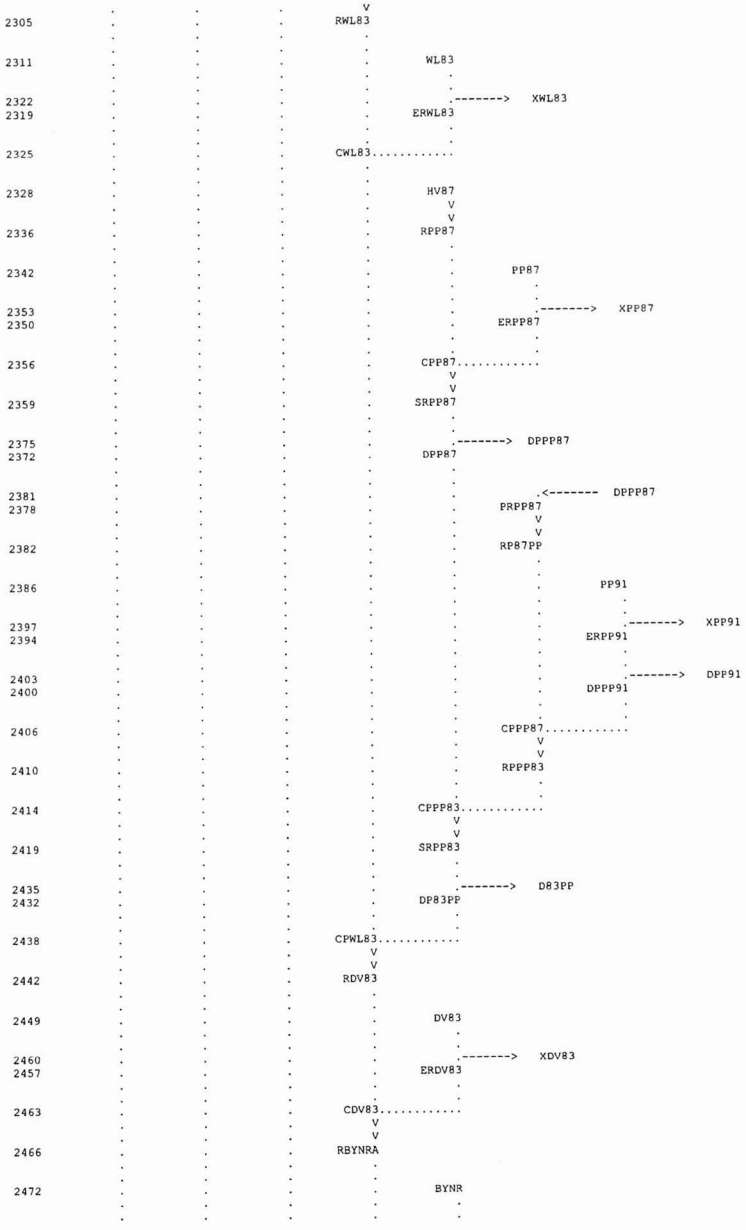
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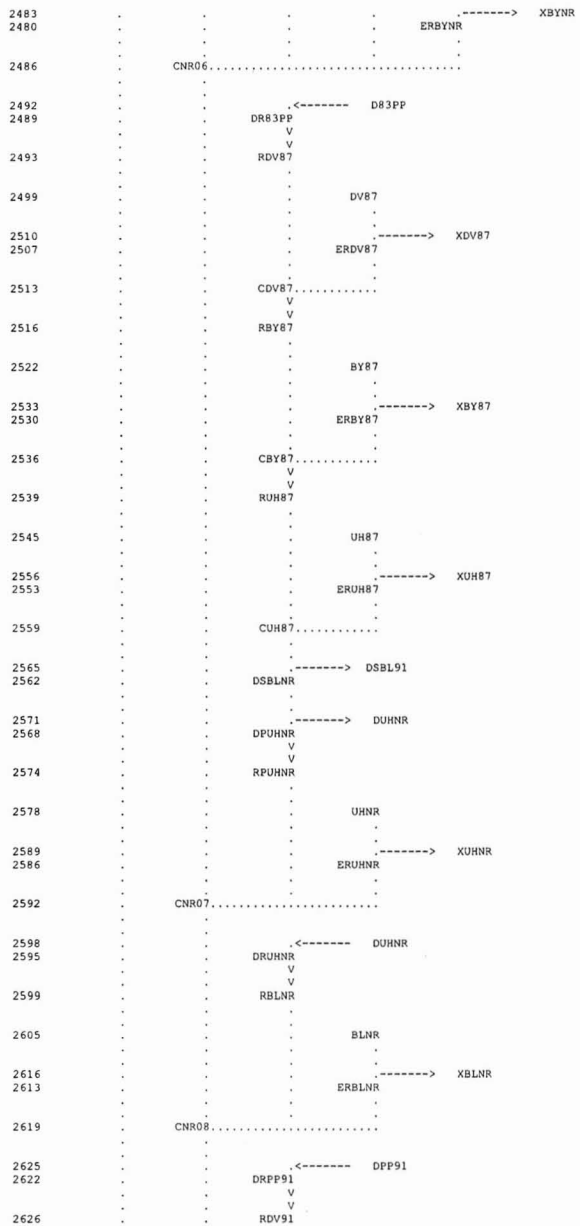
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2486 CNR06
2492
2489 DR83PP .<------- D83PP
2493 RDV87
2499 DV87
2510
2507 ERDV87 .-------> XDV87
2513 CDV87
2516 RBY87
2522 BY87
2533
2530 ERBY87 .-------> XBY87
2536 CBY87
2539 RUH87
2545 UH87
2556
2553 ERUH87 .-------> XUH87
2559 CUH87
2565
2562 DSBLNR .-------> DSBL91
2571
2568 DPUHNR .-------> DUHNR
2574 RPUHNR
2578 UHNR
2589
2586 ERUHNR .-------> XUHNR
2592 CNR07
2598
2595 DRUHNR .<------- DUHNR
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2619 CNR08
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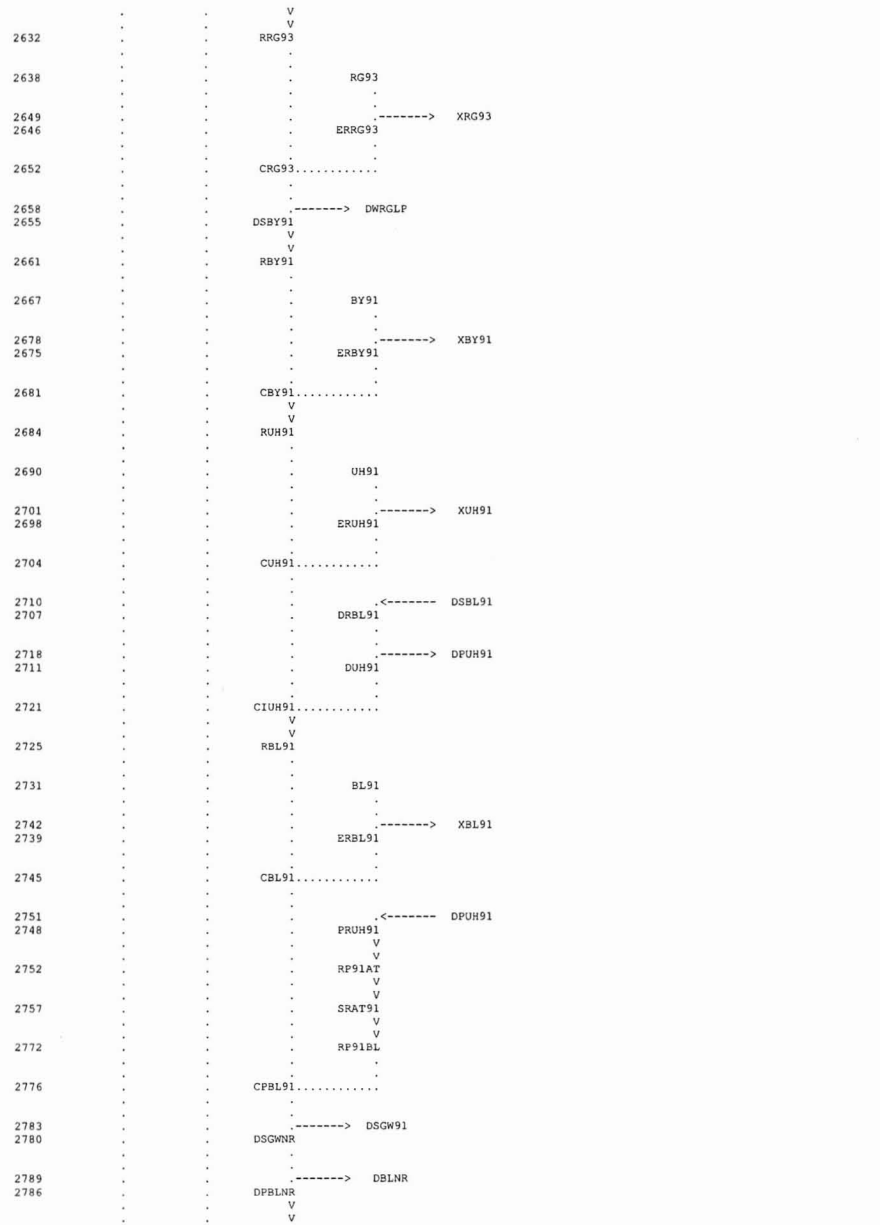
2622 DRPP91 .<------- DPP91
2626 RDV91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2638 RG93
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2652 CRG93
2658
2655 DSBY91 .-------> DWRGLP
2661 RBY91
2667 BY91
2678
2675 ERBY91 .-------> XBY91
2681 CBY91
2684 RUH91
2690 UH91
2701
2698 ERUH91 .-------> XUH91
2704 CUH91
2710
2707 DRBL91 .<------- DSBL91
2718
2711 DUH91 .-------> DPUH91
2721 CIUH91
2725 RBL91
2731 BL91
2742
2739 ERBL91 .-------> XBL91
2745 CBL91
2751
2748 PRUH91 .<------- DPUH91
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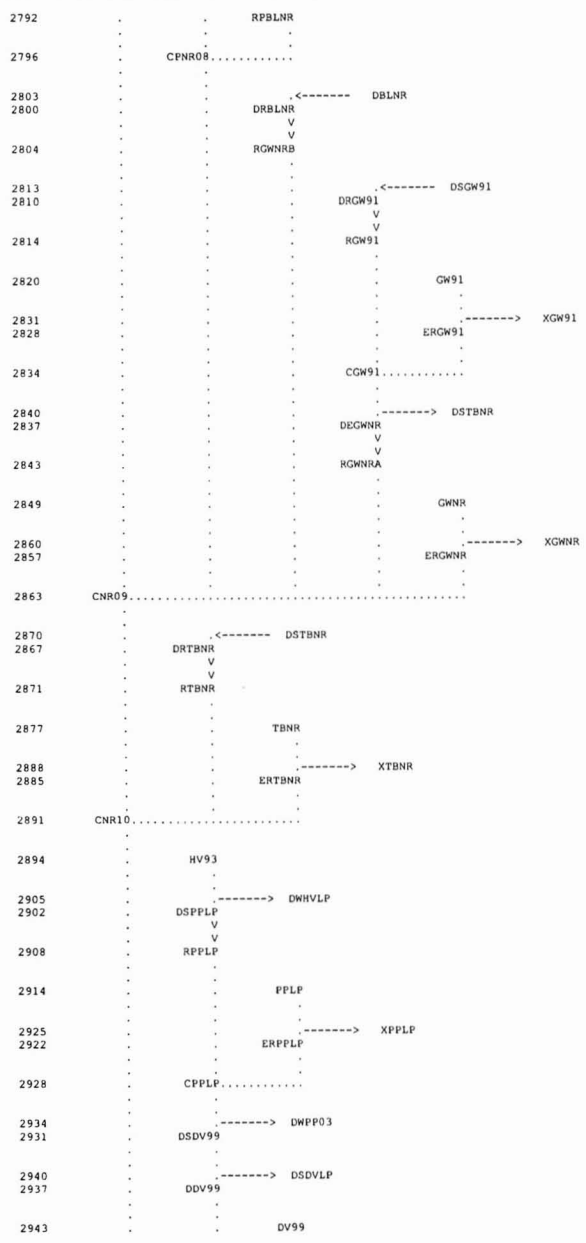
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2828 ERGW91
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2840 DSTBNR
2837 DEGWNR
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2849 GWNR
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2867 DRTBNR
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2877 TBNR
2888 XTBNR
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2891 CNR10
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2908 RPPLP
2914 PPLP
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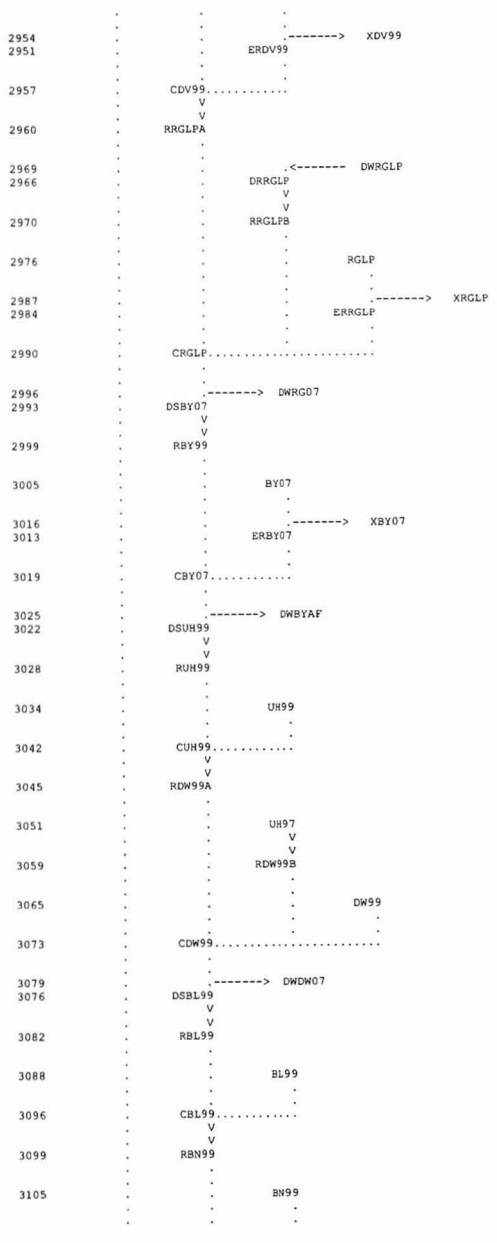
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2990 CRGLP
2996 DWRG07
2993 DSBY07
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3016 XBY07
3013 ERBY07
3019 CBY07
3025 DWBYAF
3022 DSUH99
3028 RUH99
3034 UH99
3042 CUH99
3045 RDW99A
3051 UH97
3059 RDW99B
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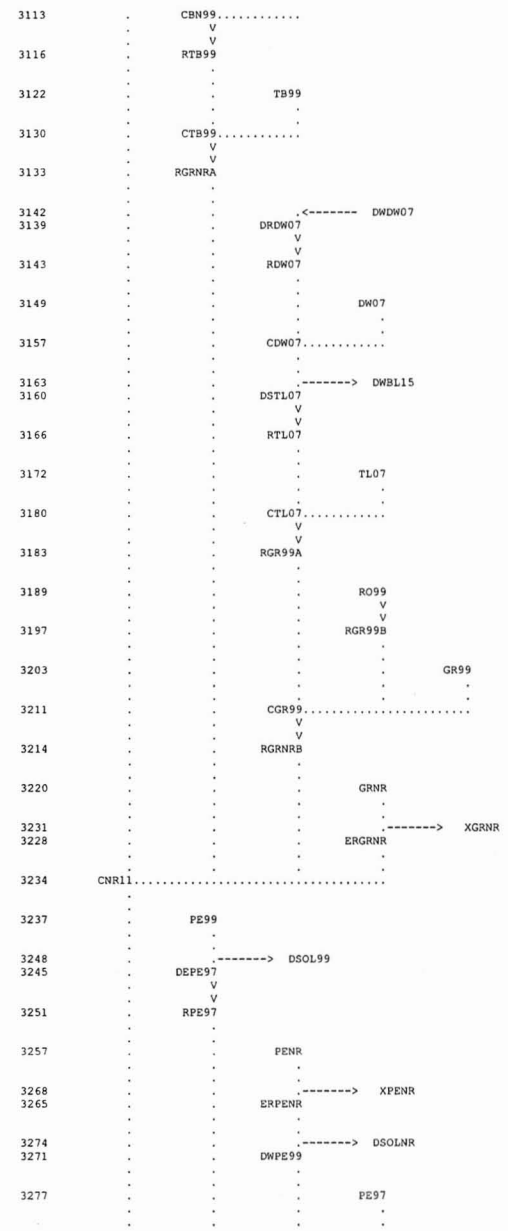
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RTL07
TL07
CTL07
RGR99A
RO99
RGR99B
GR99
CGR99
RGRNRB
GRNR
XGRNR
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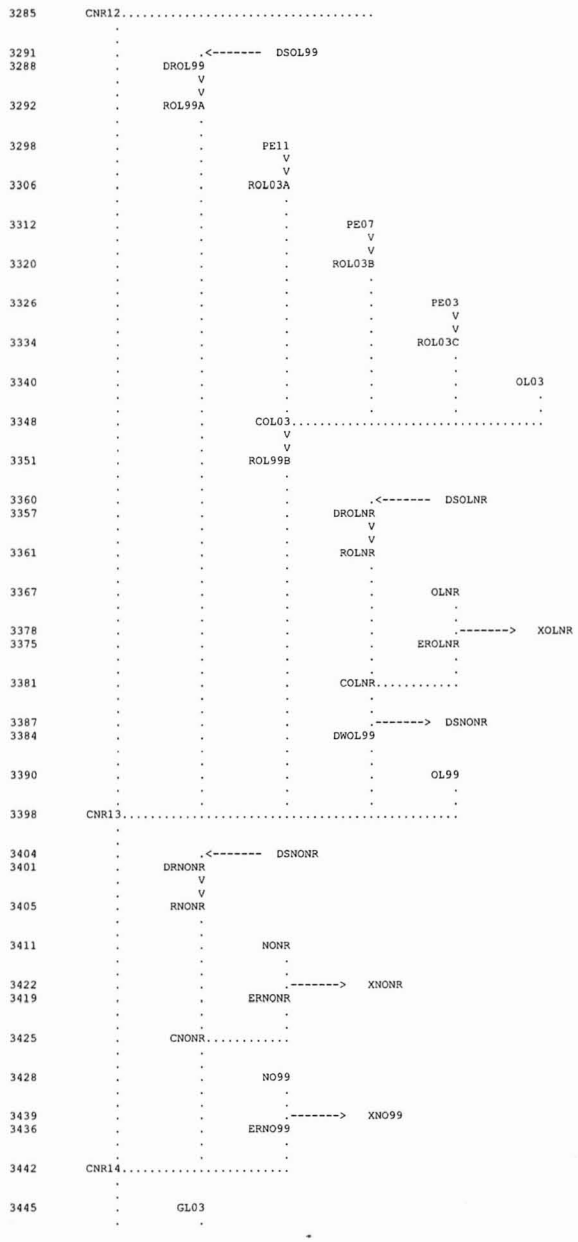
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PE07
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COL03
ROL99B
DSOLNR
DROLNR
ROLNR
OLNR
XOLNR
EROLNR
COLNR
DSNONR
DWOL99
OL99
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ERNONR
CNONR
NO99
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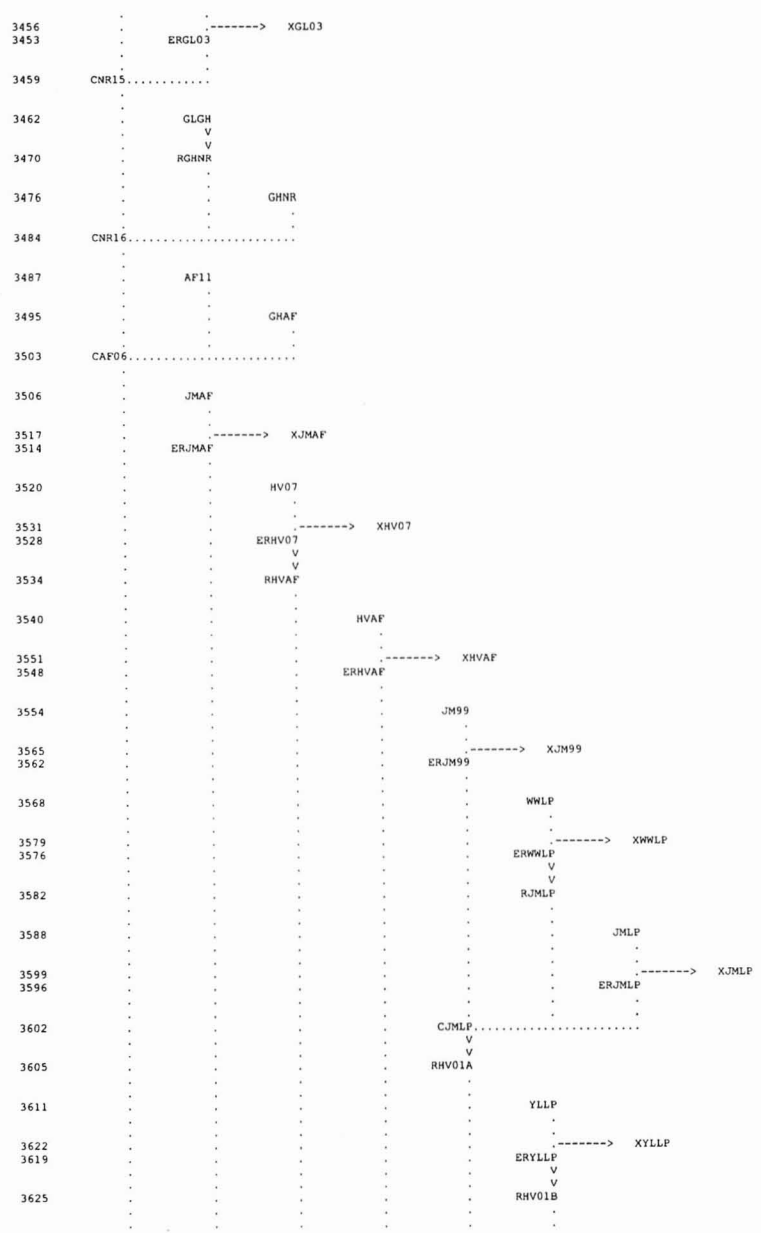
CNR14
GL03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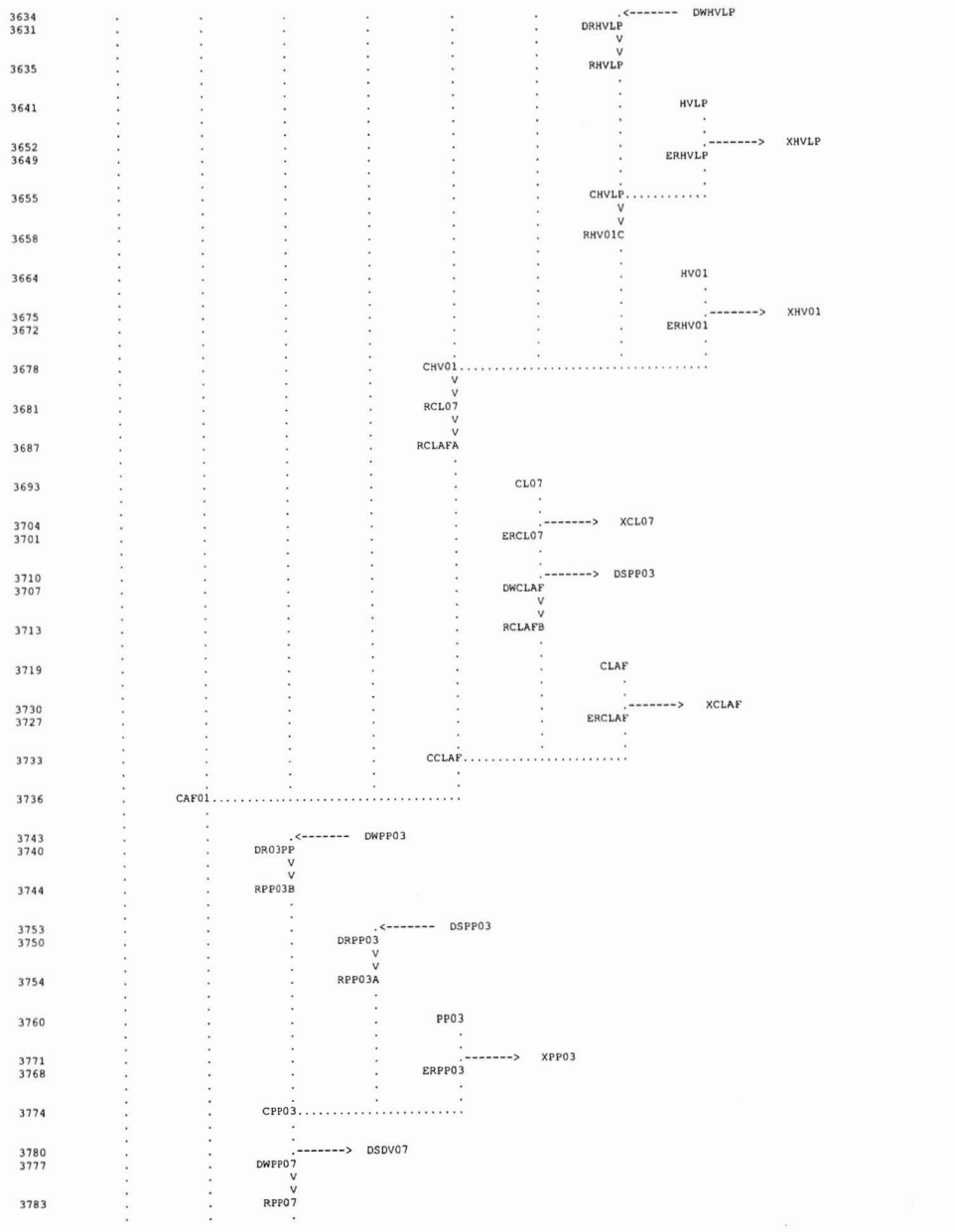
3506 JMAF
3517
3514 ERJMAF
XJMAF
3520 HV07
3531
3528 ERHV07
XHV07
3534 RHVAF
3540 HVAF
3551
3548 ERHVAF
XHVAF
3554 JM99
3565
3562 ERJM99
XJM99
3568 WWLP
3579
3576 ERWWLP
XWWLP
3582 RJMLP
3588 JMLP
3599
3596 ERJMLP
XJMLP
3602 CJMLP
3605 RHV01A
3611 YLLP
3622
3619 ERYLLP
XYLLP
3625 RHV01B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DWHVLP
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3641 HVLP
3652
3649 ERHVLP
XHVLP
3655 CHVLP
3658 RHV01C
3664 HV01
3675
3672 ERHV01
XHV01
3678 CHV01
3681 RCL07
3687 RCLAFA
3693 CL07
3704
3701 ERCL07
XCL07
3710
3707 DWCLAF
DSPP03
3713 RCLAFB
3719 CLAF
3730
3727 ERCLAF
XCLAF
3733 CCLAF
3736 CAF01
3743
3740 DR03PP
DWPP03
3744 RPP03B
3753
3750 DRPP03
DSPP03
3754 RPP03A
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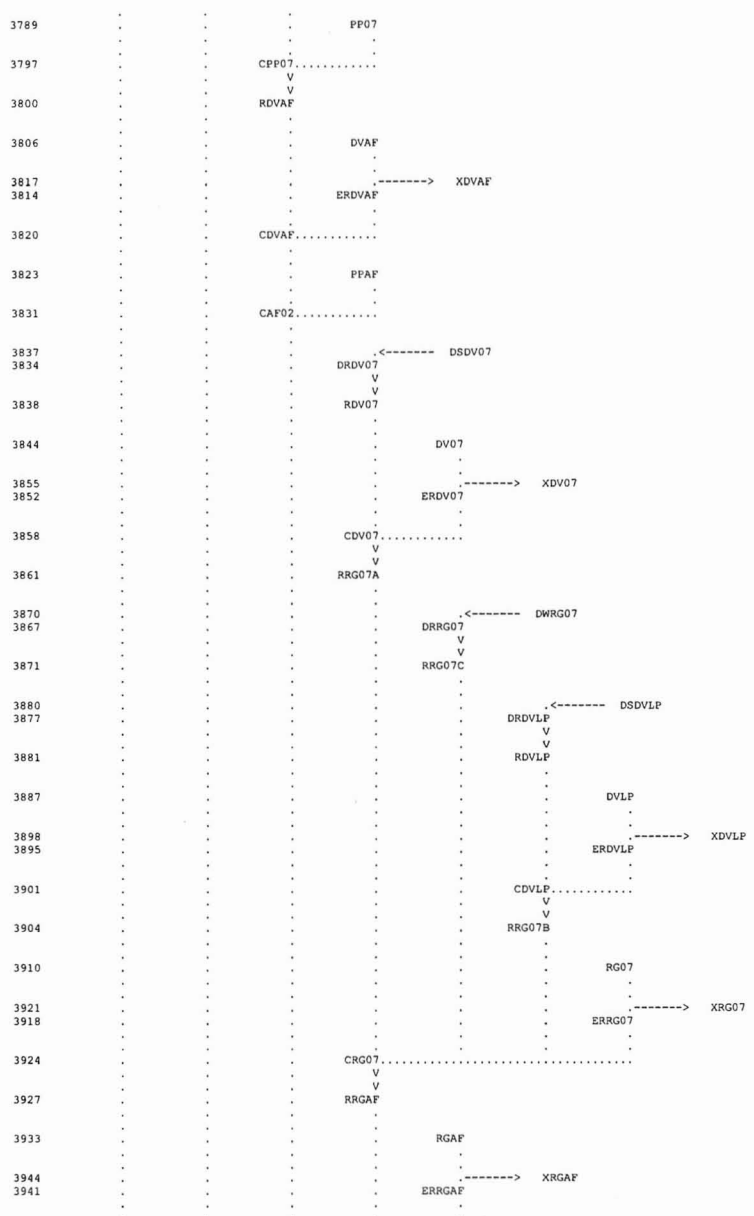
3771
3768 ERPP03
XPP03
3774 CPP03
3780
3777 DWPP07
DSDV07
3783 RPP07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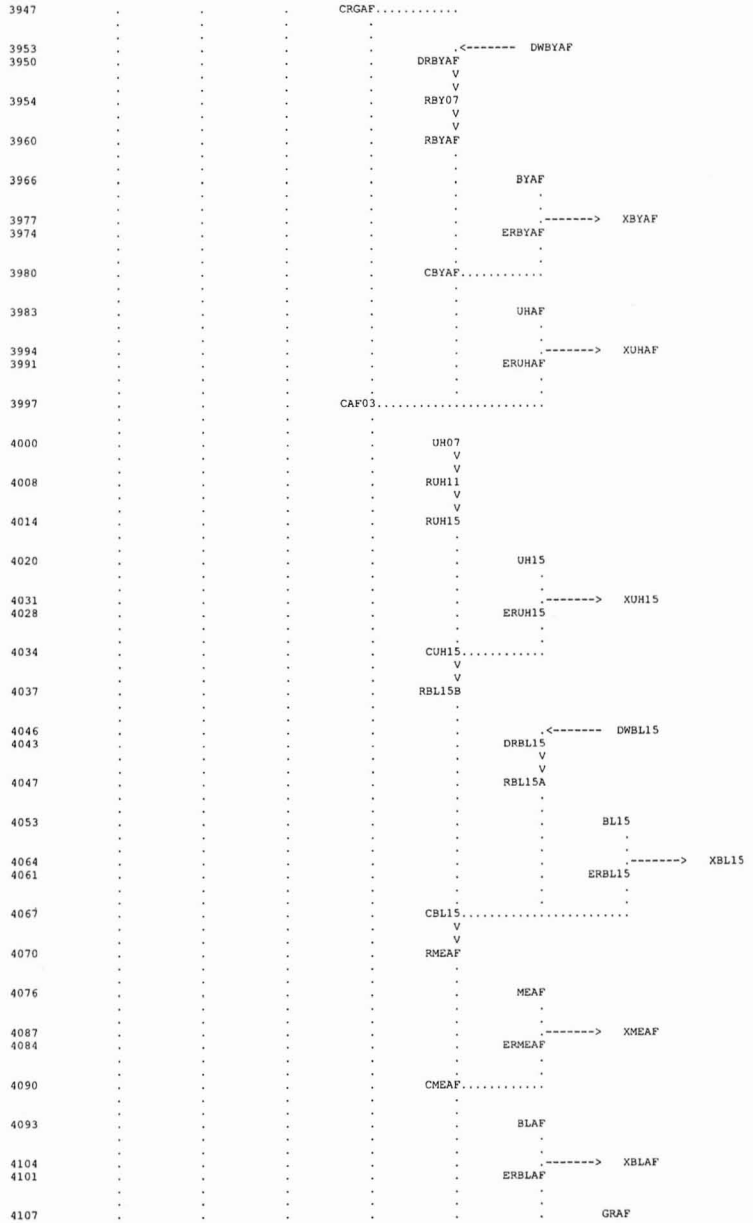
3797 CPP07
V
V
3800 RDVAF
3806 DVAF
3817 XDVAF
3814 ERDVAF
3820 CDVAF
3823 PPAF
3831 CAF02
3837 DSDV07
3834 DRDV07
V
V
3838 RDV07
3844 DV07
3855 XDV07
3852 ERDV07
3858 CDV07
V
V
3861 RRG07A
3870 DWRG07
3867 DRRG07
V
V
3871 RRG07C
3880 DSDVLP
3877 DRDVLP
V
V
3881 RDVLP
3887 DVLP
3898 XDVLP
3895 ERDVLP
3901 CDVLP
V
V
3904 RRG07B
3910 RG07
3921 XRG07
3918 ERRG07
3924 CRG07
V
V
3927 RRGAF
3933 RGAF
3944 XRGAF
3941 ERRGAF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V
V
3954 RBY07
V
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3960 RBYAF
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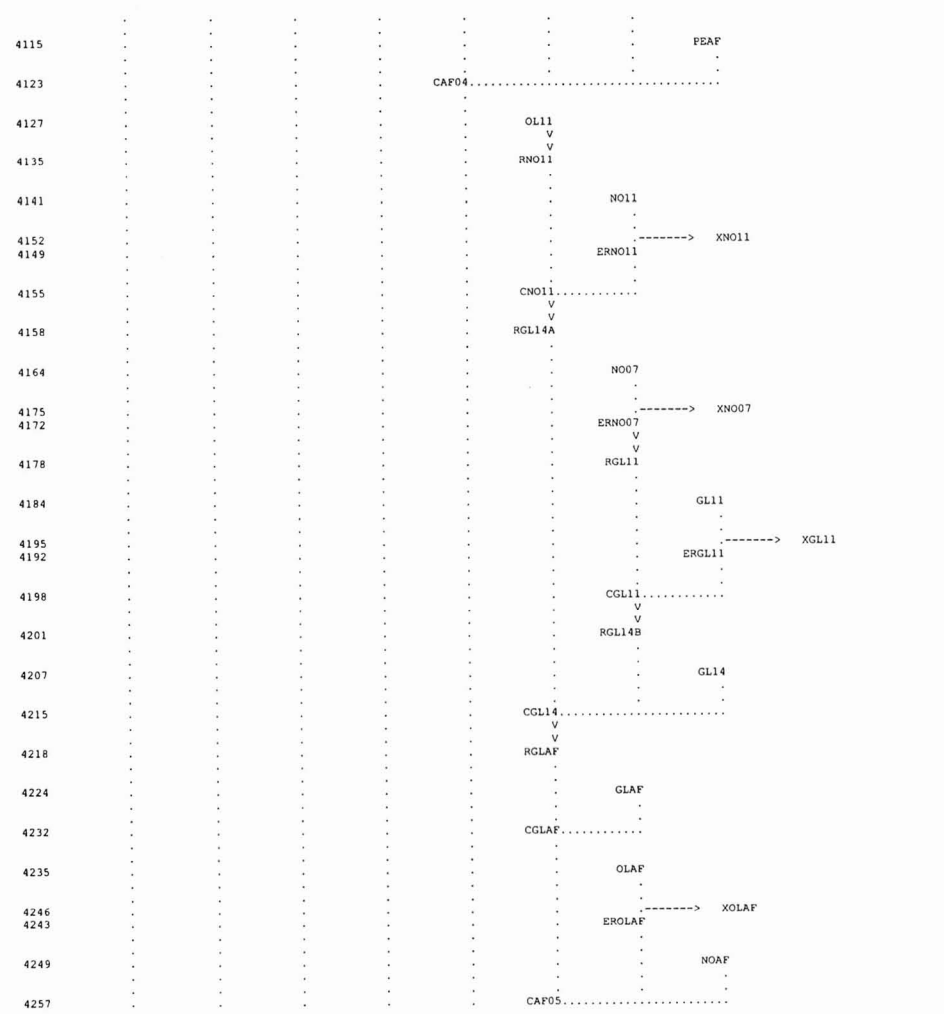
3980 CBYAF
3983 UHAF
3994 XUHAF
3991 ERUHAF
3997 CAF03
4000 UH07
V
V
4008 RUH11
V
V
4014 RUH15
4020 UH15
4031 XUH15
4028 ERUH15
4034 CUH15
V
V
4037 RBL15B
4046 DWBL15
4043 DRBL15
V
V
4047 RBL15A
4053 BL15
4064 XBL15
4061 ERBL15
4067 CBL15
V
V
4070 RMEAF
4076 MEAF
4087 XMEAF
4084 ERMEAF
4090 CMEAF
4093 BLAF
4104 XBLAF
4101 ERBLAF
4107 GRAF



(***) RUNOFF ALSO COMPUTED AT THIS LOCATION

```
1*************************************
*                                   *
*   FLOOD HYDROGRAPH PACKAGE  (HEC-1)   *
*             JUN  1998             *
*          VERSION 4.1              *
*                                   *
*  RUN DATE   01NOV10  TIME  13:51:48   *
*                                   *
*************************************
```

```
*************************************
*                                   *
*    U.S. ARMY CORPS OF ENGINEERS   *
*    HYDROLOGIC ENGINEERING CENTER  *
*          609 SECOND STREET        *
*       DAVIS, CALIFORNIA 95616     *
*           (916) 756-1104          *
*                                   *
*************************************
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GLENDALE STORMWATER MANAGEMENT PLAN

Model for Glendale/Peoria Watershed
Existing Conditions

Prepared for the City of Glendale
In Association with the Flood Control District of Maricopa County
City Project Number 089017

Prepared by Kimley-Horn and Associates, Inc.
KHA Project Number 091910009
October 2010

MODELING PARAMETERS
- 10 Year 6 Hour Storm Event
- NOAA 14 Rainfall Data
- Clark Unit Hydrograph
- Green and Ampt Rainfall Loss Method

Topo data extracted from Flood Control District database July 24, 2009
Land use obtained from City of Glendale General Plan August 2009, City of Phoenix General Plan August 2009, and MAG General Plan Land Use 2007

Storage routing data obtained from As-built Records or Final Drainage Reports where possible
When As-built data/Drainage reports were not available data was obtained from HEC-1 models and checked for accuracy.
Storage routing data obtained from the following HEC-1 models:
- Glendale/Peoria ADMPU, May 2001
- Glendale/Peoria ADMP Northwest Region Update, May 2007
The source of data is identified on each individual storage routing card

****

MODELING NOMENCLATURE
SUBBASIN HYDROGRAPH:
Example: JMRS - the subbasin upstream of Jomax and Rock Springs Wash

STORM DRAIN DIVERSION:
Example: DBL59 - flow from subbasin BL59 is diverted to a storm drain

SUBBASIN DIVERSION:
Example: DWBL59 - flow is diverted west towards Bell and 59th Avenue
Example: DSGW51 - flow is diverted south towards Greenway and 51st Ave

ROUTE HYDROGRAPH:
Example: RWBL51 - flow is routed west towards Bell and 51st Avenue
Example: RSGW59 - flow is routed south towards Greenway and 59th Ave

COMBINE HYDROGRAPH:
Example: CJMRS - combine flow at Jomax and Rock Springs Wash

STREET NAME ABBREVIATIONS

Jomax Road	JM
Happy Valley Road	HV
Pinnacle Peak Road	PP
Deer Valley Road	DV
SR Loop 101	LO
Beardsley Road	BY
Union Hills Drive	UH
Bell Road	BL
Greenway Road	GW
Thunderbird Road	TB
Cactus Road	CT
Peoria Avenue	PE
Olive Avenue	OL
Northern Avenue	NO
Glendale Avenue	GL
Bethany Home Road	BH
Camelback Road	CB
Indian School Road	IS
Thomas Road	TM
McDowell Road	MD
Interstate 10	IN
Grand Avenue	GR
Mountain View Road	MV
Pinnacle Hill Road	PH
Greenbriar Drive	GB
Utopia Road	UT
Pyramid Peak Boulevard	PY
Bent Tree Drive	BT
Glen Harbor Boulevard	GH
Black Rock Boulevard	BR
Rose Garden Lane	RG
Calle Lejos	CL
Rock Springs Wash	RS
Williams Road	WL
Del Webb Boulevard	DW
Westwing Parkway	WW
Lake Pleasant Parkway	LP
Thunderbird Park Road	TP
Talisman Road	TL
Royal Oak Road	RO
Yearling Road	YL
Meade Drive	ME

```
                          Acoma Drive              AM
                          Athens Street            AT


                        PREFIXES FOR MODELING OPERATIONS
                          RW     Routing flow in the west direction
                          RS     Routing flow in the south direction
                          RP     Routing storm drain pipe flow
                          C      Combination point
                          CI     Combination point at an intersection
                          CP     Combination point for storm drain pipe flow
                          SR     Storage for detention/retention basins
                          DW     Divert flow to the west
                          DE     Divert flow to the east
                          DS     Divert flow to the south
                          DN     Divert flow to the north
                          ER     Divert flow for existing 100-yr 2-hr retention
                          X      Existing retention diversion does not return to model
                          DR     Divert retrieval from surface flow
                          DI     Divert retrieval from intersection flow
                          D      Divert surface flow (remains after storm drain divert)
                          DP     Divert flow to a storm drain pipe
                          PR     Divert retrieval from a storm drain pipe

                       ********************************************************************

122 IO        OUTPUT CONTROL VARIABLES
                    IPRNT          5  PRINT CONTROL
                    IPLOT          0  PLOT CONTROL
                    QSCAL         0.  HYDROGRAPH PLOT SCALE

    IT        HYDROGRAPH TIME DATA
                     NMIN          5  MINUTES IN COMPUTATION INTERVAL
                    IDATE      1   0  STARTING DATE
                    ITIME       0000  STARTING TIME
                       NQ       1000  NUMBER OF HYDROGRAPH ORDINATES
                   NDDATE      4   0  ENDING DATE
                   NDTIME       1115  ENDING TIME
                    ICENT         19  CENTURY MARK

               COMPUTATION INTERVAL     .08 HOURS
                    TOTAL TIME BASE   83.25 HOURS

          ENGLISH UNITS
               DRAINAGE AREA          SQUARE MILES
               PRECIPITATION DEPTH    INCHES
               LENGTH, ELEVATION      FEET
               FLOW                   CUBIC FEET PER SECOND
               STORAGE VOLUME         ACRE-FEET
               SURFACE AREA           ACRES
               TEMPERATURE            DEGREES FAHRENHEIT

123 JD        INDEX STORM NO. 1
                    STRM        1.76  PRECIPITATION DEPTH
                    TRDA         .00  TRANSPOSITION DRAINAGE AREA

124 PI          PRECIPITATION PATTERN
                  .00      .00      .00      .00      .00      .00      .00      .00      .00      .00
                  .00      .00      .00      .00      .00      .00      .00      .00      .00      .00
                  .00      .00      .00      .00      .00      .00      .00      .00      .00      .00
                  .00      .00      .00      .01      .01      .01      .01      .01      .01      .03
                  .03      .03      .05      .05      .05      .15      .15      .15      .03      .03
                  .03      .01      .01      .01      .01      .01      .01      .00      .00      .00
                  .00      .00      .00      .00      .00      .00      .00      .00      .00      .00
                  .00      .00

127 JD        INDEX STORM NO. 2
                    STRM        1.75  PRECIPITATION DEPTH
                    TRDA         .50  TRANSPOSITION DRAINAGE AREA

128 PI          PRECIPITATION PATTERN
                  .00      .00      .00      .00      .00      .00      .00      .00      .00      .00
                  .00      .00      .00      .00      .00      .00      .00      .00      .00      .00
                  .00      .00      .00      .00      .00      .00      .00      .00      .00      .00
                  .00      .00      .00      .01      .01      .01      .01      .01      .01      .03
                  .03      .03      .05      .05      .05      .15      .15      .15      .03      .03
                  .03      .01      .01      .01      .01      .01      .01      .00      .00      .00
                  .00      .00      .00      .00      .00      .00      .00      .00      .00      .00
                  .00      .00

131 JD        INDEX STORM NO. 3
                    STRM        1.72  PRECIPITATION DEPTH
                    TRDA        2.80  TRANSPOSITION DRAINAGE AREA

132 PI          PRECIPITATION PATTERN
                  .00      .00      .00      .00      .00      .00      .00      .00      .00      .00
                  .00      .00      .00      .00      .00      .00      .00      .00      .00      .00
                  .00      .00      .00      .00      .00      .00      .00      .00      .00      .00
                  .00      .00      .00      .01      .01      .01      .01      .01      .01      .03
                  .03      .03      .07      .07      .07      .08      .08      .08      .05      .05
                  .05      .02      .02      .02      .01      .01      .01      .00      .00      .00
                  .00      .00      .00      .00      .00      .00      .00      .00      .00      .00
                  .00      .00
```



```
135 JD        INDEX STORM NO. 4
                    STRM        1.63  PRECIPITATION DEPTH
                    TRDA       16.00  TRANSPOSITION DRAINAGE AREA

136 PI          PRECIPITATION PATTERN
                  .01      .01      .00      .00      .00      .00      .00      .00      .00      .01
                  .01      .01      .00      .01      .00      .00      .00      .00      .00      .00
                  .00      .00      .01      .00      .00      .00      .00      .01      .01      .01
                  .01      .01      .01      .01      .01      .01      .02      .02      .02      .03
                  .03      .03      .06      .06      .06      .07      .07      .07      .04      .04
                  .04      .02      .02      .02      .01      .01      .01      .01      .01      .01
                  .00      .00      .00      .00      .00      .00      .00      .00      .00      .00
                  .00      .00

139 JD        INDEX STORM NO. 5
                    STRM        1.43  PRECIPITATION DEPTH
                    TRDA       90.00  TRANSPOSITION DRAINAGE AREA

140 PI          PRECIPITATION PATTERN
                  .01      .01      .01      .00      .00      .00      .01      .01      .01      .01
                  .01      .01      .01      .01      .01      .01      .01      .01      .01      .01
                  .01      .01      .01      .01      .01      .01      .01      .01      .01      .01
                  .01      .01      .01      .01      .01      .01      .02      .02      .02      .03
                  .03      .03      .05      .05      .05      .05      .05      .05      .04      .04
                  .04      .02      .02      .02      .02      .02      .02      .01      .01      .01
                  .01      .01      .01      .01      .01      .01      .01      .01      .01      .01
                  .01      .01

143 JD        INDEX STORM NO. 6
                    STRM        1.41  PRECIPITATION DEPTH
                    TRDA      100.00  TRANSPOSITION DRAINAGE AREA

144 PI          PRECIPITATION PATTERN
                  .01      .01      .01      .00      .01      .00      .01      .01      .01      .01
                  .01      .01      .01      .01      .01      .01      .01      .01      .01      .01
                  .01      .01      .01      .01      .01      .01      .01      .01      .01      .01
                  .01      .01      .01      .01      .01      .01      .02      .02      .02      .03
                  .03      .03      .04      .04      .04      .05      .05      .05      .04      .04
                  .04      .02      .02      .02      .02      .02      .02      .01      .01      .01
                  .01      .01      .01      .01      .01      .01      .01      .01      .01      .01
                  .01      .01

       *** FDKRUT WARNING TIME STEP CALCULATION FAILED TO CONVERGE. STABILITY PROBLEMS MAY RESULT


       WARNING EXCESS AT PONDING LESS THAN ZERO FOR PERIOD. EXCESS SET TO ZERO


 ***  Multiple FDKRUT Warnings deleted from model for brevity and in consideration of the environment when printing ***

1
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RUNOFF SUMMARY
FLOW IN CUBIC FEET PER SECOND
TIME IN HOURS, AREA IN SQUARE MILES

	OPERATION	STATION	PEAK FLOW	TIME OF PEAK	AVERAGE FLOW FOR MAXIMUM PERIOD 6-HOUR	24-HOUR	72-HOUR	BASIN AREA	MAXIMUM STAGE	TIME OF MAX STAGE
+	HYDROGRAPH AT	UH35	563.	4.58	166.	43.	14.	1.14		
+	DIVERSION TO	XUH35	563.	4.58	95.	24.	8.	1.14		
+	HYDROGRAPH AT	ERUH35	425.	5.17	75.	19.	6.	1.14		
+	DIVERSION TO	DPUH35	425.	5.17	75.	19.	6.	1.14		
+	HYDROGRAPH AT	DUH35	0.	.00	0.	0.	0.	1.14		
+	DIVERSION TO	DWUH43	0.	.00	0.	0.	0.	1.14		
+	HYDROGRAPH AT	DSBL35	0.	.00	0.	0.	0.	1.14		
+	ROUTED TO	RSBL35	0.	.00	0.	0.	0.	1.14		
+	HYDROGRAPH AT	BL35	433.	4.75	143.	37.	12.	1.14		
+	DIVERSION TO	XBL35	164.	4.17	16.	4.	1.	1.14		
+	HYDROGRAPH AT	ERBL35	433.	4.75	132.	33.	11.	1.14		

+	2 COMBINED AT	CBL35	415.	4.75	129.	32.	11.	1.70
+	DIVERSION TO	DP35BL	158.	4.25	79.	20.	7.	1.70
+	HYDROGRAPH AT	D35BL	257.	4.75	50.	13.	4.	1.70
+	DIVERSION TO	DWBL43	170.	4.75	33.	8.	3.	1.70
+	HYDROGRAPH AT	DSGW35	87.	4.75	17.	4.	1.	1.70
+	ROUTED TO	RSGW35	71.	5.33	17.	4.	1.	1.70
+	HYDROGRAPH AT	GW35	367.	4.75	125.	32.	11.	1.01
+	2 COMBINED AT	CGW35	382.	5.08	139.	36.	12.	1.58
+	HYDROGRAPH AT	PR35BL	158.	4.25	79.	20.	7.	1.70
+	ROUTED TO	RP35GW	158.	4.42	79.	20.	7.	1.70
+	2 COMBINED AT	CPGW35	540.	5.08	217.	56.	19.	1.58
+	DIVERSION TO	DP35GW	318.	4.42	169.	44.	15.	1.58
+	HYDROGRAPH AT	D35GW	222.	5.08	47.	12.	4.	1.58
+	DIVERSION TO	DWGW43	129.	5.08	27.	7.	2.	1.58
+	HYDROGRAPH AT	DSTB35	93.	5.08	20.	5.	2.	1.58
+	ROUTED TO	RSTB35	84.	5.58	20.	5.	2.	1.58
+	HYDROGRAPH AT	TB35	355.	4.75	119.	31.	10.	.98
+	2 COMBINED AT	CTB35	352.	5.17	136.	35.	12.	1.65
+	HYDROGRAPH AT	PR35GW	318.	4.42	169.	44.	15.	1.58
+	ROUTED TO	RP35TB	318.	4.58	169.	44.	15.	1.58
+	2 COMBINED AT	CPTB35	670.	5.17	305.	79.	26.	1.65
+	DIVERSION TO	DP35TB	554.	4.42	283.	74.	25.	1.65
+	HYDROGRAPH AT	D35TB	116.	5.17	22.	5.	2.	1.65
+	DIVERSION TO	DWTB43	60.	5.17	11.	3.	1.	1.65
+	HYDROGRAPH AT	DSCT35	55.	5.17	10.	3.	1.	1.65
+	ROUTED TO	RSCT35	43.	5.83	10.	3.	1.	1.65
+	HYDROGRAPH AT	CT35	321.	4.75	111.	29.	10.	.98
+	2 COMBINED AT	CCT35	304.	4.83	117.	30.	10.	1.76
+	HYDROGRAPH AT	PR35TB	554.	4.42	283.	74.	25.	1.65
+	ROUTED TO	RP35CT	554.	4.58	283.	74.	25.	1.65
+	2 COMBINED AT	CPCT35	858.	4.83	400.	104.	35.	1.76

+	DIVERSION TO	DP35CT	554.	4.42	320.	84.	28.	1.76
+	HYDROGRAPH AT	D35CT	304.	4.83	80.	20.	7.	1.76
+	DIVERSION TO	DWCT43	176.	4.83	46.	12.	4.	1.76
+	HYDROGRAPH AT	DSPE35	127.	4.83	33.	8.	3.	1.76
+	ROUTED TO	RSPE35	116.	5.67	33.	8.	3.	1.76
+	HYDROGRAPH AT	PE35	290.	4.75	100.	26.	9.	.98
+	2 COMBINED AT	CPE35	316.	5.33	128.	33.	11.	1.71
+	HYDROGRAPH AT	PR35CT	554.	4.42	320.	84.	28.	1.76
+	ROUTED TO	RP35PE	554.	4.58	320.	84.	28.	1.76
+	2 COMBINED AT	CPPE35	870.	5.33	448.	117.	39.	1.71
+	DIVERSION TO	DP35PE	466.	4.25	310.	83.	28.	1.71
+	HYDROGRAPH AT	D35PE	404.	5.33	138.	34.	11.	1.71
+	DIVERSION TO	DWPE43	283.	5.33	97.	24.	8.	1.71
+	HYDROGRAPH AT	DSAC35	121.	5.33	41.	10.	3.	1.71
+	ROUTED TO	RSAC35	119.	5.58	41.	10.	3.	1.71
+	HYDROGRAPH AT	AC35	392.	4.50	108.	28.	9.	.75
+	2 COMBINED AT	CAC01	418.	4.75	148.	38.	13.	1.27
+	HYDROGRAPH AT	PR35PE	466.	4.25	310.	83.	28.	1.71
+	ROUTED TO	RP35AC	466.	4.33	310.	83.	28.	1.71
+	2 COMBINED AT	CPAC01	884.	4.75	456.	121.	40.	1.27
+	HYDROGRAPH AT	DRUH43	0.	.00	0.	0.	0.	1.14
+	ROUTED TO	RWUH43	0.	.00	0.	0.	0.	1.14
+	HYDROGRAPH AT	UH43	307.	4.75	98.	25.	8.	1.02
+	DIVERSION TO	XUH43	307.	4.75	54.	14.	5.	1.02
+	HYDROGRAPH AT	ERUH43	213.	5.50	46.	12.	4.	1.02
+	2 COMBINED AT	CUH43	206.	5.50	42.	11.	4.	1.60
+	HYDROGRAPH AT	PRUH35	425.	5.17	75.	19.	6.	1.14
+	ROUTED TO	RPUH43	420.	5.25	76.	19.	6.	1.14
+	2 COMBINED AT	CPUH43	536.	5.50	117.	29.	10.	1.60
+	DIVERSION TO	DPUH43	536.	5.50	117.	29.	10.	1.60
+	HYDROGRAPH AT	DUH43	0.	.00	0.	0.	0.	1.60

+	DIVERSION TO HYDROGRAPH AT	DWUH51	0.	.00	0.	0.	0.	1.60
+	ROUTED TO	DSBL43	0.	.00	0.	0.	0.	1.60
+	HYDROGRAPH AT	RSBL43	0.	.00	0.	0.	0.	1.60
+	ROUTED TO	DRBL43	170.	4.75	33.	8.	3.	1.70
+	HYDROGRAPH AT	RWBL43	144.	5.33	33.	8.	3.	1.70
+	3 COMBINED AT	BL43	380.	4.75	126.	33.	11.	1.05
+	DIVERSION TO	CBL43	428.	5.25	150.	38.	13.	3.10
+	HYDROGRAPH AT	DP43BL	117.	4.17	73.	19.	6.	3.10
+	DIVERSION TO	D43BL	311.	5.25	76.	19.	6.	3.10
+	HYDROGRAPH AT	DWBL51	143.	5.25	35.	9.	3.	3.10
+	ROUTED TO	DSGW43	168.	5.25	41.	10.	3.	3.10
+	HYDROGRAPH AT	RSGW43	153.	5.58	41.	10.	3.	3.10
+	ROUTED TO	DRGW43	129.	5.08	27.	7.	2.	1.58
+	HYDROGRAPH AT	RWGW43	116.	5.58	27.	7.	2.	1.58
+	DIVERSION TO	GW43	325.	4.75	110.	28.	9.	.99
+	HYDROGRAPH AT	XGW43	102.	4.17	11.	3.	1.	.99
+	3 COMBINED AT	ERGW43	325.	4.75	103.	26.	9.	.99
+	HYDROGRAPH AT	CGW43	449.	5.50	157.	39.	13.	3.57
+	ROUTED TO	PR43BL	117.	4.17	73.	19.	6.	3.10
+	2 COMBINED AT	RP43GW	117.	4.33	73.	19.	6.	3.10
+	DIVERSION TO	CPGW43	566.	5.50	229.	59.	20.	3.57
+	HYDROGRAPH AT	DP43GW	155.	4.17	105.	28.	9.	3.57
+	DIVERSION TO	D43GW	411.	5.50	124.	31.	10.	3.57
+	HYDROGRAPH AT	DWGW51	218.	5.50	66.	16.	5.	3.57
+	ROUTED TO	DSTB43	193.	5.50	58.	15.	5.	3.57
+	HYDROGRAPH AT	RSTB43	179.	5.83	58.	15.	5.	3.57
+	ROUTED TO	DRTB43	60.	5.17	11.	3.	1.	1.65
+	HYDROGRAPH AT	RWTB43	47.	5.83	11.	3.	1.	1.65
+	3 COMBINED AT	TB43	326.	4.75	107.	28.	9.	1.00
+	HYDROGRAPH AT	CTB43	397.	5.50	163.	42.	14.	3.55
+		PR43GW	155.	4.17	105.	28.	9.	3.57

+	ROUTED TO	RP43TB	155.	4.33	105.	28.	9.	3.57
+	2 COMBINED AT	CPTB43	552.	5.50	268.	69.	23.	3.55
+	DIVERSION TO	DP43TB	312.	4.42	203.	53.	18.	3.55
+	HYDROGRAPH AT	D43TB	240.	5.50	65.	16.	5.	3.55
+	DIVERSION TO	DWTB51	151.	5.50	41.	10.	3.	3.55
+	HYDROGRAPH AT	DSCT43	89.	5.50	24.	6.	2.	3.55
+	ROUTED TO	RSCT43	82.	6.00	24.	6.	2.	3.55
+	HYDROGRAPH AT	DRCT43	176.	4.83	46.	12.	4.	1.76
+	ROUTED TO	RWCT43	163.	5.50	46.	12.	4.	1.76
+	HYDROGRAPH AT	CT43	367.	4.75	124.	32.	11.	1.00
+	DIVERSION TO	XCT43	367.	4.75	83.	21.	7.	1.00
+	HYDROGRAPH AT	ERCT43	212.	5.75	45.	11.	4.	1.00
+	3 COMBINED AT	CCT43	410.	5.75	104.	26.	9.	3.35
+	HYDROGRAPH AT	PR43TB	312.	4.42	203.	53.	18.	3.55
+	ROUTED TO	RP43CT	312.	4.58	203.	53.	18.	3.55
+	2 COMBINED AT	CPCT43	722.	5.75	307.	79.	26.	3.35
+	DIVERSION TO	DP43CT	380.	5.25	245.	64.	21.	3.35
+	HYDROGRAPH AT	D43CT	342.	5.75	62.	15.	5.	3.35
+	DIVERSION TO	DWCT51	215.	5.75	39.	10.	3.	3.35
+	HYDROGRAPH AT	DSPE43	127.	5.75	23.	6.	2.	3.35
+	ROUTED TO	RSPE43	94.	6.50	23.	6.	2.	3.35
+	HYDROGRAPH AT	DRPE43	283.	5.33	97.	24.	8.	1.71
+	ROUTED TO	RWPE43	274.	5.75	97.	24.	8.	1.71
+	HYDROGRAPH AT	PE43	285.	4.75	96.	25.	8.	1.00
+	3 COMBINED AT	CPE43	423.	5.33	195.	50.	17.	3.42
+	HYDROGRAPH AT	PR43CT	380.	5.25	245.	64.	21.	3.35
+	ROUTED TO	RP43PE	380.	5.42	245.	64.	21.	3.35
+	2 COMBINED AT	CPPE43	803.	5.33	439.	113.	38.	3.42
+	DIVERSION TO	DP43PE	520.	4.83	349.	91.	30.	3.42
+	HYDROGRAPH AT	D43PE	283.	5.33	90.	23.	8.	3.42
+	DIVERSION TO	DWAC51	108.	5.33	34.	9.	3.	3.42

+	HYDROGRAPH AT	DSAC43	176.	5.33	56.	14.	5.	3.42
+	HYDROGRAPH AT	AC43	81.	4.83	35.	10.	3.	.36
+	3 COMBINED AT	CAC02	1014.	5.17	526.	139.	46.	3.75
+	HYDROGRAPH AT	PR43PE	520.	4.83	349.	91.	30.	3.42
+	2 COMBINED AT	CPAC02	1534.	5.17	872.	230.	77.	3.75
+	HYDROGRAPH AT	DRUH51	0.	.00	0.	0.	0.	1.60
+	ROUTED TO	RWUH51	0.	.00	0.	0.	0.	1.60
+	HYDROGRAPH AT	UH51	275.	4.75	94.	24.	8.	.99
+	DIVERSION TO	XUH51	275.	4.75	91.	23.	8.	.99
+	HYDROGRAPH AT	ERUH51	26.	7.25	4.	1.	0.	.99
+	2 COMBINED AT	CUH51	13.	7.25	2.	1.	0.	1.66
+	DIVERSION TO	DWUHSK	8.	7.25	1.	0.	0.	1.66
+	HYDROGRAPH AT	DSBL51	5.	7.25	1.	0.	0.	1.66
+	HYDROGRAPH AT	PRUH43	536.	5.50	117.	29.	10.	1.60
+	ROUTED TO	RPUH51	526.	5.58	117.	29.	10.	1.60
+	2 COMBINED AT	CPUH51	526.	5.58	118.	29.	10.	1.66
+	DIVERSION TO	DPUH51	526.	5.58	118.	29.	10.	1.66
+	HYDROGRAPH AT	DUH51	0.	.00	0.	0.	0.	1.66
+	ROUTED TO	RSBL51	0.	.00	0.	0.	0.	1.66
+	HYDROGRAPH AT	DRBL51	143.	5.25	35.	9.	3.	3.10
+	ROUTED TO	RWBL51	134.	5.50	35.	9.	3.	3.10
+	HYDROGRAPH AT	BL51	329.	4.75	110.	28.	9.	1.04
+	DIVERSION TO	XBL51	329.	4.75	46.	12.	4.	1.04
+	HYDROGRAPH AT	ERBL51	300.	5.08	67.	17.	6.	1.04
+	3 COMBINED AT	CBL51	368.	5.25	93.	23.	8.	3.12
+	DIVERSION TO	DP51BL	38.	5.08	24.	6.	2.	3.12
+	HYDROGRAPH AT	D51BL	330.	5.25	69.	17.	6.	3.12
+	DIVERSION TO	DWBL59	171.	5.25	36.	9.	3.	3.12
+	HYDROGRAPH AT	DSGW51	158.	5.25	33.	8.	3.	3.12
+	ROUTED TO	RSGW51	130.	5.92	33.	8.	3.	3.12
+	HYDROGRAPH AT	DRGW51	218.	5.50	66.	16.	5.	3.57

+	ROUTED TO	RWGW51	204.	5.83	66.	16.	5.	3.57
+	HYDROGRAPH AT	GW51	255.	4.75	83.	21.	7.	.96
+	DIVERSION TO	XGW51	10.	3.42	3.	1.	0.	.96
+	HYDROGRAPH AT	ERGW51	255.	4.75	83.	21.	7.	.96
+	3 COMBINED AT	CGW51	422.	5.75	163.	41.	14.	4.34
+	HYDROGRAPH AT	PR51BL	38.	5.08	24.	6.	2.	3.12
+	ROUTED TO	RP51GW	38.	5.25	24.	6.	2.	3.12
+	2 COMBINED AT	CPGW51	460.	5.75	186.	47.	16.	4.34
+	DIVERSION TO	DP51GW	150.	4.58	103.	26.	9.	4.34
+	HYDROGRAPH AT	D51GW	310.	5.75	82.	21.	7.	4.34
+	DIVERSION TO	DWGW59	201.	5.75	53.	13.	4.	4.34
+	HYDROGRAPH AT	DSTB51	108.	5.75	29.	7.	2.	4.34
+	ROUTED TO	RSTB51	100.	6.25	29.	7.	2.	4.34
+	HYDROGRAPH AT	DRTB51	151.	5.50	41.	10.	3.	3.55
+	ROUTED TO	RWTB51	142.	5.92	41.	10.	3.	3.55
+	HYDROGRAPH AT	TB51	276.	4.75	90.	23.	8.	.99
+	3 COMBINED AT	CTB51	323.	5.83	141.	36.	12.	4.70
+	HYDROGRAPH AT	PR51GW	150.	4.58	103.	26.	9.	4.34
+	ROUTED TO	RP51TB	150.	4.75	103.	26.	9.	4.34
+	2 COMBINED AT	CPTB51	473.	5.83	243.	62.	21.	4.70
+	DIVERSION TO	DP51TB	244.	4.50	170.	44.	15.	4.70
+	HYDROGRAPH AT	D51TB	229.	5.83	73.	18.	6.	4.70
+	DIVERSION TO	DWTB59	139.	5.83	45.	11.	4.	4.70
+	HYDROGRAPH AT	DSCT51	89.	5.83	29.	7.	2.	4.70
+	ROUTED TO	RSCT51	86.	6.25	29.	7.	2.	4.70
+	HYDROGRAPH AT	DRCT51	215.	5.75	39.	10.	3.	3.35
+	ROUTED TO	RWCT51	168.	6.42	39.	10.	3.	3.35
+	HYDROGRAPH AT	CT51	301.	4.75	101.	26.	9.	.99
+	DIVERSION TO	XCT51	301.	4.75	60.	15.	5.	.99
+	HYDROGRAPH AT	ERCT51	199.	5.58	44.	11.	4.	.99
+	3 COMBINED AT	CCT51	310.	6.33	93.	23.	8.	4.94

+	HYDROGRAPH AT	PR51TB	244.	4.50	170.	44.	15.	4.70
+	ROUTED TO	RP51CT	244.	4.67	170.	44.	15.	4.70
+	2 COMBINED AT	CPCT51	554.	6.33	262.	67.	22.	4.94
+	DIVERSION TO	DP51CT	244.	4.67	179.	46.	15.	4.94
+	HYDROGRAPH AT	D51CT	310.	6.33	83.	21.	7.	4.94
+	DIVERSION TO	DWAC59	102.	6.33	27.	7.	2.	4.94
+	HYDROGRAPH AT	DSAC51	208.	6.33	56.	14.	5.	4.94
+	HYDROGRAPH AT	DRAC51	108.	5.33	34.	9.	3.	3.42
+	HYDROGRAPH AT	AC51	164.	4.83	70.	19.	6.	.58
+	4 COMBINED AT	CAC03	1685.	5.25	961.	255.	85.	8.95
+	HYDROGRAPH AT	PR51CT	244.	4.67	179.	46.	15.	4.94
+	2 COMBINED AT	CPAC03	1929.	5.25	1135.	300.	100.	8.95
+	HYDROGRAPH AT	DRBL59	171.	5.25	36.	9.	3.	3.12
+	ROUTED TO	RWBL59	147.	5.92	36.	9.	3.	3.12
+	HYDROGRAPH AT	BL59	368.	4.75	124.	32.	11.	1.08
+	DIVERSION TO	XBL59	368.	4.75	124.	32.	11.	1.08
+	HYDROGRAPH AT	ERBL59	0.	.00	0.	0.	0.	1.08
+	2 COMBINED AT	CBL59	153.	5.92	37.	9.	3.	2.71
+	DIVERSION TO	DP59BL	108.	5.67	33.	8.	3.	2.71
+	HYDROGRAPH AT	D59BL	45.	5.92	4.	1.	0.	2.71
+	DIVERSION TO	DWBL67	14.	5.92	1.	0.	0.	2.71
+	HYDROGRAPH AT	DSGW59	31.	5.92	3.	1.	0.	2.71
+	ROUTED TO	RSGW59	15.	6.67	3.	1.	0.	2.71
+	HYDROGRAPH AT	DRGW59	201.	5.75	53.	13.	4.	4.34
+	ROUTED TO	RWGW59	189.	6.25	53.	13.	4.	4.34
+	HYDROGRAPH AT	GW59	339.	4.75	116.	30.	10.	.94
+	DIVERSION TO	XGW59	339.	4.75	71.	18.	6.	.94
+	HYDROGRAPH AT	ERGW59	227.	5.58	49.	12.	4.	.94
+	3 COMBINED AT	CGW59	303.	6.08	87.	22.	7.	5.64
+	HYDROGRAPH AT	PR59BL	108.	5.67	33.	8.	3.	2.71
+	ROUTED TO	RP59GW	108.	5.83	33.	8.	3.	2.71

+	2 COMBINED AT	CPGW59	405.	6.17	117.	29.	10.	5.64
+	DIVERSION TO	DP59GW	273.	6.08	96.	24.	8.	5.64
+	HYDROGRAPH AT	D59GW	132.	6.17	20.	5.	2.	5.64
+	DIVERSION TO	DWGW67	59.	6.17	9.	2.	1.	5.64
+	HYDROGRAPH AT	DSTB59	72.	6.17	11.	3.	1.	5.64
+	ROUTED TO	RSTB59	49.	6.83	11.	3.	1.	5.64
+	HYDROGRAPH AT	DRTB59	139.	5.83	45.	11.	4.	4.70
+	ROUTED TO	RWTB59	134.	6.17	45.	11.	4.	4.70
+	HYDROGRAPH AT	TB59	300.	4.75	101.	26.	9.	1.00
+	3 COMBINED AT	CTB59	253.	5.25	131.	34.	11.	6.96
+	HYDROGRAPH AT	PR59GW	273.	6.08	96.	24.	8.	5.64
+	ROUTED TO	RP59AM	273.	6.17	96.	24.	8.	5.64
+	ROUTED TO	SRAM59	241.	6.92	96.	24.	8.	5.64
+	ROUTED TO	RP59TB	241.	6.92	96.	24.	8.	5.64
+	2 COMBINED AT	CPTB59	415.	6.83	221.	57.	19.	6.96
+	DIVERSION TO	DPTB59	415.	6.83	221.	57.	19.	6.96
+	HYDROGRAPH AT	DTB59	0.	.00	0.	0.	0.	6.96
+	DIVERSION TO	DWAC67	0.	.00	0.	0.	0.	6.96
+	HYDROGRAPH AT	DSAC59	0.	.00	0.	0.	0.	6.96
+	HYDROGRAPH AT	DRAC59	102.	6.33	27.	7.	2.	4.94
+	HYDROGRAPH AT	AC59	225.	4.83	92.	24.	8.	.74
+	DIVERSION TO	XAC59	225.	4.83	92.	24.	8.	.74
+	HYDROGRAPH AT	ERAC59	0.	.00	0.	0.	0.	.74
+	4 COMBINED AT	CAC04	1922.	6.00	1135.	300.	100.	15.39
+	HYDROGRAPH AT	PRTB59	415.	6.83	221.	57.	19.	6.96
+	2 COMBINED AT	CPAC04	2128.	6.08	1285.	341.	114.	15.39
+	HYDROGRAPH AT	DRBL67	14.	5.92	1.	0.	0.	2.71
+	DIVERSION TO	DWSK67	10.	5.92	1.	0.	0.	2.71
+	HYDROGRAPH AT	DBL67	4.	5.92	0.	0.	0.	2.71
+	ROUTED TO	RWBL67	2.	6.75	0.	0.	0.	2.71
+	HYDROGRAPH AT	BL67	90.	4.58	28.	7.	2.	.23

+	DIVERSION TO HYDROGRAPH AT	XBL67	90.	4.58	26.	7.	2.	.23
+	2 COMBINED AT	ERBL67	17.	6.75	3.	1.	0.	.23
+	DIVERSION TO HYDROGRAPH AT	CBL67	22.	6.75	4.	1.	0.	.46
+	ROUTED TO	DP67BL	22.	6.75	4.	1.	0.	.46
+	HYDROGRAPH AT	D67BL	0.	.00	0.	0.	0.	.46
+	DIVERSION TO HYDROGRAPH AT	DWBL75	0.	.00	0.	0.	0.	.46
+	ROUTED TO	DSGW67	0.	.00	0.	0.	0.	.46
+	HYDROGRAPH AT	RSGW67	0.	.00	0.	0.	0.	.46
+	ROUTED TO HYDROGRAPH AT	DRGW67	59.	6.17	9.	2.	1.	5.64
+	HYDROGRAPH AT	RWGW67	40.	6.83	9.	2.	1.	5.64
+	DIVERSION TO HYDROGRAPH AT	GW67	331.	4.75	111.	29.	10.	.89
+	3 COMBINED AT	XGW67	331.	4.75	96.	24.	8.	.89
+	HYDROGRAPH AT	ERGW67	75.	6.33	18.	4.	1.	.89
+	2 COMBINED AT	CGW67	113.	6.83	23.	6.	2.	3.63
+	DIVERSION TO HYDROGRAPH AT	PR67BL	22.	6.75	4.	1.	0.	.46
+	ROUTED TO	CPGW67	115.	6.83	23.	6.	2.	3.63
+	HYDROGRAPH AT	DP67GW	115.	6.83	23.	6.	2.	3.63
+	DIVERSION TO HYDROGRAPH AT	D67GW	0.	.00	0.	0.	0.	3.63
+	ROUTED TO	DWAC75	0.	.00	0.	0.	0.	3.63
+	HYDROGRAPH AT	DSAC67	0.	.00	0.	0.	0.	3.63
+	ROUTED TO HYDROGRAPH AT	RSAC67	0.	.00	0.	0.	0.	3.63
+	HYDROGRAPH AT	DRAC67	0.	.00	0.	0.	0.	6.96
+	ROUTED TO HYDROGRAPH AT	RWAC67	0.	.00	0.	0.	0.	6.96
+	4 COMBINED AT	AC67	210.	4.83	82.	22.	7.	.70
+	HYDROGRAPH AT	CAC05	2164.	5.25	1298.	345.	115.	19.52
+	2 COMBINED AT	PR67GW	115.	6.83	23.	6.	2.	3.63
+	HYDROGRAPH AT	CPAC05	2164.	5.25	1299.	345.	115.	19.55
+	HYDROGRAPH AT	DRAC75	0.	.00	0.	0.	0.	3.63
+	DIVERSION TO HYDROGRAPH AT	AC75	211.	4.75	78.	21.	7.	.84
+	HYDROGRAPH AT	XAC75	208.	4.67	22.	5.	2.	.84
+		ERAC75	209.	4.92	60.	15.	5.	.84

+	3 COMBINED AT HYDROGRAPH AT	CAC06	2226.	5.25	1298.	346.	115.	23.43
+	DIVERSION TO HYDROGRAPH AT	HV55	477.	4.75	152.	39.	13.	2.05
+	HYDROGRAPH AT	XHV55	477.	4.75	151.	39.	13.	2.05
+	ROUTED TO HYDROGRAPH AT	ERHV55	7.	7.58	1.	0.	0.	2.05
+	HYDROGRAPH AT	RCL57	4.	8.17	1.	0.	0.	2.05
+	DIVERSION TO HYDROGRAPH AT	CL57	270.	4.50	64.	16.	5.	.75
+	HYDROGRAPH AT	XCL57	270.	4.50	64.	16.	5.	.75
+	2 COMBINED AT ROUTED TO	ERCL57	0.	.00	0.	0.	0.	.75
+	HYDROGRAPH AT	CCL57	4.	8.17	1.	0.	0.	2.80
+	DIVERSION TO HYDROGRAPH AT	RWL59	0.	.00	0.	0.	0.	2.80
+	HYDROGRAPH AT	WL59	137.	4.75	46.	12.	4.	.56
+	2 COMBINED AT	XWL59	137.	4.75	22.	6.	2.	.56
+	HYDROGRAPH AT	ERWL59	114.	5.17	26.	6.	2.	.56
+	2 COMBINED AT ROUTED TO	CWL59	52.	5.75	12.	3.	1.	3.36
+	HYDROGRAPH AT	DV56	201.	4.50	31.	8.	3.	.29
+	2 COMBINED AT	CDV56	118.	4.50	35.	9.	3.	3.65
+	ROUTED TO HYDROGRAPH AT	SRDV56	73.	4.92	35.	9.	3.	3.65
+	HYDROGRAPH AT	LO51	363.	4.75	118.	31.	10.	1.13
+	2 COMBINED AT	CLO51	354.	4.83	134.	35.	12.	4.78
+	DIVERSION TO HYDROGRAPH AT	DP51LO	38.	3.58	35.	11.	4.	4.78
+	ROUTED TO	D51LO	316.	4.83	98.	25.	8.	4.78
+	ROUTED TO HYDROGRAPH AT	SRLO51	69.	6.75	56.	24.	8.	4.78
+	HYDROGRAPH AT	RUHSKA	69.	7.08	55.	24.	8.	4.78
+	DIVERSION TO HYDROGRAPH AT	DRUHSK	8.	7.25	1.	0.	0.	1.66
+	HYDROGRAPH AT	DP51SK	7.	7.25	1.	0.	0.	1.66
+	ROUTED TO HYDROGRAPH AT	D51SK	1.	7.25	0.	0.	0.	1.66
+	HYDROGRAPH AT	RUHSKB	0.	8.17	0.	0.	0.	1.66
+	DIVERSION TO HYDROGRAPH AT	UHSK	254.	4.67	80.	21.	7.	.93
+	HYDROGRAPH AT	XUHSK	254.	4.67	31.	8.	3.	.93
+	3 COMBINED AT	ERUHSK	225.	5.00	52.	13.	4.	.93
+		CSK01	163.	5.33	83.	30.	10.	6.73

+	DIVERSION TO	DPUHSK	10.	5.08	10.	8.	3.	6.73
+	HYDROGRAPH AT	DUHSK	153.	5.33	73.	22.	7.	6.73
+	HYDROGRAPH AT	DRSK67	10.	5.92	1.	0.	0.	2.71
+	ROUTED TO	RSK67	6.	6.75	1.	0.	0.	2.71
+	HYDROGRAPH AT	SK67	283.	4.67	81.	21.	7.	.94
+	DIVERSION TO	XSK67	283.	4.67	51.	13.	4.	.94
+	HYDROGRAPH AT	ERSK67	155.	5.17	33.	8.	3.	.94
+	3 COMBINED AT	CSK02	190.	5.58	81.	24.	8.	8.30
+	HYDROGRAPH AT	PRUHSK	10.	5.08	10.	8.	3.	6.73
+	ROUTED TO	RPSK67	10.	5.50	10.	8.	3.	6.73
+	2 COMBINED AT	CPSK02	200.	5.58	91.	32.	11.	8.30
+	HYDROGRAPH AT	UH67	271.	4.67	86.	22.	7.	.78
+	DIVERSION TO	XUH67	271.	4.67	86.	22.	7.	.78
+	HYDROGRAPH AT	ERUH67	0.	.00	0.	0.	0.	.78
+	ROUTED TO	RUH75	0.	.00	0.	0.	0.	.78
+	HYDROGRAPH AT	UH75	278.	4.75	92.	24.	8.	.81
+	DIVERSION TO	XUH75	278.	4.75	92.	24.	8.	.81
+	HYDROGRAPH AT	ERUH75	0.	.00	0.	0.	0.	.81
+	2 COMBINED AT	CUH75	0.	.00	0.	0.	0.	1.60
+	ROUTED TO	RBL75A	0.	.00	0.	0.	0.	1.60
+	HYDROGRAPH AT	DRBL75	0.	.00	0.	0.	0.	.46
+	ROUTED TO	RBL75B	0.	.00	0.	0.	0.	.46
+	HYDROGRAPH AT	BL75	284.	4.75	94.	24.	8.	1.06
+	DIVERSION TO	XBL75	256.	4.58	27.	7.	2.	1.06
+	HYDROGRAPH AT	ERBL75	282.	4.83	71.	18.	6.	1.06
+	4 COMBINED AT	CSK03	306.	5.33	129.	41.	14.	11.24
+	HYDROGRAPH AT	UHLO	336.	4.50	82.	21.	7.	.82
+	DIVERSION TO	XUHLO	336.	4.50	82.	21.	7.	.82
+	HYDROGRAPH AT	ERUHLO	0.	.00	0.	0.	0.	.82
+	ROUTED TO	RBLLO	0.	.00	0.	0.	0.	.82
+	HYDROGRAPH AT	BLLO	287.	4.67	93.	24.	8.	.76

+	DIVERSION TO	XBLLO	287.	4.67	93.	24.	8.	.76
+	HYDROGRAPH AT	ERBLLO	0.	.00	0.	0.	0.	.76
+	2 COMBINED AT	CBLLO	0.	.00	0.	0.	0.	1.59
+	DIVERSION TO	DPBLLO	0.	.00	0.	0.	0.	1.59
+	HYDROGRAPH AT	DBLLO	0.	.00	0.	0.	0.	1.59
+	ROUTED TO	RGWLO	0.	.00	0.	0.	0.	1.59
+	HYDROGRAPH AT	GWLO	499.	4.33	104.	26.	9.	.81
+	DIVERSION TO	XGWLO	499.	4.33	103.	26.	9.	.81
+	HYDROGRAPH AT	ERGWLO	15.	6.50	1.	0.	0.	.81
+	4 COMBINED AT	CSK04	2338.	5.42	1297.	355.	119.	37.07
+	HYDROGRAPH AT	PRBLLO	0.	.00	0.	0.	0.	1.59
+	2 COMBINED AT	CPSK04	2338.	5.42	1297.	355.	119.	37.07
+	HYDROGRAPH AT	JM63	316.	4.50	69.	18.	6.	.84
+	DIVERSION TO	XJM63	316.	4.50	69.	18.	6.	.84
+	HYDROGRAPH AT	ERJM63	0.	.00	0.	0.	0.	.84
+	ROUTED TO	RJM67	0.	.00	0.	0.	0.	.84
+	HYDROGRAPH AT	JM67	163.	4.42	38.	10.	3.	.38
+	DIVERSION TO	XJM67	163.	4.42	38.	10.	3.	.38
+	HYDROGRAPH AT	ERJM67	0.	.00	0.	0.	0.	.38
+	2 COMBINED AT	CJM67	0.	.00	0.	0.	0.	1.22
+	ROUTED TO	RHV75	0.	.00	0.	0.	0.	1.22
+	HYDROGRAPH AT	HV75	262.	4.58	74.	19.	6.	.96
+	DIVERSION TO	XHV75	262.	4.58	74.	19.	6.	.96
+	HYDROGRAPH AT	ERHV75	0.	.00	0.	0.	0.	.96
+	2 COMBINED AT	CHV75	0.	.00	0.	0.	0.	2.18
+	HYDROGRAPH AT	JM80	52.	4.33	9.	2.	1.	.16
+	HYDROGRAPH AT	JM76	36.	4.50	8.	2.	1.	.17
+	HYDROGRAPH AT	JMNR	17.	5.17	6.	2.	1.	.15
+	3 COMBINED AT	CNR01	89.	4.42	23.	6.	2.	.48
+	HYDROGRAPH AT	JM75	385.	4.67	65.	16.	5.	1.11
+	DIVERSION TO	XJM75	141.	4.33	11.	3.	1.	1.11

+	HYDROGRAPH AT	ERJM75	385.	4.67	54.	14.	5.	1.11
+	HYDROGRAPH AT	HVNR	25.	5.17	9.	2.	1.	.20
+	4 COMBINED AT	CNR02	423.	4.58	66.	17.	6.	3.98
+	HYDROGRAPH AT	HV67	371.	4.33	70.	18.	6.	.54
+	DIVERSION TO	XHV67	371.	4.33	47.	12.	4.	.54
+	HYDROGRAPH AT	ERHV67	210.	4.75	24.	6.	2.	.54
+	ROUTED TO	RCL67	157.	5.00	24.	6.	2.	.54
+	HYDROGRAPH AT	CL67	69.	4.58	23.	6.	2.	.28
+	DIVERSION TO	XCL67	69.	4.58	23.	6.	2.	.28
+	HYDROGRAPH AT	ERCL67	0.	.00	0.	0.	0.	.28
+	2 COMBINED AT	CCL67	157.	5.00	24.	6.	2.	.82
+	ROUTED TO	RPP73A	99.	5.42	22.	5.	2.	.82
+	HYDROGRAPH AT	PP67	16.	4.67	5.	1.	0.	.10
+	DIVERSION TO	XPP67	16.	4.67	5.	1.	0.	.10
+	HYDROGRAPH AT	ERPP67	0.	.00	0.	0.	0.	.10
+	DIVERSION TO	DSWL67	0.	.00	0.	0.	0.	.10
+	HYDROGRAPH AT	DWPP73	0.	.00	0.	0.	0.	.10
+	ROUTED TO	RPP73B	0.	.00	0.	0.	0.	.10
+	HYDROGRAPH AT	PP73	162.	4.58	43.	11.	4.	.55
+	DIVERSION TO	XPP73	162.	4.58	21.	5.	2.	.55
+	HYDROGRAPH AT	ERPP73	136.	4.92	23.	6.	2.	.55
+	3 COMBINED AT	CPP73	139.	5.58	34.	8.	3.	1.43
+	DIVERSION TO	DSWL75	57.	5.58	14.	3.	1.	1.43
+	HYDROGRAPH AT	DWPP75	82.	5.58	20.	5.	2.	1.43
+	ROUTED TO	RPPNR	81.	5.67	20.	5.	2.	1.43
+	HYDROGRAPH AT	PP75	141.	4.42	31.	8.	3.	.42
+	DIVERSION TO	XPP75	141.	4.42	25.	6.	2.	.42
+	HYDROGRAPH AT	ERPP75	47.	5.42	6.	2.	1.	.42
+	HYDROGRAPH AT	PPNR	34.	5.17	11.	3.	1.	.24
+	4 COMBINED AT	CNR03	470.	4.58	101.	25.	8.	5.47
+	HYDROGRAPH AT	DRWL75	57.	5.58	14.	3.	1.	1.43

+	ROUTED TO	RWL75B	53.	5.75	14.	3.	1.	1.43
+	HYDROGRAPH AT	DRWL67	0.	.00	0.	0.	0.	.10
+	ROUTED TO	RWL67	0.	.00	0.	0.	0.	.10
+	HYDROGRAPH AT	WL67	18.	4.67	6.	2.	1.	.10
+	DIVERSION TO	XWL67	18.	4.67	6.	2.	1.	.10
+	HYDROGRAPH AT	ERWL67	0.	.00	0.	0.	0.	.10
+	2 COMBINED AT	CWL67	0.	.00	0.	0.	0.	.13
+	ROUTED TO	RWL75A	0.	.00	0.	0.	0.	.13
+	HYDROGRAPH AT	WL75	167.	4.50	42.	11.	4.	.47
+	DIVERSION TO	XWL75	167.	4.50	36.	9.	3.	.47
+	HYDROGRAPH AT	ERWL75	44.	5.92	7.	2.	1.	.47
+	3 COMBINED AT	CWL75	73.	5.92	18.	4.	1.	1.20
+	HYDROGRAPH AT	WWBR	172.	4.17	21.	5.	2.	.18
+	DIVERSION TO	XWWBR	172.	4.17	21.	5.	2.	.18
+	HYDROGRAPH AT	ERWWBR	0.	.00	0.	0.	0.	.18
+	ROUTED TO	RWWRS	0.	.00	0.	0.	0.	.18
+	HYDROGRAPH AT	WWRS	66.	4.33	14.	3.	1.	.14
+	DIVERSION TO	XWWRS	66.	4.33	14.	3.	1.	.14
+	HYDROGRAPH AT	ERWWRS	0.	.00	0.	0.	0.	.14
+	2 COMBINED AT	CWWRS	0.	.00	0.	0.	0.	.33
+	ROUTED TO	RJMRS	0.	.00	0.	0.	0.	.33
+	HYDROGRAPH AT	JMRS	207.	4.50	48.	12.	4.	.57
+	DIVERSION TO	XJMRS	207.	4.50	48.	12.	4.	.57
+	HYDROGRAPH AT	ERJMRS	0.	.00	0.	0.	0.	.57
+	2 COMBINED AT	CJMRS	0.	.00	0.	0.	0.	.90
+	ROUTED TO	RHVRSB	0.	.00	0.	0.	0.	.90
+	HYDROGRAPH AT	83RS	471.	4.25	67.	17.	6.	.64
+	DIVERSION TO	X83RS	471.	4.25	55.	14.	5.	.64
+	HYDROGRAPH AT	ER83RS	144.	4.75	12.	3.	1.	.64
+	ROUTED TO	RHVRSA	77.	5.17	12.	3.	1.	.64
+	HYDROGRAPH AT	HVRS	120.	5.08	32.	8.	3.	.63

+	DIVERSION TO	XHVRS	29.	4.58	2.	1.	0.	.63
+	HYDROGRAPH AT	ERHVRS	120.	5.08	30.	8.	3.	.63
+	3 COMBINED AT	CHVRS	77.	5.17	18.	4.	1.	2.16
+	ROUTED TO	RCL77B	60.	5.42	17.	4.	1.	2.16
+	HYDROGRAPH AT	HV83	19.	4.17	3.	1.	0.	.04
+	ROUTED TO	RCL77A	15.	4.50	3.	1.	0.	.04
+	HYDROGRAPH AT	CL77	110.	4.33	20.	5.	2.	.32
+	DIVERSION TO	XCL77	110.	4.33	20.	5.	2.	.32
+	HYDROGRAPH AT	ERCL77	0.	.00	0.	0.	0.	.32
+	3 COMBINED AT	CCL77	58.	5.42	18.	4.	1.	2.51
+	ROUTED TO	RPP77	46.	5.75	16.	4.	1.	2.51
+	HYDROGRAPH AT	PP77	47.	4.67	16.	4.	1.	.27
+	DIVERSION TO	XPP77	21.	4.25	1.	0.	0.	.27
+	HYDROGRAPH AT	ERPP77	47.	4.67	15.	4.	1.	.27
+	2 COMBINED AT	CPP77	50.	5.75	20.	5.	2.	2.78
+	ROUTED TO	RWLNR	46.	6.08	19.	5.	2.	2.78
+	HYDROGRAPH AT	WLNR	105.	4.50	26.	7.	2.	.39
+	4 COMBINED AT	CNR04	493.	4.58	156.	40.	13.	9.84
+	HYDROGRAPH AT	DV75	156.	4.67	51.	13.	4.	.50
+	DIVERSION TO	XDV75	156.	4.67	46.	11.	4.	.50
+	HYDROGRAPH AT	ERDV75	37.	6.67	7.	2.	1.	.50
+	DIVERSION TO	DSLO75	10.	6.67	2.	0.	0.	.50
+	HYDROGRAPH AT	DWDVNR	27.	6.67	5.	1.	0.	.50
+	ROUTED TO	RDVNR	22.	7.00	5.	1.	0.	.50
+	HYDROGRAPH AT	DVNR	125.	4.67	39.	10.	3.	.40
+	3 COMBINED AT	CNR05	493.	4.75	162.	41.	14.	10.50
+	HYDROGRAPH AT	DV67	469.	4.17	54.	14.	5.	.50
+	ROUTED TO	SRDV67	308.	4.42	53.	14.	5.	.50
+	HYDROGRAPH AT	LO67	450.	4.58	119.	30.	10.	1.22
+	2 COMBINED AT	CLO67	625.	4.50	160.	41.	14.	1.72
+	ROUTED TO	SRLO67	209.	5.67	127.	43.	20.	1.72

+	HYDROGRAPH AT	LO75	373.	4.58	100.	26.	9.	.97
+	DIVERSION TO	XLO75	373.	4.58	69.	17.	6.	.97
+	HYDROGRAPH AT	ERLO75	184.	5.50	33.	8.	3.	.97
+	2 COMBINED AT	CLO75	366.	5.50	144.	48.	22.	2.69
+	ROUTED TO	SRLO75	237.	6.42	128.	47.	22.	2.69
+	HYDROGRAPH AT	DRLO75	10.	6.67	2.	0.	0.	.50
+	ROUTED TO	RLO75	6.	8.00	2.	0.	0.	.50
+	2 COMBINED AT	CILO75	238.	6.42	128.	47.	22.	2.94
+	ROUTED TO	RBYNRB	232.	6.50	126.	46.	22.	2.94
+	HYDROGRAPH AT	PP81	90.	4.33	16.	4.	1.	.20
+	DIVERSION TO	XPP81	90.	4.33	16.	4.	1.	.20
+	HYDROGRAPH AT	ERPP81	0.	.00	0.	0.	0.	.20
+	ROUTED TO	RWL83	0.	.00	0.	0.	0.	.20
+	HYDROGRAPH AT	WL83	56.	4.58	16.	4.	1.	.13
+	DIVERSION TO	XWL83	56.	4.58	9.	2.	1.	.13
+	HYDROGRAPH AT	ERWL83	42.	5.08	7.	2.	1.	.13
+	2 COMBINED AT	CWL83	42.	5.08	7.	2.	1.	.32
+	HYDROGRAPH AT	HV87	294.	4.25	29.	7.	2.	.28
+	ROUTED TO	RPP87	258.	4.33	29.	7.	2.	.28
+	HYDROGRAPH AT	PP87	352.	4.33	55.	14.	5.	.98
+	DIVERSION TO	XPP87	352.	4.33	50.	13.	4.	.98
+	HYDROGRAPH AT	ERPP87	63.	5.17	5.	1.	0.	.98
+	2 COMBINED AT	CPP87	258.	4.33	37.	9.	3.	1.27
+	ROUTED TO	SRPP87	53.	4.83	27.	7.	2.	1.27
+	DIVERSION TO	DPPP87	53.	4.83	27.	7.	2.	1.27
+	HYDROGRAPH AT	DPP87	0.	.00	0.	0.	0.	1.27
+	HYDROGRAPH AT	PRPP87	53.	4.83	27.	7.	2.	1.27
+	ROUTED TO	RP87PP	53.	4.83	27.	7.	2.	1.27
+	HYDROGRAPH AT	PP91	37.	4.58	11.	3.	1.	.16
+	DIVERSION TO	XPP91	37.	4.58	11.	3.	1.	.16
+	HYDROGRAPH AT	ERPP91	0.	.00	0.	0.	0.	.16

+	DIVERSION TO	DPP91	0.	.00	0.	0.	0.	.16
+	HYDROGRAPH AT	DPPP91	0.	.00	0.	0.	0.	.16
+	2 COMBINED AT	CPPP87	63.	5.42	35.	9.	3.	.16
+	ROUTED TO	RPPP83	63.	5.50	35.	9.	3.	.16
+	2 COMBINED AT	CPPP83	52.	4.92	26.	7.	2.	1.43
+	ROUTED TO	SRPP83	5.	8.75	4.	2.	1.	1.43
+	DIVERSION TO	D83PP	0.	.00	0.	0.	0.	1.43
+	HYDROGRAPH AT	DP83PP	5.	8.75	4.	2.	1.	1.43
+	2 COMBINED AT	CPWL83	42.	5.08	14.	5.	2.	1.75
+	ROUTED TO	RDV83	34.	5.50	9.	3.	1.	1.75
+	HYDROGRAPH AT	DV83	42.	4.67	15.	4.	1.	.11
+	DIVERSION TO	XDV83	41.	4.50	3.	1.	0.	.11
+	HYDROGRAPH AT	ERDV83	42.	4.67	12.	3.	1.	.11
+	2 COMBINED AT	CDV83	72.	5.33	24.	8.	3.	.43
+	ROUTED TO	RBYNRA	60.	5.75	24.	8.	3.	.43
+	HYDROGRAPH AT	BYNR	335.	4.67	96.	24.	8.	1.03
+	DIVERSION TO	XBYNR	96.	4.08	9.	2.	1.	1.03
+	HYDROGRAPH AT	ERBYNR	335.	4.67	89.	22.	7.	1.03
+	4 COMBINED AT	CNR06	493.	4.75	248.	80.	33.	14.90
+	HYDROGRAPH AT	DR83PP	0.	.00	0.	0.	0.	1.43
+	ROUTED TO	RDV87	0.	.00	0.	0.	0.	1.43
+	HYDROGRAPH AT	DV87	502.	4.42	90.	23.	8.	1.00
+	DIVERSION TO	XDV87	194.	4.08	11.	3.	1.	1.00
+	HYDROGRAPH AT	ERDV87	502.	4.42	80.	20.	7.	1.00
+	2 COMBINED AT	CDV87	418.	4.50	73.	18.	6.	2.27
+	ROUTED TO	RBY87	360.	4.83	73.	18.	6.	2.27
+	HYDROGRAPH AT	BY87	464.	4.58	116.	29.	10.	.96
+	DIVERSION TO	XBY87	464.	4.58	116.	29.	10.	.96
+	HYDROGRAPH AT	ERBY87	0.	.00	0.	0.	0.	.96
+	2 COMBINED AT	CBY87	361.	4.83	73.	18.	6.	3.23
+	ROUTED TO	RUH87	305.	5.25	69.	17.	6.	3.23

+	HYDROGRAPH AT	UH87	503.	4.50	112.	28.	9.	1.00
+	DIVERSION TO	XUH87	503.	4.50	112.	28.	9.	1.00
+	HYDROGRAPH AT	ERUH87	0.	.00	0.	0.	0.	1.00
+	2 COMBINED AT	CUH87	305.	5.25	69.	17.	6.	4.23
+	DIVERSION TO	DSBL91	172.	5.25	39.	10.	3.	4.23
+	HYDROGRAPH AT	DSBLNR	119.	5.25	27.	7.	2.	4.23
+	DIVERSION TO	DUHNR	69.	5.25	9.	2.	1.	4.23
+	HYDROGRAPH AT	DPUHNR	50.	5.00	19.	5.	2.	4.23
+	ROUTED TO	RPUHNR	50.	5.08	19.	5.	2.	4.23
+	HYDROGRAPH AT	UHNR	145.	4.58	42.	11.	4.	.39
+	DIVERSION TO	XUHNR	3.	1.08	0.	0.	0.	.39
+	HYDROGRAPH AT	ERUHNR	145.	4.58	42.	11.	4.	.39
+	3 COMBINED AT	CNR07	553.	4.92	276.	88.	35.	15.29
+	HYDROGRAPH AT	DRUHNR	69.	5.25	9.	2.	1.	4.23
+	ROUTED TO	RBLNR	60.	5.42	9.	2.	1.	4.23
+	HYDROGRAPH AT	BLNR	254.	4.50	70.	18.	6.	.60
+	DIVERSION TO	XBLNR	102.	4.08	10.	3.	1.	.60
+	HYDROGRAPH AT	ERBLNR	254.	4.50	61.	15.	5.	.60
+	3 COMBINED AT	CNR08	673.	4.92	315.	97.	39.	17.63
+	HYDROGRAPH AT	DRPP91	0.	.00	0.	0.	0.	.16
+	ROUTED TO	RDV91	0.	.00	0.	0.	0.	.16
+	ROUTED TO	RRG93	0.	.00	0.	0.	0.	.16
+	HYDROGRAPH AT	RG93	81.	4.58	24.	6.	2.	.25
+	DIVERSION TO	XRG93	81.	4.58	24.	6.	2.	.25
+	HYDROGRAPH AT	ERRG93	0.	.00	0.	0.	0.	.25
+	2 COMBINED AT	CRG93	0.	.00	0.	0.	0.	.41
+	DIVERSION TO	DWRGLP	0.	.00	0.	0.	0.	.41
+	HYDROGRAPH AT	DSBY91	0.	.00	0.	0.	0.	.41
+	ROUTED TO	RBY91	0.	.00	0.	0.	0.	.41
+	HYDROGRAPH AT	BY91	257.	4.42	46.	12.	4.	.50
+	DIVERSION TO	XBY91	257.	4.42	46.	12.	4.	.50

+	HYDROGRAPH AT	ERBY91	0.	.00	0.	0.	0.	.50
+	2 COMBINED AT	CBY91	0.	.00	0.	0.	0.	.71
+	ROUTED TO	RUH91	0.	.00	0.	0.	0.	.71
+	HYDROGRAPH AT	UH91	225.	4.75	77.	20.	7.	.93
+	DIVERSION TO	XUH91	85.	4.17	8.	2.	1.	.93
+	HYDROGRAPH AT	ERUH91	225.	4.75	72.	18.	6.	.93
+	2 COMBINED AT	CUH91	198.	4.75	65.	16.	5.	1.63
+	HYDROGRAPH AT	DRBL91	172.	5.25	39.	10.	3.	4.23
+	DIVERSION TO	DPUH91	172.	5.25	39.	10.	3.	4.23
+	HYDROGRAPH AT	DUH91	0.	.00	0.	0.	0.	4.23
+	2 COMBINED AT	CIUH91	199.	4.83	65.	16.	5.	4.12
+	ROUTED TO	RBL91	149.	5.33	55.	14.	5.	4.12
+	HYDROGRAPH AT	BL91	490.	4.50	123.	31.	10.	.90
+	DIVERSION TO	XBL91	490.	4.50	123.	31.	10.	.90
+	HYDROGRAPH AT	ERBL91	0.	.00	0.	0.	0.	.90
+	2 COMBINED AT	CBL91	149.	5.33	55.	14.	5.	5.02
+	HYDROGRAPH AT	PRUH91	172.	5.25	39.	10.	3.	4.23
+	ROUTED TO	RP91AT	172.	5.25	39.	10.	3.	4.23
+	ROUTED TO	SRAT91	114.	5.75	39.	10.	3.	4.23
+	ROUTED TO	RP91BL	114.	5.83	39.	10.	3.	4.23
+	2 COMBINED AT	CPBL91	247.	5.50	92.	24.	8.	5.02
+	DIVERSION TO	DSGW91	143.	5.50	53.	14.	5.	5.02
+	HYDROGRAPH AT	DSGWNR	104.	5.50	39.	10.	3.	5.02
+	DIVERSION TO	DBLNR	0.	.00	0.	0.	0.	5.02
+	HYDROGRAPH AT	DPBLNR	104.	5.50	39.	10.	3.	5.02
+	ROUTED TO	RPBLNR	104.	5.58	39.	10.	3.	5.02
+	2 COMBINED AT	CPNR08	715.	5.00	347.	105.	41.	17.63
+	HYDROGRAPH AT	DRBLNR	0.	.00	0.	0.	0.	5.02
+	ROUTED TO	RGWNRB	0.	.00	0.	0.	0.	5.02
+	HYDROGRAPH AT	DRGW91	143.	5.50	53.	14.	5.	5.02
+	ROUTED TO	RGW91	141.	5.83	53.	14.	5.	5.02

+	HYDROGRAPH AT	GW91	239.	4.42	56.	14.	5.	.48
+	DIVERSION TO	XGW91	239.	4.42	44.	11.	4.	.48
+	HYDROGRAPH AT	ERGW91	91.	5.42	13.	3.	1.	.48
+	2 COMBINED AT	CGW91	187.	5.92	61.	16.	5.	3.40
+	DIVERSION TO	DSTBNR	0.	.00	0.	0.	0.	3.40
+	HYDROGRAPH AT	DEGWNR	187.	5.92	61.	16.	5.	3.40
+	ROUTED TO	RGWNRA	176.	6.25	61.	16.	5.	3.40
+	HYDROGRAPH AT	GWNR	209.	4.67	66.	17.	6.	.70
+	DIVERSION TO	XGWNR	209.	4.67	53.	13.	4.	.70
+	HYDROGRAPH AT	ERGWNR	76.	5.92	15.	4.	1.	.70
+	5 COMBINED AT	CNR09	2592.	5.42	1395.	398.	139.	59.19
+	HYDROGRAPH AT	DRTBNR	0.	.00	0.	0.	0.	3.40
+	ROUTED TO	RTBNR	0.	.00	0.	0.	0.	3.40
+	HYDROGRAPH AT	TBNR	353.	4.67	100.	25.	8.	1.12
+	DIVERSION TO	XTBNR	329.	4.50	31.	8.	3.	1.12
+	HYDROGRAPH AT	ERTBNR	349.	4.75	70.	18.	6.	1.12
+	3 COMBINED AT	CNR10	2675.	5.42	1404.	401.	140.	62.01
+	HYDROGRAPH AT	HV93	108.	4.25	16.	4.	1.	.17
+	DIVERSION TO	DWHVLP	45.	4.25	7.	2.	1.	.17
+	HYDROGRAPH AT	DSPPLP	62.	4.25	9.	2.	1.	.17
+	ROUTED TO	RPPLP	48.	4.67	9.	2.	1.	.17
+	HYDROGRAPH AT	PPLP	160.	4.75	53.	14.	5.	.88
+	DIVERSION TO	XPPLP	160.	4.75	37.	10.	3.	.88
+	HYDROGRAPH AT	ERPPLP	84.	5.58	17.	4.	1.	.88
+	2 COMBINED AT	CPPLP	89.	5.58	23.	6.	2.	.98
+	DIVERSION TO	DWPP03	0.	.00	0.	0.	0.	.98
+	HYDROGRAPH AT	DSDV99	89.	5.58	23.	6.	2.	.98
+	DIVERSION TO	DSDVLP	29.	5.58	7.	2.	1.	.98
+	HYDROGRAPH AT	DDV99	60.	5.58	15.	4.	1.	.98
+	HYDROGRAPH AT	DV99	311.	5.00	57.	14.	5.	1.22
+	DIVERSION TO	XDV99	204.	4.75	16.	4.	1.	1.22

+	HYDROGRAPH AT	ERDV99	296.	5.08	41.	10.	3.	1.22
+	2 COMBINED AT	CDV99	258.	5.08	40.	10.	3.	1.88
+	ROUTED TO	RRGLPA	225.	5.25	40.	10.	3.	1.88
+	HYDROGRAPH AT	DRRGLP	0.	.00	0.	0.	0.	.41
+	ROUTED TO	RRGLPB	0.	.00	0.	0.	0.	.41
+	HYDROGRAPH AT	RGLP	135.	4.50	32.	8.	3.	.41
+	DIVERSION TO	XRGLP	135.	4.50	32.	8.	3.	.41
+	HYDROGRAPH AT	ERRGLP	0.	.00	0.	0.	0.	.41
+	3 COMBINED AT	CRGLP	225.	5.25	40.	10.	3.	2.49
+	DIVERSION TO	DWRG07	154.	5.25	25.	6.	2.	2.49
+	HYDROGRAPH AT	DSBY07	38.	5.25	6.	2.	1.	2.49
+	ROUTED TO	RBY99	28.	5.83	6.	2.	1.	2.49
+	HYDROGRAPH AT	BY07	250.	4.42	54.	14.	5.	.51
+	DIVERSION TO	XBY07	250.	4.42	54.	14.	5.	.51
+	HYDROGRAPH AT	ERBY07	0.	.00	0.	0.	0.	.51
+	2 COMBINED AT	CBY07	34.	5.67	8.	2.	1.	1.76
+	DIVERSION TO	DWBYAF	34.	5.67	8.	2.	1.	1.76
+	HYDROGRAPH AT	DSUH99	0.	.00	0.	0.	0.	1.76
+	ROUTED TO	RUH99	0.	.00	0.	0.	0.	1.76
+	HYDROGRAPH AT	UH99	197.	4.75	68.	18.	6.	.56
+	2 COMBINED AT	CUH99	180.	4.83	64.	17.	6.	1.44
+	ROUTED TO	RDW99A	179.	4.92	64.	17.	6.	1.44
+	HYDROGRAPH AT	UH97	77.	4.67	26.	7.	2.	.27
+	ROUTED TO	RDW99B	76.	4.83	26.	7.	2.	.27
+	HYDROGRAPH AT	DW99	69.	4.50	19.	5.	2.	.16
+	3 COMBINED AT	CDW99	287.	4.83	103.	27.	9.	1.87
+	DIVERSION TO	DWDW07	287.	4.83	103.	27.	9.	1.87
+	HYDROGRAPH AT	DSBL99	0.	.00	0.	0.	0.	1.87
+	ROUTED TO	RBL99	0.	.00	0.	0.	0.	1.87
+	HYDROGRAPH AT	BL99	429.	4.67	124.	32.	11.	1.13
+	2 COMBINED AT	CBL99	395.	4.75	119.	31.	10.	2.07

+	ROUTED TO	RBN99	391.	4.83	119.	31.	10.	2.07
+	HYDROGRAPH AT	BN99	386.	4.58	106.	27.	9.	1.04
+	2 COMBINED AT	CBN99	693.	4.75	212.	54.	18.	3.10
+	ROUTED TO	RTB99	687.	4.92	211.	54.	18.	3.10
+	HYDROGRAPH AT	TB99	301.	4.67	93.	24.	8.	.98
+	2 COMBINED AT	CTB99	898.	4.92	287.	74.	25.	4.08
+	ROUTED TO	RGRNRA	884.	5.00	286.	74.	25.	4.08
+	HYDROGRAPH AT	DRDW07	287.	4.83	103.	27.	9.	1.87
+	ROUTED TO	RDW07	284.	5.08	103.	27.	9.	1.87
+	HYDROGRAPH AT	DW07	154.	4.67	51.	13.	4.	.48
+	2 COMBINED AT	CDW07	422.	5.00	151.	40.	13.	1.42
+	DIVERSION TO	DWBL15	422.	5.00	151.	40.	13.	1.42
+	HYDROGRAPH AT	DSTL07	0.	.00	0.	0.	0.	1.42
+	ROUTED TO	RTL07	0.	.00	0.	0.	0.	1.42
+	HYDROGRAPH AT	TL07	162.	4.67	52.	13.	4.	.58
+	2 COMBINED AT	CTL07	138.	4.75	46.	12.	4.	1.29
+	ROUTED TO	RGR99A	126.	5.33	46.	12.	4.	1.29
+	HYDROGRAPH AT	RO99	115.	4.75	44.	12.	4.	.41
+	ROUTED TO	RGR99B	114.	4.83	44.	12.	4.	.41
+	HYDROGRAPH AT	GR99	431.	4.75	155.	40.	13.	1.31
+	3 COMBINED AT	CGR99	560.	5.00	224.	59.	20.	3.01
+	ROUTED TO	RGRNRB	559.	5.08	223.	59.	20.	3.01
+	HYDROGRAPH AT	GRNR	374.	4.50	92.	23.	8.	.95
+	DIVERSION TO	XGRNR	27.	3.58	6.	2.	1.	.95
+	HYDROGRAPH AT	ERGRNR	374.	4.50	87.	22.	7.	.95
+	4 COMBINED AT	CNR11	3454.	5.42	1738.	491.	170.	70.05
+	HYDROGRAPH AT	PE99	60.	4.92	28.	8.	3.	.29
+	DIVERSION TO	DSOL99	18.	4.92	8.	2.	1.	.29
+	HYDROGRAPH AT	DEPE97	42.	4.92	19.	5.	2.	.29
+	ROUTED TO	RPE97	41.	5.25	19.	5.	2.	.29
+	HYDROGRAPH AT	PENR	77.	4.67	26.	7.	2.	.20

+	DIVERSION TO	XPENR	77.	4.67	14.	3.	1.	.20
+	HYDROGRAPH AT	ERPENR	63.	5.17	13.	3.	1.	.20
+	DIVERSION TO	DSOLNR	28.	5.17	6.	1.	0.	.20
+	HYDROGRAPH AT	DWPE99	35.	5.17	7.	2.	1.	.20
+	HYDROGRAPH AT	PE97	164.	4.67	52.	13.	4.	.56
+	4 COMBINED AT	CNR12	3507.	5.42	1768.	500.	173.	70.93
+	HYDROGRAPH AT	DROL99	18.	4.92	8.	2.	1.	.29
+	ROUTED TO	ROL99A	17.	5.92	8.	2.	1.	.29
+	HYDROGRAPH AT	PE11	254.	4.75	88.	23.	8.	.92
+	ROUTED TO	ROL03A	246.	5.00	88.	23.	8.	.92
+	HYDROGRAPH AT	PE07	136.	4.75	49.	13.	4.	.57
+	ROUTED TO	ROL03B	130.	5.17	49.	13.	4.	.57
+	HYDROGRAPH AT	PE03	106.	4.75	38.	10.	3.	.41
+	ROUTED TO	ROL03C	104.	5.08	38.	10.	3.	.41
+	HYDROGRAPH AT	OL03	329.	4.75	103.	27.	9.	1.10
+	4 COMBINED AT	COL03	619.	5.00	234.	62.	21.	3.01
+	ROUTED TO	ROL99B	619.	5.08	234.	62.	21.	3.01
+	HYDROGRAPH AT	DROLNR	28.	5.17	6.	1.	0.	.20
+	ROUTED TO	ROLNR	17.	6.42	6.	1.	0.	.20
+	HYDROGRAPH AT	OLNR	225.	4.75	79.	21.	7.	.70
+	DIVERSION TO	XOLNR	225.	4.75	49.	12.	4.	.70
+	HYDROGRAPH AT	EROLNR	129.	5.75	33.	8.	3.	.70
+	2 COMBINED AT	COLNR	129.	5.83	38.	10.	3.	.78
+	DIVERSION TO	DSNONR	43.	5.83	13.	3.	1.	.78
+	HYDROGRAPH AT	DWOL99	86.	5.83	26.	6.	2.	.78
+	HYDROGRAPH AT	OL99	114.	4.67	39.	10.	3.	.44
+	5 COMBINED AT	CNR13	3790.	5.42	1903.	538.	186.	74.98
+	HYDROGRAPH AT	DRNONR	43.	5.83	13.	3.	1.	.78
+	ROUTED TO	RNONR	34.	6.83	13.	3.	1.	.78
+	HYDROGRAPH AT	NONR	271.	4.75	96.	25.	8.	.83
+	DIVERSION TO	XNONR	271.	4.75	70.	17.	6.	.83

+	HYDROGRAPH AT	ERNONR	119.	6.17	30.	7.	2.	.83
+	2 COMBINED AT	CNONR	121.	6.17	40.	10.	3.	1.09
+	HYDROGRAPH AT	NO99	188.	4.67	58.	15.	5.	.86
+	DIVERSION TO	XNO99	170.	4.50	14.	4.	1.	.86
+	HYDROGRAPH AT	ERNO99	184.	4.83	46.	11.	4.	.86
+	3 COMBINED AT	CNR14	3813.	5.42	1903.	538.	186.	76.93
+	HYDROGRAPH AT	GL03	246.	4.50	67.	17.	6.	.65
+	DIVERSION TO	XGL03	246.	4.50	55.	14.	5.	.65
+	HYDROGRAPH AT	ERGL03	83.	5.67	13.	3.	1.	.65
+	2 COMBINED AT	CNR15	3813.	5.42	1903.	538.	186.	77.58
+	HYDROGRAPH AT	GLGH	34.	4.50	6.	1.	0.	.08
+	ROUTED TO	RGHNR	24.	5.17	6.	1.	0.	.08
+	HYDROGRAPH AT	GHNR	209.	4.75	70.	18.	6.	.84
+	3 COMBINED AT	CNR16	3872.	5.42	1931.	546.	188.	78.50
+	HYDROGRAPH AT	AF11	300.	4.25	53.	13.	4.	.38
+	HYDROGRAPH AT	GHAF	93.	5.08	27.	7.	2.	.56
+	3 COMBINED AT	CAF06	3920.	5.42	1967.	557.	192.	79.31
+	HYDROGRAPH AT	JMAF	65.	4.42	10.	2.	1.	.15
+	DIVERSION TO	XJMAF	65.	4.42	8.	2.	1.	.15
+	HYDROGRAPH AT	ERJMAF	12.	5.50	1.	0.	0.	.15
+	HYDROGRAPH AT	HV07	182.	4.17	20.	5.	2.	.30
+	DIVERSION TO	XHV07	182.	4.17	20.	5.	2.	.30
+	HYDROGRAPH AT	ERHV07	0.	.00	0.	0.	0.	.30
+	ROUTED TO	RHVAF	0.	.00	0.	0.	0.	.30
+	HYDROGRAPH AT	HVAF	102.	4.25	10.	3.	1.	.22
+	DIVERSION TO	XHVAF	102.	4.25	10.	3.	1.	.22
+	HYDROGRAPH AT	ERHVAF	0.	.00	0.	0.	0.	.22
+	HYDROGRAPH AT	JM99	382.	4.42	72.	18.	6.	.57
+	DIVERSION TO	XJM99	382.	4.42	72.	18.	6.	.57
+	HYDROGRAPH AT	ERJM99	0.	.00	0.	0.	0.	.57
+	HYDROGRAPH AT	WWLP	155.	4.08	14.	3.	1.	.14

+	DIVERSION TO	XWWLP	155.	4.08	14.	3.	1.	.14
+	HYDROGRAPH AT	ERWWLP	3.	5.00	0.	0.	0.	.14
+	ROUTED TO	RJMLP	1.	6.08	0.	0.	0.	.14
+	HYDROGRAPH AT	JMLP	329.	4.42	69.	17.	6.	.70
+	DIVERSION TO	XJMLP	329.	4.42	69.	17.	6.	.70
+	HYDROGRAPH AT	ERJMLP	0.	.00	0.	0.	0.	.70
+	3 COMBINED AT	CJMLP	1.	6.17	0.	0.	0.	1.41
+	ROUTED TO	RHV01A	0.	6.83	0.	0.	0.	1.41
+	HYDROGRAPH AT	YLLP	241.	4.42	54.	14.	5.	.60
+	DIVERSION TO	XYLLP	162.	4.17	12.	3.	1.	.60
+	HYDROGRAPH AT	ERYLLP	241.	4.42	43.	11.	4.	.60
+	ROUTED TO	RHV01B	230.	4.58	43.	11.	4.	.60
+	HYDROGRAPH AT	DRHVLP	45.	4.25	7.	2.	1.	.17
+	ROUTED TO	RHVLP	40.	4.42	7.	2.	1.	.17
+	HYDROGRAPH AT	HVLP	90.	4.42	22.	6.	2.	.20
+	DIVERSION TO	XHVLP	90.	4.42	15.	4.	1.	.20
+	HYDROGRAPH AT	ERHVLP	50.	5.08	8.	2.	1.	.20
+	2 COMBINED AT	CHVLP	63.	5.08	14.	4.	1.	.27
+	ROUTED TO	RHV01C	61.	5.08	14.	4.	1.	.27
+	HYDROGRAPH AT	HV01	246.	4.33	48.	12.	4.	.44
+	DIVERSION TO	XHV01	246.	4.33	37.	9.	3.	.44
+	HYDROGRAPH AT	ERHV01	103.	5.08	12.	3.	1.	.44
+	4 COMBINED AT	CHV01	214.	4.58	55.	14.	5.	2.72
+	ROUTED TO	RCL07	136.	5.00	43.	11.	4.	2.72
+	ROUTED TO	RCLAFA	134.	5.08	43.	11.	4.	2.72
+	HYDROGRAPH AT	CL07	167.	4.50	41.	11.	4.	.52
+	DIVERSION TO	XCL07	167.	4.50	41.	11.	4.	.52
+	HYDROGRAPH AT	ERCL07	0.	.00	0.	0.	0.	.52
+	DIVERSION TO	DSPP03	0.	.00	0.	0.	0.	.52
+	HYDROGRAPH AT	DWCLAF	0.	.00	0.	0.	0.	.52
+	ROUTED TO	RCLAFB	0.	.00	0.	0.	0.	.52

+	HYDROGRAPH AT	CLAF	78.	4.75	15.	4.	1.	.29
+	DIVERSION TO	XCLAF	78.	4.75	14.	3.	1.	.29
+	HYDROGRAPH AT	ERCLAF	11.	6.33	1.	0.	0.	.29
+	3 COMBINED AT	CCLAF	134.	5.08	43.	11.	4.	3.47
+	4 COMBINED AT	CAF01	122.	5.08	39.	10.	3.	4.13
+	HYDROGRAPH AT	DR03PP	0.	.00	0.	0.	0.	.98
+	ROUTED TO	RPP03B	0.	.00	0.	0.	0.	.98
+	HYDROGRAPH AT	DRPP03	0.	.00	0.	0.	0.	.52
+	ROUTED TO	RPP03A	0.	.00	0.	0.	0.	.52
+	HYDROGRAPH AT	PP03	66.	4.75	23.	6.	2.	.32
+	DIVERSION TO	XPP03	66.	4.75	7.	2.	1.	.32
+	HYDROGRAPH AT	ERPP03	64.	4.92	17.	4.	1.	.32
+	3 COMBINED AT	CPP03	64.	4.92	17.	4.	1.	.39
+	DIVERSION TO	DSDV07	64.	4.92	17.	4.	1.	.39
+	HYDROGRAPH AT	DWPP07	0.	.00	0.	0.	0.	.39
+	ROUTED TO	RPP07	0.	.00	0.	0.	0.	.39
+	HYDROGRAPH AT	PP07	70.	4.42	14.	4.	1.	.19
+	2 COMBINED AT	CPP07	70.	4.42	14.	4.	1.	.20
+	ROUTED TO	RDVAF	66.	4.58	14.	4.	1.	.20
+	HYDROGRAPH AT	DVAF	161.	4.42	32.	8.	3.	.41
+	DIVERSION TO	XDVAF	161.	4.42	21.	5.	2.	.41
+	HYDROGRAPH AT	ERDVAF	98.	5.00	11.	3.	1.	.41
+	2 COMBINED AT	CDVAF	135.	5.00	24.	6.	2.	.61
+	HYDROGRAPH AT	PPAF	306.	4.17	43.	11.	4.	.27
+	2 COMBINED AT	CAF02	283.	4.17	63.	16.	5.	.88
+	HYDROGRAPH AT	DRDV07	64.	4.92	17.	4.	1.	.39
+	ROUTED TO	RDV07	56.	5.58	17.	4.	1.	.39
+	HYDROGRAPH AT	DV07	219.	4.58	58.	15.	5.	.64
+	DIVERSION TO	XDV07	219.	4.58	58.	15.	5.	.64
+	HYDROGRAPH AT	ERDV07	0.	.00	0.	0.	0.	.64
+	2 COMBINED AT	CDV07	56.	5.58	17.	4.	1.	1.03

+	ROUTED TO	RRG07A	32.	6.17	13.	3.	1.	1.03
+	HYDROGRAPH AT	DRRG07	154.	5.25	25.	6.	2.	2.49
+	ROUTED TO	RRG07C	126.	5.42	25.	6.	2.	2.49
+	HYDROGRAPH AT	DRDVLP	29.	5.58	7.	2.	1.	.98
+	ROUTED TO	RDVLP	23.	6.17	7.	2.	1.	.98
+	HYDROGRAPH AT	DVLP	32.	4.92	11.	3.	1.	.14
+	DIVERSION TO	XDVLP	32.	4.92	4.	1.	0.	.14
+	HYDROGRAPH AT	ERDVLP	30.	5.17	8.	2.	1.	.14
+	2 COMBINED AT	CDVLP	51.	6.08	19.	5.	2.	.46
+	ROUTED TO	RRG07B	48.	6.33	19.	5.	2.	.46
+	HYDROGRAPH AT	RG07	78.	4.58	22.	6.	2.	.35
+	DIVERSION TO	XRG07	78.	4.58	22.	6.	2.	.35
+	HYDROGRAPH AT	ERRG07	0.	.00	0.	0.	0.	.35
+	4 COMBINED AT	CRG07	128.	5.50	37.	9.	3.	3.09
+	ROUTED TO	RRGAF	105.	5.67	34.	9.	3.	3.09
+	HYDROGRAPH AT	RGAF	84.	4.67	28.	7.	2.	.33
+	DIVERSION TO	XRGAF	84.	4.67	21.	5.	2.	.33
+	HYDROGRAPH AT	ERRGAF	36.	6.08	8.	2.	1.	.33
+	2 COMBINED AT	CRGAF	104.	5.67	35.	9.	3.	3.42
+	HYDROGRAPH AT	DRBYAF	34.	5.67	8.	2.	1.	1.76
+	ROUTED TO	RBY07	30.	6.00	8.	2.	1.	1.76
+	ROUTED TO	RBYAF	27.	6.67	8.	2.	1.	1.76
+	HYDROGRAPH AT	BYAF	166.	4.67	52.	14.	5.	.61
+	DIVERSION TO	XBYAF	166.	4.67	27.	7.	2.	.61
+	HYDROGRAPH AT	ERBYAF	130.	5.08	27.	7.	2.	.61
+	2 COMBINED AT	CBYAF	84.	5.58	30.	8.	3.	1.49
+	HYDROGRAPH AT	UHAF	86.	4.75	31.	8.	3.	.49
+	DIVERSION TO	XUHAF	86.	4.75	31.	8.	3.	.49
+	HYDROGRAPH AT	ERUHAF	0.	.00	0.	0.	0.	.49
+	3 COMBINED AT	CAF03	114.	5.58	43.	11.	4.	5.56
+	HYDROGRAPH AT	UH07	49.	4.83	20.	5.	2.	.25

+	ROUTED TO	RUH11	48.	5.00	20.	5.	2.	.25
+	ROUTED TO	RUH15	48.	5.17	20.	5.	2.	.25
+	HYDROGRAPH AT	UH15	312.	4.58	78.	20.	7.	1.02
+	DIVERSION TO	XUH15	312.	4.58	42.	10.	3.	1.02
+	HYDROGRAPH AT	ERUH15	206.	5.17	38.	9.	3.	1.02
+	2 COMBINED AT	CUH15	233.	5.17	52.	13.	4.	1.27
+	ROUTED TO	RBL15B	184.	5.67	52.	13.	4.	1.27
+	HYDROGRAPH AT	DRBL15	422.	5.00	151.	40.	13.	1.42
+	ROUTED TO	RBL15A	419.	5.08	151.	40.	13.	1.42
+	HYDROGRAPH AT	BL15	288.	4.58	75.	19.	6.	.96
+	DIVERSION TO	XBL15	288.	4.58	62.	16.	5.	.96
+	HYDROGRAPH AT	ERBL15	95.	5.50	13.	3.	1.	.96
+	3 COMBINED AT	CBL15	456.	5.67	181.	47.	16.	2.94
+	ROUTED TO	RMEAF	450.	5.83	181.	47.	16.	2.94
+	HYDROGRAPH AT	MEAF	375.	4.58	100.	26.	9.	1.37
+	DIVERSION TO	XMEAF	222.	4.25	20.	5.	2.	1.37
+	HYDROGRAPH AT	ERMEAF	375.	4.58	82.	21.	7.	1.37
+	2 COMBINED AT	CMEAF	578.	5.08	235.	61.	20.	4.31
+	HYDROGRAPH AT	BLAF	46.	4.83	19.	5.	2.	.28
+	DIVERSION TO	XBLAF	46.	4.83	19.	5.	2.	.28
+	HYDROGRAPH AT	ERBLAF	0.	.00	0.	0.	0.	.28
+	HYDROGRAPH AT	GRAF	277.	4.75	99.	26.	9.	.86
+	HYDROGRAPH AT	PEAF	336.	4.33	63.	16.	5.	.53
+	4 COMBINED AT	CAF04	878.	5.00	354.	94.	31.	5.94
+	HYDROGRAPH AT	OL11	117.	4.50	27.	7.	2.	.34
+	ROUTED TO	RNO11	111.	4.75	27.	7.	2.	.34
+	HYDROGRAPH AT	NO11	465.	4.42	98.	25.	8.	.86
+	DIVERSION TO	XNO11	424.	4.25	33.	8.	3.	.86
+	HYDROGRAPH AT	ERNO11	465.	4.42	66.	16.	5.	.86
+	2 COMBINED AT	CNO11	480.	4.50	85.	21.	7.	1.20
+	ROUTED TO	RGL14A	356.	5.33	84.	21.	7.	1.20

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+       HYDROGRAPH AT
                        NO07      109.    4.58        31.       8.        3.       .34
+       DIVERSION TO
                        XNO07     109.    4.58        17.       4.        1.       .34
+       HYDROGRAPH AT
                        ERNO07     80.    5.17        14.       4.        1.       .34
+       ROUTED TO
                        RGL11      65.    5.58        14.       4.        1.       .34
+       HYDROGRAPH AT
                        GL11      207.    4.50        55.      14.        5.       .43
+       DIVERSION TO
                        XGL11     207.    4.50        55.      14.        5.       .43
+       HYDROGRAPH AT
                        ERGL11      0.     .00         0.       0.        0.       .43
+       2 COMBINED AT
                        CGL11      65.    5.58        14.       4.        1.       .77
+       ROUTED TO
                        RGL14B     36.    6.25        12.       3.        1.       .77
+       HYDROGRAPH AT
                        GL14       68.    4.75        22.       6.        2.       .48
+       3 COMBINED AT
                        CGL14     347.    5.33        95.      24.        8.      2.45
+       ROUTED TO
                        RGLAF     299.    5.67        85.      22.        7.      2.45
+       HYDROGRAPH AT
                        GLAF      160.    4.50        50.      13.        4.       .39
+       2 COMBINED AT
                        CGLAF     356.    5.58       120.      32.       11.      2.83
+       HYDROGRAPH AT
                        OLAF      190.    4.67        62.      16.        5.      1.03
+       DIVERSION TO
                        XOLAF     190.    4.67        44.      11.        4.      1.03
+       HYDROGRAPH AT
                        EROLAF    102.    5.42        20.       5.        2.      1.03
+       HYDROGRAPH AT
                        NOAF       61.    5.00        19.       5.        2.       .28
+       3 COMBINED AT
                        CAF05     354.    5.67       127.      34.       11.      4.15
1
                          SUMMARY OF KINEMATIC WAVE - MUSKINGUM-CUNGE ROUTING
                            (FLOW IS DIRECT RUNOFF WITHOUT BASE FLOW)
                                                                  INTERPOLATED TO
                                                                  COMPUTATION INTERVAL
   ISTAQ    ELEMENT      DT        PEAK    TIME TO     VOLUME      DT        PEAK    TIME TO     VOLUME
                                             PEAK                                     PEAK

                         (MIN)     (CFS)     (MIN)      (IN)     (MIN)      (CFS)     (MIN)      (IN)
  FOR STORM = 1  STORM AREA (SQ MI) =       .00
    RP35GW  MANE          1.73    158.00    370.13       .43      5.00     158.00    370.00       .43

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3905E+02 EXCESS= .0000E+00 OUTFLOW= .3908E+02 BASIN STORAGE= .7482E-10 PERCENT ERROR=   -.1

  FOR STORM = 2  STORM AREA (SQ MI) =       .50
    RP35GW  MANE           .85    158.00    263.01       .43      5.00     158.00    265.00       .43

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3890E+02 EXCESS= .0000E+00 OUTFLOW= .3898E+02 BASIN STORAGE= .3657E-10 PERCENT ERROR=   -.2

  FOR STORM = 3  STORM AREA (SQ MI) =      2.80
    RP35GW  MANE          1.67    158.00    370.38       .43      5.00     158.00    370.00       .43

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3927E+02 EXCESS= .0000E+00 OUTFLOW= .3926E+02 BASIN STORAGE= .7553E-10 PERCENT ERROR=    .0

  FOR STORM = 4  STORM AREA (SQ MI) =     16.00
    RP35GW  MANE          1.75    158.00    257.94       .43      5.00     158.00    260.00       .43

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3910E+02 EXCESS= .0000E+00 OUTFLOW= .3913E+02 BASIN STORAGE= .7522E-10 PERCENT ERROR=   -.1
```



```
  FOR STORM = 5  STORM AREA (SQ MI) =     90.00
    RP35GW  MANE          2.82    158.00    266.08       .40      5.00     158.00    270.00       .40

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3614E+02 EXCESS= .0000E+00 OUTFLOW= .3610E+02 BASIN STORAGE= .1369E-09 PERCENT ERROR=    .1

  FOR STORM = 6  STORM AREA (SQ MI) =    100.00
    RP35GW  MANE          2.69    158.00    271.40       .39      5.00     158.00    275.00       .39

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3577E+02 EXCESS= .0000E+00 OUTFLOW= .3579E+02 BASIN STORAGE= .1246E-09 PERCENT ERROR=   -.1

  FOR STORM = 1  STORM AREA (SQ MI) =       .00
    RP35TB  MANE          2.23    318.00    269.86      1.04      5.00     318.00    270.00      1.04

CONTINUITY SUMMARY (AC-FT) - INFLOW= .8758E+02 EXCESS= .0000E+00 OUTFLOW= .8759E+02 BASIN STORAGE= .4272E-09 PERCENT ERROR=    .0

  FOR STORM = 2  STORM AREA (SQ MI) =       .50
    RP35TB  MANE          2.35    318.00    270.65      1.03      5.00     318.00    275.00      1.03

CONTINUITY SUMMARY (AC-FT) - INFLOW= .8712E+02 EXCESS= .0000E+00 OUTFLOW= .8713E+02 BASIN STORAGE= .3122E-09 PERCENT ERROR=    .0

  FOR STORM = 3  STORM AREA (SQ MI) =      2.80
    RP35TB  MANE          2.26    318.00    264.55      1.04      5.00     318.00    265.00      1.04

CONTINUITY SUMMARY (AC-FT) - INFLOW= .8727E+02 EXCESS= .0000E+00 OUTFLOW= .8730E+02 BASIN STORAGE= .4115E-09 PERCENT ERROR=    .0

  FOR STORM = 4  STORM AREA (SQ MI) =     16.00
    RP35TB  MANE          2.23    318.00    264.62      1.02      5.00     318.00    265.00      1.02

CONTINUITY SUMMARY (AC-FT) - INFLOW= .8607E+02 EXCESS= .0000E+00 OUTFLOW= .8610E+02 BASIN STORAGE= .4408E-09 PERCENT ERROR=    .0

  FOR STORM = 5  STORM AREA (SQ MI) =     90.00
    RP35TB  MANE          2.29    318.00    274.85       .93      5.00     318.00    275.00       .93

CONTINUITY SUMMARY (AC-FT) - INFLOW= .7848E+02 EXCESS= .0000E+00 OUTFLOW= .7849E+02 BASIN STORAGE= .4532E-09 PERCENT ERROR=    .0

  FOR STORM = 6  STORM AREA (SQ MI) =    100.00
    RP35TB  MANE          2.33    318.00    279.90       .92      5.00     318.00    280.00       .92

CONTINUITY SUMMARY (AC-FT) - INFLOW= .7758E+02 EXCESS= .0000E+00 OUTFLOW= .7760E+02 BASIN STORAGE= .4250E-09 PERCENT ERROR=    .0

  FOR STORM = 1  STORM AREA (SQ MI) =       .00
    RP35CT  MANE          1.95    554.00    269.06      1.67      5.00     554.00    270.00      1.67

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1470E+03 EXCESS= .0000E+00 OUTFLOW= .1471E+03 BASIN STORAGE= .9698E-09 PERCENT ERROR=    .0

  FOR STORM = 2  STORM AREA (SQ MI) =       .50
    RP35CT  MANE          2.01    554.00    269.45      1.67      5.00     554.00    270.00      1.67

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1467E+03 EXCESS= .0000E+00 OUTFLOW= .1467E+03 BASIN STORAGE= .5648E-09 PERCENT ERROR=    .0

  FOR STORM = 3  STORM AREA (SQ MI) =      2.80
    RP35CT  MANE          2.02    554.00    270.70      1.66      5.00     554.00    275.00      1.66

  *** The remainder of the continuity summary has been deleted for brevity, but the entire output is included on the CD ***

*** NORMAL END OF HEC-1 ***
```

```
1*************************************
*                                   *
*   FLOOD HYDROGRAPH PACKAGE  (HEC-1)   *
*             JUN  1998             *
*           VERSION 4.1             *
*                                   *
*  RUN DATE   01NOV10  TIME  11:04:40   *
*                                   *
*************************************
```

```
*************************************
*                                   *
*    U.S. ARMY CORPS OF ENGINEERS   *
*    HYDROLOGIC ENGINEERING CENTER  *
*         609 SECOND STREET         *
*       DAVIS, CALIFORNIA 95616     *
*           (916) 756-1104          *
*                                   *
*************************************
```

```
X     X  XXXXXXX   XXXXX          X
X     X  X       X     X        XX
X     X  X       X              X
XXXXXXX  XXXX    X        XXXXX X
X     X  X       X              X
X     X  X       X     X        X
X     X  XXXXXXX   XXXXX        XXX
```

THIS PROGRAM REPLACES ALL PREVIOUS VERSIONS OF HEC-1 KNOWN AS HEC1 (JAN 73), HEC1GS, HEC1DB, AND HEC1KW.

THE DEFINITIONS OF VARIABLES -RTIMP- AND -RTIOR- HAVE CHANGED FROM THOSE USED WITH THE 1973-STYLE INPUT STRUCTURE.
THE DEFINITION OF -AMSKK- ON RM-CARD WAS CHANGED WITH REVISIONS DATED 28 SEP 81. THIS IS THE FORTRAN77 VERSION
NEW OPTIONS: DAMBREAK OUTFLOW SUBMERGENCE , SINGLE EVENT DAMAGE CALCULATION, DSS:WRITE STAGE FREQUENCY,
DSS:READ TIME SERIES AT DESIRED CALCULATION INTERVAL LOSS RATE:GREEN AND AMPT INFILTRATION
KINEMATIC WAVE: NEW FINITE DIFFERENCE ALGORITHM

1 HEC-1 INPUT PAGE 1

```
LINE          ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10
    1         ID     GLENDALE STORMWATER MANAGEMENT PLAN
    2         ID     Model for Maryvale Watershed
    3         ID     Existing Conditions
    4         ID
    5         ID     Prepared for the City of Glendale
    6         ID     In Association with the Flood Control District of Maricopa County
    7         ID     City Project Number 089017
    8         ID
    9         ID     Prepared by Kimley-Horn and Associates, Inc.
   10         ID     KHA Project Number 091910009
   11         ID     October 2010
   12         ID
   13         ID     MODELING PARAMETERS
   14         ID     - 10 Year  24 Hour Storm Event
   15         ID     - NOAA 14 Rainfall Data
   16         ID     - Clark Unit Hydrograph
   17         ID     - Green and Ampt Rainfall Loss Method
   18         ID
   19         ID     Topo data extracted from Flood Control District database July 24, 2009
   20         ID     Land use obtained from City of Glendale General Plan August 2009, City of
   21         ID          Phoenix General Plan August 2009, and MAG General Plan Land Use 2007
   22         ID
   23         ID     Storage routing data obtained from As-built records where possible
   24         ID     When As-built data was not available data was obtained from HEC-1 models
   25         ID          and checked for accuracy. HEC-1 models used include:
   26         ID          - Maryvale ADMS, February 1997
   27         ID          - Maryvale model modified by DMJM for improvements along the Bethany
   28         ID            Home Outfall Channel, file BHGC00C6.dat, November 2004
   29         ID          - Update to ponding areas along Grand Canal in the City of Glendale
   30         ID            for a CLOMR by PEC, February 2008
   31         ID     The source of data is identified on each individual storage routing card
   32         ID
   33         ID     ************************************************************************
   34         ID
   35         ID     MODELING NOMENCLATURE
   36         ID     SUBBASIN HYDROGRAPH:
   37         ID        Example: OL51   - the subbasin northeast of Olive and 51st Avenue
   38         ID
   39         ID     STORM DRAIN DIVERSION:
   40         ID        Example: DOL51  - flow from subbasin OL51 is diverted to a storm drain
   41         ID
   42         ID     SUBBASIN DIVERSION:
   43         ID        Example: DWOL59 - flow is diverted west towards Olive and 59th Avenue
   44         ID        Example: DSNO51 - flow is diverted south towards Northern and 51st Ave
   45         ID
   46         ID     ROUTE HYDROGRAPH:
   47         ID        Example: RWOL59 - flow is routed west towards Olive and 59th Avenue
   48         ID        Example: RSNO59 - flow is routed south towards Northern and 59th Ave
   49         ID
   50         ID     COMBINE HYDROGRAPH:
   51         ID        Example: COL59  - combine flow at Olive and 59th Avenue
   52         ID
   53         ID     NAME ABBREVIATIONS
   54         ID        Jomax Road             JM
   55         ID        Happy Valley Road      HV
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1 HEC-1 INPUT PAGE 2

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LINE          ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10
   56         ID        Pinnacle Peak Road     PP
   57         ID        Deer Valley Road       DV
   58         ID        Loop 101               LO
   59         ID        Beardsley Road         BY
   60         ID        Union Hills Drive      UH
   61         ID        Bell Road              BL
   62         ID        Greenway Road          GW
   63         ID        Thunderbird Road       TB
   64         ID        Cactus Road            CT
   65         ID        Peoria Avenue          PE
   66         ID        Olive Avenue           OL
   67         ID        Northern Avenue        NO
   68         ID        Glendale Avenue        GL
   69         ID        Bethany Home Road      BH
   70         ID        Camelback Road         CB
   71         ID        Indian School Road     IS
   72         ID        Thomas Road            TM
   73         ID        McDowell Road          MD
   74         ID        Interstate 10          IN
   75         ID        Van Buren Street       VB
   76         ID        Avondale Boulevard     AV
   77         ID        Grand Avenue           GR
   78         ID        Grand Canal            GC
   79         ID        Brown Street           BR
   80         ID        Mountain View Road     MV
   81         ID        Orangewood Avenue      OW
   82         ID        Mitchell Drive         ML
   83         ID        Agua Fria River        AF
   84         ID        New River              NR
   85         ID        Skunk Creek            SK
   86         ID        Roosevelt Irrigation   RI
   87         ID
   88         ID     PREFIXES FOR MODELING OPERATIONS
   89         ID        RW     Routing flow in the west direction
   90         ID        RS     Routing flow in the south direction
   91         ID        RP     Routing storm drain pipe flow
   92         ID        C      Combination point
   93         ID        CI     Combination point at an intersection
   94         ID        CP     Combination point for storm drain pipe flow
   95         ID        SR     Storage for detention/retention basins
   96         ID        DW     Divert flow to the west
   97         ID        DE     Divert flow to the east
   98         ID        DS     Divert flow to the south
   99         ID        DN     Divert flow to the north
  100         ID        ER     Divert flow for existing 100-yr 2-hr retention
  101         ID        X      Existing retention divertion does not return to model
  102         ID        DR     Divert retrieval from surface flow
  103         ID        DI     Divert retrieval from intersection flow
  104         ID        D      Divert surface flow (remains after storm drain divert)
  105         ID        DP     Divert flow to a storm drain pipe
  106         ID        PR     Divert retrieval from a storm drain pipe
  107         ID
  108         ID     ************************************************************************
  109         IT      5       0       0    1000
  110         IN     15
```

1 HEC-1 INPUT PAGE 3

```
LINE          ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10
  111         IO      5
              *DIAGRAM
              *
  112         JD   2.222  0.0001
  113         PC   0.000  0.002  0.005  0.008  0.011  0.014  0.017  0.020  0.023  0.026
  114         PC   0.029  0.032  0.035  0.038  0.041  0.044  0.048  0.052  0.056  0.060
  115         PC   0.064  0.068  0.072  0.076  0.080  0.085  0.090  0.095  0.100  0.105
  116         PC   0.110  0.115  0.120  0.126  0.133  0.140  0.147  0.155  0.163  0.172
  117         PC   0.181  0.191  0.203  0.218  0.236  0.257  0.283  0.387  0.663  0.707
  118         PC   0.735  0.758  0.776  0.791  0.804  0.815  0.825  0.834  0.842  0.849
  119         PC   0.856  0.863  0.869  0.875  0.881  0.887  0.893  0.898  0.903  0.908
  120         PC   0.913  0.918  0.922  0.926  0.930  0.934  0.938  0.942  0.946  0.950
  121         PC   0.953  0.956  0.959  0.962  0.965  0.968  0.971  0.974  0.977  0.980
  122         PC   0.983  0.986  0.989  0.992  0.995  0.998  1.000
  123         JD   2.111   10.0
  124         JD   2.000   30.0
  125         JD   1.933   60.0
  126         JD   1.893   90.0
  127         JD   1.869  120.0
              *
  128         KK    GW83   BASIN
  129         KM   Runoff hydrograph for subbasin GW83 northeast of the intersection of Greenway
  130         KM   Road and 83rd Avenue
  131         BA   0.291
  132         LG    0.30    0.25    4.70    0.31      24
  133         UC   1.271   1.233
  134         UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
  135         UA     100
              *
```

```
136          KK   DGW83  DIVERT
137          KM   Divert calculated full flow capapcity of 45 cfs into 42-inch storm drain
138          KM   pipe at the intersection of Greenway Road and 83rd Avenue
139          DT  DPGW83     0.0    45.0
140          DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
141          DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
             *

142          KK  DSTB83  DIVERT
143          KM   Divert portion of runoff hydrograph from subbasin GW83 south to the
144          KM   intersection of Thunderbird Road and 83rd Avenue and the remaining flow west
145          KM   to Skunk Creek. The diversion is based on topography
146          DT  DWSK01     0.0      0.0
147          DI      0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0  10000.0  20000.0  50000.0
148          DQ      0.0     57.0    114.0    285.0    570.0   1140.0   2280.0   5700.0  11400.0  28500.0
             *

149          KK  RSTB83   ROUTE
150          KM   Route diversion DSTB83 south to combination point CTB83
151          RS       10    FLOW
152          RC   0.035    0.015    0.035     5280   0.0023     0.00
153          RX    0.00     0.00    48.00    48.00   251.00   251.00   299.00   299.00
154          RY    3.00     0.98     0.50     0.00     0.00     0.50     0.98     3.00
             *

1                                        HEC-1 INPUT                                        PAGE  4

LINE         ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

155          KK    TB67   BASIN
156          KM   Runoff hydrograph for subbasin TB67 northeast of the intersection of
157          KM   Thunderbird Road and 67th Avenue
158          BA   0.265
159          LG    0.23     0.16     9.70     0.05       17
160          UC   0.809    0.479
161          UA       0      5.0     16.0     30.0     65.0     77.0     84.0     90.0     94.0     97.0
162          UA     100
             *

163          KK  DWTB75  DIVERT
164          KM   Divert remaining runoff hydrograph from subbasin TB67 west to combination
165          KM   point CTB75
166          DT  DSCT67     0.0      0.0
167          DI      0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0  10000.0  20000.0  50000.0
168          DQ      0.0     40.0     80.0    200.0    400.0    800.0   1600.0   4000.0   8000.0  20000.0
             *

169          KK  RWTB75   ROUTE
170          KM   Route diversion DWTB75 west to combination point CTB75
171          RS        7    FLOW
172          RC   0.035    0.015    0.035     5280   0.0027     0.00
173          RX    0.00     0.00    48.00    48.00   251.00   251.00   299.00   299.00
174          RY    3.00     0.98     0.50     0.00     0.00     0.50     0.98     3.00
             *

175          KK    TB75   BASIN
176          KM   Runoff hydrograph for subbasin TB75 northeast of the intersection of
177          KM   Thunderbird Road and 75th Avenue
178          BA   1.026
179          LG    0.23     0.15     7.00     0.10       32
180          UC   1.291    0.687
181          UA       0      5.0     16.0     30.0     65.0     77.0     84.0     90.0     94.0     97.0
182          UA     100
             *

183          KK  ERTB75  DIVERT
184          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
185          KM   retention developed after 1990 in subbasin TB75
186          DT   XTB75      8.7      0.0
187          DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
188          DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
             *

189          KK   CTB75 COMBINE
190          KM   Combine route RWTB75 and subbasin TB75
191          HC        2     1.18
             *

1                                        HEC-1 INPUT                                        PAGE  5

LINE         ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

192          KK   DTB75  DIVERT
193          KM   Divert calculated full flow capapcity of 161 cfs into 66-inch storm drain
194          KM   pipe at the intersection of Thunderbird Road and 75th Avenue
195          DT  DPTB75     0.0    161.0
196          DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
197          DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
             *

198          KK  DWTB83  DIVERT
199          KM   Divert remaining runoff hydrograph from subbasin TB83 west to combination
```



```
200          KM   point CTB83
201          DT  DSCT75     0.0      0.0
202          DI      0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0  10000.0  20000.0  50000.0
203          DQ      0.0     45.0     90.0    225.0    450.0    900.0   1800.0   4500.0   9000.0  22500.0
             *

204          KK  RWTB83   ROUTE
205          KM   Route diversion DWTB83 west to combination point CTB83
206          RS        4    FLOW
207          RC   0.035    0.015    0.035     5280   0.0034     0.00
208          RX    0.00     0.00    76.50    76.50   372.50   372.50   449.00   449.00
209          RY    3.00     1.27     0.50     0.00     0.00     0.50     1.27     3.00
             *

210          KK    TB83   BASIN
211          KM   Runoff hydrograph for square mile subbasin TB83 northeast of the intersection
212          KM   Thunderbird Road and 83rd Avenue
213          BA   0.994
214          LG    0.25     0.21     6.40     0.14       31
215          UC   1.500    1.018
216          UA       0      5.0     16.0     30.0     65.0     77.0     84.0     90.0     94.0     97.0
217          UA     100
             *

218          KK  ERTB83  DIVERT
219          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
220          KM   retention developed after 1990 in subbasin TB83
221          DT   XTB83     19.4      0.0
222          DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
223          DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
             *

224          KK   CTB83 COMBINE
225          KM   Combine route RWTB83, route south RSTB83, and subbasin TB83
226          HC        3     1.77
             *

227          KK  PRTB75RETRIEVE
228          KM   Retrieve full flow capacity of 161 cfs from 66-inch storm drain pipe at the
229          KM   intersection of Thunderbird Road and 75th Avenue
230          DR  DPTB75
             *

1                                        HEC-1 INPUT                                        PAGE  6

LINE         ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

231          KK  RPTB83   ROUTE
232          KM   Route full flow capacity of 161 cfs through 66-inch storm drain pipe in
233          KM   Thunderbird Road to the intersection of Thunderbird Road and 83rd Avenue
234          RK    5194  0.0023   0.015            CIRC   5.500
             *

235          KK  CPTB83 COMBINE
236          KM   Combine pipe return PRTB75 with the runoff hydrograph at combination point
237          KM   CTB83 at the intersection of Thunderbird Road and 83rd Avenue
238          HC        2
             *

239          KK   DTB83  DIVERT
240          KM   Divert calculated full flow capapcity of 247 cfs into 72-inch storm drain
241          KM   pipe at the intersection of Thunderbird Road and 83rd Avenue
242          DT  DPTB83     0.0    247.0
243          DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
244          DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
             *

245          KK  DWTBLO  DIVERT
246          KM   Divert remaining runoff hydrograph from subbasin TB83 west to combination
247          KM   point CTBLO
248          DT  DSCT83     0.0      0.0
249          DI      0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0  10000.0  20000.0  50000.0
250          DQ      0.0     71.0    142.0    355.0    710.0   1420.0   2840.0   7100.0  14200.0  35500.0
             *

251          KK  RWTBLO   ROUTE
252          KM   Route diversion DWTBLO west to combination point CTBLO
253          RS        1    FLOW
254          RC   0.035    0.015    0.035     2002   0.0030     0.00
255          RX    0.00     0.00    16.50    16.50   107.50   107.50   124.00   124.00
256          RY    3.00     0.66     0.50     0.00     0.00     0.50     0.66     3.00
             *

257          KK    TBLO   BASIN
258          KM   Runoff hydrograph for subbasin TBLO northeast of the intersection of
259          KM   Thunderbird Road and SR Loop 101
260          BA   0.099
261          LG    0.15     0.15     8.80     0.05       71
262          UC   0.880    1.083
263          UA       0      5.0     16.0     30.0     65.0     77.0     84.0     90.0     94.0     97.0
264          UA     100
             *
```

```
265          KK  ERTBLO  DIVERT
266          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
267          KM   retention developed after 1990 in subbasin TBLO
268          DT   XTBLO     10.8      0.0
269          DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
270          DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
             *
1                                        HEC-1 INPUT                                                    PAGE  7

        LINE         ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

271          KK   CTBLO COMBINE
272          KM   Combine route RWTBLO and subbasin TBLO
273          HC        2     0.62
             *

274          KK  PRTB83RETRIEVE
275          KM   Retrieve full flow capacity of 247 cfs from 72-inch storm drain pipe at the
276          KM   intersection of Thunderbird Road and 83rd Avenue
277          DR  DPTB83
             *

278          KK  RPTBLO   ROUTE
279          KM   Route full flow capacity of 247 cfs through 72-inch storm drain pipe in
280          KM   Thunderbird Road to the intersection of Thunderbird Road and 83rd Avenue
281          RK    1532  0.0034    0.015             CIRC    6.000
             *

282          KK  CPTBLO COMBINE
283          KM   Combine pipe return PRTBLO with the runoff hydrograph at combination point
284          KM   CTBLO at the intersection of Thunderbird Road and SR Loop 101
285          HC        2
             *

286          KK  RSCTLO   ROUTE
287          KM   Route runoff hydrograph at combination point CPTBLO south to combination
288          KM   point CCTLO
289          RS        2     FLOW
290          RC    0.035    0.015    0.035     4816  0.0016     0.00
291          RX     0.00     3.00    13.00    29.00    39.00    55.00    65.00    68.00
292          RY     9.00     8.00     8.00     0.00     0.00     8.00     8.00     9.00
             *

293          KK    CT59   BASIN
294          KM   Runoff hydrograph for subbasin CT59 northeast of the intersection of
295          KM   Cactus Road and 59th Avenue
296          BA   0.296
297          LG    0.24     0.15     8.80     0.06       30
298          UC   1.000    0.680
299          UA       0      5.0     16.0     30.0     65.0     77.0     84.0     90.0     94.0     97.0
300          UA     100
             *

301          KK  ERCT59  DIVERT
302          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
303          KM   retention developed after 1990 in subbasin CT59
304          DT   XCT59     24.6      0.0
305          DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
306          DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
             *
1                                        HEC-1 INPUT                                                    PAGE  8

        LINE         ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

307          KK   D59CT  DIVERT
308          KM   Divert calculated full flow capapcity of 18 cfs into 30-inch storm drain
309          KM   pipe at the intersection of Cactus Road and 59th Avenue
310          DT  DP59CT      0.0     18.0
311          DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
312          DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
             *

313          KK  DWCT67  DIVERT
314          KM   Divert remaining runoff hydrograph from subbasin CT59 west to combination
315          KM   point CCT67
316          DT  DSPE59      0.0      0.0
317          DI      0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0  10000.0  20000.0  50000.0
318          DQ      0.0     68.0    136.0    340.0    680.0   1360.0   2720.0   6800.0  13600.0  34000.0
             *

319          KK  RWCT67   ROUTE
320          KM   Route diversion DWCT67 west to combination point CCT67
321          RS       10     FLOW
322          RC    0.035    0.015    0.035     5280  0.0041     0.00
323          RX     0.00     0.00    33.50    33.50   144.50   144.50   178.00   178.00
324          RY     3.00     0.84     0.50     0.00     0.00     0.50     0.84     3.00
             *

325          KK  DRCT67RETRIEVE
326          KM   Retrieve divert DRCT67 from subbasin TB67 and divert south to combination
327          KM   point CCT67
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328          DR  DSCT67
             *

329          KK  RSCT67   ROUTE
330          KM   Route retrieval DRCT67 south to combination point CCT67
331          RS        6     FLOW
332          RC    0.035    0.015    0.035     5280  0.0035     0.00
333          RX     0.00     0.00    24.50    24.50   155.50   155.50   180.00   180.00
334          RY     3.00     0.74     0.50     0.00     0.00     0.50     0.74     3.00
             *

335          KK    CT67   BASIN
336          KM   Runoff hydrograph for subbasin CT67 northeast of the intersection of Cactus
337          KM   Road and 67th Avenue
338          BA   0.910
339          LG    0.28     0.15     7.30     0.11       26
340          UC   1.210    0.710
341          UA       0      5.0     16.0     30.0     65.0     77.0     84.0     90.0     94.0     97.0
342          UA     100
             *

343          KK  ERCT67  DIVERT
344          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
345          KM   retention developed after 1990 in subbasin CT67
346          DT   XCT67     20.9      0.0
347          DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
348          DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
             *
1                                        HEC-1 INPUT                                                    PAGE  9

        LINE         ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

349          KK   CCT67 COMBINE
350          KM   Combine route RWCT67, route RSCT67, and subbasin CT67
351          HC        3     1.11
             *

352          KK   DCT67  DIVERT
353          KM   Divert calculated full flow capapcity of 268 cfs into 78-inch storm drain
354          KM   pipe at the intersection of Cactus Road and 67th Avenue
355          DT  DPCT67      0.0    268.0
356          DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
357          DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
             *

358          KK  DWCT75  DIVERT
359          KM   Divert remaining runoff hydrograph from combination point CCT67 west to
360          KM   combination point CCT75
361          DT  DSPE67      0.0      0.0
362          DI      0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0  10000.0  20000.0  50000.0
363          DQ      0.0     43.0     86.0    215.0    430.0    860.0   1720.0   4300.0   8600.0  21500.0
             *

364          KK  RWCT75   ROUTE
365          KM   Route diversion DWCT75 west to combination point CCT75
366          RS        6     FLOW
367          RC    0.035    0.015    0.035     5280  0.0030     0.00
368          RX     0.00     0.00    76.50    76.50   372.50   372.50   449.00   449.00
369          RY     3.00     1.27     0.50     0.00     0.00     0.50     1.27     3.00
             *

370          KK  DRCT75RETRIEVE
371          KM   Retrieve divert DRCT75 from combination point CTB75 and divert south to
372          KM   combination point CCT75
373          DR  DSCT75
             *

374          KK  RSCT75   ROUTE
375          KM   Route retrieval DRCT75 south to combination point CCT75
376          RS        4     FLOW
377          RC    0.035    0.015    0.035     5280  0.0038     0.00
378          RX     0.00     0.00    57.50    57.50   291.50   291.50   349.00   349.00
379          RY     3.00     1.08     0.50     0.00     0.00     0.50     1.08     3.00
             *

380          KK    CT75   BASIN
381          KM   Runoff hydrograph for square mile subbasin CT75 northeast of the intersection
382          KM   of Cactus Road and 75th Avenue
383          BA   1.003
384          LG    0.28     0.15     8.80     0.06       25
385          UC   1.500    1.009
386          UA       0      5.0     16.0     30.0     65.0     77.0     84.0     90.0     94.0     97.0
387          UA     100
             *
1                                        HEC-1 INPUT                                                    PAGE 10

        LINE         ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

388          KK  ERCT75  DIVERT
389          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
390          KM   retention developed after 1990 in subbasin CT75
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391          DT   XCT75     23.7      0.0
392          DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
393          DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
             *

394          KK   CCT75 COMBINE
395          KM   Combine route RWCT75, route RSCT75, and subbasin CT75
396          HC        3     2.17
             *

397          KK  PRCT67RETRIEVE
398          KM   Retrieve full flow capacity of 268 cfs from 78-inch storm drain pipe at the
399          KM   intersection of Cactus Road and 67th Avenue
400          DR  DPCT67
             *

401          KK  RPCT75   ROUTE
402          KM   Route full flow capacity of 268 cfs through 78-inch storm drain pipe in
403          KM   Cactus Road to the intersection of Cactus Road and 75th Avenue
404          RK    5321  0.0026   0.015            CIRC   6.500
             *

405          KK  CPCT75 COMBINE
406          KM   Combine pipe return PRCT67 with the runoff hydrograph at combination point
407          KM   CCT75 at the intersection of Cactus Road and 75th Avenue
408          HC        2
             *

409          KK   DCT75  DIVERT
410          KM   Divert calculated full flow capapcity of 651 cfs into 108-inch storm drain
411          KM   pipe at the intersection of Cactus Road and 75th Avenue
412          DT  DPCT75      0.0    651.0
413          DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
414          DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
             *

415          KK  DWCT83  DIVERT
416          KM   Divert remaining runoff hydrograph from combination point CCT75 west to
417          KM   combination point CCT83
418          DT  DSPE75      0.0      0.0
419          DI      0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
420          DQ      0.0    50.0   100.0   250.0   500.0  1000.0  2000.0  5000.0 10000.0 25000.0
             *

421          KK  RWCT83   ROUTE
422          KM   Route diversion DWCT83 west to combination point CCT83
423          RS        5     FLOW
424          RC   0.035   0.015   0.035    5280  0.0026    0.00
425          RX    0.00    0.00   57.50   57.50  291.50  291.50  349.00  349.00
426          RY    3.00    1.08    0.50    0.00    0.00    0.50    1.08    3.00
             *
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LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

427          KK  DRCT83RETRIEVE
428          KM   Retrieve divert DRCT83 from combination point CPTB83 and divert south to
429          KM   combination point CCT83
430          DR  DSCT83
             *

431          KK  RSCT83   ROUTE
432          KM   Route retrieval DRCT83 south to combination point CCT83
433          RS        3     FLOW
434          RC   0.035   0.015   0.035    5280  0.0030    0.00
435          RX    0.00    0.00   48.00   48.00  251.00  251.00  299.00  299.00
436          RY    3.00    0.98    0.50    0.00    0.00    0.50    0.98    3.00
             *

437          KK   CT83   BASIN
438          KM   Runoff hydrograph for square mile subbasin CT83 northeast of the intersection
439          KM   of Cactus Road and 83rd Avenue
440          BA   1.008
441          LG    0.25    0.15    8.40    0.06      30
442          UC   1.500   1.010
443          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
444          UA     100
             *

445          KK  ERCT83  DIVERT
446          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
447          KM   retention developed after 1990 in subbasin CT83
448          DT   XCT83    28.8      0.0
449          DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
450          DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
             *

451          KK   CCT83 COMBINE
452          KM   Combine route RWCT83, route RSCT83, and subbasin CT83
453          HC        3     3.34
             *
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454          KK  PRCT75RETRIEVE
455          KM   Retrieve full flow capacity of 651 cfs from 108-inch storm drain pipe at the
456          KM   intersection of Cactus Road and 75th Avenue
457          DR  DPCT75
             *

458          KK  RPCT83   ROUTE
459          KM   Route full flow capacity of 651 cfs through 108-inch storm drain pipe in
460          KM   Cactus Road to the intersection of Cactus Road and 83rd Avenue
461          RK    5246  0.0027   0.015            CIRC   9.000
             *
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LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

462          KK  CPCT83 COMBINE
463          KM   Combine pipe return PRCT75 with the runoff hydrograph at combination point
464          KM   CCT83 at the intersection of Cactus Road and 83rd Avenue
465          HC        2
             *

466          KK   DCT83  DIVERT
467          KM   Divert calculated full flow capapcity of 663 cfs into 120-inch storm drain
468          KM   pipe at the intersection of Cactus Road and 83rd Avenue
469          DT  DPCT83      0.0    663.0
470          DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
471          DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
             *

472          KK  DWCTLO  DIVERT
473          KM   Divert remaining runoff hydrograph from combination point CCT83 west to
474          KM   combination point CCTLO
475          DT  DSPE83      0.0      0.0
476          DI      0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
477          DQ      0.0    41.0    82.0   205.0   410.0   820.0  1640.0  4100.0  8200.0 20500.0
             *

478          KK  RWCTLO   ROUTE
479          KM   Route diversion DWCTLO west to combination point CCTLO
480          RS        3     FLOW
481          RC   0.035   0.015   0.035    6650  0.0048    0.00
482          RX    0.00    0.00   76.50   76.50  372.50  372.50  449.00  449.00
483          RY    3.00    1.27    0.50    0.00    0.00    0.50    1.27    3.00
             *

484          KK    CTLO   BASIN
485          KM   Runoff hydrograph for subbasin CTLO northeast of the intersection of Cactus
486          KM   Road and SR Loop 101
487          BA   0.865
488          LG    0.20    0.15    7.30    0.09      47
489          UC   1.447   1.163
490          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
491          UA     100
             *

492          KK  ERCTLO  DIVERT
493          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
494          KM   retention developed after 1990 in subbasin CTLO
495          DT   XCTLO    46.0      0.0
496          DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
497          DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
             *

498          KK   CCTLO COMBINE
499          KM   Combine route RWCTLO, route RSCTLO, and subbasin CTLO
500          HC        3     3.46
             *
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LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

501          KK  PRCT83RETRIEVE
502          KM   Retrieve full flow capacity of 663 cfs from 120-inch storm drain pipe at the
503          KM   intersection of Cactus Road and 83rd Avenue
504          DR  DPCT83
             *

505          KK  RPCTLO   ROUTE
506          KM   Route full flow capacity of 663 cfs through 120-inch storm drain pipe in
507          KM   Cactus Road to the intersection of Cactus Road and SR Loop 101
508          RK    6334  0.0016   0.015            CIRC  10.000
             *

509          KK  CPCTLO COMBINE
510          KM   Combine pipe return PRCT83 with the runoff hydrograph at combination point
511          KM   CCTLO at the intersection of Cactus Road and SR Loop 101
512          HC        2
             *

513          KK  DSCTLO  DIVERT
514          KM   Divert portion of runoff hydrograph from combination point CPCTLO south to
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 515          KM   combination point CGRLO
 516          DT  DWNR01      0.0  1927.0
 517          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
 518          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

 519          KK  DSPELO  DIVERT
 520          KM   Divert remainder of runoff hydrograph from divert DSCTLO south to
 521          KM   combination point CGRLO
 522          DT  DSGR91      0.0     0.0
 523          DI     0.0  1299.0  1299.1 50000.0     0.0     0.0     0.0     0.0     0.0     0.0
 524          DQ     0.0     0.0  1299.1 50000.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

 525          KK    PE51   BASIN
 526          KM   Runoff hydrograph for subbasin PE51 northeast of the intersection of Peoria
 527          KM   Avenue and 51st Avenue
 528          BA   0.419
 529          LG    0.22    0.15    8.80    0.05      37
 530          UC   1.043   0.641
 531          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
 532          UA     100
              *

 533          KK  DWPE59  DIVERT
 534          KM   Divert remaining runoff hydrograph from subbasin PE59 west to combination
 535          KM   point CPE59
 536          DT  DSOL51      0.0     0.0
 537          DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
 538          DQ     0.0    40.0    80.0   200.0   400.0   800.0  1600.0  4000.0  8000.0 20000.0
              *
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LINE          ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

 539          KK  RWPE59    ROUTE
 540          KM   Route diversion DWPE59 west to combination point CPE59
 541          RS       6     FLOW
 542          RC   0.035   0.015   0.035    5280  0.0042    0.00
 543          RX    0.00    0.00   79.50   79.50  468.50  468.50  548.00  548.00
 544          RY    3.00    1.30    0.50    0.00    0.00    0.50    1.30    3.00
              *

 545          KK  DRPE59RETRIEVE
 546          KM   Retrieve divert DRPE59 from subbasin CPCT59 and divert south to combination
 547          KM   point CPE59
 548          DR  DSPE59
              *

 549          KK  RSPE59    ROUTE
 550          KM   Route diversion retrieval DRPE59 south to combination point CPE59
 551          RS      10     FLOW
 552          RC   0.035   0.015   0.035    5280  0.0037    0.00
 553          RX    0.00    0.00   58.50   58.50  339.50  339.50  398.00  398.00
 554          RY    3.00    1.08    0.50    0.00    0.00    0.50    1.08    3.00
              *

 555          KK    PE59   BASIN
 556          KM   Runoff hydrograph for square mile subbasin PE59 northeast of the intersection
 557          KM   of Peoria Avenue and 59th Avenue
 558          BA   0.989
 559          LG    0.25    0.15    8.80    0.05      31
 560          UC   1.404   0.918
 561          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
 562          UA     100
              *

 563          KK  ERPE59  DIVERT
 564          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
 565          KM   retention developed after 1990 in subbasin PE59
 566          DT   XPE59     8.6     0.0
 567          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
 568          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

 569          KK   CPE59 COMBINE
 570          KM   Combine route RWPE59, route RSPE59, and subbasin PE59
 571          HC       3    1.44
              *

 572          KK  PR59CTRETRIEVE
 573          KM   Retrieve full flow capacity of 18 cfs from 30-inch storm drain pipe at the
 574          KM   intersection of Cactus Road and 59th Avenue
 575          DR  DP59CT
              *
              * KKRP59PE   ROUTE
              * KM Route full flow capacity of 18 cfs through 30-inch storm drain pipe in
              * KM 59th Avenue to the intersection of Peoria Avenue and 59th Avenue
              * RK  5358  0.0020   0.015          CIRC   2.500
              *
```

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LINE          ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

 576          KK  CPPE59 COMBINE
 577          KM   Combine pipe return PR59CT with the runoff hydrograph at combination point
 578          KM   CPE59 at the intersection of Peoria Avenue and 59th Avenue
 579          HC       2
              *

 580          KK   D59PE  DIVERT
 581          KM   Divert calculated full flow capapcity of 235 cfs into 78-inch storm drain
 582          KM   pipe at the intersection of Peoria Avenue and 59th Avenue
 583          DT  DP59PE      0.0   235.0
 584          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
 585          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

 586          KK  DWPE67  DIVERT
 587          KM   Divert remaining runoff hydrograph from combination point CPPE59 west to
 588          KM   combination point CPE67
 589          DT  DSOL59      0.0     0.0
 590          DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
 591          DQ     0.0    57.0   114.0   285.0   570.0  1140.0  2280.0  5700.0 11400.0 28500.0
              *

 592          KK  RWPE67    ROUTE
 593          KM   Route diversion DWPE67 west to combination point CPE67
 594          RS       4     FLOW
 595          RC   0.035   0.015   0.035    5280  0.0026    0.00
 596          RX    0.00    0.00   51.50   51.50  296.50  296.50  348.00  348.00
 597          RY    3.00    1.02    0.50    0.00    0.00    0.50    1.02    3.00
              *

 598          KK  DRPE67RETRIEVE
 599          KM   Retrieve divert DRPE67 from combination point CCT67 and divert south to
 600          KM   combination point CPE67
 601          DR  DSPE67
              *

 602          KK  RSPE67    ROUTE
 603          KM   Route diversion retrieval DRPE67 south to combination point CPE67
 604          RS       7     FLOW
 605          RC   0.035   0.015   0.035    5280  0.0022    0.00
 606          RX    0.00    0.00   58.50   58.50  339.50  339.50  398.00  398.00
 607          RY    3.00    1.08    0.50    0.00    0.00    0.50    1.08    3.00
              *

 608          KK    PE67   BASIN
 609          KM   Runoff hydrograph for square mile subbasin PE67 northeast of the intersection
 610          KM   of Peoria Avenue and 67th Avenue
 611          BA   0.962
 612          LG    0.23    0.15    7.60    0.09      36
 613          UC   1.438   0.970
 614          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
 615          UA     100
              *
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LINE          ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

 616          KK  ERPE67  DIVERT
 617          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
 618          KM   retention developed after 1990 in subbasin PE67
 619          DT   XPE67     55.4     0.0
 620          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
 621          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

 622          KK   CPE67 COMBINE
 623          KM   Combine route RWPE67, route RSPE67, and subbasin PE67
 624          HC       3    2.06
              *

 625          KK  SRPE67 STORAGE
 626          KM   Storage route runoff hydrograph from combination point CPE67 through
 627          KM     regional detention basin located in subbasin PE67
 628          KM   Stage-storage data from Sunnyside Park As-built records, 1991
 629          RS       1     STOR
 630          SV            5.24   11.27   12.67   18.77   26.81   35.20
 631          SQ                 217.00 2430.00 6873.0012627.00
 632          SE   87.00   88.00   89.00   89.20   90.00   91.00   92.00
              *

 633          KK   D67PE  DIVERT
 634          KM   Divert calculated full flow capapcity of 162 cfs into 60-inch storm drain
 635          KM   pipe at the intersection of Peoria Avenue and 67th Avenue
 636          DT  DP67PE      0.0   162.0
 637          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
 638          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

 639          KK  DWPE75  DIVERT
```

```
 640          KM   Divert remaining runoff hydrograph from combination point CPE67 west to
 641          KM   combination point CPE75
 642          DT  DSOL67      0.0      0.0
 643          DI      0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0 10000.0 20000.0 50000.0
 644          DQ      0.0     38.0     76.0    190.0    380.0    760.0   1520.0  3800.0  7600.0 19000.0
              *

 645          KK  RWPE75    ROUTE
 646          KM   Route diversion DWPE75 west to combination point CPE75
 647          RS        7     FLOW
 648          RC   0.035    0.015    0.035     5280   0.0035     0.00
 649          RX    0.00     0.00    86.00    86.00   413.00   413.00   499.00   499.00
 650          RY    3.00     1.36     0.50     0.00     0.00     0.50     1.36     3.00
              *

 651          KK  DRPE75RETRIEVE
 652          KM   Retrieve divert DRPE75 from combination point CPCT75 and divert south to
 653          KM   combination point CPE75
 654          DR  DSPE75
              *
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      LINE    ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

 655          KK  RSPE75    ROUTE
 656          KM   Route diversion retrieval DRPE75 south to combination point CPE75
 657          RS        5     FLOW
 658          RC   0.035    0.015    0.035     5280   0.0027     0.00
 659          RX    0.00     0.00    57.50    57.50   291.50   291.50   349.00   349.00
 660          RY    3.00     1.08     0.50     0.00     0.00     0.50     1.08     3.00
              *

 661          KK     PE75    BASIN
 662          KM   Runoff hydrograph for square mile subbasin PE75 northeast of the intersection
 663          KM   of Peoria Avenue and 75th Avenue
 664          BA   1.007
 665          LG    0.24     0.15     8.00     0.07       33
 666          UC   1.500    1.010
 667          UA       0      5.0     16.0     30.0     65.0     77.0     84.0     90.0     94.0     97.0
 668          UA     100
              *

 669          KK  ERPE75   DIVERT
 670          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
 671          KM   retention developed after 1990 in subbasin PE75
 672          DT   XPE75      9.4      0.0
 673          DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
 674          DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

 675          KK   CPE75 COMBINE
 676          KM   Combine route RWPE75, route RSPE75, and subbasin PE75
 677          HC        3     3.36
              *

 678          KK   D75PE  DIVERT
 679          KM   Divert calculated full flow capapcity of 179 cfs into 60-inch storm drain
 680          KM   pipe at the intersection of Peoria Avenue and 75th Avenue
 681          DT  DP75PE      0.0    179.0
 682          DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
 683          DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

 684          KK  DWPE83   DIVERT
 685          KM   Divert remaining runoff hydrograph from combination point CPE75 west to
 686          KM   combination point CPE83
 687          DT  DSOL75      0.0      0.0
 688          DI      0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0 10000.0 20000.0 50000.0
 689          DQ      0.0     52.0    104.0    260.0    520.0   1040.0   2080.0  5200.0 10400.0 26000.0
              *

 690          KK  RWPE83    ROUTE
 691          KM   Route diversion DWPE83 west to combination point CPE83
 692          RS        4     FLOW
 693          RC   0.035    0.015    0.035     5280   0.0023     0.00
 694          RX    0.00     0.00    57.50    57.50   291.50   291.50   349.00   349.00
 695          RY    3.00     1.08     0.50     0.00     0.00     0.50     1.08     3.00
              *
1                                          HEC-1 INPUT                                          PAGE 18

      LINE    ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

 696          KK  DRPE83RETRIEVE
 697          KM   Retrieve divert DRPE83 from combination point CPCT83 and divert south to
 698          KM   combination point CPE83
 699          DR  DSPE83
              *

 700          KK  RSPE83    ROUTE
 701          KM   Route diversion retrieval DRPE83 south to combination point CPE83
 702          RS        4     FLOW
```



```
 703          RC   0.035    0.015    0.035     5280   0.0023     0.00
 704          RX    0.00     0.00    76.50    76.50   372.50   372.50   449.00   449.00
 705          RY    3.00     1.27     0.50     0.00     0.00     0.50     1.27     3.00
              *

 706          KK     PE83    BASIN
 707          KM   Runoff hydrograph for square mile subbasin PE83 northeast of the intersection
 708          KM   of Peoria Avenue, 83rd Avenue, and Grand Avenue
 709          BA   1.000
 710          LG    0.24     0.13    10.10     0.03       34
 711          UC   1.500    1.010
 712          UA       0      5.0     16.0     30.0     65.0     77.0     84.0     90.0     94.0     97.0
 713          UA     100
              *

 714          KK  ERPE83   DIVERT
 715          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
 716          KM   retention developed after 1990 in subbasin PE83
 717          DT   XPE83     34.6      0.0
 718          DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
 719          DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

 720          KK   CPE83 COMBINE
 721          KM   Combine route RWPE83, route RSPE83, and subbasin PE83
 722          HC        3     3.97
              *

 723          KK   DPE83  DIVERT
 724          KM   Divert calculated full flow capapcity of 112 cfs into 48-inch storm drain
 725          KM   pipe at the intersection of Peoria Avenue and 83rd Avenue
 726          DT  DPPE83      0.0    112.0
 727          DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
 728          DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

 729          KK  DWGR91   DIVERT
 730          KM   Divert portion of runoff hydrograph from subbasin CPE83 west through subbasin
 731          KM   GR91 using the ratio of the widths and slopes od the streets going west and
 732          KM   the widths and slopes of the streets going south. The remaining flow is
 733          KM   diverted south through subbasin GR83
 734          DT  DSGR83      0.0      0.0
 735          DI      0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0 10000.0 20000.0 50000.0
 736          DQ      0.0     48.0     96.0    240.0    480.0    960.0   1920.0  4800.0  9600.0 24000.0
              *
1                                          HEC-1 INPUT                                          PAGE 19

      LINE    ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

 737          KK   DGR91  DIVERT
 738          KM   Divert portion of DWGR91 west to subbasin GR91 using the ratio of the width
 739          KM   of the collector and local streets and the width of the arterial street. The
 740          KM   remaining flow is diverted west to subbasin PE91 along Peoria Avenue
 741          DT  DWPE91      0.0      0.0
 742          DI      0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0 10000.0 20000.0 50000.0
 743          DQ      0.0     36.0     72.0    180.0    360.0    720.0   1440.0  3600.0  7200.0 18000.0
              *

 744          KK  DRGR91RETRIEVE
 745          KM   Retrieve divert DRGR91 from combination point CPCTLO and divert south to
 746          KM   combination point CGR91
 747          DR  DSGR91
              *

 748          KK  RSGR91    ROUTE
 749          KM   Route diversion retrieval DRGR91 south to combination point CGR91
 750          RS        3     FLOW
 751          RC   0.035    0.015    0.035     4969   0.0024     0.00
 752          RX    0.00     0.00    57.50    57.50   291.50   291.50   349.00   349.00
 753          RY    3.00     1.08     0.50     0.00     0.00     0.50     1.08     3.00
              *

 754          KK     GR91    BASIN
 755          KM   Runoff hydrograph for subbasin GR91 north of Grand Avenue and east of 91st
 756          KM   Avenue
 757          BA   0.514
 758          LG    0.25     0.13    10.10     0.03       37
 759          UC   1.035    0.534
 760          UA       0      5.0     16.0     30.0     65.0     77.0     84.0     90.0     94.0     97.0
 761          UA     100
              *

 762          KK  ERGR91   DIVERT
 763          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
 764          KM   retention developed after 1990 in subbasin GR91
 765          DT   XGR91     25.5      0.0
 766          DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
 767          DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

 768          KK   CGR91 COMBINE
 769          KM   Combine divert DGR91, route RSGR91, and subbasin GR91
```

```
 770          HC       3    3.58
              *

 771          KK  DWGRLO  DIVERT
 772          KM   Divert portion of runoff hydrograph from combination point CGR91 west to the
 773          KM   intersection of Grand Avenue and SR Loop 101 and the remaining flow south to
 774          KM   the intersection of Peoria Avenue and Grand Avenue. The diversion is based on
 775          KM   topography
 776          DT  DSPE91      0.0      0.0
 777          DI     0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0  10000.0  20000.0  50000.0
 778          DQ     0.0     67.0    134.0    335.0    670.0   1340.0   2680.0   6700.0  13400.0  33500.0
              *
```



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LINE          ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

 779          KK   CGRLO COMBINE
 780          KM   Combine divert DWGRLO and divert DSPELO
 781          HC       2    2.91
              *

 782          KK  RSPELO   ROUTE
 783          KM   Route hydrograph at combination point CGRLO south to combination point CIPEGR
 784          RS       1    FLOW
 785          RC   0.035   0.015   0.035    2704  0.0018    0.00
 786          RX    0.00    3.00   13.00   25.00   35.00   47.00   57.00   60.00
 787          RY    7.00    6.00    6.00    0.00    0.00    6.00    6.00    7.00
              *

 788          KK  DSOLLO  DIVERT
 789          KM   Divert remaining runoff hydrograph from combination point CPPELO south to
 790          KM   combination point COLLO
 791          DT  DWNR02      0.0   7462.0
 792          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
 793          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

 794          KK  DRPE91RETRIEVE
 795          KM   Retrieve divert DRPE91 from combination point CPE83 and divert west to
 796          KM   combination point CIPEGR
 797          DR  DSPE91
              *

 798          KK  SRGR91 STORAGE
 799          KM   Storage route runoff hydrograph from divert retrieval DRPE91 through ponding
 800          KM     area at Grand Avenue near the intersection of Peoria Avenue and 83rd Avenue
 801          KM   Storage routing ID RES22 in Maryvale ADMS, Feb 1997 - comments from ADMS:
 802          KM   PONDING AREA RESERVOIR ROUTE
 803          KM   SUB-BASIN 22-31E
 804          KM   PONDING AREA NORTHEAST OF GRAND AVENUE/RR EMBANKMENT
 805          RS       1    STOR
 806          SV            5.40     9.60    39.75
 807          SQ            0.10  970.0010990.00
 808          SE  1134.0 1136.00 1136.50 1138.00
              *

 809          KK  DIPE91RETRIEVE
 810          KM   Retrieve arterial street flow diverted to Peoria Avenue at the intersection
 811          KM   of Peoria Avenue and Grand Avenue
 812          DR  DWPE91
              *

 813          KK  CIPEGR COMBINE
 814          KM   Combine arterial street flow from Peoria Avenue DIPE91 with runoff hydrograph
 815          KM   DRPE91 at the intersection of Peoria Avenue and Grand Avenue
 816          HC       2    3.14
              *
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LINE          ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

 817          KK  RWPE91   ROUTE
 818          KM   Route hydrograph at combination point CIPEGR at the intersection of Peoria
 819          KM   Avenue and Grand Avenue west to combination point CPE91
 820          RS       3    FLOW
 821          RC   0.035   0.015   0.035    5280  0.0037    0.00
 822          RX    0.00    0.00   67.00   67.00  332.00  332.00  399.00  399.00
 823          RY    3.00    1.17    0.50    0.00    0.00    0.50    1.17    3.00
              *

 824          KK   PE91   BASIN
 825          KM   Runoff hydrograph for subbasin PE91 northeast of the intersection of Peoria
 826          KM   Avenue and 91st Avenue
 827          BA   0.509
 828          LG    0.21    0.16    9.70    0.04      45
 829          UC   0.961   0.520
 830          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
 831          UA     100
              *

 832          KK  ERPE91  DIVERT
```



```
 833          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
 834          KM   retention developed after 1990 in subbasin PE91
 835          DT   XPE91    13.1      0.0
 836          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
 837          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

 838          KK   CPE91 COMBINE
 839          KM   Combine route RWPE91 and subbasin PE91
 840          HC       2    3.65
              *

 841          KK  PRPE83RETRIEVE
 842          KM   Retrieve full flow capacity of 112 cfs from 48-inch storm drain pipe at the
 843          KM   intersection of Peoria Avenue and 83rd Avenue
 844          DR  DPPE83
              *

 845          KK  RPPE91   ROUTE
 846          KM   Route full flow capacity of 112 cfs through 48-inch storm drain pipe in
 847          KM   Peoria Avenue to the intersection of Peoria Avenue and 91st Avenue
 848          RK    5350  0.0061   0.015             CIRC   4.000
              *

 849          KK  CPPE91 COMBINE
 850          KM   Combine pipe return PRPE83 with the runoff hydrograph at combination point
 851          KM   CPE91 at the intersection of Peoria Avenue and 91st Avenue
 852          HC       2
              *
```



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LINE          ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

 853          KK   DPE91  DIVERT
 854          KM   Divert calculated full flow capapcity of 147 cfs into 72-inch storm drain
 855          KM   pipe at the intersection of Peoria Avenue and 91st Avenue
 856          DT  DPPE91      0.0    147.0
 857          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
 858          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

 859          KK  DWPELO  DIVERT
 860          KM   Divert remaining runoff hydrograph from combination point CPPE91 west to
 861          KM   combination point CPELO
 862          DT  DSOL91      0.0      0.0
 863          DI     0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0  10000.0  20000.0  50000.0
 864          DQ     0.0     55.0    110.0    275.0    550.0   1100.0   2200.0   5500.0  11000.0  27500.0
              *

 865          KK  RWPELO   ROUTE
 866          KM   Route diversion DWPELO west to combination point CPELO
 867          RS       1    FLOW
 868          RC   0.035   0.015   0.035    1289  0.0017    0.00
 869          RX    0.00    0.00   73.50   73.50  350.50  350.50  424.00  424.00
 870          RY    3.00    1.23    0.50    0.00    0.00    0.50    1.23    3.00
              *

 871          KK    PELO   BASIN
 872          KM   Runoff hydrograph for subbasin PELO northeast of the intersection of Peoria
 873          KM   Avenue and SR Loop 101
 874          BA   0.271
 875          LG    0.19    0.24    6.40    0.13      39
 876          UC   1.171   0.979
 877          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
 878          UA     100
              *

 879          KK  ERPELO  DIVERT
 880          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
 881          KM   retention developed after 1990 in subbasin PELO
 882          DT   XPELO      8.3      0.0
 883          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
 884          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

 885          KK   CPELO COMBINE
 886          KM   Combine route RWPELO, divert DSPELO, and subbasin PELO
 887          HC       3    4.81
              *

 888          KK  PRPE91RETRIEVE
 889          KM   Retrieve full flow capacity of 147 cfs from 72-inch storm drain pipe at the
 890          KM   intersection of Peoria Avenue and 91st Avenue
 891          DR  DPPE91
              *
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LINE          ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

 892          KK  RPPELO   ROUTE
 893          KM   Route full flow capacity of 147 cfs through 72-inch storm drain pipe in
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 894          KM   Peoria Avenue to the intersection of Peoria Avenue and St Loop 101
 895          RK    1594  0.0012   0.015            CIRC   6.000
              *
 896          KK  CPPELO COMBINE
 897          KM   Combine pipe return PRPE91 with the runoff hydrograph at combination point
 898          KM   CPELO at the intersection of Peoria Avenue and SR Loop 101
 899          HC       2
              *
 900          KK   DPELO  DIVERT
 901          KM   Divert calculated full flow capapcity of 255 cfs into 72-inch storm drain
 902          KM   pipe at the intersection of Peoria Avenue and Loop 101
 903          DT  DPPELO      0.0    255.0
 904          DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
 905          DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *
 906          KK  RSOLLO   ROUTE
 907          KM   Route diversion DSOLLO south to combination point COLLO
 908          RS       1    FLOW
 909          RC   0.035    0.015    0.035     5324   0.0018     0.00
 910          RX    0.00     3.00    13.00    33.00    63.00    83.00    93.00    96.00
 911          RY   11.00    10.00    10.00     0.00     0.00    10.00    10.00    11.00
              *
 912          KK    OL35   BASIN
 913          KM   Runoff hydrograph for subbasin OL35 northeast of the intersection of Olive
 914          KM   Avenue and 35th Avenue
 915          BA    0.214
 916          LG     0.10     0.25     5.40     0.23       58
 917          UC    0.793    0.808
 918          UA        0      5.0     16.0     30.0     65.0     77.0     84.0     90.0     94.0     97.0
 919          UA      100
              *
 920          KK   D35OL  DIVERT
 921          KM   Divert calculated full flow capapcity of 61 cfs into 42-inch storm drain
 922          KM   pipe at the intersection of Olive Avenue and 35th Avenue
 923          DT  DP35OL      0.0     61.0
 924          DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
 925          DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *
 926          KK  DWOL43  DIVERT
 927          KM   Divert remaining runoff hydrograph from subbasin OL35 west to combination
 928          KM   point COL43
 929          DT  DSNO35      0.0      0.0
 930          DI      0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0  10000.0  20000.0  50000.0
 931          DQ      0.0     70.0    140.0    350.0    700.0   1400.0   2800.0   7000.0  14000.0  35000.0
              *
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     LINE     ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

 932          KK  RWOL43   ROUTE
 933          KM   Route diversion DWOL43 west to combination point COL43
 934          RS      10    FLOW
 935          RC   0.035    0.015    0.035     5280   0.0022     0.00
 936          RX    0.00     0.00    35.50    35.50   188.50   188.50   224.00   224.00
 937          RY    3.00     0.86     0.50     0.00     0.00     0.50     0.86     3.00
              *
 938          KK    OL43   BASIN
 939          KM   Runoff hydrograph for subbasin OL43 northeast of the intersection of Olive
 940          KM   Avenue and 43rd Avenue
 941          BA    0.635
 942          LG     0.25     0.25     5.40     0.20       33
 943          UC    1.426    0.887
 944          UA        0      5.0     16.0     30.0     65.0     77.0     84.0     90.0     94.0     97.0
 945          UA      100
              *
 946          KK   COL43 COMBINE
 947          KM   Combine route RWOL43 and subbasin OL43
 948          HC       2     0.70
              *
 949          KK   D43OL  DIVERT
 950          KM   Divert calculated full flow capapcity of 85 cfs into 48-inch storm drain
 951          KM   pipe at the intersection of Olive Avenue and 43rd Avenue
 952          DT  DP43OL      0.0     85.0
 953          DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
 954          DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *
 955          KK  DWOL51  DIVERT
 956          KM   Divert remaining runoff hydrograph from combination point COL43 west to
 957          KM   combination point COL51
 958          DT  DSNO43      0.0      0.0
 959          DI      0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0  10000.0  20000.0  50000.0
 960          DQ      0.0     59.0    118.0    295.0    590.0   1180.0   2360.0   5900.0  11800.0  29500.0
```



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              *
 961          KK  RWOL51   ROUTE
 962          KM   Route diversion DWOL51 west to combination point COL51
 963          RS       7    FLOW
 964          RC   0.035    0.015    0.035     5280   0.0035     0.00
 965          RX    0.00     0.00    47.50    47.50   230.50   230.50   278.00   278.00
 966          RY    3.00     0.98     0.50     0.00     0.00     0.50     0.98     3.00
              *
 967          KK  DROL51RETRIEVE
 968          KM   Retrieve divert DROL51 from subbasin CPE51 and divert south to combination
 969          KM   point COL51
 970          DR  DSOL51
              *
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     LINE     ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

 971          KK  RSOL51   ROUTE
 972          KM   Route diversion retrieval DROL51 south to combination point COL51
 973          RS       7    FLOW
 974          RC   0.035    0.015    0.035     5280   0.0031     0.00
 975          RX    0.00     0.00    68.50    68.50   359.50   359.50   428.00   428.00
 976          RY    3.00     1.18     0.50     0.00     0.00     0.50     1.18     3.00
              *
 977          KK    OL51   BASIN
 978          KM   Runoff hydrograph for square mile subbasin OL51 northeast of the intersection
 979          KM   of Olive Avenue and 51st Avenue
 980          BA    0.993
 981          LG     0.23     0.15     7.30     0.10       35
 982          UC    1.445    0.973
 983          UA        0      5.0     16.0     30.0     65.0     77.0     84.0     90.0     94.0     97.0
 984          UA      100
              *
 985          KK  EROL51  DIVERT
 986          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
 987          KM   retention developed after 1990 in subbasin OL51
 988          DT  XOL51       6.0      0.0
 989          DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
 990          DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *
 991          KK   COL51 COMBINE
 992          KM   Combine route RWOL51, route RSOL51, and subbasin OL51
 993          HC       3     1.45
              *
 994          KK   DOL51  DIVERT
 995          KM   Divert calculated full flow capapcity of 297 cfs into 78-inch storm drain
 996          KM   pipe at the intersection of Olive Avenue and 51st Avenue
 997          DT  DPOL51      0.0    297.0
 998          DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
 999          DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *
1000          KK  DWOL59  DIVERT
1001          KM   Divert remaining runoff hydrograph from combination point COL51 west to
1002          KM   combination point COL59
1003          DT  DSNO51      0.0      0.0
1004          DI      0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0  10000.0  20000.0  50000.0
1005          DQ      0.0     34.0     68.0    170.0    340.0    680.0   1360.0   3400.0   6800.0  17000.0
              *
1006          KK  RWOL59   ROUTE
1007          KM   Route diversion DWOL59 west to combination point COL59
1008          RS       5    FLOW
1009          RC   0.035    0.015    0.035     5280   0.0034     0.00
1010          RX    0.00     0.00    75.50    75.50   402.50   402.50   478.00   478.00
1011          RY    3.00     1.25     0.50     0.00     0.00     0.50     1.25     3.00
              *
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     LINE     ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

1012          KK  DROL59RETRIEVE
1013          KM   Retrieve divert DROL59 from combination point CPPE59 and divert south to
1014          KM   combination point COL59
1015          DR  DSOL59
              *
1016          KK  RSOL59   ROUTE
1017          KM   Route diversion retrieval DROL59 south to combination point COL59
1018          RS       5    FLOW
1019          RC   0.035    0.015    0.035     5280   0.0023     0.00
1020          RX    0.00     0.00    72.50    72.50   425.50   425.50   498.00   498.00
1021          RY    3.00     1.23     0.50     0.00     0.00     0.50     1.23     3.00
              *
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1022          KK   OL59   BASIN
1023          KM   Runoff hydrograph for square mile subbasin OL59 northeast of the intersection
1024          KM   of Olive Avenue and 59th Avenue
1025          BA   0.990
1026          LG    0.24    0.15    8.80    0.05      34
1027          UC   1.479   0.997
1028          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
1029          UA     100
              *
1030          KK  EROL59  DIVERT
1031          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
1032          KM   retention developed after 1990 in subbasin OL59
1033          DT   XOL59    21.9     0.0
1034          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
1035          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *
1036          KK   COL59 COMBINE
1037          KM   Combine route RWOL59, route RSOL59, and subbasin OL59
1038          HC       3    2.78
              *
1039          KK  PR59PERETRIEVE
1040          KM   Retrieve full flow capacity of 235 cfs from 78-inch storm drain pipe at the
1041          KM   intersection of Peoria Avenue and 59th Avenue
1042          DR  DP59PE
              *
1043          KK  RP59BR   ROUTE
1044          KM   Route full flow capacity of 235 cfs through 78-inch storm drain pipe in
1045          KM   59th Avenue to the intersection of Brown Street and 59th Avenue
1046          RK    1231  0.0020   0.015            CIRC   6.500
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1047          KK   DBR59  DIVERT
1048          KM   Divert calculated full flow capapcity of 161 cfs into 60-inch storm drain
1049          KM   pipe at the intersection of Brown Street and 59th Avenue
1050          DT  DPBR59      0.0    161.0
1051          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
1052          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *
1053          KK  RP59OL   ROUTE
1054          KM   Route full flow capacity of 161 cfs through 60-inch storm drain pipe in
1055          KM   59th Avenue to the intersection of Olive Avenue and 59th Avenue
1056          RK    1446  0.0031   0.015            CIRC   3.500
              *
1057          KK  PROL51RETRIEVE
1058          KM   Retrieve full flow capacity of 297 cfs from 78-inch storm drain pipe at the
1059          KM   intersection of Olive Avenue and 51st Avenue
1060          DR  DPOL51
              *
1061          KK  RPOL59   ROUTE
1062          KM   Route full flow capacity of 297 cfs through 78-inch storm drain pipe in
1063          KM   Olive Avenue to the intersection of Olive Avenue and 59th Avenue
1064          RK    5117  0.0032   0.015            CIRC   6.500
              *
1065          KK  CPOL59 COMBINE
1066          KM   Combine pipe return PROL51 and the remainder of pipe return PR59PE with the
1067          KM   runoff hydrograph at combination point COL59 at the intersection of Olive
1068          KM   Avenue and 59th Avenue
1069          HC       3
              *
1070          KK   DOL59  DIVERT
1071          KM   Divert calculated full flow capapcity of 475 cfs into 90-inch storm drain
1072          KM   pipe at the intersection of Olive Avenue and 59th Avenue
1073          DT  DPOL59      0.0    475.0
1074          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
1075          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *
1076          KK  DWOL67  DIVERT
1077          KM   Divert remaining runoff hydrograph from combination point CPOL59 west to
1078          KM   combination point COL67
1079          DT  DSNO59      0.0     0.0
1080          DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
1081          DQ     0.0    61.0   122.0   305.0   610.0  1220.0  2440.0  6100.0 12200.0 30500.0
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1082          KK  RWOL67   ROUTE
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1083          KM   Route diversion DWOL67 west to combination point COL67
1084          RS       4    FLOW
1085          RC   0.035   0.015   0.035    5280  0.0034     0.00
1086          RX    0.00    0.00   54.50   54.50  273.50  273.50  328.00  328.00
1087          RY    3.00    1.04    0.50    0.00    0.00    0.50    1.04    3.00
              *
1088          KK  DROL67RETRIEVE
1089          KM   Retrieve divert DROL67 from combination point CPE67 and divert south to
1090          KM   combination point COL67
1091          DR  DSOL67
              *
1092          KK  RSOL67   ROUTE
1093          KM   Route diversion retrieval DROL67 south to combination point COL67
1094          RS       7    FLOW
1095          RC   0.035   0.015   0.035    5280  0.0031     0.00
1096          RX    0.00    0.00   45.50   45.50  284.50  284.50  330.00  330.00
1097          RY    3.00    0.96    0.50    0.00    0.00    0.50    0.96    3.00
              *
1098          KK   OL67   BASIN
1099          KM   Runoff hydrograph for square mile subbasin OL67 northeast of the intersection
1100          KM   of Olive Avenue and 67th Avenue
1101          BA   0.960
1102          LG    0.23    0.15    8.40    0.07      36
1103          UC   1.285   0.857
1104          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
1105          UA     100
              *
1106          KK  EROL67  DIVERT
1107          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
1108          KM   retention developed after 1990 in subbasin OL67
1109          DT   XOL67    39.8     0.0
1110          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
1111          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *
1112          KK   COL67 COMBINE
1113          KM   Combine route RWOL67, route RSOL67, and subbasin OL67
1114          HC       3    2.84
              *
1115          KK  PRBR59RETRIEVE
1116          KM   Retrieve full flow capacity of 161 cfs from 60-inch storm drain pipe at the
1117          KM   intersection of Brown Street and 59th Avenue
1118          DR  DPBR59
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1119          KK  RPBR63   ROUTE
1120          KM   Route full flow capacity of 161 cfs through 60-inch storm drain pipe in
1121          KM   63rd Avenue to the intersection of Brown Street and 63rd Avenue
1122          RK     528  0.0038   0.015            CIRC   5.000
              *
1123          KK  SRBR63 STORAGE
1124          KM   Storage route pipe flow PRBR59 from the storm drain in Brown Street
1125          KM     through regional detention basin located near the intersection of Brown
1126          KM     Street and 63rd Avenue
1127          KM   Stage-storage from Sahuaro Ranch Park - Phase VI Civil Survey, 1988
1128          RS       1    STOR
1129          SV            0.83    1.95    7.59    8.05    8.59
1130          SQ            9.00   25.00   52.00  201.00  474.00
1131          SE   57.00   58.00   59.00   63.00   63.30   63.50
              *
1132          KK  RP63OL   ROUTE
1133          KM   Route full flow capacity of 161 cfs through 60-inch storm drain pipe in
1134          KM   63rd Avenue to the intersection of Olive Avenue and 63rd Avenue
1135          RK    3878  0.0040   0.015            CIRC   2.500
              *
1136          KK  PROL59RETRIEVE
1137          KM   Retrieve full flow capacity of 475 cfs from 90-inch diameter pipe at the
1138          KM   intersection of Olive Avenue and 59th Avenue
1139          DR  DPOL59
              *
1140          KK  RPOL63   ROUTE
1141          KM   Route full flow capacity of 475 cfs through 90-inch storm drain pipe in
1142          KM   in Olive Avenue to the intersection of Olive Avenue and 63rd Avenue
1143          RK    2835  0.0038   0.015            CIRC   7.500
              *
1144          KK  CPOL63 COMBINE
1145          KM   Combine pipe return PROL67 with pipe return PRBR59 at the intersection of
1146          KM   Olive Avenue and 63rd Avenue
1147          HC       2    2.84
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                *
1148            KK  RPOL67   ROUTE
1149            KM   Route full flow capacity of 161 cfs through 60inch storm drain pipe in
1150            KM   59th Avenue to the intersection of Olive Avenue and 59th Avenue
1151            RK    2409  0.0033   0.015            CIRC   7.500
                *
1152            KK  PR67PERETRIEVE
1153            KM   Retrieve full flow capacity of 161 cfs from 60-inch storm drain pipe at the
1154            KM   intersection of Olive Avenue and 67th Avenue
1155            DR  DP67PE
                *
                * KKRP67MV   ROUTE
                * KM Route full flow capacity of 162 cfs through 60-inch storm drain pipe in
                * KM 67th Avenue to the intersection of Mountain View Road and 67th Avenue
                * RK  2679  0.0039   0.015            CIRC   5.000
                *
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LINE            ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1156            KK  SR67MV STORAGE
1157            KM   Storage route pipe flow PR67PE from storm drain in 67th Avenue through
1158            KM     regional detention basin located near the intersection of Mountain View
1159            KM     Road and 67th Avenue
1160            KM   Stage-storage from Chaparral Ranch Retention Basin Plans, 1984
1161            RS       1    STOR
1162            SV            2.29    2.93    3.65    5.28
1163            SQ           17.00  201.00  531.00 1457.00
1164            SE  1170.0 1171.00 1171.30 1171.50 1172.00
                *
                * KKRP67OL   ROUTE
                * KM Route full flow capacity of 175 cfs through 66-inch storm drain pipe in
                * KM 67th Avenue to the intersection of Olive Avenue and 67th Avenue
                * RK  2627  0.0027   0.015            CIRC   5.500
                *
1165            KK  CPOL67 COMBINE
1166            KM   Combine pipe return PR67PE with the runoff hydrograph at combination point
1167            KM   COL67 at the intersection of Olive Avenue and 67th Avenue
1168            HC       3
                *
1169            KK   DOL67  DIVERT
1170            KM   Divert calculated full flow capapcity of 662 cfs into 72-inch storm drain
1171            KM   pipe at the intersection of Olive Avenue and 67th Avenue
1172            DT  DPOL67       0.0   662.0
1173            DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
1174            DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
                *
1175            KK  DWOL75  DIVERT
1176            KM   Divert remaining runoff hydrograph from combination point CPOL67 west to
1177            KM   combination point COL75
1178            DT  DSNO67       0.0     0.0
1179            DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
1180            DQ     0.0    44.0    88.0   220.0   440.0   880.0  1760.0  4400.0  8800.0 22000.0
                *
1181            KK  RWOL75   ROUTE
1182            KM   Route diversion DWOL75 west to combination point COL75
1183            RS       2    FLOW
1184            RC   0.035   0.015   0.035    5280  0.0031    0.00
1185            RX    0.00    0.00   67.00   67.00  332.00  332.00  399.00  399.00
1186            RY    3.00    1.17    0.50    0.00    0.00    0.50    1.17    3.00
                *
1187            KK  DROL75RETRIEVE
1188            KM   Retrieve divert DROL75 from combination point CPE75 and divert south to
1189            KM   combination point COL75
1190            DR  DSOL75
                *
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LINE            ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1191            KK  RSOL75   ROUTE
1192            KM   Route diversion retrieval DROL75 south to combination point COL75
1193            RS       4    FLOW
1194            RC   0.035   0.015   0.035    5280  0.0027    0.00
1195            RX    0.00    0.00   57.50   57.50  291.50  291.50  349.00  349.00
1196            RY    3.00    1.08    0.50    0.00    0.00    0.50    1.08    3.00
                *
1197            KK    OL75   BASIN
1198            KM   Runoff hydrograph for square mile subbasin OL75 northeast of the intersection
1199            KM   of Olive Avenue and 75th Avenue
1200            BA   1.004
1201            LG    0.23    0.15    8.80    0.06      32
1202            UC   1.492   1.006
```



```
1203            UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
1204            UA     100
                *
1205            KK  EROL75  DIVERT
1206            KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
1207            KM   retention developed after 1990 in subbasin OL75
1208            DT   XOL75     40.4      0.0
1209            DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
1210            DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
                *
1211            KK   COL75 COMBINE
1212            KM   Combine route RWOL75, route RSOL75, and subbasin OL75
1213            HC       3     4.34
                *
1214            KK  PROL67RETRIEVE
1215            KM   Retrieve full flow capacity of 662 cfs from 72-inch storm drain pipe at the
1216            KM   intersection of Olive Avenue and 67th Avenue
1217            DR  DPOL67
                *
1218            KK  RPOL71   ROUTE
1219            KM   Route full flow capacity of 662 cfs through 72-inch storm drain pipe in
1220            KM   Olive Avenue to the intersection of Olive Avenue and 71st Avenue
1221            RK    2746  0.0243   0.015            CIRC   6.000
                *
1222            KK  CPOL71 COMBINE
1223            KM   Combine pipe return PROL67 with the runoff hydrograph at combination point
1224            KM   COL71 at the intersection of Olive Avenue and 71st Avenue
1225            HC       2
                *
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LINE            ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1226            KK  SROL71 STORAGE
1227            KM   Storage route runoff hydrograph from combination point CPOL71 through
1228            KM     regional detention basin located near the intersection of Olive Avenue
1229            KM     and 71st Avenue
1230            KM   Stage-storage data from topography provided by FCDMC dated 3/28/1994
1231            RS       1    STOR
1232            SV            8.78   27.11   47.24   69.15   92.94  105.55  118.61
1233            SQ           57.00  147.00  148.00  184.00  213.00 2792.00 7494.00
1234            SE  1128.0 1130.00 1132.00 1134.00 1136.00 1138.00 1139.00 1140.00
                *
1235            KK   DOL71  DIVERT
1236            KM   Divert calculated full flow capapcity of 386 cfs into 78-inch storm drain
1237            KM   pipe at the intersection of Olive Avenue and 71st Avenue
1238            DT  DPOL71       0.0   386.0
1239            DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
1240            DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
                *
1241            KK  PR75PERETRIEVE
1242            KM   Retrieve full flow capacity of 179 cfs from 60-inch storm drain pipe at the
1243            KM   intersection of Peoria Avenue and 75th Avenue
1244            DR  DP75PE
                *
1245            KK  RP75OL   ROUTE
1246            KM   Route full flow capacity of 179 cfs through 60-inch storm drain pipe in
1247            KM   75th Avenue to the intersection of Olive Avenue and 75th Avenue
1248            RK    5035  0.0047   0.015            CIRC   5.000
                *
1249            KK  PROL71RETRIEVE
1250            KM   Retrieve full flow capacity of 386 cfs from 78-inch storm drain pipe at the
1251            KM   intersection of Olive Avenue and 71st Avenue
1252            DR  DPOL71
                *
1253            KK  RPOL75   ROUTE
1254            KM   Route full flow capacity of 386 cfs through 78-inch storm drain pipe in
1255            KM   Olive Avenue to the intersection of Olive Avenue and 75th Avenue
1256            RK    2971  0.0054   0.015            CIRC   6.500
                *
1257            KK  CPOL75 COMBINE
1258            KM   Combine pipe return PROL71 with the runoff hydrograph at combination point
1259            KM   COL75 at the intersection of Olive Avenue and 75th Avenue
1260            HC       3
                *
1                                       HEC-1 INPUT                                     PAGE 33

LINE            ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1261            KK   DOL75  DIVERT
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1262          KM   Divert calculated full flow capapcity of 239 cfs into 90-inch storm drain
1263          KM   pipe at the intersection of Olive Avenue and 75th Avenue
1264          DT  DPOL75      0.0     239.0
1265          DI      0.0 50000.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0
1266          DQ      0.0 50000.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0
              *

1267          KK  DWGR83  DIVERT
1268          KM   Divert remaining runoff hydrograph from combination point CPOL75 west to
1269          KM   combination point CGR83
1270          DT  DSGR75      0.0       0.0
1271          DI      0.0   100.0     200.0     500.0    1000.0    2000.0    4000.0   10000.0   20000.0   50000.0
1272          DQ      0.0    51.0     102.0     255.0     510.0    1020.0    2040.0    5100.0   10200.0   25500.0
              *

1273          KK  DRGR83RETRIEVE
1274          KM   Retrieve divert DRGR83 from combination point CPE83 and divert south to
1275          KM   combination point CGR83
1276          DR  DSGR83
              *

1277          KK   D83GR  DIVERT
1278          DT  DSOL83      0.0       0.0
1279          DI      0.0   100.0     200.0     500.0    1000.0    2000.0    4000.0   10000.0   20000.0   50000.0
1280          DQ      0.0    28.0      56.0     140.0     280.0     560.0    1120.0    2800.0    5600.0   14000.0
              *

1281          KK  RSGR83   ROUTE
1282          KM   Route diversion D83GR south to combination point CGR83
1283          RS       10     FLOW
1284          RC   0.035    0.015    0.035     7145   0.0003      0.00
1285          RX    0.00     0.00    67.00    67.00   332.00    332.00    399.00    399.00
1286          RY    3.00     1.17     0.50     0.00     0.00      0.50      1.17      3.00
              *

1287          KK    GR83   BASIN
1288          KM   Runoff hydrograph for subbasin GR83 southeast of the intersection of Grand
1289          KM   Avenue and 83rd Avenue
1290          BA   0.468
1291          LG    0.18     0.14     10.10     0.03       53
1292          UC   0.993    0.557
1293          UA       0      5.0      16.0      30.0      65.0      77.0      84.0      90.0      94.0      97.0
1294          UA     100
              *

1295          KK  ERGR83  DIVERT
1296          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
1297          KM   retention developed after 1990 in subbasin GR83
1298          DT  XGR83      29.7       0.0
1299          DI      0.0 50000.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0
1300          DQ      0.0 50000.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1301          KK   CGR83 COMBINE
1302          KM   Combine divert DWGR83, route RSGR83, and subbasin GR83
1303          HC       3    3.99
              *

1304          KK  SRGR83 STORAGE
1305          KM   Storage routing ID RES26S in Maryvale ADMS, Feb 1997 - comments from ADMS:
1306          KM   PONDING AREA RESERVOIR ROUTE
1307          KM   SUB-BASIN 26-31E
1308          KM   PONDING AREA NORTHEAST OF GRAND AVENUE/RR EMBANKMENT
1309          KM   OUTFLOW REPRESENTS BOTH FLOW WEST (OVER THE RR EMBANKEMENT) AND
1310          KM   FLOW SOUTH OVER OLIVE AVENUE
1311          KM   ================================================================================
1312          KM   REVISION TO MARYVALE ADMS MODEL KHA --> COMBINED STORAGE AT 75TH AND 83RD AVE
1313          KM
1314          KM   Storage route runoff hydrograph from combination point CGR83 through ponding
1315          KM     area at Grand Avenue between 75th Avenue and 83rd Avenue
1316          KM   ================================================================================
1317          RS       1    STOR
1318          SV             3.40    27.60    58.20   102.60   145.28   278.39   315.39   329.41   339.52
1319          SV   350.22   367.41
1320          SQ        0      0.1      0.2      0.35  2170.1 4810.15  51070.   51070.   51070.     5117
1321          SQ   51230.   52040.
1322          SE    1132.    1134.    1136.    1137.    1138.  1138.5    1140.    1141.  1141.3     1141
1323          SE   1141.7    1142.
              *

1324          KK  DWOL83  DIVERT
1325          KM   Divert ID D26AW in Maryvale ADMS, Feb 1997
1326          KM   Divert remaining runoff hydrograph from combination point CGR83 west to
1327          KM   combination point COL83
1328          DT  DS75NO      0.0       0.0
1329          DI      0.0  2170.0  4810.0 52040.0       0.0       0.0       0.0       0.0       0.0       0.0
1330          DQ      0.0  2170.0  4160.0 51390.0       0.0       0.0       0.0       0.0       0.0       0.0
              *
```



```
1331          KK  RWOL83   ROUTE
1332          KM   Route diversion DWOL83 west to combination point COL83
1333          RS       1    FLOW
1334          RC   0.035    0.015    0.035     5280   0.0027      0.00
1335          RX    0.00     0.00    26.00    26.00   148.00    148.00    174.00    174.00
1336          RY    3.00     0.76     0.50     0.00     0.00      0.50      0.76      3.00
              *

1337          KK  DIOL83RETRIEVE
1338          KM   Retrieve arterial street flow diverted to 83rd Avenue at the intersection
1339          KM   of 83rd Avenue and Grand Avenue
1340          DR  DSOL83
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1341          KK  RSOL83   ROUTE
1342          KM   Route diversion retrieval DIOL83 south to combination point COL83
1343          RS       5    FLOW
1344          RC   0.035    0.015    0.035     5280   0.0031      0.00
1345          RX    0.00     0.00    67.00    67.00   332.00    332.00    399.00    399.00
1346          RY    3.00     1.17     0.50     0.00     0.00      0.50      1.17      3.00
              *

1347          KK    OL83   BASIN
1348          KM   Runoff hydrograph for subbasin OL83 northeast of the intersection
1349          KM   of Olive Avenue and 83rd Avenue
1350          BA   0.537
1351          LG    0.30     0.15     10.10     0.04       28
1352          UC   1.031    0.558
1353          UA       0      5.0      16.0      30.0      65.0      77.0      84.0      90.0      94.0      97.0
1354          UA     100
              *

1355          KK  EROL83  DIVERT
1356          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
1357          KM   retention developed after 1990 in subbasin OL83
1358          DT  XOL83     13.9       0.0
1359          DI      0.0 50000.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0
1360          DQ      0.0 50000.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0
              *

1361          KK   COL83 COMBINE
1362          KM   Combine route RWOL83, route RSOL83, and subbasin OL83
1363          HC       3    1.06
              *

1364          KK    NO27   BASIN
1365          KM   Runoff hydrograph for subbasin NO27 northeast of the intersection of Northern
1366          KM   Avenue and 27th Avenue
1367          BA   0.126
1368          LG    0.18     0.15     8.80     0.05       63
1369          UC   0.857    1.127
1370          UA       0      5.0      16.0      30.0      65.0      77.0      84.0      90.0      94.0      97.0
1371          UA     100
              *

1372          KK   D27NO  DIVERT
1373          KM   Divert calculated full flow capapcity of 114 cfs into 54-inch storm drain
1374          KM   pipe at the intersection of Northern Avenue and 27th Avenue
1375          DT  DP27NO      0.0     114.0
1376          DI      0.0 50000.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0
1377          DQ      0.0 50000.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1378          KK  DWNO35  DIVERT
1379          KM   Divert remaining runoff hydrograph from subbasin NO27 west to combination
1380          KM   point CNO35
1381          DT  DSGL27      0.0       0.0
1382          DI      0.0   100.0     200.0     500.0    1000.0    2000.0    4000.0   10000.0   20000.0   50000.0
1383          DQ      0.0   100.0     200.0     500.0    1000.0    2000.0    4000.0   10000.0   20000.0   50000.0
              *

1384          KK  RWNO35   ROUTE
1385          KM   Route diversion DWNO35 west to combination point CNO35
1386          RS       1    FLOW
1387          RC   0.035    0.015    0.035     5280   0.0001      0.00
1388          RX    0.00     0.00    76.50    76.50   372.50    372.50    449.00    449.00
1389          RY    3.00     1.27     0.50     0.00     0.00      0.50      1.27      3.00
              *

1390          KK  DRNO35RETRIEVE
1391          KM   Retrieve divert DRNO35 from subbasin OL35 and divert south to
1392          KM   combination point CNO35
1393          DR  DSNO35
              *
```

```
1394          KK  RSNO35   ROUTE
1395          KM   Route diversion retrieval DRNO35 south to combination point CNO35
1396          RS      10    FLOW
1397          RC  0.035   0.015   0.035    5280  0.0036    0.00
1398          RX   0.00    0.00   67.00   67.00  332.00  332.00  399.00  399.00
1399          RY   3.00    1.17    0.50    0.00    0.00    0.50    1.17    3.00
              *

1400          KK    NO35   BASIN
1401          KM   Runoff hydrograph for square mile subbasin NO35 northeast of the intersection
1402          KM   of Norhtern Avenue and 35th Avenue
1403          BA   0.991
1404          LG    0.24    0.25    5.80    0.17      38
1405          UC   1.500   0.921
1406          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
1407          UA     100
              *

1408          KK   CNO35 COMBINE
1409          KM   Combine route RWNO35, route RSNO35, and subbasin NO35
1410          HC       3    1.14
              *

1411          KK  PR27NORETRIEVE
1412          KM   Retrieve full flow capacity of 114 cfs from 54-inch diameter pipe at the
1413          KM   intersection of Northern Avenue and 27th Avenue
1414          DR  DP27NO
              *

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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1415          KK  CPNO29 COMBINE
1416          KM   Combine pipe return PR27NO with the runoff hydrograph at combination point
1417          KM   CNO29 at the intersection of Northern Avenue and 29th Avenue
1418          HC       2
              *

1419          KK   D29NO  DIVERT
1420          KM   Divert calculated full flow capapcity of 114 cfs into 54-inch storm drain
1421          KM   pipe at the intersection of Northern Avenue and 29th Avenue
1422          DT  DP29NO      0.0   114.0
1423          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
1424          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

1425          KK  PR35OLRETRIEVE
1426          KM   Retrieve full flow capacity of 61 cfs from 42-inch diameter pipe at the
1427          KM    intersection of Northern Avenue and 35th Avenue
1428          DR  DP35OL
              *

1429          KK  RP35NO   ROUTE
1430          KM   Route full flow capacity of 61 cfs through 42-inch storm drain pipe in
1431          KM   35th Avenue to the intersection of Northern Avenue and 35th Avenue
1432          RK    5191  0.0037   0.015           CIRC   3.500
              *

1433          KK  CPNO35 COMBINE
1434          KM   Combine pipe return PR35OL with the runoff hydrograph at combination point
1435          KM   CNO35 at the intersection of Northern Avenue and 35th Avenue
1436          HC       2
              *

1437          KK   D35NO  DIVERT
1438          KM   Capacity of storm drain in 31st Avenue and 35th Avenue diverted together.
1439          KM   Divert combined calculated full flow capacity of 26 cfs in the 30-inch storm
1440          KM   drain pipe in 31st Avenue and 87 cfs in the 48-inch storm drain pipe in
1441          KM   35th Avenue. The total calculated combined full flow capacity diverted at the
1442          KM   intersection of 35th Avenue and Northern Avenue is 113 cfs in an equivalent
1443          KM   diameter pipe of 53 inches
1444          DT  DP35NO      0.0   113.0
1445          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
1446          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

1447          KK  DWNO43  DIVERT
1448          KM   Divert remaining runoff hydrograph from combination point CPNO353 west to
1449          KM   combination point CNO43
1450          DT  DSGL35      0.0     0.0
1451          DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
1452          DQ     0.0    46.0    92.0   230.0   460.0   920.0  1840.0  4600.0  9200.0 23000.0
              *

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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1453          KK  RWNO43   ROUTE
1454          KM   Route diversion DWNO43 west to combination point CNO43
1455          RS       8    FLOW
1456          RC   0.035   0.015   0.035    5280  0.0021    0.00
```



```
1457          RX    0.00    0.00  114.50  114.50  534.50  534.50  649.00  649.00
1458          RY    3.00    1.64    0.50    0.00    0.00    0.50    1.64    3.00
              *

1459          KK  DRNO43RETRIEVE
1460          KM   Retrieve divert DRNO43 from combination point COL43 and divert south to
1461          KM   combination point CNO43
1462          DR  DSNO43
              *

1463          KK  RSNO43   ROUTE
1464          KM   Route diversion retrieval DRNO43 south to combination point CNO43
1465          RS       7    FLOW
1466          RC   0.035   0.015   0.035    5280  0.0035    0.00
1467          RX    0.00    0.00   67.00   67.00  332.00  332.00  399.00  399.00
1468          RY    3.00    1.17    0.50    0.00    0.00    0.50    1.17    3.00
              *

1469          KK    NO43   BASIN
1470          KM   Runoff hydrograph for square mile subbasin NO43 northeast of the intersection
1471          KM   of Norhtern Avenue and 43rd Avenue
1472          BA   0.995
1473          LG    0.24    0.21    6.40    0.14      33
1474          UC   1.500   1.009
1475          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
1476          UA     100
              *

1477          KK   CNO43 COMBINE
1478          KM   Combine route RWNO43, route RSNO43, and subbasin NO43
1479          HC       3    2.02
              *

1480          KK  PR43OLRETRIEVE
1481          KM   Retrieve full flow capacity of 85 cfs from 48-inch storm drain pipe at the
1482          KM   intersection of Olive Avenue and 43rd Avenue
1483          DR  DP43OL
              *

1484          KK  RP43NO   ROUTE
1485          KM   Route full flow capacity of 85 cfs through 48-inch storm drain pipe in
1486          KM   43rd Avenue to the intersection of Northern Avenue and 43rd Avenue
1487          RK    5100  0.0035   0.015           CIRC   4.000
              *

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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1488          KK  CPNO43 COMBINE
1489          KM   Combine pipe return PR43OL with the runoff hydrograph at combination point
1490          KM   CPNO43 at the intersection of Northern Avenue and 43rd Avenue
1491          HC       2
              *

1492          KK   D43NO  DIVERT
1493          KM   Capacity of storm drain in 43rd Avenue and 39th Avenue diverted together.
1494          KM   Divert combined calculated full flow capacity of 124 cfs in the 54-inch storm
1495          KM   drain pipe in 39th AVenue and 117 cfs in the 54-inch storm drain pipe in
1496          KM   43rd Avenue. The total calculated combined full flow capacity diverted at the
1497          KM   intersection of 43rd Avenue and Northern Avenue is 241 cfs in an equivalent
1498          KM   diameter pipe of 71 inches
1499          DT  DP43NO      0.0   241.0
1500          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
1501          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

1502          KK  DWNO51  DIVERT
1503          KM   Divert remaining runoff hydrograph from combination point CPNO43 west to
1504          KM   combination point CNO51
1505          DT  DSGL43      0.0     0.0
1506          DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
1507          DQ     0.0    51.0   102.0   255.0   510.0  1020.0  2040.0  5100.0 10200.0 25500.0
              *

1508          KK  RWNO51   ROUTE
1509          KM   Route diversion DWNO51 west to combination point CNO51
1510          RS       5    FLOW
1511          RC   0.035   0.015   0.035    5280  0.0019    0.00
1512          RX    0.00    0.00   65.50   65.50  382.50  382.50  448.00  448.00
1513          RY    3.00    1.16    0.50    0.00    0.00    0.50    1.16    3.00
              *

1514          KK  DRNO51RETRIEVE
1515          KM   Retrieve divert DRNO51 from combination point COL51 and divert south to
1516          KM   combination point CNO51
1517          DR  DSNO51
              *

1518          KK  RSNO51   ROUTE
1519          KM   Route diversion retrieval DRNO51 south to combination point CNO51
1520          RS       7    FLOW
1521          RC   0.035   0.015   0.035    5280  0.0019    0.00
```

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1522          RX    0.00    0.00   54.50   54.50  273.50  273.50  328.00  328.00
1523          RY    3.00    1.04    0.50    0.00    0.00    0.50    1.04    3.00
              *
1524          KK    NO51    BASIN
1525          KM   Runoff hydrograph for square mile subbasin NO51 northeast of the intersection
1526          KM   of Norhtern Avenue and 51st Avenue
1527          BA   0.993
1528          LG    0.24    0.25    6.00    0.16      36
1529          UC   1.500   1.010
1                                        HEC-1 INPUT                                    PAGE 40

LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1530          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
1531          UA     100
              *
1532          KK   CNO51 COMBINE
1533          KM   Combine route RWNO51, route RSNO51, and subbasin NO51
1534          HC       3    2.47
              *
1535          KK   DNO51  DIVERT
1536          KM   Divert calculated full flow capapcity of 168 cfs into 66-inch storm drain
1537          KM   pipe at the intersection of Northern Avenue and 51st Avenue
1538          DT  DPNO51     0.0   168.0
1539          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
1540          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *
1541          KK  DWNO59  DIVERT
1542          KM   Divert remaining runoff hydrograph from combination point CNO51 west to
1543          KM   combination point CNO59
1544          DT  DSGL51     0.0     0.0
1545          DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
1546          DQ     0.0    44.0    88.0   220.0   440.0   880.0  1760.0  4400.0  8800.0 22000.0
              *
1547          KK  RWNO59   ROUTE
1548          KM   Route diversion DWNO59 west to combination point CNO59
1549          RS       3    FLOW
1550          RC   0.035   0.015   0.035    5280  0.0040     0.00
1551          RX    0.00    0.00   58.50   58.50  339.50  339.50  398.00  398.00
1552          RY    3.00    1.08    0.50    0.00    0.00    0.50    1.08    3.00
              *
1553          KK  DRNO59RETRIEVE
1554          KM   Retrieve divert DRNO59 from combination point CPOL59 and divert south to
1555          KM   combination point CNO59
1556          DR  DSNO59
              *
1557          KK  RSNO59   ROUTE
1558          KM   Route diversion retrieval DRNO59 south to combination point CNO59
1559          RS       4    FLOW
1560          RC   0.035   0.015   0.035    5280  0.0024     0.00
1561          RX    0.00    0.00   86.50   86.50  511.50  511.50  598.00  598.00
1562          RY    3.00    1.36    0.50    0.00    0.00    0.50    1.36    3.00
              *
1563          KK    NO59   BASIN
1564          KM   Runoff hydrograph for square mile subbasin NO59 northeast of the intersection
1565          KM   of Norhtern Avenue and 59th Avenue
1566          BA   0.992
1567          LG    0.25    0.15    7.60    0.09      28
1568          UC   1.500   1.011
1569          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
1570          UA     100
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1571          KK  ERNO59  DIVERT
1572          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
1573          KM   retention developed after 1990 in subbasin NO59
1574          DT   XNO59    16.5     0.0
1575          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
1576          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *
1577          KK   CNO59 COMBINE
1578          KM   Combine route RWNO59, route RSNO59, and subbasin NO59
1579          HC       3    4.06
              *
1580          KK  SRNO59 STORAGE
1581          KM   Storage route runoff hydrograph from combination point CNO59 through
1582          KM     regional detention basin located in subbasin NO59
1583          KM   Combined storage from two retention basins
1584          KM   Stage-storage data from Butler Park Detention Basin As-built record, 1991 and
```



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1585          KM     Butler Park Street Improvements Retention Basin As-built record, 1990
1586          RS       1    STOR
1587          SV            1.87    4.65    7.68   15.59
1588          SQ                                  2430.00
1589          SE   96.00   97.00   98.00   99.00  100.00
              *
1590          KK  PRNO51RETRIEVE
1591          KM   Retrieve full flow capacity of 168 cfs from 66-inch storm drain pipe at the
1592          KM   intersection of Northern Avenue and 51st Avenue
1593          DR  DPNO51
              *
1594          KK  RPNO59   ROUTE
1595          KM   Route full flow capacity of 168 cfs through 66-inch storm drain pipe in
1596          KM   Northern Avenue to the intersection of Northern Avenue and 51st Avenue
1597          RK    5146  0.0025   0.015             CIRC   5.500
              *
1598          KK  CPNO59 COMBINE
1599          KM   Combine pipe return PRNO51 with the runoff hydrograph at combination point
1600          KM   CNO59 at the intersection of Northern Avenue and 59th Avenue
1601          HC       2
              *
1602          KK   DNO59  DIVERT
1603          KM   Divert calculated full flow capapcity of 134 cfs into 72-inch storm drain
1604          KM   pipe at the intersection of Northern Avenue and 59th Avenue
1605          DT  DPNO59     0.0   134.0
1606          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
1607          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1608          KK  DWNO67  DIVERT
1609          KM   Divert remaining runoff hydrograph from combination point CPNO59 west to
1610          KM   combination point CNO67
1611          DT  DSGL59     0.0     0.0
1612          DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
1613          DQ     0.0    33.0    66.0   165.0   330.0   660.0  1320.0  3300.0  6600.0 16500.0
              *
1614          KK  RWNO67   ROUTE
1615          KM   Route diversion DWNO67 west to combination point CNO67
1616          RS       3    FLOW
1617          RC   0.035   0.015   0.035    5280  0.0029     0.00
1618          RX    0.00    0.00   58.50   58.50  339.50  339.50  398.00  398.00
1619          RY    3.00    1.08    0.50    0.00    0.00    0.50    1.08    3.00
              *
1620          KK  DRNO67RETRIEVE
1621          KM   Retrieve divert DRNO67 from combination point CPOL67 and divert south to
1622          KM   combination point CNO67
1623          DR  DSNO67
              *
1624          KK  RSNO67   ROUTE
1625          KM   Route diversion retrieval DRNO67 south to combination point CNO67
1626          RS       3    FLOW
1627          RC   0.035   0.015   0.035    5280  0.0019     0.00
1628          RX    0.00    0.00   58.50   58.50  339.50  339.50  398.00  398.00
1629          RY    3.00    1.08    0.50    0.00    0.00    0.50    1.08    3.00
              *
1630          KK    NO67   BASIN
1631          KM   Runoff hydrograph for square mile subbasin NO67 northeast of the intersection
1632          KM   of Norhtern Avenue and 67th Avenue
1633          BA   0.956
1634          LG    0.27    0.15    8.80    0.06      37
1635          UC   1.451   0.983
1636          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
1637          UA     100
              *
1638          KK  ERNO67  DIVERT
1639          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
1640          KM   retention developed after 1990 in subbasin NO67
1641          DT   XNO67    39.4     0.0
1642          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
1643          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *
1644          KK   CNO67 COMBINE
1645          KM   Combine route RWNO67, route RSNO67, and subbasin NO67
1646          HC       3    4.93
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10
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KK  DWGR75  DIVERT
KM   Divert portion of runoff hydrograph from subbasin CNO67 west through subbasin
KM   GR75 using the ratio of the widths and slopes of the streets going west and
KM   the widths and slopes of the streets going south. The remaining flow is
KM   diverted south through subbasin GR67
DT  DSGR67      0.0      0.0
DI     0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0  10000.0  20000.0  50000.0
DQ     0.0     65.0    130.0    325.0    650.0   1300.0   2600.0   6500.0  13000.0  32500.0
*

KK   DGR75  DIVERT
KM   Divert portion of DWGR75 west to subbasin GR75 using the ratio of the width
KM   of the collector and local streets and the width of the arterial street. The
KM   remaining flow is diverted west to subbasin NO75 along Northern Avenue
DT  DWNO75      0.0      0.0
DI     0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0  10000.0  20000.0  50000.0
DQ     0.0     33.0     66.0    165.0    330.0    660.0   1320.0   3300.0   6600.0  16500.0
*

KK  RWGR75   ROUTE
KM   Route diversion DGR75 west to combination point CGR75
RS       8     FLOW
RC   0.035    0.015    0.035     7409   0.0008     0.00
RX    0.00     0.00    44.50    44.50   253.50   253.50   298.00   298.00
RY    3.00     0.94     0.50     0.00     0.00     0.50     0.94     3.00
*

KK  DRGR75RETRIEVE
KM   Retrieve divert DRGR75 from combination point CPOL75 and divert south to
KM   combination point CGR75
DR  DSGR75
*

KK   D75GR  DIVERT
KM   Divert portion of divert retrieval DRGR75 south to subbasin NO75 along
KM   collector and local streets. The remaining flow is diverted south to subbasin
KM   GR75 along 75th Avenue to combination point CGR75
DT  DSNO75      0.0      0.0
DI     0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0  10000.0  20000.0  50000.0
DQ     0.0     36.0     72.0    180.0    360.0    720.0   1440.0   3600.0   7200.0  18000.0
*

KK    GR75   BASIN
KM   Runoff hydrograph for subbasin GR75 southeast of the intersection of Grand
KM   Avenue and 75th Avenue
BA   0.496
LG    0.25     0.17     8.80     0.05       42
UC   0.901    0.484
UA       0      5.0     16.0     30.0     65.0     77.0     84.0     90.0     94.0     97.0
UA     100
*
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LINE      ID.......1.......2.......3.......4.......5.......6.......7.......8.......9.....10

KK  ERGR75  DIVERT
KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
KM   retention developed after 1990 in subbasin GR75
DT   XGR75     18.0      0.0
DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
*

KK   CGR75 COMBINE
KM   Combine runoff hydrographs from route RWGR75, divert D75GR, and subbasin GR75
HC       3     3.09
*

KK  SRGR75 STORAGE
KM   Storage route runoff hydrograph from combination point CGR75 through regional
KM     detention basin located near the intersection of Grand Avenue and Olive
KM     Avenue
KM   Stage-storage-discharge data from State Highway Wickenburg-Phoenix Highway
KM     (US 60), Grand Ave: 75th Ave-Olive Ave As-builts, ADOT, August 2004
RS       1     STOR
SV     0.0      0.4      2.1      4.8      7.7     14.0     21.0     28.7     37.2     46.3
SV    56.2     66.9     72.6     75.5     78.4
SQ     0.0      8.0     20.0     25.0     29.0     36.0     42.0     47.0     52.0     56.0
SQ    60.0     64.0     66.0    305.0   1417.0
SE  1118.0   1119.0   1120.0   1121.0   1122.0   1124.0   1126.0   1128.0   1130.0   1132.0
SE  1134.0   1136.0   1137.0   1137.5   1138.0
*

KK  PROL75RETRIEVE
KM   Retrieve full flow capacity of 239 cfs from 90-inch storm drain pipe at the
KM   intersection of Olive Avenue and 75th Avenue
DR  DPOL75
*

KK  CPOLGR COMBINE
KM   Combine pipe return PROL75 with storage route SRGR75 at combination point
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KM   CPOLGR at the intersection of Olive Avenue and Grand Avenue
HC       2
*

KK  DPOLGR  DIVERT
KM   Divert calculated full flow capapcity of 239 cfs into 90-inch storm drain
KM   pipe at the intersection of Olive Avenue and Grand Avenue. The pipe flow is
KM   followed to combination point CPOL83 and the remaining surface flow is
KM   diverted to combination point CIGR75 at the intersection of Grand Avenue and
KM   75th Avenue
DT   DOLGR      0.0      0.0
DI     0.0    239.0    239.1 50000.0      0.0      0.0      0.0      0.0      0.0      0.0
DQ     0.0      0.0      0.1 49761.0      0.0      0.0      0.0      0.0      0.0      0.0
*
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LINE      ID.......1.......2.......3.......4.......5.......6.......7.......8.......9.....10

KK  RPOL83   ROUTE
KM   Route full flow capacity of 239 cfs through 90-inch storm drain pipe in
KM   Olive Avenue to the intersection of Olive Avenue and 83rd Avenue
RK    4974  0.0010   0.015            CIRC   7.500
*

KK  CPOL83 COMBINE
KM   Combine pipe return PROL75 with the runoff hydrograph at combination point
KM   COL83 at the intersection of Olive Avenue and 83rd Avenue
HC       2
*

KK  SROL83 STORAGE
KM   Storage route runoff hydrograph from combination point CPOL83 through
KM     regional detention basin located near the intersection of Olive Avenue
KM     and 83rd Avenue
KM   Stage-storage data from topography provided by FCDMC dated 3/28/1994
RS       1     STOR
SV            5.45    13.07    21.61    23.90    26.31    31.42
SQ           57.00   147.00   148.00   635.00  1517.00  4002.00
SE  1118.0 1120.00 1122.00 1124.00 1124.50 1125.00 1126.00
*

KK   DOL83  DIVERT
KM   Divert calculated full flow capapcity of 243 cfs into 90-inch storm drain
KM   pipe at the intersection of Olive Avenue and 83rd Avenue
DT  DPOL83      0.0    243.0
DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
*

KK  DWOL91  DIVERT
KM   Divert remaining runoff hydrograph from combination point CPOL83 west to
KM   combination point COL91
DT  DSNO83      0.0      0.0
DI     0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0  10000.0  20000.0  50000.0
DQ     0.0     39.0     78.0    195.0    390.0    780.0   1560.0   3900.0   7800.0  19500.0
*

KK  RWOL91   ROUTE
KM   Route diversion DWOL91 west to combination point COL91
RS       8     FLOW
RC   0.035    0.015    0.035     5280   0.0025     0.00
RX    0.00     0.00    76.50    76.50   372.50   372.50   449.00   449.00
RY    3.00     1.27     0.50     0.00     0.00     0.50     1.27     3.00
*

KK  DROL91RETRIEVE
KM   Retrieve divert DROL91 from combination point CPPE91 and divert south to
KM   combination point COL91
DR  DSOL91
*
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LINE      ID.......1.......2.......3.......4.......5.......6.......7.......8.......9.....10

KK  RSOL91   ROUTE
KM   Route diversion retrieval DROL91 south to combination point COL91
RS       4     FLOW
RC   0.035    0.015    0.035     5280   0.0019     0.00
RX    0.00     0.00    86.00    86.00   413.00   413.00   499.00   499.00
RY    3.00     1.36     0.50     0.00     0.00     0.50     1.36     3.00
*

KK    OL91   BASIN
KM   Runoff hydrograph for square mile subbasin OL91 northeast of the intersection
KM   of Olive Avenue and 91st Avenue
BA   1.016
LG    0.22     0.15     9.70     0.04       40
UC   1.433    0.963
UA       0      5.0     16.0     30.0     65.0     77.0     84.0     90.0     94.0     97.0
UA     100
*
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1779          KK  EROL91  DIVERT
1780          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
1781          KM   retention developed after 1990 in subbasin OL91
1782          DT   XOL91     44.9      0.0
1783          DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
1784          DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

1785          KK   COL91 COMBINE
1786          KM   Combine route RWOL91, route RSOL91, and subbasin OL91
1787          HC        3    3.68
              *

1788          KK  PROL83RETRIEVE
1789          KM   Retrieve full flow capacity of 243 cfs from 90-inch storm drain pipe at the
1790          KM   intersection of Olive Avenue and 83rd Avenue
1791          DR  DPOL83
              *

1792          KK  RPOL91   ROUTE
1793          KM   Route full flow capacity of 243 cfs through 90-inch storm drain pipe in
1794          KM   Olive Avenue to the intersection of Olive Avenue and 91st Avenue
1795          RK    5184  0.0010   0.015            CIRC   7.500
              *

1796          KK  CPOL91 COMBINE
1797          KM   Combine pipe return PROL83 with the runoff hydrograph at combination point
1798          KM   COL91 at the intersection of Olive Avenue and 91st Avenue
1799          HC        2
              *

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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9.....10

1800          KK  DWOLLO  DIVERT
1801          KM   Divert remaining runoff hydrograph from combination point CPOL91 west to
1802          KM   combination point COLLO
1803          DT  DSNO91      0.0      0.0
1804          DI      0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0  10000.0  20000.0  50000.0
1805          DQ      0.0     67.0    134.0    335.0    670.0   1340.0   2680.0   6700.0  13400.0  33500.0
              *

1806          KK  RWOLLO   ROUTE
1807          KM   Route diversion DWOLLO west to combination point COLLO
1808          RS        1    FLOW
1809          RC   0.035   0.015   0.035      600  0.0039     0.00
1810          RX    0.00    0.00   16.50    16.50  107.50   107.50   124.00   124.00
1811          RY    3.00    0.66    0.50     0.00    0.00     0.50     0.66     3.00
              *

1812          KK    OLLO   BASIN
1813          KM   Runoff hydrograph for subbasin OLLO northeast of the intersection of Olive
1814          KM   Avenue and SR Loop 101
1815          BA   0.160
1816          LG    0.10    0.15    8.80    0.05      85
1817          UC   0.765   0.855
1818          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
1819          UA     100
              *

1820          KK  EROLLO  DIVERT
1821          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
1822          KM   retention developed after 1990 in subbasin OLLO
1823          DT   XOLLO    11.4      0.0
1824          DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
1825          DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

1826          KK   COLLO COMBINE
1827          KM   Combine route RWOLLO, route RSOLLO, and subbasin OLLO
1828          HC        3    6.18
              *

1829          KK  RSNOLO   ROUTE
1830          KM   Route hydrograph at combination point COLLO south to combination point CNOLO
1831          RS        2    FLOW
1832          RC   0.035   0.015   0.035     6136  0.0023     0.00
1833          RX    0.00    4.00   16.00    26.00   34.00    44.00    56.00    59.00
1834          RY    6.24    5.24    5.00     0.00    0.20     5.20     5.44     6.44
              *

1835          KK  DROLGRRETRIEVE
1836          KM   Retrieve remaining surface flow runoff hydrograph DROLGR following pipe
1837          KM   diversion DPOLGR after combination point CPOLGR at the intersection of Grand
1838          KM   Avenue and Olive Avenue
1839          DR   DOLGR
              *

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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9.....10
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1840          KK  DI75NORETRIEVE
1841          KM   Retrieve arterial street flow diverted to 75th Avenue at the intersection
1842          KM   of 75th Avenue and Grand Avenue
1843          DR  DSNO75
              *

1844          KK  DR75NORETRIEVE
1845          KM   Retrieve divert DR75NO from combination point CGR83 and divert south to
1846          KM   combination point CIGR75
1847          DR  DS75NO
              *

1848          KK  CIGR75 COMBINE
1849          KM   Combine arterial street flow from 75th Avenue DI75NO, divert retrieval DR75NO
1850          KM   and storage route SRGR75 at the intersection of 75th Avenue and Grand Avenue
1851          HC        3    7.85
              *

1852          KK  RSNO75   ROUTE
1853          KM   Route hydrograph at intersection combination point CIGR75
1854          KM   south to combination point CNO75
1855          RS        2    FLOW
1856          RC   0.035   0.015   0.035     5280  0.0019     0.00
1857          RX    0.00    0.00   29.00    29.00  170.00   170.00   199.00   199.00
1858          RY    3.00    0.79    0.50     0.00    0.00     0.50     0.79     3.00
              *

1859          KK  DINO75RETRIEVE
1860          KM   Retrieve arterial street flow diverted to Northern Avenue and 75th Avenue
1861          KM   from the intersection of Northern Avenue and 67th Avenue
1862          DR  DWNO75
              *

1863          KK  RWNO75   ROUTE
1864          KM   Route diversion retrieval DINO75 at the intersection of Norhtern Avenue
1865          KM   and 75th Avenue west to combination point CNO75
1866          RS        3    FLOW
1867          RC   0.035   0.015   0.035     5280  0.0030     0.00
1868          RX    0.00    0.00   16.50    16.50  107.50   107.50   124.00   124.00
1869          RY    3.00    0.66    0.50     0.00    0.00     0.50     0.66     3.00
              *

1870          KK    NO75   BASIN
1871          KM   Runoff hydrograph for subbasin NO75 northeast of the intersection of
1872          KM   Norhtern Avenue and 75th Avenue
1873          BA   0.506
1874          LG    0.21    0.15    8.40    0.07      58
1875          UC   0.837   0.444
1876          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
1877          UA     100
              *

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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9.....10

1878          KK  ERNO75  DIVERT
1879          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
1880          KM   retention developed after 1990 in subbasin NO75
1881          DT   XNO75     6.6      0.0
1882          DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
1883          DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

1884          KK   CNO75 COMBINE
1885          KM   Combine route RWNO75, route RSNO75, and subbasin NO75
1886          HC        3    8.93
              *

1887          KK   DNO75  DIVERT
1888          KM   Divert calculated full flow capapcity of 161 cfs into 60-inch storm drain
1889          KM   pipe at the intersection of Northern Avenue and 75th Avenue
1890          DT  DPNO75      0.0    161.0
1891          DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
1892          DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

1893          KK  DWNO83  DIVERT
1894          KM   Divert remaining runoff hydrograph from combination point CNO75 west to
1895          KM   combination point CNO83
1896          DT  DSOW75      0.0      0.0
1897          DI      0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0  10000.0  20000.0  50000.0
1898          DQ      0.0     48.0     96.0    240.0    480.0    960.0   1920.0   4800.0   9600.0  24000.0
              *

1899          KK  RWNO83   ROUTE
1900          KM   Route diversion DWNO83 west to combination point CNO83
1901          RS        2    FLOW
1902          RC   0.035   0.015   0.035     5280  0.0048     0.00
1903          RX    0.00    0.00   35.50    35.50  188.50   188.50   224.00   224.00
1904          RY    3.00    0.86    0.50     0.00    0.00     0.50     0.86     3.00
              *
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```
1905          KK  DRNO83RETRIEVE
1906          KM   Retrieve divert DRNO83 from combination point COL83 and divert south to
1907          KM   combination point CNO83
1908          DR  DSNO83
              *

1909          KK  RSNO83   ROUTE
1910          KM   Route diversion retrieval DRNO83 south to combination point CNO83
1911          RS       6    FLOW
1912          RC   0.035   0.015   0.035    5280  0.0040    0.00
1913          RX    0.00    0.00   35.50   35.50  188.50  188.50  224.00  224.00
1914          RY    3.00    0.86    0.50    0.00    0.00    0.50    0.86    3.00
              *
1                                        HEC-1 INPUT                                    PAGE 50

LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1915          KK   NO83   BASIN
1916          KM   Runoff hydrograph for square mile subbasin NO83 northeast of the intersection
1917          KM   of Norhtern Avenue and 83rd Avenue
1918          BA   1.005
1919          LG    0.33    0.15    8.80    0.07      35
1920          UC   1.267   0.839
1921          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
1922          UA     100
              *

1923          KK  ERNO83  DIVERT
1924          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
1925          KM   retention developed after 1990 in subbasin NO83
1926          DT   XNO83    22.2     0.0
1927          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
1928          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

1929          KK   CNO83 COMBINE
1930          KM   Combine route RWNO83, route RSNO83, and subbasin NO83
1931          HC       3    6.05
              *

1932          KK  PRNO75RETRIEVE
1933          KM   Retrieve full flow capacity of 161 cfs from 60-inch storm drain pipe at the
1934          KM   intersection of Thunderbird Road and 75th Avenue
1935          DR  DPNO75
              *

1936          KK  RPNO83   ROUTE
1937          KM   Route full flow capacity of 161 cfs through 60-inch storm drain pipe in
1938          KM   Northern Avenue to the intersection of Northern Avenue and 83rd Avenue
1939          RK    5291  0.0038   0.015            CIRC   5.000
              *

1940          KK  CPNO83 COMBINE
1941          KM   Combine pipe return PRNO75 with the runoff hydrograph at combination point
1942          KM   CNO83 at the intersection of Northern Avenue and 83rd Avenue
1943          HC       2
              *

1944          KK   DNO83  DIVERT
1945          KM   Divert calculated full flow capapcity of 233 cfs into 72-inch storm drain
1946          KM   pipe at the intersection of Northern Avenue and 83rd Avenue
1947          DT  DPNO83      0.0   233.0
1948          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
1949          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *
1                                        HEC-1 INPUT                                    PAGE 51

LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1950          KK  RWNO91   ROUTE
1951          KM   Route diversion DWNO91 west to combination point CNO91
1952          RS       3    FLOW
1953          RC   0.035   0.015   0.035    5280  0.0014    0.00
1954          RX    0.00    0.00   45.00   45.00  229.00  229.00  274.00  274.00
1955          RY    3.00    0.95    0.50    0.00    0.00    0.50    0.95    3.00
              *

1956          KK  DRNO91RETRIEVE
1957          KM   Retrieve divert DRNO91 from combination point CPOL91 and divert south to
1958          KM   combination point CNO91
1959          DR  DSNO91
              *

1960          KK  RSNO91   ROUTE
1961          KM   Route diversion retrieval DRNO91 south to combination point CNO91
1962          RS       3    FLOW
1963          RC   0.035   0.015   0.035    5280  0.0029    0.00
1964          RX    0.00    0.00   48.00   48.00  251.00  251.00  299.00  299.00
1965          RY    3.00    0.98    0.50    0.00    0.00    0.50    0.98    3.00
              *
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1966          KK   NO91   BASIN
1967          KM   Runoff hydrograph for square mile subbasin NO91 northeast of the intersection
1968          KM   of Norhtern Avenue and 91st Avenue
1969          BA   0.993
1970          LG    0.29    0.17    8.00    0.08      23
1971          UC   1.500   1.014
1972          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
1973          UA     100
              *

1974          KK  ERNO91  DIVERT
1975          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
1976          KM   retention developed after 1990 in subbasin NO91
1977          DT   XNO91    35.1     0.0
1978          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
1979          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

1980          KK   CNO91 COMBINE
1981          KM   Combine route RWNO91, route RSNO91, and subbasin NO91
1982          HC       3    9.52
              *

1983          KK  PRNO83RETRIEVE
1984          KM   Retrieve full flow capacity of 233 cfs from 72-inch storm drain pipe at the
1985          KM   intersection of Northern Avenue and 83rd Avenue
1986          DR  DPNO83
              *
1                                        HEC-1 INPUT                                    PAGE 52

LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1987          KK  RPNO91   ROUTE
1988          KM   Route full flow capacity of 233 cfs through 72-inch storm drain pipe in
1989          KM   Northern Avenue to the intersection of Northern Avenue and 91st Avenue
1990          RK    6941  0.0030   0.015            CIRC   6.000
              *

1991          KK   CPNO91 COMBINE
1992          KM   Combine pipe return PRNO83 with the runoff hydrograph at combination point
1993          KM   CNO91 at the intersection of Northern Avenue and 91st Avenue
1994          HC       2
              *

1995          KK  SRNO91 STORAGE
1996          KM   Storage route runoff hydrograph from combination point CPNO91 through
1997          KM     regional detention basin located near the intersection of Northern Avenue
1998          KM     and 87th Avenue
1999          KM   Stage-storage data from Northern and Butler Storm Drains Sub-Phase "A"
2000          KM     As-built records, 2001
2001          RS       1    STOR
2002          SV            7.00   21.80   62.20   67.50   72.90   84.00  107.20
2003          SQ           18.00   26.00   38.00 1526.00 4245.0011934.0033681.00
2004          SE  1089.2 1090.90 1092.50 1095.80 1096.20 1096.60 1097.50 1099.10
              *

2005          KK   DNO91  DIVERT
2006          KM   Divert calculated full flow capapcity of 69 cfs into 60-inch storm drain
2007          KM   pipe at the intersection of Northern Avenue and 29th Avenue
2008          DT  DPNO91      0.0     69.0
2009          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
2010          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

2011          KK  DWNOLO  DIVERT
2012          KM   Divert remaining runoff hydrograph from combination point CPNO91 west to
2013          KM   combination point CNOLO
2014          DT  DSGL91      0.0     0.0
2015          DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
2016          DQ     0.0    53.0   106.0   265.0   530.0  1060.0  2120.0  5300.0 10600.0 26500.0
              *

2017          KK  RWNOLO   ROUTE
2018          KM   Route diversion DWNOLO west to combination point CNOLO
2019          RS       2    FLOW
2020          RC   0.035   0.015   0.035    3480  0.0026    0.00
2021          RX    0.00    0.00   45.00   45.00  229.00  229.00  274.00  274.00
2022          RY    3.00    0.95    0.50    0.00    0.00    0.50    0.95    3.00
              *

2023          KK   NOLO   BASIN
2024          KM   Runoff hydrograph for subbasin NOLO northeast of the intersection of Northern
2025          KM   Avenue and SR Loop 101
2026          BA   0.280
2027          LG    0.10    0.15    7.30    0.09      85
2028          UC   0.875   0.989
1                                        HEC-1 INPUT                                    PAGE 53

LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

2029          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
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2030          UA     100
              *

2031          KK  ERNOLO  DIVERT
2032          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
2033          KM   retention developed after 1990 in subbasin NOLO
2034          DT   XNOLO     19.9      0.0
2035          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
2036          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

2037          KK   CNOLO COMBINE
2038          KM   Combine route RWNOLO, route RSNOLO, and subbasin NOLO
2039          HC        3   10.91
              *

2040          KK  PRNO91RETRIEVE
2041          KM   Retrieve full flow capacity of 69 cfs from 60-inch storm drain pipe at the
2042          KM   intersection of Northern Avenue and 91st Avenue
2043          DR  DPNO91
              *

2044          KK  RPNOLO   ROUTE
2045          KM   Route full flow capacity of 69cfs through 60-inch storm drain pipe in
2046          KM   Northern Avenue to the intersection of Northern Avenue and SR Loop 101
2047          RK    2827  0.0007    0.015            CIRC   5.000
              *

2048          KK  CPNOLO COMBINE
2049          KM   Combine pipe return PRNO91 with the runoff hydrograph at combination point
2050          KM   CNOLO at the intersection of Northern Avenue and SR Loop 101
2051          HC        2
              *

2052          KK   DNOLO  DIVERT
2053          KM   Divert calculated full flow capapcity of 15 cfs into 24-inch storm drain
2054          KM   pipe at the intersection of Northern Avenue and SR Loop 101
2055          DT  DPNOLO       0.0     15.0
2056          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
2057          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

2058          KK  DSGLLO  DIVERT
2059          KM   Divert remaining runoff hydrograph from combination point CPNOLO south to
2060          KM   combination point CGLLO
2061          DT  DWNR03       0.0    917.0
2062          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
2063          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *
1                                        HEC-1 INPUT                                                    PAGE 54

LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9.....10

2064          KK  RSGLLO   ROUTE
2065          KM   Route diversion DSGLLO south to combination point CGLLO
2066          RS        1    FLOW
2067          RC   0.035    0.015    0.035     2381   0.0023     0.00
2068          RX    0.00     4.00    16.00    26.00    34.00    44.00    56.00    59.00
2069          RY    6.24     5.24     5.00     0.00     0.20     5.20     5.44     6.44
              *

2070          KK  DRGL43RETRIEVE
2071          KM   Retrieve divert DRGL43 from combination point CPNO43 and divert south to
2072          KM   combination point CGL43
2073          DR  DSGL43
              *

2074          KK  RSGL43   ROUTE
2075          KM   Route diversion retrieval DRGL43 south to combination point CGL43
2076          RS        3    FLOW
2077          RC   0.035    0.015    0.035     5280   0.0034     0.00
2078          RX    0.00     0.00    57.50    57.50   291.50   291.50   349.00   349.00
2079          RY    3.00     1.08     0.50     0.00     0.00     0.50     1.08     3.00
              *

2080          KK   GL43   BASIN
2081          KM   Runoff hydrograph for square mile subbasin GL43 northeast of the intersection
2082          KM   of Glendale Avenue and 43rd Avenue
2083          BA   0.998
2084          LG    0.24     0.15     7.30     0.09       36
2085          UC   1.500    1.007
2086          UA       0      5.0     16.0     30.0     65.0     77.0     84.0     90.0     94.0     97.0
2087          UA     100
              *

2088          KK   CGL43 COMBINE
2089          KM   Combine route RSGL43, and subbasin GL43
2090          HC        2    2.03
              *

2091          KK  PR43NORETRIEVE
2092          KM   Retrieve combined full flow capacity of 241 cfs from 71-inch equivalent
```



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2093          KM   diameter pipe at the intersection of Northern Avenue and 43rd Avenue
2094          DR  DP43NO
              *

2095          KK  RP43GL   ROUTE
2096          KM   Route the combined full flow capacity of 241 cfs through an equivalent storm
2097          KM   drain pipe diameter of 71 inches in 43rd Avenue to the intersection of
2098          KM   43rd Avenue and Glendale Avenue
2099          RK    5336  0.0035    0.015            CIRC   5.917
              *
1                                        HEC-1 INPUT                                                    PAGE 55

LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9.....10

2100          KK  CPGL43 COMBINE
2101          KM   Combine pipe return PR43NO with the runoff hydrograph at combination point
2102          KM   CGL43 at the intersection of Glendale Avenue and 43rd Avenue
2103          HC        2
              *

2104          KK   D43GL  DIVERT
2105          KM   Capacity of storm drain in 39th Avenue and 43rd Avenue diverted together.
2106          KM   Divert combined calculated full flow capacity of 268 cfs in the 72-inch storm
2107          KM   drain pipe in 39th Avenue and 117 cfs in the 54-inch storm drain pipe in
2108          KM   43rd Avenue. The total calculated combined full flow capacity diverted at the
2109          KM   intersection of 43rd Avenue and Glendale Avenue is 385 cfs in an equivalent
2110          KM   diameter pipe of 85 inches
2111          DT  DP43GL       0.0     385.0
2112          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
2113          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

2114          KK  DWGL51  DIVERT
2115          KM   Divert remaining runoff hydrograph from combination point CPGL43 west to
2116          KM   combination point CGL51
2117          DT  DSBH43       0.0      0.0
2118          DI     0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0  10000.0  20000.0  50000.0
2119          DQ     0.0     59.0    118.0    295.0    590.0   1180.0   2360.0   5900.0  11800.0  29500.0
              *

2120          KK  RWGL51   ROUTE
2121          KM   Route diversion DWGL51 west to combination point CGL51
2122          RS        5    FLOW
2123          RC   0.035    0.015    0.035     5280   0.0011     0.00
2124          RX    0.00     0.00    61.50    61.50   316.50   316.50   378.00   378.00
2125          RY    3.00     1.12     0.50     0.00     0.00     0.50     1.12     3.00
              *

2126          KK  DRGL51RETRIEVE
2127          KM   Retrieve divert DRGL51 from combination point CNO51 and divert south to
2128          KM   combination point CGL51
2129          DR  DSGL51
              *

2130          KK  RSGL51   ROUTE
2131          KM   Route diversion retrieval DRGL51 south to combination point CGL51
2132          RS        4    FLOW
2133          RC   0.035    0.015    0.035     5280   0.0027     0.00
2134          RX    0.00     0.00    61.50    61.50   316.50   316.50   378.00   378.00
2135          RY    3.00     1.12     0.50     0.00     0.00     0.50     1.12     3.00
              *

2136          KK   GL51   BASIN
2137          KM   Runoff hydrograph for square mile subbasin GL51 northeast of the intersection
2138          KM   of Glendale Avenue and 51st Avenue
2139          BA   1.002
2140          LG    0.23     0.25     5.40     0.20       41
2141          UC   1.500    1.009
1                                        HEC-1 INPUT                                                    PAGE 56

LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9.....10

2142          UA       0      5.0     16.0     30.0     65.0     77.0     84.0     90.0     94.0     97.0
2143          UA     100
              *

2144          KK   CGL51 COMBINE
2145          KM   Combine route RWGL51, route RSGL51, and subbasin GL51
2146          HC        3    2.91
              *

2147          KK  DWGL59  DIVERT
2148          KM   Divert remaining runoff hydrograph from combination point CGL51 west to
2149          KM   combination point CGL59
2150          DT  DSBH51       0.0      0.0
2151          DI     0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0  10000.0  20000.0  50000.0
2152          DQ     0.0     47.0     94.0    235.0    470.0    940.0   1880.0   4700.0   9400.0  23500.0
              *

2153          KK  RWGL59   ROUTE
2154          KM   Route diversion DWGL59 west to combination point CGL59
2155          RS        4    FLOW
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2156          RC   0.035   0.015   0.035    5280  0.0031     0.00
2157          RX    0.00    0.00   68.50   68.50  359.50  359.50  428.00  428.00
2158          RY    3.00    1.18    0.50    0.00    0.00    0.50    1.18    3.00
              *

2159          KK  DRGL59RETRIEVE
2160          KM   Retrieve divert DRGL59 from combination point CPNO59 and divert south to
2161          KM   combination point CGL59
2162          DR  DSGL59
              *

2163          KK  RSGL59   ROUTE
2164          KM   Route diversion retrieval DRGL59 south to combination point CGL59
2165          RS      4    FLOW
2166          RC   0.035   0.015   0.035    5280  0.0018     0.00
2167          RX    0.00    0.00   37.50   37.50  210.50  210.50  248.00  248.00
2168          RY    3.00    0.88    0.50    0.00    0.00    0.50    0.88    3.00
              *

2169          KK    GL59   BASIN
2170          KM   Runoff hydrograph for square mile subbasin GL59 northeast of the intersection
2171          KM   of Glendale Avenue and 59th Avenue
2172          BA   1.015
2173          LG    0.20    0.25    5.20    0.22      46
2174          UC   1.448   0.975
2175          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
2176          UA     100
              *

2177          KK  ERGL59  DIVERT
2178          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
2179          KM   retention developed after 1990 in subbasin GL59
2180          DT  XGL59     22.1      0.0
2181          DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
2182          DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

2183          KK   CGL59 COMBINE
2184          KM   Combine route RWGL59, route RSGL59, and subbasin GL59
2185          HC       3    3.91
              *

2186          KK   D59GL  DIVERT
2187          KM   Divert calculated full flow capapcity of 217 cfs into 72-inch storm drain
2188          KM   pipe at the intersection of Glendale Avenue and 59th Avenue
2189          DT  DP59GL      0.0     217.0
2190          DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
2191          DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

2192          KK  DWGR67  DIVERT
2193          KM   Divert portion of runoff hydrograph from combination point CGL59 west through
2194          KM   subbasin GR67 using the ratio of the widths and slopes of the streets going
2195          KM   west and the widths and slopes of the streets going south. The remaining flow
2196          KM   is diverted south through subbasin GR59
2197          DT  DSGR59      0.0      0.0
2198          DI      0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0  10000.0  20000.0  50000.0
2199          DQ      0.0     46.0     92.0    230.0    460.0    920.0   1840.0   4600.0   9200.0  23000.0
              *

2200          KK   DGR67  DIVERT
2201          KM   Divert portion of DWGR67 west to subbasin GR67 using the ratio of the width
2202          KM   of the collector and local streets and the width of the arterial street. The
2203          KM   remaining flow is diverted west to subbasin GL67 along Glendale Avenue
2204          DT  DWGL67      0.0      0.0
2205          DI      0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0  10000.0  20000.0  50000.0
2206          DQ      0.0     26.0     52.0    130.0    260.0    520.0   1040.0   2600.0   5200.0  13000.0
              *

2207          KK  DRGL35RETRIEVE
2208          KM   Retrieve divert DRGL35 from combination point CPNO35 and divert south to
2209          KM   combination point CGL35
2210          DR  DSGL35
              *

2211          KK  RSGL35   ROUTE
2212          KM   Route diversion retrieval DRGL35 south to combination point CGL35
2213          RS       6    FLOW
2214          RC   0.035   0.015   0.035    5280  0.0032     0.00
2215          RX    0.00    0.00   76.50   76.50  372.50  372.50  449.00  449.00
2216          RY    3.00    1.27    0.50    0.00    0.00    0.50    1.27    3.00
              *

2217          KK    GL35   BASIN
2218          KM   Runoff hydrograph for square mile subbasin GL35 northeast of the intersection
2219          KM   of Glendale Avenue and 35th Avenue
2220          BA   1.004
2221          LG    0.23    0.23    6.20    0.15      34
2222          UC   1.500   1.012
```



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2223          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
2224          UA     100
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

2225          KK   CGL35 COMBINE
2226          KM   Combine route RSGL35, and subbasin GL35
2227          HC       2    1.53
              *

2228          KK  PR35NORETRIEVE
2229          KM   Retrieve combined full flow capacity of 113 cfs from 53-inch equivalent
2230          KM   diameter pipe at the intersection of Northern Avenue and 35th Avenue
2231          DR  DP35NO
              *

2232          KK  RP35GL   ROUTE
2233          KM   Route the combined full flow capacity of 113 cfs through an equivalent storm
2234          KM   drain pipe diameter of 53 inches in 35th Avenue to the intersection of
2235          KM   35th Avenue and Glendale Avenue
2236          RK    5335  0.0037   0.015            CIRC   4.417
              *

2237          KK  CPGL35 COMBINE
2238          KM   Combine pipe return PR35NO with the runoff hydrograph at combination point
2239          KM   CGL35 at the intersection of Glendale Avenue and 35th Avenue
2240          HC       2
              *

2241          KK   D35GL  DIVERT
2242          KM   Capacity of storm drain in 31st Avenue and 35th Avenue diverted together.
2243          KM   Divert combined calculated full flow capacity of 165 cfs in the 60-inch storm
2244          KM   drain pipe in 31st Avenue and 61 cfs in the 42-inch storm drain pipe in
2245          KM   49th Avenue. The total calculated combined full flow capacity diverted at the
2246          KM   intersection of 35th Avenue and Glendale Avenue is 226 cfs in an equivalent
2247          KM   diameter pipe of 69 inches
2248          DT  DP35GL      0.0     226.0
2249          DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
2250          DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

2251          KK  DEGL27  DIVERT
2252          KM   Divert remaining runoff hydrograph from combination point CPGL35 east to
2253          KM   combination point CGL27
2254          DT  DSBH35      0.0      0.0
2255          DI      0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0  10000.0  20000.0  50000.0
2256          DQ      0.0     61.0    122.0    305.0    610.0   1220.0   2440.0   6100.0  12200.0  30500.0
              *

2257          KK  DRGL27RETRIEVE
2258          KM   Retrieve divert DRGL27 from subbasin NO27 and divert south to combination
2259          KM   point CGL27
2260          DR  DSGL27
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

2261          KK  RSGL27   ROUTE
2262          KM   Route diversion retrieval DRGL27 south to combination point CGL27
2263          RS       1    FLOW
2264          RC   0.035   0.015   0.035    5280  0.0040     0.00
2265          RX    0.00    0.00   26.00   26.00  148.00  148.00  174.00  174.00
2266          RY    3.00    0.76    0.50    0.00    0.00    0.50    0.76    3.00
              *

2267          KK    GL27   BASIN
2268          KM   Runoff hydrograph for subbasin GL27 northeast of the intersection of Glendale
2269          KM   Avenue and 27th Avenue
2270          BA   0.258
2271          LG    0.23    0.17    6.80    0.11      45
2272          UC   1.056   0.851
2273          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
2274          UA     100
              *

2275          KK   CGL27 COMBINE
2276          KM   Combine divert DEGL27, route RSGL27, and subbasin GL27
2277          HC       3    0.98
              *

2278          KK  PR29NORETRIEVE
2279          KM   Retrieve full flow capacity of 114 cfs from 54-inch diameter pipe at the
2280          KM   intersection of Northern Avenue and 29th Avenue
2281          DR  DP29NO
              *

2282          KK  RP27GL   ROUTE
2283          KM   Route full flow capacity of 114 cfs through 54-inch storm drain pipe in
```

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2284          KM   in 27th Avenue to the intersection of 27th Avenue and Glendale Avenue
2285          RK    5260  0.0034   0.015            CIRC   4.500
              *

2286          KK  CPGL27 COMBINE
2287          KM   Combine pipe return PR29NO with the runoff hydrograph at combination point
2288          KM   CGL27 at the intersection of Glendale Avenue and 27th Avenue
2289          HC       2
              *

2290          KK   D27GL  DIVERT
2291          KM   Divert calculated full flow capapcity of 132 cfs into 57-inch storm drain
2292          KM   pipe at the intersection of Glendale Avenue and 27th Avenue
2293          DT  DP27GL     0.0   132.0
2294          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
2295          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *
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LINE          ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

2296          KK  RSBH27   ROUTE
2297          KM   Route remainder of divert D27GL south to combination point CBH27
2298          RS       2    FLOW
2299          RC  0.035   0.015   0.035    5280  0.0039    0.00
2300          RX   0.00    0.00   26.00   26.00  148.00  148.00  174.00  174.00
2301          RY   3.00    0.76    0.50    0.00    0.00    0.50    0.76    3.00
              *

2302          KK    BH27   BASIN
2303          KM   Runoff hydrograph for subbasin BH27 northeast of the intersection of Bethany
2304          KM   Home Road and 27th Avenue
2305          BA   0.258
2306          LG    0.21    0.25    4.80    0.25      55
2307          UC   0.947   0.754
2308          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
2309          UA     100
              *

2310          KK   CBH27 COMBINE
2311          KM   Combine route RSBH27, and subbasin BH27
2312          HC       2    1.24
              *

2313          KK  PR27GLRETRIEVE
2314          KM   Retrieve full flow capacity of 132 cfs from 57-inch storm drain pipe at the
2315          KM   intersection of Glendale Avenue and 27th Avenue
2316          DR  DP27GL
              *

2317          KK  RP27BH   ROUTE
2318          KM   Route full flow capacity of 132 cfs through 57-inch storm drain pipe in
2319          KM   27th Avenue to the intersection of Bethany Home Road and 27th Avenue
2320          RK    5221  0.0034   0.015            CIRC   4.750
              *

2321          KK  CPBH27 COMBINE
2322          KM   Combine pipe return PR27GL with the runoff hydrograph at combination point
2323          KM   CBH27 at the intersection of Bethany Home Road and 27th Avenue
2324          HC       2
              *

2325          KK   D27BH  DIVERT
2326          KM   Divert calculated full flow capapcity of 132 cfs into 57-inch storm drain
2327          KM   pipe at the intersection of Bethany Home Road and 27th Avenue
2328          DT  DP27BH     0.0   132.0
2329          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
2330          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *
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LINE          ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

2331          KK  DWBH35  DIVERT
2332          KM   Divert remaining runoff hydrograph from combination point CPBH27 west to
2333          KM   combination point CBH35
2334          DT  DSCB27     0.0     0.0
2335          DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
2336          DQ     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
              *

2337          KK  RWBH35   ROUTE
2338          KM   Route diversion DWBH35 west to combination point CBH35
2339          RS       1    FLOW
2340          RC  0.035   0.015   0.035    5280  0.0002    0.00
2341          RX   0.00    0.00   86.00   86.00  413.00  413.00  499.00  499.00
2342          RY   3.00    1.36    0.50    0.00    0.00    0.50    1.36    3.00
              *

2343          KK  DRBH35RETRIEVE
2344          KM   Retrieve divert DRBH35 from combination point CGL35 and divert south to
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2345          KM   combination point CBH35
2346          DR  DSBH35
              *

2347          KK  RSBH35   ROUTE
2348          KM   Route diversion retrieval DRBH35 south to combination point CBH35
2349          RS       4    FLOW
2350          RC  0.035   0.015   0.035    5280  0.0049    0.00
2351          RX   0.00    0.00   67.00   67.00  332.00  332.00  399.00  399.00
2352          RY   3.00    1.17    0.50    0.00    0.00    0.50    1.17    3.00
              *

2353          KK    BH35   BASIN
2354          KM   Runoff hydrograph for square mile subbasin BH35 northeast of the intersection
2355          KM   of Bethany Home Road and 35th Avenue
2356          BA   1.005
2357          LG    0.24    0.25    5.20    0.22      36
2358          UC   1.012   0.374
2359          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
2360          UA     100
              *

2361          KK   CBH35 COMBINE
2362          KM   Combine route RWBH35, route RSBH35, and subbasin BH35
2363          HC       3    1.94
              *

2364          KK  PR35GLRETRIEVE
2365          KM   Retrieve combined full flow capacity of 226 cfs from 69-inch equivalent
2366          KM   diameter pipe at the intersection of Glendale Avenue and 35th Avenue
2367          DR  DP35GL
              *
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LINE          ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

2368          KK  RP35BH   ROUTE
2369          KM   Route the combined full flow capacity of 226 cfs through an equivalent storm
2370          KM   drain pipe diameter of 69 inches in 35th Avenue to the intersection of
2371          KM   35th Avenue and Bethany Home Road
2372          RK    5147  0.0037   0.015            CIRC   5.750
              *

2373          KK  CPBH35 COMBINE
2374          KM   Combine pipe return PR35GL with the runoff hydrograph at combination point
2375          KM   CBH35 at the intersection of Bethany Home Road and 35th Avenue
2376          HC       2
              *

2377          KK   D35BH  DIVERT
2378          KM   Capacity of storm drain in 31st Avenue and 35th Avenue diverted together.
2379          KM   Divert combined calculated full flow capacity of 165 cfs in the 60-inch storm
2380          KM   drain pipe in 31st Avenue and 61 cfs in the 42-inch storm drain pipe in
2381          KM   49th Avenue. The total calculated combined full flow capacity diverted at the
2382          KM   intersection of 35th Avenue and Bethany Home Road is 226 cfs in an equivalent
2383          KM   diameter pipe of 69 inches
2384          DT  DP35BH     0.0   226.0
2385          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
2386          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

2387          KK  DWBH43  DIVERT
2388          KM   Divert remaining runoff hydrograph from combination point CPBH35 west to
2389          KM   combination point CBH43
2390          DT  DSCB35     0.0     0.0
2391          DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
2392          DQ     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
              *

2393          KK  RWBH43   ROUTE
2394          KM   Route diversion DWBH43 west to combination point CBH43
2395          RS       1    FLOW
2396          RC  0.035   0.015   0.035    5280  0.0001    0.00
2397          RX   0.00    0.00  133.50  133.50  615.50  615.50  749.00  749.00
2398          RY   3.00    1.84    0.50    0.00    0.00    0.50    1.84    3.00
              *

2399          KK  DRBH43RETRIEVE
2400          KM   Retrieve divert DRBH43 from combination point CGL43 and divert south to
2401          KM   combination point CBH43
2402          DR  DSBH43
              *

2403          KK  RSBH43   ROUTE
2404          KM   Route diversion retrieval DRBH43 south to combination point CBH43
2405          RS       3    FLOW
2406          RC  0.035   0.015   0.035    5280  0.0028    0.00
2407          RX   0.00    0.00   57.50   57.50  291.50  291.50  349.00  349.00
2408          RY   3.00    1.08    0.50    0.00    0.00    0.50    1.08    3.00
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

2409          KK    BH43   BASIN
2410          KM   Runoff hydrograph for square mile subbasin BH43 northeast of the intersection
2411          KM   of Bethany Home Road and 43rd Avenue
2412          BA   0.993
2413          LG    0.23    0.25    5.20    0.24      32
2414          UC   1.500   1.014
2415          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
2416          UA     100
              *

2417          KK   CBH43 COMBINE
2418          KM   Combine route RWBH43, route RSBH43, and subbasin BH43
2419          HC       3    2.19
              *

2420          KK  PR43GLRETRIEVE
2421          KM   Retrieve combined full flow capacity of 385 cfs from 85-inch equivalent
2422          KM   diameter pipe at the intersection of Glendale Avenue and 43rd Avenue
2423          DR  DP43GL
              *

2424          KK  RP43BH   ROUTE
2425          KM   Route the combined full flow capacity of 385 cfs through an equivalent storm
2426          KM   drain pipe diameter of 85 inches in 43rd Avenue to the intersection of
2427          KM   43rd Avenue and Bethany Home Road
2428          RK    5295  0.0035   0.015            CIRC   7.083
              *

2429          KK  CPBH43 COMBINE
2430          KM   Combine pipe return PR43GL with the runoff hydrograph at combination point
2431          KM   CBH43 at the intersection of Bethany Home Road and 43rd Avenue
2432          HC       2
              *

2433          KK   D43BH  DIVERT
2434          KM   Capacity of storm drain in 39th Avenue and 43rd Avenue diverted together.
2435          KM   Divert combined calculated full flow capacity of 268 cfs in the 72-inch storm
2436          KM   drain pipe in 39th Avenue and 117 cfs in the 54-inch storm drain pipe in
2437          KM   43rd Avenue. The total calculated combined full flow capacity diverted at the
2438          KM   intersection of 43rd Avenue and Glendale Avenue is 385 cfs in an equivalent
2439          KM   diameter pipe of 85 inches
2440          DT  DP43BH     0.0   385.0
2441          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
2442          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

2443          KK  DWBH51  DIVERT
2444          KM   Divert remaining runoff hydrograph from combination point CPBH43 west to
2445          KM   combination point CBH51
2446          DT  DSCB43     0.0     0.0
2447          DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
2448          DQ     0.0    51.0   102.0   255.0   510.0  1020.0  2040.0  5100.0 10200.0 25500.0
              *

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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

2449          KK  RWBH51   ROUTE
2450          KM   Route diversion DWBH51 west to combination point CBH51
2451          RS       5    FLOW
2452          RC   0.035   0.015   0.035    5280  0.0016    0.00
2453          RX    0.00    0.00   75.50   75.50  402.50  402.50  478.00  478.00
2454          RY    3.00    1.25    0.50    0.00    0.00    0.50    1.25    3.00
              *

2455          KK  DRBH51RETRIEVE
2456          KM   Retrieve divert DRBH51 from combination point CGL51 and divert south to
2457          KM   combination point CBH51
2458          DR  DSBH51
              *

2459          KK   D47GL  DIVERT
2460          KM   Capacity of storm drain in 47th Avenue and 49th Avenue diverted together.
2461          KM   Divert combined calculated full flow capacity of 284 cfs in the 60-inch storm
2462          KM   drain pipe in 47th Avenue and 96 cfs in the 48-inch storm drain pipe in
2463          KM   49th Avenue. The total calculated combined full flow capacity diverted at the
2464          KM   intersection of 47rd Avenue and Glendale Avenue is 379 cfs in an equivalent
2465          KM   diameter pipe of 85 inches
2466          DT  DP47GL     0.0   379.0
2467          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
2468          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

2469          KK  RSBH51   ROUTE
2470          KM   Route diversion retrieval DRBH51 south to combination point CBH51
2471          RS       4    FLOW
2472          RC   0.035   0.015   0.035    5280  0.0030    0.00
2473          RX    0.00    0.00   61.50   61.50  316.50  316.50  378.00  378.00
2474          RY    3.00    1.12    0.50    0.00    0.00    0.50    1.12    3.00
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2475          KK    BH51   BASIN
2476          KM   Runoff hydrograph for square mile subbasin BH51 northeast of the intersection
2477          KM   of Bethany Home Road and 51st Avenue
2478          BA   0.995
2479          LG    0.22    0.23    6.20    0.15      43
2480          UC   1.500   1.025
2481          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
2482          UA     100
              *

2483          KK   CBH51 COMBINE
2484          KM   Combine route RWBH51, route RSBH51, and subbasin BH51
2485          HC       3    3.42
              *

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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

2486          KK  PR47GLRETRIEVE
2487          KM   Retrieve combined full flow capacity of 379 cfs from 85-inch equivalent
2488          KM   diameter pipe at the intersection of Glendale Avenue and 47th Avenue
2489          DR  DP47GL
              *

2490          KK  RP51BH   ROUTE
2491          KM   Route the combined full flow capacity of 379 cfs through an equivalent storm
2492          KM   drain pipe diameter of 85 inches in 51st Avenue to the intersection of
2493          KM   51st Avenue and Bethany Home Road
2494          RK    2773  0.0118   0.015            CIRC   7.083
              *

2495          KK  CPBH51 COMBINE
2496          KM   Combine pipe return PR47GL with the runoff hydrograph at combination point
2497          KM   CBH51 at the intersection of Bethany Home Road and 51st Avenue
2498          HC       2
              *

2499          KK  SRBH51 STORAGE
2500          KM   Storage route runoff hydrograph from combination point CPBH51 through the
2501          KM     regional detention basin located near the intersection of Bethany Home Road
2502          KM     and 51st Avenue
2503          KM   Combined storage from two retention basins
2504          KM   Stage-storage data from topography provided by FCDMC dated 3/28/1994
2505          RS       1    STOR
2506          SV            1.99   12.41   22.30   22.30   31.52   42.36   53.20
2507          SQ            8.00   24.00 1649.00 1649.00 1649.00 1649.00 4349.00
2508          SE  1146.0 1148.00 1150.00 1151.00 1152.00 1154.00 1156.00 1157.00
              *

2509          KK  DWGR59  DIVERT
2510          KM   Divert portion of runoff hydrograph from combination point CPBH51 west
2511          KM   through subbasin GR59 using the ratio of the widths and slopes of the streets
2512          KM   going west and the widths and slopes of the streets going south. The
2513          KM   remaining flow is diverted south through subbasin GR43
2514          DT  DSGR43     0.0     0.0
2515          DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
2516          DQ     0.0    32.0    64.0   160.0   320.0   640.0  1280.0  3200.0  6400.0 16000.0
              *

2517          KK   DGR59  DIVERT
2518          KM   Divert portion of DWGR59 west to subbasin GR59 using the ratio of the width
2519          KM   of the collector and local streets and the width of the arterial street. The
2520          KM   remaining flow is diverted west to subbasin BH59 along Bethany Home Road
2521          DT  DWBH59     0.0     0.0
2522          DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
2523          DQ     0.0    23.0    46.0   115.0   230.0   460.0   920.0  2300.0  4600.0 11500.0
              *

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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

2524          KK  DRGR59RETRIEVE
2525          KM   Retrieve divert DRGR59 from combination point CGL59 and divert south to
2526          KM   combination point CGR59
2527          DR  DSGR59
              *

2528          KK   D59GR  DIVERT
2529          KM   Divert portion of divert retrieval DRGR59 south to subbasin BH59 along 59th
2530          KM   Avenue. Divert remaining runoff hydrograph south to combination point CGR59
2531          DT  DSBH59     0.0     0.0
2532          DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
2533          DQ     0.0    52.0   104.0   260.0   520.0  1040.0  2080.0  5200.0 10400.0 26000.0
              *

2534          KK    GR59   BASIN
2535          KM   Runoff hydrograph for subbasin GR59 southeast of the intersection of Grand
2536          KM   Avenue and 59th Avenue
2537          BA   0.518
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2538          LG    0.16    0.25    4.80    0.25      62
2539          UC   0.703   0.361
2540          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
2541          UA     100
              *

2542          KK   CGR59 COMBINE
2543          KM   Combine remainder of divert retrieval DRGR59, divert DGR59, and subbasin GR59
2544          HC       3    3.18
              *

2545          KK  DNGR67  DIVERT
2546          KM   Divert portion of runoff hydrograph from combination point CGR59 north to the
2547          KM   intersection of 67th Avenue and Grand Avenue and the remaining flow south
2548          KM   to the intersection of Bethany Home Road and Grand Avenue. The diversion is
2549          KM   based on topography
2550          DT   DBH59      0.0      0.0
2551          DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
2552          DQ     0.0    50.0   100.0   250.0   500.0  1000.0  2000.0  5000.0 10000.0 25000.0
              *

2553          KK   DGRGL  DIVERT
2554          KM   Divert calculated full flow capapcity of 234 cfs into 60-inch storm drain
2555          KM   pipe at the intersection of Grand Avenue and Glendale Avenue
2556          DT   DPGRGL      0.0   234.0
2557          DI       0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
2558          DQ       0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

2559          KK  CIGR59 COMBINE
2560          KM   Combine diverts DRGL and DGR67 at the intersection of Grand Avenue and 59th
2561          KM   Avenue
2562          HC       2    3.15
              *
```



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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9.....10

2563          KK  RWGR67   ROUTE
2564          KM   Route diversion DGR67 west to combination point CGR67
2565          RS       8    FLOW
2566          RC   0.035   0.015   0.035    7222  0.0008    0.00
2567          RX    0.00    0.00   75.50   75.50  402.50  402.50  478.00  478.00
2568          RY    3.00    1.25    0.50    0.00    0.00    0.50    1.25    3.00
              *

2569          KK  DRGR67RETRIEVE
2570          KM   Retrieve divert DRGR67 from combination point CNO67 and divert south to
2571          KM   combination point CGR67
2572          DR  DSGR67
              *

2573          KK   GR67   BASIN
2574          KM   Runoff hydrograph for subbasin GR67 southeast of the intersection of Grand
2575          KM   Avenue and 67th Avenue
2576          BA   0.497
2577          LG    0.18    0.16    7.60    0.09      43
2578          UC   0.878   0.473
2579          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
2580          UA     100
              *

2581          KK  ERGR67  DIVERT
2582          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
2583          KM   retention developed after 1990 in subbasin GR67
2584          DT   XGR67       1.0      0.0
2585          DI       0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
2586          DQ       0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

2587          KK   CGR67 COMBINE
2588          KM   Combine route RWGR67, divert retrieval DRGR67, and subbasin GR67
2589          HC       3    6.83
              *

2590          KK  PRNO59RETRIEVE
2591          KM   Retrieve full flow capacity of 134 cfs from 72-inch storm drain pipe at the
2592          KM   intersection of Northern Avenue and 59th Avenue
2593          DR  DPNO59
              *

2594          KK  RPNO67   ROUTE
2595          KM   Route full flow capacity of 134 cfs through 72-inch storm drain pipe in
2596          KM   Grand Avenue to the intersection of Grand Avenue and 67th Avenue
2597          RK    2688  0.0010   0.015             CIRC   6.000
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9.....10

2598          KK  PR59GLRETRIEVE
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2599          KM   Retrieve full flow capacity of 217 cfs from 72-inch storm drain pipe at the
2600          KM   intersection of Glendale Avenue and 59th Avenue
2601          DR  DP59GL
              *

2602          KK  PRGRGLRETRIEVE
2603          KM   Retrieve full flow capacity of 234 cfs from 60-inch storm drain pipe at the
2604          KM   intersection of Grand Avenue and Glendale Avenue
2605          DR  DPGRGL
              *

2606          KK  CPGL59 COMBINE
2607          KM   Combine pipe return PR59GL with pipe return PRGRGL at combination point
2608          KM   CGL59 near the intersection of Glendale Avenue and 59th Avenue
2609          HC       2    1.42
              *

2610          KK  RPGR67   ROUTE
2611          KM   Route combined full flow capacity of 451 cfs through 108-inch storm drain pip
2612          KM   Grand Avenue to the intersection of Grand Avenue and 67th Avenue
2613          RK    4247  0.0018   0.015             CIRC   9.000
              *

2614          KK  CPGR67 COMBINE
2615          KM   Combine pipe return PRNO59, pipe route RPGR67 and the runoff hydrograph at
2616          KM   combination point CGR67 at the intersection of Grand Avenue and 67th Avenue
2617          HC       3
              *

2618          KK  SRGR67 STORAGE
2619          KM   Storage route runoff hydrograph from combination point CPGR67 through
2620          KM     regional detention basin located near the intersection of Grand Avenue
2621          KM     and 67th Avenue
2622          KM   Stage-storage data from Orangewood Ave Storm Drain Sub-Phase "C" As-builts
2623          RS       1     STOR
2624          SV            2.25   11.38   31.32   57.76  140.64  378.04  409.71  478.76
2625          SQ           24.00   62.00  105.00  133.00  189.00  299.00 1529.00 6654.00
2626          SE  1130.0 1131.00 1132.00 1133.00 1134.00 1136.00 1142.00 1143.00 1145.00
              *

2627          KK   D67GR  DIVERT
2628          KM   Divert calculated full flow capapcity of 546 cfs into 108-inch storm drain
2629          KM   pipe at the intersection of Grand Avenue and 67th Avenue
2630          DT   DP67GR      0.0    546.0
2631          DI       0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
2632          DQ       0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9.....10

2633          KK  RSOW67   ROUTE
2634          KM   Route remainder of divert D67GR south to combination point COW67
2635          RS       1    FLOW
2636          RC   0.035   0.015   0.035    2640  0.0035    0.00
2637          RX    0.00    0.00   17.50   17.50  112.50  112.50  130.00  130.00
2638          RY    3.00    0.68    0.50    0.00    0.00    0.50    0.68    3.00
              *

2639          KK   OW67   BASIN
2640          KM   Runoff hydrograph for subbasin OW67 northeast of the intersection of
2641          KM   Orangewood Avenue and 67th Avenue
2642          BA   0.119
2643          LG    0.23    0.15    8.00    0.08      62
2644          UC   0.499   0.346
2645          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
2646          UA     100
              *

2647          KK   COW67 COMBINE
2648          KM   Combine route RWOW67 and subbasin OW67
2649          HC       2    6.95
              *

2650          KK  PRGR67RETRIEVE
2651          KM   Retrieve full flow capacity of 546 cfs from 108-inch storm drain pipe at the
2652          KM   intersection of Grand Avenue and 67th Avenue
2653          DR  DP67GR
              *

2654          KK  RPOW67   ROUTE
2655          KM   Route full flow capacity of 546 cfs through 108-inch storm drain pipe in
2656          KM   Orangewood Avenue to the intersection of Orangewood Avenue and 67th Avenue
2657          RK    2517  0.0019   0.015             CIRC   9.000
              *

2658          KK  CPOW67 COMBINE
2659          KM   Combine pipe return PRGR67 with the runoff hydrograph at combination point
2660          KM   COW67 at the intersection of Orangewood Avenue and 67th Avenue
2661          HC       2
              *
```

```
2662          KK   DOW67  DIVERT
2663          KM   Divert calculated full flow capapcity of 181 cfs into 66-inch storm drain
2664          KM   pipe at the intersection of Orangewood Avenue and 67th Avenue
2665          DT  DPOW67      0.0   181.0
2666          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
2667          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *
1                                        HEC-1 INPUT                                        PAGE 70

LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


2668          KK  DWOW75  DIVERT
2669          KM   Divert remaining runoff hydrograph from combination point CPOW67 west to
2670          KM   combination point COW75
2671          DT  DSGL67      0.0     0.0
2672          DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
2673          DQ     0.0    51.0   102.0   255.0   510.0  1020.0  2040.0  5100.0 10200.0 25500.0
              *

2674          KK  RWOW75   ROUTE
2675          KM   Route diversion DWOW75 west to combination point COW75
2676          RS      5    FLOW
2677          RC   0.035   0.015   0.035    5280  0.0025    0.00
2678          RX    0.00    0.00   34.00   34.00  184.00  184.00  218.00  218.00
2679          RY    3.00    0.84    0.50    0.00    0.00    0.50    0.84    3.00
              *

2680          KK  DROW75RETRIEVE
2681          KM   Retrieve divert DROW75 from combination point CNO75 and divert south to
2682          KM   combination point COW75
2683          DR  DSOW75
              *

2684          KK  RSOW75   ROUTE
2685          KM   Route diversion retrieval DROW75 south to combination point COW75
2686          RS      2    FLOW
2687          RC   0.035   0.015   0.035    2640  0.0025    0.00
2688          RX    0.00    0.00   47.50   47.50  240.50  240.50  288.00  288.00
2689          RY    3.00    0.98    0.50    0.00    0.00    0.50    0.98    3.00
              *

2690          KK   OW75   BASIN
2691          KM   Runoff hydrograph for half square mile subbasin OW75 northeast of the
2692          KM   intersection of Orangewood Avenue and 75th Avenue
2693          BA   0.498
2694          LG    0.24    0.17    8.80    0.05      48
2695          UC   0.919   0.694
2696          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
2697          UA     100
              *

2698          KK  EROW75  DIVERT
2699          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
2700          KM   retention developed after 1990 in subbasin OW75
2701          DT  XOW75     19.1     0.0
2702          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
2703          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

2704          KK   COW75 COMBINE
2705          KM   Combine route RWOW75, route RSOW75, and subbasin OW75
2706          HC       3    8.17
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


2707          KK  PROW67RETRIEVE
2708          KM   Retrieve full flow capacity of 181 cfs from 66-inch storm drain pipe at the
2709          KM   intersection of Orangewood Avenue and 67th Avenue
2710          DR  DPOW67
              *

2711          KK  RPOW71   ROUTE
2712          KM   Route full flow capacity of 181 cfs through 66-inch storm drain pipe in
2713          KM   Orangewood Avenue to the intersection of Orangewood Avenue and 71st Avenue
2714          RK    2145  0.0029   0.015            CIRC   5.500
              *

2715          KK  CPOW71 COMBINE
2716          KM   Combine pipe return PROW67 with the runoff hydrograph at combination point
2717          KM   COW71 at the intersection of Orangewood Avenue and 71st Avenue
2718          HC       2
              *

2719          KK  SROW75 STORAGE
2720          KM   Storage route runoff hydrograph from combination point CPOW71 through
2721          KM     regional detention basin located near the intersection of Orangewood Avenue
2722          KM     and 71st Avenue
2723          KM   Stage-storage data from Orangewood Avenue Storm Drain As-builts, 1980
2724          RS       1    STOR
```



```
2725          SV           8.74   20.36   34.36   49.53   65.12   97.58  118.22
2726          SQ                   42.00  400.00 1044.00 2459.00 3812.00
2727          SE  1121.0 1122.00 1123.00 1124.00 1125.00 1126.00 1128.00 1129.00
              *

2728          KK   DOW71  DIVERT
2729          KM   Divert calculated full flow capapcity of 44 cfs into 42-inch storm drain
2730          KM   pipe at the intersection of Orangewood Avenue and 71st Avenue
2731          DT  DPOW71      0.0    44.0
2732          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
2733          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

2734          KK  PROW71RETRIEVE
2735          KM   Retrieve full flow capacity of 44 cfs from 42-inch storm drain pipe at the
2736          KM   intersection of Orangewood Avenue and 71st Avenue
2737          DR  DPOW71
              *

2738          KK  RPOW75   ROUTE
2739          KM   Route full flow capacity of 44 cfs through 42-inch storm drain pipe in
2740          KM   Orangewood Avenue to the intersection of Orangewood Avenue and 75th Avenue
2741          RK    3391  0.0019   0.015            CIRC   3.500
              *
1                                        HEC-1 INPUT                                        PAGE 72

LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


2742          KK  CPOW75 COMBINE
2743          KM   Combine pipe return PROW71 with the runoff hydrograph at combination point
2744          KM   COW75 at the intersection of Orangewood Avenue and 75th Avenue
2745          HC       2
              *

2746          KK   DOW75  DIVERT
2747          KM   Divert calculated full flow capapcity of 66 cfs into 48-inch storm drain
2748          KM   pipe at the intersection of Orangewood Avenue and 75th Avenue
2749          DT  DPOW75      0.0    66.0
2750          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
2751          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

2752          KK  DWOW83  DIVERT
2753          KM   Divert remaining runoff hydrograph from combination point CPOW75 west to
2754          KM   combination point COW83
2755          DT  DSGL75      0.0     0.0
2756          DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
2757          DQ     0.0    76.0   152.0   380.0   760.0  1520.0  3040.0  7600.0 15200.0 38000.0
              *

2758          KK  RWOW83   ROUTE
2759          KM   Route diversion DWOW83 west to combination point COW83
2760          RS      3    FLOW
2761          RC   0.035   0.015   0.035    5280  0.0029    0.00
2762          RX    0.00    0.00   20.00   20.00   98.00   98.00  118.00  118.00
2763          RY    3.00    0.70    0.50    0.00    0.00    0.50    0.70    3.00
              *

2764          KK   OW83   BASIN
2765          KM   Runoff hydrograph for half square mile subbasin OW83 northeast of the
2766          KM   intersection of Orangewood Avenue and 83rd Avenue
2767          BA   0.496
2768          LG    0.29    0.17    8.40    0.07      21
2769          UC   1.399   1.108
2770          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
2771          UA     100
              *

2772          KK  EROW83  DIVERT
2773          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
2774          KM   retention developed after 1990 in subbasin OW83
2775          DT  XOW83      8.7     0.0
2776          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
2777          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

2778          KK   COW83 COMBINE
2779          KM   Combine route RWOW83 and subbasin OW83
2780          HC       2    2.46
              *
1                                        HEC-1 INPUT                                        PAGE 73

LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


2781          KK  PROW75RETRIEVE
2782          KM   Retrieve full flow capacity of 66 cfs from 48-inch storm drain pipe at the
2783          KM   intersection of Orangewood Avenue and 75th Avenue
2784          DR  DPOW75
              *

2785          KK  RPOW83   ROUTE
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```
2786          KM   Route full flow capacity of 66 cfs through 48-inch storm drain pipe in
2787          KM   Orangewood Avenue to the intersection of Orangewood Avenue and 67th Avenue
2788          RK    5178  0.0021    0.015            CIRC   4.000
              *

2789          KK  CPOW83 COMBINE
2790          KM   Combine pipe return PROW75 with the runoff hydrograph at combination point
2791          KM   COW83 at the intersection of Orangewood Avenue and 83rd Avenue
2792          HC       2
              *

2793          KK   D83OW  DIVERT
2794          KM   Divert calculated full flow capapcity of 255 cfs into 72-inch storm drain
2795          KM   pipe at the intersection of Orangewood Avenue and 83rd Avenue
2796          DT  DP83OW      0.0   255.0
2797          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
2798          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

2799          KK  DWOW91  DIVERT
2800          KM   Divert remaining runoff hydrograph from combination point CPOW83 west to
2801          KM   combination point CGL91
2802          DT  DSGL83      0.0     0.0
2803          DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
2804          DQ     0.0    85.0   170.0   425.0   850.0  1700.0  3400.0  8500.0 17000.0 42500.0
              *

2805          KK  RWOW91   ROUTE
2806          KM   Route diversion DWOW91 west to combination point COW91
2807          RS      10    FLOW
2808          RC   0.035   0.015   0.035    5280  0.0038    0.00
2809          RX    0.00    0.00    7.00    7.00   43.00   43.00   50.00   50.00
2810          RY    3.00    0.57    0.50    0.00    0.00    0.50    0.57    3.00
              *

2811          KK  DIGL67RETRIEVE
2812          KM   Retrieve arterial street flow diverted to Glendale Avenue at the intersection
2813          KM   of Glendale Avenue and 67th Avenue
2814          DR  DWGL67
              *

2815          KK  RWGL67   ROUTE
2816          KM   Route diversion retrieval DIGL67 at the intersection of Glendale Avenue
2817          KM   and 67th Avenue west to combination point CGL67
2818          RS       4    FLOW
2819          RC   0.035   0.015   0.035    5280  0.0037    0.00
2820          RX    0.00    0.00   41.50   41.50  218.50  218.50  260.00  260.00
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

2821          RY    3.00    0.92    0.50    0.00    0.00    0.50    0.92    3.00
              *

2822          KK    GL67   BASIN
2823          KM   Runoff hydrograph for square mile subbasin GL67 northeast of the intersection
2824          KM   of Glendale Avenue and 67th Avenue
2825          BA   0.359
2826          LG    0.19    0.25    5.40    0.19      63
2827          UC   0.761   0.474
2828          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
2829          UA     100
              *

2830          KK  DRGL67RETRIEVE
2831          KM   Retrieve divert DRGL67 from combination point CPOW67 and divert south to
2832          KM   combination point CGL67
2833          DR  DSGL67
              *

2834          KK  RSGL67   ROUTE
2835          KM   Route diversion retrieval DRGL67 south to combination point CGL67
2836          RS       2    FLOW
2837          RC   0.035   0.015   0.035    2640  0.0052    0.00
2838          RX    0.00    0.00   27.50   27.50  132.50  132.50  160.00  160.00
2839          RY    3.00    0.78    0.50    0.00    0.00    0.50    0.78    3.00
              *

2840          KK   CGL67 COMBINE
2841          KM   Combine route RWGL67, route RSGL67, and subbasin GL67
2842          HC       3    4.47
              *

2843          KK  DWGL75  DIVERT
2844          KM   Divert remaining runoff hydrograph from combination point CGL67 west to
2845          KM   combination point CGL75
2846          DT  DSBH67      0.0     0.0
2847          DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
2848          DQ     0.0    49.0    98.0   245.0   490.0   980.0  1960.0  4900.0  9800.0 24500.0
              *

2849          KK  RWGL75   ROUTE
2850          KM   Route diversion DWGL75 west to combination point CGL75
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2851          RS       6    FLOW
2852          RC   0.035   0.015   0.035    5280  0.0034    0.00
2853          RX    0.00    0.00   47.00   47.00  283.00  283.00  330.00  330.00
2854          RY    3.00    0.97    0.50    0.00    0.00    0.50    0.97    3.00
              *

2855          KK  DRGL75RETRIEVE
2856          KM   Retrieve divert DRGL75 from combination point CPOW75 and divert south to
2857          KM   combination point CGL75
2858          DR  DSGL75
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

2859          KK  RSGL75   ROUTE
2860          KM   Route diversion retrieval DRGL75 south to combination point CGL75
2861          RS       1    FLOW
2862          RC   0.035   0.015   0.035    2640  0.0035    0.00
2863          RX    0.00    0.00   54.50   54.50  283.50  283.50  338.00  338.00
2864          RY    3.00    1.04    0.50    0.00    0.00    0.50    1.04    3.00
              *

2865          KK    GL75   BASIN
2866          KM   Runoff hydrograph for half square mile subbasin GL75 northeast of the
2867          KM   intersection of Glendale Avenue and 75th Avenue
2868          BA   0.499
2869          LG    0.26    0.15    8.80    0.05      42
2870          UC   1.362   1.072
2871          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
2872          UA     100
              *

2873          KK  ERGL75  DIVERT
2874          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
2875          KM   retention developed after 1990 in subbasin GL75
2876          DT  XGL75      38.5     0.0
2877          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
2878          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

2879          KK   CGL75 COMBINE
2880          KM   Combine route RWGL75, route RSGL75, and subbasin GL75
2881          HC       3    8.97
              *

2882          KK  DWGL83  DIVERT
2883          KM   Divert remaining runoff hydrograph from combination point CGL75 west to
2884          KM   combination point CGL83
2885          DT  DSBH75      0.0     0.0
2886          DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
2887          DQ     0.0    50.0   100.0   250.0   500.0  1000.0  2000.0  5000.0 10000.0 25000.0
              *

2888          KK  RWGL83   ROUTE
2889          KM   Route diversion DWGL83 west to combination point CGL83
2890          RS       3    FLOW
2891          RC   0.035   0.015   0.035    5280  0.0032    0.00
2892          RX    0.00    0.00   47.00   47.00  283.00  283.00  330.00  330.00
2893          RY    3.00    0.97    0.50    0.00    0.00    0.50    0.97    3.00
              *

2894          KK  DRGL83RETRIEVE
2895          KM   Retrieve divert DRGL83 from combination point CPOW83 and divert south to
2896          KM   combination point CGL83
2897          DR  DSGL83
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

2898          KK  RSGL83   ROUTE
2899          KM   Route diversion retrieval DRGL83 south to combination point CGL83
2900          RS      10    FLOW
2901          RC   0.035   0.015   0.035    2640  0.0041    0.00
2902          RX    0.00    0.00   38.50   38.50  241.50  241.50  280.00  280.00
2903          RY    3.00    0.88    0.50    0.00    0.00    0.50    0.88    3.00
              *

2904          KK    GL83   BASIN
2905          KM   Runoff hydrograph for half square mile subbasin GL83 northeast of the
2906          KM   intersection of Glendale Avenue and 83rd Avenue
2907          BA   0.495
2908          LG    0.27    0.16    7.00    0.11      28
2909          UC   1.358   1.067
2910          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
2911          UA     100
              *

2912          KK  ERGL83  DIVERT
2913          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
```

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2914          KM   retention developed after 1990 in subbasin GL83
2915          DT   XGL83    16.3      0.0
2916          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
2917          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

2918          KK   CGL83 COMBINE
2919          KM   Combine route RWGL83, route RSGL83, and subbasin GL83
2920          HC       3    7.11
              *

2921          KK  PR83OWRETRIEVE
2922          KM   Retrieve full flow capacity of 255 cfs from 72-inch storm drain pipe at the
2923          KM   intersection of Orangewood Avenue and 83rd Avenue
2924          DR  DP83OW
              *

2925          KK  RP83GL   ROUTE
2926          KM   Route full flow capacity of 255 cfs through 72-inch storm drain pipe in
2927          KM   83rd Avenue to the intersection of Glendale Avenue and 83rd Avenue
2928          RK    2644  0.0036   0.015            CIRC   6.000
              *

2929          KK  CPGL83 COMBINE
2930          KM   Combine pipe return PR83OW with the runoff hydrograph at combination point
2931          KM   CGL83 at the intersection of Glendale Avenue and 83rd Avenue
2932          HC       2
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

2933          KK   DGL83  DIVERT
2934          KM   Divert calculated full flow capapcity of 374 cfs into 84-inch storm drain
2935          KM   pipe at the intersection of Glendale Avenue and 83rd Avenue
2936          DT   DPGL83      0.0    374.0
2937          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
2938          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

2939          KK  DWGL91  DIVERT
2940          KM   Divert remaining runoff hydrograph from combination point CPGL83 west to
2941          KM   combination point CGL91
2942          DT   DSBH83      0.0      0.0
2943          DI     0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0  10000.0  20000.0  50000.0
2944          DQ     0.0     63.0    126.0    315.0    630.0   1260.0   2520.0   6300.0  12600.0  31500.0
              *

2945          KK  RWGL91   ROUTE
2946          KM   Route diversion DWGL91 west to combination point CGL92
2947          RS       3    FLOW
2948          RC   0.035   0.015   0.035    5280  0.0032    0.00
2949          RX    0.00    0.00   33.00   33.00  197.00  197.00  230.00  230.00
2950          RY    3.00    0.83    0.50    0.00    0.00    0.50    0.83    3.00
              *

2951          KK  DRGL91RETRIEVE
2952          KM   Retrieve divert DRGL91 from combination point CCPNO91 and divert south to
2953          KM   combination point CGL91
2954          DR  DSGL91
              *

2955          KK  RSGL91   ROUTE
2956          KM   Route diversion retrieval DRGL91 south to combination point CGL91
2957          RS       3    FLOW
2958          RC   0.035   0.015   0.035    5280  0.0032    0.00
2959          RX    0.00    0.00   38.50   38.50  241.50  241.50  280.00  280.00
2960          RY    3.00    0.88    0.50    0.00    0.00    0.50    0.88    3.00
              *

2961          KK    GL91   BASIN
2962          KM   Runoff hydrograph for square mile subbasin GL91 northeast of the intersection
2963          KM   of Glendale Avenue and 91st Avenue
2964          BA   0.979
2965          LG    0.28    0.19    6.80    0.13      25
2966          UC   1.500   1.019
2967          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
2968          UA     100
              *

2969          KK  ERGL91  DIVERT
2970          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
2971          KM   retention developed after 1990 in subbasin GL91
2972          DT   XGL91    51.6      0.0
2973          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
2974          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10
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2975          KK   CGL91 COMBINE
2976          KM   Combine route RWGL91, route RSGL91, route RWoW91, and subbasin GL91
2977          HC       4    9.02
              *

2978          KK  PRGL83RETRIEVE
2979          KM   Retrieve full flow capacity of 374 cfs from 84-inch storm drain pipe at the
2980          KM   intersection of Glendale Avenue and 83rd Avenue
2981          DR  DPGL83
              *

2982          KK  RPGL91   ROUTE
2983          KM   Route full flow capacity of 374 cfs through 84-inch storm drain pipe in
2984          KM   Glendale Avenue to the intersection of Glendale Avenue and 91st Avenue
2985          RK    5306  0.0034   0.015            CIRC   7.000
              *

2986          KK  CPGL91 COMBINE
2987          KM   Combine pipe return PRGL83 with the runoff hydrograph at combination point
2988          KM   CGL91 at the intersection of Glendale Avenue and 91st Avenue
2989          HC       2
              *

2990          KK   DGL91  DIVERT
2991          KM   Divert calculated full flow capapcity of 449 cfs into 90-inch storm drain
2992          KM   pipe at the intersection of Glendale Avenue and 91st Avenue
2993          DT   DPGL91      0.0    449.0
2994          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
2995          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

2996          KK  DWGLLO  DIVERT
2997          KM   Divert remaining runoff hydrograph from combination point CPGL91 west to
2998          KM   combination point CGLLO
2999          DT   DSBH91      0.0      0.0
3000          DI     0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0  10000.0  20000.0  50000.0
3001          DQ     0.0     62.0    124.0    310.0    620.0   1240.0   2480.0   6200.0  12400.0  31000.0
              *

3002          KK  RWGLLO   ROUTE
3003          KM   Route diversion DWGLLO west to combination point CGLLO
3004          RS       3    FLOW
3005          RC   0.035   0.015   0.035    4441  0.0027    0.00
3006          RX    0.00    0.00   19.00   19.00  111.00  111.00  130.00  130.00
3007          RY    3.00    0.69    0.50    0.00    0.00    0.50    0.69    3.00
              *

3008          KK    GLLO   BASIN
3009          KM   Runoff hydrograph for subbasin GLLO northeast of the intersection of Glendale
3010          KM   Avenue and SR Loop 101
3011          BA   0.848
3012          LG    0.37    0.21    6.60    0.18      21
3013          UC   1.294   0.870
3014          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
1                                        HEC-1 INPUT                                        PAGE 79

LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

3015          UA     100
              *

3016          KK  ERGLLO  DIVERT
3017          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
3018          KM   retention developed after 1990 in subbasin GLLO
3019          DT   XGLLO    17.5      0.0
3020          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
3021          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

3022          KK   CGLLO COMBINE
3023          KM   Combine route RWGLLO, route RSGLLO, and subbasin GLLO
3024          HC       3   15.23
              *

3025          KK  PRGL91RETRIEVE
3026          KM   Retrieve full flow capacity of 449 cfs from 90-inch storm drain pipe at the
3027          KM   intersection of Glendale Avenue and 91st Avenue
3028          DR  DPGL91
              *

3029          KK  RPGLLO   ROUTE
3030          KM   Route full flow capacity of 449 cfs through 90-inch storm drain pipe in
3031          KM   Glendale Avenue to the intersection of Glendale Avenue and SR Loop 101
3032          RK    4160  0.0034   0.015            CIRC   7.500
              *

3033          KK  CPGLLO COMBINE
3034          KM   Combine pipe return PRGL91 with the runoff hydrograph at combination point
3035          KM   CGLLO at the intersection of Glendale Avenue and SR Loop 101
3036          HC       2
              *

3037          KK  RSBHLO   ROUTE
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3038          KM   Route hydrograph at combination point CPGLLO south to combination point CBHLO
3039          RS       2     FLOW
3040          RC   0.035   0.015   0.035    5165  0.0005     0.00
3041          RX    0.00    4.00   16.00   34.00   57.00   74.00   86.00   89.00
3042          RY   10.24    9.24    9.00    0.00    0.20    8.70    8.97    9.94
              *

3043          KK  DIBH59RETRIEVE
3044          KM   Retrieve arterial street flow diverted to Bethany Home Road at the intersecti
3045          KM   of Bethany Home Road and Grand Avenue
3046          DR  DWBH59
              *

3047          KK  DRBH59RETRIEVE
3048          KM   Retrieve divert DRBH59 from combination point CGR59 and divert south to
3049          KM   combination point CIBHGR
3050          DR   DBH59
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9.....10

3051          KK  SRGR59 STORAGE
3052          KM   Storage route runoff hydrograph from divert retrieval DRBH59 through ponding
3053          KM     area at Grand Avenue between 51st and 59th Avenues
3054          KM   Storage routing ID RES8 in DMJM HEC-1 revision (model BHGC00C6, Nov 2004)
3055          KM   Comments from DMJM model:
3056          KM   PONDING AREA RESERVOIR ROUTE
3057          KM   PONDING AREA NORTHEAST OF GRAND AVENUE/RR EMBANKMENT
3058          KM   SUB-BASIN 8-22E
3059          RS       1     STOR
3060          SV           14.95   50.65   78.30  116.78  220.43
3061          SQ            0.10    0.20  310.00 1070.00 4090.00
3062          SE  1148.0 1149.00 1150.00 1150.50 1151.00 1152.00
              *

3063          KK  CIBHGR COMBINE
3064          KM   Combine arterial street flow from Bethany Home Road DIBH59 with runoff
3065          KM   hydrograph DRBH59 at the intersection of Bethany Home Road and Grand Avenue
3066          HC       2    2.13
              *

3067          KK  RWBH59   ROUTE
3068          KM   Route hydrograph at combination point CIBHGR at the intersection of Bethany
3069          KM   Home Road and Grand Avenue west to combination point CBH59
3070          RS       4     FLOW
3071          RC   0.035   0.015   0.035    5280  0.0025     0.00
3072          RX    0.00    0.00   47.50   47.50  230.50  230.50  278.00  278.00
3073          RY    3.00    0.98    0.50    0.00    0.00    0.50    0.98    3.00
              *

3074          KK  DI59BHRETRIEVE
3075          KM   Retrieve arterial street flow diverted to 59th Avenue at the intersection
3076          KM   of Bethany Home Road and Grand Avenue
3077          DR  DSBH59
              *

3078          KK  RSBH59   ROUTE
3079          KM   Route diversion retrieval DI59HB at the intersection of Bethany Home Road and
3080          KM   59th Avenue south to combination point CBH59
3081          RS       4     FLOW
3082          RC   0.035   0.015   0.035    5280  0.0024     0.00
3083          RX    0.00    0.00   30.50   30.50  167.50  167.50  198.00  198.00
3084          RY    3.00    0.80    0.50    0.00    0.00    0.50    0.80    3.00
              *

3085          KK   BH59   BASIN
3086          KM   Runoff hydrograph for subbasin BH59 northeast of the intersection of Bethany
3087          KM   Home Road and 59th Avenue
3088          BA   0.493
3089          LG    0.17    0.26    5.00    0.23      66
3090          UC   0.785   0.423
3091          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
3092          UA     100
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9.....10

3093          KK   CBH59 COMBINE
3094          KM   Combine route RWBH59, route RSBH59, and subbasin BH59
3095          HC       3    3.58
              *

3096          KK  DWBH67  DIVERT
3097          KM   Divert remaining runoff hydrograph from combination point CBH59 west to
3098          KM   combination point CBH67
3099          DT  DSCB59     0.0     0.0
3100          DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
3101          DQ     0.0    42.0    84.0   210.0   420.0   840.0  1680.0  4200.0  8400.0 21000.0
              *
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3102          KK  RWBH67   ROUTE
3103          KM   Route diversion DWBH67 west to combination point CBH67
3104          RS       4     FLOW
3105          RC   0.035   0.015   0.035    5280  0.0028     0.00
3106          RX    0.00    0.00   68.50   68.50  359.50  359.50  428.00  428.00
3107          RY    3.00    1.18    0.50    0.00    0.00    0.50    1.18    3.00
              *

3108          KK  DRBH67RETRIEVE
3109          KM   Retrieve divert DRBH67 from combination point CGL75 and divert south to
3110          KM   combination point CBH67
3111          DR  DSBH67
              *

3112          KK  RSBH67   ROUTE
3113          KM   Route diversion retrieval DRBH67 south to combination point CBH67
3114          RS       9     FLOW
3115          RC   0.035   0.015   0.035    5280  0.0015     0.00
3116          RX    0.00    0.00   75.50   75.50  402.50  402.50  478.00  478.00
3117          RY    3.00    1.25    0.50    0.00    0.00    0.50    1.25    3.00
              *

3118          KK   BH67   BASIN
3119          KM   Runoff hydrograph for square mile subbasin BH67 northeast of the intersection
3120          KM   of Bethany Home Road and 67th Avenue
3121          BA   0.971
3122          LG    0.23    0.26    5.60    0.19      38
3123          UC   1.500   1.015
3124          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
3125          UA     100
              *

3126          KK   CBH67 COMBINE
3127          KM   Combine route RWBH67, route RSBH67, and subbasin BH67
3128          HC       3    5.24
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9.....10

3129          KK  DWBH75  DIVERT
3130          KM   Divert remaining runoff hydrograph from combination point CBH67 west to
3131          KM   combination point CBH75
3132          DT  DSCB67     0.0     0.0
3133          DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
3134          DQ     0.0    44.0    88.0   220.0   440.0   880.0  1760.0  4400.0  8800.0 22000.0
              *

3135          KK  RWBH75   ROUTE
3136          KM   Route diversion DWBH75 west to combination point CBH75
3137          RS       4     FLOW
3138          RC   0.035   0.015   0.035    5280  0.0038     0.00
3139          RX    0.00    0.00   61.50   61.50  316.50  316.50  378.00  378.00
3140          RY    3.00    1.12    0.50    0.00    0.00    0.50    1.12    3.00
              *

3141          KK  DRBH75RETRIEVE
3142          KM   Retrieve divert DRBH75 from combination point CGL75 and divert south to
3143          KM   combination point CBH75
3144          DR  DSBH75
              *

3145          KK  RSBH75   ROUTE
3146          KM   Route diversion retrieval DRBH75 south to combination point CBH75
3147          RS       4     FLOW
3148          RC   0.035   0.015   0.035    5280  0.0019     0.00
3149          RX    0.00    0.00   68.50   68.50  359.50  359.50  428.00  428.00
3150          RY    3.00    1.18    0.50    0.00    0.00    0.50    1.18    3.00
              *

3151          KK   BH75   BASIN
3152          KM   Runoff hydrograph for square mile subbasin BH75 northeast of the intersection
3153          KM   of Bethany Home Road and 75th Avenue
3154          BA   1.003
3155          LG    0.27    0.15    9.70    0.05      32
3156          UC   1.500   1.009
3157          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
3158          UA     100
              *

3159          KK  ERBH75  DIVERT
3160          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
3161          KM   retention developed after 1990 in subbasin BH75
3162          DT  XBH75     60.1     0.0
3163          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
3164          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

3165          KK   CBH75 COMBINE
3166          KM   Combine route RWBH75, route RSBH75, and subbasin BH75
3167          HC       3    8.42
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 LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 3168          KK  DWBH83  DIVERT
 3169          KM   Divert remaining runoff hydrograph from combination point CBH75 west to
 3170          KM   combination point CBH83
 3171          DT  DSCB75     0.0     0.0
 3172          DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
 3173          DQ     0.0    53.0   106.0   265.0   530.0  1060.0  2120.0  5300.0 10600.0 26500.0
                *
 3174          KK  RWBH83   ROUTE
 3175          KM   Route diversion DWBH83 west to combination point CBH83
 3176          RS       4    FLOW
 3177          RC   0.035   0.015   0.035    5280  0.0034    0.00
 3178          RX    0.00    0.00   47.50   47.50  230.50  230.50  278.00  278.00
 3179          RY    3.00    0.98    0.50    0.00    0.00    0.50    0.98    3.00
                *
 3180          KK  DRBH83RETRIEVE
 3181          KM   Retrieve divert DRBH83 from combination point CGL83 and divert south to
 3182          KM   combination point CBH83
 3183          DR  DSBH83
                *
 3184          KK  RSBH83   ROUTE
 3185          KM   Route diversion retrieval DRBH83 south to combination point CBH83
 3186          RS       4    FLOW
 3187          RC   0.035   0.015   0.035    5280  0.0021    0.00
 3188          RX    0.00    0.00   72.50   72.50  425.50  425.50  498.00  498.00
 3189          RY    3.00    1.23    0.50    0.00    0.00    0.50    1.23    3.00
                *
 3190          KK    BH83   BASIN
 3191          KM   Runoff hydrograph for square mile subbasin BH83 northeast of the intersection
 3192          KM   of Bethany Home Road and 83rd Avenue
 3193          BA   0.998
 3194          LG    0.27    0.19    7.60    0.09      24
 3195          UC   1.500   1.016
 3196          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
 3197          UA     100
                *
 3198          KK  ERBH83  DIVERT
 3199          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
 3200          KM   retention developed after 1990 in subbasin BH83
 3201          DT  XBH83    57.0     0.0
 3202          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
 3203          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
                *
 3204          KK  CBH83 COMBINE
 3205          KM   Combine route RWBH83, route RSBH83, and subbasin BH83
 3206          HC       3    9.47
                *
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 LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 3207          KK  DWBH91  DIVERT
 3208          KM   Divert remaining runoff hydrograph from combination point CBH83 west to
 3209          KM   combination point CIBH83
 3210          DT  DSGC83     0.0     0.0
 3211          DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
 3212          DQ     0.0    34.0    68.0   170.0   340.0   680.0  1360.0  3400.0  6800.0 17000.0
                *
 3213          KK  DRCB27RETRIEVE
 3214          KM   Retrieve divert DRCB27 from combination point CPBH27 and divert south to
 3215          KM   combination point CCB27
 3216          DR  DSCB27
                *
 3217          KK  RSCB27   ROUTE
 3218          KM   Route diversion retrieval DRCB27 south to combination point CCB27
 3219          RS       4    FLOW
 3220          RC   0.035   0.015   0.035    5280  0.0037    0.00
 3221          RX    0.00    0.00   26.00   26.00  148.00  148.00  174.00  174.00
 3222          RY    3.00    0.76    0.50    0.00    0.00    0.50    0.76    3.00
                *
 3223          KK    CB27   BASIN
 3224          KM   Runoff hydrograph for subbasin CB27 northeast of the intersection of
 3225          KM   Camelback Road and 27th Avenue
 3226          BA   0.262
 3227          LG    0.20    0.25    5.10    0.22      54
 3228          UC   0.972   0.775
 3229          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
 3230          UA     100
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                *
 3231          KK   CCB27 COMBINE
 3232          KM   Combine route RSCB27, and subbasin CB27
 3233          HC       2    1.50
                *
 3234          KK  PR27BHRETRIEVE
 3235          KM   Retrieve full flow capacity of 132 cfs from 57-inch diameter pipe at the
 3236          KM   intersection of Bethany Home Road and 27th Avenue
 3237          DR  DP27BH
                *
 3238          KK  RP27CB   ROUTE
 3239          KM   Route full flow capacity of 132 cfs through 57-inch storm drain pipe in
 3240          KM   27th Avenue to the intersection of 27th Avenue and Camelback Road
 3241          RK    5336  0.0034   0.015            CIRC   4.750
                *
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 LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 3242          KK  CPCB27 COMBINE
 3243          KM   Combine pipe return PR27BH with the runoff hydrograph at combination point
 3244          KM   CGL83 at the intersection of Camelback Road and 27th Avenue
 3245          HC       2
                *
 3246          KK   D27CB  DIVERT
 3247          KM   Divert calculated full flow capapcity of 132 cfs into 57-inch storm drain
 3248          KM   pipe at the intersection of Camelback Road and 27th Avenue
 3249          DT  DP27CB     0.0   132.0
 3250          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
 3251          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
                *
 3252          KK  DWCB35  DIVERT
 3253          KM   Divert remaining runoff hydrograph from combination point CPCB27 west to
 3254          KM   combination point CCB35
 3255          DT  DSIS27     0.0     0.0
 3256          DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
 3257          DQ     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
                *
 3258          KK  RWCB35   ROUTE
 3259          KM   Route diversion DWCB35 west to combination point CCB35
 3260          RS       1    FLOW
 3261          RC   0.035   0.015   0.035    5280  0.0006    0.00
 3262          RX    0.00    0.00  105.00  105.00  494.00  494.00  599.00  599.00
 3263          RY    3.00    1.55    0.50    0.00    0.00    0.50    1.55    3.00
                *
 3264          KK  DRCB35RETRIEVE
 3265          KM   Retrieve divert DRCB35 from combination point CPBH35 and divert south to
 3266          KM   combination point CCB35
 3267          DR  DSCB35
                *
 3268          KK  RSCB35   ROUTE
 3269          KM   Route diversion retrieval DRCB35 south to combination point CCB35
 3270          RS       3    FLOW
 3271          RC   0.035   0.015   0.035    5280  0.0040    0.00
 3272          RX    0.00    0.00   95.50   95.50  453.50  453.50  549.00  549.00
 3273          RY    3.00    1.46    0.50    0.00    0.00    0.50    1.46    3.00
                *
 3274          KK    CB35   BASIN
 3275          KM   Runoff hydrograph for square mile subbasin CB35 northeast of the intersection
 3276          KM   of Camelback Road and 35th Avenue
 3277          BA   1.000
 3278          LG    0.24    0.25    5.00    0.25      39
 3279          UC   1.500   1.010
 3280          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
 3281          UA     100
                *
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 LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 3282          KK   CCB35 COMBINE
 3283          KM   Combine route RWCB35, route RSCB35, and subbasin CB35
 3284          HC       3    2.94
                *
 3285          KK  PR27CBRETRIEVE
 3286          KM   Retrieve combined full flow capacity of 132 cfs from 57-inch equivalent
 3287          KM   diameter pipe at the intersection of Camelback Road and 27th Avenue
 3288          DR  DP27CB
                *
 3289          KK  CPCB29 COMBINE
```

```
3290            KM   Combine pipe return PR27CB with the runoff hydrograph at combination point
3291            KM   CCB29 at the intersection of Camelback Road and 29thth Avenue
3292            HC        2
                *

3293            KK   D29CB  DIVERT
3294            KM   Divert calculated full flow capapcity of 132 cfs into 57-inch storm drain
3295            KM   pipe at the intersection of Camelback Road and 29th Avenue
3296            DT  DP29CB      0.0    132.0
3297            DI      0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
3298            DQ      0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
                *

3299            KK  PR35BHRETRIEVE
3300            KM   Retrieve combined full flow capacity of 226 cfs from 69-inch equivalent
3301            KM   diameter pipe at the intersection of Bethany Home Road and 35th Avenue
3302            DR  DP35BH
                *

3303            KK  RP35CB   ROUTE
3304            KM   Route the combined full flow capacity of 226 cfs through an equivalent storm
3305            KM   drain pipe diameter of 69 inches in 35th Avenue to the intersection of
3306            KM   35th Avenue and Camelback Road
3307            RK    5249  0.0037   0.015              CIRC    5.750
                *

3308            KK  CPCB35 COMBINE
3309            KM   Combine pipe return PR35BH with the runoff hydrograph at combination point
3310            KM   CCB35 at the intersection of Camelback Road and 35th Avenue
3311            HC        2
                *

3312            KK   D35CB  DIVERT
3313            KM   Capacity of storm drain in 31st Avenue and 35th Avenue diverted together.
3314            KM   Divert combined calculated full flow capacity of 213 cfs in the 66-inch storm
3315            KM   drain pipe in 31st Avenue and 40 cfs in the 36-inch storm drain pipe in
3316            KM   35th Avenue. The total calculated combined full flow capacity diverted at the
3317            KM   intersection of 35th Avenue and Camelback Road is 253 cfs in an equivalent
3318            KM   diameter pipe of 73 inches
3319            DT  DP35CB      0.0    253.0
3320            DI      0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
3321            DQ      0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
                *
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LINE            ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


3322            KK  DWCB43  DIVERT
3323            KM   Divert remaining runoff hydrograph from combination point CPCB35 west to
3324            KM   combination point CCB43
3325            DT  DSIS35      0.0      0.0
3326            DI      0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
3327            DQ      0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
                *

3328            KK  RWCB43   ROUTE
3329            KM   Route diversion DWCB43 west to combination point CCB43
3330            RS       1     FLOW
3331            RC   0.035   0.015   0.035    5280  0.0001    0.00
3332            RX    0.00    0.00   86.00   86.00  413.00  413.00  499.00  499.00
3333            RY    3.00    1.36    0.50    0.00    0.00    0.50    1.36    3.00
                *

3334            KK  DRCB43RETRIEVE
3335            KM   Retrieve divert DRCB43 from combination point CPBH43 and divert south to
3336            KM   combination point CCB43
3337            DR  DSCB43
                *

3338            KK  RSCB43   ROUTE
3339            KM   Route diversion retrieval DRCB43 south to combination point CCB43
3340            RS       4     FLOW
3341            RC   0.035   0.015   0.035    5280  0.0032    0.00
3342            RX    0.00    0.00   57.50   57.50  291.50  291.50  349.00  349.00
3343            RY    3.00    1.08    0.50    0.00    0.00    0.50    1.08    3.00
                *

3344            KK    CB43   BASIN
3345            KM   Runoff hydrograph for square mile subbasin CB43 northeast of the intersection
3346            KM   of Camelback Road and 43rd Avenue
3347            BA   0.999
3348            LG    0.24    0.25    4.80    0.26      35
3349            UC   1.066   0.397
3350            UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
3351            UA     100
                *

3352            KK   CCB43 COMBINE
3353            KM   Combine route RWCB43, route RSCB43, and subbasin CB43
3354            HC       3    2.12
                *
```



```
3355            KK  PR43BHRETRIEVE
3356            KM   Retrieve combined full flow capacity of 385 cfs from 85-inch equivalent
3357            KM   diameter pipe at the intersection of Bethany Home Road and 43rd Avenue
3358            DR  DP43BH
                *
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LINE            ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


3359            KK  RP43CB   ROUTE
3360            KM   Route the combined full flow capacity of 385 cfs through an equivalent storm
3361            KM   drain pipe diameter of 85 inches in 43rd Avenue to the intersection of
3362            KM   43rd Avenue and Camelback Road
3363            RK    5172  0.0035   0.015              CIRC    7.083
                *

3364            KK  CPCB43 COMBINE
3365            KM   Combine pipe return PR43BH with the runoff hydrograph at combination point
3366            KM   CCB43 at the intersection of Camelback Road and 43rd Avenue
3367            HC        2
                *

3368            KK   D39CB  DIVERT
3369            KM   Divert calculated full flow capapcity of 268 cfs into 72-inch storm drain
3370            KM   pipe at the intersection of Camelback Road and 39th Avenue
3371            DT  DP39CB      0.0    268.0
3372            DI      0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
3373            DQ      0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
                *

3374            KK   D43CB  DIVERT
3375            KM   Divert calculated full flow capapcity of 155 cfs into 60-inch storm drain
3376            KM   pipe at the intersection of Camelback Road and 43rd Avenue
3377            DT  DP43CB      0.0    155.0
3378            DI      0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
3379            DQ      0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
                *

3380            KK  DWGR43  DIVERT
3381            KM   Divert portion of runoff hydrograph from combination point CPCB43 west
3382            KM   through subbasin GR43 using the ratio of the widths and slopes of the streets
3383            KM   going west and the widths and slopes of the streets going south. The
3384            KM   remaining flow is diverted south through subbasin IS43
3385            DT  DSGR35      0.0      0.0
3386            DI      0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
3387            DQ      0.0    57.0   114.0   285.0   570.0  1140.0  2280.0  5700.0 11400.0 28500.0
                *

3388            KK   DGR43  DIVERT
3389            KM   Divert portion of DWGR43 west to subbasin GR43 using the ratio of the width
3390            KM   of the collector and local streets and the width of the arterial street. The
3391            KM   remaining flow is diverted west to subbasin CB51 along Camelback Road
3392            DT   DCB51      0.0      0.0
3393            DI      0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
3394            DQ      0.0    25.0    50.0   125.0   250.0   500.0  1000.0  2500.0  5000.0 12500.0
                *

3395            KK  DRGR43RETRIEVE
3396            KM   Retrieve divert DRGR43 from combination point CPBH51 and divert south to
3397            KM   combination point CGR43
3398            DR  DSGR43
                *
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LINE            ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


3399            KK  RSGR43   ROUTE
3400            KM   Route diversion retrieval DRGR43 south to combination point CGR43
3401            RS       6     FLOW
3402            RC   0.035   0.015   0.035    7370  0.0013    0.00
3403            RX    0.00    0.00   31.50   31.50  143.50  143.50  175.00  175.00
3404            RY    3.00    0.82    0.50    0.00    0.00    0.50    0.82    3.00
                *

3405            KK    GR43   BASIN
3406            KM   Runoff hydrograph for subbasin GR43 northwest of the intersection of Grand
3407            KM   Avenue and 43rd Avenue
3408            BA   0.514
3409            LG    0.22    0.26    4.90    0.24      44
3410            UC   0.900   0.485
3411            UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
3412            UA     100
                *

3413            KK  ERGR43  DIVERT
3414            KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
3415            KM   retention developed after 1990 in subbasin GR43
3416            DT   XGR43      2.4      0.0
3417            DI      0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
3418            DQ      0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
                *
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3419          KK   CGR43 COMBINE
3420          KM   Combine route RSGR43, remainder of combination point CPCB43, and subbasin
3421          KM   GR43
3422          HC        3    2.28
              *

3423          KK  SRGR43 STORAGE
3424          KM   Combined storage routing IDs BCm1 and BCm2 from PEC model, Feb 2008
3425          KM   Storage routing through two basins along Grand Avenue between 51st Avenue and
3426          KM     Bethany Home and 43rd Avenue and Camelback
3427          RS        1     STOR
3428          SV             20.40   65.70  122.40  136.72  212.40  323.58  339.80
3429          SE  1126.0  1131.0  1136.0  1141.0  1142.0  1146.0  1150.0  1151.0
3430          SQ     0.0     0.0     0.0    10.0    17.0    40.0    80.0   100.0   160.0     200
3431          SQ   300.0   400.0   500.0   600.0   700.0   800.0   900.0  1000.0  1100.0
3432          SE  1126.0  1140.0  1142.5 1142.67  1142.7  1142.8 1142.91 1142.95 1143.05   1143.
3433          SE  1143.2 1143.38 1143.48 1143.58 1143.67 1143.75 1143.83 1143.91 1143.98
              *

3434          KK   DGR35  DIVERT
3435          KM   Divert portion of runoff hydrograph from combination point CGR43 west to
3436          KM   combination point CICBGR using the ratio of the widths and slopes of the
3437          KM   streets going east and the widths and slopes of the streets going south. The
3438          KM   remaining flow is diverted east through subbasin GR35 along Grand Avenue.
3439          DT  DEGR35      0.0     0.0
3440          DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
3441          DQ     0.0    35.0    70.0   175.0   350.0   700.0  1400.0  3500.0  7000.0 17500.0
              *

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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

3442          KK  DWCB51  DIVERT
3443          KM   Divert portion of DGR35 south to subbasin IS43 using the ratio of the width
3444          KM   of the collector and local streets and the width of the arterial street. The
3445          KM   remaining flow is diverted west to combination point CICBGR at the
3446          KM   intersection of Camelback Road and 51st Avenue
3447          DT  DSIS43      0.0     0.0
3448          DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
3449          DQ     0.0    65.0   130.0   325.0   650.0  1300.0  2600.0  6500.0 13000.0 32500.0
              *

3450          KK  DICB51RETRIEVE
3451          KM   Retrieve arterial street flow diverted to Camelback Road at the intersection
3452          KM   of Bethany Home Road and 51st Avenue
3453          DR   DCB51
              *

3454          KK  CICBGR COMBINE
3455          KM   Combine arterial street flow from Camelback Rd DICB51 with runoff hydrograph
3456          KM   DWCB51 at the intersection of Camelback Road and 51st Avenue
3457          HC        2    0.74
              *

3458          KK  RWCB51   ROUTE
3459          KM   Route hydrograph at combination point CICBGR at the intersection of Camelback
3460          KM   Road and 51st Avenue west to combination point CCB51
3461          RS        5     FLOW
3462          RC   0.035   0.015   0.035    5280  0.0014     0.00
3463          RX    0.00    0.00   16.50   16.50  107.50  107.50  124.00  124.00
3464          RY    3.00    0.66    0.50    0.00    0.00    0.50    0.66    3.00
              *

3465          KK    CB51   BASIN
3466          KM   Runoff hydrograph for subbasin CB51 northeast of the intersection
3467          KM   of Camelback Road and 51st Avenue
3468          BA   0.483
3469          LG    0.15    0.25    5.00    0.23      80
3470          UC   0.523   0.268
3471          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
3472          UA     100
              *

3473          KK   CCB51 COMBINE
3474          KM   Combine hydrograph at combination point CICBGR and subbasin CB51
3475          HC        2    1.23
              *

3476          KK  DWCB59  DIVERT
3477          KM   Divert remaining runoff hydrograph from combination point CCB51 west to
3478          KM   combination point CCB59
3479          DT  DSIS51      0.0     0.0
3480          DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
3481          DQ     0.0    51.0   102.0   255.0   510.0  1020.0  2040.0  5100.0 10200.0 25500.0
              *

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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

3482          KK  RWCB59   ROUTE
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3483          KM.  Route diversion DWCB59 west to combination point CCB59
3484          RS        4     FLOW
3485          RC   0.035   0.015   0.035    5280  0.0023     0.00
3486          RX    0.00    0.00   48.00   48.00  251.00  251.00  299.00  299.00
3487          RY    3.00    0.98    0.50    0.00    0.00    0.50    0.98    3.00
              *

3488          KK  DRCB59RETRIEVE
3489          KM   Retrieve divert DRCB59 from combination point CBH59 and divert south to
3490          KM   combination point CCB59
3491          DR  DSCB59
              *

3492          KK  RSCB59   ROUTE
3493          KM   Route diversion retrieval DRCB59 south to combination point CCB59
3494          RS        3     FLOW
3495          RC   0.035   0.015   0.035    5280  0.0030     0.00
3496          RX    0.00    0.00   48.00   48.00  251.00  251.00  299.00  299.00
3497          RY    3.00    0.98    0.50    0.00    0.00    0.50    0.98    3.00
              *

3498          KK    CB59   BASIN
3499          KM   Runoff hydrograph for square mile subbasin CB59 northeast of the intersection
3500          KM   of Camelback Road and 59th Avenue
3501          BA   1.010
3502          LG    0.18    0.27    5.10    0.22      60
3503          UC   1.182   0.777
3504          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
3505          UA     100
              *

3506          KK  ERCB59  DIVERT
3507          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
3508          KM   retention developed after 1990 in subbasin CB59
3509          DT   XCB59      2.9     0.0
3510          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
3511          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

3512          KK   CCB59 COMBINE
3513          KM   Combine route RWCB59, route RSCB59, and subbasin CB59
3514          HC        3    3.11
              *

3515          KK  DWCB67  DIVERT
3516          KM   Divert remaining runoff hydrograph from combination point CCB59 west to
3517          KM   combination point CCB67
3518          DT  DSIS59      0.0     0.0
3519          DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
3520          DQ     0.0    53.0   106.0   265.0   530.0  1060.0  2120.0  5300.0 10600.0 26500.0
              *

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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

3521          KK  RWCB67   ROUTE
3522          KM   Route diversion DWCB67 west to combination point CCB67
3523          RS        4     FLOW
3524          RC   0.035   0.015   0.035    5280  0.0025     0.00
3525          RX    0.00    0.00   67.00   67.00  332.00  332.00  399.00  399.00
3526          RY    3.00    1.17    0.50    0.00    0.00    0.50    1.17    3.00
              *

3527          KK  DRCB67RETRIEVE
3528          KM   Retrieve divert DRCB67 from combination point CBH67 and divert south to
3529          KM   combination point CCB67
3530          DR  DSCB67
              *

3531          KK  RSCB67   ROUTE
3532          KM   Route diversion retrieval DRCB67 south to combination point CCB67
3533          RS        4     FLOW
3534          RC   0.035   0.015   0.035    5280  0.0027     0.00
3535          RX    0.00    0.00   57.50   57.50  291.50  291.50  349.00  349.00
3536          RY    3.00    1.08    0.50    0.00    0.00    0.50    1.08    3.00
              *

3537          KK    CB67   BASIN
3538          KM   Runoff hydrograph for square mile subbasin CB67 northeast of the intersection
3539          KM   of Camelback Road and 67th Avenue
3540          BA   0.970
3541          LG    0.24    0.15    7.60    0.08      35
3542          UC   1.500   1.016
3543          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
3544          UA     100
              *

3545          KK  ERCB67  DIVERT
3546          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
3547          KM   retention developed after 1990 in subbasin CB67
3548          DT   XCB67      1.8     0.0
3549          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
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3550          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

3551          KK   CCB67 COMBINE
3552          KM   Combine route RWCB67, route RSCB67, and subbasin CB67
3553          HC       3    4.73
              *

3554          KK  DWCB75  DIVERT
3555          KM   Divert remaining runoff hydrograph from combination point CCB67 west to
3556          KM   combination point CCB75
3557          DT  DSGC67      0.0      0.0
3558          DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
3559          DQ     0.0    43.0    86.0   215.0   430.0   860.0  1720.0  4300.0  8600.0 21500.0
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9.....10

3560          KK  RWCB75    ROUTE
3561          KM   Route diversion DWCB75 west to combination point CCB75
3562          RS      4     FLOW
3563          RC   0.035   0.015   0.035    5280  0.0024     0.00
3564          RX    0.00    0.00   86.00   86.00  413.00  413.00  499.00  499.00
3565          RY    3.00    1.36    0.50    0.00    0.00    0.50    1.36    3.00
              *

3566          KK  DRCB75RETRIEVE
3567          KM   Retrieve divert DRCB75 from combination point CBH75 and divert south to
3568          KM   combination point CCB75
3569          DR  DSCB75
              *

3570          KK  RSCB75    ROUTE
3571          KM   Route diversion retrieval DRCB75 south to combination point CCB75
3572          RS      7     FLOW
3573          RC   0.035   0.015   0.035    5280  0.0013     0.00
3574          RX    0.00    0.00   86.00   86.00  413.00  413.00  499.00  499.00
3575          RY    3.00    1.36    0.50    0.00    0.00    0.50    1.36    3.00
              *

3576          KK    CB75    BASIN
3577          KM   Runoff hydrograph for square mile subbasin CB75 northeast of the intersection
3578          KM   of Camelback Road and 75th Avenue
3579          BA   0.998
3580          LG    0.25    0.15    7.30    0.10      32
3581          UC   1.500   1.012
3582          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
3583          UA     100
              *

3584          KK  ERCB75  DIVERT
3585          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
3586          KM   retention developed after 1990 in subbasin CB75
3587          DT   XCB75    23.2     0.0
3588          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
3589          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

3590          KK   CCB75 COMBINE
3591          KM   Combine RWCB75, route RSCB75, and subbasin CB75
3592          HC       3    8.14
              *

3593          KK  DWGC83  DIVERT
3594          KM   Divert remaining runoff hydrograph from combination point CCB75 west to
3595          KM   combination point CICB75
3596          DT  DSGC75      0.0      0.0
3597          DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
3598          DQ     0.0    44.0    88.0   220.0   440.0   880.0  1760.0  4400.0  8800.0 22000.0
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9.....10

3599          KK  DRIS27RETRIEVE
3600          KM   Retrieve divert DRIS27 from combination point CPCB27 and divert south to
3601          KM   combination point CIS27
3602          DR  DSIS27
              *

3603          KK  RSIS27    ROUTE
3604          KM   Route diversion retrieval DRIS27 south to combination point CIS27
3605          RS      3     FLOW
3606          RC   0.035   0.015   0.035    5280  0.0038     0.00
3607          RX    0.00    0.00   26.00   26.00  148.00  148.00  174.00  174.00
3608          RY    3.00    0.76    0.50    0.00    0.00    0.50    0.76    3.00
              *

3609          KK    IS27    BASIN
3610          KM   Runoff hydrograph for subbasin IS27 northeast of the intersection of Indian
```



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3611          KM   School Road and 27th Avenue
3612          BA   0.239
3613          LG    0.20    0.15    7.30    0.09      58
3614          UC   1.199   1.023
3615          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
3616          UA     100
              *

3617          KK   CIS27 COMBINE
3618          KM   Combine route RSIS27 and subbasin IS27
3619          HC       2    1.74
              *

3620          KK  PR29CBRETRIEVE
3621          KM   Retrieve full flow capacity of 132 cfs from 57-inch storm drain pipe at the
3622          KM   intersection of Camelback Road and 29th Avenue
3623          DR  DP29CB
              *

3624          KK  RP27IS    ROUTE
3625          KM   Route full flow capacity of 132 cfs through 57-inch storm drain pipe in
3626          KM   27th Avenue to the intersection of Indian School Road and 43rd Avenue
3627          RK    5210  0.0034   0.015             CIRC   4.750
              *

3628          KK  CPIS27 COMBINE
3629          KM   Combine pipe return PR29CB with the runoff hydrograph at combination point
3630          KM   CIS27 at the intersection of Indian School Road and 27th Avenue
3631          HC       2
              *

3632          KK   D27IS  DIVERT
3633          KM   Divert calculated full flow capapcity of 151 cfs into 60-inch storm drain
3634          KM   pipe at the intersection of Indian School Road and 27th Avenue
3635          DT  DP27IS      0.0    151.0
3636          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
3637          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9.....10

3638          KK  DWIS35  DIVERT
3639          KM   Divert remaining runoff hydrograph from combination point CIS27 west to
3640          KM   combination point CIS35
3641          DT  DSGC27      0.0      0.0
3642          DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
3643          DQ     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
              *

3644          KK  RWIS35    ROUTE
3645          KM   Route diversion DWIS35 west to combination point CIS35
3646          RS       1     FLOW
3647          RC   0.035   0.015   0.035    5280  0.0006     0.00
3648          RX    0.00    0.00   95.50   95.50  453.50  453.50  549.00  549.00
3649          RY    3.00    1.46    0.50    0.00    0.00    0.50    1.46    3.00
              *

3650          KK  DRIS35RETRIEVE
3651          KM   Retrieve divert DRIS35 from combination point CPCB35 and divert south to
3652          KM   combination point CIS35
3653          DR  DSIS35
              *

3654          KK  RSIS35    ROUTE
3655          KM   Route diversion retrieval DRIS35 south to combination point CIS35
3656          RS       3     FLOW
3657          RC   0.035   0.015   0.035    5280  0.0038     0.00
3658          RX    0.00    0.00   86.00   86.00  413.00  413.00  499.00  499.00
3659          RY    3.00    1.36    0.50    0.00    0.00    0.50    1.36    3.00
              *

3660          KK    IS35    BASIN
3661          KM   Runoff hydrograph for square mile subbasin IS35 northeast of the intersection
3662          KM   Indian School Road and 35th Avenue
3663          BA   0.990
3664          LG    0.24    0.15    7.60    0.09      31
3665          UC   0.984   0.366
3666          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
3667          UA     100
              *

3668          KK   CIS35 COMBINE
3669          KM   Combine route RWIS35, route RSIS35, and subbasin IS35
3670          HC       3    3.93
              *

3671          KK  PR35CBRETRIEVE
3672          KM   Retrieve combined full flow capacity of 253 cfs from 73-inch equivalent
3673          KM   diameter pipe at the intersection of Camelback Road and 35th Avenue
3674          DR  DP35CB
              *
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 LINE        ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 3675        KK  RP35IS   ROUTE
 3676        KM   Route the combined full flow capacity of 253 cfs through an equivalent storm
 3677        KM   drain pipe diameter of 73 inches in 35th Avenue to the intersection of
 3678        KM   35th Avenue and Indian School Road
 3679        RK    2083  0.0037   0.015            CIRC    6.083
             *

 3680        KK  CPIS35 COMBINE
 3681        KM   Combine pipe return PR35CB with the runoff hydrograph at combination point
 3682        KM   CIS35 at the intersection of Indian School Road and 35th Avenue
 3683        HC       2
             *

 3684        KK  D31IS  DIVERT
 3685        KM   Divert calculated full flow capapcity of 268 cfs into 72-inch storm drain
 3686        KM   pipe at the intersection of Indian School Road and 31st Avenue
 3687        DT  DP31IS      0.0   268.0
 3688        DI      0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
 3689        DQ      0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
             *

 3690        KK  D35IS  DIVERT
 3691        KM   Divert calculated full flow capapcity of 40 cfs into 36-inch storm drain
 3692        KM   pipe at the intersection of Indian School Road and 35th Avenue
 3693        DT  DP35IS      0.0    40.0
 3694        DI      0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
 3695        DQ      0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
             *

 3696        KK  DWGR35  DIVERT
 3697        KM   Divert remaining runoff hydrograph from combination point CIS35 west to
 3698        KM   combination point CGR35
 3699        DT  DSGC35      0.0     0.0
 3700        DI      0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
 3701        DQ      0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
             *

 3702        KK  DIGR35RETRIEVE
 3703        KM   Retrieve arterial street flow diverted to Grand Avenue at the intersection
 3704        KM   of Grand Avenue and 35th Avenue
 3705        DR  DEGR35
             *

 3706        KK  DRGR35RETRIEVE
 3707        KM   Retrieve subbasin flow diverted to the intersection of 43rd Avenue and
 3708        KM   Grand Avenue
 3709        DR  DSGR35
             *
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 LINE        ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 3710        KK  D35GR  DIVERT
 3711        KM   Divert portion of divert return DRGR35 south to subbasin GR35 using the ratio
 3712        KM   of the width of the collector and local streets and the width of the arterial
 3713        KM   street. The remaining flow is diverted south to combination point CICB43
 3714        KM   along 43rd Avenue
 3715        DT  DS43IS      0.0     0.0
 3716        DI      0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
 3717        DQ      0.0    36.0    72.0   180.0   360.0   720.0  1440.0  3600.0  7200.0 18000.0
             *

 3718        KK  CIGR43 COMBINE
 3719        KM   Combine arterial street flow from Grand Avenue DIGR35 with runoff hydrograph
 3720        KM   D35GR at the intersection of 43rd Avenue and Grand Avenue
 3721        HC       2    1.58
             *

 3722        KK  RSGR35   ROUTE
 3723        KM   Route hydrograph at combination point CIGR43 at the intersection of Grand
 3724        KM   Avenue and 43rd Avenue south to combination point CGR35
 3725        RS       5    FLOW
 3726        RC   0.035   0.015   0.035    7095  0.0033    0.00
 3727        RX    0.00    0.00   48.00   48.00  251.00  251.00  299.00  299.00
 3728        RY    3.00    0.98    0.50    0.00    0.00    0.50    0.98    3.00
             *

 3729        KK    GR35   BASIN
 3730        KM   Runoff hydrograph for subbasin GR35 northwest of the intersection of Grand
 3731        KM   Avenue, 35th Avenue, and Indian School Road
 3732        BA   0.531
 3733        LG    0.21    0.26    4.80    0.26      49
 3734        UC   0.894   0.487
 3735        UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
 3736        UA     100
             *
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 3737        KK   CGR35 COMBINE
 3738        KM   Combine divert DWGR35, route RSGR35, and subbasin GR35
 3739        HC       3    2.11
             *

 3740        KK  PR39CBRETRIEVE
 3741        KM   Retrieve full flow capacity of 268 cfs from 72-inch diameter pipe at the
 3742        KM   intersection of Camelback Road and 39th Avenue
 3743        DR  DP39CB
             *

 3744        KK  RP39GR   ROUTE
 3745        KM   Route the full flow capacity of 268 cfs through 72-inch storm drain pipe
 3746        KM   diameter in 39th Avenue to the intersection of 39th Avenue and Indian School
 3747        KM   Road
 3748        RK    2846  0.0040   0.015            CIRC    6.000
             *
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 LINE        ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 3749        KK  CPGR35 COMBINE
 3750        KM   Combine pipe return PR39CB with the runoff hydrograph at combination point
 3751        KM   CGC35 at the intersection of Grand Avenue and 35th Avenue
 3752        HC       2
             *

 3753        KK  DP39GR  DIVERT
 3754        KM   Divert calculated full flow capapcity of 251 cfs into 72-inch storm drain
 3755        KM   pipe at the intersection of Grand Avenue and 39th Avenue. The pipe flow is
 3756        KM   followed to combination point CPIS43 and the remaining surface flow is
 3757        KM   diverted to combination point CIIS53 at the intersection of Indian School
 3758        KM   Road and 35th Avenue
 3759        DT  D39GR       0.0     0.0
 3760        DI      0.0   251.0   251.1 50000.0     0.0     0.0     0.0     0.0     0.0     0.0
 3761        DQ      0.0     0.0     0.1 49749.0     0.0     0.0     0.0     0.0     0.0     0.0
             *

 3762        KK  RP39IS   ROUTE
 3763        KM   Route the full flow capacity of 251 cfs through 72-inch storm drain pipe
 3764        KM   diameter in 39th Avenue to the intersection of 39th Avenue and Indian School
 3765        KM   Road
 3766        RK    2428  0.0035   0.015            CIRC    6.000
             *

 3767        KK  DRIS43RETRIEVE
 3768        KM   Retrieve divert DRIS43 in 43rd Avenue from combination point CGR43 and divert
 3769        KM   south to intersection combination point CICB43
 3770        DR  DSIS43
             *

 3771        KK  DI43ISRETRIEVE
 3772        KM   Retrieve subbasin flow diverted to the intersection of Camelback Road and
 3773        KM   43rd Avenue
 3774        DR  DS43IS
             *

 3775        KK  CICB43 COMBINE
 3776        KM   Combine arterial street flow from 43rd Avenue DRIS43 with arterial street
 3777        KM   flow DI43IS at the intersection of 43rd Avenue and Camelback Road
 3778        HC       2    1.40
             *

 3779        KK  RSIS43   ROUTE
 3780        KM   Route hydrograph at intersection combination point CICB43 at the intersection
 3781        KM   of Camelback Road and 43rd Avenue south to combination point CIS43
 3782        RS       3    FLOW
 3783        RC   0.035   0.015   0.035    5280  0.0048    0.00
 3784        RX    0.00    0.00   16.50   16.50  107.50  107.50  124.00  124.00
 3785        RY    3.00    0.66    0.50    0.00    0.00    0.50    0.66    3.00
             *
1                                   HEC-1 INPUT                                   PAGE 99

 LINE        ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 3786        KK    IS43   BASIN
 3787        KM   Runoff hydrograph for subbasin IS43 northeast of the intersection of Indian
 3788        KM   School Road and 43rd Avenue
 3789        BA   0.467
 3790        LG    0.15    0.25    4.80    0.25      80
 3791        UC   0.531   0.267
 3792        UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
 3793        UA     100
             *

 3794        KK   CIS43 COMBINE
 3795        KM   Combine route RSIS43 and subbasin IS43
 3796        HC       2    1.87
             *

 3797        KK  PR43CBRETRIEVE
```

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3798          KM   Retrieve full flow capacity of 155 cfs from 60-inch storm drain pipe at the
3799          KM   intersection of Camelback Road and 43rd Avenue
3800          DR  DP43CB
              *

3801          KK  RP43IS    ROUTE
3802          KM   Route full flow capacity of 155 cfs through 60-inch storm drain pipe in
3803          KM   43rd Avenue to the intersection of Indian School Road and 43rd Avenue
3804          RK    5374  0.0035   0.015            CIRC   5.000
              *

3805          KK  CPIS43 COMBINE
3806          KM   Combine pipe return PR43CB with the runoff hydrograph at combination point
3807          KM   CIS43 at the intersection of Indian School Road and 43rd Avenue
3808          HC       3
              *

3809          KK   D43IS  DIVERT
3810          KM   Capacity of storm drain in 39th Avenue and 43rd Avenue diverted together.
3811          KM   Divert combined calculated full flow capacity of 251 cfs in the 72-inch storm
3812          KM   drain pipe in 39th Avenue and 154 cfs in the 60-inch storm drain pipe in
3813          KM   43rd Avenue. The total calculated combined full flow capacity diverted at the
3814          KM   intersection of 43rd Avenue and Indian School Road is 406 cfs in an
3815          KM   equivalent diameter pipe of 87 inches
3816          DT  DP43IS      0.0    406.0
3817          DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
3818          DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

3819          KK  DWIS51   DIVERT
3820          KM   Divert runoff hydrograph from combination point CPIS43 west to combination
3821          KM   point CIS51
3822          DT  DSGC43      0.0      0.0
3823          DI     0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0 10000.0 20000.0 50000.0
3824          DQ     0.0     83.0    166.0    415.0    830.0   1660.0   3320.0  8300.0 16600.0 41500.0
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

3825          KK  RWIS51   ROUTE
3826          KM   Route diversion DWIS51 west to combination point CIS51
3827          RS       10     FLOW
3828          RC   0.035    0.015    0.035     5280   0.0003     0.00
3829          RX    0.00     0.00    45.00    45.00   229.00   229.00   274.00   274.00
3830          RY    3.00     0.95     0.50     0.00     0.00     0.50     0.95     3.00
              *

3831          KK  DRIS51RETRIEVE
3832          KM   Retrieve divert DRIS51 from combination point CCB51 and divert south to
3833          KM   combination point CIS51
3834          DR  DSIS51
              *

3835          KK  RSIS51   ROUTE
3836          KM   Route diversion retrieval DRIS51 south to combination point CIS51
3837          RS       3     FLOW
3838          RC   0.035    0.015    0.035     5280   0.0037     0.00
3839          RX    0.00     0.00    38.50    38.50   210.50   210.50   249.00   249.00
3840          RY    3.00     0.88     0.50     0.00     0.00     0.50     0.88     3.00
              *

3841          KK    IS51   BASIN
3842          KM   Runoff hydrograph for square mile subbasin IS51 northeast of the intersection
3843          KM   of Indian School Road and 51st Avenue
3844          BA   0.994
3845          LG    0.21     0.27     5.00     0.23       47
3846          UC   1.360    0.906
3847          UA       0      5.0     16.0     30.0     65.0     77.0     84.0     90.0     94.0     97.0
3848          UA     100
              *

3849          KK  ERIS51  DIVERT
3850          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
3851          KM   retention developed after 1990 in subbasin IS51
3852          DT  XIS51     36.7      0.0
3853          DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
3854          DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

3855          KK   CIS51 COMBINE
3856          KM   Combine route RWIS51, route RSIS51, and subbasin IS51
3857          HC       3     1.94
              *

3858          KK   D51IS  DIVERT
3859          KM   Divert calculated full flow capapcity of 244 cfs into 72-inch storm drain
3860          KM   pipe at the intersection of Indian School Road and 51st Avenue
3861          DT  DP51IS      0.0    244.0
3862          DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
3863          DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

3864          KK  DWIS59  DIVERT
3865          KM   Divert remaining runoff hydrograph from combination point CIS51 west to
3866          KM   combination point CIS59
3867          DT  DSGC51      0.0      0.0
3868          DI     0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0 10000.0 20000.0 50000.0
3869          DQ     0.0     62.0    124.0    310.0    620.0   1240.0   2480.0  6200.0 12400.0 31000.0
              *

3870          KK  RWIS59   ROUTE
3871          KM   Route diversion DWIS59 west to combination point CIS59
3872          RS       10     FLOW
3873          RC   0.035    0.015    0.035     5280   0.0016     0.00
3874          RX    0.00     0.00    67.00    67.00   332.00   332.00   399.00   399.00
3875          RY    3.00     1.17     0.50     0.00     0.00     0.50     1.17     3.00
              *

3876          KK  DRIS59RETRIEVE
3877          KM   Retrieve divert DRIS59 from combination point CCB59 and divert south to
3878          KM   combination point CIS59
3879          DR  DSIS59
              *

3880          KK  RSIS59   ROUTE
3881          KM   Route diversion retrieval DRIS59 south to combination point CIS59
3882          RS       3     FLOW
3883          RC   0.035    0.015    0.035     5280   0.0030     0.00
3884          RX    0.00     0.00    67.00    67.00   332.00   332.00   399.00   399.00
3885          RY    3.00     1.17     0.50     0.00     0.00     0.50     1.17     3.00
              *

3886          KK    IS59   BASIN
3887          KM   Runoff hydrograph for square mile subbasin IS59 northeast of the intersection
3888          KM   of Indian School Road and 59th Avenue
3889          BA   1.014
3890          LG    0.22     0.25     5.30     0.21       43
3891          UC   1.500    1.006
3892          UA       0      5.0     16.0     30.0     65.0     77.0     84.0     90.0     94.0     97.0
3893          UA     100
              *

3894          KK   CIS59 COMBINE
3895          KM   Combine route RWIS59, route RSIS59, and subbasin IS59
3896          HC       3     3.38
              *

3897          KK   D59IS  DIVERT
3898          KM   Divert calculated full flow capapcity of 353 cfs into 81-inch storm drain
3899          KM   pipe at the intersection of Indian School Road and 59th Avenue
3900          DT  DP59IS      0.0    353.0
3901          DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
3902          DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

3903          KK  DWGC67  DIVERT
3904          KM   Divert remaining runoff hydrograph from combination point CIS59 west to
3905          KM   combination point CGC67
3906          DT  DSGC59      0.0      0.0
3907          DI     0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0 10000.0 20000.0 50000.0
3908          DQ     0.0     60.0    120.0    300.0    600.0   1200.0   2400.0  6000.0 12000.0 30000.0
              *

3909          KK  RWGC67   ROUTE
3910          KM   Route diversion DWGC67 west to combination point CGC67
3911          RS       4     FLOW
3912          RC   0.035    0.015    0.035     3841   0.0016     0.00
3913          RX    0.00     0.00    48.00    48.00   251.00   251.00   299.00   299.00
3914          RY    3.00     0.98     0.50     0.00     0.00     0.50     0.98     3.00
              *

3915          KK  DRGC67RETRIEVE
3916          KM   Retrieve divert DRGC67 from combination point CCB67 and divert south to
3917          KM   combination point CGC67
3918          DR  DSGC67
              *

3919          KK  RSGC67   ROUTE
3920          KM   Route diversion retrieval DRGC67 south to combination point CGC67
3921          RS       5     FLOW
3922          RC   0.035    0.015    0.035     5280   0.0017     0.00
3923          RX    0.00     0.00    76.50    76.50   372.50   372.50   449.00   449.00
3924          RY    3.00     1.27     0.50     0.00     0.00     0.50     1.27     3.00
              *

3925          KK    GC67   BASIN
```

```
KM   Runoff hydrograph for subbasin GC67 northeast of the intersection of the
KM   Grand Canal and 67th Avenue
BA   0.936
LG    0.21    0.15    7.30    0.11      28
UC   1.412   0.874
UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
UA     100
*

KK   CGC67 COMBINE
KM   Combine route RWGC67, route RSGC67, and subbasin GC67
HC       3    4.34
*

KK   D67IS  DIVERT
KM   Divert calculated full flow capapcity of 175 cfs into 66-inch storm drain
KM   pipe at the intersection of Indian School Road and 67th Avenue
DT   DP67IS      0.0   175.0
DI       0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
DQ       0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
*
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LINE  ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

KK  DWGC75  DIVERT
KM   Divert remaining runoff hydrograph from combination point CGC67 west to
KM   combination point CGC75
DT  DS1SGC      0.0     0.0
DI      0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
DQ      0.0    51.0   102.0   255.0   510.0  1020.0  2040.0  5100.0 10200.0 25500.0
*

KK  DRGR39RETRIEVE
KM   Retrieve remaining surface flow runoff hydrograph DRGR39 following pipe
KM   diversion DP39GR after combination point CPGR35 at the intersection of 39th
KM   Avenue and Grand Avenue
DR   D39GR
*

KK   DGC35  DIVERT
KM   Divert runoff hydrograph DRGR39 along Grand Avenue.  Remaining hydrograph
KM   flows along 35th Avenue to the intersection of 35th Avenue and the Grand
KM   Canal
DT  DEGCGR      0.0     0.0
DI      0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
DQ      0.0    48.0    96.0   240.0   480.0   960.0  1920.0  4800.0  9600.0 24000.0
*

KK  DRGC35RETRIEVE
KM   Retrieve remaining runoff hydrograph DRGC35 coming south from combination
KM   point CPIS35 at the intersection of 35th Avenue and Grand Avenue
DR  DSGC35
*

KK  DS35GC  DIVERT
KM   Divert runoff hydrograph DRGC35 along Grand Avenue. Remaining hydrograph
KM   flows along 35th Avenue to the intersection of 35th Avenue and the Grand
KM   Canal
DT  DSGCGR      0.0     0.0
DI      0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
DQ      0.0    25.0    50.0   125.0   250.0   500.0  1000.0  2500.0  5000.0 12500.0
*

KK  CIIS35 COMBINE
KM   Combine arterial street flow from 35th Avenue DIGC35 with areterial street
KM   flow from 35th Avenue DRGC35 at the intersection of 35th Avenue and Indian
KM   School Road
HC       2    2.06
*

KK  RSGC35   ROUTE
KM   Route hydrograph at combination point CIIS35 at the intersection of Indian
KM   School Road and 35th Avenue south to combination point CGC35
RS       1    FLOW
RC   0.035   0.015   0.035    1973  0.0033    0.00
RX    0.00    0.00   16.50   16.50  107.50  107.50  124.00  124.00
RY    3.00    0.66    0.50    0.00    0.00    0.50    0.66    3.00
*
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LINE  ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

KK    GC35   BASIN
KM   Runoff hydrograph for subbasin GC35 northeast of the intersection of the
KM   Grand Canal and 35th Avenue
BA   0.077
LG    0.15    0.25    4.25    0.35      80
UC   0.398   0.259
UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
UA     100
*
```



```
*

KK   CGC35 COMBINE
KM   Combine route RSGC35 and subbasin GC35
HC       2    2.14
*

KK  PR35ISRETRIEVE
KM   Retrieve full flow capacity of 40 cfs from 36-inch diameter pipe at the
KM   intersection of Indian School Road and 35th Avenue
DR  DP35IS
*

KK  RP35GC   ROUTE
KM   Route the full flow capacity of 40 cfs through 36-inch storm drain pipe
KM   diameter in 35th Avenue to the intersection of 35th Avenue and the Grand
KM   Canal
RK    2327  0.0035   0.015            CIRC   3.000
*

KK  CPGC35 COMBINE
KM   Combine pipe return PR35IS with the runoff hydrograph at combination point
KM   CGC35 at the intersection of the Grand Canal and 35th Avenue
HC       2
*

KK   D35GC  DIVERT
KM   Divert calculated full flow capapcity of 40 cfs into 36-inch storm drain
KM   pipe at the intersection of the Grand Canal and 35th Avenue
DT  DP35GC      0.0    40.0
DI       0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
DQ       0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
*

KK  DWGC43  DIVERT
KM   Divert runoff hydrograph from combination point CGC35 west to combination
KM   point CGC35
DT  DSTM35      0.0     0.0
DI      0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
DQ      0.0    85.0   170.0   425.0   850.0  1700.0  3400.0  8500.0 17000.0 42500.0
*
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LINE  ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

KK  RWGC43   ROUTE
KM   Route hydrograph at combination point CGC35 at the intersection of the Grand
KM   Canal and 35th Avenue west to combination point CGC43
RS       5    FLOW
RC   0.035   0.015   0.035    6627  0.0009    0.00
RX    0.00    0.00    9.50    9.50   40.50   40.50   50.00   50.00
RY    3.00    0.60    0.50    0.00    0.00    0.50    0.60    3.00
*

KK  DRGC43RETRIEVE
KM   Retrieve divert DRGC43 from combination point CPIS43 and divert south to
KM   combination point CGC43
DR  DSGC43
*

KK  RSGC43   ROUTE
KM   Route diversion retrieval DRGC43 south to combination point CGC43
RS       1    FLOW
RC   0.035   0.015   0.035    2155  0.0038    0.00
RX    0.00    0.00   57.50   57.50  291.50  291.50  349.00  349.00
RY    3.00    1.08    0.50    0.00    0.00    0.50    1.08    3.00
*

KK    GC43   BASIN
KM   Runoff hydrograph for subbasin GC43 northeast of the intersection of the
KM   Grand Canal and 43rd Avenue
BA   0.370
LG    0.15    0.25    6.00    0.15      80
UC   0.969   0.857
UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
UA     100
*

KK   CGC43 COMBINE
KM   Combine route RWGC43, route RSGC43, and subbasin GC43
HC       3    2.23
*

KK  PR43ISRETRIEVE
KM   Retrieve combined full flow capacity of 406 cfs from 87-inch equivalent
KM   diameter pipe at the intersection of Indian School Road and 43rd Avenue
DR  DP43IS
*

KK  RP43GC   ROUTE
KM   Route the combined full flow capacity of 406 cfs through an equivalent storm
KM   drain pipe diameter of 87 inches in 43rd Avenue to the intersection of
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     4054            KM   43rd Avenue and the Grand Canal
     4055            RK    2347  0.0035   0.015            CIRC    6.083
                     *
1                                        HEC-1 INPUT                                              PAGE106

     LINE            ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


     4056            KK  CPGC43 COMBINE
     4057            KM   Combine pipe return PR43IS with the runoff hydrograph at combination point
     4058            KM   CGC43 at the intersection of the Grand Canal and 43rd Avenue
     4059            HC       2
                     *

     4060            KK   D43GC  DIVERT
     4061            KM   Capacity of storm drain in 39th Avenue and 43rd Avenue diverted together.
     4062            KM   Divert combined calculated full flow capacity of 251 cfs in the 72-inch storm
     4063            KM   drain pipe in 39th Avenue and 154 cfs in the 60-inch storm drain pipe in
     4064            KM   43rdAvenue. The total calculated combined full flow capacity diverted at the
     4065            KM   intersection of 43rd Avenue and the Grand Canal is 406 cfs in an
     4066            KM   equivalent diameter pipe of 87 inches
     4067            DT  DP43GC      0.0    406.0
     4068            DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
     4069            DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
                     *

     4070            KK  SRGC43 STORAGE
     4071            KM    Storage routing ID PA43 in Maryvale ADMS, Feb 1997 - comments from ADMS:
     4072            KM    STORAGE ROUTING
     4073            KM    PONDING AREA IN THE VICINITY OF 43RD AVE
     4074            KM    PRELIMINARY COMPUTATIONS BY WPA 6/96
     4075            KM    CAPACITY OF SURFACE FLOW NORTH OF CANAL = 200 CFS
     4076            KM    DIVERSION OF FLOW UNDER THE GRAND CANAL BY AN EXISTING STORM DRAIN SYSTEM
     4077            KM    ESTIMATED STORM DRAIN CAPACITY(63") = 89 CFS
     4078            KM    TOP OF CANAL BANK ELEVATION = 1108
     4079            KM
     4080            KM   =============================================================================
     4081            KM   REVISED BY KHA ---> storm drain flows diverted previously. Subtracted out
     4082            KM                       pipe capacity from SQ cards
     4083            KM                       Confirmed capacity of surface flow on north side of bank
     4084            KM
     4085            KM   Storage route runoff hydrograph from divert D43GC through ponding
     4086            KM     area at the Grand Canal between 35th and 43rd Avenues
     4087            KM   =============================================================================
     4088            RS       1    STOR      -1    1104.
     4089            SV            0.01    0.10    0.64    4.77    6.79   29.76   33.00
     4090            SQ                                           200.00  200.00 2200.00
     4091            SE  1104.0 1104.10 1105.00 1106.00 1106.80 1107.00 1108.00 1109.00
                     *

     4092            KK  DWGC51  DIVERT
     4093            KM    Divert ID D43 in Maryvale ADMS, Feb 1997 - comments from ADMS:
     4094            KM    FLOW DIVERSION AT 43RD AVE
     4095            KM    DIVERSION TO SOUTH
     4096            KM    PRELIMINARY COMPUTATIONS BY WPA 6/96
     4097            KM    CAPACITY OF SURFACE FLOW NORTH OF CANAL = 200 CFS
     4098            KM    DIVERSION OF FLOW SOUTH UNDER THE GRAND CANAL BY EXIST. STORM DRAIN SYSTEM
     4099            KM    ESTIMATED STORM DRAIN CAPACITY(63") = 89 CFS
     4100            KM   =============================================================================
     4101            KM   Divert runoff hydrograph from combination point CGC43 west to combination
     4102            KM   point CGC51
     4103            KM   =============================================================================
1                                        HEC-1 INPUT                                              PAGE107

     LINE            ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

     4104            DT  DSTM43     0.0     0.0
     4105            DI     0.0   200.0  2200.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
     4106            DQ     0.0     0.0  2000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
                     *

     4107            KK  RWGC51   ROUTE
     4108            KM   Route diversion DWGC51 west to combination point CGC51
     4109            RS      10    FLOW
     4110            RC   0.035   0.015   0.035    5614  0.0005    0.00
     4111            RX    0.00    0.00   19.00   19.00   81.00   81.00  100.00  100.00
     4112            RY    3.00    0.69    0.50    0.00    0.00    0.50    0.69    3.00
                     *

     4113            KK  DRGC51RETRIEVE
     4114            KM   Retrieve divert DRGC51 from combination point CIS51 and divert south to
     4115            KM   combination point CGC51
     4116            DR  DSGC51
                     *

     4117            KK  RSGC51   ROUTE
     4118            KM   Route diversion retrieval DRGC51 south to combination point CGC51
     4119            RS       3    FLOW
     4120            RC   0.035   0.015   0.035    2155  0.0045    0.00
     4121            RX    0.00    0.00   67.00   67.00  332.00  332.00  399.00  399.00
     4122            RY    3.00    1.17    0.50    0.00    0.00    0.50    1.17    3.00
                     *
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     4123            KK    GC51   BASIN
     4124            KM   Runoff hydrograph for subbasin GC51 northeast of the intersection of the
     4125            KM   Grand Canal and 51st Avenue
     4126            BA   0.448
     4127            LG    0.24    0.25    5.00    0.24      36
     4128            UC   1.500   1.228
     4129            UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
     4130            UA     100
                     *

     4131            KK   CGC51 COMBINE
     4132            KM   Combine route RWGC51, route RSGC51, and subbasin GC51
     4133            HC       3    2.04
                     *

     4134            KK  PR51ISRETRIEVE
     4135            KM   Retrieve full flow capacity of 244 cfs from 72-inch storm drain pipe at the
     4136            KM   intersection of Indian School Road and 51st Avenue
     4137            DR  DP51IS
                     *

     4138            KK  RP51ML   ROUTE
     4139            KM   Route full flow capacity of 244 cfs through 72-inch storm drain pipe in
     4140            KM   51st Avenue to the intersection of Mitchell Drive and 51st Avenue
     4141            RK    2089  0.0033   0.015            CIRC    6.000
                     *
1                                        HEC-1 INPUT                                              PAGE108

     LINE            ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


     4142            KK  CPML51 COMBINE
     4143            KM   Combine pipe return PR51IS with the runoff hydrograph at combination point
     4144            KM   CGC51 at the intersection of the Grand Canal and 51st Avenue
     4145            HC       2
                     *

     4146            KK   DML51  DIVERT
     4147            KM   Divert calculated full flow capapcity of 136 cfs into 72-inch storm drain
     4148            KM   pipe at the intersection of Mitchell Drive and 51st Avenue
     4149            DT  DPML51     0.0   136.0
     4150            DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
     4151            DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
                     *

     4152            KK   D51GC  DIVERT
     4153            KM   Divert calculated full flow capapcity of 113 cfs into 54-inch storm drain
     4154            KM   pipe near the intersection of the Grand Canal and 51st Avenue
     4155            DT  DP51GC     0.0   113.0
     4156            DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
     4157            DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
                     *

     4158            KK  SRGC51 STORAGE
     4159            KM    Storage routing ID PA47 in Maryvale ADMS, Feb 1997 - comments from ADMS:
     4160            KM    PONDING AREA IN THE VICINITY OF 47TH  AND 51ST AVE
     4161            KM
     4162            KM    PRELIMINARY COMPUTATIONS BY WPA 6/96
     4163            KM    CAPACITY OF FLOW NORTH OF CANAL = 300 CFS+(STORM DRAIN CAP)105CFS PER CVL
     4164            KM    DIVERSION OF FLOW OVER THE CANAL BANKS
     4165            KM    TOP OF CANAL BANK ELEV = 1105
     4166            KM   =============================================================================
     4167            KM   REVISION TO MARYVALE ADMS MODEL BY KHA --> COMBINE DIVERTS AT 47TH & 51ST AVE
     4168            KM                        SUBTRACTED OUT STORM DRAIN CAPACITY FROM SQ CARDS
     4169            KM                        CONFIRMED CAPACITY OF SURFACE FLOW ON NORTH SIDE OF BANK
     4170            KM
     4171            KM   Storage route runoff hydrograph from divert D51GC through ponding
     4172            KM     area at the Grand Canal between 43rd 51st Avenues
     4173            KM   =============================================================================
     4174            RS       1    STOR      -1
     4175            SV            4.82   23.64   29.62   63.89   86.57
     4176            SQ           25.00  275.00  350.00 1350.00 4250.00
     4177            SE  1103.0 1104.00 1104.80 1105.00 1105.50 1106.00
                     *

     4178            KK  DWGC53  DIVERT
     4179            KM    Divert ID D47 in Maryvale ADMS, Feb 1997 - comments from ADMS:
     4180            KM    DIVERSION AT 47TH AVE
     4181            KM    PRELIMINARY COMPUTATIONS BY WPA 6/96
     4182            KM    AN EXISTING STORM DRAIN SYSTEM CONVEYS FLOW TO THE WEST ONLY
     4183            KM    CAPACITY OF FLOW NORTH OF CANAL = 300 CFS+(STORM DRAIN CAP)105CFS PER CVL
     4184            KM    DIVERSION OF FLOW OVER THE CANAL BANKS
     4185            KM   =============================================================================
     4186            KM   REVISION TO MARYVALE ADMS MODEL BY KHA --> COMBINE DIVERTS AT 47TH & 51ST AVE
     4187            KM                        SUBTRACTED OUT STORM DRAIN CAPACITY FROM SQ CARDS
1                                        HEC-1 INPUT                                              PAGE109

     LINE            ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

     4188            KM                        CONFIRMED CAPACITY OF SURFACE FLOW ON NORTH SIDE OF BANK
     4189            KM
     4190            KM   Divert remaining runoff hydrograph from combination point CPGC51 west to
     4191            KM   combination point CGC59
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4192          KM   ===========================================================================
4193          DT  DSTM51      0.0      0.0
4194          DI      0.0    300.0   2300.0   4250.0      0.0      0.0      0.0      0.0      0.0      0.0
4195          DQ      0.0      0.1   2000.0   3950.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

4196          KK  RWGC53    ROUTE
4197          KM   Route diversion DWGC53 west to combination point CGC53
4198          RS        4     FLOW
4199          RC    0.035    0.015    0.035     1296   0.0012     0.00
4200          RX     0.00     0.00     9.50     9.50    40.50    40.50    50.00    50.00
4201          RY     3.00     0.60     0.50     0.00     0.00     0.50     0.60     3.00
              *

4202          KK  DRGC59RETRIEVE
4203          KM   Retrieve divert DRGC59 from combination point CIS59 and divert south to
4204          KM   combination point CGC59
4205          DR  DSGC59
              *

4206          KK  RSGC59    ROUTE
4207          KM   Route diversion retrieval DRGC59 south to combination point CGC59
4208          RS        2     FLOW
4209          RC    0.035    0.015    0.035     2502   0.0025     0.00
4210          RX     0.00     0.00    57.50    57.50   291.50   291.50   349.00   349.00
4211          RY     3.00     1.08     0.50     0.00     0.00     0.50     1.08     3.00
              *

4212          KK    GC59    BASIN
4213          KM   Runoff hydrograph for subbasin GC59 northeast of the intersection of the
4214          KM   Grand Canal and 59th Avenue
4215          BA   0.410
4216          LG    0.24     0.23     6.20     0.16       42
4217          UC   1.144    0.832
4218          UA        0      5.0     16.0     30.0     65.0     77.0     84.0     90.0     94.0     97.0
4219          UA      100
              *

4220          KK    CGC55 COMBINE
4221          KM   Combine route RSGC59 and subbasin GC59
4222          HC        2     2.42
              *

4223          KK  DEGC53   DIVERT
4224          KM   Divert portion of runoff hydrograph from combination point CGC55  to
4225          KM   combination point CGC53 where it will be routed through the Maryvale Ball
4226          KM   Park basin near the intersection of the Grand Canal and 53rd Avenue.  The
4227          KM   remaining flow is diverted to combination point CPGC59. The diversion is
4228          KM   based on topography
4229          DT  DWGC59      0.0      0.0
4230          DI      0.0    173.0    200.0    500.0   1000.0   2000.0   4000.0  10000.0  20000.0      0.0
1                                        HEC-1 INPUT                                                PAGE110

LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

4231          DQ      0.0      0.0     14.0    167.0    422.0    932.0   1952.0   5012.0  10112.0      0.0
              *

4232          KK  PRML51RETRIEVE
4233          KM   Retrieve full flow capacity of 136 cfs from 72-inch storm drain pipe at the
4234          KM   intersection of Mitchell Drive and 51st Avenue
4235          DR  DPML51
              *

4236          KK  RPML53    ROUTE
4237          KM   Route full flow capacity of 136 cfs through 72-inch storm drain pipe in
4238          KM   Mitchell Drive to the intersection of Mitchell Drive and 53rd Avenue
4239          RK     1084  0.0010    0.015              CIRC    6.000
              *

4240          KK    CGC53 COMBINE
4241          KM   Combine route RWGC53, route RPML53, and divert DGC53
4242          HC        3     2.27
              *

4243          KK  SRGC53 STORAGE
4244          KM   Storage route runoff hydrograph from combination point CPGC59 thru detention
4245          KM     basin at Grand Avenue near the intersection of Grand Avenue and 59th Avenue
4246          KM   Stage-storage data from Maryvale Baseball Park Grading and Drainage As-built
4247          KM     Record, 1997
4248          RS        1     STOR
4249          SV             1.90     5.90    10.00    15.20    22.20    31.70    44.60    59.50    75.60
4250          SV     93.0
4251          SQ      0.0     10.0     28.0     44.0     56.0     65.0     73.0     81.0     88.0       94
4252          SQ  1358.0
4253          SE  1094.0   1095.0   1096.0   1097.0   1098.0   1099.0   1100.0   1101.0   1102.0     1103
4254          SE  1104.0
              *

4255          KK   DGC53  DIVERT
4256          KM   Storm drain outflow from Maryvale Baseball Park basin. Divert calculated full
4257          KM   flow capapcity of 20 cfs into 36-inch storm drain pipe at the intersection of
4258          KM   the Grand Canal and 53rd Avenue
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4259          DT  DPGC53      0.0     20.0
4260          DI      0.0  50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
4261          DQ      0.0  50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

4262          KK  PR59ISRETRIEVE
4263          KM   Retrieve full flow capacity of 353 cfs from 81-inch storm drain pipe at the
4264          KM   intersection of Indian School Road and 59th Avenue
4265          DR  DP59IS
              *

4266          KK  RP59GC    ROUTE
4267          KM   Route full flow capacity of 353 cfs through 81-inch storm drain pipe in
4268          KM   59th Avenue to the intersection of the Grand Canal and 59th Avenue
4269          RK     1243  0.0037    0.015              CIRC    6.750
              *
1                                        HEC-1 INPUT                                                PAGE111

LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

4270          KK  DRGC59RETRIEVE
4271          KM   Retrieve divert DRGC59 from combination point CGC55 and divert to
4272          KM   combination point CPGC59
4273          DR  DWGC59
              *

4274          KK  CPGC59 COMBINE
4275          KM   Combine pipe return PR59IS with the runoff hydrograph at combination point
4276          KM   CGC59 at the intersection of the Grand Canal and 59th Avenue
4277          HC        2     1.24
              *

4278          KK    D59GC  DIVERT
4279          KM   Divert calculated full flow capapcity of 258 cfs into 72-inch storm drain
4280          KM   pipe at the intersection of the Grand Canal and 59th Avenue
4281          DT  DP59GC      0.0    258.0
4282          DI      0.0  50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
4283          DQ      0.0  50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

4284          KK    CGC59 COMBINE
4285          KM   Combine divert DGC53 and divert D59GC
4286          HC        2     3.50
              *

4287          KK  DWISGC   DIVERT
4288          KM     Divert ID D55 in Maryvale ADMS, Feb 1997 - comments from ADMS:
4289          KM     FLOW DIVERSION TO SOUTH
4290          KM     PRELIMINARY COMPUTATIONS BY WPA 6/96
4291          KM     CAPACITY OF SURFACE FLOW NORTH OF CANAL =  50 CFS
4292          KM     AN EXISTING STORM DRAIN SYSTEM CONVEYS FLOW TO THE WEST ONLY
4293          KM     DIVERSION OF FLOW OVER THE GRAND CANAL
4294          KM     STORM DRAIN CAPACITY WEST = 74 CFS PER CVL
4295          KM     TOP OF CANAL BANK ELEV = 1103
4296          KM   ===========================================================================
4297          KM   REVISION TO MARYVALE ADMS MODEL BY KHA --> COMBINE DIVERTS AT 55TH & 59TH AVE
4298          KM                        SUBTRACTED OUT STORM DRAIN CAPACITY FROM SQ CARDS
4299          KM                        CONFIRMED CAPACITY OF SURFACE FLOW ON NORTH SIDE OF BANK
4300          KM
4301          KM   Divert remaining runoff hydrograph from combination point CPGC59 west to
4302          KM   combination point CISGC
4303          KM   ===========================================================================
4304          DT  DSTM59      0.0      0.0
4305          DI      0.0     50.0    555.0   2689.0      0.0      0.0      0.0      0.0      0.0      0.0
4306          DQ      0.0      0.2    505.0   1030.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

4307          KK  RWISGC    ROUTE
4308          KM   Route diversion DWISGC west to combination point CISGC
4309          RS        2     FLOW
4310          RC    0.035    0.015    0.035     4300   0.0009     0.00
4311          RX     0.00     0.00     9.50     9.50    40.50    40.50    50.00    50.00
4312          RY     3.00     0.60     0.50     0.00     0.00     0.50     0.60     3.00
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

4313          KK  DRISGCRETRIEVE
4314          KM   Retrieve divert DRISGC from combination point CGC67 and divert south to
4315          KM   combination point CISGC
4316          DR  DSISGC
              *

4317          KK  RSISGC    ROUTE
4318          KM   Route diversion retrieval DRISGC south to combination point CISGC
4319          RS        1     FLOW
4320          RC    0.035    0.015    0.035     1231   0.0022     0.00
4321          RX     0.00     0.00    31.50    31.50   143.50   143.50   175.00   175.00
4322          RY     3.00     0.82     0.50     0.00     0.00     0.50     0.82     3.00
              *
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4323          KK    ISGC    BASIN
4324          KM    Runoff hydrograph for subbasin ISGC southeast of the intersection of Indian
4325          KM    School Road and the Grand Canal
4326          BA    0.159
4327          LG     0.25    0.15    7.00    0.11      32
4328          UC    1.500   1.708
4329          UA        0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
4330          UA      100
              *

4331          KK    CISGC COMBINE
4332          KM    Combine route RWISGC, route RSISGC, and subbasin ISGC
4333          HC        3    3.33
              *

4334          KK   PR59GCRETRIEVE
4335          KM    Retrieve full flow capacity of 258 cfs from 72-inch storm drain pipe at the
4336          KM    intersection of the Grand Canal and 59th Avenue
4337          DR   DP59GC
              *

4338          KK   CPISGC COMBINE
4339          KM    Combine pipe return PR59GC with the runoff hydrograph at combination point
4340          KM    CISGC at the intersection of Indian School Road and the Grand Canal
4341          HC        2
              *

4342          KK    DGC63   DIVERT
4343          KM    Divert calculated full flow capapcity of 258 cfs into 72-inch storm drain
4344          KM    pipe at the intersection of the Grand Canal and 63rd Avenue
4345          DT   DPGC63       0.0   258.0
4346          DI       0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
4347          DQ       0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

4348          KK   SRISGC STORAGE
4349          KM    Storage route runoff hydrograph from combination point CPISGC through
4350          KM      regional detention basin located near the intersection of the Grand Canal
4351          KM      and Indian School Road (Sunset Basin).
4352          KM    Stage-storage data from Bethany Home Outfall Channel TDN for CLOMR, Jan 2003
4353          KM    Discharge data for 96-in outlet pipe under construction Dec 2009
4354          RS        1     STOR
4355          SV              1.52    4.61   12.85   22.46   33.32   45.48   48.72   52.06
4356          SQ              3.00   12.00   46.00   83.00   91.00  593.00 1600.00 3421.00
4357          SE     85.00   86.00   87.00   89.00   91.00   93.00   95.00   95.50   96.00
              *

4358          KK   DPGC67  DIVERT
4359          KM    Divert excess flow that overtops the subbasin to the south.  The calculated
4360          KM    full flow capapcity in the 96-inch storm drain pipe leaving the basin is
4361          KM    is diverted north to combination point CGC75
4362          DT   DSTM67       0.0     0.0
4363          DI       0.0     3.0    12.0    46.0    83.0    91.0   593.0  1600.0  3421.0     0.0
4364          DQ       0.0     0.0     0.0     0.0     0.0     0.0     0.0   983.0  2781.0     0.0
              *

4365          KK   DRGC75RETRIEVE
4366          KM    Retrieve divert DRGC75 from combination point CCB75 and divert south to
4367          KM    combination point CGC75
4368          DR   DSGC75
              *

4369          KK     GC75    BASIN
4370          KM    Runoff hydrograph for subbasin GC75 southeast of the intersection of the
4371          KM    Grand Canal and 75th Avenue
4372          BA    0.410
4373          LG     0.24    0.15    8.00    0.07      33
4374          UC    1.500   1.585
4375          UA        0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
4376          UA      100
              *

4377          KK    CGC75 COMBINE
4378          KM    Combine divert DWGC75, pipe diversion DPGC67, divert retrieval DRGC75, and
4379          KM    subbasin GC75
4380          HC        4    9.44
              *

4381          KK   SRGC75 STORAGE
4382          KM    Storage route runoff hydrograph from combination point CGC75 through regional
4383          KM      detention basin along the Grand Canal between 67th and 75th Avenues
4384          KM    Vol/Elev data taken from DMJM HEC-1 revision (model BHGC00C6, Nov 2004)
4385          KM      confirmd by comparing with Bethany Home Outfall Channel Reach B As-builts
4386          KM    Discharge data calculated from discharge channel in As-builts (Bethany Home
4387          KM      Outfall Channel Reach C - 83rd Ave to 73rd Ave, June 2007)
4388          KM      Rect concrete channel, width = 14 ft, slope = 0.000992 ft/ft
4389          RS        1     STOR
4390          SV              0.00    0.00    0.07    0.73    2.73    6.42   12.25   20.32   29.62
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4391          SV  40.248  52.049  65.081  79.346  94.800   103.1   111.4
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

4392          SQ      0.0     0.0     0.0    36.0   120.0   230.0   356.0   493.0   639.0     790
4393          SQ    947.0  1107.0  1270.0  1436.0  1604.0  1689.0  1774.0
4394          SE   1074.7  1078.0  1081.0  1083.0  1084.0  1085.0  1086.0  1087.0  1088.0    1089
4395          SE   1090.0  1091.0  1092.0  1093.0  1094.0  1094.5  1095.0
              *

4396          KK   CICB75 COMBINE
4397          KM    Combine runoff hydrograph DWGC83 with runoff hydrograph from combination
4398          KM    point CGC75 at the intersection of Camelback Road and 75th Avenue
4399          HC        2   14.03
              *

4400          KK   RWGC83    ROUTE
4401          KM    Route hydrograph at combination point CICB75 at the intersection of Camelback
4402          KM    Road and 75th Avenue west to combination point CGC83
4403          RS        4     FLOW
4404          RC    0.035   0.015   0.035    6563  0.0010     0.00
4405          RX     0.00    3.00   13.00   13.00   31.00   31.00   41.00   44.00
4406          RY    10.00    9.00    9.00    0.00    0.00    9.00    9.00   10.00
              *

4407          KK   DRGC83RETRIEVE
4408          KM    Retrieve divert DRGC83 from combination point CBH83 and divert south to
4409          KM    combination point CGC83
4410          DR   DSGC83
              *

4411          KK     GC83    BASIN
4412          KM    Runoff hydrograph for subbasin GC83 southeast of the intersection of the
4413          KM    Grand Canal and 83rd Avenue
4414          BA    0.426
4415          LG     0.25    0.15    8.40    0.07      26
4416          UC    1.500   1.722
4417          UA        0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
4418          UA      100
              *

4419          KK   ERGC83  DIVERT
4420          KM    Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
4421          KM    retention developed after 1990 in subbasin GC83
4422          DT   XGC83      28.0     0.0
4423          DI       0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
4424          DQ       0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

4425          KK    CGC83 COMBINE
4426          KM    Combine route RWGC83, divert retrieval DRGC83, and subbasin GC83
4427          HC        3   17.67
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

4428          KK   CIBH83 COMBINE
4429          KM    Combine runoff hydrograph DWBH91 with runoff hydrograph from combination
4430          KM    point CGC83 at the intersection of 83rd Avenue and Bethany Home Road
4431          HC        2   23.92
              *

4432          KK   RWBH91    ROUTE
4433          KM    Route hydrograph at combination point CIBH83 at the intersection of Bethany
4434          KM    Home Road and 91st Avenue west to combination point CBH91
4435          RS        2     FLOW
4436          RC    0.035   0.015   0.035    6508  0.0008     0.00
4437          RX     0.00    4.00   18.00   66.00  126.00  162.00  172.00  176.00
4438          RY    13.14   12.14   12.00    0.00    0.60    9.15    9.25   10.25
              *

4439          KK   DRBH91RETRIEVE
4440          KM    Retrieve divert DRBH91 from combination point CPGL91 and divert south to
4441          KM    combination point CBH91
4442          DR   DSBH91
              *

4443          KK   RSBH91    ROUTE
4444          KM    Route diversion retrieval DRBH91 south to combination point CBH91
4445          RS        3     FLOW
4446          RC    0.035   0.015   0.035    5280  0.0019     0.00
4447          RX     0.00    0.00   37.50   37.50  210.50  210.50  248.00  248.00
4448          RY     3.00    0.88    0.50    0.00    0.00    0.50    0.88    3.00
              *

4449          KK     BH91    BASIN
4450          KM    Runoff hydrograph for square mile subbasin BH91 northeast of the intersection
4451          KM    of Bethany Home Road and 91st Avenue
4452          BA    1.032
4453          LG     0.27    0.16    7.60    0.10      21
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4454          UC   1.500   1.032
4455          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
4456          UA     100
              *

4457          KK  ERBH91   DIVERT
4458          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
4459          KM   retention developed after 1990 in subbasin BH91
4460          DT   XBH91      3.8      0.0
4461          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
4462          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

4463          KK   CBH91 COMBINE
4464          KM   Combine route RWBH91, route RSBH91, and subbasin BH91
4465          HC       3   30.54
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

4466          KK  RWBHLO    ROUTE
4467          KM   Route hydrograph at combination point CBH91 west to combination point CBHLO
4468          RS       2     FLOW
4469          RC   0.035   0.015   0.035    4110  0.0011    0.00
4470          RX    0.00    4.00   18.00   46.50  135.50  153.40  167.40  171.40
4471          RY    8.26    7.26    7.12    0.00    0.85    5.32    5.46    6.46
              *

4472          KK    BHLO    BASIN
4473          KM   Runoff hydrograph for subbasin BHLO northeast of the intersection of Bethany
4474          KM   Home Road and SR Loop 101
4475          BA   0.788
4476          LG    0.10    0.15    7.30    0.09      81
4477          UC   0.873   0.571
4478          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
4479          UA     100
              *

4480          KK  ERBHLO   DIVERT
4481          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
4482          KM   retention developed after 1990 in subbasin BHLO
4483          DT   XBHLO     41.5      0.0
4484          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
4485          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

4486          KK   CBHLO COMBINE
4487          KM   Combine route RWBHLO, route RSBHLO, and subbasin BHLO
4488          HC       3   46.47
              *

4489          KK  RWBH99    ROUTE
4490          KM   Route hydrograph at combination point CBHLO west to combination point CBH99
4491          RS       1     FLOW
4492          RC   0.035   0.015   0.035    1075  0.0011    0.00
4493          RX    0.00    4.00   18.00   46.50  135.50  153.40  167.40  171.40
4494          RY    8.26    7.26    7.12    0.00    0.85    5.32    5.46    6.46
              *

4495          KK    BH99    BASIN
4496          KM   Runoff hydrograph for subbasin BH99 northeast of the intersection of Bethany
4497          KM   Home Road and 99th Avenue
4498          BA   0.184
4499          LG    0.39    0.19    6.60    0.19      20
4500          UC   1.179   1.259
4501          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
4502          UA     100
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

4503          KK   CBH99 COMBINE
4504          KM   Combine route RWBH99 and subbasin BH99
4505          HC       2   46.65
              *

4506          KK  RWBHRI    ROUTE
4507          KM   Route hydrograph at combination point CBH99 west to combination point CGLNR
4508          RS       1     FLOW
4509          RC   0.035   0.015   0.035    2392  0.0010    0.00
4510          RX    0.00    4.00   18.00   46.50  135.50  153.40  167.40  171.40
4511          RY    8.26    7.26    7.12    0.00    0.85    5.32    5.46    6.46
              *

4512          KK    GLNR    BASIN
4513          KM   Runoff hydrograph for subbasin GLNR north of Glendale Avenue and east of New
4514          KM   River
4515          BA   0.483
4516          LG    0.32    0.25    6.40    0.17      25
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4517          UC   1.373   1.308
4518          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
4519          UA     100
              *

4520          KK  ERGLNR   DIVERT
4521          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
4522          KM   retention developed after 1990 in subbasin GLNR
4523          DT   XGLNR      2.9      0.0
4524          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
4525          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

4526          KK  DSBHRI   DIVERT
4527          KM   Divert portion of runoff hydrograph from subbasin GLNR south to the
4528          KM   intersection of Bethany Home Road and the Roosevelt Irrigation District canal
4529          KM   and the remaining flow west to New River. The diversion is based on
4530          KM   topography
4531          KM   Divert remaining runoff hydrograph from subbasin GLNR south to combination
4532          KM   point CBHRI
4533          DT   DWNR04      0.0      0.0
4534          DI      0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0  10000.0  20000.0  50000.0
4535          DQ      0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0  10000.0  20000.0  50000.0
              *

4536          KK  RSBHRI    ROUTE
4537          KM   Route subbasin diversion DSBHRI south to combination point CBHRI
4538          RS       1     FLOW
4539          RC   0.035   0.015   0.035     5280  0.0015    0.00
4540          RX    0.00    0.00    7.00     7.00   43.00   43.00   50.00   50.00
4541          RY    3.00    0.57    0.50     0.00    0.00    0.50    0.57    3.00
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

4542          KK    BHRI    BASIN
4543          KM   Runoff hydrograph for subbasin BHRI north of Bethany Home Road and east of
4544          KM   the Roosevelt Irrigation District canal
4545          BA   0.512
4546          LG    0.48    0.24    6.20    0.25       0
4547          UC   1.445   1.061
4548          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
4549          UA     100
              *

4550          KK   DBHNR  DIVERT
4551          KM   Divert portion of runoff hydrograph from subbasin BHRI west to the
4552          KM   intersection of Bethany Home Road and New River and the remaining flow
4553          KM   west to New River. The diversion is based on topography.
4554          DT   DWBHAF      0.0      0.0
4555          DI      0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0  10000.0  20000.0  50000.0
4556          DQ      0.0     79.0    158.0    395.0    790.0   1580.0   3160.0   7900.0  15800.0  39500.0
              *

4557          KK   CBHRI COMBINE
4558          KM   Combine route RWBHRI, route RSBHRI, and and divert DBHNR
4559          HC       3   47.17
              *

4560          KK  RWBHNR    ROUTE
4561          KM   Route remaining hydrograph at combination point CBHRI west to combination
4562          KM   point CBHNR
4563          RS       1     FLOW
4564          RC   0.035   0.015   0.035     3231  0.0010    0.00
4565          RX    0.00    4.00   18.00   46.50  135.50  153.40  167.40  171.40
4566          RY    8.26    7.26    7.12    0.00    0.85    5.32    5.46    6.46
              *

4567          KK    BHNR    BASIN
4568          KM   Runoff hydrograph for subbasin BHNR north of Bethany Home Road and east of
4569          KM   New River
4570          BA   0.258
4571          LG    0.45    0.25    6.20    0.24       0
4572          UC   1.224   0.796
4573          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
4574          UA     100
              *

4575          KK   CBHNR COMBINE
4576          KM   Combine route RWBHNR and subbasin BHNR
4577          HC       2   47.42
              *

4578          KK    CB99    BASIN
4579          KM   Runoff hydrograph for subbasin CB99 northeast of the intersection of
4580          KM   Camelback Road and 99th Avenue
4581          BA   0.201
4582          LG    0.21    0.25    7.30    0.09      35
4583          UC   1.014   1.071
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LINE          ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

4584          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
4585          UA     100
              *

4586          KK  ERCB99  DIVERT
4587          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
4588          KM   retention developed after 1990 in subbasin CB99
4589          DT   XCB99     4.6     0.0
4590          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
4591          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

4592          KK  DWCBRI  DIVERT
4593          KM   Divert remaining runoff hydrograph from subbasin CB99 west to combination
4594          KM   point CCBRI
4595          DT  DSIS99      0.0     0.0
4596          DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
4597          DQ     0.0    49.0    98.0   245.0   490.0   980.0  1960.0  4900.0  9800.0 24500.0
              *

4598          KK  RWCBRI   ROUTE
4599          KM   Route diversion DWCBRI west to combination point CCBRI
4600          RS       7    FLOW
4601          RC   0.035   0.015   0.035    3883  0.0021    0.00
4602          RX    0.00    0.00   16.50   16.50  107.50  107.50  124.00  124.00
4603          RY    3.00    0.66    0.50    0.00    0.00    0.50    0.66    3.00
              *

4604          KK    CBRI   BASIN
4605          KM   Runoff hydrograph for subbasin CBRI north of Camelback Road and east of the
4606          KM   Roosevelt Irrigation District canal
4607          BA   0.698
4608          LG    0.34    0.15    7.00    0.13      21
4609          UC   1.500   1.250
4610          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
4611          UA     100
              *

4612          KK  ERCBRI  DIVERT
4613          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
4614          KM   retention developed after 1990 in subbasin CBRI
4615          DT   XCBRI    41.4     0.0
4616          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
4617          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

4618          KK   CCBRI COMBINE
4619          KM   Combine route RWCBRI and subbasin CBRI
4620          HC       2    0.80
              *
```



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LINE          ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

4621          KK  DWCB07  DIVERT
4622          KM   Divert runoff hydrograph from combination point CCBRI west to combination
4623          KM   point CCB07
4624          DT  DSIS07      0.0     0.0
4625          DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
4626          DQ     0.0    69.0   138.0   345.0   690.0  1380.0  2760.0  6900.0 13800.0 34500.0
              *

4627          KK    CB07   BASIN
4628          KM   Runoff hydrograph for subbasin CB07 northeast of the intersection of
4629          KM   Camelback Road and 107th Avenue
4630          BA   0.317
4631          LG    0.31    0.26    6.00    0.22       4
4632          UC   1.500   1.108
4633          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
4634          UA     100
              *

4635          KK   CCB07 COMBINE
4636          KM   Combine divert DWCB07 and subbasin CB07
4637          HC       2    0.56
              *

4638          KK  DWCBNR  DIVERT
4639          KM   Divert runoff hydrograph from combination point CCB07 west to combination
4640          KM   point CCBNR
4641          DT   DIS07      0.0     0.0
4642          DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
4643          DQ     0.0    69.0   138.0   345.0   690.0  1380.0  2760.0  6900.0 13800.0 34500.0
              *

4644          KK  RWCBNR   ROUTE
4645          KM   Route diversion DWCBNR west to combination point CCBNR
4646          RS       8    FLOW
4647          RC   0.035   0.015   0.035    3883  0.0010    0.00
4648          RX    0.00    0.00   16.50   16.50  107.50  107.50  124.00  124.00
```



```
4649          RY    3.00    0.66    0.50    0.00    0.00    0.50    0.66    3.00
              *

4650          KK    CBNR   BASIN
4651          KM   Runoff hydrograph for subbasin CBNR north of Camelback Road and east of New
4652          KM   River
4653          BA   0.466
4654          LG    0.13    0.30    5.80    0.24       3
4655          UC   1.496   1.380
4656          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
4657          UA     100
              *
```



```
LINE          ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

4658          KK   CCBNR COMBINE
4659          KM   Combine route RWCBNR and subbasin CBNR
4660          HC       2    0.64
              *

4661          KK  DRIS99RETRIEVE
4662          KM   Retrieve divert DRIS99 from subbasin CB99 and divert south to
4663          KM   combination point CIS99
4664          DR  DSIS99
              *

4665          KK  RSIS99   ROUTE
4666          KM   Route diversion retrieval DRIS99 south to combination point CIS99
4667          RS       9    FLOW
4668          RC   0.035   0.015   0.035    5280  0.0020    0.00
4669          RX    0.00    0.00   16.50   16.50  107.50  107.50  124.00  124.00
4670          RY    3.00    0.66    0.50    0.00    0.00    0.50    0.66    3.00
              *

4671          KK    IS99   BASIN
4672          KM   Runoff hydrograph for subbasin IS99 northeast of the intersection of Indian
4673          KM   School Road and 99th Avenue
4674          BA   0.323
4675          LG    0.44    0.15    9.70    0.07       12
4676          UC   1.137   0.940
4677          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
4678          UA     100
              *

4679          KK   CIS99 COMBINE
4680          KM   Combine route RSIS99 and subbasin IS99
4681          HC       2    0.42
              *

4682          KK  DWIS07  DIVERT
4683          KM   Divert runoff hydrograph from combination point CIS99 west to combination
4684          KM   point CIS07
4685          DT  DSTM99      0.0     0.0
4686          DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
4687          DQ     0.0    26.0    52.0   130.0   260.0   520.0  1040.0  2600.0  5200.0 13000.0
              *

4688          KK  RWIS07   ROUTE
4689          KM   Route diversion DWIS07 west to combination point CIS07
4690          RS       7    FLOW
4691          RC   0.035   0.015   0.035    5280  0.0022    0.00
4692          RX    0.00    0.00   35.50   35.50  188.50  188.50  224.00  224.00
4693          RY    3.00    0.86    0.50    0.00    0.00    0.50    0.86    3.00
              *
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LINE          ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

4694          KK  DI07ISRETRIEVE
4695          KM   Retrieve arterial street flow diverted to 107th Avenue at the intersection
4696          KM   of 107th Avenue and Camelback Road
4697          DR   DIS07
              *

4698          KK  DRIS07RETRIEVE
4699          KM   Retrieve divert DRIS07 from combination point CCBRI and divert south to
4700          KM   combination point CICB07
4701          DR  DSIS07
              *

4702          KK  CICB07 COMBINE
4703          KM   Combine arterial street flow from 107th Avenue DI07IS with runoff hydrograph
4704          KM   DSIS07 at the intersection of 107th Avenue and Camelback Road
4705          HC       2    0.94
              *

4706          KK  RSIS07   ROUTE
4707          KM   Route hydrograph at combination point CICB07 at the intersection of Camelback
4708          KM   Road and 107th Avenue south to combination point CIS07
4709          RS       6    FLOW
```

```
4710          RC   0.035   0.015   0.035    5280  0.0026    0.00
4711          RX    0.00    0.00   26.00   26.00  148.00  148.00  174.00  174.00
4712          RY    3.00    0.76    0.50    0.00    0.00    0.50    0.76    3.00
              *
4713          KK     IS07   BASIN
4714          KM    Runoff hydrograph for square mile subbasin IS07 northeast of the intersection
4715          KM    of Indian Schhol Road and 107th Avenue
4716          BA    1.021
4717          LG     0.22    0.16    8.00    0.08      27
4718          UC    1.500   1.010
4719          UA        0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
4720          UA      100
              *
4721          KK   ERIS07  DIVERT
4722          KM    Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
4723          KM    retention developed after 1990 in subbasin IS07
4724          DT   XIS07     10.5     0.0
4725          DI       0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
4726          DQ       0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *
4727          KK    CIS07 COMBINE
4728          KM    Combine route RWIS07, route RSIS07 and subbasin IS07
4729          HC        3    2.28
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

4730          KK   DWISAF  DIVERT
4731          KM    Divert runoff hydrograph from combination point CIS07 west to combination
4732          KM    point CISAF
4733          DT   DSRI07     0.0     0.0
4734          DI       0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
4735          DQ       0.0    25.0    50.0   125.0   250.0   500.0  1000.0  2500.0  5000.0 12500.0
              *
4736          KK   RWISAF   ROUTE
4737          KM    Route diversion DWISAF west to combination point CISAF
4738          RS        6    FLOW
4739          RC   0.035   0.015   0.035    6868  0.0013    0.00
4740          RX    0.00    0.00   67.00   67.00  332.00  332.00  399.00  399.00
4741          RY    3.00    1.17    0.50    0.00    0.00    0.50    1.17    3.00
              *
4742          KK     ISAF   BASIN
4743          KM    Runoff hydrograph for subbasin ISAF north of Indian School Road and east of
4744          KM    the Agua Fria River
4745          BA    0.989
4746          LG     0.23    0.25    4.80    0.26      45
4747          UC    1.500   1.137
4748          UA        0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
4749          UA      100
              *
4750          KK    CISAF COMBINE
4751          KM    Combine route RWISAF and subbasin ISAF
4752          HC        2    2.69
              *
4753          KK   DRTM99RETRIEVE
4754          KM    Retrieve divert DRTM99 from combination point CIS99 and divert south to
4755          KM    combination point CTM99
4756          DR   DSTM99
              *
4757          KK   RSTM99   ROUTE
4758          KM    Route diversion retrieval DRTM99 south to combination point CTM99
4759          RS       10    FLOW
4760          RC   0.035   0.015   0.035    5280  0.0009    0.00
4761          RX    0.00    0.00   16.50   16.50  107.50  107.50  124.00  124.00
4762          RY    3.00    0.66    0.50    0.00    0.00    0.50    0.66    3.00
              *
4763          KK     TM99   BASIN
4764          KM    Runoff hydrograph for subbasin TM99 northeast of the intersection of Thomas
4765          KM    Road and 99th Avenue
4766          BA    0.505
4767          LG     0.46    0.15    8.80    0.09       8
4768          UC    1.495   1.180
4769          UA        0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
4770          UA      100
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

4771          KK    CTM99 COMBINE
4772          KM    Combine route RSTM99 and subbasin TM99
```



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4773          HC        2    0.62
              *
4774          KK   DWRI07  DIVERT
4775          KM    Divert runoff hydrograph from combination point CTM99 west to combination
4776          KM    point CRI07
4777          DT   DSMD99     0.0     0.0
4778          DI       0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
4779          DQ       0.0    46.0    92.0   230.0   460.0   920.0  1840.0  4600.0  9200.0 23000.0
              *
4780          KK   RWRI07   ROUTE
4781          KM    Route diversion DWRI07 west to combination point CRI07
4782          RS        7    FLOW
4783          RC   0.035   0.015   0.035    5402  0.0013    0.00
4784          RX    0.00    0.00   16.50   16.50  107.50  107.50  124.00  124.00
4785          RY    3.00    0.66    0.50    0.00    0.00    0.50    0.66    3.00
              *
4786          KK   DRRI07RETRIEVE
4787          KM    Retrieve divert DRRI07 from combination point CIS07 and divert south to
4788          KM    combination point CRI07
4789          DR   DSRI07
              *
4790          KK   RSRI07   ROUTE
4791          KM    Route diversion retrieval DRRI07 south to combination point CRI07
4792          RS        3    FLOW
4793          RC   0.035   0.015   0.035    2640  0.0008    0.00
4794          RX    0.00    0.00   26.00   26.00  148.00  148.00  174.00  174.00
4795          RY    3.00    0.76    0.50    0.00    0.00    0.50    0.76    3.00
              *
4796          KK     RI07   BASIN
4797          KM    Runoff hydrograph for subbasin RI07 northeast of the intersection of the
4798          KM    Roosevelt Irrigation District Canal and 107th Avenue
4799          BA    0.759
4800          LG     0.41    0.15    8.80    0.08      12
4801          UC    1.363   0.854
4802          UA        0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
4803          UA      100
              *
4804          KK   ERRI07  DIVERT
4805          KM    Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
4806          KM    retention developed after 1990 in subbasin RI07
4807          DT   XRI07     21.1     0.0
4808          DI       0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
4809          DQ       0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

4810          KK    CRI07 COMBINE
4811          KM    Combine route RWRI07, route RSRI07 and subbasin RI07
4812          HC        3    1.67
              *
4813          KK    DRIAF  DIVERT
4814          KM    Divert portion of runoff hydrograph from combination point CRIAF south to the
4815          KM    intersection of Thomas Road and 107th Avenue and the remaining flow
4816          KM    west to the intersection of the Roosevelt Irrigation District canal and the
4817          KM    Agua Fria River. The diversion is based on topography
4818          DT   DTM07     0.0     0.0
4819          DI       0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
4820          DQ       0.0    49.0    98.0   245.0   490.0   980.0  1960.0  4900.0  9800.0 24500.0
              *
4821          KK   DWRIAF  DIVERT
4822          KM    Divert runoff hydrograph from combination point CRI07 west to combination
4823          KM    point CRIAF
4824          DT   DSTM07     0.0     0.0
4825          DI       0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
4826          DQ       0.0    62.0   124.0   310.0   620.0  1240.0  2480.0  6200.0 12400.0 31000.0
              *
4827          KK   RWRIAF   ROUTE
4828          KM    Route diversion DWRIAF west to combination point CRIAF
4829          RS       10    FLOW
4830          RC   0.035   0.015   0.035   10904  0.0007    0.00
4831          RX    0.00    0.00   22.00   22.00  103.00  103.00  125.00  125.00
4832          RY    3.00    0.72    0.50    0.00    0.00    0.50    0.72    3.00
              *
4833          KK     RIAF   BASIN
4834          KM    Runoff hydrograph for subbasin RIAF north of the Roosevelt Irrigation
4835          KM    District Canal and east of the Agua Fria River
4836          BA    0.659
4837          LG     0.22    0.18    6.60    0.13      41
4838          UC    1.500   1.317
4839          UA        0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
```

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4840          UA     100
              *

4841          KK   CRIAF COMBINE
4842          KM   Combine route RWRIAF and subbasin RIAF
4843          HC       2    0.98
              *

4844          KK  DRBHAFRETRIEVE
4845          DR  DWBHAF
              *
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LINE          ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

4846          KK  SRBHRI STORAGE
4847          KM   Storage route runoff hydrograph from combination point CRIAF through ponding
4848          KM     area at the Roosevelt Irrigation District Canal and the Agua Fria River
4849          KM   Stage-storage-discharge data from Maryvale ADMS, Feb 1997
4850          RS       1    STOR
4851          SV           15.00   34.70   63.80  107.60
4852          SQ            0.10    0.20 4536.0013441.00
4853          SE  1050.0 1052.00 1053.00 1054.00 1055.00
              *

4854          KK   CAF01 COMBINE
4855          KM   Combine combination point CCBNR, combination point CISAF, and combination
4856          KM   point CRIAF
4857          HC       5    4.31
              *

4858          KK    CB83   BASIN
4859          KM   Runoff hydrograph for subbasin CB83 northeast of the intersection of
4860          KM   Camelback Road and 83rd Avenue
4861          BA   0.554
4862          LG    0.27    0.15    8.00    0.08      20
4863          UC   1.108   0.590
4864          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
4865          UA     100
              *

4866          KK  ERCB83  DIVERT
4867          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
4868          KM   retention developed after 1990 in subbasin CB83
4869          DT  XCB83     18.0      0.0
4870          DI     0.0 50000.0      0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
4871          DQ     0.0 50000.0      0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

4872          KK  D83CB  DIVERT
4873          KM   Divert calculated full flow capapcity of 10 cfs into 24-inch storm drain
4874          KM   pipe at the intersection of Camelback Road and 83rd Avenue
4875          DT  DP83CB      0.0     10.0
4876          DI     0.0 50000.0      0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
4877          DQ     0.0 50000.0      0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

4878          KK  DWCB91  DIVERT
4879          KM   Divert remaining runoff hydrograph from subbasin CB83 west to combination
4880          KM   point CCB91
4881          DT  DSIS83      0.0      0.0
4882          DI      0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
4883          DQ      0.0    44.0    88.0   220.0   440.0   880.0  1760.0  4400.0  8800.0 22000.0
              *
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LINE          ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

4884          KK  RWCB91   ROUTE
4885          KM   Route diversion DWCB91 west to combination point CCB91
4886          RS       7    FLOW
4887          RC   0.035   0.015   0.035    5280  0.0036     0.00
4888          RX    0.00    0.00   57.50   57.50  291.50  291.50  349.00  349.00
4889          RY    3.00    1.08    0.50    0.00    0.00    0.50    1.08    3.00
              *

4890          KK    CB91   BASIN
4891          KM   Runoff hydrograph for square mile subbasin CB91 northeast of the intersection
4892          KM   of Camelback Road and 91st Avenue
4893          BA   0.961
4894          LG    0.41    0.17    8.80    0.08       6
4895          UC   1.405   0.942
4896          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
4897          UA     100
              *

4898          KK  ERCB91  DIVERT
4899          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
4900          KM   retention developed after 1990 in subbasin CB91
4901          DT  XCB91     16.4      0.0
4902          DI     0.0 50000.0      0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
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4903          DQ     0.0 50000.0      0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

4904          KK   CCB91 COMBINE
4905          KM   Combine route RWCB91 and subbasin CB91
4906          HC       2    1.32
              *

4907          KK  DWCBLO  DIVERT
4908          KM   Divert remaining runoff hydrograph from combination point CCB91 west to
4909          KM   combination point CCBLO
4910          DT  DSIS91      0.0      0.0
4911          DI      0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
4912          DQ      0.0    47.0    94.0   235.0   470.0   940.0  1880.0  4700.0  9400.0 23500.0
              *

4913          KK  RWCBLO   ROUTE
4914          KM   Route diversion DWCBLO west to combination point CCBLO
4915          RS       3    FLOW
4916          RC   0.035   0.015   0.035    4287  0.0028     0.00
4917          RX    0.00    0.00   48.00   48.00  251.00  251.00  299.00  299.00
4918          RY    3.00    0.98    0.50    0.00    0.00    0.50    0.98    3.00
              *

4919          KK    CBLO   BASIN
4920          KM   Runoff hydrograph for subbasin CBLO northeast of the intersection of
4921          KM   Camelback Road and SR Loop 101
4922          BA   0.818
4923          LG    0.39    0.15    8.80    0.08      14
4924          UC   1.286   0.886
4925          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
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LINE          ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

4926          UA     100
              *

4927          KK  ERCBLO  DIVERT
4928          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
4929          KM   retention developed after 1990 in subbasin CBLO
4930          DT  XCBLO     13.0      0.0
4931          DI     0.0 50000.0      0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
4932          DQ     0.0 50000.0      0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

4933          KK   CCBLO COMBINE
4934          KM   Combine route RWCBLO and subbasin CBLO
4935          HC       2    1.52
              *

4936          KK  RSISLO   ROUTE
4937          KM   Route hydrograph at combination point CCBLO south to combination point CISLO
4938          RS       2    FLOW
4939          RC   0.035   0.015   0.035    5583  0.0010     0.00
4940          RX    0.00    4.00   14.00   29.00   49.00   64.00   94.00   97.00
4941          RY   11.20   10.20   10.00    0.00    0.40   10.40   11.84   12.84
              *

4942          KK    IS75   BASIN
4943          KM   Runoff hydrograph for subbasin IS75 northeast of the intersection of Indian
4944          KM   School Road and 75th Avenue
4945          BA   0.615
4946          LG    0.23    0.15    7.60    0.08      41
4947          UC   1.192   0.727
4948          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
4949          UA     100
              *

4950          KK  ERIS75  DIVERT
4951          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
4952          KM   retention developed after 1990 in subbasin IS75
4953          DT  XIS75      0.8      0.0
4954          DI     0.0 50000.0      0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
4955          DQ     0.0 50000.0      0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

4956          KK   D75IS  DIVERT
4957          KM   Divert calculated full flow capapcity of 123 cfs into 60-inch storm drain
4958          KM   pipe at the intersection of Indian School Road and 75th Avenue
4959          DT  DP75IS      0.0    123.0
4960          DI     0.0 50000.0      0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
4961          DQ     0.0 50000.0      0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *
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LINE          ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

4962          KK  DWIS83  DIVERT
4963          KM   Divert remaining runoff hydrograph from combination point CPIS75 west to
4964          KM   combination point CIS83
4965          DT  DSTM75      0.0      0.0
```

```
4966          DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
4967          DQ     0.0    35.0    70.0   175.0   350.0   700.0  1400.0  3500.0  7000.0 17500.0
              *

4968          KK  RWIS83   ROUTE
4969          KM   Route diversion DWIS83 west to combination point CIS83
4970          RS       7    FLOW
4971          RC   0.035   0.015   0.035    5280  0.0028    0.00
4972          RX    0.00    0.00   76.50   76.50  372.50  372.50  449.00  449.00
4973          RY    3.00    1.27    0.50    0.00    0.00    0.50    1.27    3.00
              *

4974          KK  DRIS83RETRIEVE
4975          KM   Retrieve divert DRIS83 from subbasin CB83 and divert south to combination
4976          KM   point CIS83
4977          DR  DSIS83
              *

4978          KK  RSIS83   ROUTE
4979          KM   Route diversion retrieval DRIS83 south to combination point CIS83
4980          RS       9    FLOW
4981          RC   0.035   0.015   0.035    5280  0.0022    0.00
4982          RX    0.00    0.00   57.50   57.50  291.50  291.50  349.00  349.00
4983          RY    3.00    1.08    0.50    0.00    0.00    0.50    1.08    3.00
              *

4984          KK   IS83   BASIN
4985          KM   Runoff hydrograph for square mile subbasin IS83 northeast of the intersection
4986          KM   Indian School Road and 83rd Avenue
4987          BA   0.991
4988          LG    0.24    0.17    6.80    0.12      34
4989          UC   1.500   1.007
4990          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
4991          UA     100
              *

4992          KK   CIS83 COMBINE
4993          KM   Combine route RWIS83, route RSIS83 and subbasin IS83
4994          HC       3    1.64
              *

4995          KK  PR83CBRETRIEVE
4996          KM   Retrieve full flow capacity of 10 cfs from 24-inch storm drain pipe at the
4997          KM   intersection of Camelback Road and 83rd Avenue
4998          DR  DP83CB
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

4999          KK  RP83IS   ROUTE
5000          KM   Route full flow capacity of 10 cfs through 24-inch storm drain pipe in
5001          KM   83rd Avenue to the intersection of Indian School Road and 83rd Avenue
5002          RK    5208  0.0019   0.015            CIRC   2.000
              *

5003          KK  CPIS83 COMBINE
5004          KM   Combine pipe return PR83CB with the runoff hydrograph at combination point
5005          KM   CIS83 at the intersection of Indian School Road and 83rd Avenue
5006          HC       2
              *

5007          KK   D83IS  DIVERT
5008          KM   Divert calculated full flow capapcity of 187 cfs into 72-inch storm drain
5009          KM   pipe at the intersection of Indian School Road and 83rd Avenue
5010          DT  DP83IS      0.0   187.0
5011          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
5012          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

5013          KK  DWIS91  DIVERT
5014          KM   Divert remaining runoff hydrograph from combination point CPIS83 west to
5015          KM   combination point CIS91
5016          DT  DSTM83      0.0     0.0
5017          DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
5018          DQ     0.0    55.0   110.0   275.0   550.0  1100.0  2200.0  5500.0 11000.0 27500.0
              *

5019          KK  RWIS91   ROUTE
5020          KM   Route diversion DWIS91 west to combination point CIS91
5021          RS       4    FLOW
5022          RC   0.035   0.015   0.035    5280  0.0030    0.00
5023          RX    0.00    0.00   54.50   54.50  269.50  269.50  324.00  324.00
5024          RY    3.00    1.04    0.50    0.00    0.00    0.50    1.04    3.00
              *

5025          KK  DRIS91RETRIEVE
5026          KM   Retrieve divert DRIS91 from combination point CCB91 and divert south to
5027          KM   combination point CIS91
5028          DR  DSIS91
              *
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5029          KK  RSIS91   ROUTE
5030          KM   Route diversion retrieval DRIS91 south to combination point CIS91
5031          RS       5    FLOW
5032          RC   0.035   0.015   0.035    5280  0.0017    0.00
5033          RX    0.00    0.00   57.50   57.50  291.50  291.50  349.00  349.00
5034          RY    3.00    1.08    0.50    0.00    0.00    0.50    1.08    3.00
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

5035          KK   IS91   BASIN
5036          KM   Runoff hydrograph for square mile subbasin IS91 northeast of the intersection
5037          KM   Indian School Road and 91st Avenue
5038          BA   0.999
5039          LG    0.25    0.15    9.70    0.04      37
5040          UC   1.500   1.011
5041          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
5042          UA     100
              *

5043          KK  ERIS91  DIVERT
5044          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
5045          KM   retention developed after 1990 in subbasin IS91
5046          DT   XIS91     24.3      0.0
5047          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
5048          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

5049          KK   CIS91 COMBINE
5050          KM   Combine route RWIS91, route RSIS91 and subbasin IS91
5051          HC       3    2.36
              *

5052          KK   D91IS  DIVERT
5053          KM   Divert calculated full flow capapcity of 190 cfs into 72-inch storm drain
5054          KM   pipe at the intersection of Indian School Road and 91st Avenue
5055          DT  DP91IS      0.0   190.0
5056          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
5057          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

5058          KK  DWISLO  DIVERT
5059          KM   Divert remaining runoff hydrograph from combination point CIS91 west to
5060          KM   combination point CISLO
5061          DT  DSTM91      0.0     0.0
5062          DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
5063          DQ     0.0    57.0   114.0   285.0   570.0  1140.0  2280.0  5700.0 11400.0 28500.0
              *

5064          KK  RWISLO   ROUTE
5065          KM   Route diversion DWISLO west to combination point CISLO
5066          RS       2    FLOW
5067          RC   0.035   0.015   0.035    2651  0.0039    0.00
5068          RX    0.00    0.00   35.50   35.50  188.50  188.50  224.00  224.00
5069          RY    3.00    0.86    0.50    0.00    0.00    0.50    0.86    3.00
              *

5070          KK   ISLO   BASIN
5071          KM   Runoff hydrograph for subbasin ISLO northeast of the intersection of Indian
5072          KM   School Road and SR Loop 101
5073          BA   0.684
5074          LG    0.34    0.15    9.70    0.06      21
5075          UC   1.313   0.864
5076          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

5077          UA     100
              *

5078          KK  ERISLO  DIVERT
5079          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
5080          KM   retention developed after 1990 in subbasin ISLO
5081          DT   XISLO     29.8      0.0
5082          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
5083          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

5084          KK   CISLO COMBINE
5085          KM   Combine route RWISLO, route RSISLO and subbasin ISLO
5086          HC       3    3.22
              *

5087          KK  RSTMLO   ROUTE
5088          KM   Route hydrograph at combination point CISLO south to combination point CTMLO
5089          RS       2    FLOW
5090          RC   0.035   0.015   0.035    5309  0.0010    0.00
5091          RX    0.00    4.00   14.00   29.00   44.00   59.00   73.00   76.00
5092          RY   11.20   10.20   10.00    0.00    0.30   10.30   10.58   11.58
              *
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5093          KK  DRGCGRRETRIEVE
5094          KM   Retrieve divert DRGCGR from combination point CGR35 and divert south to
5095          KM   combination point CIGR35
5096          DR  DEGCGR
              *
5097          KK  DIGCGRRETRIEVE
5098          KM   Retrieve divert DIGCGR from combination point CPIS35 and divert south to
5099          KM   combination point CIGR35
5100          DR  DSGCGR
              *
5101          KK  CIGR35 COMBINE
5102          KM   Combine arterial street flow from Grand Avenue DEGCGR with runoff hydrograph
5103          KM   DGRGC at the intersection of 35th Avenue and Grand Avenue
5104          HC       2    3.97
              *
5105          KK  RSGCGR   ROUTE
5106          KM   Route hydrograph at combination point CIGR35 at the intersection of Grand
5107          KM   Avenue and 35th Avenue south to combination point CGCGR
5108          RS       2    FLOW
5109          RC  0.035   0.015   0.035    3104  0.0029    0.00
5110          RX   0.00    0.00   48.00   48.00  251.00  251.00  299.00  299.00
5111          RY   3.00    0.98    0.50    0.00    0.00    0.50    0.98    3.00
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

5112          KK  DRGC27RETRIEVE
5113          KM   Retrieve divert DRGC27 from combination point CPIS27 and divert south to
5114          KM   combination point CGCGR
5115          DR  DSGC27
              *
5116          KK  RSGC27   ROUTE
5117          KM   Route diversion retrieval DRGC27 south to combination point CGC27
5118          RS       1    FLOW
5119          RC  0.035   0.015   0.035    1755  0.0028    0.00
5120          RX   0.00    0.00   16.50   16.50  107.50  107.50  124.00  124.00
5121          RY   3.00    0.66    0.50    0.00    0.00    0.50    0.66    3.00
              *
5122          KK   GCGR   BASIN
5123          KM   Runoff hydrograph for subbasin GCGR northeast of the intersection of Grand
5124          KM   Avenue and the Grand Canal
5125          BA   0.376
5126          LG    0.15    0.25    5.00    0.23      77
5127          UC   0.325   0.076
5128          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
5129          UA     100
              *
5130          KK   CGCGR COMBINE
5131          KM   Combine route RSGCGR, route RSGC27, and subbasin GCGR
5132          HC       3    6.09
              *
5133          KK  PR31ISRETRIEVE
5134          KM   Retrieve full flow capacity of 268 cfs from 72-inch diameter pipe at the
5135          KM   intersection of Indian School Road and 31st Avenue
5136          DR  DP31IS
              *
5137          KK  RP31GC   ROUTE
5138          KM   Route full flow capacity of 268 cfs through 72-inch storm drain pipe
5139          KM   in 31st Avenue to the intersection of 31st Avenue and the Grand Canal
5140          RK    2506  0.0040   0.015            CIRC   6.000
              *
5141          KK  PR27ISRETRIEVE
5142          KM   Retrieve full flow capacity of 151 cfs from 60-inch diameter pipe at the
5143          KM   intersection of Indian School Road and 27th Avenue
5144          DR  DP27IS
              *
5145          KK  RP27GC   ROUTE
5146          KM   Route full flow capacity of 151 cfs through 60-inch storm drain pipe in
5147          KM   in 27th Avenue to the intersection of 27th Avenue and the Grand Canal
5148          RK    1763  0.0034   0.015            CIRC   5.000
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

5149          KK  CPGCGR COMBINE
5150          KM   Combine pipe return PR27IS and pipe return PR35IS with the runoff hydrograph
5151          KM   at combination point CGCGR at the intersection of the Grand Canal and Grand
5152          KM   Avenue
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5153          HC       3
              *
5154          KK   DGCGR  DIVERT
5155          KM   Capacity of storm drain in 27th Avenue and 29th Avenue diverted together.
5156          KM   Divert combined calculated full flow capacity of 257 cfs in the 72-inch storm
5157          KM   drain pipe in 27th Avenue and 165 cfs in the 60-inch storm drain pipe in
5158          KM   29th Avenue. The total calculated combined full flow capacity diverted at the
5159          KM   intersection of the Grand Canal and Grand Avenue is 422 cfs in an equivalent
5160          KM   diameter pipe of 87 inches
5161          DT  DPGCGR      0.0    422.0
5162          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
5163          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *
5164          KK  SRGCGR STORAGE
5165          KM   Storage route runoff hydrograph from divert DGCGR through ponding
5166          KM     area at the Grand Canal between I-17 and Grand Avenue
5167          KM   Storage routing ID RES26E in Maryvale ADMS, Feb 1997 - comments from ADMS:
5168          KM   PONDING AREA RESERVOIR ROUTE
5169          KM   PONDING AREA NORTHEAST OF GRAND AVENUE/RR EMBANKMENT
5170          KM   SUB-BASIN 26-22E
5171          RS       1    STOR       0.
5172          SV            0.10    13.20    45.92    91.09   149.48
5173          SQ          160.00   160.00   376.00  1056.00  6078.00
5174          SE  1095.0 1096.00 1097.00 1098.00 1099.00 1100.00
              *
5175          KK  RSGR27   ROUTE
5176          KM   Route diversion retrieval DRGR27 south to combination point CGR27
5177          RS       2    FLOW
5178          RC  0.035   0.015   0.035    4632  0.0019    0.00
5179          RX   0.00    0.00   33.00   33.00  215.00  215.00  248.00  248.00
5180          RY   3.00    0.83    0.50    0.00    0.00    0.50    0.83    3.00
              *
5181          KK   GR27   BASIN
5182          KM   Runoff hydrograph for subbasin GR27 northwest of the intersection of Grand
5183          KM   Avenue and 27th Avenue
5184          BA   0.407
5185          LG    0.18    0.15    8.40    0.06      66
5186          UC   0.688   0.378
5187          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
5188          UA     100
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

5189          KK   CTM27 COMBINE
5190          KM   Combine route RSGR27 and subbasin GR27
5191          HC       2    6.50
              *
5192          KK   DTM27  DIVERT
5193          KM   Divert portion of runoff hydrograph from combination point CTM27  to storage
5194          KM   route SRTM27 where it will be routed through the Verde Basin near the
5195          KM   intersection of Thomas and 27th Avenue.  The remaining flow is diverted to
5196          KM   combination point CGR27. The diversion is based on topography
5197          DT   DGR27      0.0      0.0
5198          DI     0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0  10000.0  20000.0  50000.0
5199          DQ     0.0     50.0    100.0    250.0    500.0   1000.0   2000.0   5000.0  10000.0  25000.0
              *
5200          KK  SRTM27 STORAGE
5201          KM   Storage route runoff hydrograph from storm drain route RP27TM thru regional
5202          KM     detention basin near the intersection of Thomas Road and 27th Avenue
5203          KM   Stage-storage-discharge data from 26th Avenue and Verde Lane Drainage
5204          KM     Improvement Project Phase II Plans, November 2005 (Verde Basin)
5205          RS       1    STOR
5206          SV            0.50     1.40     3.10     5.70     9.00    12.50    16.30    20.00    22.00
5207          SV    24.1
5208          SQ     0.0     49.0     20.0     25.0     29.0     33.0     36.0     39.0     42.0    521.0
5209          SQ  1395.0
5210          SE  1088.0  1089.0  1090.0  1091.0  1092.0  1093.0  1094.0  1095.0  1096.0  1096.5
5211          SE  1097.0
              *
5212          KK  PRGCGRRETRIEVE
5213          KM   Retrieve combined full flow capacity of 422 cfs from 87-inch equivalent
5214          KM   diameter pipe at the intersection of the Grand Canal and Grand Avenue
5215          DR  DPGCGR
              *
5216          KK   D31GR  DIVERT
5217          KM   Divert calculated full flow capapcity of 257 cfs into 72-inch storm drain
5218          KM   pipe at the intersection of Grand Avenue and 31st Avenue
5219          DT  DP31GR      0.0    257.0
5220          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
5221          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *
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5222          KK  RP27TM   ROUTE
5223          KM   Route full flow capacity of 151 cfs through 60-inch storm drain pipe in
5224          KM   27th Avenue to the intersection of Thomas Road and 27th Avenue
5225          RK    3088  0.0034   0.015            CIRC   5.000
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


5226          KK  CPGR27 COMBINE
5227          KM   Combine remainder of pipe return PRGCGR with the runoff hydrograph at
5228          KM   storage route SRTM27 at the intersection of Grand Avenue and 27th Avenue
5229          HC       2
              *

5230          KK   D27GR  DIVERT
5231          KM   Divert calculated full flow capapcity of 195 cfs into 66-inch storm drain
5232          KM   pipe at the intersection of Grand Avenue and 27th Avenue
5233          DT  DP27GR     0.0   195.0
5234          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
5235          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

5236          KK  DRGR27RETRIEVE
5237          KM   Retrieve divert DRGR27 from combination point CRM27 and divert south to
5238          KM   combination point CGR27
5239          DR   DGR27
              *

5240          KK   CGR27 COMBINE
5241          KM   Combine divert D27GR and divert retrieval DRGR27
5242          HC       2    6.50
              *

5243          KK  SRGR27 STORAGE
5244          KM   Storage route runoff hydrograph from divert D27GR through regional detention
5245          KM     basin near the intersection of Grand Avenue and 27th Avenue.
5246          KM   Stage-storage-discharge data from State Highway Wickenburg-Phoenix Highway
5247          KM     (US 60), 27th Avnue/Thomas Road As-builts, ADOT, August 2006
5248          RS       1     STOR
5249          SV            0.30    2.10    8.50   15.80   23.90   32.70   42.20   47.30   49.93
5250          SV    52.6    57.8
5251          SQ       0       2       7      14      19      22      25      28      29       3
5252          SQ     813    1469
5253          SE  1084.0  1085.0  1086.0  1088.0  1090.0  1092.0  1094.0  1096.0  1097.0    1097
5254          SE  1098.0  1098.5
              *

5255          KK  DWTM35  DIVERT
5256          KM   Divert remaining runoff hydrograph from combination point CPGR27 west to
5257          KM   combination point CTM35
5258          DT  DSMD27     0.0     0.0
5259          DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
5260          DQ     0.0    68.0   136.0   340.0   680.0  1360.0  2720.0  6800.0 13600.0 34000.0
              *

5261          KK  RWTM35   ROUTE
5262          KM   Route diversion DWTM35 west to combination point CTM35
5263          RS       6     FLOW
5264          RC   0.035   0.015   0.035    5280  0.0008    0.00
5265          RX    0.00    0.00   16.50   16.50  107.50  107.50  124.00  124.00
5266          RY    3.00    0.66    0.50    0.00    0.00    0.50    0.66    3.00
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


5267          KK  DRTM35RETRIEVE
5268          KM   Retrieve divert DRTM35 from combination point CGC35 and divert south to
5269          KM   combination point CTM35
5270          DR   DSTM35
              *

5271          KK  RSTM35   ROUTE
5272          KM   Route diversion retrieval DRTM35 south to combination point CTM35
5273          RS       1     FLOW
5274          RC   0.035   0.015   0.035    3050  0.0051    0.00
5275          RX    0.00    0.00   16.50   16.50  107.50  107.50  124.00  124.00
5276          RY    3.00    0.66    0.50    0.00    0.00    0.50    0.66    3.00
              *

5277          KK    TM35   BASIN
5278          KM   Runoff hydrograph for subbasin TM35 northeast of the intersection of Thomas
5279          KM   Road and 35th Avenue
5280          BA   0.393
5281          LG    0.14    0.15    7.60    0.08      80
5282          UC   0.637   0.373
5283          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
5284          UA     100
              *
```



```
5285          KK   CTM35 COMBINE
5286          KM   Combine route RWTM35, route RSTM35, and subbasin TM35
5287          HC       3    4.31
              *

5288          KK  PR31GRRETRIEVE
5289          KM   Retrieve full flow capacity of 257 cfs from 72-inch storm drain pipe at the
5290          KM   intersection of Grand Avenue and 31st Avenue
5291          DR  DP31GR
              *

5292          KK  RP31TM   ROUTE
5293          KM   Route full flow capacity of 257 cfs through 72-inch storm drain pipe in
5294          KM   31st Avenue to the intersection of Thomas Road and 31st Avenue
5295          RK    3862  0.0037   0.015            CIRC   6.000
              *

5296          KK  PR35GCRETRIEVE
5297          KM   Retrieve full flow capacity of 40 cfs from 36-inch storm drain pipe at the
5298          KM   intersection of the Grand Canal and 35th Avenue
5299          DR  DP35GC
              *

5300          KK  RP35TM   ROUTE
5301          KM   Route full flow capacity of 40 cfs through 36-inch storm drain pipe in
5302          KM   35th Avenue to the intersection of Thomas Road and 35th Avenue
5303          RK    3051  0.0035   0.015            CIRC   3.000
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


5304          KK  CPTM35 COMBINE
5305          KM   Combine pipe returns PR31GR and PR35GC with the runoff hydrograph at
5306          KM   combination point CTM35 at the intersection of Thomas Road and 35th Avenue
5307          HC       3
              *

5308          KK   D35TM  DIVERT
5309          KM   Capacity of storm drain in 31st Avenue and 35th Avenue diverted together.
5310          KM   Divert combined calculated full flow capacity of 213 cfs in the 66-inch storm
5311          KM   drain pipe in 31st AVenue and 87 cfs in the 48-inch storm drain pipe in
5312          KM   35th Avenue. The total calculated combined full flow capacity diverted at the
5313          KM   intersection of 35th Avenue and Thomas Road is 300 cfs in an equivalent
5314          KM   diameter pipe of 77 inches
5315          DT  DP35TM     0.0   300.0
5316          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
5317          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

5318          KK  DWTM43  DIVERT
5319          KM   Divert remaining runoff hydrograph from combination point CPTM35 west to
5320          KM   combination point CTM43
5321          DT  DSMD35     0.0     0.0
5322          DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
5323          DQ     0.0    84.0   168.0   420.0   840.0  1680.0  3360.0  8400.0 16800.0 42000.0
              *

5324          KK  RWTM43   ROUTE
5325          KM   Route diversion DWTM43 west to combination point CTM43
5326          RS       9     FLOW
5327          RC   0.035   0.015   0.035    5280  0.0003    0.00
5328          RX    0.00    0.00   38.50   38.50  210.50  210.50  249.00  249.00
5329          RY    3.00    0.88    0.50    0.00    0.00    0.50    0.88    3.00
              *

5330          KK  DRTM43RETRIEVE
5331          KM   Retrieve divert DRTM43 from combination point CGC43 and divert south to
5332          KM   combination point CTM43
5333          DR  DSTM43
              *

5334          KK  RSTM43   ROUTE
5335          KM   Route diversion retrieval DRTM43 south to combination point CTM43
5336          RS       1     FLOW
5337          RC   0.035   0.015   0.035    3050  0.0045    0.00
5338          RX    0.00    0.00   16.50   16.50  107.50  107.50  124.00  124.00
5339          RY    3.00    0.66    0.50    0.00    0.00    0.50    0.66    3.00
              *

5340          KK    TM43   BASIN
5341          KM   Runoff hydrograph for subbasin TM43 northeast of the intersection of Thomas
5342          KM   Road and 43rd Avenue
5343          BA   0.636
5344          LG    0.23    0.15    8.80    0.05      37
5345          UC   1.500   1.083
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


5346          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
5347          UA     100
```

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                *
5348            KK  ERTM43  DIVERT
5349            KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
5350            KM   retention developed after 1990 in subbasin TM43
5351            DT   XTM43       1.7       0.0
5352            DI     0.0 50000.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0
5353            DQ     0.0 50000.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0
                *

5354            KK   CTM43 COMBINE
5355            KM   Combine route RWTM43, route RSTM43, and subbasin TM43
5356            HC        3    3.16
                *

5357            KK  PR43GCRETRIEVE
5358            KM   Retrieve combined full flow capacity of 406 cfs from 87-inch equivalent
5359            KM   diameter pipe at the intersection of the Grand Canal and 43rd Avenue
5360            DR  DP43GC
                *

5361            KK  RP43TM   ROUTE
5362            KM   Route the combined full flow capacity of 406 cfs through an equivalent storm
5363            KM   drain pipe diameter of 87 inches in 43rd Avenue to the intersection of
5364            KM   43rd Avenue and Thomas Road
5365            RK    2924  0.0035   0.015            CIRC   7.250
                *

5366            KK  CPTM43 COMBINE
5367            KM   Combine pipe return PR43GC with the runoff hydrograph at combination point
5368            KM   CTM43 at the intersection of the Grand Canal and 43rd Avenue
5369            HC        2
                *

5370            KK   D43TM  DIVERT
5371            KM   Capacity of storm drain in 39th Avenue and 43rd Avenue diverted together.
5372            KM   Divert combined calculated full flow capacity of 404 cfs in the 84-inch storm
5373            KM   drain pipe in 39th AVenue and 225 cfs in the 69-inch storm drain pipe in
5374            KM   43rd Avenue. The total calculated combined full flow capacity diverted at the
5375            KM   intersection of 43rd Avenue and Thomas Road is 629 cfs in an equivalent
5376            KM   diameter pipe of 102 inches
5377            DT  DP43TM      0.0   629.0
5378            DI     0.0 50000.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0
5379            DQ     0.0 50000.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0
                *

5380            KK  DWTM51  DIVERT
5381            KM   Divert remaining runoff hydrograph from combination point CTM43 west to
5382            KM   combination point CTM51
5383            DT  DSMD43      0.0       0.0
5384            DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
5385            DQ     0.0    79.0   158.0   395.0   790.0  1580.0  3160.0  7900.0 15800.0 39500.0
                *
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LINE            ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

5386            KK  RWTM51   ROUTE
5387            KM   Route diversion DWTM51 west to combination point CTM51
5388            RS        9    FLOW
5389            RC   0.035   0.015   0.035    5280  0.0004    0.00
5390            RX    0.00    0.00   48.00   48.00  251.00  251.00  299.00  299.00
5391            RY    3.00    0.98    0.50    0.00    0.00    0.50    0.98    3.00
                *

5392            KK  DRTM51RETRIEVE
5393            KM   Retrieve divert DRTM51 from combination point CPGC51 and divert south to
5394            KM   combination point CTM51
5395            DR  DSTM51
                *

5396            KK  RSTM51   ROUTE
5397            KM   Route diversion retrieval DRTM51 south to combination point CTM51
5398            RS        2    FLOW
5399            RC   0.035   0.015   0.035    2916  0.0044    0.00
5400            RX    0.00    0.00   29.00   29.00  170.00  170.00  199.00  199.00
5401            RY    3.00    0.79    0.50    0.00    0.00    0.50    0.79    3.00
                *

5402            KK    TM51   BASIN
5403            KM   Runoff hydrograph for subbasin TM51 northeast of the intersection of Thomas
5404            KM   Road and 51st Avenue
5405            BA   0.545
5406            LG    0.24    0.19    6.60    0.13      33
5407            UC   1.500   1.165
5408            UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
5409            UA     100
                *

5410            KK   CTM51 COMBINE
5411            KM   Combine route RWTM51, route RSTM51, and subbasin TM51
5412            HC        3    2.15
```



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                *
5413            KK  PR51GCRETRIEVE
5414            KM   Retrieve full flow capacity of 113 cfs from 54-inch storm drain pipe near the
5415            KM   intersection of the Grand Canal and 51st Avenue
5416            DR  DP51GC
                *

5417            KK  PRGC53RETRIEVE
5418            KM   Retrieve full flow capacity of 20 cfs from 36-inch storm drain pipe at the
5419            KM   intersection of the Grand Canal and 53rd Avenue
5420            DR  DPGC53
                *
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LINE            ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

5421            KK  RPGC51   ROUTE
5422            KM   Route full flow capacity of 20 cfs through 36-inch storm drain near the
5423            KM   Grand Canal to the intersection of the Grand Canal and 51st Avenue
5424            RK    1038  0.0009   0.015            CIRC   3.000
                *

5425            KK  CPGC51 COMBINE
5426            KM   Combine pipe return PR51GC with pipe route RPGC51 at the intersection of
5427            KM   the Grand Canal and 51st Avenue
5428            HC        2    2.15
                *

5429            KK  RP51TM   ROUTE
5430            KM   Route combined full flow capacity of 133 cfs through a 72-inch storm drain
5431            KM   pipe in 51st Avenue to the intersection of Thomas Road and 51st Avenue
5432            RK    2803  0.0033   0.015            CIRC   6.000
                *

5433            KK  CPTM51 COMBINE
5434            KM   Combine the runoff hydrograph at combination point CTM51 with pipe route
5435            KM   RP51TM at the intersection of Thomas Road and 51st Avenue
5436            HC        2
                *

5437            KK   D51TM  DIVERT
5438            KM   Divert calculated full flow capapcity of 244 cfs into 72-inch storm drain
5439            KM   pipe at the intersection of Thomas Road and 51st Avenue
5440            DT  DP51TM      0.0   244.0
5441            DI     0.0 50000.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0
5442            DQ     0.0 50000.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0
                *

5443            KK  DWTM59  DIVERT
5444            KM   Divert remaining runoff hydrograph from combination point CPTM51 west to
5445            KM   combination point CTM59
5446            DT  DSMD51      0.0       0.0
5447            DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
5448            DQ     0.0    64.0   128.0   320.0   640.0  1280.0  2560.0  6400.0 12800.0 32000.0
                *

5449            KK  RWTM59   ROUTE
5450            KM   Route diversion DWTM59 west to combination point CTM59
5451            RS        5    FLOW
5452            RC   0.035   0.015   0.035    5280  0.0013    0.00
5453            RX    0.00    0.00   48.00   48.00  251.00  251.00  299.00  299.00
5454            RY    3.00    0.98    0.50    0.00    0.00    0.50    0.98    3.00
                *

5455            KK  DRTM59RETRIEVE
5456            KM   Retrieve divert DRTM59 from combination point CPGC59 and divert south to
5457            KM   combination point CTM59
5458            DR  DSTM59
                *
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LINE            ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

5459            KK  RSTM59   ROUTE
5460            KM   Route diversion retrieval DRTM59 south to combination point CTM59
5461            RS        1    FLOW
5462            RC   0.035   0.015   0.035    2752  0.0054    0.00
5463            RX    0.00    0.00   29.00   29.00  170.00  170.00  199.00  199.00
5464            RY    3.00    0.79    0.50    0.00    0.00    0.50    0.79    3.00
                *

5465            KK    TM59   BASIN
5466            KM   Runoff hydrograph for subbasin TM59 northeast of the intersection of Thomas
5467            KM   Road and 59th Avenue
5468            BA   0.599
5469            LG    0.24    0.21    6.60    0.13      31
5470            UC   1.460   1.060
5471            UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
5472            UA     100
                *
```

```
5473          KK   CTM59 COMBINE
5474          KM   Combine route RWTM59, route RSTM59, and subbasin TM59
5475          HC       3    3.90
              *

5476          KK  PRGC63RETRIEVE
5477          KM   Retrieve full flow capacity of 258 cfs from 72-inch storm drain pipe at the
5478          KM   intersection of the Grand Canal and 63rd Avenue
5479          DR  DPGC63
              *

5480          KK  RP59TM   ROUTE
5481          KM   Route full flow capacity of 258 cfs through 72-inch storm drain pipe in
5482          KM   59th Avenue to the intersection of Thomas Road and 59th Avenue
5483          RK    4111  0.0037   0.015            CIRC   6.000
              *

5484          KK  CPTM59 COMBINE
5485          KM   Combine pipe return PRGC63 with the runoff hydrograph at combination point
5486          KM   CTM59 at the intersection of Thomas Road and 59th Avenue
5487          HC       2
              *

5488          KK   D59TM  DIVERT
5489          KM   Divert calculated full flow capapcity of 389 cfs into 84-inch storm drain
5490          KM   pipe at the intersection of Thomas Road and 59th Avenue
5491          DT  DP59TM     0.0   389.0
5492          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
5493          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

5494          KK  DWTM67  DIVERT
5495          KM   Divert remaining runoff hydrograph from combination point CPTM59 west to
5496          KM   combination point CTM67
5497          DT  DSMD59     0.0     0.0
5498          DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
5499          DQ     0.0    41.0    82.0   205.0   410.0   820.0  1640.0  4100.0  8200.0 20500.0
              *

5500          KK  RWTM67   ROUTE
5501          KM   Route diversion DWTM67 west to combination point CTM67
5502          RS       4    FLOW
5503          RC   0.035   0.015   0.035    5280  0.0015    0.00
5504          RX    0.00    0.00   95.50   95.50  453.50  453.50  549.00  549.00
5505          RY    3.00    1.46    0.50    0.00    0.00    0.50    1.46    3.00
              *

5506          KK  DRTM67RETRIEVE
5507          KM   Retrieve divert DRTM67 from combination point CPISGC and divert south to
5508          KM   combination point CTM67
5509          DR  DSTM67
              *

5510          KK  RSTM67   ROUTE
5511          KM   Route diversion DRTM67 south to combination point CTM67
5512          RS       3    FLOW
5513          RC   0.035   0.015   0.035    5280  0.0029    0.00
5514          RX    0.00    0.00    9.50    9.50   40.50   40.50   50.00   50.00
5515          RY    3.00    0.60    0.50    0.00    0.00    0.50    0.60    3.00
              *

5516          KK    TM67   BASIN
5517          KM   Runoff hydrograph for subbasin TM67 northeast of the intersection of Thomas
5518          KM   Road and 67th Avenue
5519          BA   0.813
5520          LG    0.24    0.15    8.00    0.07      36
5521          UC   1.486   0.993
5522          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
5523          UA     100
              *

5524          KK  ERTM67  DIVERT
5525          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
5526          KM   retention developed after 1990 in subbasin TM67
5527          DT  XTM67      1.1     0.0
5528          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
5529          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

5530          KK   CTM67 COMBINE
5531          KM   Combine route RWTM67, route RSTM67, and subbasin TM67
5532          HC       3    3.12
              *
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5533          KK  PR67ISRETRIEVE
5534          KM   Retrieve full flow capacity of 175 cfs from 66-inch storm drain pipe at the
5535          KM   intersection of Indian School Road and 67th Avenue
5536          DR  DP67IS
              *

5537          KK  RP67TM   ROUTE
5538          KM   Route full flow capacity of 175 cfs through 66-inch storm drain pipe in
5539          KM   67th Avenue to the intersection of Thomas Road and 67th Avenue
5540          RK    5268  0.0027   0.015            CIRC   5.500
              *

5541          KK  CPTM67 COMBINE
5542          KM   Combine pipe flow at combination point CPIS67 with runoff hydrograph at
5543          KM   combination point CTM67 at the intersection of Thomas Road and 67th Avenue
5544          HC       2
              *

5545          KK   D67TM  DIVERT
5546          KM   Divert calculated full flow capapcity of 273 cfs into 78-inch storm drain
5547          KM   pipe at the intersection of Thomas Road and 67th Avenue
5548          DT  DP67TM     0.0   273.0
5549          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
5550          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

5551          KK  DWTM75  DIVERT
5552          KM   Divert remaining runoff hydrograph from combination point CPTM67 west to
5553          KM   combination point CTM75
5554          DT  DSMD67     0.0     0.0
5555          DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
5556          DQ     0.0    45.0    90.0   225.0   450.0   900.0  1800.0  4500.0  9000.0 22500.0
              *

5557          KK  RWTM75   ROUTE
5558          KM   Route diversion DWTM75 west to combination point CTM75
5559          RS       4    FLOW
5560          RC   0.035   0.015   0.035    5280  0.0023    0.00
5561          RX    0.00    0.00   76.50   76.50  372.50  372.50  449.00  449.00
5562          RY    3.00    1.27    0.50    0.00    0.00    0.50    1.27    3.00
              *

5563          KK  DRTM75RETRIEVE
5564          KM   Retrieve divert DRTM75 from combination point CPIS75 and divert south to
5565          KM   combination point CTM75
5566          DR  DSTM75
              *

5567          KK  RSTM75   ROUTE
5568          KM   Route diversion retrieval DRTM75 south to combination point CTM75
5569          RS       8    FLOW
5570          RC   0.035   0.015   0.035    5280  0.0027    0.00
5571          RX    0.00    0.00   38.50   38.50  210.50  210.50  249.00  249.00
5572          RY    3.00    0.88    0.50    0.00    0.00    0.50    0.88    3.00
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

5573          KK    TM75   BASIN
5574          KM   Runoff hydrograph for square mile subbasin TM75 northeast of the intersection
5575          KM   of Thomas Road and 75th Avenue
5576          BA   0.997
5577          LG    0.23    0.15    9.70    0.04      41
5578          UC   1.408   0.943
5579          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
5580          UA     100
              *

5581          KK  ERTM75  DIVERT
5582          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
5583          KM   retention developed after 1990 in subbasin TM75
5584          DT  XTM75      0.9     0.0
5585          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
5586          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

5587          KK   CTM75 COMBINE
5588          KM   Combine route RWTM75, route RSTM75, and subbasin TM75
5589          HC       3    2.92
              *

5590          KK  PR75ISRETRIEVE
5591          KM   Retrieve full flow capacity of 123 cfs from 60-inch storm drain pipe at the
5592          KM   intersection of Indian School Road and 75th Avenue
5593          DR  DP75IS
              *

5594          KK  RP75TM   ROUTE
5595          KM   Route full flow capacity of 123 cfs through 60-inch storm drain pipe in
5596          KM   75th Avenue to the intersection of Thomas Road and 75th Avenue
5597          RK    5256  0.0022   0.015            CIRC   5.000
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                *
5598            KK  CPTM75 COMBINE
5599            KM   Combine pipe return PR75IS with the runoff hydrograph at combination point
5600            KM   CTM75 at the intersection of Thomas Road and 75th Avenue
5601            HC       2
                *
5602            KK   D75TM  DIVERT
5603            KM   Divert calculated full flow capapcity of 303 cfs into 84-inch storm drain
5604            KM   pipe at the intersection of Thomas Road and 75th Avenue
5605            DT  DP75TM     0.0   303.0
5606            DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
5607            DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
                *
1                                        HEC-1 INPUT                                        PAGE146

LINE            ID.......1.......2.......3.......4.......5.......6.......7.......8.......9.....10

5608            KK  DWTM83  DIVERT
5609            KM   Divert remaining runoff hydrograph from combination point CPTM75 west to
5610            KM   combination point CTM83
5611            DT  DSMD75     0.0     0.0
5612            DI     0 0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
5613            DQ     0.0    48.0    96.0   240.0   480.0   960.0  1920.0  4800.0  9600.0 24000.0
                *
5614            KK  RWTM83   ROUTE
5615            KM   Route diversion DWTM83 west to combination point CTM83
5616            RS       4    FLOW
5617            RC  0.035   0.015   0.035    5280  0.0025    0.00
5618            RX    0.00    0.00   76.50   76.50  372.50  372.50  449.00  449.00
5619            RY    3.00    1.27    0.50    0.00    0.00    0.50    1.27    3.00
                *
5620            KK  DRTM83RETRIEVE
5621            KM   Retrieve divert DRTM83 from combination point CPIS83 and divert south to
5622            KM   combination point CTM83
5623            DR  DSTM83
                *
5624            KK  RSTM83   ROUTE
5625            KM   Route diversion retrieval DRTM83 south to combination point CTM83
5626            RS       4    FLOW
5627            RC  0.035   0.015   0.035    5280  0.0023    0.00
5628            RX    0.00    0.00   76.50   76.50  372.50  372.50  449.00  449.00
5629            RY    3.00    1.27    0.50    0.00    0.00    0.50    1.27    3.00
                *
5630            KK   TM83   BASIN
5631            KM   Runoff hydrograph for square mile subbasin TM83 northeast of the intersection
5632            KM   of Thomas Road and 83rd Avenue
5633            BA   0.992
5634            LG    0.24    0.15    7.30    0.10      34
5635            UC   1.500   1.011
5636            UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
5637            UA     100
                *
5638            KK   CTM83 COMBINE
5639            KM   Combine route RWTM83, route RSTM83, and subbasin TM83
5640            HC       3    3.41
                *
5641            KK  PR83ISRETHIEVE
5642            KM   Retrieve full flow capacity of 187 cfs from 72-inch storm drain pipe at the
5643            KM   intersection of Indian School Road and 83rd Avenue
5644            DR  DP83IS
                *
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LINE            ID.......1.......2.......3.......4.......5.......6.......7.......8.......9.....10

5645            KK  RP83TM   ROUTE
5646            KM   Route full flow capacity of 187 cfs through 72-inch storm drain pipe in
5647            KM   83rd Avenue to the intersection of Thomas Road and 83rd Avenue
5648            RK    5330  0.0019   0.015            CIRC   6.000
                *
5649            KK  CPTM83 COMBINE
5650            KM   Combine pipe return PR83IS with the runoff hydrograph at combination point
5651            KM   CTM83 at the intersection of Thomas Road and 83rd Avenue
5652            HC       2
                *
5653            KK   D83TM  DIVERT
5654            KM   Divert calculated full flow capapcity of 283 cfs into 84-inch storm drain
5655            KM   pipe at the intersection of Thomas Road and 83rd Avenue
5656            DT  DP83TM     0.0   283.0
5657            DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
5658            DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
```



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                *
5659            KK  DWTM91  DIVERT
5660            KM   Divert remaining runoff hydrograph from combination point CPTM83 west to
5661            KM   combination point CTM91
5662            DT  DSMD83     0.0     0.0
5663            DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
5664            DQ     0.0    23.0    46.0   115.0   230.0   460.0   920.0  2300.0  4600.0 11500.0
                *
5665            KK  RWTM91   ROUTE
5666            KM   Route diversion DWTM91 west to combination point CTM91
5667            RS       4    FLOW
5668            RC   0.035   0.015   0.035    5280  0.0028    0.00
5669            RX    0.00    0.00  114.50  114.50  534.50  534.50  649.00  649.00
5670            RY    3.00    1.64    0.50    0.00    0.00    0.50    1.64    3.00
                *
5671            KK  DRTM91RETRIEVE
5672            KM   Retrieve divert DRTM91 from combination point CIS91 and divert south to
5673            KM   combination point CTM91
5674            DR  DSTM91
                *
5675            KK  RSTM91   ROUTE
5676            KM   Route diversion retrieval DRTM91 south to combination point CTM91
5677            RS       4    FLOW
5678            RC   0.035   0.015   0.035    5280  0.0021    0.00
5679            RX    0.00    0.00   67.00   67.00  332.00  332.00  399.00  399.00
5680            RY    3.00    1.17    0.50    0.00    0.00    0.50    1.17    3.00
                *
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LINE            ID.......1.......2.......3.......4.......5.......6.......7.......8.......9.....10

5681            KK   TM91   BASIN
5682            KM   Runoff hydrograph for square mile subbasin TM91 northeast of the intersection
5683            KM   of Thomas Road and 91st Avenue
5684            BA   1.003
5685            LG    0.24    0.15    7.30    0.09      36
5686            UC   1.500   1.009
5687            UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
5688            UA     100
                *
5689            KK  ERTM91  DIVERT
5690            KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
5691            KM   retention developed after 1990 in subbasin TM91
5692            DT  XTM91     14.8     0.0
5693            DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
5694            DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
                *
5695            KK   CTM91 COMBINE
5696            KM   Combine route RWTM91, route RSTM91, and subbasin TM91
5697            HC       3    4.96
                *
5698            KK  PR91ISRETRIEVE
5699            KM   Retrieve full flow capacity of 190 cfs from 72-inch storm drain pipe at the
5700            KM   intersection of Indian School Road and 91st Avenue
5701            DR  DP91IS
                *
5702            KK  RP91TM   ROUTE
5703            KM   Route full flow capacity of 190 cfs through 72-inch storm drain pipe in
5704            KM   91st Avenue to the intersection of Thomas Road and 91st Avenue
5705            RK    5130  0.0020   0.015            CIRC   6.000
                *
5706            KK  CPTM91 COMBINE
5707            KM   Combine pipe return PR91IS with the runoff hydrograph at combination point
5708            KM   CTM91 at the intersection of Thomas Road and 91st Avenue
5709            HC       2
                *
5710            KK   D91TM  DIVERT
5711            KM   Divert calculated full flow capapcity of 287 cfs into 84-inch storm drain
5712            KM   pipe at the intersection of Thomas Road and 91st Avenue
5713            DT  DP91TM     0.0   287.0
5714            DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
5715            DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
                *
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LINE            ID.......1.......2.......3.......4.......5.......6.......7.......8.......9.....10

5716            KK  DWTMLO  DIVERT
5717            KM   Divert remaining runoff hydrograph from combination point CPTM91 west to
5718            KM   combination point CTMLO
5719            DT  DSMD91     0.0     0.0
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5720          DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
5721          DQ     0.0    77.0   154.0   385.0   770.0  1540.0  3080.0  7700.0 15400.0 38500.0
              *

5722          KK  RWTMLO   ROUTE
5723          KM   Route diversion DWTMLO west to combination point CTMLO
5724          RS      2    FLOW
5725          RC  0.035   0.015   0.035    2623  0.0015    0.00
5726          RX   0.00    0.00   16.50   16.50  107.50  107.50  124.00  124.00
5727          RY   3.00    0.66    0.50    0.00    0.00    0.50    0.66    3.00
              *

5728          KK   TMLO   BASIN
5729          KM   Runoff hydrograph for subbasin TMLO northeast of the intersection of Thomas
5730          KM   Road and SR Loop 101
5731          BA   0.496
5732          LG   0.45    0.15    8.80    0.09       8
5733          UC  1.344   1.060
5734          UA      0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
5735          UA    100
              *

5736          KK  ERTMLO  DIVERT
5737          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
5738          KM   retention developed after 1990 in subbasin TMLO
5739          DT   XTMLO     0.4     0.0
5740          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
5741          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

5742          KK   CTMLO COMBINE
5743          KM   Combine route RWTMLO, route RSTMLO, and subbasin TMLO
5744          HC       3    4.87
              *

5745          KK  RSMDLO   ROUTE
5746          KM   Route hydrograph at combination point CTMLO south to combination point CMDLO
5747          RS      2     FLOW
5748          RC  0.035   0.015   0.035    5729  0.0012    0.00
5749          RX   0.00    3.00    5.00   39.00   47.00   51.00   65.00   68.00
5750          RY  18.00   17.00   17.00    0.00    0.16   17.16   17.44   18.44
              *

5751          KK  DRMD27RETRIEVE
5752          KM   Retrieve divert DRMD27 from combination point CPGR27 and divert south to
5753          KM   combination point CMD27
5754          DR  DSMD27
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

5755          KK  RSMD27   ROUTE
5756          KM   Route diversion retrieval DRMD27 south to combination point CMD27
5757          RS      3    FLOW
5758          RC  0.035   0.015   0.035    5280  0.0034    0.00
5759          RX   0.00    0.00   16.50   16.50  107.50  107.50  124.00  124.00
5760          RY   3.00    0.66    0.50    0.00    0.00    0.50    0.66    3.00
              *

5761          KK   MD27   BASIN
5762          KM   Runoff hydrograph for subbasin MD27 northeast of the intersection of McDowell
5763          KM   Road and 27th Avenue
5764          BA   0.241
5765          LG   0.15    0.15    8.00    0.07      80
5766          UC  0.584   0.447
5767          UA      0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
5768          UA    100
              *

5769          KK   CMD27 COMBINE
5770          KM   Combine route RSMD27 and subbasin MD27
5771          HC       2    4.65
              *

5772          KK  PR27GRRETRIEVE
5773          KM   Retrieve full flow capacity of 195 cfs from 66-inch storm drain pipe at the
5774          KM   intersection of Grand Avenue and 27th Avenue
5775          DR  DP27GR
              *

5776          KK  RP27MD   ROUTE
5777          KM   Route full flow capacity of 195 cfs through 66-inch storm drain pipe in
5778          KM   27th Avenue to the intersection of McDowell Road and 27th Avenue
5779          RK    5006  0.0034   0.015            CIRC   5.500
              *

5780          KK  CPMD27 COMBINE
5781          KM   Combine pipe return PR27GR with the runoff hydrograph at combination point
5782          KM   CMD27 at the intersection of McDowell Road and 27th Avenue
5783          HC       2
              *
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5784          KK   D27MD  DIVERT
5785          KM   Divert calculated full flow capapcity of 246 cfs into 72-inch storm drain
5786          KM   pipe at the intersection of McDowell Road and 27th Avenue
5787          DT  DP27MD      0.0    246.0
5788          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
5789          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

5790          KK  RWMD35   ROUTE
5791          KM   Route remainder of diversion D27MD west to combination point CMD35
5792          RS      6    FLOW
5793          RC  0.035   0.015   0.035    5280  0.0009    0.00
5794          RX   0.00    0.00   48.00   48.00  251.00  251.00  299.00  299.00
5795          RY   3.00    0.98    0.50    0.00    0.00    0.50    0.98    3.00
              *

5796          KK  DRMD35RETRIEVE
5797          KM   Retrieve divert DRMD35 from combination point CPTM35 and divert south to
5798          KM   combination point CMD35
5799          DR  DSMD35
              *

5800          KK  RSMD35   ROUTE
5801          KM   Route diversion retrieval DRMD35 south to combination point CMD35
5802          RS      2    FLOW
5803          RC  0.035   0.015   0.035    5280  0.0036    0.00
5804          RX   0.00    0.00   67.00   67.00  332.00  332.00  399.00  399.00
5805          RY   3.00    1.17    0.50    0.00    0.00    0.50    1.17    3.00
              *

5806          KK   MD35   BASIN
5807          KM   Runoff hydrograph for square mile subbasin MD35 northeast of the intersection
5808          KM   of McDowell Road and 35th Avenue
5809          BA   0.999
5810          LG   0.19    0.13   10.10    0.03      58
5811          UC  1.350   0.889
5812          UA      0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
5813          UA    100
              *

5814          KK   CMD35 COMBINE
5815          KM   Combine route RWMD35, route RSMD35, and subbasin MD35
5816          HC       3    9.29
              *

5817          KK  PR35TMRETRIEVE
5818          KM   Retrieve combined full flow capacity of 300 cfs from 77-inch equivalent
5819          KM   diameter pipe at the intersection of Thomas Road and 35th Avenue
5820          DR  DP35TM
              *

5821          KK  RP35MD   ROUTE
5822          KM   Route the combined full flow capacity of 300 cfs through an equivalent storm
5823          KM   drain pipe diameter of 77 inches in 35th Avenue to the intersection of
5824          KM   McDowell Road and 35th Avenue
5825          RK    5093  0.0037   0.015            CIRC   6.417
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

5826          KK  CPMD35 COMBINE
5827          KM   Combine pipe return PR35TM with the runoff hydrograph at combination point
5828          KM   CMD35 at the intersection of McDowell Road and 35th Avenue
5829          HC       2
              *

5830          KK   D35MD  DIVERT
5831          KM   Capacity of storm drain in 31st Avenue and 35th Avenue diverted together.
5832          KM   Divert combined calculated full flow capacity of 405 cfs in the 84-inch storm
5833          KM   drain pipe in 31st AVenue and 102 cfs in the 51-inch storm drain pipe in
5834          KM   35th Avenue. The total calculated combined full flow capacity diverted at the
5835          KM   intersection of 35th Avenue and McDowell Road is 507 cfs in an equivalent
5836          KM   diameter pipe of 93 inches
5837          DT  DP35MD      0.0    507.0
5838          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
5839          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

5840          KK  DWMD43  DIVERT
5841          KM   Divert remaining runoff hydrograph from combination point CPMD35 west to
5842          KM   combination point CMD43
5843          DT  DSIN35      0.0     0.0
5844          DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
5845          DQ     0.0    63.0   126.0   315.0   630.0  1260.0  2520.0  6300.0 12600.0 31500.0
              *
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5846          KK  RWMD43    ROUTE
5847          KM   Route diversion DWMD43 west to combination point CMD43
5848          RS       7     FLOW
5849          RC   0.035   0.015   0.035    5280  0.0004    0.00
5850          RX    0.00    0.00   95.50   95.50  453.50  453.50  549.00  549.00
5851          RY    3.00    1.46    0.50    0.00    0.00    0.50    1.46    3.00
              *

5852          KK  DRMD43RETRIEVE
5853          KM   Retrieve divert DRMD43 from combination point CTM43 and divert south to
5854          KM   combination point CMD43
5855          DR  DSMD43
              *

5856          KK  RSMD43    ROUTE
5857          KM   Route diversion retrieval DRMD43 south to combination point CMD43
5858          RS       3     FLOW
5859          RC   0.035   0.015   0.035    5280  0.0037    0.00
5860          RX    0.00    0.00   67.00   67.00  332.00  332.00  399.00  399.00
5861          RY    3.00    1.17    0.50    0.00    0.00    0.50    1.17    3.00
              *

5862          KK    MD43    BASIN
5863          KM   Runoff hydrograph for square mile subbasin MD43 northeast of the intersection
5864          KM   of McDowell Road and 43rd Avenue
5865          BA   0.999
5866          LG    0.22    0.15    9.70    0.04      41
5867          UC   1.013   0.376
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5868          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
5869          UA     100
              *

5870          KK   CMD43 COMBINE
5871          KM   Combine route RWMD43, route RSMD43, and subbasin MD43
5872          HC       3    6.96
              *

5873          KK  PR43TMRETRIEVE
5874          KM   Retrieve combined full flow capacity of 629 cfs from 102-inch equivalent
5875          KM   diameter pipe at the intersection of Thomas Road and 43rd Avenue
5876          DR  DP43TM
              *

5877          KK  RP43MD    ROUTE
5878          KM   Route the combined full flow capacity of 629 cfs through an equivalent storm
5879          KM   drain pipe diameter of 102 inches in 43rd Avenue to the intersection of
5880          KM   43rd Avenue and McDowell Road
5881          RK    5212  0.0035   0.015            CIRC   8.500
              *

5882          KK  CPMD43 COMBINE
5883          KM   Combine pipe return PR43TM with the runoff hydrograph at combination point
5884          KM   CMD43 at the intersection of McDowell Road and 43rd Avenue
5885          HC       2
              *

5886          KK   D43MD  DIVERT
5887          KM   Capacity of storm drain in 39th Avenue and 43rd Avenue diverted together.
5888          KM   Divert combined calculated full flow capacity of 404 cfs in the 84-inch storm
5889          KM   drain pipe in 39th AVenue and 225 cfs in the 69-inch storm drain pipe in
5890          KM   43rd Avenue. The total calculated combined full flow capacity diverted at the
5891          KM   intersection of 35th Avenue and McDowell Road is 629 cfs in an equivalent
5892          KM   diameter pipe of 102 inches
5893          DT  DP43MD      0.0    629.0
5894          DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
5895          DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

5896          KK  DWMD51   DIVERT
5897          KM   Divert remaining runoff hydrograph from combination point CPMD43 west to
5898          KM   combination point CMD51
5899          DT  DSIN43      0.0      0.0
5900          DI      0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0  10000.0  20000.0  50000.0
5901          DQ      0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0  10000.0  20000.0  50000.0
              *

5902          KK  RWMD51    ROUTE
5903          KM   Route diversion DWMD51 west to combination point CMD51
5904          RS       1     FLOW
5905          RC   0.035   0.015   0.035    5280  0.0002    0.00
5906          RX    0.00    0.00   57.50   57.50  291.50  291.50  349.00  349.00
5907          RY    3.00    1.08    0.50    0.00    0.00    0.50    1.08    3.00
              *
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5908          KK  DRMD51RETRIEVE
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5909          KM   Retrieve divert DRMD51 from combination point CPTM51 and divert south to
5910          KM   combination point CMD51
5911          DR  DSMD51
              *

5912          KK  RSMD51    ROUTE
5913          KM   Route diversion retrieval DRMD51 south to combination point CMD51
5914          RS       3     FLOW
5915          RC   0.035   0.015   0.035    5280  0.0035    0.00
5916          RX    0.00    0.00   54.50   54.50  269.50  269.50  324.00  324.00
5917          RY    3.00    1.04    0.50    0.00    0.00    0.50    1.04    3.00
              *

5918          KK    MD51    BASIN
5919          KM   Runoff hydrograph for square mile subbasin MD51 northeast of the intersection
5920          KM   of McDowell Road and 51st Avenue
5921          BA   1.001
5922          LG    0.23    0.15    8.40    0.07      35
5923          UC   1.500   1.010
5924          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
5925          UA     100
              *

5926          KK   CMD51 COMBINE
5927          KM   Combine route RWMD51, route RSMD51, and subbasin MD51
5928          HC       3    2.37
              *

5929          KK  PR51TMRETRIEVE
5930          KM   Retrieve full flow capacity of 244 cfs from 72-inch storm drain pipe at the
5931          KM   intersection of Thomas Road and 51st Avenue
5932          DR  DP51TM
              *

5933          KK  RP51MD    ROUTE
5934          KM   Route full flow capacity of 244 cfs through 72-inch storm drain pipe in
5935          KM   51st Avenue to the intersection of McDowell Road and 51st Avenue
5936          RK    5322  0.0033   0.015            CIRC   6.000
              *

5937          KK  CPMD51 COMBINE
5938          KM   Combine pipe return PR51TM with the runoff hydrograph at combination point
5939          KM   CMD51 at the intersection of McDowell Road and 51st Avenue
5940          HC       2
              *

5941          KK   D51MD  DIVERT
5942          KM   Divert calculated full flow capapcity of 368 cfs into 84-inch storm drain
5943          KM   pipe at the intersection of McDowell Road and 51st Avenue
5944          DT  DP51MD      0.0    368.0
5945          DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
5946          DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *
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              LINE      ID.......1.......2.......3.......4.......5.......6.......7.......8.......9.....10


5947          KK  DWMD59   DIVERT
5948          KM   Divert remaining runoff hydrograph from combination point CPMD43 west to
5949          KM   combination point CMD51
5950          DT  DSIN51      0.0      0.0
5951          DI      0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0  10000.0  20000.0  50000.0
5952          DQ      0.0     39.0     78.0    195.0    390.0    780.0   1560.0   3900.0   7800.0  19500.0
              *

5953          KK  RWMD59    ROUTE
5954          KM   Route diversion DWMD59 west to combination point CMD59
5955          RS       9     FLOW
5956          RC   0.035   0.015   0.035    5280  0.0014    0.00
5957          RX    0.00    0.00   57.50   57.50  291.50  291.50  349.00  349.00
5958          RY    3.00    1.08    0.50    0.00    0.00    0.50    1.08    3.00
              *

5959          KK  DRMD59RETRIEVE
5960          KM   Retrieve divert DRMD59 from combination point CPTM59 and divert south to
5961          KM   combination point CMD59
5962          DR  DSMD59
              *

5963          KK  RSMD59    ROUTE
5964          KM   Route diversion retrieval DRMD59 south to combination point CMD59
5965          RS       3     FLOW
5966          RC   0.035   0.015   0.035    5280  0.0035    0.00
5967          RX    0.00    0.00   38.50   38.50  210.50  210.50  249.00  249.00
5968          RY    3.00    0.88    0.50    0.00    0.00    0.50    0.88    3.00
              *

5969          KK    MD59    BASIN
5970          KM   Runoff hydrograph for square mile subbasin MD59 northeast of the intersection
5971          KM   of McDowell Road and 59th Avenue
5972          BA   1.005
5973          LG    0.25    0.15    7.60    0.08      33
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5974          UC   1.500   1.008
5975          UA      0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
5976          UA    100
              *


5977          KK   CMD59 COMBINE
5978          KM   Combine route RWMD59, route RSMD59, and subbasin MD59
5979          HC       3    4.05
              *


5980          KK  PR59TMRETRIEVE
5981          KM   Retrieve full flow capacity of 389 cfs from 84-inch storm drain pipe at the
5982          KM   intersection of Thomas Road and 59th Avenue
5983          DR  DP59TM
              *
1                                        HEC-1 INPUT                                        PAGE156

LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


5984          KK  RP59MD   ROUTE
5985          KM   Route full flow capacity of 389 cfs through 84-inch storm drain pipe in
5986          KM   59th Avenue to the intersection of McDowell Road and 59th Avenue
5987          RK    5206  0.0037   0.015            CIRC   7.000
              *


5988          KK  CPMD59 COMBINE
5989          KM   Combine pipe return PR59TM with the runoff hydrograph at combination point
5990          KM   CMD59 at the intersection of McDowell Road and 59th Avenue
5991          HC       2
              *


5992          KK   D59MD  DIVERT
5993          KM   Divert calculated full flow capapcity of 468 cfs into 90-inch storm drain
5994          KM   pipe at the intersection of McDowell Road and 59th Avenue
5995          DT  DP59MD      0.0   468.0
5996          DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
5997          DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *


5998          KK  DWMD67  DIVERT
5999          KM   Divert remaining runoff hydrograph from combination point CPMD59 west to
6000          KM   combination point CMD67
6001          DT  DSIN59      0.0      0.0
6002          DI      0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0  10000.0  20000.0  50000.0
6003          DQ      0.0     50.0    100.0    250.0    500.0   1000.0   2000.0   5000.0  10000.0  25000.0
              *


6004          KK  RWMD67   ROUTE
6005          KM   Route diversion DWMD67 west to combination point CMD67
6006          RS       4    FLOW
6007          RC   0.035   0.015   0.035    5280  0.0015     0.00
6008          RX    0.00    0.00   67.00   67.00  332.00  332.00  399.00  399.00
6009          RY    3.00    1.17    0.50    0.00    0.00    0.50    1.17    3.00
              *


6010          KK  DRMD67RETRIEVE
6011          KM   Retrieve divert DRMD67 from combination point CPTM67 and divert south to
6012          KM   combination point CMD67
6013          DR  DSMD67
              *


6014          KK  RSMD67   ROUTE
6015          KM   Route diversion retrieval DRMD67 south to combination point CMD67
6016          RS       3    FLOW
6017          RC   0.035   0.015   0.035    5280  0.0035     0.00
6018          RX    0.00    0.00   48.00   48.00  251.00  251.00  299.00  299.00
6019          RY    3.00    0.98    0.50    0.00    0.00    0.50    0.98    3.00
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


6020          KK    MD67   BASIN
6021          KM   Runoff hydrograph for square mile subbasin MD67 northeast of the intersection
6022          KM   of McDowell Road and 67th Avenue
6023          BA   0.978
6024          LG    0.22    0.15    8.40    0.07      29
6025          UC   1.500   1.015
6026          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
6027          UA     100
              *


6028          KK  ERMD67  DIVERT
6029          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
6030          KM   retention developed after 1990 in subbasin MD67
6031          DT  XMD67    11.6      0.0
6032          DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
6033          DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *


6034          KK   CMD67 COMBINE
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6035          KM   Combine route RWMD67, route RSMD67, and subbasin MD67
6036          HC       3    4.41
              *


6037          KK  PR67TMRETRIEVE
6038          KM   Retrieve full flow capacity of 273 cfs from 78-inch storm drain pipe at the
6039          KM   intersection of Thomas Road and 67th Avenue
6040          DR  DP67TM
              *


6041          KK  RP67MD   ROUTE
6042          KM   Route full flow capacity of 273 cfs through 78-inch storm drain pipe in
6043          KM   67th Avenue to the intersection of McDowell Road and 67th Avenue
6044          RK    5218  0.0027   0.015            CIRC   6.500
              *


6045          KK  CPMD67 COMBINE
6046          KM   Combine pipe return PR67TM with the runoff hydrograph at combination point
6047          KM   CMD67 at the intersection of McDowell Road and 67th Avenue
6048          HC       2
              *


6049          KK   D67MD  DIVERT
6050          KM   Divert calculated full flow capapcity of 400 cfs into 90-inch storm drain
6051          KM   pipe at the intersection of McDowell Road and 67th Avenue
6052          DT  DP67MD      0.0   400.0
6053          DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
6054          DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


6055          KK  DWMD75  DIVERT
6056          KM   Divert remaining runoff hydrograph from combination point CPMD67 west to
6057          KM   combination point CMD75
6058          DT  DSIN67      0.0      0.0
6059          DI      0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0  10000.0  20000.0  50000.0
6060          DQ      0.0     15.0     30.0     75.0    150.0    300.0    600.0   1500.0   3000.0   7500.0
              *


6061          KK  RWMD75   ROUTE
6062          KM   Route diversion DWMD75 west to combination point CMD75
6063          RS       4    FLOW
6064          RC   0.035   0.015   0.035    5280  0.0015     0.00
6065          RX    0.00    0.00   95.50   95.50  453.50  453.50  549.00  549.00
6066          RY    3.00    1.46    0.50    0.00    0.00    0.50    1.46    3.00
              *


6067          KK  DRMD75RETRIEVE
6068          KM   Retrieve divert DRMD75 from combination point CPTM75 and divert south to
6069          KM   combination point CMD75
6070          DR  DSMD75
              *


6071          KK  RSMD75   ROUTE
6072          KM   Route diversion retrieval DRMD75 south to combination point CMD75
6073          RS       3    FLOW
6074          RC   0.035   0.015   0.035    5280  0.0027     0.00
6075          RX    0.00    0.00   67.00   67.00  332.00  332.00  399.00  399.00
6076          RY    3.00    1.17    0.50    0.00    0.00    0.50    1.17    3.00
              *


6077          KK    MD75   BASIN
6078          KM   Runoff hydrograph for square mile subbasin MD75 northeast of the intersection
6079          KM   of McDowell Road and 75th Avenue
6080          BA   1.002
6081          LG    0.23    0.15    7.60    0.08      38
6082          UC   1.500   1.005
6083          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
6084          UA     100
              *


6085          KK  ERMD75  DIVERT
6086          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
6087          KM   retention developed after 1990 in subbasin MD75
6088          DT  XMD75      6.7      0.0
6089          DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
6090          DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *


6091          KK   CMD75 COMBINE
6092          KM   Combine route RWMD75, route RSMD75, and subbasin MD75
6093          HC       3    6.14
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


6094          KK  PR75TMRETRIEVE
6095          KM   Retrieve full flow capacity of 303 cfs from 84-inch storm drain pipe at the
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6096          KM   intersection of Thomas Road and 75th Avenue
6097          DR  DP75TM
                  *

6098          KK  RP75MD   ROUTE
6099          KM   Route full flow capacity of 303 cfs through 84-inch storm drain pipe in
6100          KM   75th Avenue to the intersection of McDowell Road and 75th Avenue
6101          RK    5222  0.0022   0.015            CIRC   7.000
                  *

6102          KK  CPMD75 COMBINE
6103          KM   Combine pipe return PR75TM with the runoff hydrograph at combination point
6104          KM   CMD75 at the intersection of McDowell Road and 75th Avenue
6105          HC       2
                  *

6106          KK   D75MD  DIVERT
6107          KM   Divert calculated full flow capapcity of 364 cfs into 90-inch storm drain
6108          KM   pipe at the intersection of McDowell Road and 75th Avenue
6109          DT  DP75MD     0.0   364.0
6110          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
6111          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
                  *

6112          KK  DWMD83  DIVERT
6113          KM   Divert remaining runoff hydrograph from combination point CPMD75 west to
6114          KM   combination point CMD83
6115          DT  DSIN75     0.0     0.0
6116          DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
6117          DQ     0.0    35.0    70.0   175.0   350.0   700.0  1400.0  3500.0  7000.0 17500.0
                  *

6118          KK  RWMD83   ROUTE
6119          KM   Route diversion DWMD83 west to combination point CMD83
6120          RS       3     FLOW
6121          RC   0.035   0.015   0.035    5280  0.0026    0.00
6122          RX    0.00    0.00   57.50   57.50  291.50  291.50  349.00  349.00
6123          RY    3.00    1.08    0.50    0.00    0.00    0.50    1.08    3.00
                  *

6124          KK  DRMD83RETRIEVE
6125          KM   Retrieve divert DRMD83 from combination point CPTM83 and divert south to
6126          KM   combination point CMD83
6127          DR  DSMD83
                  *

6128          KK  RSMD83   ROUTE
6129          KM   Route diversion retrieval DRMD83 south to combination point CMD83
6130          RS       4     FLOW
6131          RC   0.035   0.015   0.035    5280  0.0028    0.00
6132          RX    0.00    0.00   29.00   29.00  170.00  170.00  199.00  199.00
6133          RY    3.00    0.79    0.50    0.00    0.00    0.50    0.79    3.00
                  *
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LINE          ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

6134          KK    MD83   BASIN
6135          KM   Runoff hydrograph for square mile subbasin MD83 northeast of the intersection
6136          KM   of McDowell Road and 83rd Avenue
6137          BA   0.992
6138          LG    0.23    0.17    8.80    0.06      47
6139          UC   1.051   0.686
6140          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
6141          UA     100
                  *

6142          KK  ERMD83  DIVERT
6143          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
6144          KM   retention developed after 1990 in subbasin MD83
6145          DT  XMD83     28.9     0.0
6146          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
6147          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
                  *

6148          KK   CMD83 COMBINE
6149          KM   Combine route RWMD83, route RSMD83, and subbasin MD83
6150          HC       3    5.80
                  *

6151          KK  PR83TMRETRIEVE
6152          KM   Retrieve full flow capacity of 283 cfs from 84-inch storm drain pipe at the
6153          KM   intersection of Thomas Road and 83rd Avenue
6154          DR  DP83TM
                  *

6155          KK  RP83MD   ROUTE
6156          KM   Route full flow capacity of 283 cfs through 84-inch storm drain pipe in
6157          KM   83rd Avenue to the intersection of McDowell Road and 83rd Avenue
6158          RK    5059  0.0019   0.015            CIRC   7.000
                  *
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6159          KK  CPMD83 COMBINE
6160          KM   Combine pipe return PR83TM with the runoff hydrograph at combination point
6161          KM   CMD83 at the intersection of McDowell Road and 83rd Avenue
6162          HC       2
                  *

6163          KK   D83MD  DIVERT
6164          KM   Divert calculated full flow capapcity of 340 cfs into 90-inch storm drain
6165          KM   pipe at the intersection of McDowell Road and 83rd Avenue
6166          DT  DP83MD     0.0   340.0
6167          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
6168          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
                  *
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LINE          ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

6169          KK  RWMD91   ROUTE
6170          KM   Route remainder of diversion D83MD west to combination point CMD91
6171          RS       3     FLOW
6172          RC   0.035   0.015   0.035    5280  0.0021    0.00
6173          RX    0.00    0.00   57.50   57.50  291.50  291.50  349.00  349.00
6174          RY    3.00    1.08    0.50    0.00    0.00    0.50    1.08    3.00
                  *

6175          KK  DRMD91RETRIEVE
6176          KM   Retrieve divert DRMD91 from combination point CPTM91 and divert south to
6177          KM   combination point CMD91
6178          DR  DSMD91
                  *

6179          KK  RSMD91   ROUTE
6180          KM   Route diversion retrieval DRMD91 south to combination point CMD91
6181          RS       3     FLOW
6182          RC   0.035   0.015   0.035    5280  0.0021    0.00
6183          RX    0.00    0.00   57.50   57.50  291.50  291.50  349.00  349.00
6184          RY    3.00    1.08    0.50    0.00    0.00    0.50    1.08    3.00
                  *

6185          KK    MD91   BASIN
6186          KM   Runoff hydrograph for square mile subbasin MD91 northeast of the intersection
6187          KM   of McDowell Road and 91st Avenue
6188          BA   1.007
6189          LG    0.23    0.15    8.80    0.05      39
6190          UC   1.500   1.006
6191          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
6192          UA     100
                  *

6193          KK  ERMD91  DIVERT
6194          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
6195          KM   retention developed after 1990 in subbasin MD91
6196          DT  XMD91     21.4     0.0
6197          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
6198          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
                  *

6199          KK   CMD91 COMBINE
6200          KM   Combine route RWMD91, route RSMD91, and subbasin MD91
6201          HC       3   10.61
                  *

6202          KK  PR91TMRETRIEVE
6203          KM   Retrieve full flow capacity of 287 cfs from 84-inch storm drain pipe at the
6204          KM   intersection of Thomas Road and 91st Avenue
6205          DR  DP91TM
                  *
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LINE          ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

6206          KK  RP91MD   ROUTE
6207          KM   Route full flow capacity of 287 cfs through 84-inch storm drain pipe in
6208          KM   91st Avenue to the intersection of McDowell Road and 91st Avenue
6209          RK    5271  0.0020   0.015            CIRC   7.000
                  *

6210          KK  CPMD91 COMBINE
6211          KM   Combine pipe return PR91TM with the runoff hydrograph at combination point
6212          KM   CMD91 at the intersection of McDowell Road and 91st Avenue
6213          HC       2
                  *

6214          KK   D91MD  DIVERT
6215          KM   Divert calculated full flow capapcity of 345 cfs into 90-inch storm drain
6216          KM   pipe at the intersection of McDowell Road and 83rd Avenue
6217          DT  DP91MD     0.0   345.0
6218          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
6219          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
                  *
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6220          KK  DWMDLO  DIVERT
6221          KM   Divert remaining runoff hydrograph from combination point CPMD91 west to
6222          KM   combination point CMDLO
6223          DT  DSIN91      0.0      0.0
6224          DI      0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0  10000.0  20000.0  50000.0
6225          DQ      0.0     20.0     40.0    100.0    200.0    400.0    800.0   2000.0   4000.0  10000.0
                      *

6226          KK  RWMDLO   ROUTE
6227          KM   Route diversion DWMDLO west to combination point CMDLO
6228          RS        3    FLOW
6229          RC    0.035    0.015    0.035     4061   0.0010     0.00
6230          RX     0.00     0.00    45.00    45.00   229.00   229.00   274.00   274.00
6231          RY     3.00     0.95     0.50     0.00     0.00     0.50     0.95     3.00
                      *

6232          KK    MDLO   BASIN
6233          KM   Runoff hydrograph for subbasin MDLO northeast of the intersection of McDowell
6234          KM   Road and SR Loop 101
6235          BA   0.671
6236          LG    0.21     0.16     9.70     0.04       44
6237          UC   1.099    0.520
6238          UA       0      5.0     16.0     30.0     65.0     77.0     84.0     90.0     94.0     97.0
6239          UA     100
                      *

6240          KK  ERMDLO  DIVERT
6241          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
6242          KM   retention developed after 1990 in subbasin MDLO
6243          DT   XMDLO     56.3      0.0
6244          DI      0.0  50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
6245          DQ      0.0  50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
                      *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9.......10


6246          KK   CMDLO COMBINE
6247          KM   Combine route RWMDLO, route RSMDLO, and subbasin MDLO
6248          HC        3   14.07
                      *

6249          KK  RSINLO   ROUTE
6250          KM   Route hydrograph at combination point CMDLO south to combination point CINLO
6251          RS        1    FLOW
6252          RC    0.035    0.015    0.035     1374   0.0019     0.00
6253          RX     0.00     3.00     5.00    39.00    47.00    51.00    65.00    68.00
6254          RY    18.00    17.00    17.00     0.00     0.16    17.16    17.44    18.44
                      *

6255          KK  DSINLO  DIVERT
6256          KM   Divert route RSINLO to detention basin northeast of L101 and I-10 Freeways.
6257          KM   Only the flow greater than the channel capacity is diverted to the basin.
6258          DT  DEIN95      0.0      0.0
6259          DI      0.0  10390.0  11211.0  12070.0  13910.0      0.0      0.0      0.0      0.0      0.0
6260          DQ      0.0      0.0    286.0    810.0   2291.0      0.0      0.0      0.0      0.0      0.0
                      *

6261          KK    IN27   BASIN
6262          KM   Runoff hydrograph for subbasin IN27 northeast of the intersection of
6263          KM   Interstate 10 and 27th Avenue
6264          BA   0.105
6265          LG    0.14     0.25     5.60     0.18       80
6266          UC   0.546    0.472
6267          UA       0      5.0     16.0     30.0     65.0     77.0     84.0     90.0     94.0     97.0
6268          UA     100
                      *

6269          KK  PR27MDRETRIEVE
6270          KM   Retrieve full flow capacity of 246 cfs from 72-inch diameter pipe at the
6271          KM   intersection of McDowell Road and 27th Avenue
6272          DR  DP27MD
                      *

6273          KK  RP27IN   ROUTE
6274          KM   Route full flow capacity of 246 cfs through 72-inch storm drain pipe in
6275          KM   in 27th Avenue to the intersection of 27th Avenue and Interstate 10
6276          RK      959  0.0034   0.015             CIRC   6.000
                      *

6277          KK  CPIN27 COMBINE
6278          KM   Combine pipe return PR27MD with the runoff hydrograph at combination point
6279          KM   CIN27 at the intersection of Interstate 10 and 27th Avenue
6280          HC        2
                      *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9.......10


6281          KK  DWIN35  DIVERT
6282          KM   Divert remaining runoff hydrograph from combination point CPIN27 west to
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6283          KM   combination point CIN35
6284          DT  DSVB27      0.0      0.0
6285          DI      0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0  10000.0  20000.0  50000.0
6286          DQ      0.0     72.0    144.0    360.0    720.0   1440.0   2880.0   7200.0  14400.0  36000.0
                      *

6287          KK  RWIN35   ROUTE
6288          KM   Route diversion DWIN35 west to combination point CIN35
6289          RS        7    FLOW
6290          RC    0.035    0.015    0.035     5280   0.0005     0.00
6291          RX     0.00     0.00     9.50     9.50    40.50    40.50    50.00    50.00
6292          RY     3.00     0.60     0.50     0.00     0.00     0.50     0.60     3.00
                      *

6293          KK  DRIN35RETRIEVE
6294          KM   Retrieve divert DRIN35 from combination point CPMD35 and divert south to
6295          KM   combination point CIN35
6296          DR  DSIN35
                      *

6297          KK  RSIN35   ROUTE
6298          KM   Route diversion retrieval DRIN35 south to combination point CIN35
6299          RS        1    FLOW
6300          RC    0.035    0.015    0.035     1116   0.0019     0.00
6301          RX     0.00     0.00    76.50    76.50   372.50   372.50   449.00   449.00
6302          RY     3.00     1.27     0.50     0.00     0.00     0.50     1.27     3.00
                      *

6303          KK    IN35   BASIN
6304          KM   Runoff hydrograph for subbasin IN35 northeast of the intersection of
6305          KM   Interstate 10 and 35th Avenue
6306          BA   0.242
6307          LG    0.17     0.13    10.10     0.03       64
6308          UC   0.408    0.085
6309          UA       0      5.0     16.0     30.0     65.0     77.0     84.0     90.0     94.0     97.0
6310          UA     100
                      *

6311          KK   CIN35 COMBINE
6312          KM   Combine route RWIN35, route RSIN35, and subbasin IN35
6313          HC        3    6.11
                      *

6314          KK  PR35MDRETRIEVE
6315          KM   Retrieve combined full flow capacity of 507 cfs from 93-inch equivalent
6316          KM   diameter pipe at the intersection of McDowell Road and 35th Avenue
6317          DR  DP35MD
                      *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9.......10


6318          KK  RP35IN   ROUTE
6319          KM   Route the combined full flow capacity of 507 cfs through an equivalent storm
6320          KM   drain pipe diameter of 93 inches in 35th Avenue to the intersection of
6321          KM   35th Avenue and Interstate 10
6322          RK      937  0.0037   0.015             CIRC   7.750
                      *

6323          KK  CPIN35 COMBINE
6324          KM   Combine pipe return PR35MD with the runoff hydrograph at combination point
6325          KM   CIN35 at the intersection of Interstate 10 and 35th Avenue
6326          HC        2
                      *

6327          KK  DWIN43  DIVERT
6328          KM   Divert remaining runoff hydrograph from combination point CPIN35 west to
6329          KM   combination point CIN43
6330          DT  DSVB35      0.0      0.0
6331          DI      0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0  10000.0  20000.0  50000.0
6332          DQ      0.0     87.0    174.0    435.0    870.0   1740.0   3480.0   8700.0  17400.0  43500.0
                      *

6333          KK  RWIN43   ROUTE
6334          KM   Route diversion DWIN43 west to combination point CIN43
6335          RS        4    FLOW
6336          RC    0.035    0.015    0.035     5280   0.0008     0.00
6337          RX     0.00     0.00     9.50     9.50    40.50    40.50    50.00    50.00
6338          RY     3.00     0.60     0.50     0.00     0.00     0.50     0.60     3.00
                      *

6339          KK  DRIN43RETRIEVE
6340          KM   Retrieve divert DRIN43 from combination point CPMD43 and divert south to
6341          KM   combination point CIN43
6342          DR  DSIN43
                      *

6343          KK  RSIN43   ROUTE
6344          KM   Route diversion retrieval DRIN43 south to combination point CIN43
6345          RS        1    FLOW
6346          RC    0.035    0.015    0.035      900   0.0042     0.00
6347          RX     0.00     0.00    57.50    57.50   291.50   291.50   349.00   349.00
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6348          RY    3.00    1.08    0.50    0.00    0.00    0.50    1.08    3.00
              *

6349          KK    IN43   BASIN
6350          KM   Runoff hydrograph for subbasin IN43 northeast of the intersection of
6351          KM   Interstate 10 and 43rd Avenue
6352          BA   0.256
6353          LG    0.20    0.15    9.70    0.04      49
6354          UC   0.630   0.169
6355          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
6356          UA     100
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

6357          KK   CIN43 COMBINE
6358          KM   Combine route RWIN43, route RSIN43, and subbasin IN43
6359          HC       3    7.99
              *

6360          KK  PR43MDRETRIEVE
6361          KM   Retrieve combined full flow capacity of 629 cfs from 102-inch equivalent
6362          KM   diameter pipe at the intersection of McDowell Road and 43rd Avenue
6363          DR  DP43MD
              *

6364          KK  RP43IN   ROUTE
6365          KM   Route the combined full flow capacity of 629 cfs through an equivalent storm
6366          KM   drain pipe diameter of 102 inches in 43rd Avenue to the intersection of
6367          KM   35th Avenue and Interstate 10
6368          RK    1217  0.0035   0.015            CIRC   8.500
              *

6369          KK  CPIN43 COMBINE
6370          KM   Combine pipe return PR43MD with the runoff hydrograph at combination point
6371          KM   CIN43 at the intersection of Interstate 10 and 43rd Avenue
6372          HC       2
              *

6373          KK  DWIN51  DIVERT
6374          KM   Divert remaining runoff hydrograph from combination point CPIN43 west to
6375          KM   combination point CIN51
6376          DT  DSVB43      0.0      0.0
6377          DI      0.0   100.0    200.0    500.0   1000.0   2000.0   4000.0 10000.0 20000.0 50000.0
6378          DQ      0.0    81.0    162.0    405.0    810.0   1620.0   3240.0  8100.0 16200.0 40500.0
              *

6379          KK  RWIN51   ROUTE
6380          KM   Route diversion DWIN51 west to combination point CIN51
6381          RS       1    FLOW
6382          RC   0.035   0.015   0.035    5290  0.0027     0.00
6383          RX    0.00    0.10   18.00   36.00   66.00   84.00  102.00  102.10
6384          RY   18.00   17.05    9.00    0.00    0.00    9.00   17.05   18.00
              *

6385          KK  DRIN51RETRIEVE
6386          KM   Retrieve divert DRIN51 from combination point CPMD51 and divert south to
6387          KM   combination point CIN51
6388          DR  DSIN51
              *

6389          KK  RSIN51   ROUTE
6390          KM   Route diversion retrieval DRIN51 south to combination point CIN51
6391          RS       3    FLOW
6392          RC   0.035   0.015   0.035    1143  0.0007     0.00
6393          RX    0.00    0.00   54.50   54.50  269.50  269.50  324.00  324.00
6394          RY    3.00    1.04    0.50    0.00    0.00    0.50    1.04    3.00
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

6395          KK    IN51   BASIN
6396          KM   Runoff hydrograph for subbasin IN51 northeast of the intersection of
6397          KM   Interstate 10 and 51st Avenue
6398          BA   0.232
6399          LG    0.13    0.16    9.70    0.04      75
6400          UC   0.714   0.687
6401          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
6402          UA     100
              *

6403          KK   CIN51 COMBINE
6404          KM   Combine route RWIN51, route RSIN51, and subbasin IN51
6405          HC       3    2.68
              *

6406          KK  PR51MDRETRIEVE
6407          KM   Retrieve full flow capacity of 368 cfs from 84-inch storm drain pipe at the
6408          KM   intersection of McDowell Road and 51st Avenue
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6409          DR  DP51MD
              *

6410          KK  RP51IN   ROUTE
6411          KM   Route full flow capacity of 368 cfs through 84-inch storm drain pipe in
6412          KM   51st Avenue to the intersection of Interstate 10 and 51st Avenue
6413          RK     731  0.0033   0.015            CIRC   7.000
              *

6414          KK  CPIN51 COMBINE
6415          KM   Combine pipe return PR51MD with the runoff hydrograph at combination point
6416          KM   CIN51 at the intersection of Interstate 10 and 51st Avenue
6417          HC       2
              *

6418          KK  DWIN59  DIVERT
6419          KM   Divert remaining runoff hydrograph from combination point CPIN51 west to
6420          KM   combination point CIN59
6421          DT  DSVB51      0.0      0.0
6422          DI      0.0 26494.0 26494.1 50000.0      0.0      0.0      0.0      0.0      0.0      0.0
6423          DQ      0.0      0.0 26494.1 50000.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

6424          KK  RWIN59   ROUTE
6425          KM   Route diversion DWIN59 west to combination point CIN59
6426          RS       1    FLOW
6427          RC   0.035   0.015   0.035    5297  0.0017     0.00
6428          RX    0.00    0.10   18.00   36.00   66.00   84.00  102.00  102.10
6429          RY   18.00   17.05    9.00    0.00    0.00    9.00   17.05   18.00
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

6430          KK  DRIN59RETRIEVE
6431          KM   Retrieve divert DRIN59 from combination point CPMD59 and divert south to
6432          KM   combination point CIN59
6433          DR  DSIN59
              *

6434          KK  RSIN59   ROUTE
6435          KM   Route diversion retrieval DRIN59 south to combination point CIN59
6436          RS       1    FLOW
6437          RC   0.035   0.015   0.035     730  0.0047     0.00
6438          RX    0.00    0.00   35.50   35.50  188.50  188.50  224.00  224.00
6439          RY    3.00    0.86    0.50    0.00    0.00    0.50    0.86    3.00
              *

6440          KK    IN59   BASIN
6441          KM   Runoff hydrograph for subbasin IN59 northeast of the intersection of
6442          KM   Interstate 10 and 59th Avenue
6443          BA   0.202
6444          LG    0.20    0.16    9.70    0.04      54
6445          UC   1.231   1.288
6446          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
6447          UA     100
              *

6448          KK   CIN59 COMBINE
6449          KM   Combine route RWIN59, route RSIN59, and subbasin IN59
6450          HC       3    4.90
              *

6451          KK  PR59MDRETRIEVE
6452          KM   Retrieve full flow capacity of 468 cfs from 90-inch storm drain pipe at the
6453          KM   intersection of McDowell Road and 59th Avenue
6454          DR  DP59MD
              *

6455          KK  RP59IN   ROUTE
6456          KM   Route full flow capacity of 468 cfs through 90-inch storm drain pipe in
6457          KM   59th Avenue to the intersection of Interstate 10 and 59th Avenue
6458          RK     846  0.0037   0.015            CIRC   7.500
              *

6459          KK  CPIN59 COMBINE
6460          KM   Combine pipe return PR59MD with the runoff hydrograph at combination point
6461          KM   CIN59 at the intersection of Interstate 10 and 59th Avenue
6462          HC       2
              *

6463          KK  DWIN67  DIVERT
6464          KM   Divert remaining runoff hydrograph from combination point CPIN59 west to
6465          KM   combination point CIN67
6466          DT  DSVB59      0.0      0.0
6467          DI      0.0 21022.0 21022.1 50000.0      0.0      0.0      0.0      0.0      0.0      0.0
6468          DQ      0.0      0.0 21022.1 50000.0      0.0      0.0      0.0      0.0      0.0      0.0
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10
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6469          KK  RWIN67    ROUTE
6470          KM   Route diversion DWIN67 west to combination point CIN67
6471          RS       1     FLOW
6472          RC   0.035   0.015   0.035    5145  0.0012    0.00
6473          RX    0.00    0.10   18.00   36.00   66.00   84.00  102.00  102.10
6474          RY   18.00   17.05    9.00    0.00    0.00    9.00   17.05   18.00
              *

6475          KK  DRIN67RETRIEVE
6476          KM   Retrieve divert DRIN67 from combination point CPMD67 and divert south to
6477          KM   combination point CIN67
6478          DR  DSIN67
              *

6479          KK  RSIN67    ROUTE
6480          KM   Route diversion retrieval DRIN67 south to combination point CIN67
6481          RS       1     FLOW
6482          RC   0.035   0.015   0.035     741  0.0027    0.00
6483          RX    0.00    0.00   12.50   12.50   62.50   62.50   75.00   75.00
6484          RY    3.00    0.62    0.50    0.00    0.00    0.50    0.62    3.00
              *

6485          KK    IN67    BASIN
6486          KM   Runoff hydrograph for subbasin IN67 northeast of the intersection of
6487          KM   Interstate 10 and 67th Avenue
6488          BA   0.197
6489          LG    0.21    0.16    9.70    0.04      53
6490          UC   1.452   1.547
6491          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
6492          UA     100
              *

6493          KK  ERIN67   DIVERT
6494          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
6495          KM   retention developed after 1990 in subbasin IN67
6496          DT   XIN67      9.1      0.0
6497          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
6498          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

6499          KK   CIN67 COMBINE
6500          KM   Combine route RWIN67, route RSIN67, and subbasin IN67
6501          HC       3     5.78
              *

6502          KK  PR67MDRETRIEVE
6503          KM   Retrieve full flow capacity of 400 cfs from 90-inch storm drain pipe at the
6504          KM   intersection of McDowell Road and 67th Avenue
6505          DR  DP67MD
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

6506          KK  RP67IN    ROUTE
6507          KM   Route full flow capacity of 400 cfs through 90-inch storm drain pipe in
6508          KM   67th Avenue to the intersection of Interstate 10 and 67th Avenue
6509          RK      824  0.0027   0.015             CIRC   7.500
              *

6510          KK  CPIN67 COMBINE
6511          KM   Combine pipe return PR67MD with the runoff hydrograph at combination point
6512          KM   CIN67 at the intersection of Interstate 10 and 67th Avenue
6513          HC       2
              *

6514          KK  DWIN75   DIVERT
6515          KM   Divert remaining runoff hydrograph from combination point CPIN67 west to
6516          KM   combination point CIN75
6517          DT  DSVB67      0.0      0.0
6518          DI     0.0 17662.0 17662.1 50000.0      0.0      0.0      0.0      0.0      0.0      0.0
6519          DQ     0.0      0.0 17662.1 50000.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

6520          KK  RWIN75    ROUTE
6521          KM   Route diversion DWIN75 west to combination point CIN75
6522          RS       2     FLOW
6523          RC   0.035   0.015   0.035    5237  0.0020    0.00
6524          RX    0.00    0.10   18.00   36.00   66.00   84.00  102.00  102.10
6525          RY   18.00   17.05    9.00    0.00    0.00    9.00   17.05   18.00
              *

6526          KK  DRIN75RETRIEVE
6527          KM   Retrieve divert DRIN75 from combination point CPMD75 and divert south to
6528          KM   combination point CIN75
6529          DR  DSIN75
              *

6530          KK  RSIN75    ROUTE
6531          KM   Route diversion retrieval DRIN75 south to combination point CIN75
6532          RS       1     FLOW
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6533          RC   0.035   0.015   0.035     731  0.0022    0.00
6534          RX    0.00    0.00   29.00   29.00  170.00  170.00  199.00  199.00
6535          RY    3.00    0.79    0.50    0.00    0.00    0.50    0.79    3.00
              *

6536          KK    IN75    BASIN
6537          KM   Runoff hydrograph for subbasin IN75 northeast of the intersection of
6538          KM   Interstate 10 and 75th Avenue
6539          BA   0.199
6540          LG    0.19    0.21    6.60    0.12      55
6541          UC   1.268   1.333
6542          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
6543          UA     100
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

6544          KK  ERIN75   DIVERT
6545          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
6546          KM   retention developed after 1990 in subbasin IN75
6547          DT   XIN75      2.8      0.0
6548          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
6549          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

6550          KK   CIN75 COMBINE
6551          KM   Combine route RWIN75, route RSIN75, and subbasin IN75
6552          HC       3     8.11
              *

6553          KK  PR75MDRETRIEVE
6554          KM   Retrieve full flow capacity of 364 cfs from 90-inch storm drain pipe at the
6555          KM   intersection of McDowell Road and 75th Avenue
6556          DR  DP75MD
              *

6557          KK  RP75IN    ROUTE
6558          KM   Route full flow capacity of 364 cfs through 90-inch storm drain pipe in
6559          KM   75th Avenue to the intersection of Interstate 10 and 75th Avenue
6560          RK      811  0.0022   0.015             CIRC   7.500
              *

6561          KK  CPIN75 COMBINE
6562          KM   Combine pipe return PR75MD with the runoff hydrograph at combination point
6563          KM   CIN75 at the intersection of Interstate 10 and 75th Avenue
6564          HC       2
              *

6565          KK  DWIN83   DIVERT
6566          KM   Divert remaining runoff hydrograph from combination point CPIN75 west to
6567          KM   combination point CIN83
6568          DT  DSVB75      0.0      0.0
6569          DI     0.0 22802.0 22802.1 50000.0      0.0      0.0      0.0      0.0      0.0      0.0
6570          DQ     0.0      0.0 22802.1 50000.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

6571          KK  RWIN83    ROUTE
6572          KM   Route diversion DWIN83 west to combination point CIN83
6573          RS       1     FLOW
6574          RC   0.035   0.015   0.035    5396  0.0016    0.00
6575          RX    0.00    0.10   18.00   36.00   66.00   84.00  102.00  102.10
6576          RY   18.00   17.05    9.00    0.00    0.00    9.00   17.05   18.00
              *

6577          KK    IN83    BASIN
6578          KM   Runoff hydrograph for subbasin IN83 northeast of the intersection of
6579          KM   Interstate 10 and 83rd Avenue
6580          BA   0.196
6581          LG    0.18    0.15    7.00    0.10      64
6582          UC   1.175   1.262
6583          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

6584          UA     100
              *

6585          KK  ERIN83   DIVERT
6586          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
6587          KM   retention developed after 1990 in subbasin IN83
6588          DT   XIN83      12.2      0.0
6589          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
6590          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

6591          KK   CIN83 COMBINE
6592          KM   Combine route RWIN83, route RSIN83, and subbasin IN83
6593          HC       2     8.31
              *
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6594          KK  PR83MDRETRIEVE
6595          KM   Retrieve full flow capacity of 340 cfs from 90-inch storm drain pipe at the
6596          KM   intersection of McDowell Road and 83rd Avenue
6597          DR  DP83MD
              *
6598          KK  RP83IN   ROUTE
6599          KM   Route full flow capacity of 340 cfs through 90-inch storm drain pipe in
6600          KM   83rd Avenue to the intersection of Interstate 10 and 83rd Avenue
6601          RK     824  0.0019   0.015            CIRC   7.500
              *
6602          KK  CPIN83 COMBINE
6603          KM   Combine pipe return PR83MD with the runoff hydrograph at combination point
6604          KM   CIN83 at the intersection of Interstate 10 and 83rd Avenue
6605          HC       2
              *
6606          KK  DWIN91  DIVERT
6607          KM   Divert remaining runoff hydrograph from combination point CPIN83 west to
6608          KM   combination point CIN91
6609          DT  DSVB83      0.0      0.0
6610          DI     0.0 20395.0 20395.1 50000.0      0.0      0.0      0.0      0.0      0.0      0.0
6611          DQ     0.0      0.0 20395.1 50000.0      0.0      0.0      0.0      0.0      0.0      0.0
              *
6612          KK  RWIN91   ROUTE
6613          KM   Route diversion DWIN91 west to combination point CIN91
6614          RS       1    FLOW
6615          RC  0.035   0.015   0.035    5217  0.0016    0.00
6616          RX   0.00    0.10   18.00   36.00   66.00   84.00  102.00  102.10
6617          RY  18.00   17.05    9.00    0.00    0.00    9.00   17.05   18.00
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9.....10

6618          KK  DRIN91RETRIEVE
6619          KM   Retrieve divert DRIN91 from combination point CPMD91 and divert south to
6620          KM   combination point CIN91
6621          DR  DSIN91
              *
6622          KK  RSIN91   ROUTE
6623          KM   Route diversion retrieval DRIN91 south to combination point CIN91
6624          RS       1    FLOW
6625          RC  0.035   0.015   0.035     535  0.0019    0.00
6626          RX   0.00    0.00    9.50    9.50   40.50   40.50   50.00   50.00
6627          RY   3.00    0.60    0.50    0.00    0.00    0.50    0.60    3.00
              *
6628          KK   IN91   BASIN
6629          KM   Runoff hydrograph for subbasin IN91 northeast of the intersection of
6630          KM   Interstate 10 and 91st Avenue
6631          BA  0.185
6632          LG   0.11    0.17    9.70    0.04      64
6633          UC  0.721   0.743
6634          UA      0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
6635          UA    100
              *
6636          KK   CIN91 COMBINE
6637          KM   Combine route RWIN91, route RSIN91, and subbasin IN91
6638          HC       3   10.57
              *
6639          KK  PR91MDRETRIEVE
6640          KM   Retrieve full flow capacity of 345 cfs from 90-inch storm drain pipe at the
6641          KM   intersection of McDowell Road and 91st Avenue
6642          DR  DP91MD
              *
6643          KK  RP91IN   ROUTE
6644          KM   Route full flow capacity of 345 cfs through 90-inch storm drain pipe in
6645          KM   91st Avenue to the intersection of Interstate 10 and 91st Avenue
6646          RK     729  0.0020   0.015            CIRC   7.500
              *
6647          KK  CPIN91 COMBINE
6648          KM   Combine pipe return PR91MD with the runoff hydrograph at combination point
6649          KM   CIN91 at the intersection of Interstate 10 and 91st Avenue
6650          HC       2
              *
6651          KK  DWINLO  DIVERT
6652          KM   Divert remaining runoff hydrograph from combination point CPIN91 west to
6653          KM   combination point CINLO
6654          DT  DSVB91      0.0      0.0
6655          DI     0.0 11110.0 11110.1 50000.0      0.0      0.0      0.0      0.0      0.0      0.0
6656          DQ     0.0      0.0 11110.1 50000.0      0.0      0.0      0.0      0.0      0.0      0.0
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9.....10

6657          KK  RWINLO   ROUTE
6658          KM   Route diversion DWINLO west to combination point CINLO
6659          RS       1    FLOW
6660          RC   0.035   0.015   0.035    4153  0.0008    0.00
6661          RX    0.00    0.10   18.00   36.00   66.00   84.00  102.00  102.10
6662          RY   18.00   17.05    9.00    0.00    0.00    9.00   17.05   18.00
              *
6663          KK  DWIN07  DIVERT
6664          KM   Divert route RWINLO to detention basin northeast of L101 and I-10 Freeways.
6665          KM   Only the flow greater than the channel capacity is diverted to the basin.
6666          DT  DNINLO      0.0      0.0
6667          DI     0.0  9505.0 10216.0 10958.0 12536.0      0.0      0.0      0.0      0.0      0.0
6668          DQ     0.0      0.0   620.0  1755.0  4964.0      0.0      0.0      0.0      0.0      0.0
              *
6669          KK   INLO   BASIN
6670          KM   Runoff hydrograph for subbasin INLO northeast of the intersection of
6671          KM   Interstate 10 and SR Loop 101
6672          BA  0.147
6673          LG   0.10    0.21    9.70    0.04      35
6674          UC  0.836   0.825
6675          UA      0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
6676          UA    100
              *
6677          KK  ERINLO  DIVERT
6678          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
6679          KM   retention developed after 1990 in subbasin INLO
6680          DT  XINLO       0.3      0.0
6681          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
6682          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *
6683          KK  DRINLORETRIEVE
6684          KM   Retrieve divert DRINLO from route RWINLO and route north to combination point
6685          KM   CIN95 to route thru the detention basin northeast of L101 and I-10 Freeways
6686          DR  DNINLO
              *
6687          KK  DRIN95RETRIEVE
6688          KM   Retrieve divert DRIN95 from route RSINLO and route east to combination point
6689          KM   CIN95 to route thru the detention basin northeast of L101 and I-10 Freeways
6690          DR  DEIN95
              *
6691          KK   CIN95 COMBINE
6692          KM   Combine retrieve DRINLO, retreive DRIN95, and subbasin INLO
6693          HC       3   24.79
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9.....10

6694          KK  SRINLO STORAGE
6695          KM   Storage route runoff hydrograph from combination CIN95 through detention
6696          KM     basin northeast of L101 and I-10 freeways
6697          KM   Stage-storage-discharge data from Agua Fria Freeway (101L) RAM-600-0-526
6698          KM     As-built Records, ADOT, October 2001
6699          RS       1     STOR
6700          SV            15.50  206.50  210.50  220.50  251.20  293.90
6701          SQ            33.00  159.00  367.00 1534.00 8123.0022263.00
6702          SE  1002.3 1004.50 1015.80 1016.00 1016.50 1018.00 1020.00
              *
6703          KK   CINLO COMBINE
6704          KM   Combine route RSINLO, route RWINLO, and storage route SRINLO
6705          HC       3   24.79
              *
6706          KK  RWIN07   ROUTE
6707          KM   Route diversion DWIN07 west to combination point CIN07
6708          RS       1    FLOW
6709          RC   0.035   0.015   0.035    6475  0.0017    0.00
6710          RX    0.00    0.10   18.00   36.00   66.00   84.00  102.00  102.10
6711          RY   18.00   17.05    9.00    0.00    0.00    9.00   17.05   18.00
              *
6712          KK  DITM07RETRIEVE
6713          KM   Retrieve divert DITM07 from combination point CRI07 and divert south to
6714          KM   combination point CTM07
6715          DR   DTM07
              *
6716          KK  SRRI03 STORAGE
6717          KM   Storage route runoff hydrograph from divert retrieval DITM07 through ponding
6718          KM     area at the Roosevelt Irrigation District Canal near the intersection of
6719          KM     canal and 103rd Avenue.
```

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6720          KM   Stage-storage-discharge data from Maryvale ADMS, February 1997
6721          RS       1    STOR
6722          SV          16.40   50.70   71.40   77.20  109.70
6723          SQ           0.10    0.20    0.30   96.00 1160.00
6724          SE  1019.0 1020.00 1021.00 1021.40 1021.50 1022.00
              *

6725          KK  RWTM07   ROUTE
6726          KM   Route diversion retrieval DRRIAF west to combination point CTM07
6727          RS       6    FLOW
6728          RC   0.035   0.015   0.035    2719  0.0029    0.00
6729          RX    0.00    0.00   16.50   16.50  107.50  107.50  124.00  124.00
6730          RY    3.00    0.66    0.50    0.00    0.00    0.50    0.66    3.00
              *

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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

6731          KK  DRTM07RETRIEVE
6732          KM   Retrieve divert DRTM07 from combination point CRI07 and divert south to
6733          KM   combination point CTM07
6734          DR  DSTM07
              *

6735          KK  RSTM07   ROUTE
6736          KM   Route diversion retrieval DRTM07 south to combination point CTM07
6737          RS       2    FLOW
6738          RC   0.035   0.015   0.035    2640  0.0019    0.00
6739          RX    0.00    0.00   16.50   16.50  107.50  107.50  124.00  124.00
6740          RY    3.00    0.66    0.50    0.00    0.00    0.50    0.66    3.00
              *

6741          KK    TM07   BASIN
6742          KM   Runoff hydrograph for subbasin TM07 northeast of the intersection of Thomas
6743          KM   Road and 107th Avenue
6744          BA   0.265
6745          LG    0.29    0.16    9.70    0.05      13
6746          UC   1.500   1.207
6747          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
6748          UA     100
              *

6749          KK   CTM07 COMBINE
6750          KM   Combine route RWTM07, route RSTM07, and subbasin TM07
6751          HC       3    1.61
              *

6752          KK  DSMD07  DIVERT
6753          DT  DWTMAF      0.0     0.0
6754          DI      0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
6755          DQ      0.0    65.0   130.0   325.0   650.0  1300.0  2600.0  6500.0 13000.0 32500.0
              *

6756          KK  RSMD07   ROUTE
6757          KM   Route diversion DSMD07 south to combination point CMD07
6758          RS       8    FLOW
6759          RC   0.035   0.015   0.035    5280  0.0006    0.00
6760          RX    0.00    0.00   26.00   26.00  148.00  148.00  174.00  174.00
6761          RY    3.00    0.76    0.50    0.00    0.00    0.50    0.76    3.00
              *

6762          KK  DRMD99RETRIEVE
6763          KM   Retrieve divert DRMD99 from combination point CTM99 and divert south to
6764          KM   combination point CMD99
6765          DR  DSMD99
              *

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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

6766          KK  RSMD99   ROUTE
6767          KM   Route diversion retrieval DRMD99 south to combination point CMD99
6768          RS       8    FLOW
6769          RC   0.035   0.015   0.035    5508  0.0010    0.00
6770          RX    0.00    0.00   16.50   16.50  107.50  107.50  124.00  124.00
6771          RY    3.00    0.66    0.50    0.00    0.00    0.50    0.66    3.00
              *

6772          KK    MD99   BASIN
6773          KM   Runoff hydrograph for subbasin MD99 northeast of the intersection of McDowell
6774          KM   Road and 99th Avenue
6775          BA   0.319
6776          LG    0.43    0.15    9.70    0.07      13
6777          UC   1.402   1.413
6778          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
6779          UA     100
              *

6780          KK   CMD99 COMBINE
6781          KM   Combine route RSMD99 and subbasin MD99
6782          HC       2    0.60
```



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              *

6783          KK  DWTMRI  DIVERT
6784          KM   Divert portion of runoff hydrograph from combination point CMD99 west to the
6785          KM   intersection of Thomas Road and the Roosevelt Irrigation Distric canal and
6786          KM   the remaining flow west to the intersection of McDowell Road and 107th
6787          KM   Avenue. The diversion is based on topography
6788          DT   DMD99      0.0      0.0
6789          DI      0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
6790          DQ      0.0    56.0   112.0   280.0   560.0  1120.0  2240.0  5600.0 11200.0 28000.0
              *

6791          KK  RWTMRI   ROUTE
6792          KM   Route diversion DWTMRI west to combination point CTMRI
6793          RS       2    FLOW
6794          RC   0.035   0.015   0.035    2601  0.0023    0.00
6795          RX    0.00    0.00    9.50    9.50   40.50   40.50   50.00   50.00
6796          RY    3.00    0.60    0.50    0.00    0.00    0.50    0.60    3.00
              *

6797          KK    TMRI   BASIN
6798          KM   Runoff hydrograph for subbasin TMRI southeast of the intersection of Thomas
6799          KM   Road and the Roosevelt Irrigation District canal
6800          BA   0.240
6801          LG    0.30    0.15    9.70    0.07       2
6802          UC   0.620   0.278
6803          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
6804          UA     100
              *

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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

6805          KK   CTMRI COMBINE
6806          KM   Combine route RWTMRI and subbasin TMRI
6807          HC       2    0.51
              *

6808          KK  SRTMRI STORAGE
6809          KM   Storage route runoff hydrograph from combination point CTMRI through ponding
6810          KM     area at the Roosevelt Irrigation District canal near the intersection of th
6811          KM     canal and Thomas Road.
6812          KM   Stage-storage-discharge data from Maryvale ADMS, February 1997
6813          RS       1    STOR
6814          SV          15.73   25.07   35.38   85.58
6815          SQ           0.10 1069.00 3077.0011170.00
6816          SE  1020.0 1021.00 1021.50 1022.00 1023.00
              *

6817          KK   RMD07   ROUTE
6818          KM   Route runoff hydrograph from combination point CTMRI south to combination
6819          KM   point CMD07
6820          RS      10    FLOW
6821          RC   0.035   0.015   0.035    6743  0.0013    0.00
6822          RX    0.00    0.00   12.50   12.50   62.50   62.50   75.00   75.00
6823          RY    3.00    0.62    0.50    0.00    0.00    0.50    0.62    3.00
              *

6824          KK  DIMD99RETRIEVE
6825          KM   Retrieve subbasin flow diverted at the intersection of McDowell Road and 99th
6826          KM   Avenue
6827          DR   DMD99
              *

6828          KK  DWMD07  DIVERT
6829          KM   Divert remaining runoff hydrograph from combination point CTMRI west to
6830          KM   combination point CMD07
6831          DT  DSIN99      0.0     0.0
6832          DI      0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
6833          DQ      0.0    50.0   100.0   250.0   500.0  1000.0  2000.0  5000.0 10000.0 25000.0
              *

6834          KK  SRMD99 STORAGE
6835          KM   Storage route runoff hydrograph from divert DWMD07 through ponding area at
6836          KM     the Roosevelt Irrigation District canal near the intersection of the canal
6837          KM     and McDowell Road.
6838          KM   Stage-storage-discharge data from Maryvale ADMS, Feb 1997
6839          RS       1    STOR
6840          SV          11.90   27.50   38.50   54.00   98.80
6841          SQ                  1604.00 7290.0028409.00
6842          SE  1022.0 1023.00 1024.00 1024.50 1025.00 1026.00
              *

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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

6843          KK  RWMD07   ROUTE
6844          KM   Route diversion retrieval DRMD07 west to combination point CMD07
6845          RS       1    FLOW
6846          RC   0.035   0.015   0.035    5792  0.0019    0.00
6847          RX    0.00    0.00   16.50   16.50  107.50  107.50  124.00  124.00
```

```
6848          RY    3.00    0.66    0.50    0.00    0.00    0.50    0.66    3.00
              *

6849          KK    MD07    BASIN
6850          KM    Runoff hydrograph for subbasin MD07 northeast of the intersection of McDowell
6851          KM    Road and 107th Avenue
6852          BA    0.783
6853          LG     0.24    0.15    8.80    0.05      36
6854          UC    1.500   0.947
6855          UA        0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
6856          UA      100
              *

6857          KK  ERMD07  DIVERT
6858          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
6859          KM   retention developed after 1990 in subbasin MD07
6860          DT   XMD07     49.9      0.0
6861          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
6862          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

6863          KK   CMD07 COMBINE
6864          KM   Combine route RWMD07, route RSMD07, route RMD07 and subbasin MD07
6865          HC        4    2.50
              *

6866          KK  DSIN07  DIVERT
6867          KM   Divert runoff hydrograph from combination point CMD07 sout to combination
6868          KM   point CIN07
6869          DT  DWMDAV      0.0      0.0
6870          DI      0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0  10000.0  20000.0  50000.0
6871          DQ      0.0     75.0    150.0    375.0    750.0   1500.0   3000.0   7500.0  15000.0  37500.0
              *

6872          KK  RSIN07   ROUTE
6873          KM   Route diversion DSIN07 south to combination point CIN07
6874          RS        1    FLOW
6875          RC   0.035   0.015   0.035     844  0.0008    0.00
6876          RX    0.00    0.00   16.50   16.50  107.50  107.50  124.00  124.00
6877          RY    3.00    0.66    0.50    0.00    0.00    0.50    0.66    3.00
              *

6878          KK  DRIN99RETRIEVE
6879          KM   Retrieve divert DRIN99 from combination point CTMRI and divert south to
6880          KM   combination point CIN07
6881          DR  DSIN99
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

6882          KK  RSIN99   ROUTE
6883          KM   Route divert retrieveal DRIN99 south to combination point CIN07
6884          RS        8    FLOW
6885          RC   0.035   0.015   0.035    6080  0.0019    0.00
6886          RX    0.00    0.00   16.50   16.50  107.50  107.50  124.00  124.00
6887          RY    3.00    0.66    0.50    0.00    0.00    0.50    0.66    3.00
              *

6888          KK    IN07    BASIN
6889          KM   Runoff hydrograph for subbasin IN07 northeast of the intersection of
6890          KM   Interstate 10 and 107th Avenue
6891          BA    0.256
6892          LG     0.26    0.15    8.40    0.08      50
6893          UC    0.752   0.710
6894          UA        0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
6895          UA      100
              *

6896          KK  ERIN07  DIVERT
6897          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
6898          KM   retention developed after 1990 in subbasin IN07
6899          DT   XIN07      8.1      0.0
6900          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
6901          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

6902          KK   CIN07 COMBINE
6903          KM   Combine route RWIN07, route RSIN99, route RSIN07, and subbasin IN07
6904          HC        4   27.09
              *

6905          KK  DWINAV  DIVERT
6906          KM   Divert remaining runoff hydrograph from combination point CIN07 west to
6907          KM   combination point CINAV
6908          DT  DSVB07      0.0      0.0
6909          DI     0.0 21022.0 21022.1 50000.0      0.0      0.0      0.0      0.0      0.0      0.0
6910          DQ     0.0      0.0 21022.1 50000.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

6911          KK  RWINAV   ROUTE
6912          KM   Route diversion DWINAV west to combination point CINAV
```



```
6913          RS        1    FLOW
6914          RC    0.035   0.015   0.035    5174  0.0019    0.00
6915          RX     0.00    0.10   18.00   36.00   66.00   84.00  102.00  102.10
6916          RY    18.00   17.05    9.00    0.00    0.00    9.00   17.05   18.00
              *

6917          KK  DRTMAFRETRIEVE
6918          KM   Retrieve divert DRTMAF from combination point CTM07 and divert south to
6919          KM   combination point CTMAF
6920          DR  DWTMAF
              *
```



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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

6921          KK  RWTMAF   ROUTE
6922          KM   Route diversion retrieval DRTMAF west to combination point CTMAF
6923          RS        7    FLOW
6924          RC   0.035   0.015   0.035    8219  0.0020    0.00
6925          RX    0.00    0.00   26.00   26.00  148.00  148.00  174.00  174.00
6926          RY    3.00    0.76    0.50    0.00    0.00    0.50    0.76    3.00
              *

6927          KK    TMAF    BASIN
6928          KM   Runoff hydrograph for subbasin TMAF north of Thomas Road and east of the Agua
6929          KM   Fria River
6930          BA    0.762
6931          LG     0.22    0.16    6.80    0.11      38
6932          UC    1.500   1.208
6933          UA        0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
6934          UA      100
              *

6935          KK   CTMAF COMBINE
6936          KM   Combine route RWTMAF and subbasin TMAF
6937          HC        2    1.33
              *

6938          KK  DSMDAV  DIVERT
6939          KM   Divert portion of runoff hydrograph from combination point CTMAF south to the
6940          KM   intersection of McDowell Road and Avondale Boulevard and the remaining flow
6941          KM   west to the Agua Fria River. The diversion is based on topography
6942          DT  DWAF02      0.0      0.0
6943          DI      0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0  10000.0  20000.0  50000.0
6944          DQ      0.0     89.0    178.0    445.0    890.0   1780.0   3560.0   8900.0  17800.0  44500.0
              *

6945          KK  RSMDAV   ROUTE
6946          KM   Route diversion DSMDAV south to combination point CMDAV
6947          RS        7    FLOW
6948          RC   0.035   0.015   0.035    5280  0.0017    0.00
6949          RX    0.00    0.00   38.50   38.50  210.50  210.50  249.00  249.00
6950          RY    3.00    0.88    0.50    0.00    0.00    0.50    0.88    3.00
              *

6951          KK  DRMDAVRETRIEVE
6952          KM   Retrieve divert DRMDAV from combination point CMD07 and divert south to
6953          KM   combination point CMDAV
6954          DR  DWMDAV
              *

6955          KK  RWMDAV   ROUTE
6956          KM   Route diversion retrieval DRMDAV west to combination point CMDAV
6957          RS        5    FLOW
6958          RC   0.035   0.015   0.035    5280  0.0023    0.00
6959          RX    0.00    0.00   35.50   35.50  188.50  188.50  224.00  224.00
6960          RY    3.00    0.86    0.50    0.00    0.00    0.50    0.86    3.00
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

6961          KK    MDAV    BASIN
6962          KM   Runoff hydrograph for square mile subbasin MDAV northeast of the intersection
6963          KM   McDowell Road and Avondale Boulevard
6964          BA    0.954
6965          LG     0.23    0.14    7.60    0.09      25
6966          UC    1.500   1.038
6967          UA        0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
6968          UA      100
              *

6969          KK  ERMDAV  DIVERT
6970          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
6971          KM   retention developed after 1990 in subbasin MDAV
6972          DT   XMDAV     75.6      0.0
6973          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
6974          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

6975          KK   CMDAV COMBINE
```

```
6976          KM   Combine route RWMDAV, route RSMDAV, and subbasin MDAV
6977          HC        3    1.72
              *

6978          KK  DSINAV  DIVERT
6979          KM   Divert remaining runoff hydrograph from combination point CMDAV south to
6980          KM   combination point CINAV
6981          DT  DWMDAF      0.0      0.0
6982          DI      0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0  10000.0  20000.0  50000.0
6983          DQ      0.0     73.0    146.0    365.0    730.0   1460.0   2920.0   7300.0  14600.0  36500.0
              *

6984          KK  RSINAV   ROUTE
6985          KM   Route diversion DSINAV south to combination point CINAV
6986          RS       2    FLOW
6987          RC   0.035    0.015    0.035     1317   0.0022     0.00
6988          RX    0.00     0.00    16.50    16.50   107.50   107.50   124.00   124.00
6989          RY    3.00     0.66     0.50     0.00     0.00     0.50     0.66     3.00
              *

6990          KK    INAV   BASIN
6991          KM   Runoff hydrograph for subbasin INAV north of Interstate 10 and east of the
6992          KM   Agua Fria River
6993          BA   0.235
6994          LG    0.32     0.15     8.00     0.10       37
6995          UC   0.735    0.666
6996          UA       0      5.0     16.0     30.0     65.0     77.0     84.0     90.0     94.0     97.0
6997          UA     100
              *
```



```
LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

6998          KK  ERINAV  DIVERT
6999          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
7000          KM   retention developed after 1990 in subbasin INAV
7001          DT  XINAV      3.6      0.0
7002          DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
7003          DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

7004          KK   CINAV COMBINE
7005          KM   Combine route RWINAV, route RSINAV, and subbasin INAV
7006          HC        3   28.58
              *

7007          KK  DWINAF  DIVERT
7008          KM   Divert remaining runoff hydrograph from combination point CINAV west to
7009          KM   combination point CINAF
7010          DT  DSVBAF      0.0      0.0
7011          DI      0.0 22225.0 22225.1 50000.0      0.0      0.0      0.0      0.0      0.0      0.0
7012          DQ      0.0      0.0 22225.1 50000.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

7013          KK  RWINAF   ROUTE
7014          KM   Route diversion DWINAF west to combination point CINAF
7015          RS       1    FLOW
7016          RC   0.035    0.015    0.035     7360   0.0009     0.00
7017          RX    0.00     0.10    18.00    36.00    66.00    84.00   102.00   102.10
7018          RY   18.00    17.05     9.00     0.00     0.00     9.00    17.05    18.00
              * Need to re-evaluate divert, flow is greater than channel capacity
              *

7019          KK  DRMDAFRETRIEVE
7020          KM   Retrieve divert DRMDAF from combination point CMDAV and divert south to
7021          KM   combination point CMDAF
7022          DR  DWMDAF
              *

7023          KK  RWMDAF   ROUTE
7024          KM   Route diversion retrieval DRMDAF west to combination point CMDAF
7025          RS       9    FLOW
7026          RC   0.035    0.015    0.035     6890   0.0027     0.00
7027          RX    0.00     0.00    48.00    48.00   251.00   251.00   299.00   299.00
7028          RY    3.00     0.98     0.50     0.00     0.00     0.50     0.98     3.00
              *

7029          KK    MDAF   BASIN
7030          KM   Runoff hydrograph for subbasin MDAF north of McDowell Road and east of the
7031          KM   Interstate 10 and east of the Agua Fria River
7032          BA   0.834
7033          LG    0.25     0.29     5.20     0.23       19
7034          UC   1.500    1.253
7035          UA       0      5.0     16.0     30.0     65.0     77.0     84.0     90.0     94.0     97.0
7036          UA     100
              *
```



```
LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

7037          KK   CMDAF COMBINE
```



```
7038          KM   Combine route RWMDAF and subbasin MDAF
7039          HC        2    1.30
              *

7040          KK  DSINAF  DIVERT
7041          KM   Divert portion of runoff hydrograph from combination point CMDAF south to the
7042          KM   intersection of Interstate 10 and the Agua Fria River and the remaining flow
7043          KM   west to the Agua Fria River. The diversion is based on topography
7044          DT  DWAF03      0.0      0.0
7045          DI      0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0  10000.0  20000.0  50000.0
7046          DQ      0.0     76.0    152.0    380.0    760.0   1520.0   3040.0   7600.0  15200.0  38000.0
              *

7047          KK  RSINAF   ROUTE
7048          KM   Route diversion DSINAF south to combination point CINAF
7049          RS       1    FLOW
7050          RC   0.035    0.015    0.035     1317   0.0022     0.00
7051          RX    0.00     0.00    22.00    22.00   103.00   103.00   125.00   125.00
7052          RY    3.00     0.72     0.50     0.00     0.00     0.50     0.72     3.00
              *

7053          KK    INAF   BASIN
7054          KM   Runoff hydrograph for subbasin INAF north of Interstate 10 and east of the
7055          KM   Agua Fria River
7056          BA   0.472
7057          LG    0.23     0.30     6.20     0.16       20
7058          UC   1.459    1.288
7059          UA       0      5.0     16.0     30.0     65.0     77.0     84.0     90.0     94.0     97.0
7060          UA     100
              *

7061          KK  ERINAF  DIVERT
7062          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
7063          KM   retention developed after 1990 in subbasin INAF
7064          DT  XINAF      8.4      0.0
7065          DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
7066          DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

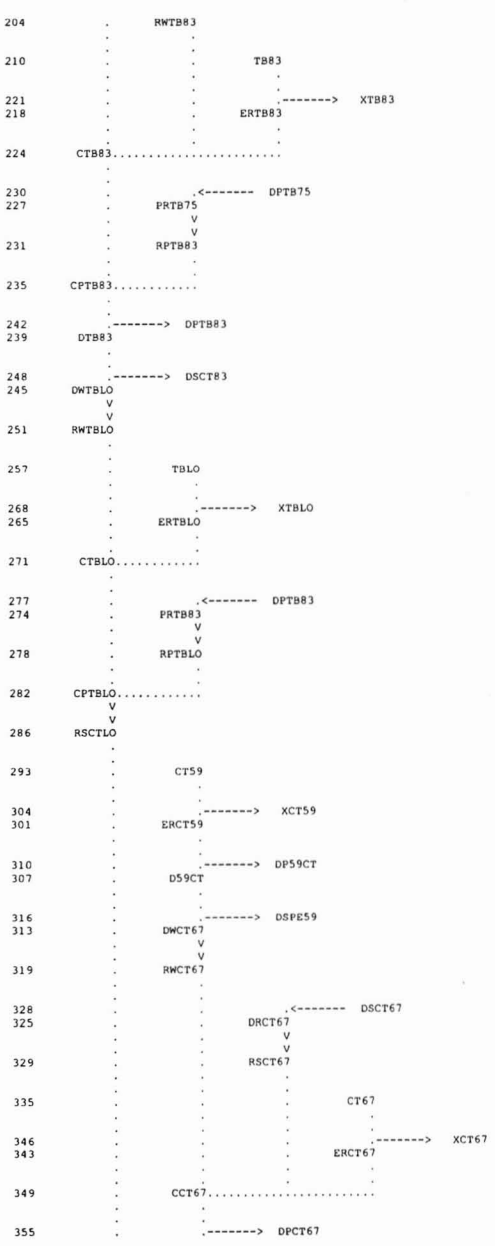
7067          KK   CINAF COMBINE
7068          KM   Combine route RWINAF, route RSINAF, and subbasin INAF
7069          HC        3   29.36
              *
7070          ZZ
```

1 SCHEMATIC DIAGRAM OF STREAM NETWORK

```
INPUT
 LINE      (V) ROUTING          (--->) DIVERSION OR PUMP FLOW

  NO.      (.) CONNECTOR        (<---) RETURN OF DIVERTED OR PUMPED FLOW

  128        GW83
                .
                .
  139           .-------->  DPGW83
  136        DGW83
                .
                .
  146           .-------->  DWSK01
  142        DSTB83
                V
                V
  149        RSTB83
                .
                .
  155           .        TB67
                .          .
                .          .
  166           .          .-------->  DSCT67
  163           .       DWTB75
                .          V
                .          V
  169           .       RWTB75
                .          .
                .          .
  175           .          .        TB75
                .          .          .
                .          .          .
  186           .          .          .-------->   XTB75
  183           .          .       ERTB75
                .          .          .
                .          .          .
  189           .        CTB75.............
                .          .
                .          .
  195           .          .-------->  DPTB75
  192           .        DTB75
                .          .
                .          .
  201           .          .-------->  DSCT75
  198           .       DWTB83
                .          V
                .          V
```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XTB83
ERTB83
CTB83
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RWTBLO
TBLO
XTBLO
ERTBLO
CTBLO
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PRTB83
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CPTBLO
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XCT59
ERCT59
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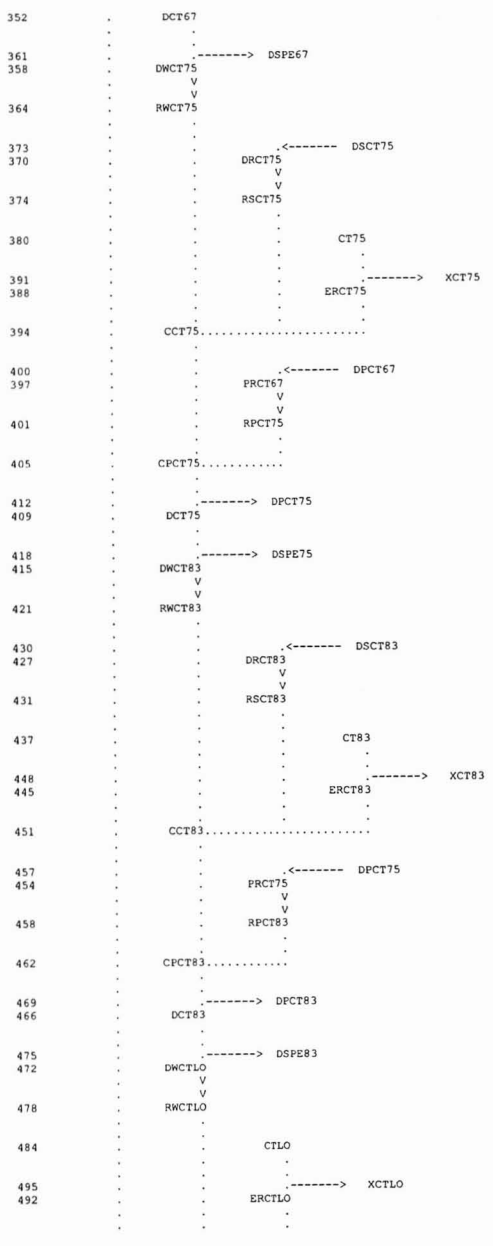
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RPCT75
CPCT75
DPCT75
DCT75
DSPE75
DWCT83
RWCT83
DSCT83
DRCT83
RSCT83
CT83
XCT83
ERCT83
CCT83
DPCT75
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RPCT83
CPCT83
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DCT83
DSPE83
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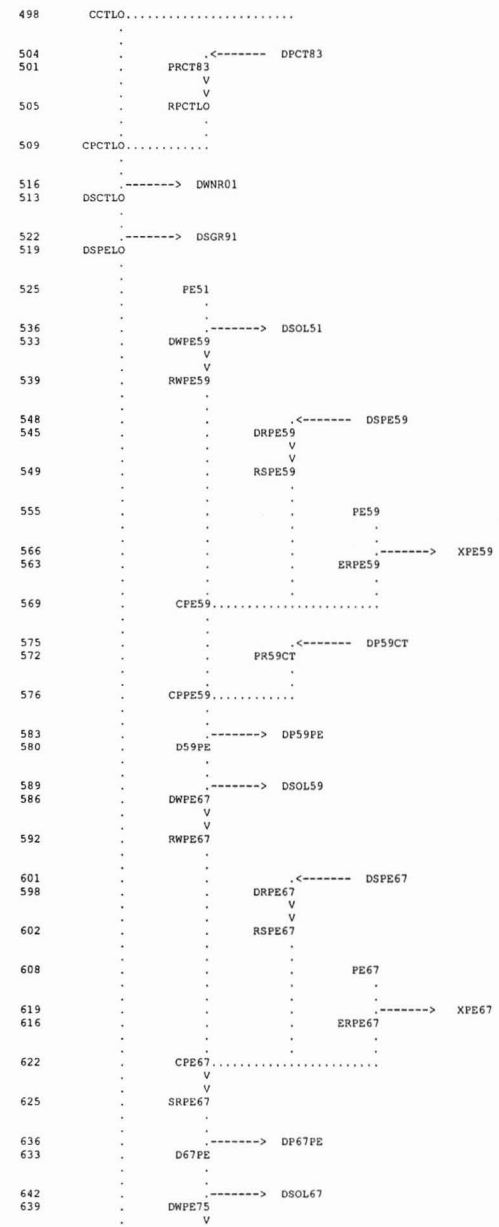
RWCTLO
CTLO
XCTLO
ERCTLO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CPCTLO
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DSCTLO
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DRPE59
RSPE59
PE59
XPE59
ERPE59
CPE59
DP59CT
PR59CT
CPPE59
DP59PE
D59PE
DSOL59
DWPE67
RWPE67
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CPE67
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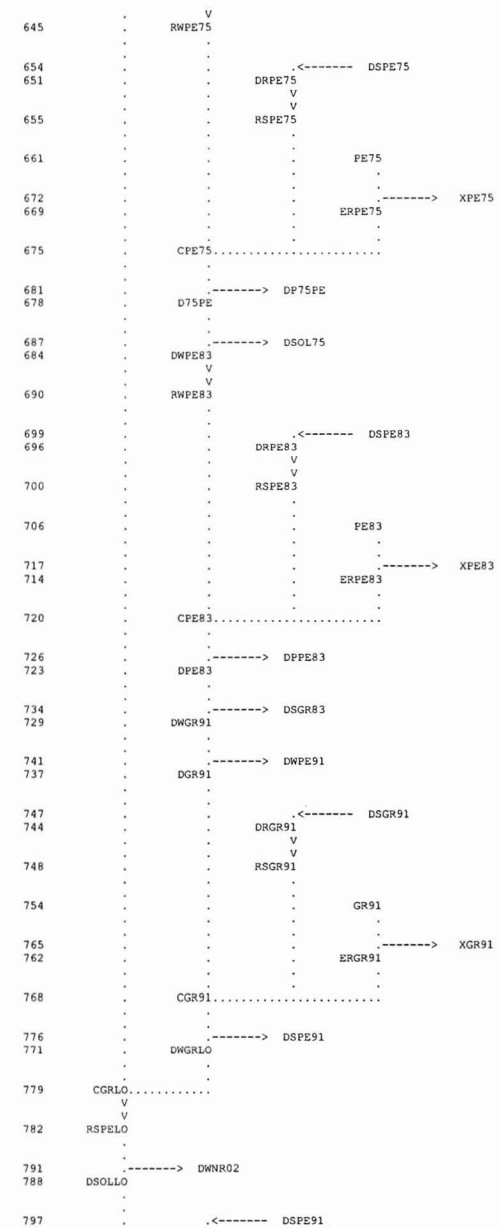
DSOL67
DWPE75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DRPE83
RSPE83
PE83
XPE83
ERPE83
CPE83
DPPE83
DPE83
DSGR83
DWGR91
DWPE91
DGR91
DSGR91
DRGR91
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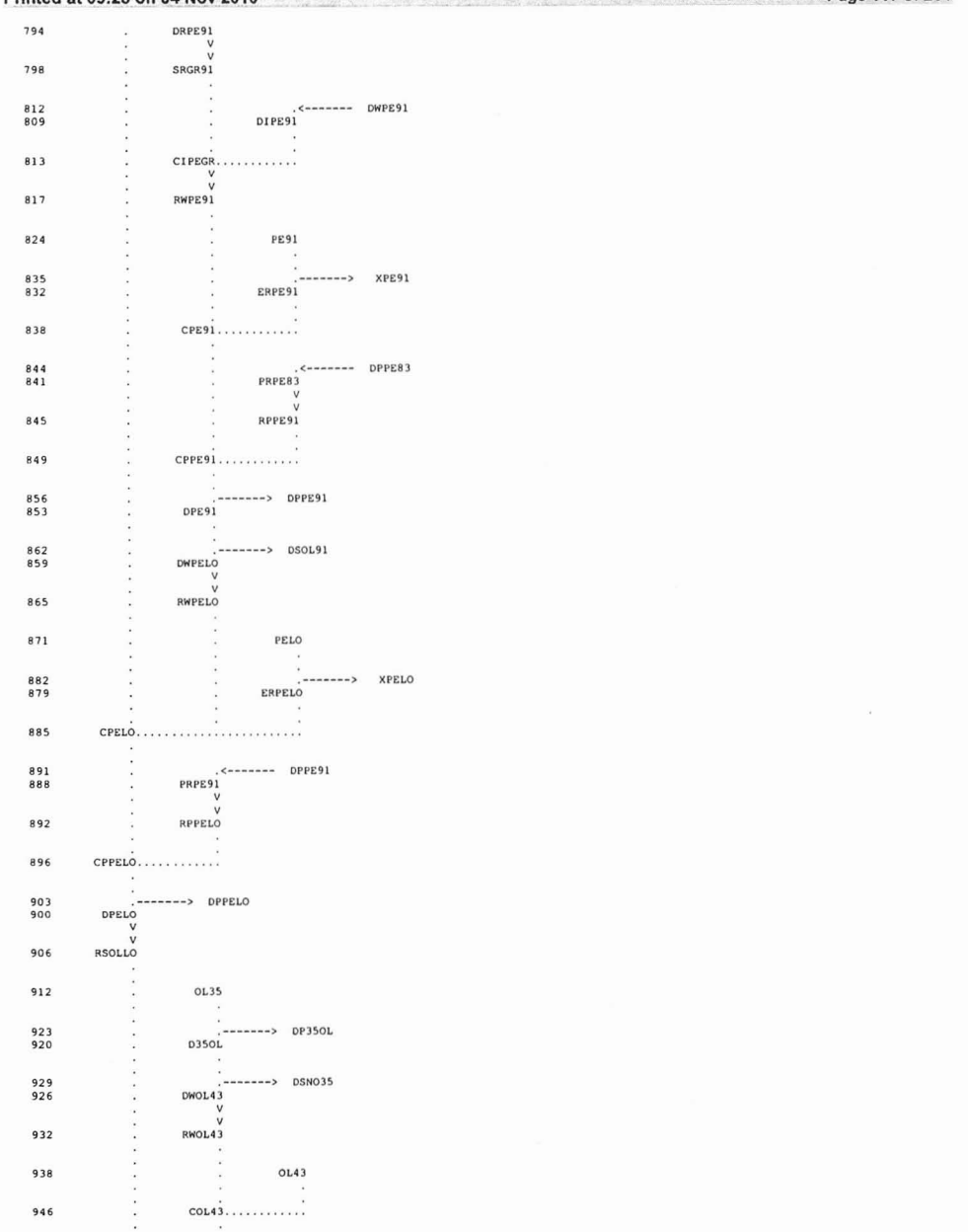
DSOLLO
DSPE91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813 CIPEGR
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844 DPPE83
841 PRPE83
845 RPPE91
849 CPPE91
856 DPPE91
853 DPE91
862 DSOL91
859 DWPELO
865 RWPELO
871 PELO
882 XPELO
879 ERPELO
885 CPELO
891 DPPE91
888 PRPE91
892 RPPELO
896 CPPELO
903 DPPELO
900 DPELO
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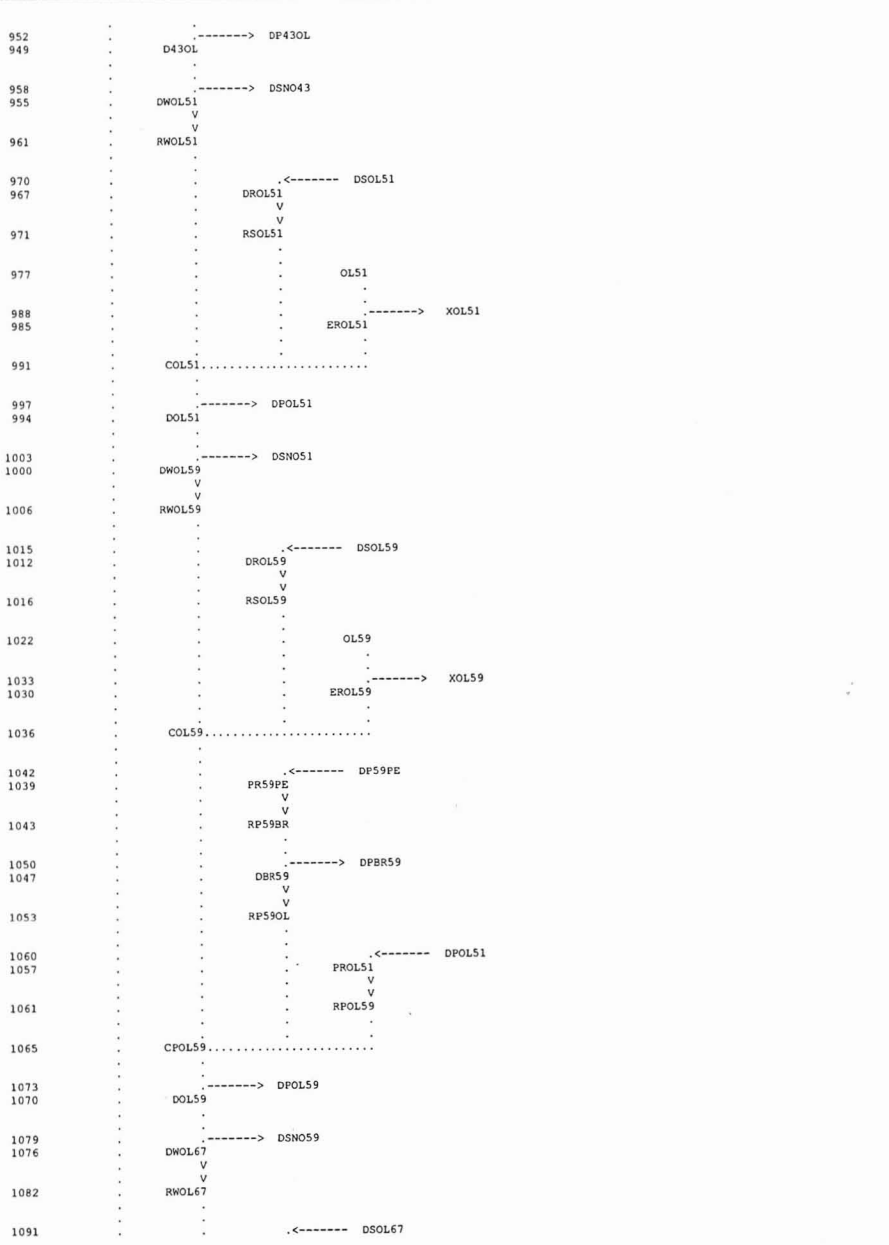
932 RWOL43
938 OL43
946 COL43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985 EROL51
991 COL51
997 DPOL51
994 DOL51
1003 DSNO51
1000 DWOL59
1006 RWOL59
1015 DSOL59
1012 DROL59
1016 RSOL59
1022 OL59
1033 XOL59
1030 EROL59
1036 COL59
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1039 PR59PE
1043 RP59BR
1050 DPBR59
1047 DBR59
1053 RP59OL
1060 DPOL51
1057 PROL51
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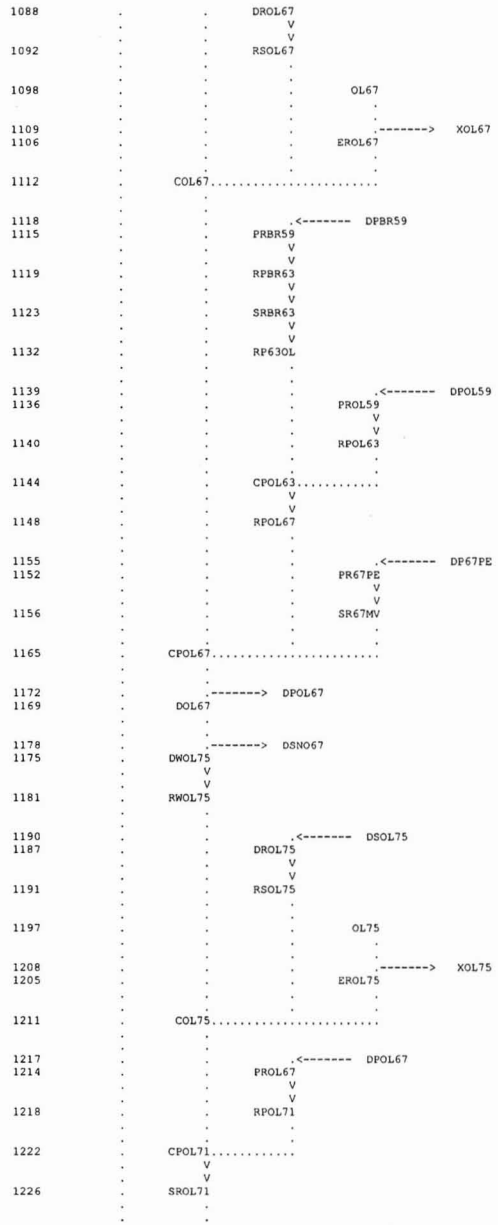
1091 DSOL67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1132 RP63OL
1139 DPOL59
1136 PROL59
1140 RPOL63
1144 CPOL63
1148 RPOL67
1155 DP67PE
1152 PR67PE
1156 SR67MV
1165 CPOL67
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1175 DWOL75
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1191 RSOL75
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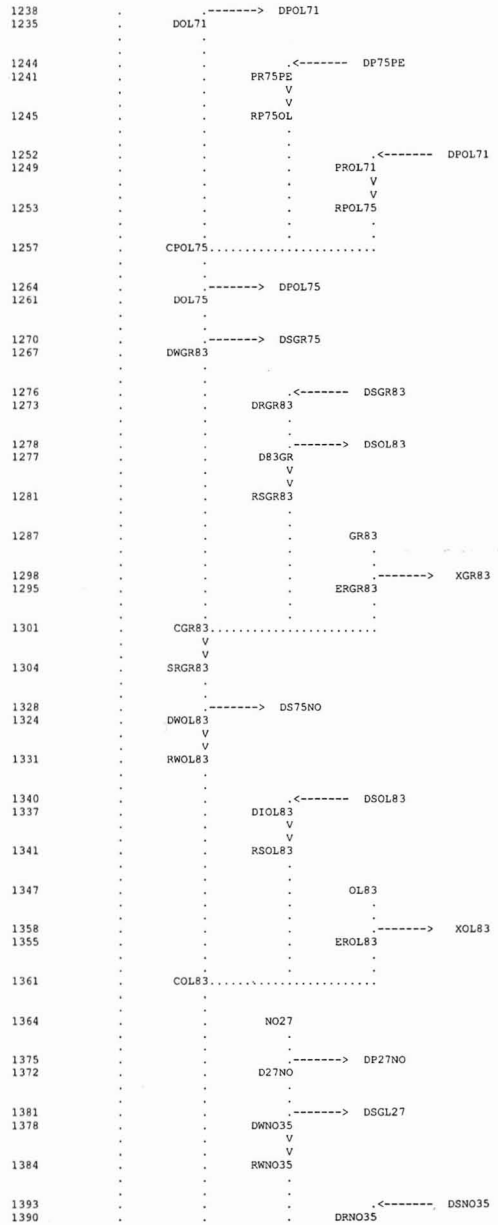
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1270 DSGR75
1267 DWGR83
1276 DSGR83
1273 DRGR83
1278 DSOL83
1277 D83GR
1281 RSGR83
1287 GR83
1298 XGR83
1295 ERGR83
1301 CGR83
1304 SRGR83
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1340 DSOL83
1337 DIOL83
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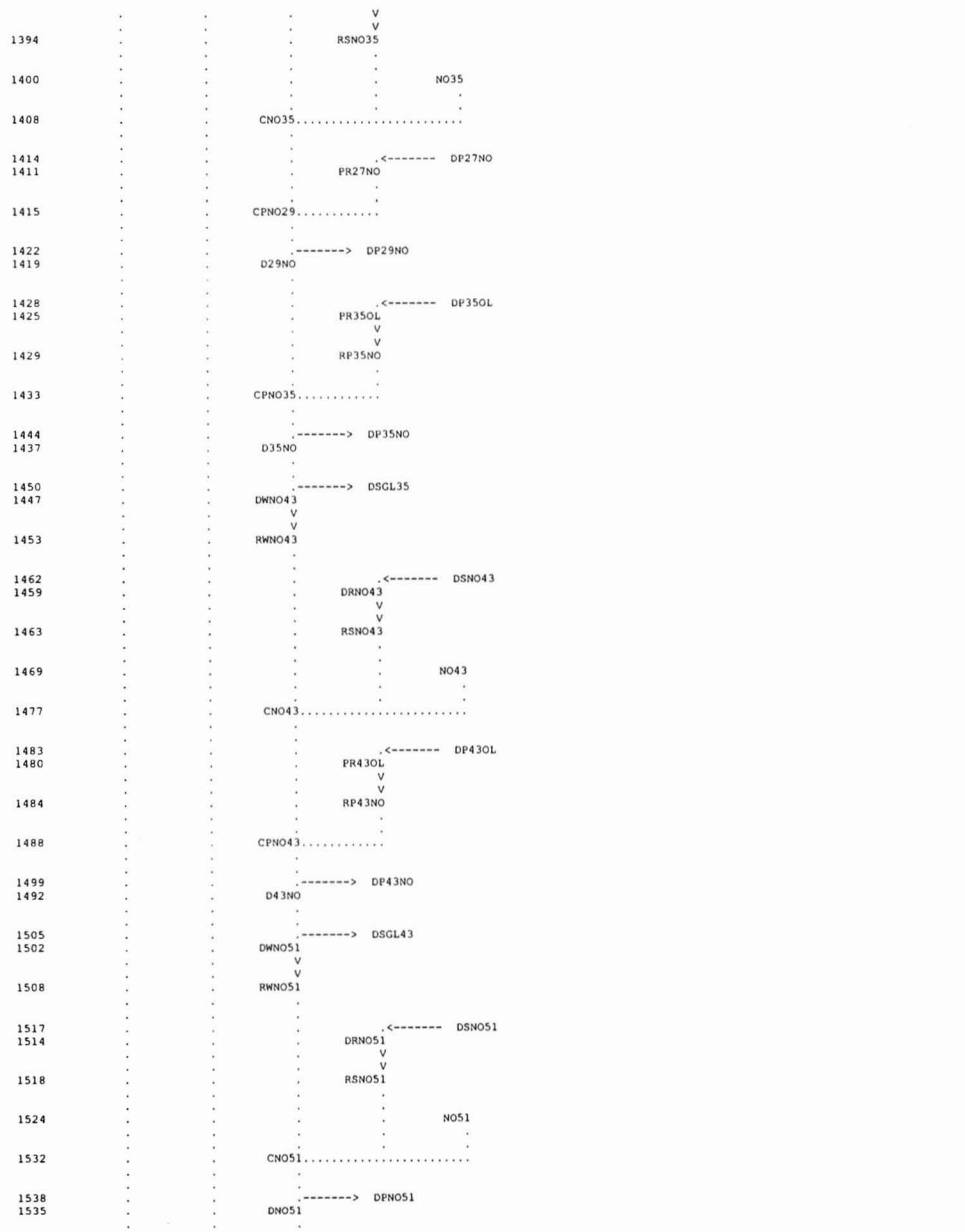
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D35NO
DSGL35
DWNO43
RWNO43
DSNO43
DRNO43
RSNO43
NO43
CNO43
DP43OL
PR43OL
RP43NO
CPNO43
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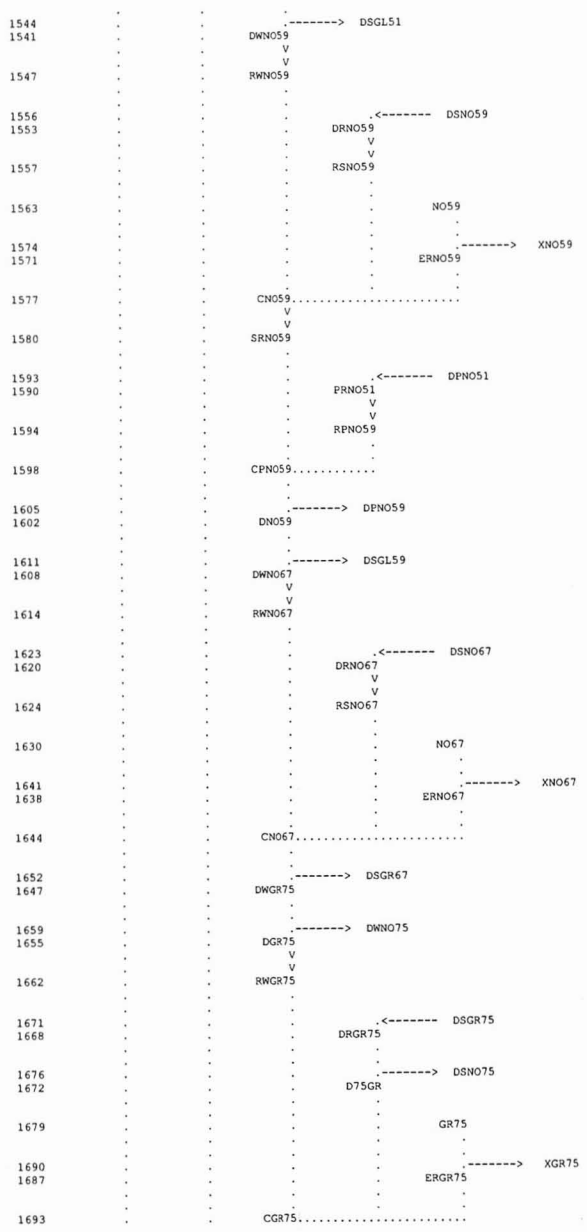
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CPNO59
DPNO59
DNO59
DSGL59
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RWNO67
DSNO67
DRNO67
RSNO67
NO67
XNO67
ERNO67
CNO67
DSGR67
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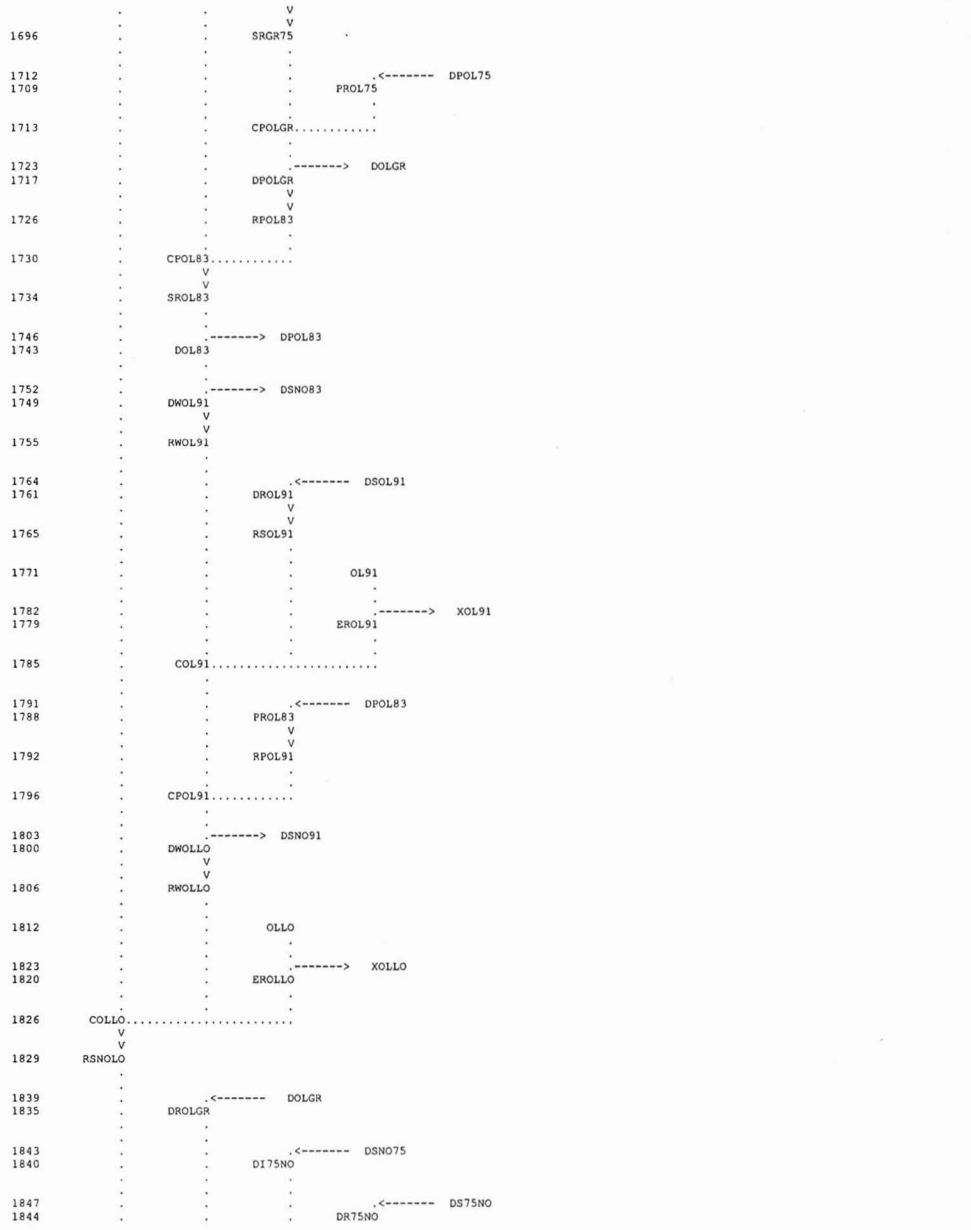
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1746 DPOL83
1743 DOL83
1752 DSNO83
1749 DWOL91
1755 RWOL91
1764 DSOL91
1761 DROL91
1765 RSOL91
1771 OL91
1782 XOL91
1779 EROL91
1785 COL91
1791 DPOL83
1788 PROL83
1792 RPOL91
1796 CPOL91
1803 DSNO91
1800 DWOLLO
1806 RWOLLO
1812 OLLO
1823 XOLLO
1820 EROLLO
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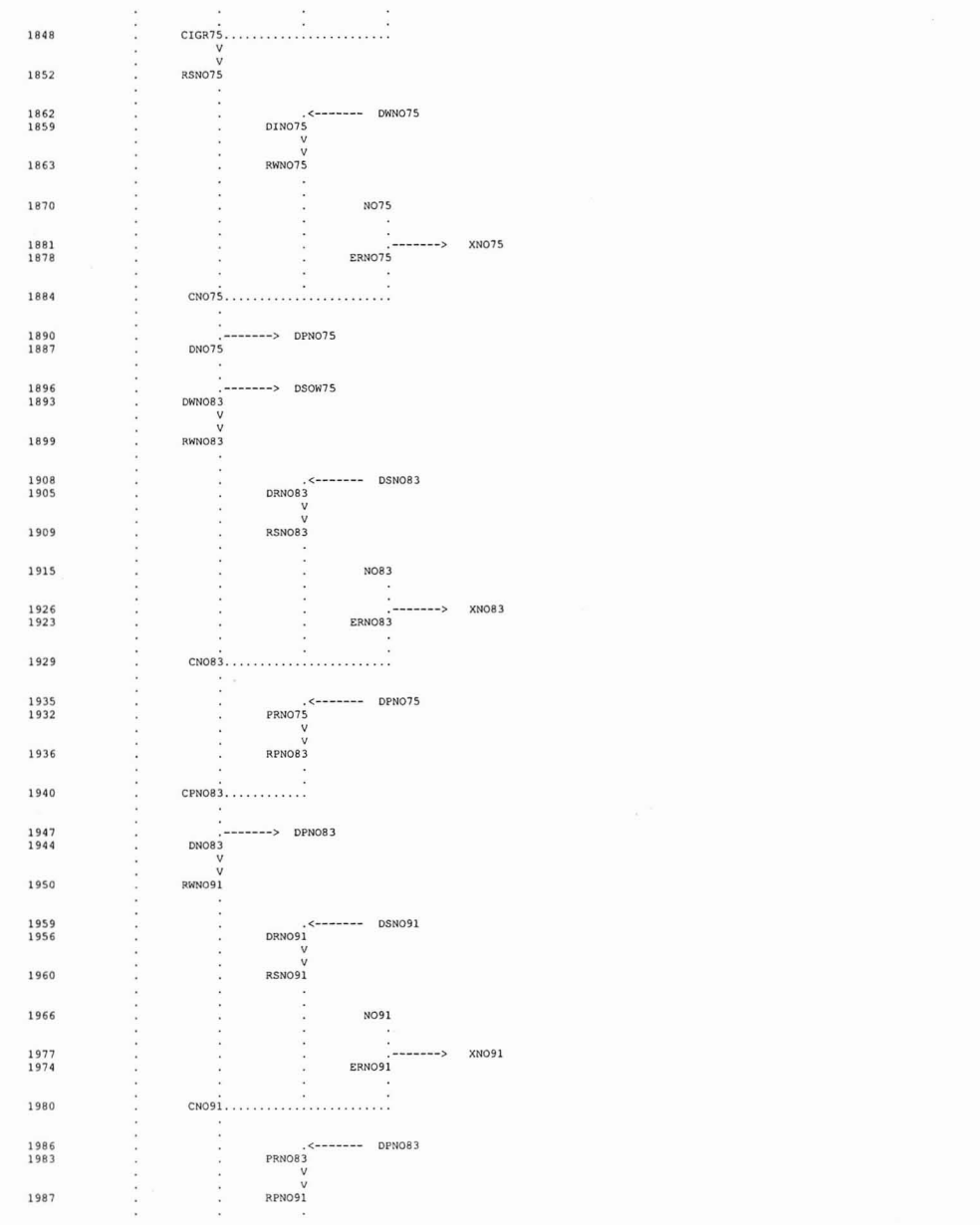
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1887 DNO75
1896 DSOW75
1893 DWNO83
1899 RWNO83
1908 DSNO83
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1909 RSNO83
1915 NO83
1926 XNO83
1923 ERNO83
1929 CNO83
1935 DPNO75
1932 PRNO75
1936 RPNO83
1940 CPNO83
1947 DPNO83
1944 DNO83
1950 RWNO91
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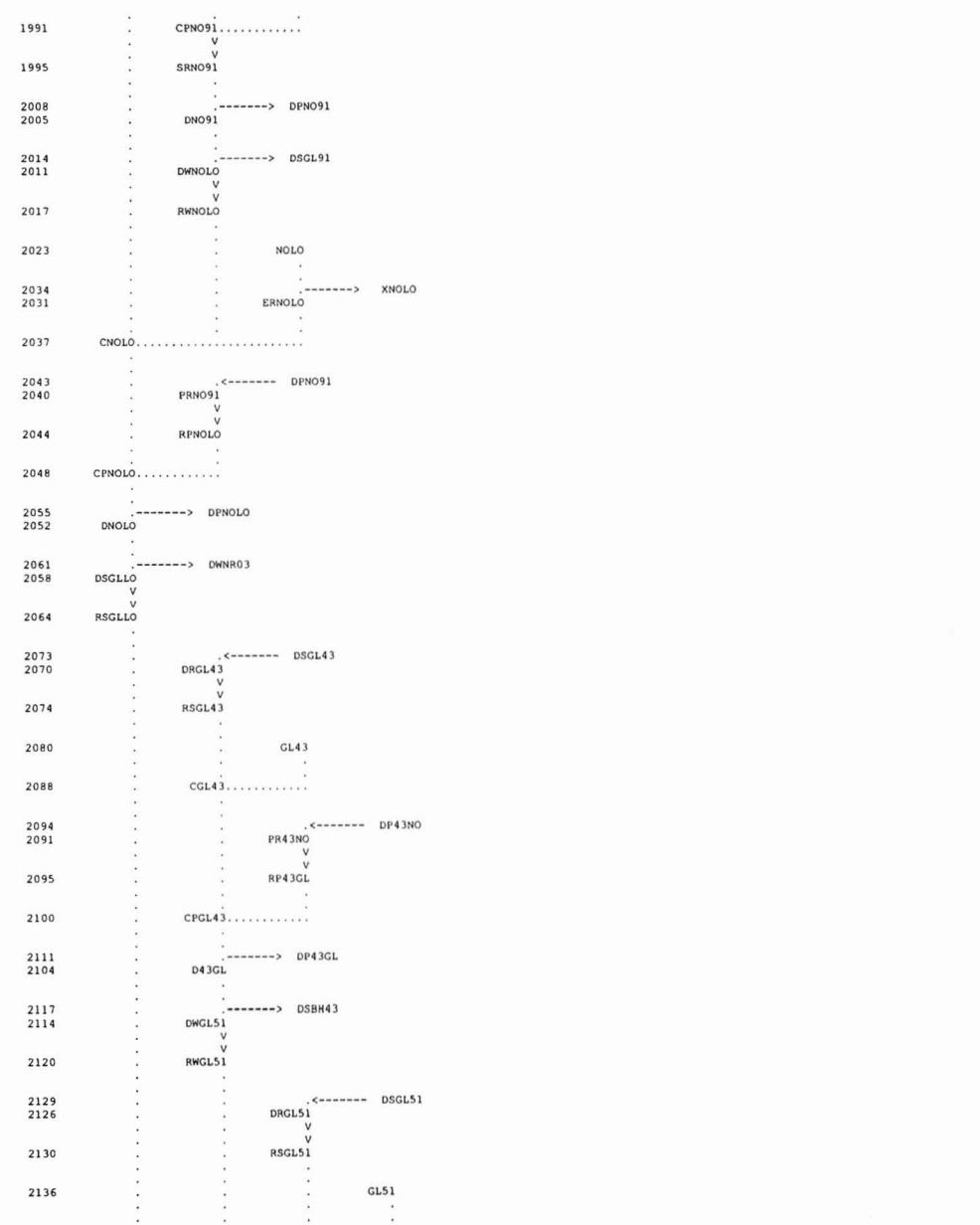
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2055 DPNOLO
2052 DNOLO
2061 DWNR03
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2100 CPGL43
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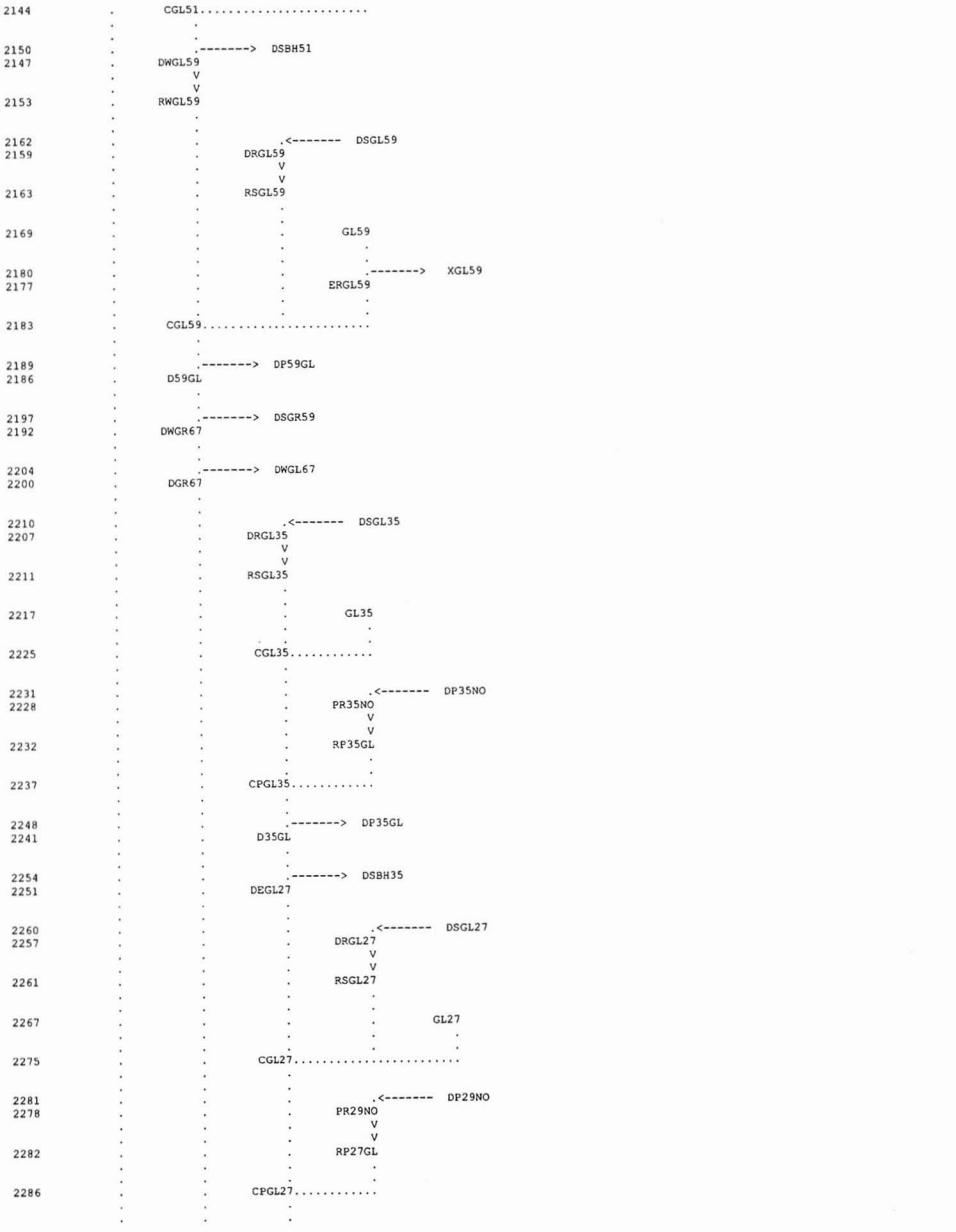
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2211 RSGL35
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2225 CGL35
2231 DP35NO
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2232 RP35GL
2237 CPGL35
2248 DP35GL
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2254 DSBH35
2251 DEGL27
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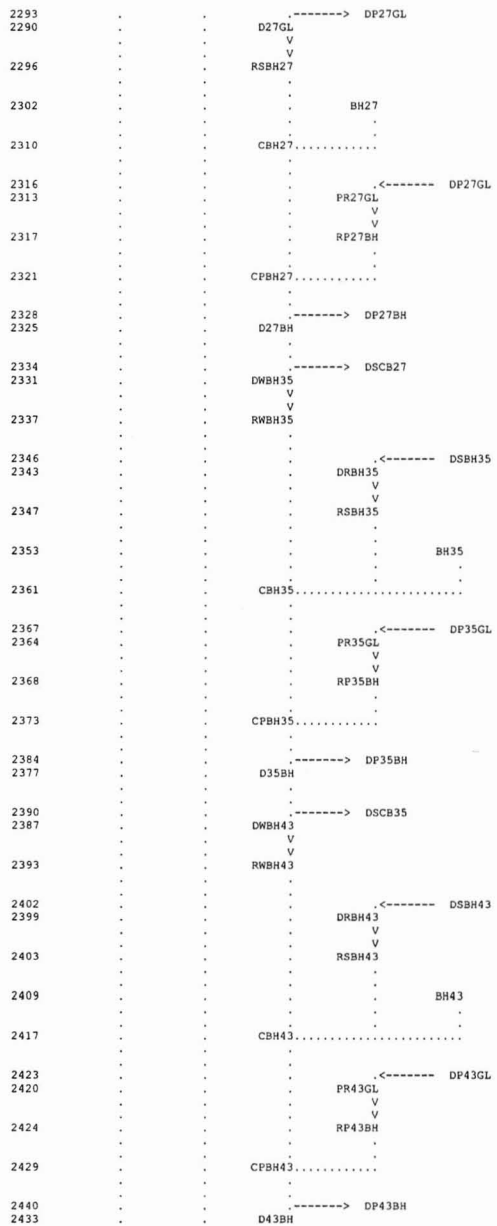
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2321 CPBH27
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2325 D27BH
2334
2331 DWBH35
2337 RWBH35
2346
2343 DRBH35
2347 RSBH35
2353 BH35
2361 CBH35
2367
2364 PR35GL
2368 RP35BH
2373 CPBH35
2384
2377 D35BH
2390
2387 DWBH43
2393 RWBH43
2402
2399 DRBH43
2403 RSBH43
2409 BH43
2417 CBH43
2423
2420 PR43GL
2424 RP43BH
2429 CPBH43
2440
2433 D43BH
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DP27BH
DSCB27
DSBH35
DP35GL
DP35BH
DSCB35
DSBH43
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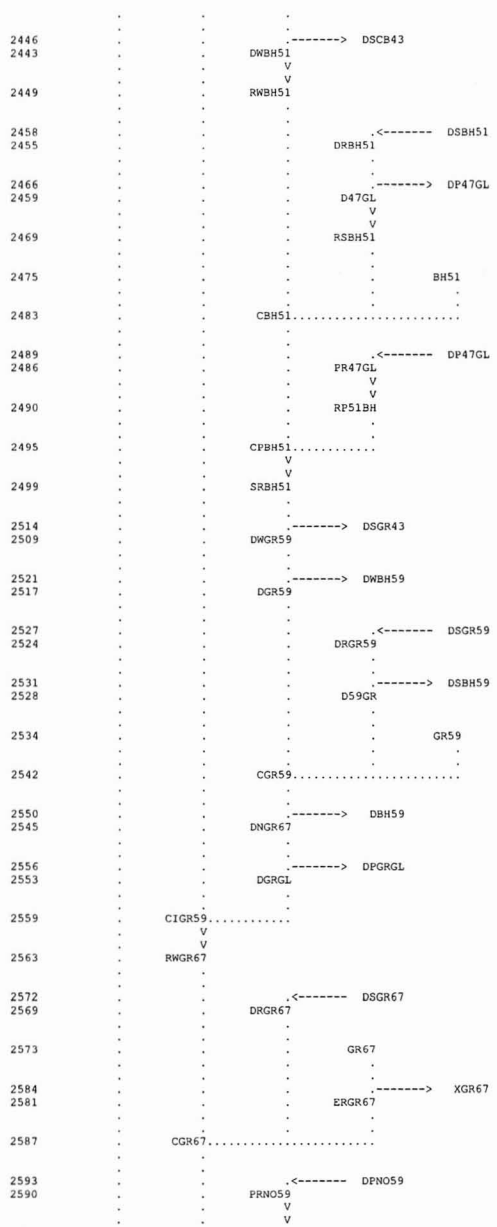
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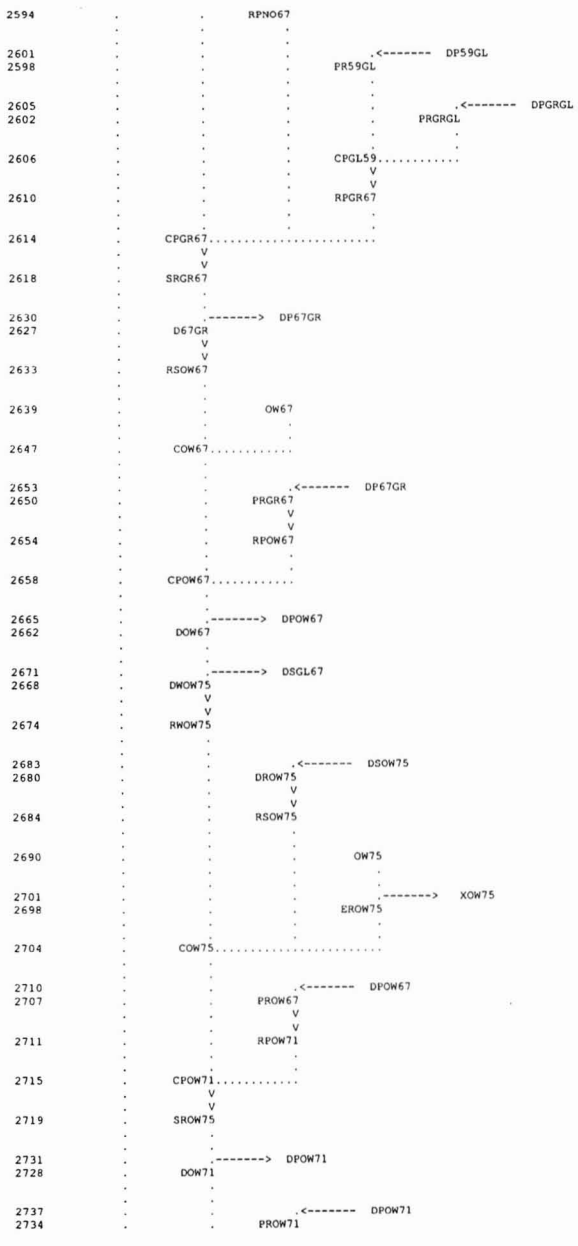
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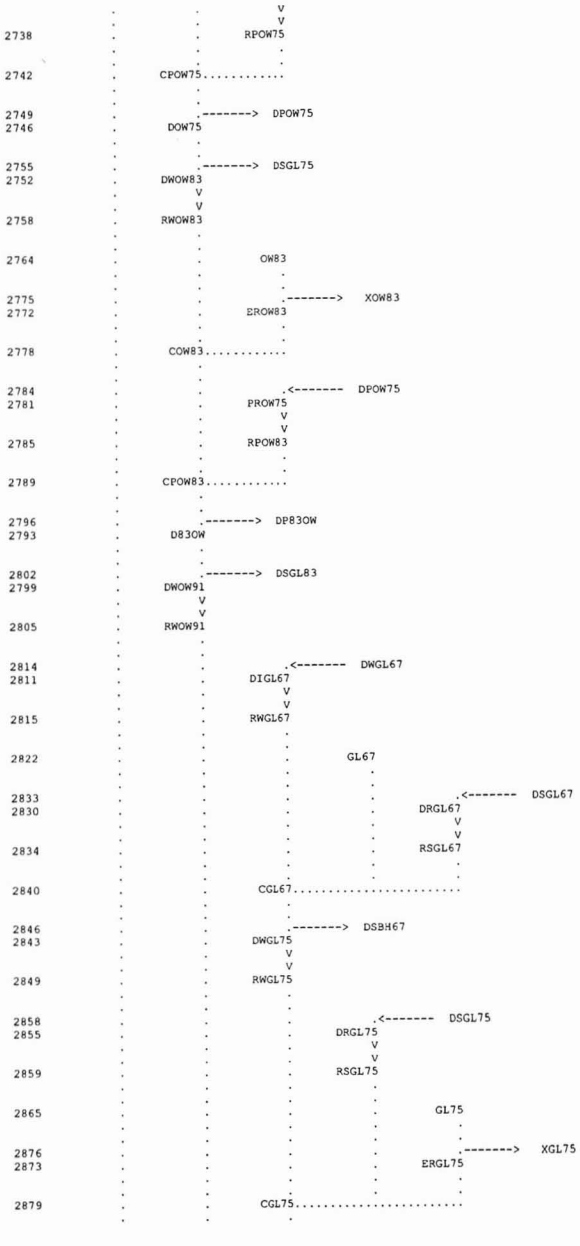
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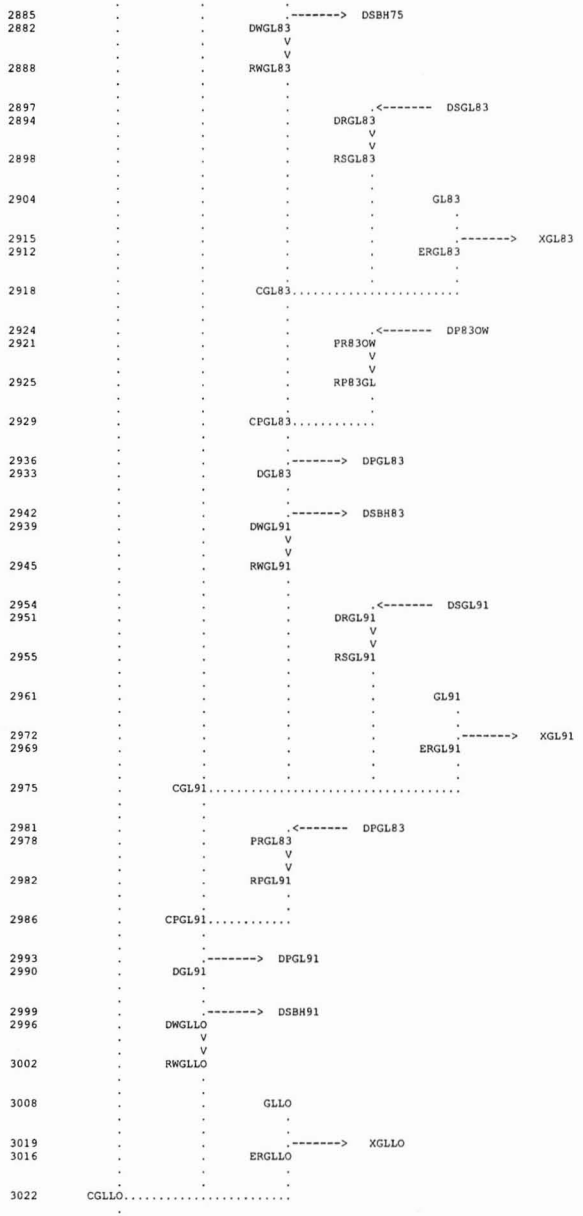
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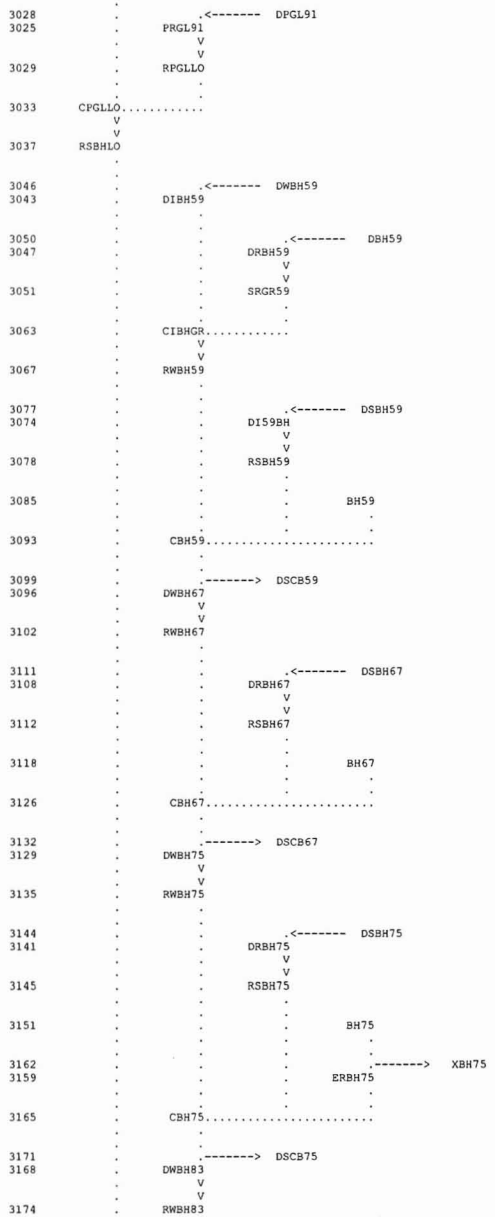
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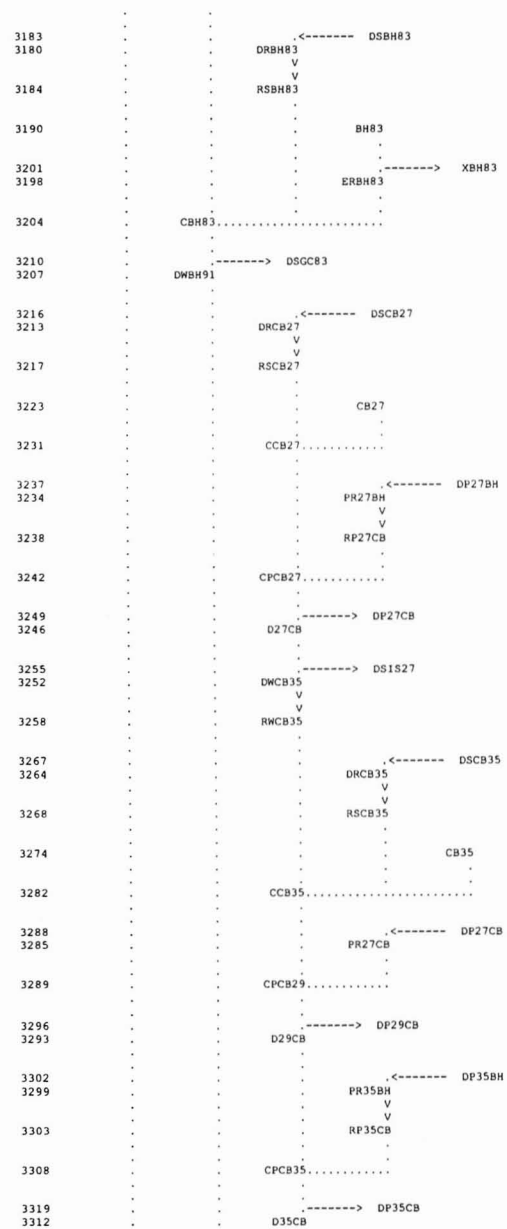
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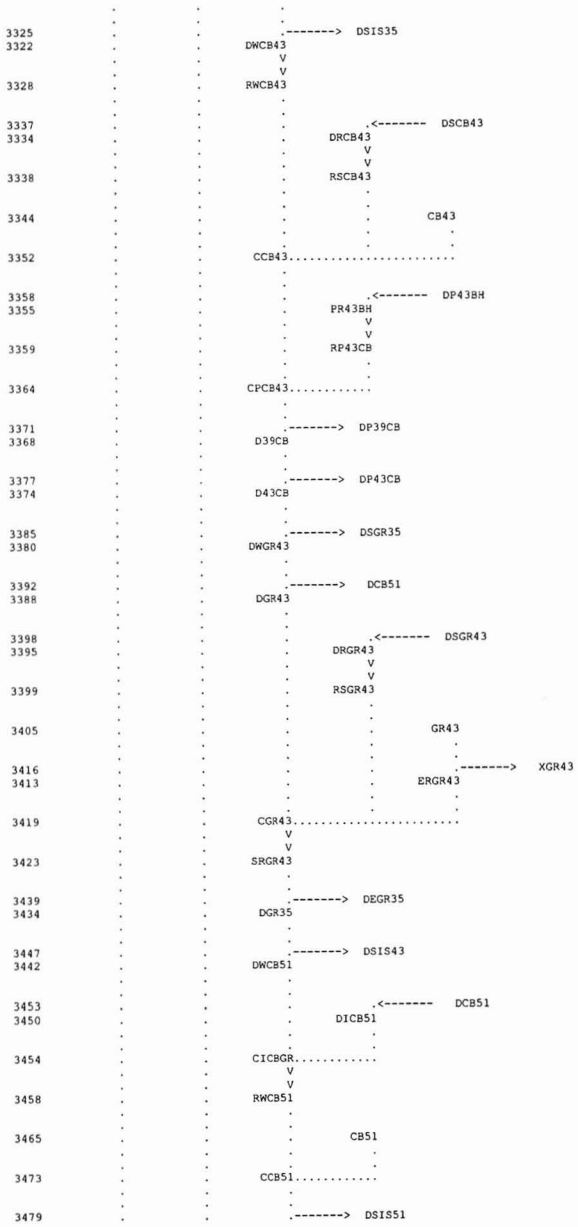
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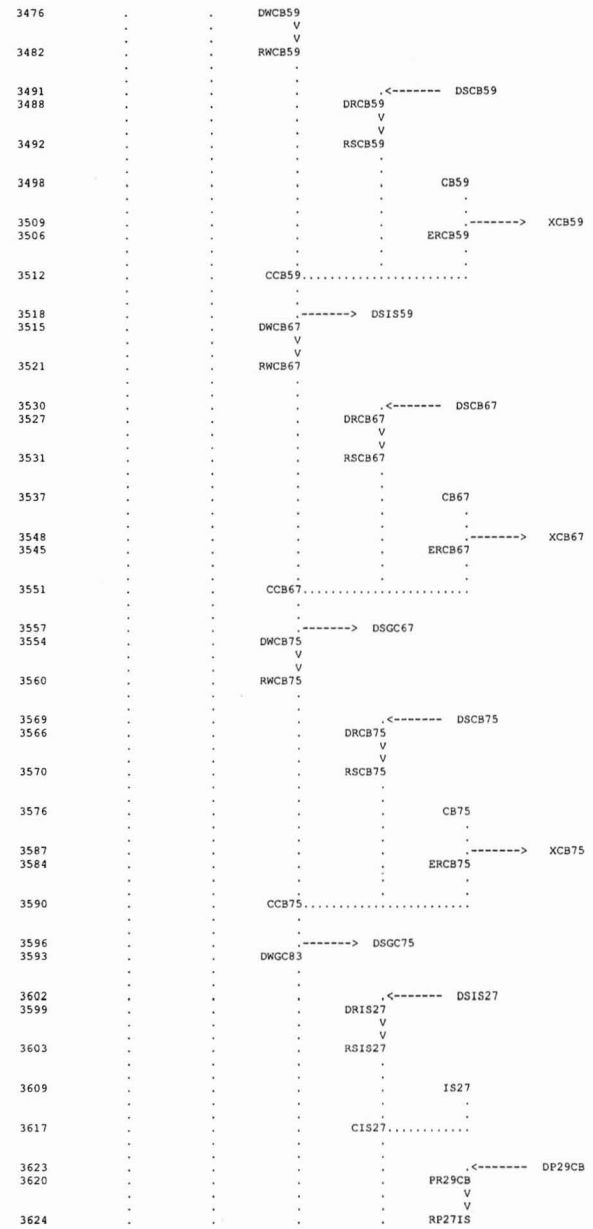
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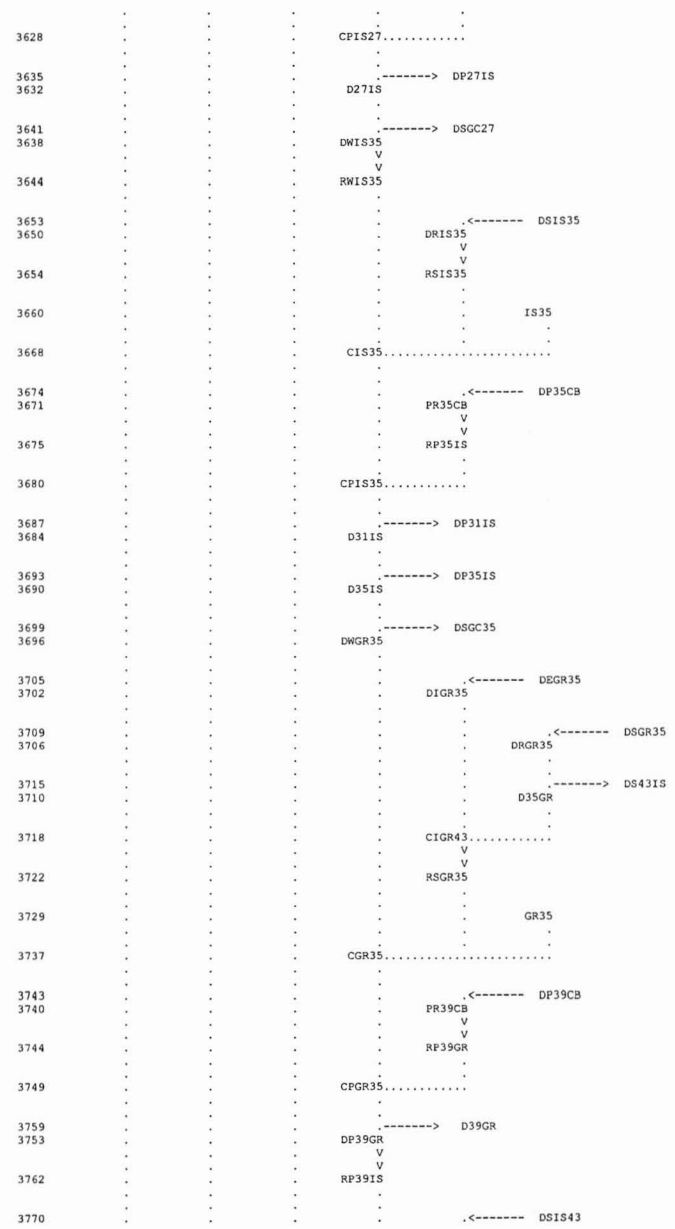
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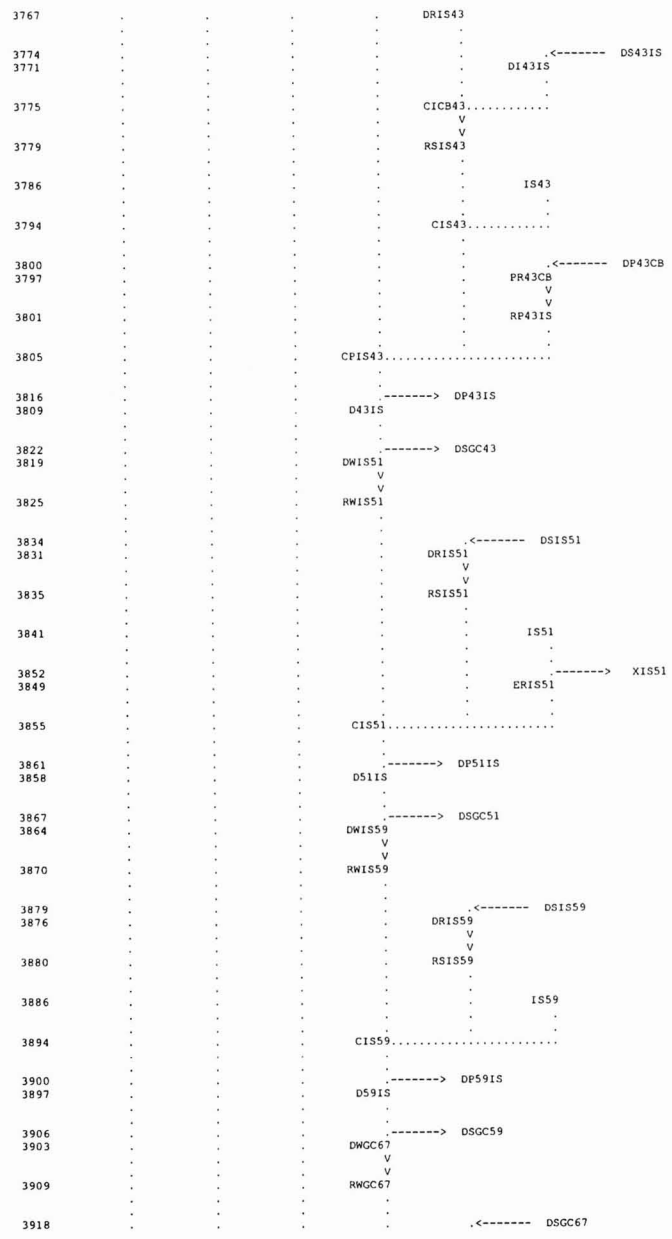
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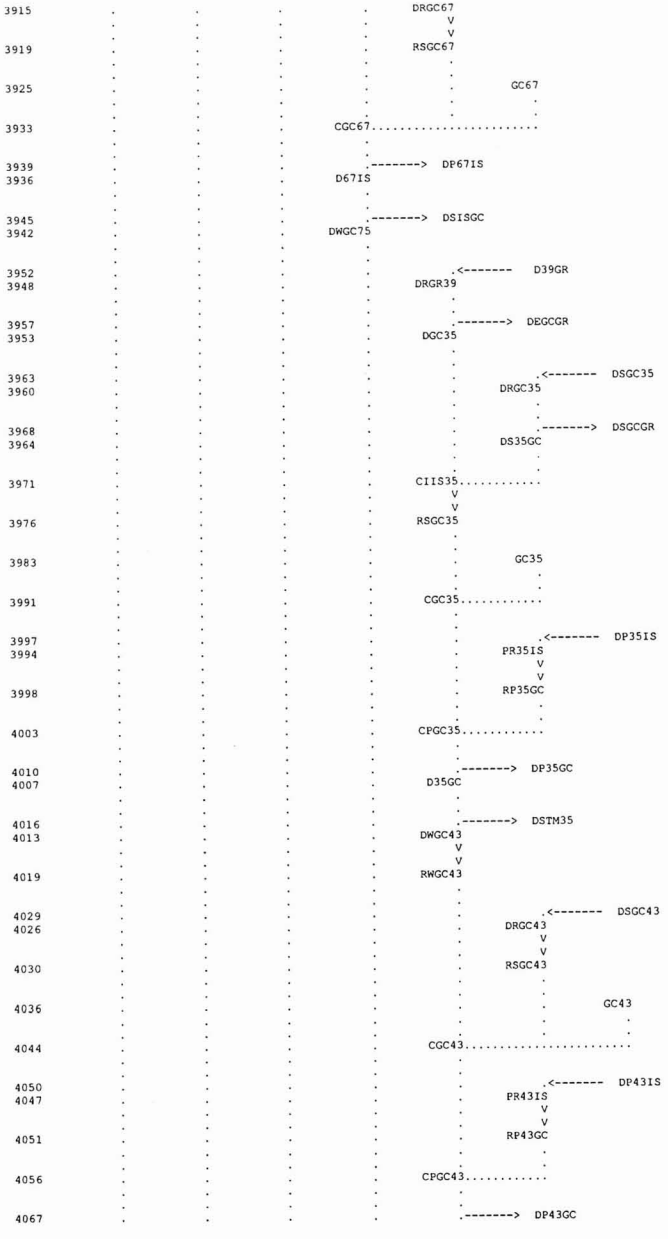
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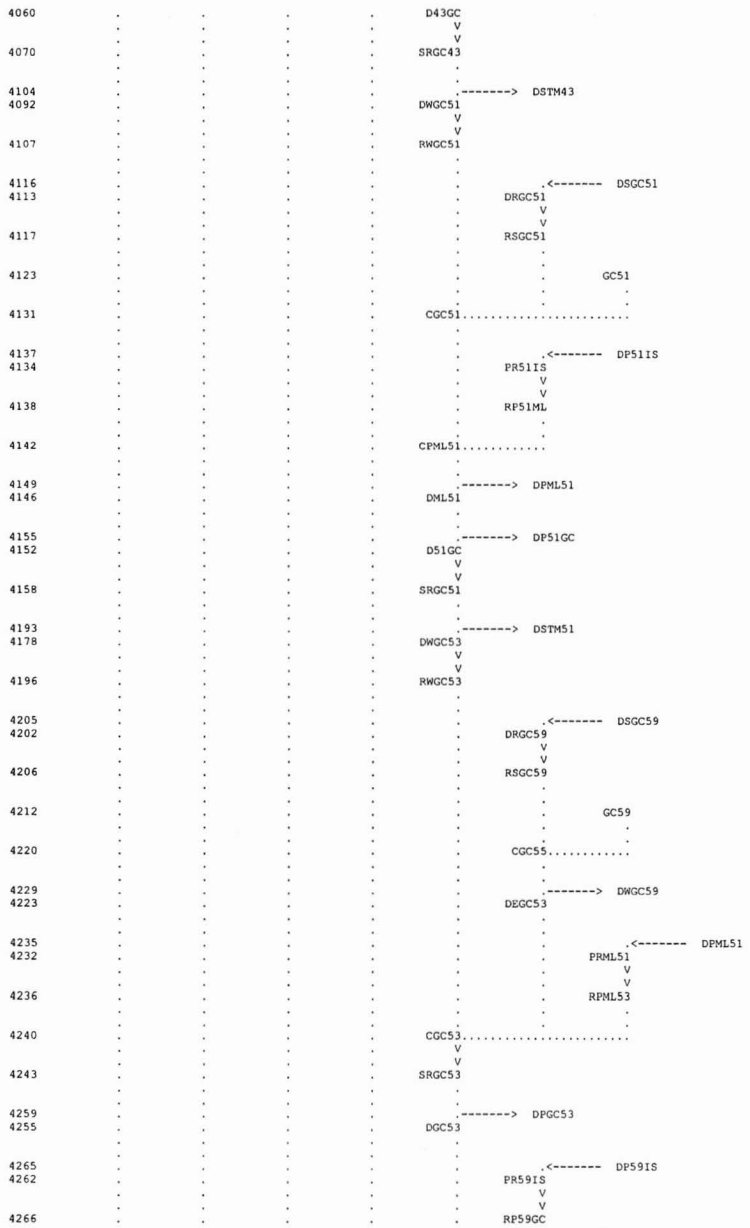
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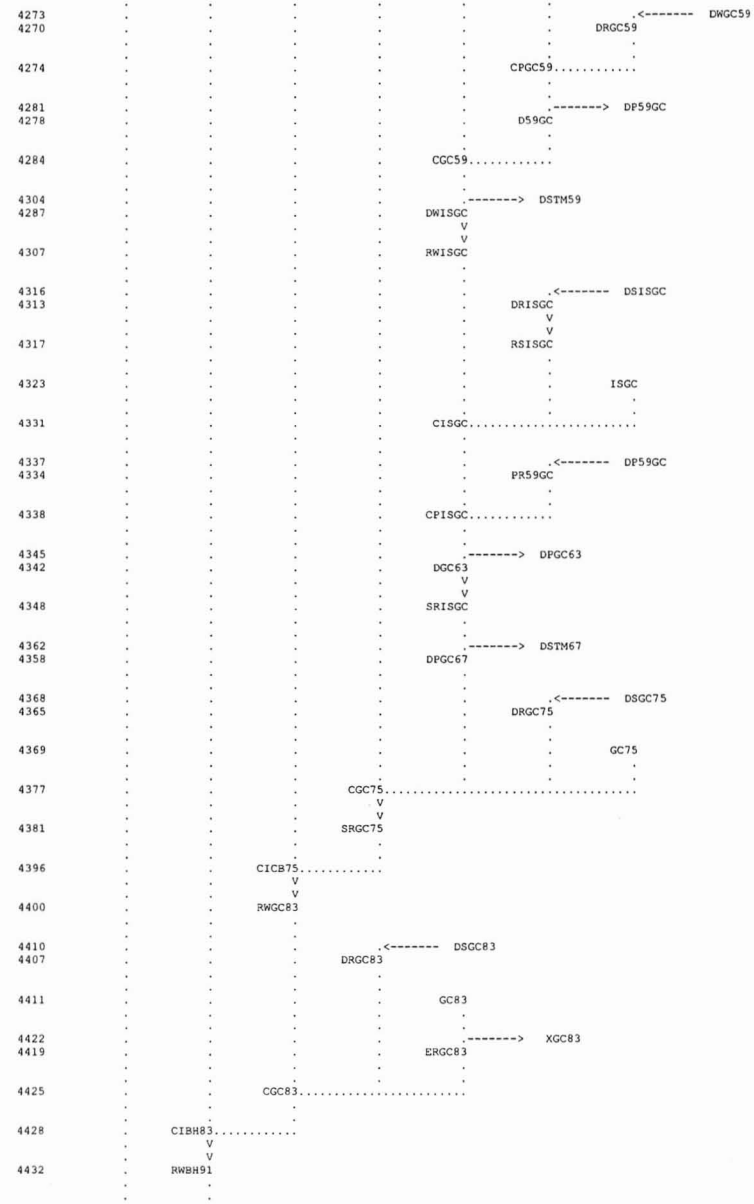
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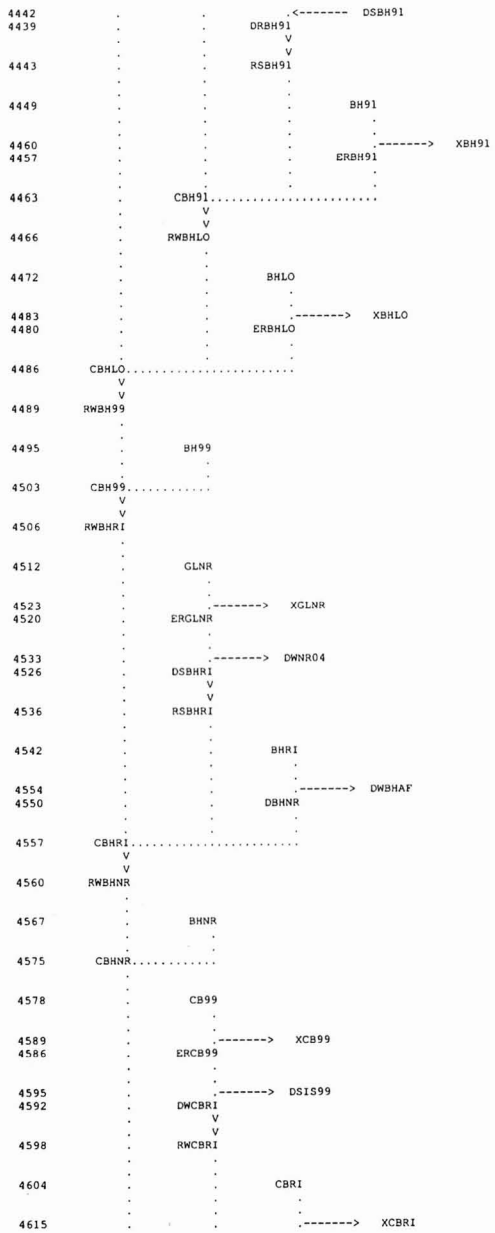
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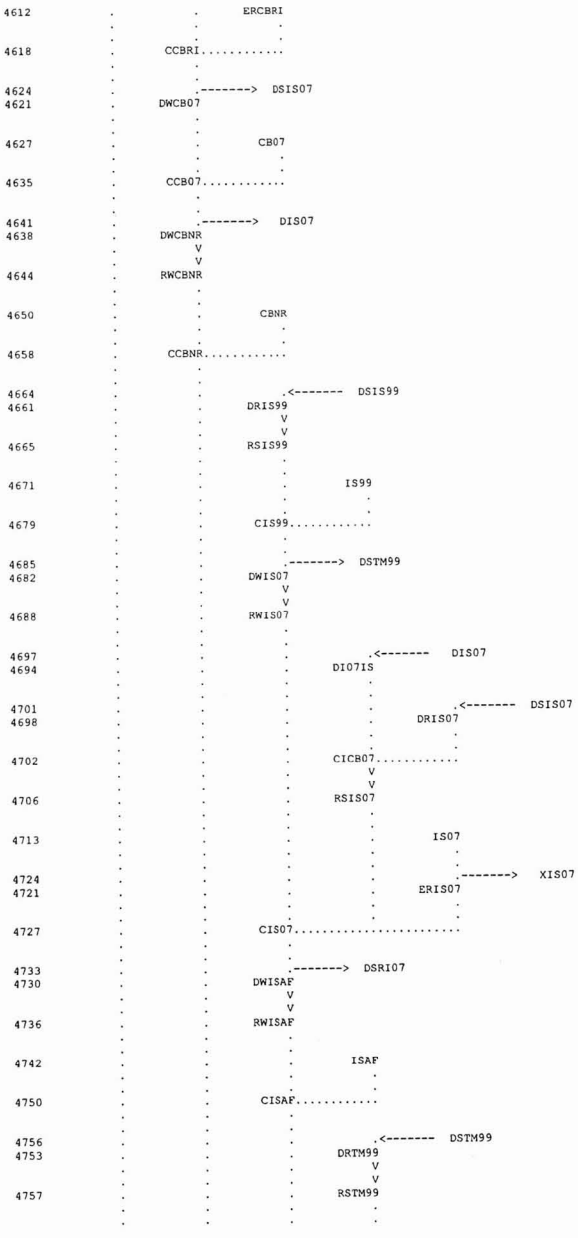
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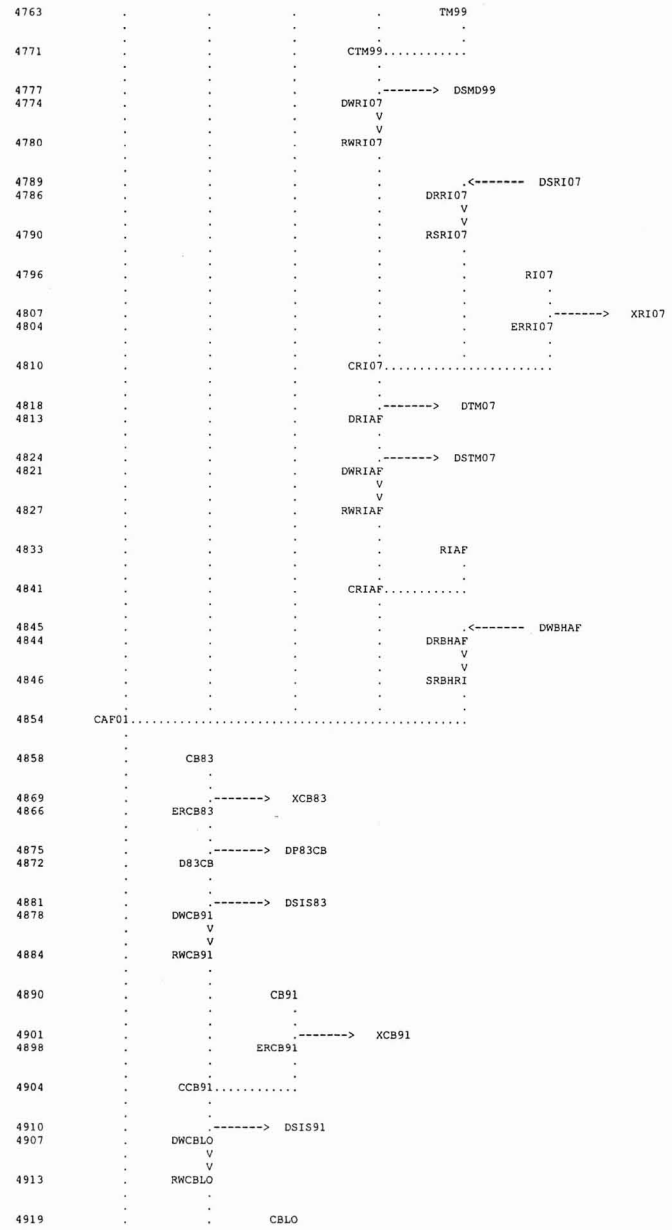
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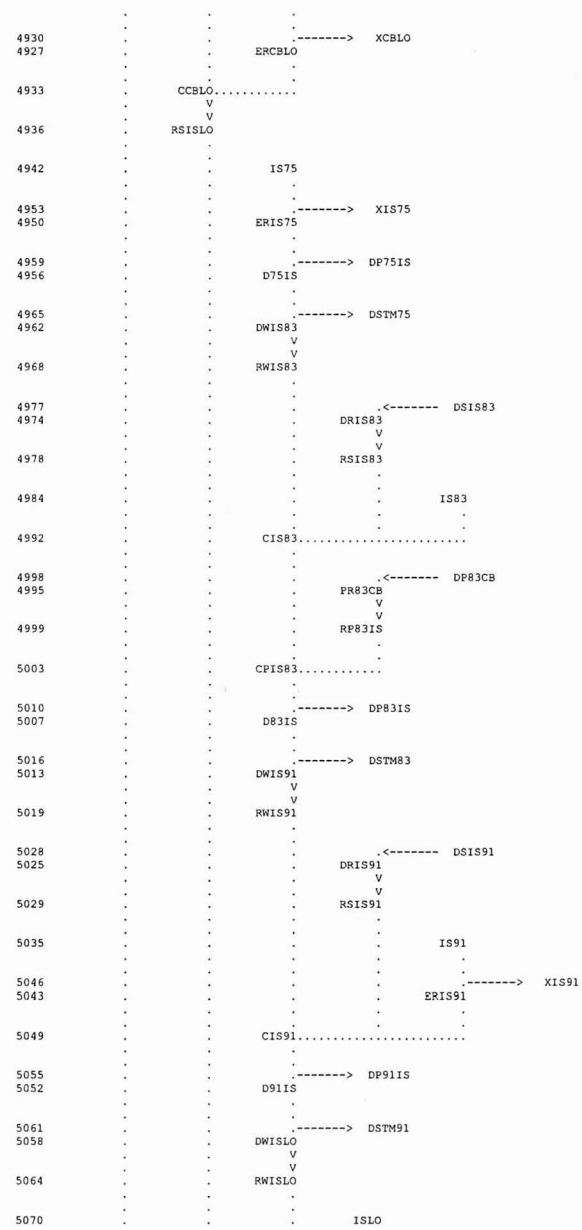
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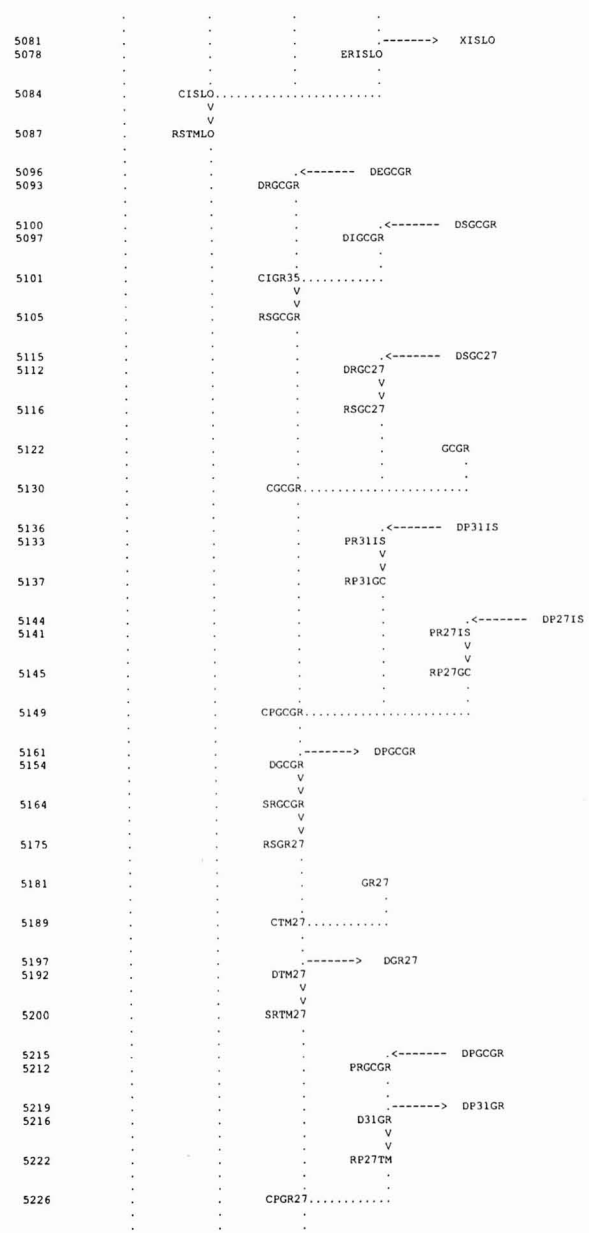
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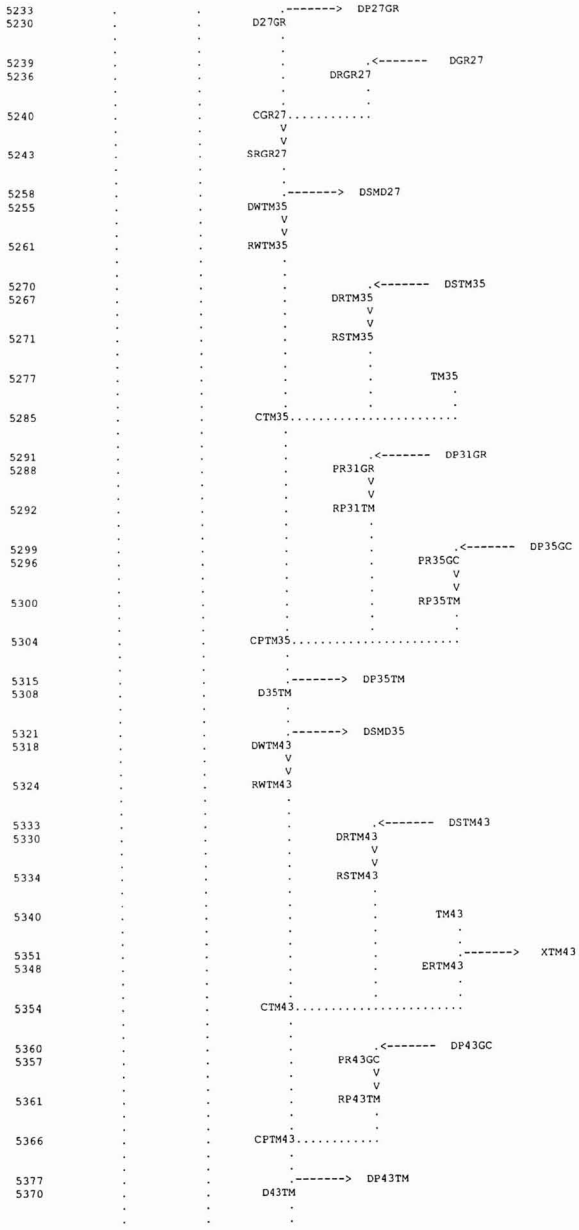
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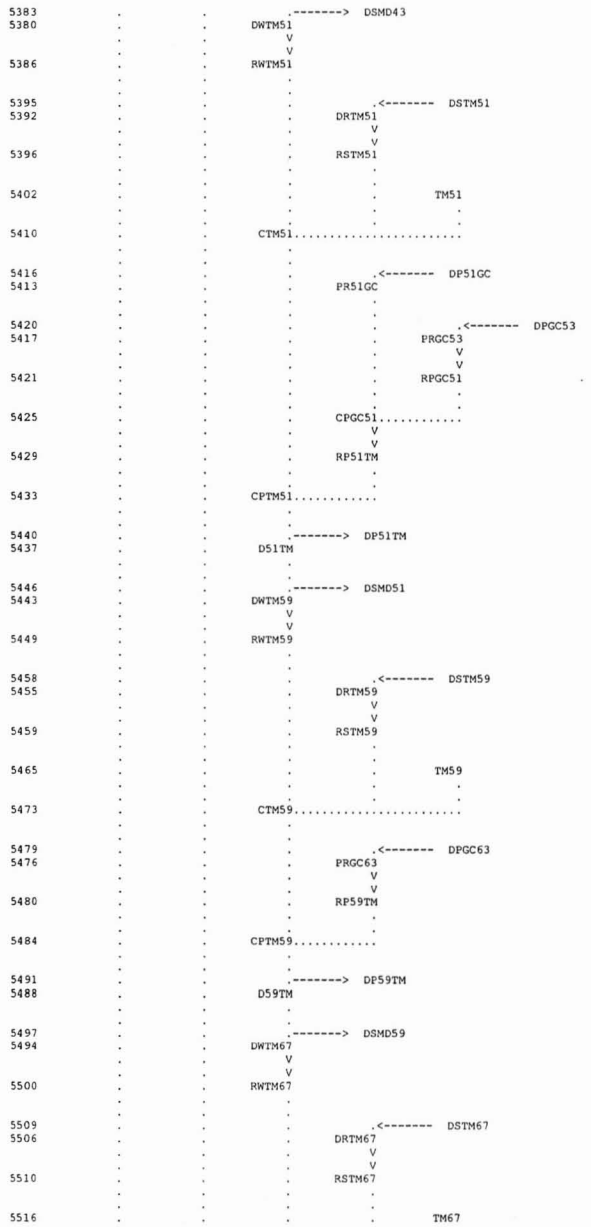
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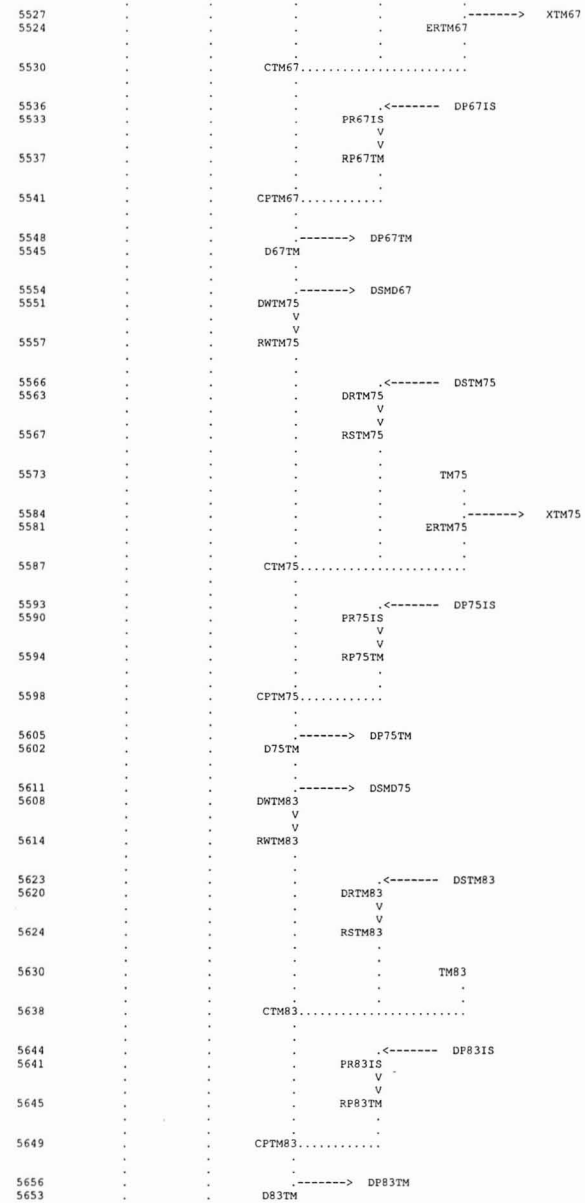
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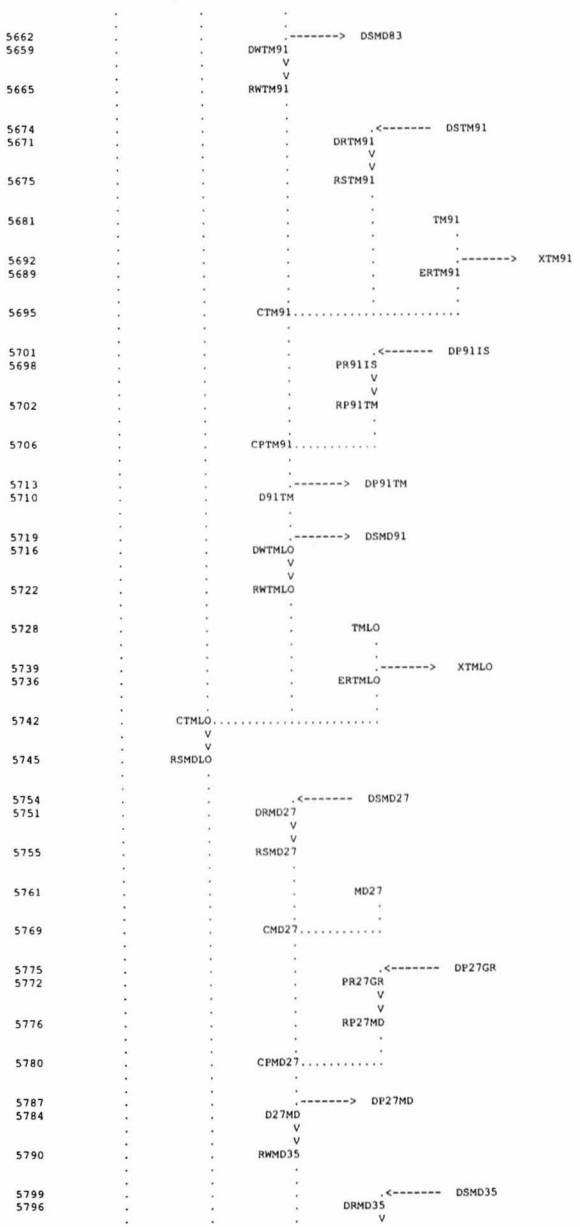
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CTM91
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TMLO
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CTMLO
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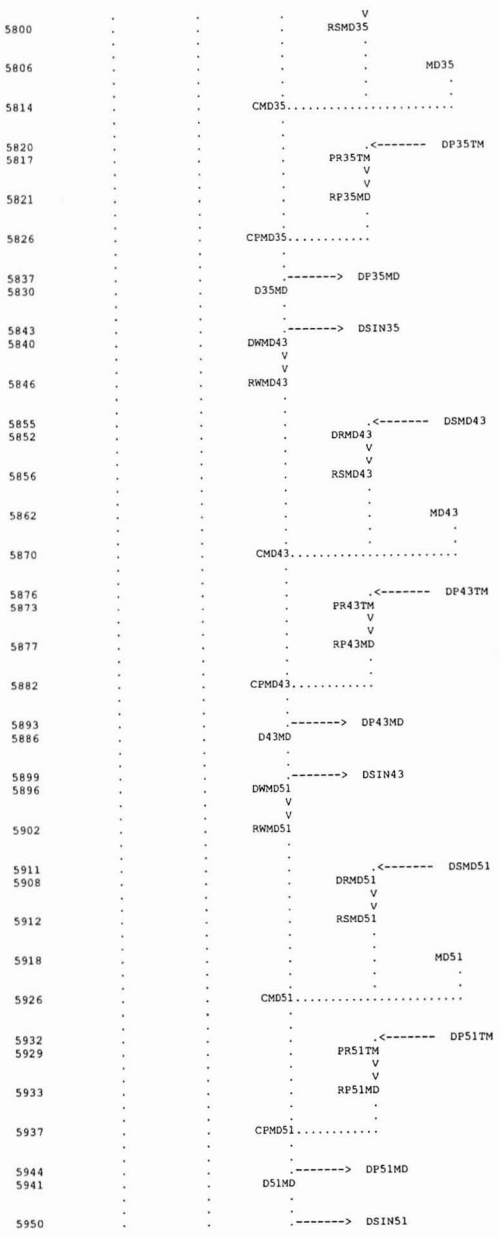
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CMD43
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RP43MD
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RWMD51
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DSMD51
DRMD51
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RSMD51
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MD51
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CMD51
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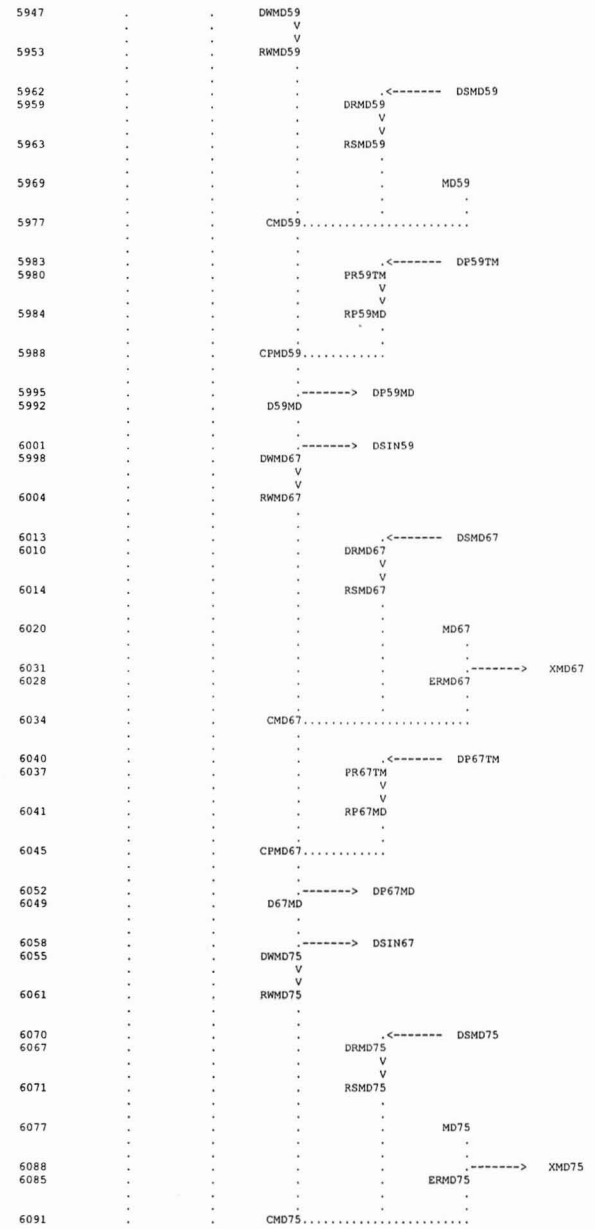
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DRMD67
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CMD67
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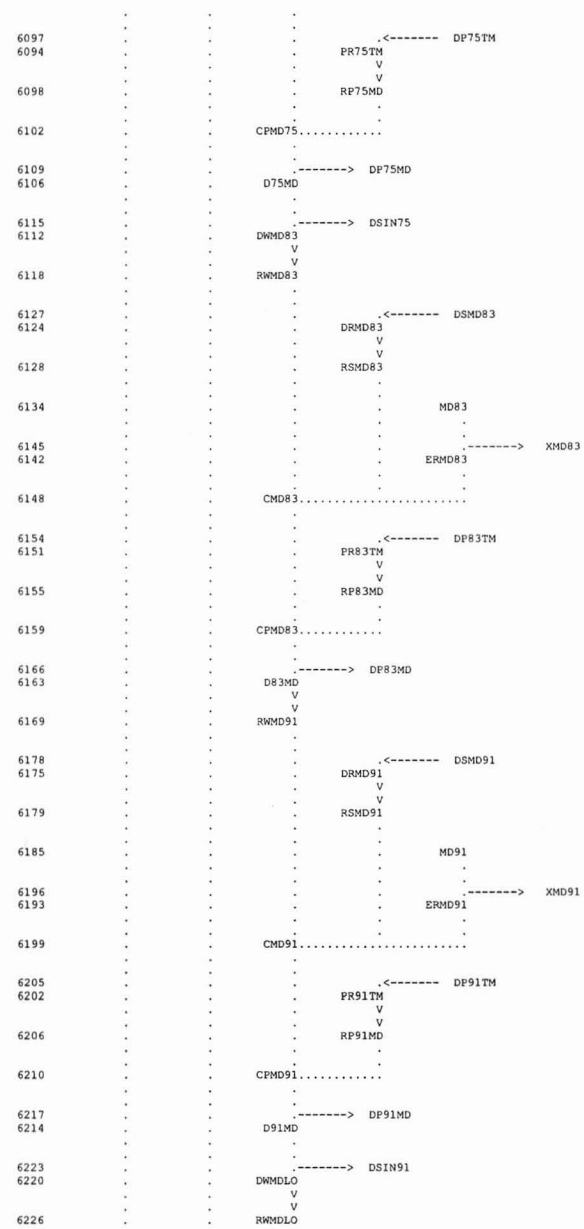
CMD75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DRMD83
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ERMD83
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DRMD91
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RSMD91
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MD91
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XMD91
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ERMD91
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CMD91
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DP91TM
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PR91TM
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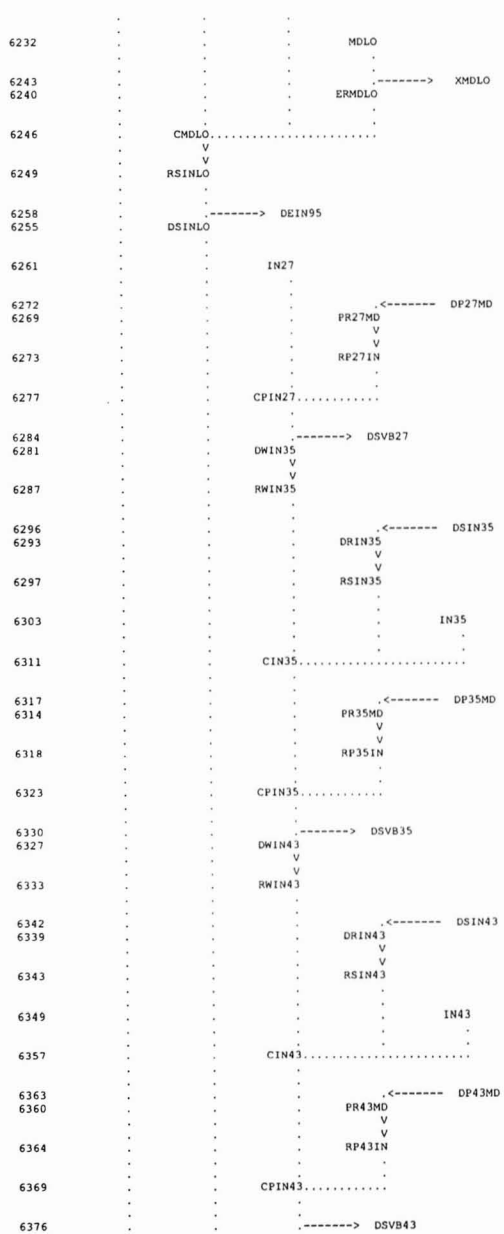
6226
RWMDLO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DEIN95
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DRIN35
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IN35
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CIN35
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PR35MD
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RP35IN
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DRIN43
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RSIN43
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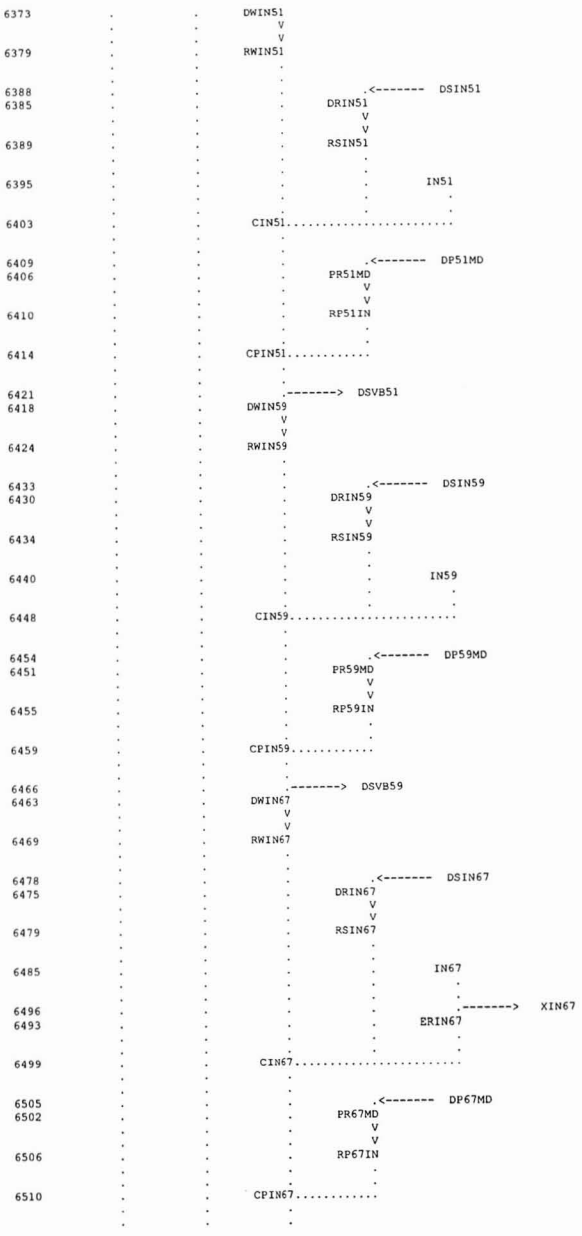
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DRIN67
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RSIN67
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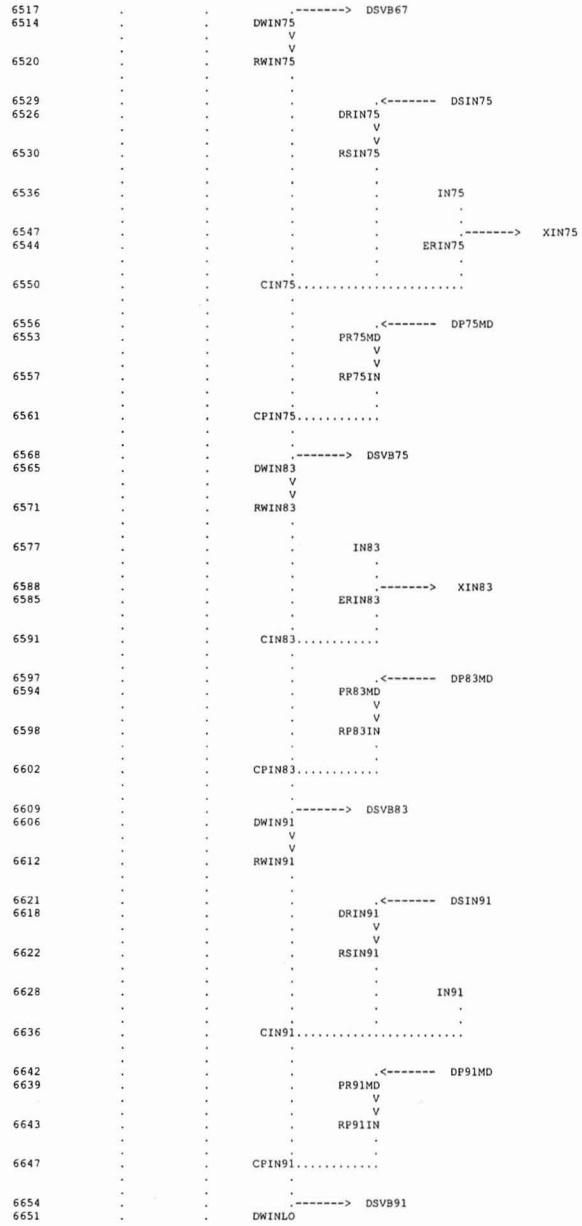
CPIN67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DSVB83
DWIN91
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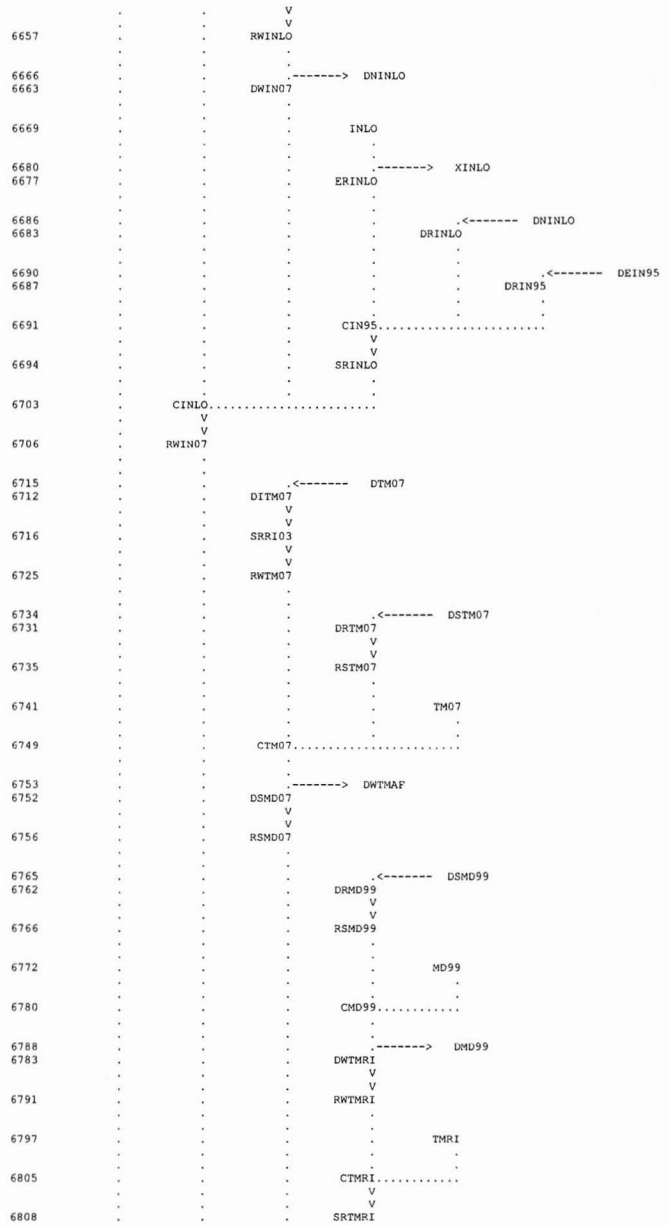
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RWIN07
DTM07
DITM07
SRRI03
RWTM07
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DRTM07
RSTM07
TM07
CTM07
DWTMAF
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CMD99
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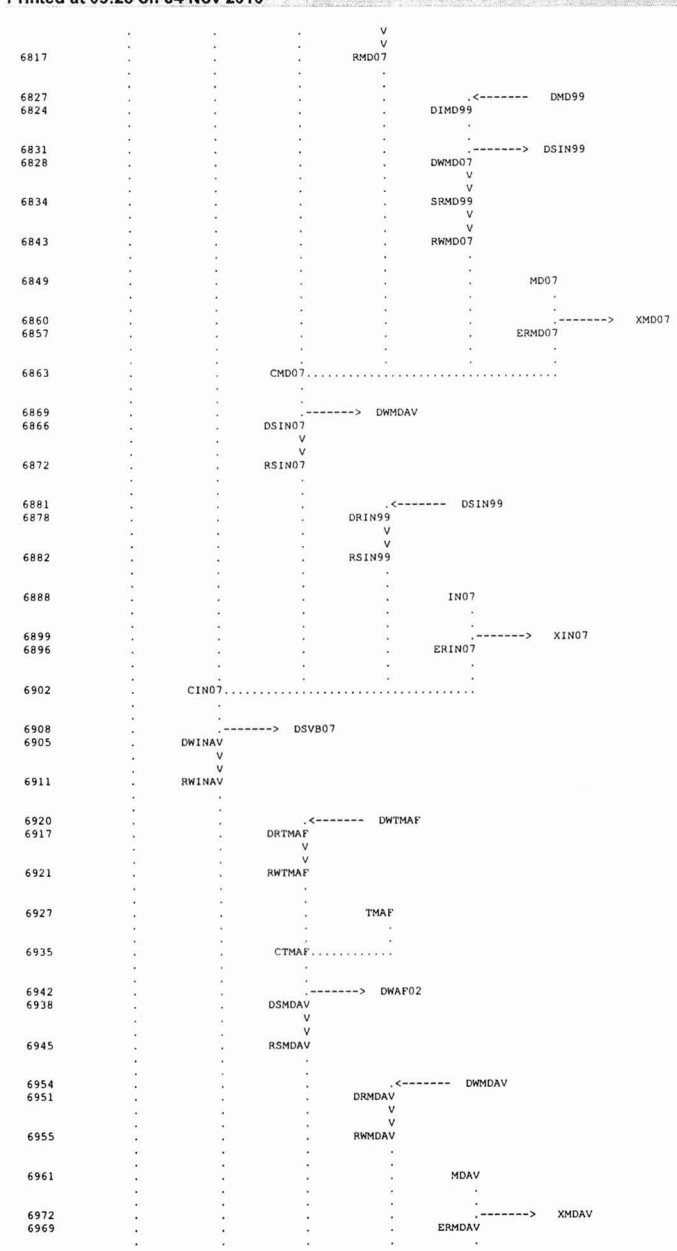
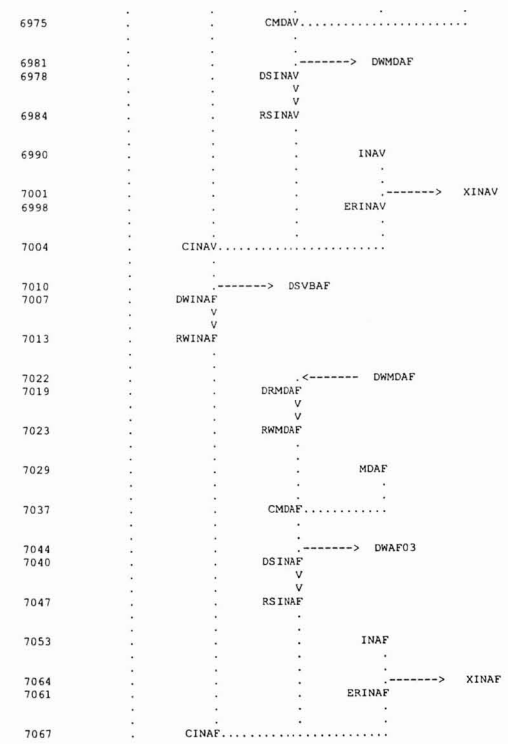
TMRI
CTMRI
SRTMRI





(***) RUNOFF ALSO COMPUTED AT THIS LOCATION

```
1*****************************************
*                                       *
*   FLOOD HYDROGRAPH PACKAGE  (HEC-1)   *
*              JUN  1998                *
*            VERSION 4.1                *
*                                       *
*  RUN DATE   01NOV10  TIME  11:04:40   *
*                                       *
*****************************************
```

```
*****************************************
*                                       *
*    U.S. ARMY CORPS OF ENGINEERS       *
*    HYDROLOGIC ENGINEERING CENTER      *
*          609 SECOND STREET            *
*       DAVIS, CALIFORNIA 95616         *
*           (916) 756-1104              *
*                                       *
*****************************************
```

GLENDALE STORMWATER MANAGEMENT PLAN
Model for Maryvale Watershed
Existing Conditions

Prepared for the City of Glendale
In Association with the Flood Control District of Maricopa County
City Project Number 089017

Prepared by Kimley-Horn and Associates, Inc.
KHA Project Number 091910009
October 2010

MODELING PARAMETERS
- 10 Year 24 Hour Storm Event
- NOAA 14 Rainfall Data
- Clark Unit Hydrograph
- Green and Ampt Rainfall Loss Method

Topo data extracted from Flood Control District database July 24, 2009
Land use obtained from City of Glendale General Plan August 2009, City of Phoenix General Plan August 2009, and MAG General Plan Land Use 2007

```
Storage routing data obtained from As-built records where possible
When As-built data was not available data was obtained from HEC-1 models
    and checked for accuracy. HEC-1 models used include:
    - Maryvale ADMS, February 1997
    - Maryvale model modified by DMJM for improvements along the Bethany
      Home Outfall Channel, file BHGC00C6.dat, November 2004
    - Update to ponding areas along Grand Canal in the City of Glendale
      for a CLOMR by PEC, February 2008
The source of data is identified on each individual storage routing card

***********************************************************************

MODELING NOMENCLATURE
SUBBASIN HYDROGRAPH:
   Example: OL51   - the subbasin northeast of Olive and 51st Avenue

STORM DRAIN DIVERSION:
   Example: DOL51  - flow from subbasin OL51 is diverted to a storm drain

SUBBASIN DIVERSION:
   Example: DWOL59 - flow is diverted west towards Olive and 59th Avenue
   Example: DSNO51 - flow is diverted south towards Northern and 51st Ave

ROUTE HYDROGRAPH:
   Example: RWOL59 - flow is routed west towards Olive and 59th Avenue
   Example: RSNO59 - flow is routed south towards Northern and 59th Ave

COMBINE HYDROGRAPH:
   Example: COL59  - combine flow at Olive and 59th Avenue

NAME ABBREVIATIONS
   Jomax Road           JM
   Happy Valley Road    HV
   Pinnacle Peak Road   PP
   Deer Valley Road     DV
   Loop 101             LO
   Beardsley Road       BY
   Union Hills Drive    UH
   Bell Road            BL
   Greenway Road        GW
   Thunderbird Road     TB
   Cactus Road          CT
   Peoria Avenue        PE
   Olive Avenue         OL
   Northern Avenue      NO
   Glendale Avenue      GL
   Bethany Home Road    BH
   Camelback Road       CB
   Indian School Road   IS
   Thomas Road          TM
   McDowell Road        MD
   Interstate 10        IN
   Van Buren Street     VB
   Avondale Boulevard   AV
   Grand Avenue         GR
   Grand Canal          GC
   Brown Street         BR
   Mountain View Road   MV
   Orangewood Avenue    OW
   Mitchell Drive       ML
   Agua Fria River      AF
   New River            NR
   Skunk Creek          SK
   Roosevelt Irrigation RI

PREFIXES FOR MODELING OPERATIONS
   RW     Routing flow in the west direction
   RS     Routing flow in the south direction
   RP     Routing storm drain pipe flow
   C      Combination point
   CI     Combination point at an intersection
   CP     Combination point for storm drain pipe flow
   SR     Storage for detention/retention basins
   DW     Divert flow to the west
   DE     Divert flow to the east
   DS     Divert flow to the south
   DN     Divert flow to the north
   ER     Divert flow for existing 100-yr 2-hr retention
   X      Existing retention divertion does not return to model
   DR     Divert retrieval from surface flow
   DI     Divert retrieval from intersection flow
   D      Divert surface flow (remains after storm drain divert)
   DP     Divert flow to a storm drain pipe
   PR     Divert retrieval from a storm drain pipe

***********************************************************************

111 IO        OUTPUT CONTROL VARIABLES
                    IPRNT          5  PRINT CONTROL
                    IPLOT          0  PLOT CONTROL
                    QSCAL         0.  HYDROGRAPH PLOT SCALE
```



```
  IT          HYDROGRAPH TIME DATA
                    NMIN          5  MINUTES IN COMPUTATION INTERVAL
                   IDATE      1   0  STARTING DATE
                   ITIME       0000  STARTING TIME
                      NQ       1000  NUMBER OF HYDROGRAPH ORDINATES
                  NDDATE      4   0  ENDING DATE
                  NDTIME       1115  ENDING TIME
                   ICENT         19  CENTURY MARK

               COMPUTATION INTERVAL    .08 HOURS
                    TOTAL TIME BASE  83.25 HOURS

        ENGLISH UNITS
             DRAINAGE AREA          SQUARE MILES
             PRECIPITATION DEPTH    INCHES
             LENGTH, ELEVATION      FEET
             FLOW                   CUBIC FEET PER SECOND
             STORAGE VOLUME         ACRE-FEET
             SURFACE AREA           ACRES
             TEMPERATURE            DEGREES FAHRENHEIT

112 JD        INDEX STORM NO. 1
                    STRM       2.22  PRECIPITATION DEPTH
                    TRDA        .00  TRANSPOSITION DRAINAGE AREA

113 PI         PRECIPITATION PATTERN
                  .00    .00    .00    .00    .00    .00    .00    .00    .00    .00
                  .00    .00    .00    .00    .00    .00    .00    .00    .00    .00
                  .00    .00    .00    .00    .00    .00    .00    .00    .00    .00
                  .00    .00    .00    .00    .00    .00    .00    .00    .00    .00
                  .00    .00    .00    .00    .00    .00    .00    .00    .00    .00
                  .00    .00    .00    .00    .00    .00    .00    .00    .00    .00
                  .00    .00    .00    .00    .00    .00    .00    .00    .00    .00
                  .00    .00    .00    .00    .00    .00    .00    .00    .00    .00
                  .00    .00    .00    .00    .00    .00    .00    .00    .00    .00
                  .00    .00    .00    .00    .00    .00    .00    .00    .00    .00
                  .00    .00    .00    .00    .00    .00    .00    .00    .00    .00
                  .00    .00    .00    .00    .00    .00    .00    .00    .00    .00
                  .00    .00    .00    .00    .00    .00    .00    .01    .00    .01
                  .01    .01    .01    .01    .01    .01    .01    .01    .03    .03
                  .03    .09    .09    .09    .01    .01    .01    .01    .01    .01
                  .01    .01    .01    .01    .01    .01    .00    .00    .00    .00
                  .00    .00    .00    .00    .00    .00    .00    .00    .00    .00
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                  .00    .00    .00    .00    .00    .00    .00    .00

123 JD        INDEX STORM NO. 2
                    STRM       2.11  PRECIPITATION DEPTH
                    TRDA      10.00  TRANSPOSITION DRAINAGE AREA

  0 PI         PRECIPITATION PATTERN
                  .00    .00    .00    .00    .00    .00    .00    .00    .00    .00
                  .00    .00    .00    .00    .00    .00    .00    .00    .00    .00
                  .00    .00    .00    .00    .00    .00    .00    .00    .00    .00
                  .00    .00    .00    .00    .00    .00    .00    .00    .00    .00
                  .00    .00    .00    .00    .00    .00    .00    .00    .00    .00
                  .00    .00    .00    .00    .00    .00    .00    .00    .00    .00
                  .00    .00    .00    .00    .00    .00    .00    .00    .00    .00
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                  .00    .00    .00    .00    .00    .00    .00    .00    .00    .00
                  .00    .00    .00    .00    .00    .00    .00    .00    .00    .00
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                  .00    .00    .00    .00    .00    .00    .00    .00    .00    .00
                  .00    .00    .00    .00    .00    .00    .00    .01    .00    .01
                  .01    .01    .01    .01    .01    .01    .01    .01    .03    .03
                  .03    .09    .09    .09    .01    .01    .01    .01    .01    .01
                  .01    .01    .01    .01    .01    .01    .00    .00    .00    .00
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                  .00    .00    .00    .00    .00    .00    .00    .00    .00    .00
                  .00    .00    .00    .00    .00    .00    .00    .00

124 JD        INDEX STORM NO. 3
                    STRM       2.00  PRECIPITATION DEPTH
```

```
              TRDA      30.00  TRANSPOSITION DRAINAGE AREA

 0 PI         PRECIPITATION PATTERN
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               .00    .00    .00    .00    .00    .00    .00    .00    .00    .00
               .00    .00    .00    .00    .00    .00    .00    .00    .00    .00
               .00    .00    .00    .00    .00    .00    .00    .00    .00    .00
               .00    .00    .00    .00    .00    .00    .00    .00    .00    .00
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               .00    .00    .00    .00    .00    .00    .00    .00    .00    .00
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               .00    .00    .00    .00    .00    .00    .00    .00    .00    .00
               .00    .00    .00    .00    .00    .00    .00    .01    .00    .01
               .01    .01    .01    .01    .01    .01    .01    .01    .03    .03
               .03    .09    .09    .09    .01    .01    .01    .01    .01    .01
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125 JD        INDEX STORM NO. 4
                STRM     1.93  PRECIPITATION DEPTH
                TRDA    60.00  TRANSPOSITION DRAINAGE AREA

 0 PI         PRECIPITATION PATTERN
               .00    .00    .00    .00    .00    .00    .00    .00    .00    .00
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               .03    .09    .09    .09    .01    .01    .01    .01    .01    .01
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126 JD        INDEX STORM NO. 5
                STRM     1.89  PRECIPITATION DEPTH
                TRDA    90.00  TRANSPOSITION DRAINAGE AREA

 0 PI         PRECIPITATION PATTERN
               .00    .00    .00    .00    .00    .00    .00    .00    .00    .00
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               .01    .01    .01    .01    .01    .01    .01    .01    .03    .03
               .03    .09    .09    .09    .01    .01    .01    .01    .01    .01
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127 JD        INDEX STORM NO. 6
                STRM     1.87  PRECIPITATION DEPTH
                TRDA   120.00  TRANSPOSITION DRAINAGE AREA

 0 PI         PRECIPITATION PATTERN
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               .03    .09    .09    .09    .01    .01    .01    .01    .01    .01
               .01    .01    .01    .01    .01    .01    .00    .00    .00    .00
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    *** FDKRUT WARNING TIME STEP CALCULATION FAILED TO CONVERGE. STABILITY PROBLEMS MAY RESULT

 *** Multiple FDKRUT Warnings deleted from model for brevity and in consideration of the environment when printing ***

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RUNOFF SUMMARY
FLOW IN CUBIC FEET PER SECOND
TIME IN HOURS, AREA IN SQUARE MILES

	OPERATION	STATION	PEAK FLOW	TIME OF PEAK	AVERAGE FLOW FOR MAXIMUM PERIOD			BASIN AREA	MAXIMUM STAGE	TIME OF MAX STAGE
+					6-HOUR	24-HOUR	72-HOUR			
+	HYDROGRAPH AT	GW83	52.	12.67	20.	6.	2.	.29		
+	DIVERSION TO	DPGW83	45.	12.50	19.	6.	2.	.29		
+	HYDROGRAPH AT	DGW83	7.	12.67	1.	0.	0.	.29		
+	DIVERSION TO	DWSK01	4.	12.67	0.	0.	0.	.29		
+	HYDROGRAPH AT	DSTB83	3.	12.67	0.	0.	0.	.29		
+	ROUTED TO	RSTB83	2.	13.75	0.	0.	0.	.29		
+	HYDROGRAPH AT	TB67	138.	12.33	25.	7.	2.	.26		
+	DIVERSION TO	DSCT67	55.	12.33	10.	3.	1.	.26		
+	HYDROGRAPH AT	DWTB75	83.	12.33	15.	4.	1.	.26		
+	ROUTED TO	RWTB75	63.	13.00	15.	4.	1.	.26		
+	HYDROGRAPH AT	TB75	376.	12.58	103.	31.	10.	1.03		

+	DIVERSION TO	XTB75	43.	11.83	13.	4.	1.	1.03
+	HYDROGRAPH AT	ERTB75	376.	12.58	99.	27.	9.	1.03
+	2 COMBINED AT	CTB75	390.	12.58	114.	31.	10.	1.18
+	DIVERSION TO	DPTB75	161.	12.17	75.	21.	7.	1.18
+	HYDROGRAPH AT	DTB75	229.	12.58	39.	10.	3.	1.18
+	DIVERSION TO	DSCT75	103.	12.58	17.	4.	1.	1.18
+	HYDROGRAPH AT	DWTB83	126.	12.58	21.	5.	2.	1.18
+	ROUTED TO	RWTB83	102.	13.33	21.	5.	2.	1.18
+	HYDROGRAPH AT	TB83	250.	12.67	89.	27.	9.	.99
+	DIVERSION TO	XTB83	250.	12.67	34.	10.	3.	.99
+	HYDROGRAPH AT	ERTB83	240.	12.92	64.	18.	6.	.99
+	3 COMBINED AT	CTB83	308.	13.25	85.	23.	8.	1.77
+	HYDROGRAPH AT	PRTB75	161.	12.17	75.	21.	7.	1.18
+	ROUTED TO	RPTB83	161.	12.33	75.	21.	7.	1.18
+	2 COMBINED AT	CPTB83	469.	13.25	160.	44.	15.	1.77
+	DIVERSION TO	DPTB83	247.	12.83	123.	35.	12.	1.77
+	HYDROGRAPH AT	DTB83	222.	13.25	37.	9.	3.	1.77
+	DIVERSION TO	DSCT83	157.	13.25	26.	7.	2.	1.77
+	HYDROGRAPH AT	DWTBLO	64.	13.25	11.	3.	1.	1.77
+	ROUTED TO	RWTBLO	59.	13.42	11.	3.	1.	1.77
+	HYDROGRAPH AT	TBLO	37.	12.50	14.	5.	2.	.10
+	DIVERSION TO	XTBLO	37.	12.50	14.	5.	2.	.10
+	HYDROGRAPH AT	ERTBLO	0.	.00	0.	0.	0.	.10
+	2 COMBINED AT	CTBLO	60.	13.42	11.	3.	1.	.62
+	HYDROGRAPH AT	PRTB83	247.	12.83	123.	35.	12.	1.77
+	ROUTED TO	RPTBLO	247.	12.92	123.	35.	12.	1.77
+	2 COMBINED AT	CPTBLO	307.	13.42	134.	38.	13.	.62
+	ROUTED TO	RSCTLO	305.	13.58	133.	38.	13.	.62
+	HYDROGRAPH AT	CT59	123.	12.42	31.	9.	3.	.30
+	DIVERSION TO	XCT59	123.	12.42	31.	9.	3.	.30
+	HYDROGRAPH AT	ERCT59	0.	.00	0.	0.	0.	.30

+	DIVERSION TO	DP59CT	0.	.00	0.	0.	0.	.30
+	HYDROGRAPH AT	D59CT	0.	.00	0.	0.	0.	.30
+	DIVERSION TO	DSPE59	0.	.00	0.	0.	0.	.30
+	HYDROGRAPH AT	DWCT67	0.	.00	0.	0.	0.	.30
+	ROUTED TO	RWCT67	0.	.00	0.	0.	0.	.30
+	HYDROGRAPH AT	DRCT67	55.	12.33	10.	3.	1.	.26
+	ROUTED TO	RSCT67	42.	13.00	10.	3.	1.	.26
+	HYDROGRAPH AT	CT67	314.	12.50	83.	25.	8.	.91
+	DIVERSION TO	XCT67	314.	12.50	38.	11.	4.	.91
+	HYDROGRAPH AT	ERCT67	275.	12.83	52.	14.	5.	.91
+	3 COMBINED AT	CCT67	307.	12.83	62.	17.	6.	1.11
+	DIVERSION TO	DPCT67	268.	12.83	60.	17.	6.	1.11
+	HYDROGRAPH AT	DCT67	39.	12.83	1.	0.	0.	1.11
+	DIVERSION TO	DSPE67	17.	12.83	1.	0.	0.	1.11
+	HYDROGRAPH AT	DWCT75	22.	12.83	1.	0.	0.	1.11
+	ROUTED TO	RWCT75	5.	13.67	1.	0.	0.	1.11
+	HYDROGRAPH AT	DRCT75	103.	12.58	17.	4.	1.	1.18
+	ROUTED TO	RSCT75	85.	13.25	17.	4.	1.	1.18
+	HYDROGRAPH AT	CT75	286.	12.67	98.	29.	10.	1.00
+	DIVERSION TO	XCT75	286.	12.67	44.	12.	4.	1.00
+	HYDROGRAPH AT	ERCT75	260.	13.08	63.	17.	6.	1.00
+	3 COMBINED AT	CCT75	327.	13.17	80.	21.	7.	2.17
+	HYDROGRAPH AT	PRCT67	268.	12.83	60.	17.	6.	1.11
+	ROUTED TO	RPCT75	268.	13.00	60.	17.	6.	1.11
+	2 COMBINED AT	CPCT75	592.	13.08	140.	38.	13.	2.17
+	DIVERSION TO	DPCT75	592.	13.08	140.	38.	13.	2.17
+	HYDROGRAPH AT	DCT75	0.	.00	0.	0.	0.	2.17
+	DIVERSION TO	DSPE75	0.	.00	0.	0.	0.	2.17
+	HYDROGRAPH AT	DWCT83	0.	.00	0.	0.	0.	2.17
+	ROUTED TO	RWCT83	0.	.00	0.	0.	0.	2.17
+	HYDROGRAPH AT	DRCT83	157.	13.25	26.	7.	2.	1.77

+	ROUTED TO	RSCT83	128.	13.75	26.	7.	2.	1.77
+	HYDROGRAPH AT	CT83	297.	12.75	104.	31.	10.	1.01
+	DIVERSION TO	XCT83	297.	12.75	53.	15.	5.	1.01
+	HYDROGRAPH AT	ERCT83	260.	13.17	61.	17.	6.	1.01
+	3 COMBINED AT	CCT83	314.	13.58	86.	23.	8.	3.34
+	HYDROGRAPH AT	PRCT75	592.	13.08	140.	38.	13.	2.17
+	ROUTED TO	RPCT83	588.	13.17	140.	38.	13.	2.17
+	2 COMBINED AT	CPCT83	862.	13.17	224.	61.	20.	3.34
+	DIVERSION TO	DPCT83	663.	13.17	209.	57.	19.	3.34
+	HYDROGRAPH AT	DCT83	199.	13.17	16.	4.	1.	3.34
+	DIVERSION TO	DSPE83	82.	13.17	7.	2.	1.	3.34
+	HYDROGRAPH AT	DWCTLO	118.	13.17	9.	2.	1.	3.34
+	ROUTED TO	RWCTLO	46.	14.00	9.	2.	1.	3.34
+	HYDROGRAPH AT	CTLO	247.	12.75	98.	32.	11.	.87
+	DIVERSION TO	XCTLO	247.	12.75	83.	23.	8.	.87
+	HYDROGRAPH AT	ERCTLO	85.	14.67	28.	9.	3.	.87
+	3 COMBINED AT	CCTLO	337.	13.83	165.	48.	16.	3.46
+	HYDROGRAPH AT	PRCT83	663.	13.17	209.	57.	19.	3.34
+	ROUTED TO	RPCTLO	663.	13.83	208.	57.	19.	3.34
+	2 COMBINED AT	CPCTLO	1000.	13.83	371.	105.	35.	3.46
+	DIVERSION TO	DWNR01	1000.	13.83	371.	105.	35.	3.46
+	HYDROGRAPH AT	DSCTLO	0.	.00	0.	0.	0.	3.46
+	DIVERSION TO	DSGR91	0.	.00	0.	0.	0.	3.46
+	HYDROGRAPH AT	DSPELO	0.	.00	0.	0.	0.	3.46
+	HYDROGRAPH AT	PE51	185.	12.42	47.	14.	5.	.42
+	DIVERSION TO	DSOL51	74.	12.42	19.	6.	2.	.42
+	HYDROGRAPH AT	DWPE59	111.	12.42	28.	9.	3.	.42
+	ROUTED TO	RWPE59	91.	13.33	28.	9.	3.	.42
+	HYDROGRAPH AT	DRPE59	0.	.00	0.	0.	0.	.30
+	ROUTED TO	RSPE59	0.	.00	0.	0.	0.	.30
+	HYDROGRAPH AT	PE59	321.	12.67	105.	32.	11.	.99

+	DIVERSION TO	XPE59	71.	12.00	13.	4.	1.	.99
+	HYDROGRAPH AT	ERPE59	321.	12.67	102.	27.	9.	.99
+	3 COMBINED AT	CPE59	370.	12.92	129.	36.	12.	1.44
+	HYDROGRAPH AT	PR59CT	0.	.00	0.	0.	0.	.30
+	2 COMBINED AT	CPPE59	370.	12.92	129.	36.	12.	1.44
+	DIVERSION TO	DP59PE	235.	12.33	107.	30.	10.	1.44
+	HYDROGRAPH AT	D59PE	135.	12.92	22.	5.	2.	1.44
+	DIVERSION TO	DSOL59	77.	12.92	13.	3.	1.	1.44
+	HYDROGRAPH AT	DWPE67	58.	12.92	9.	2.	1.	1.44
+	ROUTED TO	RWPE67	40.	13.83	9.	2.	1.	1.44
+	HYDROGRAPH AT	DRPE67	17.	12.83	1.	0.	0.	1.11
+	ROUTED TO	RSPE67	4.	13.83	1.	0.	0.	1.11
+	HYDROGRAPH AT	PE67	289.	12.67	100.	31.	10.	.96
+	DIVERSION TO	XPE67	289.	12.67	98.	28.	9.	.96
+	HYDROGRAPH AT	ERPE67	16.	17.25	8.	3.	1.	.96
+	3 COMBINED AT	CPE67	43.	13.83	14.	5.	2.	2.06
+	ROUTED TO	SRPE67	1.	18.67	1.	0.	0.	2.06
+	DIVERSION TO	DP67PE	1.	18.67	1.	0.	0.	2.06
+	HYDROGRAPH AT	D67PE	0.	.00	0.	0.	0.	2.06
+	DIVERSION TO	DSOL67	0.	.00	0.	0.	0.	2.06
+	HYDROGRAPH AT	DWPE75	0.	.00	0.	0.	0.	2.06
+	ROUTED TO	RWPE75	0.	.00	0.	0.	0.	2.06
+	HYDROGRAPH AT	DRPE75	0.	.00	0.	0.	0.	2.17
+	ROUTED TO	RSPE75	0.	.00	0.	0.	0.	2.17
+	HYDROGRAPH AT	PE75	296.	12.67	105.	32.	11.	1.01
+	DIVERSION TO	XPE75	84.	12.08	14.	5.	2.	1.01
+	HYDROGRAPH AT	ERPE75	296.	12.67	101.	27.	9.	1.01
+	3 COMBINED AT	CPE75	294.	12.67	100.	27.	9.	3.36
+	DIVERSION TO	DP75PE	179.	12.33	83.	23.	8.	3.36
+	HYDROGRAPH AT	D75PE	115.	12.67	17.	4.	1.	3.36
+	DIVERSION TO	DSOL75	60.	12.67	9.	2.	1.	3.36

+	HYDROGRAPH AT	DWPE83	55.	12.67	8.	2.	1.	3.36
+	ROUTED TO	RWPE83	33.	13.75	8.	2.	1.	3.36
+	HYDROGRAPH AT	DRPE83	82.	13.17	7.	2.	1.	3.34
+	ROUTED TO	RSPE83	31.	14.17	7.	2.	1.	3.34
+	HYDROGRAPH AT	PE83	322.	12.75	117.	35.	12.	1.00
+	DIVERSION TO	XPE83	322.	12.75	64.	17.	6.	1.00
+	HYDROGRAPH AT	ERPE83	267.	13.33	65.	18.	6.	1.00
+	3 COMBINED AT	CPE83	290.	13.33	77.	21.	7.	3.97
+	DIVERSION TO	DPPE83	112.	13.25	52.	15.	5.	3.97
+	HYDROGRAPH AT	DPE83	178.	13.33	25.	6.	2.	3.97
+	DIVERSION TO	DSGR83	85.	13.33	12.	3.	1.	3.97
+	HYDROGRAPH AT	DWGR91	93.	13.33	13.	3.	1.	3.97
+	DIVERSION TO	DWPE91	33.	13.33	5.	1.	0.	3.97
+	HYDROGRAPH AT	DGR91	59.	13.33	8.	2.	1.	3.97
+	HYDROGRAPH AT	DRGR91	0.	.00	0.	0.	0.	3.46
+	ROUTED TO	RSGR91	0.	.00	0.	0.	0.	3.46
+	HYDROGRAPH AT	GR91	261.	12.42	62.	19.	6.	.51
+	DIVERSION TO	XGR91	261.	12.42	48.	13.	4.	.51
+	HYDROGRAPH AT	ERGR91	119.	13.25	20.	6.	2.	.51
+	3 COMBINED AT	CGR91	165.	13.33	28.	8.	3.	3.58
+	DIVERSION TO	DSPE91	110.	13.33	19.	5.	2.	3.58
+	HYDROGRAPH AT	DWGRLO	54.	13.33	9.	3.	1.	3.58
+	2 COMBINED AT	CGRLO	54.	13.33	9.	3.	1.	2.91
+	ROUTED TO	RSPELO	42.	13.58	9.	3.	1.	2.91
+	DIVERSION TO	DWNR02	42.	13.58	9.	3.	1.	2.91
+	HYDROGRAPH AT	DSOLLO	0.	.00	0.	0.	0.	2.91
+	HYDROGRAPH AT	DRPE91	110.	13.33	19.	5.	2.	3.58
+	ROUTED TO	SRGR91	44.	14.17	8.	3.	1.	3.58
+	HYDROGRAPH AT	DIPE91	33.	13.33	5.	1.	0.	3.97
+	2 COMBINED AT	CIPEGR	61.	14.17	13.	4.	1.	3.14
+	ROUTED TO	RWPE91	36.	14.83	12.	4.	1.	3.14

+	HYDROGRAPH AT	PE91	264.	12.42	62.	19.	6.	.51
+	DIVERSION TO	XPE91	232.	12.25	23.	7.	2.	.51
+	HYDROGRAPH AT	ERPE91	264.	12.42	46.	13.	4.	.51
+	2 COMBINED AT	CPE91	261.	12.42	56.	16.	5.	3.65
+	HYDROGRAPH AT	PRPE83	112.	13.25	52.	15.	5.	3.97
+	ROUTED TO	RPPE91	112.	13.33	52.	15.	5.	3.97
+	2 COMBINED AT	CPPE91	261.	12.42	108.	31.	10.	3.65
+	DIVERSION TO	DPPE91	147.	12.42	93.	27.	9.	3.65
+	HYDROGRAPH AT	DPE91	114.	12.42	15.	4.	1.	3.65
+	DIVERSION TO	DSOL91	63.	12.42	8.	2.	1.	3.65
+	HYDROGRAPH AT	DWPELO	51.	12.42	7.	2.	1.	3.65
+	ROUTED TO	RWPELO	29.	12.75	7.	2.	1.	3.65
+	HYDROGRAPH AT	PELO	80.	12.58	27.	9.	3.	.27
+	DIVERSION TO	XPELO	80.	12.58	15.	4.	1.	.27
+	HYDROGRAPH AT	ERPELO	62.	13.17	15.	4.	1.	.27
+	3 COMBINED AT	CPELO	73.	13.08	21.	6.	2.	4.81
+	HYDROGRAPH AT	PRPE91	147.	12.42	93.	27.	9.	3.65
+	ROUTED TO	RPPELO	147.	12.50	93.	27.	9.	3.65
+	2 COMBINED AT	CPPELO	218.	13.08	114.	33.	11.	4.81
+	DIVERSION TO	DPPELO	218.	13.08	114.	33.	11.	4.81
+	HYDROGRAPH AT	DPELO	0.	.00	0.	0.	0.	4.81
+	ROUTED TO	RSOLLO	0.	.00	0.	0.	0.	4.81
+	HYDROGRAPH AT	OL35	81.	12.42	25.	8.	3.	.21
+	DIVERSION TO	DP35OL	61.	12.17	23.	8.	3.	.21
+	HYDROGRAPH AT	D35OL	20.	12.42	2.	0.	0.	.21
+	DIVERSION TO	DSNO35	14.	12.42	1.	0.	0.	.21
+	HYDROGRAPH AT	DWOL43	6.	12.42	0.	0.	0.	.21
+	ROUTED TO	RWOL43	3.	13.50	0.	0.	0.	.21
+	HYDROGRAPH AT	OL43	163.	12.67	54.	17.	6.	.63
+	2 COMBINED AT	COL43	163.	12.67	55.	17.	6.	.70
+	DIVERSION TO	DP43OL	85.	12.25	43.	14.	5.	.70

+	HYDROGRAPH AT	D43OL	78.	12.67	12.	3.	1.	.70
+	DIVERSION TO	DSNO43	46.	12.67	7.	2.	1.	.70
+	HYDROGRAPH AT	DWOL51	32.	12.67	5.	1.	0.	.70
+	ROUTED TO	RWOL51	25.	13.67	5.	1.	0.	.70
+	HYDROGRAPH AT	DROL51	74.	12.42	19.	6.	2.	.42
+	ROUTED TO	RSOL51	59.	13.50	19.	6.	2.	.42
+	HYDROGRAPH AT	OL51	292.	12.67	101.	31.	10.	.99
+	DIVERSION TO	XOL51	14.	10.33	9.	3.	1.	.99
+	HYDROGRAPH AT	EROL51	292.	12.67	101.	28.	9.	.99
+	3 COMBINED AT	COL51	318.	12.92	124.	35.	12.	1.45
+	DIVERSION TO	DPOL51	297.	12.58	122.	35.	12.	1.45
+	HYDROGRAPH AT	DOL51	21.	12.92	2.	1.	0.	1.45
+	DIVERSION TO	DSNO51	7.	12.92	1.	0.	0.	1.45
+	HYDROGRAPH AT	DWOL59	14.	12.92	1.	0.	0.	1.45
+	ROUTED TO	RWOL59	8.	13.67	1.	0.	0.	1.45
+	HYDROGRAPH AT	DROL59	77.	12.92	13.	3.	1.	1.44
+	ROUTED TO	RSOL59	53.	13.92	13.	3.	1.	1.44
+	HYDROGRAPH AT	OL59	305.	12.75	108.	33.	11.	.99
+	DIVERSION TO	XOL59	305.	12.67	39.	11.	4.	.99
+	HYDROGRAPH AT	EROL59	302.	12.83	80.	22.	7.	.99
+	3 COMBINED AT	COL59	303.	12.83	93.	25.	8.	2.78
+	HYDROGRAPH AT	PR59PE	235.	12.33	107.	30.	10.	1.44
+	ROUTED TO	RP59BR	235.	12.42	107.	30.	10.	1.44
+	DIVERSION TO	DPBR59	161.	12.25	86.	25.	8.	1.44
+	HYDROGRAPH AT	DBR59	74.	12.42	21.	5.	2.	1.44
+	ROUTED TO	RP59OL	74.	12.50	21.	5.	2.	1.44
+	HYDROGRAPH AT	PROL51	297.	12.58	122.	35.	12.	1.45
+	ROUTED TO	RPOL59	297.	12.75	122.	35.	12.	1.45
+	3 COMBINED AT	CPOL59	674.	12.83	233.	65.	22.	4.22
+	DIVERSION TO	DPOL59	475.	12.83	205.	58.	19.	4.22
+	HYDROGRAPH AT	DOL59	199.	12.83	28.	7.	2.	4.22

+	DIVERSION TO	DSNO59	121.	12.83	17.	4.	1.	4.22
+	HYDROGRAPH AT	DWOL67	77.	12.83	11.	3.	1.	4.22
+	ROUTED TO	RWOL67	51.	13.92	11.	3.	1.	4.22
+	HYDROGRAPH AT	DROL67	0.	.00	0.	0.	0.	2.06
+	ROUTED TO	RSOL67	0.	.00	0.	0.	0.	2.06
+	HYDROGRAPH AT	OL67	327.	12.58	102.	31.	11.	.96
+	DIVERSION TO	XOL67	327.	12.58	73.	20.	7.	.96
+	HYDROGRAPH AT	EROL67	172.	13.58	39.	11.	4.	.96
+	3 COMBINED AT	COL67	209.	13.58	49.	14.	5.	2.84
+	HYDROGRAPH AT	PRBR59	161.	12.25	86.	25.	8.	1.44
+	ROUTED TO	RPBR63	161.	12.33	86.	25.	8.	1.44
+	ROUTED TO	SRBR63	166.	12.92	81.	25.	8.	1.44
+	ROUTED TO	RP63OL	165.	13.00	81.	25.	8.	1.44
+	HYDROGRAPH AT	PROL59	475.	12.83	205.	58.	19.	4.22
+	ROUTED TO	RPOL63	475.	12.92	205.	58.	19.	4.22
+	2 COMBINED AT	CPOL63	640.	13.00	284.	83.	28.	2.84
+	ROUTED TO	RPOL67	637.	13.08	284.	83.	28.	2.84
+	HYDROGRAPH AT	PR67PE	1.	18.67	1.	0.	0.	2.06
+	ROUTED TO	SR67MV	1.	21.33	1.	0.	0.	2.06
+	3 COMBINED AT	CPOL67	843.	13.58	331.	96.	32.	5.68
+	DIVERSION TO	DPOL67	662.	13.50	313.	92.	31.	5.68
+	HYDROGRAPH AT	DOL67	181.	13.58	17.	4.	1.	5.68
+	DIVERSION TO	DSNO67	80.	13.58	8.	2.	1.	5.68
+	HYDROGRAPH AT	DWOL75	102.	13.58	10.	2.	1.	5.68
+	ROUTED TO	RWOL75	43.	14.33	10.	2.	1.	5.68
+	HYDROGRAPH AT	DROL75	60.	12.67	9.	2.	1.	3.36
+	ROUTED TO	RSOL75	37.	13.75	9.	2.	1.	3.36
+	HYDROGRAPH AT	OL75	299.	12.67	105.	32.	11.	1.00
+	DIVERSION TO	XOL75	299.	12.67	75.	20.	7.	1.00
+	HYDROGRAPH AT	EROL75	161.	13.83	40.	12.	4.	1.00
+	3 COMBINED AT	COL75	216.	13.83	57.	16.	5.	4.34

+	HYDROGRAPH AT	PROL67	662.	13.50	313.	92.	31.	5.68
+	ROUTED TO	RPOL71	662.	13.58	313.	92.	31.	5.68
+	2 COMBINED AT	CPOL71	878.	13.83	369.	108.	36.	4.34
+	ROUTED TO	SROL71	608.	14.58	241.	108.	36.	4.34
+	DIVERSION TO	DPOL71	386.	14.58	227.	104.	35.	4.34
+	HYDROGRAPH AT	DOL71	222.	14.58	13.	3.	1.	4.34
+	HYDROGRAPH AT	PR75PE	179.	12.33	83.	23.	8.	3.36
+	ROUTED TO	RP75OL	179.	12.50	83.	23.	8.	3.36
+	HYDROGRAPH AT	PROL71	386.	14.58	227.	104.	35.	4.34
+	ROUTED TO	RPOL75	386.	14.67	227.	104.	35.	4.34
+	3 COMBINED AT	CPOL75	691.	14.67	303.	130.	44.	4.34
+	DIVERSION TO	DPOL75	239.	12.75	231.	112.	38.	4.34
+	HYDROGRAPH AT	DOL75	452.	14.67	72.	18.	6.	4.34
+	DIVERSION TO	DSGR75	230.	14.67	37.	9.	3.	4.34
+	HYDROGRAPH AT	DWGR83	221.	14.67	35.	9.	3.	4.34
+	HYDROGRAPH AT	DRGR83	85.	13.33	12.	3.	1.	3.97
+	DIVERSION TO	DSOL83	24.	13.33	3.	1.	0.	3.97
+	HYDROGRAPH AT	D83GR	62.	13.33	9.	2.	1.	3.97
+	ROUTED TO	RSGR83	17.	17.08	9.	2.	1.	3.97
+	HYDROGRAPH AT	GR83	243.	12.42	62.	20.	7.	.47
+	DIVERSION TO	XGR83	243.	12.42	54.	15.	5.	.47
+	HYDROGRAPH AT	ERGR83	61.	13.75	14.	5.	2.	.47
+	3 COMBINED AT	CGR83	245.	14.58	56.	15.	5.	3.99
+	ROUTED TO	SRGR83	0.	24.33	0.	0.	0.	3.99
+	DIVERSION TO	DS75NO	0.	24.33	0.	0.	0.	3.99
+	HYDROGRAPH AT	DWOL83	0.	.00	0.	0.	0.	3.99
+	ROUTED TO	RWOL83	0.	.00	0.	0.	0.	3.99
+	HYDROGRAPH AT	DIOL83	24.	13.33	3.	1.	0.	3.97
+	ROUTED TO	RSOL83	15.	14.50	3.	1.	0.	3.97
+	HYDROGRAPH AT	OL83	250.	12.42	57.	17.	6.	.54
+	DIVERSION TO	XOL83	250.	12.42	25.	7.	2.	.54

+	HYDROGRAPH AT	EROL83	224.	12.67	36.	10.	3.	.54
+	3 COMBINED AT	COL83	223.	12.67	39.	11.	4.	1.06
+	HYDROGRAPH AT	NO27	45.	12.50	17.	6.	2.	.13
+	DIVERSION TO	DP27NO	45.	12.50	17.	6.	2.	.13
+	HYDROGRAPH AT	D27NO	0.	.00	0.	0.	0.	.13
+	DIVERSION TO	DSGL27	0.	.00	0.	0.	0.	.13
+	HYDROGRAPH AT	DWNO35	0.	.00	0.	0.	0.	.13
+	ROUTED TO	RWNO35	0.	.00	0.	0.	0.	.13
+	HYDROGRAPH AT	DRNO35	14.	12.42	1.	0.	0.	.21
+	ROUTED TO	RSNO35	9.	13.25	1.	0.	0.	.21
+	HYDROGRAPH AT	NO35	264.	12.67	92.	29.	10.	.99
+	3 COMBINED AT	CNO35	265.	12.67	93.	30.	10.	1.14
+	HYDROGRAPH AT	PR27NO	45.	12.50	17.	6.	2.	.13
+	2 COMBINED AT	CPNO29	308.	12.67	110.	35.	12.	1.14
+	DIVERSION TO	DP29NO	114.	12.17	71.	25.	9.	1.14
+	HYDROGRAPH AT	D29NO	194.	12.67	38.	10.	3.	1.14
+	HYDROGRAPH AT	PR35OL	61.	12.17	23.	8.	3.	.21
+	ROUTED TO	RP35NO	61.	12.33	23.	8.	3.	.21
+	2 COMBINED AT	CPNO35	255.	12.67	61.	17.	6.	1.14
+	DIVERSION TO	DP35NO	113.	12.25	41.	12.	4.	1.14
+	HYDROGRAPH AT	D35NO	142.	12.67	21.	5.	2.	1.14
+	DIVERSION TO	DSGL35	65.	12.67	10.	2.	1.	1.14
+	HYDROGRAPH AT	DWNO43	77.	12.67	11.	3.	1.	1.14
+	ROUTED TO	RWNO43	53.	13.83	11.	3.	1.	1.14
+	HYDROGRAPH AT	DRNO43	46.	12.67	7.	2.	1.	.70
+	ROUTED TO	RSNO43	35.	13.67	7.	2.	1.	.70
+	HYDROGRAPH AT	NO43	256.	12.67	91.	28.	10.	1.00
+	3 COMBINED AT	CNO43	260.	13.33	109.	33.	11.	2.02
+	HYDROGRAPH AT	PR43OL	85.	12.25	43.	14.	5.	.70
+	ROUTED TO	RP43NO	85.	12.42	43.	14.	5.	.70
+	2 COMBINED AT	CPNO43	345.	13.33	151.	47.	16.	2.02

+	DIVERSION TO	DP43NO	241.	12.33	127.	41.	14.	2.02
+	HYDROGRAPH AT	D43NO	104.	13.33	25.	6.	2.	2.02
+	DIVERSION TO	DSGL43	53.	13.33	13.	3.	1.	2.02
+	HYDROGRAPH AT	DWNO51	51.	13.33	12.	3.	1.	2.02
+	ROUTED TO	RWNO51	42.	14.25	12.	3.	1.	2.02
+	HYDROGRAPH AT	DRNO51	7.	12.92	1.	0.	0.	1.45
+	ROUTED TO	RSNO51	4.	14.00	1.	0.	0.	1.45
+	HYDROGRAPH AT	NO51	249.	12.67	90.	29.	10.	.99
+	3 COMBINED AT	CNO51	248.	12.67	103.	32.	11.	2.47
+	DIVERSION TO	DPNO51	168.	12.42	90.	29.	10.	2.47
+	HYDROGRAPH AT	DNO51	80.	12.67	13.	3.	1.	2.47
+	DIVERSION TO	DSGL51	35.	12.67	6.	1.	0.	2.47
+	HYDROGRAPH AT	DWNO59	45.	12.67	7.	2.	1.	2.47
+	ROUTED TO	RWNO59	30.	13.58	7.	2.	1.	2.47
+	HYDROGRAPH AT	DRNO59	121.	12.83	17.	4.	1.	4.22
+	ROUTED TO	RSNO59	72.	14.08	17.	4.	1.	4.22
+	HYDROGRAPH AT	NO59	275.	12.67	95.	29.	10.	.99
+	DIVERSION TO	XNO59	263.	12.58	29.	8.	3.	.99
+	HYDROGRAPH AT	ERNO59	275.	12.75	75.	20.	7.	.99
+	3 COMBINED AT	CNO59	277.	12.75	98.	26.	9.	4.06
+	ROUTED TO	SRNO59	276.	13.08	83.	22.	7.	4.06
+	HYDROGRAPH AT	PRNO51	168.	12.42	90.	29.	10.	2.47
+	ROUTED TO	RPNO59	168.	12.58	90.	29.	10.	2.47
+	2 COMBINED AT	CPNO59	444.	13.08	171.	51.	17.	4.06
+	DIVERSION TO	DPNO59	134.	12.42	94.	32.	11.	4.06
+	HYDROGRAPH AT	DNO59	310.	13.08	77.	19.	6.	4.06
+	DIVERSION TO	DSGL59	102.	13.08	25.	6.	2.	4.06
+	HYDROGRAPH AT	DWNO67	208.	13.08	51.	13.	4.	4.06
+	ROUTED TO	RWNO67	181.	14.08	51.	13.	4.	4.06
+	HYDROGRAPH AT	DRNO67	80.	13.58	8.	2.	1.	5.68
+	ROUTED TO	RSNO67	30.	14.58	8.	2.	1.	5.68

+	HYDROGRAPH AT	NO67	294.	12.67	103.	32.	11.	.96
+	DIVERSION TO	XNO67	294.	12.67	73.	20.	7.	.96
+	HYDROGRAPH AT	ERNO67	165.	13.75	42.	12.	4.	.96
+	3 COMBINED AT	CNO67	327.	13.92	99.	26.	9.	4.93
+	DIVERSION TO	DSGR67	213.	13.92	64.	17.	6.	4.93
+	HYDROGRAPH AT	DWGR75	115.	13.92	35.	9.	3.	4.93
+	DIVERSION TO	DWNO75	38.	13.92	11.	3.	1.	4.93
+	HYDROGRAPH AT	DGR75	77.	13.92	23.	6.	2.	4.93
+	ROUTED TO	RWGR75	56.	15.58	23.	6.	2.	4.93
+	HYDROGRAPH AT	DRGR75	230.	14.67	37.	9.	3.	4.34
+	DIVERSION TO	DSNO75	83.	14.67	13.	3.	1.	4.34
+	HYDROGRAPH AT	D75GR	147.	14.67	23.	6.	2.	4.34
+	HYDROGRAPH AT	GR75	262.	12.33	57.	18.	6.	.50
+	DIVERSION TO	XGR75	262.	12.33	33.	9.	3.	.50
+	HYDROGRAPH AT	ERGR75	216.	12.67	31.	9.	3.	.50
+	3 COMBINED AT	CGR75	214.	12.67	74.	21.	7.	3.09
+	ROUTED TO	SRGR75	42.	16.50	40.	21.	7.	3.09
+	HYDROGRAPH AT	PROL75	239.	12.75	231.	112.	38.	4.34
+	2 COMBINED AT	CPOLGR	281.	16.25	267.	133.	45.	3.09
+	DIVERSION TO	DOLGR	42.	16.25	28.	7.	2.	3.09
+	HYDROGRAPH AT	DPOLGR	239.	12.67	239.	126.	42.	3.09
+	ROUTED TO	RPOL83	239.	12.92	239.	126.	42.	3.09
+	2 COMBINED AT	CPOL83	440.	12.67	276.	136.	46.	4.15
+	ROUTED TO	SROL83	309.	13.58	254.	136.	46.	4.15
+	DIVERSION TO	DPOL83	243.	13.50	242.	133.	45.	4.15
+	HYDROGRAPH AT	DOL83	66.	13.58	12.	3.	1.	4.15
+	DIVERSION TO	DSNO83	26.	13.58	5.	1.	0.	4.15
+	HYDROGRAPH AT	DWOL91	40.	13.58	8.	2.	1.	4.15
+	ROUTED TO	RWOL91	25.	14.92	8.	2.	1.	4.15
+	HYDROGRAPH AT	DROL91	63.	12.42	8.	2.	1.	3.65
+	ROUTED TO	RSOL91	19.	13.92	8.	2.	1.	3.65

+	HYDROGRAPH AT	OL91	335.	12.67	118.	36.	12.	1.02
+	DIVERSION TO	XOL91	335.	12.67	83.	23.	8.	1.02
+	HYDROGRAPH AT	EROL91	203.	13.67	48.	14.	5.	1.02
+	3 COMBINED AT	COL91	220.	13.67	62.	18.	6.	3.68
+	HYDROGRAPH AT	PROL83	243.	13.50	242.	133.	45.	4.15
+	ROUTED TO	RPOL91	243.	13.75	242.	133.	45.	4.15
+	2 COMBINED AT	CPOL91	462.	13.67	303.	151.	51.	3.68
+	DIVERSION TO	DSNO91	310.	13.67	203.	101.	34.	3.68
+	HYDROGRAPH AT	DWOLLO	153.	13.67	100.	50.	17.	3.68
+	ROUTED TO	RWOLLO	154.	13.75	100.	50.	17.	3.68
+	HYDROGRAPH AT	OLLO	73.	12.42	24.	8.	3.	.16
+	DIVERSION TO	XOLLO	73.	12.42	20.	6.	2.	.16
+	HYDROGRAPH AT	EROLLO	27.	13.83	8.	3.	1.	.16
+	3 COMBINED AT	COLLO	171.	13.83	107.	52.	17.	6.18
+	ROUTED TO	RSNOLO	157.	14.17	107.	52.	17.	6.18
+	HYDROGRAPH AT	DROLGR	42.	16.25	28.	7.	2.	3.09
+	HYDROGRAPH AT	DI75NO	83.	14.67	13.	3.	1.	4.34
+	HYDROGRAPH AT	DR75NO	0.	24.33	0.	0.	0.	3.99
+	3 COMBINED AT	C1GR75	117.	14.67	41.	10.	4.	7.85
+	ROUTED TO	RSNO75	84.	15.25	40.	10.	4.	7.85
+	HYDROGRAPH AT	DINO75	38.	13.92	11.	3.	1.	4.93
+	ROUTED TO	RWNO75	32.	14.75	11.	3.	1.	4.93
+	HYDROGRAPH AT	NO75	297.	12.33	64.	21.	7.	.51
+	DIVERSION TO	XNO75	18.	10.92	10.	3.	1.	.51
+	HYDROGRAPH AT	ERNO75	297.	12.33	63.	18.	6.	.51
+	3 COMBINED AT	CNO75	292.	12.33	106.	31.	10.	8.93
+	DIVERSION TO	DPNO75	161.	12.08	95.	28.	9.	8.93
+	HYDROGRAPH AT	DNO75	131.	12.33	11.	3.	1.	8.93
+	DIVERSION TO	DSOW75	63.	12.33	5.	1.	0.	8.93
+	HYDROGRAPH AT	DWNO83	68.	12.33	6.	1.	0.	8.93
+	ROUTED TO	RWNO83	29.	12.92	6.	1.	0.	8.93

+	HYDROGRAPH AT	DRNO83	26.	13.58	5.	1.	0.	4.15
+	ROUTED TO	RSNO83	17.	14.67	5.	1.	0.	4.15
+	HYDROGRAPH AT	NO83	336.	12.58	103.	32.	11.	1.00
+	DIVERSION TO	XNO83	333.	12.50	39.	11.	4.	1.00
+	HYDROGRAPH AT	ERNO83	325.	12.75	75.	21.	7.	1.00
+	3 COMBINED AT	CNO83	349.	12.75	84.	23.	8.	6.05
+	HYDROGRAPH AT	PRNO75	161.	12.08	95.	28.	9.	8.93
+	ROUTED TO	RPNO83	161.	12.25	95.	28.	9.	8.93
+	2 COMBINED AT	CPNO83	510.	12.75	179.	51.	17.	6.05
+	DIVERSION TO	DPNO83	233.	12.67	151.	44.	15.	6.05
+	HYDROGRAPH AT	DNO83	277.	12.75	28.	7.	2.	6.05
+	ROUTED TO	RWNO91	164.	13.42	28.	7.	2.	6.05
+	HYDROGRAPH AT	DRNO91	310.	13.67	203.	101.	34.	3.68
+	ROUTED TO	RSNO91	274.	14.25	201.	101.	34.	3.68
+	HYDROGRAPH AT	NO91	264.	12.67	90.	26.	9.	.99
+	DIVERSION TO	XNO91	264.	12.67	66.	18.	6.	.99
+	HYDROGRAPH AT	ERNO91	129.	13.92	31.	9.	3.	.99
+	3 COMBINED AT	CNO91	428.	14.08	243.	116.	39.	9.52
+	HYDROGRAPH AT	PRNO83	233.	12.67	151.	44.	15.	6.05
+	ROUTED TO	RPNO91	233.	12.92	151.	44.	15.	6.05
+	2 COMBINED AT	CPNO91	630.	14.00	371.	160.	53.	9.52
+	ROUTED TO	SRNO91	570.	14.42	306.	136.	53.	9.52
+	DIVERSION TO	DPNO91	69.	14.33	69.	56.	27.	9.52
+	HYDROGRAPH AT	DNO91	501.	14.42	238.	80.	27.	9.52
+	DIVERSION TO	DSGL91	266.	14.42	126.	42.	14.	9.52
+	HYDROGRAPH AT	DWNOLO	236.	14.42	112.	37.	12.	9.52
+	ROUTED TO	RWNOLO	205.	15.00	108.	37.	12.	9.52
+	HYDROGRAPH AT	NOLO	113.	12.50	41.	14.	5.	.28
+	DIVERSION TO	XNOLO	113.	12.50	35.	10.	3.	.28
+	HYDROGRAPH AT	ERNOLO	40.	14.17	14.	4.	1.	.28
+	3 COMBINED AT	CNOLO	353.	15.00	220.	93.	31.	10.91

+	HYDROGRAPH AT	PRNO91	69.	14.33	69.	56.	27.	9.52
+	ROUTED TO	RPNOLO	69.	14.50	69.	56.	27.	9.52
+	2 COMBINED AT	CPNOLO	422.	15.00	287.	148.	58.	10.91
+	DIVERSION TO	DPNOLO	15.	12.67	15.	15.	10.	10.91
+	HYDROGRAPH AT	DNOLO	407.	15.00	272.	133.	47.	10.91
+	DIVERSION TO	DWNR03	407.	15.00	272.	133.	47.	10.91
+	HYDROGRAPH AT	DSGLLO	0.	.00	0.	0.	0.	10.91
+	ROUTED TO	RSGLLO	0.	.00	0.	0.	0.	10.91
+	HYDROGRAPH AT	DRGL43	53.	13.33	13.	3.	1.	2.02
+	ROUTED TO	RSGL43	45.	14.00	13.	3.	1.	2.02
+	HYDROGRAPH AT	GL43	290.	12.67	103.	32.	11.	1.00
+	2 COMBINED AT	CGL43	294.	12.75	115.	35.	12.	2.03
+	HYDROGRAPH AT	PR43NO	241.	12.33	127.	41.	14.	2.02
+	ROUTED TO	RP43GL	241.	12.50	127.	41.	14.	2.02
+	2 COMBINED AT	CPGL43	535.	12.75	242.	76.	25.	2.03
+	DIVERSION TO	DP43GL	385.	12.42	211.	68.	23.	2.03
+	HYDROGRAPH AT	D43GL	150.	12.75	31.	8.	3.	2.03
+	DIVERSION TO	DSBH43	88.	12.75	18.	5.	2.	2.03
+	HYDROGRAPH AT	DWGL51	61.	12.75	13.	3.	1.	2.03
+	ROUTED TO	RWGL51	38.	14.17	13.	3.	1.	2.03
+	HYDROGRAPH AT	DRGL51	35.	12.67	6.	1.	0.	2.47
+	ROUTED TO	RSGL51	23.	13.83	6.	1.	0.	2.47
+	HYDROGRAPH AT	GL51	254.	12.67	94.	31.	10.	1.00
+	3 COMBINED AT	CGL51	253.	12.75	112.	35.	12.	2.91
+	DIVERSION TO	DSBH51	119.	12.75	53.	16.	6.	2.91
+	HYDROGRAPH AT	DWGL59	134.	12.75	59.	19.	6.	2.91
+	ROUTED TO	RWGL59	128.	13.42	59.	19.	6.	2.91
+	HYDROGRAPH AT	DRGL59	102.	13.08	25.	6.	2.	4.06
+	ROUTED TO	RSGL59	88.	14.25	25.	6.	2.	4.06
+	HYDROGRAPH AT	GL59	273.	12.67	101.	33.	11.	1.01
+	DIVERSION TO	XGL59	271.	12.58	37.	11.	4.	1.01

+	HYDROGRAPH AT	ERGL59	272.	12.75	78.	22.	7.	1.01
+	3 COMBINED AT	CGL59	357.	13.17	161.	47.	16.	3.91
+	DIVERSION TO	DP59GL	217.	12.75	127.	38.	13.	3.91
+	HYDROGRAPH AT	D59GL	140.	13.17	34.	8.	3.	3.91
+	DIVERSION TO	DSGR59	65.	13.17	16.	4.	1.	3.91
+	HYDROGRAPH AT	DWGR67	76.	13.17	18.	5.	2.	3.91
+	DIVERSION TO	DWGL67	20.	13.17	5.	1.	0.	3.91
+	HYDROGRAPH AT	DGR67	56.	13.17	13.	3.	1.	3.91
+	HYDROGRAPH AT	DRGL35	65.	12.67	10.	2.	1.	1.14
+	ROUTED TO	RSGL35	47.	13.67	10.	2.	1.	1.14
+	HYDROGRAPH AT	GL35	254.	12.67	91.	29.	10.	1.00
+	2 COMBINED AT	CGL35	256.	12.75	101.	31.	10.	1.53
+	HYDROGRAPH AT	PR35NO	113.	12.25	41.	12.	4.	1.14
+	ROUTED TO	RP35GL	113.	12.42	41.	12.	4.	1.14
+	2 COMBINED AT	CPGL35	369.	12.75	141.	43.	14.	1.53
+	DIVERSION TO	DP35GL	226.	12.33	110.	35.	12.	1.53
+	HYDROGRAPH AT	D35GL	143.	12.75	31.	8.	3.	1.53
+	DIVERSION TO	DSBH35	87.	12.75	19.	5.	2.	1.53
+	HYDROGRAPH AT	DEGL27	56.	12.75	12.	3.	1.	1.53
+	HYDROGRAPH AT	DRGL27	0.	.00	0.	0.	0.	.13
+	ROUTED TO	RSGL27	0.	.00	0.	0.	0.	.13
+	HYDROGRAPH AT	GL27	92.	12.50	28.	9.	3.	.26
+	3 COMBINED AT	CGL27	144.	12.58	40.	12.	4.	.98
+	HYDROGRAPH AT	PR29NO	114.	12.17	71.	25.	9.	1.14
+	ROUTED TO	RP27GL	114.	12.33	71.	25.	9.	1.14
+	2 COMBINED AT	CPGL27	258.	12.58	111.	38.	13.	.98
+	DIVERSION TO	DP27GL	132.	12.17	85.	31.	10.	.98
+	HYDROGRAPH AT	D27GL	126.	12.58	26.	7.	2.	.98
+	ROUTED TO	RSBH27	106.	13.17	26.	7.	2.	.98
+	HYDROGRAPH AT	BH27	94.	12.42	28.	9.	3.	.26
+	2 COMBINED AT	CBH27	169.	13.00	54.	16.	5.	1.24

+	HYDROGRAPH AT	PR27GL	132.	12.17	85.	31.	10.	.98
+	ROUTED TO	RP27BH	132.	12.33	85.	31.	10.	.98
+	2 COMBINED AT	CPBH27	301.	13.00	139.	47.	16.	1.24
+	DIVERSION TO	DP27BH	132.	12.17	94.	35.	12.	1.24
+	HYDROGRAPH AT	D27BH	169.	13.00	45.	11.	4.	1.24
+	DIVERSION TO	DSCB27	169.	13.00	45.	11.	4.	1.24
+	HYDROGRAPH AT	DWBH35	0.	.00	0.	0.	0.	1.24
+	ROUTED TO	RWBH35	0.	.00	0.	0.	0.	1.24
+	HYDROGRAPH AT	DRBH35	87.	12.75	19.	5.	2.	1.53
+	ROUTED TO	RSBH35	76.	13.67	19.	5.	2.	1.53
+	HYDROGRAPH AT	BH35	452.	12.42	89.	28.	9.	1.00
+	3 COMBINED AT	CBH35	450.	12.42	107.	33.	11.	1.94
+	HYDROGRAPH AT	PR35GL	226.	12.33	110.	35.	12.	1.53
+	ROUTED TO	RP35BH	226.	12.50	110.	35.	12.	1.53
+	2 COMBINED AT	CPBH35	673.	12.42	217.	68.	23.	1.94
+	DIVERSION TO	DP35BH	226.	12.08	137.	48.	16.	1.94
+	HYDROGRAPH AT	D35BH	447.	12.42	80.	20.	7.	1.94
+	DIVERSION TO	DSCB35	447.	12.42	80.	20.	7.	1.94
+	HYDROGRAPH AT	DWBH43	0.	.00	0.	0.	0.	1.94
+	ROUTED TO	RWBH43	0.	.00	0.	0.	0.	1.94
+	HYDROGRAPH AT	DRBH43	88.	12.75	18.	5.	2.	2.03
+	ROUTED TO	RSBH43	67.	13.58	18.	5.	2.	2.03
+	HYDROGRAPH AT	BH43	222.	12.67	81.	26.	9.	.99
+	3 COMBINED AT	CBH43	233.	13.17	99.	30.	10.	2.19
+	HYDROGRAPH AT	PR43GL	385.	12.42	211.	68.	23.	2.03
+	ROUTED TO	RP43BH	385.	12.58	211.	68.	23.	2.03
+	2 COMBINED AT	CPBH43	618.	13.17	310.	98.	33.	2.19
+	DIVERSION TO	DP43BH	385.	12.33	239.	80.	27.	2.19
+	HYDROGRAPH AT	D43BH	233.	13.17	71.	18.	6.	2.19
+	DIVERSION TO	DSCB43	119.	13.17	36.	9.	3.	2.19
+	HYDROGRAPH AT	DWBH51	114.	13.17	35.	9.	3.	2.19

+	ROUTED TO	RWBH51	109.	13.83	35.	9.	3.	2.19
+	HYDROGRAPH AT	DRBH51	119.	12.75	53.	16.	6.	2.91
+	DIVERSION TO	DP47GL	119.	12.75	53.	16.	6.	2.91
+	HYDROGRAPH AT	D47GL	0.	.00	0.	0.	0.	2.91
+	ROUTED TO	RSBH51	0.	.00	0.	0.	0.	2.91
+	HYDROGRAPH AT	BH51	267.	12.67	100.	32.	11.	1.00
+	3 COMBINED AT	CBH51	279.	13.50	133.	41.	14.	3.42
+	HYDROGRAPH AT	PR47GL	119.	12.75	53.	16.	6.	2.91
+	ROUTED TO	RP51BH	119.	12.75	53.	16.	6.	2.91
+	2 COMBINED AT	CPBH51	386.	12.75	186.	57.	19.	3.42
+	ROUTED TO	SRBH51	383.	12.83	174.	55.	19.	3.42
+	DIVERSION TO	DSGR43	123.	12.83	56.	18.	6.	3.42
+	HYDROGRAPH AT	DWGR59	261.	12.83	118.	37.	13.	3.42
+	DIVERSION TO	DWBH59	60.	12.83	27.	9.	3.	3.42
+	HYDROGRAPH AT	DGR59	201.	12.83	91.	29.	10.	3.42
+	HYDROGRAPH AT	DRGR59	65.	13.17	16.	4.	1.	3.91
+	DIVERSION TO	DSBH59	34.	13.17	8.	2.	1.	3.91
+	HYDROGRAPH AT	D59GR	31.	13.17	7.	2.	1.	3.91
+	HYDROGRAPH AT	GR59	310.	12.25	62.	21.	7.	.52
+	3 COMBINED AT	CGR59	397.	12.58	157.	50.	17.	3.18
+	DIVERSION TO	DBH59	198.	12.58	79.	25.	9.	3.18
+	HYDROGRAPH AT	DNGR67	198.	12.58	79.	25.	9.	3.18
+	DIVERSION TO	DPGRGL	198.	12.58	79.	25.	9.	3.18
+	HYDROGRAPH AT	DGRGL	0.	.00	0.	0.	0.	3.18
+	2 COMBINED AT	CIGR59	56.	13.17	14.	3.	1.	3.15
+	ROUTED TO	RWGR67	33.	15.75	14.	3.	1.	3.15
+	HYDROGRAPH AT	DRGR67	213.	13.92	64.	17.	6.	4.93
+	HYDROGRAPH AT	GR67	261.	12.33	55.	17.	6.	.50
+	DIVERSION TO	XGR67	4.	4.08	2.	1.	0.	.50
+	HYDROGRAPH AT	ERGR67	261.	12.33	55.	17.	6.	.50
+	3 COMBINED AT	CGR67	257.	12.33	127.	37.	12.	6.83

+	HYDROGRAPH AT	PRNO59	134.	12.42	94.	32.	11.	4.06
+	ROUTED TO	RPNO67	134.	12.58	94.	32.	11.	4.06
+	HYDROGRAPH AT	PR59GL	217.	12.75	127.	38.	13.	3.91
+	HYDROGRAPH AT	PRGRGL	198.	12.58	79.	25.	9.	3.18
+	2 COMBINED AT	CPGL59	409.	12.75	205.	64.	22.	1.42
+	ROUTED TO	RPGR67	408.	12.83	205.	64.	22.	1.42
+	3 COMBINED AT	CPGR67	729.	13.75	423.	131.	44.	8.25
+	ROUTED TO	SRGR67	191.	16.50	183.	125.	44.	8.25
+	DIVERSION TO	DP67GR	191.	16.50	183.	125.	44.	8.25
+	HYDROGRAPH AT	D67GR	0.	.00	0.	0.	0.	8.25
+	ROUTED TO	RSOW67	0.	.00	0.	0.	0.	8.25
+	HYDROGRAPH AT	OW67	87.	12.17	15.	5.	2.	.12
+	2 COMBINED AT	COW67	85.	12.17	15.	5.	2.	6.95
+	HYDROGRAPH AT	PRGR67	191.	16.50	183.	125.	44.	8.25
+	ROUTED TO	RPOW67	191.	16.58	183.	125.	44.	8.25
+	2 COMBINED AT	CPOW67	194.	16.58	186.	130.	46.	6.95
+	DIVERSION TO	DPOW67	181.	15.08	180.	128.	46.	6.95
+	HYDROGRAPH AT	DOW67	13.	16.58	6.	2.	1.	6.95
+	DIVERSION TO	DSGL67	7.	16.58	3.	1.	0.	6.95
+	HYDROGRAPH AT	DWOW75	6.	16.58	3.	1.	0.	6.95
+	ROUTED TO	RWOW75	6.	17.67	3.	1.	0.	6.95
+	HYDROGRAPH AT	DROW75	63.	12.33	5.	1.	0.	8.93
+	ROUTED TO	RSOW75	35.	12.75	5.	1.	0.	8.93
+	HYDROGRAPH AT	OW75	221.	12.42	60.	19.	6.	.50
+	DIVERSION TO	XOW75	221.	12.42	34.	10.	3.	.50
+	HYDROGRAPH AT	EROW75	177.	12.83	33.	9.	3.	.50
+	3 COMBINED AT	COW75	209.	12.83	38.	11.	4.	8.17
+	HYDROGRAPH AT	PROW67	181.	15.08	180.	128.	46.	6.95
+	ROUTED TO	RPOW71	181.	15.17	180.	128.	46.	6.95
+	2 COMBINED AT	CPOW71	344.	12.83	208.	139.	49.	8.17
+	ROUTED TO	SROW75	200.	14.33	195.	132.	46.	8.17

+	DIVERSION TO	DPOW71	44.	13.08	44.	43.	16.	8.17
+	HYDROGRAPH AT	DOW71	156.	14.33	151.	89.	30.	8.17
+	HYDROGRAPH AT	PROW71	44.	13.08	44.	43.	16.	8.17
+	ROUTED TO	RPOW75	44.	13.25	44.	43.	16.	8.17
+	2 COMBINED AT	CPOW75	200.	14.33	195.	132.	46.	8.17
+	DIVERSION TO	DPOW75	66.	13.17	66.	61.	22.	8.17
+	HYDROGRAPH AT	DOW75	134.	14.33	129.	70.	23.	8.17
+	DIVERSION TO	DSGL75	102.	14.33	98.	54.	18.	8.17
+	HYDROGRAPH AT	DWOW83	32.	14.33	31.	17.	6.	8.17
+	ROUTED TO	RWOW83	32.	15.25	31.	17.	6.	8.17
+	HYDROGRAPH AT	OW83	129.	12.67	45.	13.	4.	.50
+	DIVERSION TO	XOW83	129.	12.67	16.	4.	1.	.50
+	HYDROGRAPH AT	EROW83	124.	12.92	32.	9.	3.	.50
+	2 COMBINED AT	COW83	122.	12.92	57.	26.	9.	2.46
+	HYDROGRAPH AT	PROW75	66.	13.17	66.	61.	22.	8.17
+	ROUTED TO	RPOW83	66.	13.42	66.	61.	22.	8.17
+	2 COMBINED AT	CPOW83	165.	13.33	119.	87.	31.	2.46
+	DIVERSION TO	DP83OW	165.	13.33	119.	87.	31.	2.46
+	HYDROGRAPH AT	D83OW	0.	.00	0.	0.	0.	2.46
+	DIVERSION TO	DSGL83	0.	.00	0.	0.	0.	2.46
+	HYDROGRAPH AT	DWOW91	0.	.00	0.	0.	0.	2.46
+	ROUTED TO	RWOW91	0.	.00	0.	0.	0.	2.46
+	HYDROGRAPH AT	DIGL67	20.	13.17	5.	1.	0.	3.91
+	ROUTED TO	RWGL67	16.	14.33	5.	1.	0.	3.91
+	HYDROGRAPH AT	GL67	192.	12.33	44.	15.	5.	.36
+	HYDROGRAPH AT	DRGL67	7.	16.58	3.	1.	0.	6.95
+	ROUTED TO	RSGL67	6.	16.92	3.	1.	0.	6.95
+	3 COMBINED AT	CGL67	192.	12.33	50.	17.	6.	4.47
+	DIVERSION TO	DSBH67	93.	12.33	24.	8.	3.	4.47
+	HYDROGRAPH AT	DWGL75	96.	12.33	25.	8.	3.	4.47
+	ROUTED TO	RWGL75	74.	13.00	25.	8.	3.	4.47

+	HYDROGRAPH AT	DRGL75	102.	14.33	98.	54.	18.	8.17
+	ROUTED TO	RSGL75	102.	15.08	98.	54.	18.	8.17
+	HYDROGRAPH AT	GL75	155.	12.67	57.	18.	6.	.50
+	DIVERSION TO	XGL75	155.	12.67	57.	18.	6.	.50
+	HYDROGRAPH AT	ERGL75	0.	.00	0.	0.	0.	.50
+	3 COMBINED AT	CGL75	130.	14.25	110.	61.	21.	8.97
+	DIVERSION TO	DSBH75	65.	14.25	55.	31.	10.	8.97
+	HYDROGRAPH AT	DWGL83	65.	14.25	55.	31.	10.	8.97
+	ROUTED TO	RWGL83	60.	15.50	54.	31.	10.	8.97
+	HYDROGRAPH AT	DRGL83	0.	.00	0.	0.	0.	2.46
+	ROUTED TO	RSGL83	0.	.00	0.	0.	0.	2.46
+	HYDROGRAPH AT	GL83	131.	12.67	46.	14.	5.	.50
+	DIVERSION TO	XGL83	131.	12.67	30.	8.	3.	.50
+	HYDROGRAPH AT	ERGL83	82.	13.58	20.	6.	2.	.50
+	3 COMBINED AT	CGL83	104.	13.58	71.	36.	12.	7.11
+	HYDROGRAPH AT	PR83OW	165.	13.33	119.	87.	31.	2.46
+	ROUTED TO	RP83GL	163.	13.42	119.	87.	31.	2.46
+	2 COMBINED AT	CPGL83	257.	13.58	186.	122.	43.	7.11
+	DIVERSION TO	DPGL83	257.	13.58	186.	122.	43.	7.11
+	HYDROGRAPH AT	DGL83	0.	.00	0.	0.	0.	7.11
+	DIVERSION TO	DSBH83	0.	.00	0.	0.	0.	7.11
+	HYDROGRAPH AT	DWGL91	0.	.00	0.	0.	0.	7.11
+	ROUTED TO	RWGL91	0.	.00	0.	0.	0.	7.11
+	HYDROGRAPH AT	DRGL91	266.	14.42	126.	42.	14.	9.52
+	ROUTED TO	RSGL91	228.	15.17	121.	42.	14.	9.52
+	HYDROGRAPH AT	GL91	239.	12.67	82.	25.	8.	.98
+	DIVERSION TO	XGL91	239.	12.67	82.	25.	8.	.98
+	HYDROGRAPH AT	ERGL91	1.	23.58	0.	0.	0.	.98
+	4 COMBINED AT	CGL91	228.	15.17	121.	42.	14.	9.02
+	HYDROGRAPH AT	PRGL83	257.	13.58	186.	122.	43.	7.11
+	ROUTED TO	RPGL91	255.	13.67	186.	122.	43.	7.11

+	2 COMBINED AT	CPGL91	438.	15.08	295.	164.	57.	9.02
+	DIVERSION TO	DPGL91	438.	15.08	295.	164.	57.	9.02
+	HYDROGRAPH AT	DGL91	1.	14.83	0.	0.	0.	9.02
+	DIVERSION TO	DSBH91	0.	14.83	0.	0.	0.	9.02
+	HYDROGRAPH AT	DWGLLO	0.	14.83	0.	0.	0.	9.02
+	ROUTED TO	RWGLLO	0.	15.58	0.	0.	0.	9.02
+	HYDROGRAPH AT	GLLO	197.	12.58	60.	18.	6.	.85
+	DIVERSION TO	XGLLO	197.	12.58	32.	9.	3.	.85
+	HYDROGRAPH AT	ERGLLO	162.	13.08	33.	9.	3.	.85
+	3 COMBINED AT	CGLLO	136.	13.25	30.	8.	3.	15.23
+	HYDROGRAPH AT	PRGL91	438.	15.08	295.	164.	57.	9.02
+	ROUTED TO	RPGLLO	437.	15.17	295.	164.	57.	9.02
+	2 COMBINED AT	CPGLLO	417.	15.33	302.	166.	57.	15.23
+	ROUTED TO	RSBHLO	409.	15.67	300.	165.	57.	15.23
+	HYDROGRAPH AT	DIBH59	60.	12.83	27.	9.	3.	3.42
+	HYDROGRAPH AT	DRBH59	198.	12.58	79.	25.	9.	3.18
+	ROUTED TO	SRGR59	2.	32.25	1.	1.	0.	3.18
+	2 COMBINED AT	CIBHGR	60.	12.83	28.	9.	3.	2.13
+	ROUTED TO	RWBH59	59.	14.00	27.	9.	3.	2.13
+	HYDROGRAPH AT	DI59BH	34.	13.17	8.	2.	1.	3.91
+	ROUTED TO	RSBH59	25.	14.50	8.	2.	1.	3.91
+	HYDROGRAPH AT	BH59	276.	12.33	61.	21.	7.	.49
+	3 COMBINED AT	CBH59	275.	12.33	93.	31.	11.	3.58
+	DIVERSION TO	DSCB59	116.	12.33	39.	13.	5.	3.58
+	HYDROGRAPH AT	DWBH67	160.	12.33	54.	18.	6.	3.58
+	ROUTED TO	RWBH67	124.	12.92	54.	18.	6.	3.58
+	HYDROGRAPH AT	DRBH67	93.	12.33	24.	8.	3.	4.47
+	ROUTED TO	RSBH67	61.	13.33	24.	8.	3.	4.47
+	HYDROGRAPH AT	BH67	239.	12.67	88.	28.	10.	.97
+	3 COMBINED AT	CBH67	380.	12.92	164.	54.	18.	5.24
+	DIVERSION TO	DSCB67	167.	12.92	72.	24.	8.	5.24

+	HYDROGRAPH AT	DWBH75	213.	12.92	92.	30.	10.	5.24
+	ROUTED TO	RWBH75	205.	13.42	91.	30.	10.	5.24
+	HYDROGRAPH AT	DRBH75	65.	14.25	55.	31.	10.	8.97
+	ROUTED TO	RSBH75	60.	15.50	54.	31.	10.	8.97
+	HYDROGRAPH AT	BH75	300.	12.75	106.	32.	11.	1.00
+	DIVERSION TO	XBH75	300.	12.75	105.	30.	10.	1.00
+	HYDROGRAPH AT	ERBH75	7.	20.00	5.	2.	1.	1.00
+	3 COMBINED AT	CBH75	217.	13.42	134.	60.	21.	8.42
+	DIVERSION TO	DSCB75	115.	13.42	71.	32.	11.	8.42
+	HYDROGRAPH AT	DWBH83	102.	13.42	63.	28.	10.	8.42
+	ROUTED TO	RWBH83	98.	13.92	62.	28.	10.	8.42
+	HYDROGRAPH AT	DRBH83	0.	.00	0.	0.	0.	7.11
+	ROUTED TO	RSBH83	0.	.00	0.	0.	0.	7.11
+	HYDROGRAPH AT	BH83	260.	12.67	89.	26.	9.	1.00
+	DIVERSION TO	XBH83	260.	12.67	89.	26.	9.	1.00
+	HYDROGRAPH AT	ERBH83	0.	.00	0.	0.	0.	1.00
+	3 COMBINED AT	CBH83	98.	13.92	62.	28.	10.	9.47
+	DIVERSION TO	DSGC83	33.	13.92	21.	10.	3.	9.47
+	HYDROGRAPH AT	DWBH91	65.	13.92	41.	19.	7.	9.47
+	HYDROGRAPH AT	DRCB27	169.	13.00	45.	11.	4.	1.24
+	ROUTED TO	RSCB27	164.	13.33	45.	11.	4.	1.24
+	HYDROGRAPH AT	CB27	95.	12.42	29.	10.	3.	.26
+	2 COMBINED AT	CCB27	218.	13.17	74.	21.	7.	1.50
+	HYDROGRAPH AT	PR27BH	132.	12.17	94.	35.	12.	1.24
+	ROUTED TO	RP27CB	132.	12.33	94.	35.	12.	1.24
+	2 COMBINED AT	CPCB27	350.	13.17	167.	56.	19.	1.50
+	DIVERSION TO	DP27CB	132.	12.08	102.	40.	13.	1.50
+	HYDROGRAPH AT	D27CB	218.	13.17	66.	16.	5.	1.50
+	DIVERSION TO	DSIS27	218.	13.17	66.	16.	5.	1.50
+	HYDROGRAPH AT	DWCB35	0.	.00	0.	0.	0.	1.50
+	ROUTED TO	RWCB35	0.	.00	0.	0.	0.	1.50

+	HYDROGRAPH AT	DRCB35	447.	12.42	80.	20.	7.	1.94
+	ROUTED TO	RSCB35	337.	12.92	80.	20.	7.	1.94
+	HYDROGRAPH AT	CB35	239.	12.67	89.	29.	10.	1.00
+	3 COMBINED AT	CCB35	566.	12.92	168.	49.	16.	2.94
+	HYDROGRAPH AT	PR27CB	132.	12.08	102.	40.	13.	1.50
+	2 COMBINED AT	CPCB29	698.	12.92	270.	88.	30.	2.94
+	DIVERSION TO	DP29CB	132.	12.00	114.	50.	17.	2.94
+	HYDROGRAPH AT	D29CB	566.	12.92	155.	39.	13.	2.94
+	HYDROGRAPH AT	PR35BH	226.	12.08	137.	48.	16.	1.94
+	ROUTED TO	RP35CB	226.	12.25	137.	48.	16.	1.94
+	2 COMBINED AT	CPCB35	792.	12.92	292.	87.	29.	2.94
+	DIVERSION TO	DP35CB	253.	12.08	163.	55.	18.	2.94
+	HYDROGRAPH AT	D35CB	539.	12.92	129.	32.	11.	2.94
+	DIVERSION TO	DSIS35	539.	12.92	129.	32.	11.	2.94
+	HYDROGRAPH AT	DWCB43	0.	.00	0.	0.	0.	2.94
+	ROUTED TO	RWCB43	0.	.00	0.	0.	0.	2.94
+	HYDROGRAPH AT	DRCB43	119.	13.17	36.	9.	3.	2.19
+	ROUTED TO	RSCB43	117.	13.58	36.	9.	3.	2.19
+	HYDROGRAPH AT	CB43	418.	12.42	85.	27.	9.	1.00
+	3 COMBINED AT	CCB43	416.	12.42	120.	36.	12.	2.12
+	HYDROGRAPH AT	PR43BH	385.	12.33	239.	80.	27.	2.19
+	ROUTED TO	RP43CB	385.	12.42	239.	80.	27.	2.19
+	2 COMBINED AT	CPCB43	801.	12.42	359.	116.	39.	2.12
+	DIVERSION TO	DP39CB	268.	12.08	206.	78.	26.	2.12
+	HYDROGRAPH AT	D39CB	533.	12.42	152.	38.	13.	2.12
+	DIVERSION TO	DP43CB	155.	12.17	76.	19.	6.	2.12
+	HYDROGRAPH AT	D43CB	378.	12.42	76.	19.	6.	2.12
+	DIVERSION TO	DSGR35	215.	12.42	43.	11.	4.	2.12
+	HYDROGRAPH AT	DWGR43	162.	12.42	33.	8.	3.	2.12
+	DIVERSION TO	DCB51	41.	12.42	8.	2.	1.	2.12
+	HYDROGRAPH AT	DGR43	122.	12.42	24.	6.	2.	2.12

+	HYDROGRAPH AT	DRGR43	123.	12.83	56.	18.	6.	3.42
+	ROUTED TO	RSGR43	120.	14.00	55.	18.	6.	3.42
+	HYDROGRAPH AT	GR43	221.	12.33	50.	16.	5.	.51
+	DIVERSION TO	XGR43	6.	7.25	4.	1.	0.	.51
+	HYDROGRAPH AT	ERGR43	221.	12.33	50.	15.	5.	.51
+	3 COMBINED AT	CGR43	344.	12.42	124.	39.	13.	2.28
+	ROUTED TO	SRGR43	0.	.00	0.	0.	0.	2.28
+	DIVERSION TO	DEGR35	0.	.00	0.	0.	0.	2.28
+	HYDROGRAPH AT	DGR35	0.	.00	0.	0.	0.	2.28
+	DIVERSION TO	DSIS43	0.	.00	0.	0.	0.	2.28
+	HYDROGRAPH AT	DWCB51	0.	.00	0.	0.	0.	2.28
+	HYDROGRAPH AT	DICB51	41.	12.42	8.	2.	1.	2.12
+	2 COMBINED AT	CICBGR	41.	12.42	8.	2.	1.	.74
+	ROUTED TO	RWCB51	24.	13.50	8.	2.	1.	.74
+	HYDROGRAPH AT	CB51	387.	12.17	68.	23.	8.	.48
+	2 COMBINED AT	CCB51	385.	12.17	75.	25.	8.	1.23
+	DIVERSION TO	DSIS51	196.	12.17	38.	13.	4.	1.23
+	HYDROGRAPH AT	DWCB59	189.	12.17	37.	12.	4.	1.23
+	ROUTED TO	RWCB59	135.	12.67	36.	12.	4.	1.23
+	HYDROGRAPH AT	DRCB59	116.	12.33	39.	13.	5.	3.58
+	ROUTED TO	RSCB59	86.	12.92	39.	13.	5.	3.58
+	HYDROGRAPH AT	CB59	359.	12.50	117.	39.	13.	1.01
+	DIVERSION TO	XCB59	11.	4.58	6.	1.	0.	1.01
+	HYDROGRAPH AT	ERCB59	359.	12.50	117.	38.	13.	1.01
+	3 COMBINED AT	CCB59	553.	12.67	189.	63.	21.	3.11
+	DIVERSION TO	DSIS59	293.	12.67	100.	33.	11.	3.11
+	HYDROGRAPH AT	DWCB67	260.	12.67	89.	30.	10.	3.11
+	ROUTED TO	RWCB67	244.	13.08	89.	30.	10.	3.11
+	HYDROGRAPH AT	DRCB67	167.	12.92	72.	24.	8.	5.24
+	ROUTED TO	RSCB67	158.	13.50	72.	24.	8.	5.24
+	HYDROGRAPH AT	CB67	283.	12.67	101.	31.	10.	.97

+	DIVERSION TO	XCB67	7.	5.17	4.	1.	0.	.97
+	HYDROGRAPH AT	ERCB67	283.	12.67	101.	30.	10.	.97
+	3 COMBINED AT	CCB67	629.	13.08	258.	83.	28.	4.73
+	DIVERSION TO	DSGC67	270.	13.08	111.	36.	12.	4.73
+	HYDROGRAPH AT	DWCB75	358.	13.08	147.	47.	16.	4.73
+	ROUTED TO	RWCB75	345.	13.50	146.	47.	16.	4.73
+	HYDROGRAPH AT	DRCB75	115.	13.42	71.	32.	11.	8.42
+	ROUTED TO	RSCB75	108.	14.25	69.	32.	11.	8.42
+	HYDROGRAPH AT	CB75	279.	12.67	98.	30.	10.	1.00
+	DIVERSION TO	XCB75	279.	12.67	42.	12.	4.	1.00
+	HYDROGRAPH AT	ERCB75	261.	13.00	67.	18.	6.	1.00
+	3 COMBINED AT	CCB75	565.	13.42	275.	96.	33.	8.14
+	DIVERSION TO	DSGC75	249.	13.42	121.	42.	15.	8.14
+	HYDROGRAPH AT	DWGC83	317.	13.42	154.	54.	19.	8.14
+	HYDROGRAPH AT	DRIS27	218.	13.17	66.	16.	5.	1.50
+	ROUTED TO	RSIS27	212.	13.50	66.	16.	5.	1.50
+	HYDROGRAPH AT	IS27	81.	12.58	30.	10.	3.	.24
+	2 COMBINED AT	CIS27	264.	13.42	95.	26.	9.	1.74
+	HYDROGRAPH AT	PR29CB	132.	12.00	114.	50.	17.	2.94
+	ROUTED TO	RP27IS	132.	12.17	114.	50.	17.	2.94
+	2 COMBINED AT	CPIS27	396.	13.42	209.	76.	25.	1.74
+	DIVERSION TO	DP27IS	151.	12.08	131.	56.	19.	1.74
+	HYDROGRAPH AT	D27IS	245.	13.42	78.	19.	6.	1.74
+	DIVERSION TO	DSGC27	245.	13.42	78.	19.	6.	1.74
+	HYDROGRAPH AT	DWIS35	0.	.00	0.	0.	0.	1.74
+	ROUTED TO	RWIS35	0.	.00	0.	0.	0.	1.74
+	HYDROGRAPH AT	DRIS35	539.	12.92	129.	32.	11.	2.94
+	ROUTED TO	RSIS35	503.	13.25	129.	32.	11.	2.94
+	HYDROGRAPH AT	IS35	539.	12.33	99.	30.	10.	.99
+	3 COMBINED AT	CIS35	663.	13.08	226.	62.	21.	3.93
+	HYDROGRAPH AT	PR35CB	253.	12.08	163.	55.	18.	2.94

+	ROUTED TO	RP35IS	253.	12.17	163.	55.	18.	2.94
+	2 COMBINED AT	CPIS35	916.	13.08	389.	116.	39.	3.93
+	DIVERSION TO	DP31IS	268.	12.00	192.	67.	23.	3.93
+	HYDROGRAPH AT	D31IS	648.	13.08	197.	49.	16.	3.93
+	DIVERSION TO	DP35IS	40.	12.00	21.	5.	2.	3.93
+	HYDROGRAPH AT	D35IS	608.	13.08	176.	44.	15.	3.93
+	DIVERSION TO	DSGC35	608.	13.08	176.	44.	15.	3.93
+	HYDROGRAPH AT	DWGR35	0.	.00	0.	0.	0.	3.93
+	HYDROGRAPH AT	DIGR35	0.	.00	0.	0.	0.	2.28
+	HYDROGRAPH AT	DRGR35	215.	12.42	43.	11.	4.	2.12
+	DIVERSION TO	DS43IS	78.	12.42	16.	4.	1.	2.12
+	HYDROGRAPH AT	D35GR	138.	12.42	28.	7.	2.	2.12
+	2 COMBINED AT	CIGR43	138.	12.42	28.	7.	2.	1.58
+	ROUTED TO	RSGR35	87.	13.33	28.	7.	2.	1.58
+	HYDROGRAPH AT	GR35	234.	12.33	54.	18.	6.	.53
+	3 COMBINED AT	CGR35	232.	12.33	81.	25.	8.	2.11
+	HYDROGRAPH AT	PR39CB	268.	12.08	206.	78.	26.	2.12
+	ROUTED TO	RP39GR	268.	12.17	206.	78.	26.	2.12
+	2 COMBINED AT	CPGR35	500.	12.33	287.	103.	35.	2.11
+	DIVERSION TO	D39GR	249.	12.33	80.	20.	7.	2.11
+	HYDROGRAPH AT	DP39GR	251.	12.00	207.	83.	28.	2.11
+	ROUTED TO	RP39IS	251.	12.08	207.	83.	28.	2.11
+	HYDROGRAPH AT	DRIS43	0.	.00	0.	0.	0.	2.28
+	HYDROGRAPH AT	DI43IS	78.	12.42	16.	4.	1.	2.12
+	2 COMBINED AT	CICB43	78.	12.42	16.	4.	1.	1.40
+	ROUTED TO	RSIS43	56.	13.00	16.	4.	1.	1.40
+	HYDROGRAPH AT	IS43	372.	12.17	65.	22.	8.	.47
+	2 COMBINED AT	CIS43	369.	12.17	80.	26.	9.	1.87
+	HYDROGRAPH AT	PR43CB	155.	12.17	76.	19.	6.	2.12
+	ROUTED TO	RP43IS	155.	12.33	76.	19.	6.	2.12
+	3 COMBINED AT	CPIS43	723.	12.33	361.	128.	43.	3.98

+	DIVERSION TO	DP43IS	406.	12.00	306.	114.	38.	3.98
+	HYDROGRAPH AT	D43IS	317.	12.33	55.	14.	5.	3.98
+	DIVERSION TO	DSGC43	263.	12.33	46.	11.	4.	3.98
+	HYDROGRAPH AT	DWIS51	54.	12.33	9.	2.	1.	3.98
+	ROUTED TO	RWIS51	20.	14.33	9.	2.	1.	3.98
+	HYDROGRAPH AT	DRIS51	196.	12.17	38.	13.	4.	1.23
+	ROUTED TO	RSIS51	148.	12.58	38.	13.	4.	1.23
+	HYDROGRAPH AT	IS51	281.	12.67	99.	33.	11.	.99
+	DIVERSION TO	XIS51	281.	12.67	65.	19.	6.	.99
+	HYDROGRAPH AT	ERIS51	195.	13.42	48.	14.	5.	.99
+	3 COMBINED AT	CIS51	247.	13.42	91.	29.	10.	1.94
+	DIVERSION TO	DP51IS	244.	13.42	91.	29.	10.	1.94
+	HYDROGRAPH AT	D51IS	5.	13.33	0.	0.	0.	1.94
+	DIVERSION TO	DSGC51	3.	13.33	0.	0.	0.	1.94
+	HYDROGRAPH AT	DWIS59	2.	13.33	0.	0.	0.	1.94
+	ROUTED TO	RWIS59	0.	14.50	0.	0.	0.	1.94
+	HYDROGRAPH AT	DRIS59	293.	12.67	100.	33.	11.	3.11
+	ROUTED TO	RSIS59	273.	13.08	100.	33.	11.	3.11
+	HYDROGRAPH AT	IS59	260.	12.67	97.	32.	11.	1.01
+	3 COMBINED AT	CIS59	514.	13.00	196.	65.	22.	3.38
+	DIVERSION TO	DP59IS	353.	12.58	177.	60.	20.	3.38
+	HYDROGRAPH AT	D59IS	161.	13.00	18.	5.	2.	3.38
+	DIVERSION TO	DSGC59	97.	13.00	11.	3.	1.	3.38
+	HYDROGRAPH AT	DWGC67	64.	13.00	7.	2.	1.	3.38
+	ROUTED TO	RWGC67	37.	13.67	7.	2.	1.	3.38
+	HYDROGRAPH AT	DRGC67	270.	13.08	111.	36.	12.	4.73
+	ROUTED TO	RSGC67	259.	13.58	110.	36.	12.	4.73
+	HYDROGRAPH AT	GC67	282.	12.58	89.	27.	9.	.94
+	3 COMBINED AT	CGC67	461.	13.42	201.	64.	21.	4.34
+	DIVERSION TO	DP67IS	175.	12.25	131.	46.	16.	4.34
+	HYDROGRAPH AT	D67IS	286.	13.42	71.	18.	6.	4.34

+	DIVERSION TO	DSISGC	146.	13.42	36.	9.	3.	4.34
+	HYDROGRAPH AT	DWGC75	140.	13.42	35.	9.	3.	4.34
+	HYDROGRAPH AT	DRGR39	249.	12.33	80.	20.	7.	2.11
+	DIVERSION TO	DEGCGR	120.	12.33	38.	10.	3.	2.11
+	HYDROGRAPH AT	DGC35	130.	12.33	42.	10.	3.	2.11
+	HYDROGRAPH AT	DRGC35	608.	13.08	176.	44.	15.	3.93
+	DIVERSION TO	DSGCGR	152.	13.08	44.	11.	4.	3.93
+	HYDROGRAPH AT	DS35GC	456.	13.08	132.	33.	11.	3.93
+	2 COMBINED AT	CIIS35	554.	13.08	174.	44.	15.	2.06
+	ROUTED TO	RSGC35	548.	13.17	174.	44.	15.	2.06
+	HYDROGRAPH AT	GC35	65.	12.17	11.	4.	1.	.08
+	2 COMBINED AT	CGC35	556.	13.17	184.	47.	16.	2.14
+	HYDROGRAPH AT	PR35IS	40.	12.00	21.	5.	2.	3.93
+	ROUTED TO	RP35GC	40.	12.17	21.	5.	2.	3.93
+	2 COMBINED AT	CPGC35	596.	13.17	206.	53.	18.	2.14
+	DIVERSION TO	DP35GC	40.	12.00	27.	8.	3.	2.14
+	HYDROGRAPH AT	D35GC	556.	13.17	178.	45.	15.	2.14
+	DIVERSION TO	DSTM35	473.	13.17	152.	38.	13.	2.14
+	HYDROGRAPH AT	DWGC43	83.	13.17	27.	7.	2.	2.14
+	ROUTED TO	RWGC43	77.	13.75	27.	7.	2.	2.14
+	HYDROGRAPH AT	DRGC43	263.	12.33	46.	11.	4.	3.98
+	ROUTED TO	RSGC43	207.	12.50	46.	11.	4.	3.98
+	HYDROGRAPH AT	GC43	151.	12.50	52.	18.	6.	.37
+	3 COMBINED AT	CGC43	359.	12.50	124.	36.	12.	2.23
+	HYDROGRAPH AT	PR43IS	406.	12.00	306.	114.	38.	3.98
+	ROUTED TO	RP43GC	406.	12.08	306.	114.	38.	3.98
+	2 COMBINED AT	CPGC43	765.	12.50	430.	150.	50.	2.23
+	DIVERSION TO	DP43GC	406.	12.00	320.	123.	41.	2.23
+	HYDROGRAPH AT	D43GC	359.	12.50	110.	27.	9.	2.23
+	ROUTED TO	SRGC43	359.	12.50	110.	27.	9.	2.23
+	DIVERSION TO	DSTM43	159.	12.50	21.	5.	2.	2.23

+	HYDROGRAPH AT	DWGC51	200.	12.25	89.	22.	7.	2.23
+	ROUTED TO	RWGC51	200.	13.75	89.	22.	7.	2.23
+	HYDROGRAPH AT	DRGC51	3.	13.33	0.	0.	0.	1.94
+	ROUTED TO	RSGC51	1.	13.58	0.	0.	0.	1.94
+	HYDROGRAPH AT	GC51	94.	12.75	38.	12.	4.	.45
+	3 COMBINED AT	CGC51	284.	13.17	126.	35.	12.	2.04
+	HYDROGRAPH AT	PR51IS	244.	13.42	91.	29.	10.	1.94
+	ROUTED TO	RP51ML	237.	13.50	91.	29.	10.	1.94
+	2 COMBINED AT	CPML51	511.	13.50	217.	64.	21.	2.04
+	DIVERSION TO	DPML51	136.	12.33	107.	36.	12.	2.04
+	HYDROGRAPH AT	DML51	375.	13.50	110.	28.	9.	2.04
+	DIVERSION TO	DP51GC	113.	12.75	58.	15.	5.	2.04
+	HYDROGRAPH AT	D51GC	262.	13.50	52.	13.	4.	2.04
+	ROUTED TO	SRGC51	133.	14.33	49.	13.	4.	2.04
+	DIVERSION TO	DSTM51	0.	14.33	0.	0.	0.	2.04
+	HYDROGRAPH AT	DWGC53	133.	14.33	49.	13.	4.	2.04
+	ROUTED TO	RWGC53	133.	14.42	49.	13.	4.	2.04
+	HYDROGRAPH AT	DRGC59	97.	13.00	11.	3.	1.	3.38
+	ROUTED TO	RSGC59	77.	13.33	11.	3.	1.	3.38
+	HYDROGRAPH AT	GC59	130.	12.50	41.	13.	4.	.41
+	2 COMBINED AT	CGC55	161.	13.25	51.	16.	5.	2.42
+	DIVERSION TO	DWGC59	1.	13.17	0.	0.	0.	2.42
+	HYDROGRAPH AT	DEGC53	160.	13.25	51.	16.	5.	2.42
+	HYDROGRAPH AT	PRML51	136.	12.33	107.	36.	12.	2.04
+	ROUTED TO	RPML53	136.	12.42	107.	36.	12.	2.04
+	3 COMBINED AT	CGC53	318.	13.92	203.	65.	22.	2.27
+	ROUTED TO	SRGC53	96.	16.42	90.	62.	22.	2.27
+	DIVERSION TO	DPGC53	20.	11.75	20.	19.	8.	2.27
+	HYDROGRAPH AT	DGC53	76.	16.42	70.	42.	14.	2.27
+	HYDROGRAPH AT	PR59IS	353.	12.58	177.	60.	20.	3.38
+	ROUTED TO	RP59GC	353.	12.67	177.	60.	20.	3.38

+	HYDROGRAPH AT	DRGC59	1.	13.17	0.	0.	0.	2.42
+	2 COMBINED AT	CPGC59	355.	13.17	178.	60.	20.	1.24
+	DIVERSION TO	DP59GC	258.	12.50	155.	55.	19.	1.24
+	HYDROGRAPH AT	D59GC	97.	13.17	23.	6.	2.	1.24
+	2 COMBINED AT	CGC59	148.	13.67	85.	48.	16.	3.50
+	DIVERSION TO	DSTM59	99.	13.67	35.	12.	4.	3.50
+	HYDROGRAPH AT	DWISGC	50.	13.50	50.	35.	12.	3.50
+	ROUTED TO	RWISGC	50.	16.58	50.	35.	12.	3.50
+	HYDROGRAPH AT	DRISGC	146.	13.42	36.	9.	3.	4.34
+	ROUTED TO	RSISGC	144.	13.50	36.	9.	3.	4.34
+	HYDROGRAPH AT	ISGC	32.	12.83	15.	5.	2.	.16
+	3 COMBINED AT	CISGC	219.	13.50	96.	49.	16.	3.33
+	HYDROGRAPH AT	PR59GC	258.	12.50	155.	55.	19.	1.24
+	2 COMBINED AT	CPISGC	477.	13.50	247.	101.	35.	3.33
+	DIVERSION TO	DPGC63	258.	12.42	192.	87.	30.	3.33
+	HYDROGRAPH AT	DGC63	219.	13.50	55.	14.	5.	3.33
+	ROUTED TO	SRISGC	73.	14.42	43.	14.	5.	3.33
+	DIVERSION TO	DSTM67	0.	.00	0.	0.	0.	3.33
+	HYDROGRAPH AT	DPGC67	73.	14.42	43.	14.	5.	3.33
+	HYDROGRAPH AT	DRGC75	249.	13.42	121.	42.	15.	8.14
+	HYDROGRAPH AT	GC75	92.	12.83	41.	13.	4.	.41
+	4 COMBINED AT	CGC75	501.	13.42	233.	76.	26.	9.44
+	ROUTED TO	SRGC75	446.	14.00	232.	76.	26.	9.44
+	2 COMBINED AT	CICB75	719.	13.92	372.	126.	43.	14.03
+	ROUTED TO	RWGC83	717.	14.00	372.	126.	43.	14.03
+	HYDROGRAPH AT	DRGC83	33.	13.92	21.	10.	3.	9.47
+	HYDROGRAPH AT	GC83	86.	12.92	40.	12.	4.	.43
+	DIVERSION TO	XGC83	86.	12.92	40.	12.	4.	.43
+	HYDROGRAPH AT	ERGC83	0.	.00	0.	0.	0.	.43
+	3 COMBINED AT	CGC83	733.	14.00	383.	132.	45.	17.67
+	2 COMBINED AT	CIBH83	773.	14.00	408.	145.	50.	23.92

+	ROUTED TO	RWBH91	761.	14.33	405.	145.	50.	23.92
+	HYDROGRAPH AT	DRBH91	0.	14.83	0.	0.	0.	9.02
+	ROUTED TO	RSBH91	0.	15.83	0.	0.	0.	9.02
+	HYDROGRAPH AT	BH91	263.	12.67	89.	26.	9.	1.03
+	DIVERSION TO	XBH91	9.	10.50	6.	2.	1.	1.03
+	HYDROGRAPH AT	ERBH91	263.	12.67	89.	24.	8.	1.03
+	3 COMBINED AT	CBH91	831.	14.17	454.	163.	56.	30.54
+	ROUTED TO	RWBHLO	827.	14.33	453.	163.	56.	30.54
+	HYDROGRAPH AT	BHLO	422.	12.42	115.	39.	13.	.79
+	DIVERSION TO	XBHLO	422.	12.42	72.	21.	7.	.79
+	HYDROGRAPH AT	ERBHLO	311.	12.83	61.	18.	6.	.79
+	3 COMBINED AT	CBHLO	1098.	14.33	718.	315.	109.	46.47
+	ROUTED TO	RWBH99	1096.	14.33	718.	315.	109.	46.47
+	HYDROGRAPH AT	BH99	34.	12.67	13.	4.	1.	.18
+	2 COMBINED AT	CBH99	1107.	14.33	725.	318.	110.	46.65
+	ROUTED TO	RWBHRI	1103.	14.50	723.	318.	110.	46.65
+	HYDROGRAPH AT	GLNR	90.	12.75	36.	11.	4.	.48
+	DIVERSION TO	XGLNR	13.	12.00	4.	1.	0.	.48
+	HYDROGRAPH AT	ERGLNR	90.	12.75	35.	10.	3.	.48
+	DIVERSION TO	DWNR04	90.	12.75	35.	10.	3.	.48
+	HYDROGRAPH AT	DSBHRI	0.	.00	0.	0.	0.	.48
+	ROUTED TO	RSBHRI	0.	.00	0.	0.	0.	.48
+	HYDROGRAPH AT	BHRI	60.	12.67	18.	5.	2.	.51
+	DIVERSION TO	DWBHAF	48.	12.67	14.	4.	1.	.51
+	HYDROGRAPH AT	DBHNR	13.	12.67	4.	1.	0.	.51
+	3 COMBINED AT	CBHRI	1104.	14.50	724.	318.	110.	47.17
+	ROUTED TO	RWBHNR	1096.	14.58	722.	318.	110.	47.17
+	HYDROGRAPH AT	BHNR	41.	12.50	10.	2.	1.	.26
+	2 COMBINED AT	CBHNR	1099.	14.58	724.	319.	111.	47.42
+	HYDROGRAPH AT	CB99	58.	12.50	20.	6.	2.	.20
+	DIVERSION TO	XCB99	58.	12.50	8.	2.	1.	.20

+	HYDROGRAPH AT	ERCB99	54.	12.83	14.	4.	1.	.20
+	DIVERSION TO	DSIS99	26.	12.83	7.	2.	1.	.20
+	HYDROGRAPH AT	DWCBRI	27.	12.83	7.	2.	1.	.20
+	ROUTED TO	RWCBRI	19.	13.75	7.	2.	1.	.20
+	HYDROGRAPH AT	CBRI	147.	12.75	56.	17.	6.	.70
+	DIVERSION TO	XCBRI	147.	12.75	56.	17.	6.	.70
+	HYDROGRAPH AT	ERCBRI	0.	.00	0.	0.	0.	.70
+	2 COMBINED AT	CCBRI	19.	13.75	7.	2.	1.	.80
+	DIVERSION TO	DSIS07	13.	13.83	5.	1.	0.	.80
+	HYDROGRAPH AT	DWCB07	6.	13.83	2.	1.	0.	.80
+	HYDROGRAPH AT	CB07	46.	12.67	15.	4.	1.	.32
+	2 COMBINED AT	CCB07	46.	12.67	17.	5.	2.	.56
+	DIVERSION TO	DIS07	31.	12.67	12.	3.	1.	.56
+	HYDROGRAPH AT	DWCBNR	14.	12.67	5.	1.	0.	.56
+	ROUTED TO	RWCBNR	12.	14.17	5.	1.	0.	.56
+	HYDROGRAPH AT	CBNR	57.	12.75	21.	6.	2.	.47
+	2 COMBINED AT	CCBNR	58.	12.83	26.	7.	2.	.64
+	HYDROGRAPH AT	DRIS99	26.	12.83	7.	2.	1.	.20
+	ROUTED TO	RSIS99	17.	14.25	7.	2.	1.	.20
+	HYDROGRAPH AT	IS99	87.	12.58	25.	7.	2.	.32
+	2 COMBINED AT	CIS99	86.	12.58	31.	9.	3.	.42
+	DIVERSION TO	DSTM99	22.	12.58	8.	2.	1.	.42
+	HYDROGRAPH AT	DWIS07	64.	12.58	23.	6.	2.	.42
+	ROUTED TO	RWIS07	58.	13.25	23.	6.	2.	.42
+	HYDROGRAPH AT	DI07IS	31.	12.67	12.	3.	1.	.56
+	HYDROGRAPH AT	DRIS07	13.	13.83	5.	1.	0.	.80
+	2 COMBINED AT	CICB07	36.	13.58	16.	4.	1.	.94
+	ROUTED TO	RSIS07	35.	14.08	16.	4.	1.	.94
+	HYDROGRAPH AT	IS07	286.	12.67	98.	29.	10.	1.02
+	DIVERSION TO	XIS07	149.	12.25	17.	5.	2.	1.02
+	HYDROGRAPH AT	ERIS07	286.	12.67	90.	24.	8.	1.02

+	3 COMBINED AT	CIS07	317.	13.08	128.	35.	12.	2.28
+	DIVERSION TO	DSRI07	79.	13.08	32.	9.	3.	2.28
+	HYDROGRAPH AT	DWISAF	238.	13.08	96.	26.	9.	2.28
+	ROUTED TO	RWISAF	221.	13.75	92.	26.	9.	2.28
+	HYDROGRAPH AT	ISAF	233.	12.75	94.	31.	10.	.99
+	2 COMBINED AT	CISAF	381.	13.58	179.	57.	19.	2.69
+	HYDROGRAPH AT	DRTM99	22.	12.58	8.	2.	1.	.42
+	ROUTED TO	RSTM99	18.	13.75	8.	2.	1.	.42
+	HYDROGRAPH AT	TM99	98.	12.75	34.	9.	3.	.50
+	2 COMBINED AT	CTM99	98.	12.75	41.	11.	4.	.62
+	DIVERSION TO	DSMD99	45.	12.75	19.	5.	2.	.62
+	HYDROGRAPH AT	DWRI07	53.	12.75	22.	6.	2.	.62
+	ROUTED TO	RWRI07	49.	13.50	22.	6.	2.	.62
+	HYDROGRAPH AT	DRRI07	79.	13.08	32.	9.	3.	2.28
+	ROUTED TO	RSRI07	77.	13.42	31.	9.	3.	2.28
+	HYDROGRAPH AT	RI07	206.	12.58	58.	16.	5.	.76
+	DIVERSION TO	XRI07	206.	12.58	41.	11.	4.	.76
+	HYDROGRAPH AT	ERRI07	105.	13.58	20.	5.	2.	.76
+	3 COMBINED AT	CRI07	227.	13.58	73.	20.	7.	1.67
+	DIVERSION TO	DTM07	111.	13.58	36.	10.	3.	1.67
+	HYDROGRAPH AT	DRIAF	116.	13.58	37.	10.	3.	1.67
+	DIVERSION TO	DSTM07	72.	13.58	23.	6.	2.	1.67
+	HYDROGRAPH AT	DWRIAF	44.	13.58	14.	4.	1.	1.67
+	ROUTED TO	RWRIAF	25.	15.92	13.	4.	1.	1.67
+	HYDROGRAPH AT	RIAF	157.	12.75	67.	21.	7.	.66
+	2 COMBINED AT	CRIAF	157.	12.75	75.	25.	9.	.98
+	HYDROGRAPH AT	DRBHAF	48.	12.67	14.	4.	1.	.51
+	ROUTED TO	SRBHRI	0.	16.75	0.	0.	0.	.51
+	5 COMBINED AT	CAF01	1694.	14.25	1111.	460.	162.	4.31
+	HYDROGRAPH AT	CB83	223.	12.50	50.	14.	5.	.55
+	DIVERSION TO	XCB83	223.	12.50	34.	9.	3.	.55

+	HYDROGRAPH AT	ERCB83	133.	13.08	20.	5.	2.	.55
+	DIVERSION TO	DP83CB	10.	13.00	6.	2.	1.	.55
+	HYDROGRAPH AT	D83CB	123.	13.08	13.	3.	1.	.55
+	DIVERSION TO	DSIS83	54.	13.08	6.	1.	0.	.55
+	HYDROGRAPH AT	DWCB91	69.	13.08	7.	2.	1.	.55
+	ROUTED TO	RWCB91	36.	14.08	7.	2.	1.	.55
+	HYDROGRAPH AT	CB91	226.	12.58	66.	17.	6.	.96
+	DIVERSION TO	XCB91	226.	12.58	32.	8.	3.	.96
+	HYDROGRAPH AT	ERCB91	182.	13.17	36.	9.	3.	.96
+	2 COMBINED AT	CCB91	181.	13.17	43.	11.	4.	1.32
+	DIVERSION TO	DSIS91	85.	13.17	20.	5.	2.	1.32
+	HYDROGRAPH AT	DWCBLO	96.	13.17	23.	6.	2.	1.32
+	ROUTED TO	RWCBLO	68.	14.00	23.	6.	2.	1.32
+	HYDROGRAPH AT	CBLO	226.	12.58	65.	18.	6.	.82
+	DIVERSION TO	XCBLO	226.	12.58	24.	7.	2.	.82
+	HYDROGRAPH AT	ERCBLO	211.	12.83	44.	12.	4.	.82
+	2 COMBINED AT	CCBLO	210.	12.83	66.	17.	6.	1.52
+	ROUTED TO	RSISLO	164.	13.33	66.	17.	6.	1.52
+	HYDROGRAPH AT	IS75	238.	12.50	68.	21.	7.	.62
+	DIVERSION TO	XIS75	4.	3.42	2.	0.	0.	.62
+	HYDROGRAPH AT	ERIS75	238.	12.50	68.	21.	7.	.62
+	DIVERSION TO	DP75IS	123.	12.17	54.	17.	6.	.62
+	HYDROGRAPH AT	D75IS	115.	12.50	14.	4.	1.	.62
+	DIVERSION TO	DSTM75	40.	12.50	5.	1.	0.	.62
+	HYDROGRAPH AT	DWIS83	75.	12.50	9.	2.	1.	.62
+	ROUTED TO	RWIS83	49.	13.58	9.	2.	1.	.62
+	HYDROGRAPH AT	DRIS83	54.	13.08	6.	1.	0.	.55
+	ROUTED TO	RSIS83	27.	14.33	6.	1.	0.	.55
+	HYDROGRAPH AT	IS83	270.	12.67	96.	30.	10.	.99
+	3 COMBINED AT	CIS83	274.	12.75	111.	33.	11.	1.64
+	HYDROGRAPH AT	PR83CB	10.	13.00	6.	2.	1.	.55

+	ROUTED TO	RP83IS	10.	13.42	6.	2.	1.	.55
+	2 COMBINED AT	CPIS83	274.	12.75	116.	35.	12.	1.64
+	DIVERSION TO	DP83IS	187.	12.42	99.	31.	10.	1.64
+	HYDROGRAPH AT	D83IS	87.	12.75	17.	4.	1.	1.64
+	DIVERSION TO	DSTM83	48.	12.75	9.	2.	1.	1.64
+	HYDROGRAPH AT	DWIS91	39.	12.75	8.	2.	1.	1.64
+	ROUTED TO	RWIS91	30.	13.92	8.	2.	1.	1.64
+	HYDROGRAPH AT	DRIS91	85.	13.17	20.	5.	2.	1.32
+	ROUTED TO	RSIS91	55.	14.42	20.	5.	2.	1.32
+	HYDROGRAPH AT	IS91	312.	12.75	113.	35.	12.	1.00
+	DIVERSION TO	XIS91	311.	12.67	43.	12.	4.	1.00
+	HYDROGRAPH AT	ERIS91	304.	12.92	82.	22.	7.	1.00
+	3 COMBINED AT	CIS91	308.	12.92	108.	29.	10.	2.36
+	DIVERSION TO	DP91IS	190.	12.83	93.	26.	9.	2.36
+	HYDROGRAPH AT	D91IS	118.	12.92	15.	4.	1.	2.36
+	DIVERSION TO	DSTM91	67.	12.92	8.	2.	1.	2.36
+	HYDROGRAPH AT	DWISLO	51.	12.92	6.	2.	1.	2.36
+	ROUTED TO	RWISLO	34.	13.50	6.	2.	1.	2.36
+	HYDROGRAPH AT	ISLO	212.	12.58	63.	18.	6.	.68
+	DIVERSION TO	XISLO	212.	12.58	57.	15.	5.	.68
+	HYDROGRAPH AT	ERISLO	38.	14.58	10.	3.	1.	.68
+	3 COMBINED AT	CISLO	195.	13.42	80.	22.	7.	3.22
+	ROUTED TO	RSTMLO	185.	13.75	79.	22.	7.	3.22
+	HYDROGRAPH AT	DRGCGR	120.	12.33	38.	10.	3.	2.11
+	HYDROGRAPH AT	DIGCGR	152.	13.08	44.	11.	4.	3.93
+	2 COMBINED AT	CIGR35	240.	12.42	82.	21.	7.	3.97
+	ROUTED TO	RSGCGR	234.	13.25	82.	21.	7.	3.97
+	HYDROGRAPH AT	DRGC27	245.	13.42	78.	19.	6.	1.74
+	ROUTED TO	RSGC27	243.	13.50	78.	19.	6.	1.74
+	HYDROGRAPH AT	GCGR	460.	12.08	52.	18.	6.	.38
+	3 COMBINED AT	CGCGR	487.	13.42	208.	57.	19.	6.09

+	HYDROGRAPH AT	PR31IS	268.	12.00	192.	67.	23.	3.93
+	ROUTED TO	RP31GC	268.	12.08	192.	67.	23.	3.93
+	HYDROGRAPH AT	PR27IS	151.	12.08	131.	56.	19.	1.74
+	ROUTED TO	RP27GC	151.	12.17	131.	56.	19.	1.74
+	3 COMBINED AT	CPGCGR	906.	13.42	530.	180.	60.	6.09
+	DIVERSION TO	DPGCGR	422.	11.83	346.	134.	45.	6.09
+	HYDROGRAPH AT	DGCGR	484.	13.42	184.	46.	15.	6.09
+	ROUTED TO	SRGCGR	290.	14.33	184.	46.	15.	6.09
+	ROUTED TO	RSGR27	287.	14.58	181.	46.	15.	6.09
+	HYDROGRAPH AT	GR27	274.	12.25	55.	18.	6.	.41
+	2 COMBINED AT	CTM27	332.	12.42	230.	64.	21.	6.50
+	DIVERSION TO	DGR27	166.	12.42	115.	32.	11.	6.50
+	HYDROGRAPH AT	DTM27	166.	12.42	115.	32.	11.	6.50
+	ROUTED TO	SRTM27	151.	14.67	78.	32.	11.	6.50
+	HYDROGRAPH AT	PRGCGR	422.	11.83	346.	134.	45.	6.09
+	DIVERSION TO	DP31GR	257.	11.67	236.	106.	36.	6.09
+	HYDROGRAPH AT	D31GR	165.	11.83	110.	27.	9.	6.09
+	ROUTED TO	RP27TM	165.	11.92	110.	27.	9.	6.09
+	2 COMBINED AT	CPGR27	311.	14.75	181.	58.	19.	12.59
+	DIVERSION TO	DP27GR	195.	12.00	157.	52.	17.	12.59
+	HYDROGRAPH AT	D27GR	116.	14.75	24.	6.	2.	12.59
+	HYDROGRAPH AT	DRGR27	166.	12.42	115.	32.	11.	6.50
+	2 COMBINED AT	CGR27	271.	14.58	142.	39.	13.	6.50
+	ROUTED TO	SRGR27	159.	15.67	45.	26.	13.	6.50
+	DIVERSION TO	DSMD27	108.	15.67	31.	18.	9.	6.50
+	HYDROGRAPH AT	DWTM35	51.	15.67	14.	8.	4.	6.50
+	ROUTED TO	RWTM35	31.	16.92	14.	8.	4.	6.50
+	HYDROGRAPH AT	DRTM35	473.	13.17	152.	38.	13.	2.14
+	ROUTED TO	RSTM35	462.	13.25	152.	38.	13.	2.14
+	HYDROGRAPH AT	TM35	278.	12.25	57.	20.	7.	.39
+	3 COMBINED AT	CTM35	597.	12.50	213.	62.	23.	4.31

+	HYDROGRAPH AT	PR31GR	257.	11.67	236.	106.	36.	6.09
+	ROUTED TO	RP31TM	257.	11.75	236.	106.	36.	6.09
+	HYDROGRAPH AT	PR35GC	40.	12.00	27.	8.	3.	2.14
+	ROUTED TO	RP35TM	40.	12.17	27.	8.	3.	2.14
+	3 COMBINED AT	CPTM35	894.	12.50	476.	176.	62.	4.31
+	DIVERSION TO	DP35TM	300.	11.75	278.	126.	45.	4.31
+	HYDROGRAPH AT	D35TM	594.	12.50	198.	49.	16.	4.31
+	DIVERSION TO	DSMD35	499.	12.50	166.	42.	14.	4.31
+	HYDROGRAPH AT	DWTM43	95.	12.50	32.	8.	3.	4.31
+	ROUTED TO	RWTM43	80.	14.00	31.	8.	3.	4.31
+	HYDROGRAPH AT	DRTM43	159.	12.50	21.	5.	2.	2.23
+	ROUTED TO	RSTM43	124.	12.67	21.	5.	2.	2.23
+	HYDROGRAPH AT	TM43	189.	12.75	71.	22.	7.	.64
+	DIVERSION TO	XTM43	5.	6.33	3.	1.	0.	.64
+	HYDROGRAPH AT	ERTM43	189.	12.75	71.	21.	7.	.64
+	3 COMBINED AT	CTM43	310.	12.67	120.	34.	11.	3.16
+	HYDROGRAPH AT	PR43GC	406.	12.00	320.	123.	41.	2.23
+	ROUTED TO	RP43TM	406.	12.08	320.	123.	41.	2.23
+	2 COMBINED AT	CPTM43	716.	12.67	439.	156.	53.	3.16
+	DIVERSION TO	DP43TM	629.	12.50	430.	154.	52.	3.16
+	HYDROGRAPH AT	D43TM	87.	12.67	9.	2.	1.	3.16
+	DIVERSION TO	DSMD43	68.	12.67	7.	2.	1.	3.16
+	HYDROGRAPH AT	DWTM51	18.	12.67	2.	0.	0.	3.16
+	ROUTED TO	RWTM51	5.	15.17	2.	0.	0.	3.16
+	HYDROGRAPH AT	DRTM51	0.	14.33	0.	0.	0.	2.04
+	ROUTED TO	RSTM51	0.	14.75	0.	0.	0.	2.04
+	HYDROGRAPH AT	TM51	132.	12.75	51.	16.	5.	.55
+	3 COMBINED AT	CTM51	131.	12.75	52.	16.	5.	2.15
+	HYDROGRAPH AT	PR51GC	113.	12.75	58.	15.	5.	2.04
+	HYDROGRAPH AT	PRGC53	20.	11.75	20.	19.	8.	2.27
+	ROUTED TO	RPGC51	20.	11.83	20.	19.	8.	2.27

+	2 COMBINED AT	CPGC51	133.	12.75	78.	34.	12.	2.15
+	ROUTED TO	RP51TM	133.	12.83	78.	34.	12.	2.15
+	2 COMBINED AT	CPTM51	263.	12.75	130.	49.	18.	4.30
+	DIVERSION TO	DP51TM	244.	12.67	128.	49.	18.	4.30
+	HYDROGRAPH AT	D51TM	19.	12.75	1.	0.	0.	4.30
+	DIVERSION TO	DSMD51	12.	12.75	1.	0.	0.	4.30
+	HYDROGRAPH AT	DWTM59	7.	12.75	0.	0.	0.	4.30
+	ROUTED TO	RWTM59	2.	14.08	0.	0.	0.	4.30
+	HYDROGRAPH AT	DRTM59	99.	13.67	35.	12.	4.	3.50
+	ROUTED TO	RSTM59	96.	13.67	34.	12.	4.	3.50
+	HYDROGRAPH AT	TM59	150.	12.67	54.	17.	6.	.60
+	3 COMBINED AT	CTM59	212.	13.17	86.	29.	10.	3.90
+	HYDROGRAPH AT	PRGC63	258.	12.42	192.	87.	30.	3.33
+	ROUTED TO	RP59TM	258.	12.58	192.	87.	30.	3.33
+	2 COMBINED AT	CPTM59	470.	13.17	277.	116.	40.	3.90
+	DIVERSION TO	DP59TM	389.	12.50	263.	112.	39.	3.90
+	HYDROGRAPH AT	D59TM	81.	13.17	15.	4.	1.	3.90
+	DIVERSION TO	DSMD59	33.	13.17	6.	1.	0.	3.90
+	HYDROGRAPH AT	DWTM67	48.	13.17	9.	2.	1.	3.90
+	ROUTED TO	RWTM67	29.	14.33	9.	2.	1.	3.90
+	HYDROGRAPH AT	DRTM67	0.	.00	0.	0.	0.	3.33
+	ROUTED TO	RSTM67	0.	.00	0.	0.	0.	3.33
+	HYDROGRAPH AT	TM67	245.	12.67	87.	27.	9.	.81
+	DIVERSION TO	XTM67	5.	4.17	2.	1.	0.	.81
+	HYDROGRAPH AT	ERTM67	245.	12.67	87.	26.	9.	.81
+	3 COMBINED AT	CTM67	244.	12.67	95.	28.	9.	3.12
+	HYDROGRAPH AT	PR67IS	175.	12.25	131.	46.	16.	4.34
+	ROUTED TO	RP67TM	175.	12.42	131.	46.	16.	4.34
+	2 COMBINED AT	CPTM67	419.	12.67	224.	74.	25.	3.12
+	DIVERSION TO	DP67TM	273.	12.33	193.	66.	22.	3.12
+	HYDROGRAPH AT	D67TM	146.	12.67	31.	8.	3.	3.12

+	DIVERSION TO	DSMD67	66.	12.67	14.	3.	1.	3.12
+	HYDROGRAPH AT	DWTM75	80.	12.67	17.	4.	1.	3.12
+	ROUTED TO	RWTM75	55.	13.92	17.	4.	1.	3.12
+	HYDROGRAPH AT	DRTM75	40.	12.50	5.	1.	0.	.62
+	ROUTED TO	RSTM75	27.	13.58	5.	1.	0.	.62
+	HYDROGRAPH AT	TM75	335.	12.67	116.	36.	12.	1.00
+	DIVERSION TO	XTM75	6.	3.00	2.	0.	0.	1.00
+	HYDROGRAPH AT	ERTM75	335.	12.67	116.	36.	12.	1.00
+	3 COMBINED AT	CTM75	339.	12.75	138.	41.	14.	2.92
+	HYDROGRAPH AT	PR75IS	123.	12.17	54.	17.	6.	.62
+	ROUTED TO	RP75TM	123.	12.42	54.	17.	6.	.62
+	2 COMBINED AT	CPTM75	462.	12.75	191.	58.	19.	2.92
+	DIVERSION TO	DP75TM	303.	12.33	158.	50.	17.	2.92
+	HYDROGRAPH AT	D75TM	159.	12.75	33.	8.	3.	2.92
+	DIVERSION TO	DSMD75	76.	12.75	16.	4.	1.	2.92
+	HYDROGRAPH AT	DWTM83	83.	12.75	17.	4.	1.	2.92
+	ROUTED TO	RWTM83	64.	13.83	17.	4.	1.	2.92
+	HYDROGRAPH AT	DRTM83	48.	12.75	9.	2.	1.	1.64
+	ROUTED TO	RSTM83	35.	14.00	9.	2.	1.	1.64
+	HYDROGRAPH AT	TM83	281.	12.67	100.	31.	10.	.99
+	3 COMBINED AT	CTM83	287.	13.00	125.	37.	12.	3.41
+	HYDROGRAPH AT	PR83IS	187.	12.42	99.	31.	10.	1.64
+	ROUTED TO	RP83TM	187.	12.58	99.	31.	10.	1.64
+	2 COMBINED AT	CPTM83	474.	13.00	223.	68.	23.	3.41
+	DIVERSION TO	DP83TM	283.	12.33	169.	55.	18.	3.41
+	HYDROGRAPH AT	D83TM	191.	13.00	54.	14.	5.	3.41
+	DIVERSION TO	DSMD83	44.	13.00	12.	3.	1.	3.41
+	HYDROGRAPH AT	DWTM91	147.	13.00	42.	10.	3.	3.41
+	ROUTED TO	RWTM91	140.	13.75	42.	10.	3.	3.41
+	HYDROGRAPH AT	DRTM91	67.	12.92	8.	2.	1.	2.36
+	ROUTED TO	RSTM91	32.	14.25	8.	2.	1.	2.36

+	HYDROGRAPH AT TM91	291.	12.67	104.	32.	11.	1.00
+	DIVERSION TO XTM91	215.	12.42	25.	7.	2.	1.00
+	HYDROGRAPH AT ERTM91	291.	12.67	91.	25.	8.	1.00
+	3 COMBINED AT CTM91	341.	13.58	139.	37.	12.	4.96
+	HYDROGRAPH AT PR91IS	190.	12.83	93.	26.	9.	2.36
+	ROUTED TO RP91TM	190.	13.00	93.	26.	9.	2.36
+	2 COMBINED AT CPTM91	531.	13.58	231.	62.	21.	4.96
+	DIVERSION TO DP91TM	287.	12.67	173.	48.	16.	4.96
+	HYDROGRAPH AT D91TM	244.	13.58	58.	15.	5.	4.96
+	DIVERSION TO DSMD91	188.	13.58	45.	11.	4.	4.96
+	HYDROGRAPH AT DWTMLO	56.	13.58	13.	3.	1.	4.96
+	ROUTED TO RWTMLO	53.	13.83	13.	3.	1.	4.96
+	HYDROGRAPH AT TMLO	107.	12.67	34.	9.	3.	.50
+	DIVERSION TO XTMLO	1.	7.67	1.	0.	0.	.50
+	HYDROGRAPH AT ERTMLO	107.	12.67	34.	9.	3.	.50
+	3 COMBINED AT CTMLO	288.	13.75	122.	34.	11.	4.87
+	ROUTED TO RSMDLO	280.	14.00	121.	34.	11.	4.87
+	HYDROGRAPH AT DRMD27	108.	15.67	31.	18.	9.	6.50
+	ROUTED TO RSMD27	71.	16.33	30.	18.	9.	6.50
+	HYDROGRAPH AT MD27	161.	12.25	35.	12.	4.	.24
+	2 COMBINED AT CMD27	162.	12.25	59.	26.	13.	4.65
+	HYDROGRAPH AT PR27GR	195.	12.00	157.	52.	17.	12.59
+	ROUTED TO RP27MD	195.	12.92	157.	52.	17.	12.59
+	2 COMBINED AT CPMD27	349.	12.17	217.	78.	30.	4.65
+	DIVERSION TO DP27MD	246.	12.00	205.	75.	29.	4.65
+	HYDROGRAPH AT D27MD	103.	12.17	12.	3.	1.	4.65
+	ROUTED TO RWMD35	52.	13.25	12.	3.	1.	4.65
+	HYDROGRAPH AT DRMD35	499.	12.50	166.	42.	14.	4.31
+	ROUTED TO RSMD35	439.	12.92	166.	42.	14.	4.31
+	HYDROGRAPH AT MD35	378.	12.67	134.	43.	14.	1.00
+	3 COMBINED AT CMD35	811.	12.83	308.	87.	29.	9.29

+	HYDROGRAPH AT PR35TM	300.	11.75	278.	126.	45.	4.31
+	ROUTED TO RP35MD	300.	11.83	278.	126.	45.	4.31
+	2 COMBINED AT CPMD35	1111.	12.83	585.	213.	74.	9.29
+	DIVERSION TO DP35MD	507.	12.17	422.	172.	61.	9.29
+	HYDROGRAPH AT D35MD	604.	12.83	163.	41.	14.	9.29
+	DIVERSION TO DSIN35	381.	12.83	103.	26.	9.	9.29
+	HYDROGRAPH AT DWMD43	224.	12.83	60.	15.	5.	9.29
+	ROUTED TO RWMD43	192.	14.00	60.	15.	5.	9.29
+	HYDROGRAPH AT DRMD43	68.	12.67	7.	2.	1.	3.16
+	ROUTED TO RSMD43	33.	13.50	7.	2.	1.	3.16
+	HYDROGRAPH AT MD43	587.	12.42	118.	36.	12.	1.00
+	3 COMBINED AT CMD43	581.	12.42	179.	53.	18.	6.96
+	HYDROGRAPH AT PR43TM	629.	12.50	430.	154.	52.	3.16
+	ROUTED TO RP43MD	629.	12.58	430.	154.	52.	3.16
+	2 COMBINED AT CPMD43	1156.	12.50	608.	206.	69.	6.96
+	DIVERSION TO DP43MD	629.	12.08	486.	176.	59.	6.96
+	HYDROGRAPH AT D43MD	527.	12.50	122.	31.	10.	6.96
+	DIVERSION TO DSIN43	527.	12.50	122.	31.	10.	6.96
+	HYDROGRAPH AT DWMD51	0.	.00	0.	0.	0.	6.96
+	ROUTED TO RWMD51	0.	.00	0.	0.	0.	6.96
+	HYDROGRAPH AT DRMD51	12.	12.75	1.	0.	0.	4.30
+	ROUTED TO RSMD51	5.	13.50	1.	0.	0.	4.30
+	HYDROGRAPH AT MD51	296.	12.67	105.	32.	11.	1.00
+	3 COMBINED AT CMD51	295.	12.67	106.	32.	11.	2.37
+	HYDROGRAPH AT PR51TM	244.	12.67	128.	49.	18.	4.30
+	ROUTED TO RP51MD	244.	12.83	129.	49.	18.	4.30
+	2 COMBINED AT CPMD51	537.	12.75	234.	79.	29.	2.37
+	DIVERSION TO DP51MD	368.	12.50	209.	73.	27.	2.37
+	HYDROGRAPH AT D51MD	169.	12.75	26.	6.	2.	2.37
+	DIVERSION TO DSIN51	66.	12.75	10.	2.	1.	2.37
+	HYDROGRAPH AT DWMD59	103.	12.75	16.	4.	1.	2.37

+	ROUTED TO RWMD59	81.	13.67	16.	4.	1.	2.37
+	HYDROGRAPH AT DRMD59	33.	13.17	6.	1.	0.	3.90
+	ROUTED TO RSMD59	24.	14.00	6.	1.	0.	3.90
+	HYDROGRAPH AT MD59	291.	12.67	103.	31.	10.	1.00
+	3 COMBINED AT CMD59	289.	12.67	123.	36.	12.	4.05
+	HYDROGRAPH AT PR59TM	389.	12.50	263.	112.	39.	3.90
+	ROUTED TO RP59MD	389.	12.67	263.	112.	39.	3.90
+	2 COMBINED AT CPMD59	678.	12.67	384.	147.	51.	4.05
+	DIVERSION TO DP59MD	468.	12.42	328.	133.	46.	4.05
+	HYDROGRAPH AT D59MD	210.	12.67	56.	14.	5.	4.05
+	DIVERSION TO DSIN59	105.	12.67	28.	7.	2.	4.05
+	HYDROGRAPH AT DWMD67	105.	12.67	28.	7.	2.	4.05
+	ROUTED TO RWMD67	93.	14.00	28.	7.	2.	4.05
+	HYDROGRAPH AT DRMD67	66.	12.67	14.	3.	1.	3.12
+	ROUTED TO RSMD67	47.	13.67	14.	3.	1.	3.12
+	HYDROGRAPH AT MD67	282.	12.67	98.	29.	10.	.98
+	DIVERSION TO XMD67	186.	12.33	19.	6.	2.	.98
+	HYDROGRAPH AT ERMD67	282.	12.67	88.	24.	8.	.98
+	3 COMBINED AT CMD67	310.	13.50	129.	34.	11.	4.41
+	HYDROGRAPH AT PR67TM	273.	12.33	193.	66.	22.	3.12
+	ROUTED TO RP67MD	273.	12.50	193.	66.	22.	3.12
+	2 COMBINED AT CPMD67	583.	13.50	321.	100.	34.	4.41
+	DIVERSION TO DP67MD	400.	12.50	268.	87.	29.	4.41
+	HYDROGRAPH AT D67MD	183.	13.50	53.	13.	4.	4.41
+	DIVERSION TO DSIN67	27.	13.50	8.	2.	1.	4.41
+	HYDROGRAPH AT DWMD75	156.	13.50	45.	11.	4.	4.41
+	ROUTED TO RWMD75	145.	14.00	45.	11.	4.	4.41
+	HYDROGRAPH AT DRMD75	76.	12.75	16.	4.	1.	2.92
+	ROUTED TO RSMD75	57.	13.83	16.	4.	1.	2.92
+	HYDROGRAPH AT MD75	299.	12.67	107.	33.	11.	1.00
+	DIVERSION TO XMD75	16.	10.42	10.	3.	1.	1.00

+	HYDROGRAPH AT ERMD75	299.	12.67	107.	30.	10.	1.00
+	3 COMBINED AT CMD75	363.	13.67	166.	45.	15.	6.14
+	HYDROGRAPH AT PR75TM	303.	12.33	158.	50.	17.	2.92
+	ROUTED TO RP75MD	303.	12.50	158.	50.	17.	2.92
+	2 COMBINED AT CPMD75	666.	13.67	324.	95.	32.	6.14
+	DIVERSION TO DP75MD	364.	12.25	233.	72.	24.	6.14
+	HYDROGRAPH AT D75MD	302.	13.67	91.	23.	8.	6.14
+	DIVERSION TO DSIN75	106.	13.67	32.	8.	3.	6.14
+	HYDROGRAPH AT DWMD83	196.	13.67	59.	15.	5.	6.14
+	ROUTED TO RWMD83	190.	14.00	59.	15.	5.	6.14
+	HYDROGRAPH AT DRMD83	44.	13.00	12.	3.	1.	3.41
+	ROUTED TO RSMD83	41.	13.83	12.	3.	1.	3.41
+	HYDROGRAPH AT MD83	418.	12.50	116.	37.	12.	.99
+	DIVERSION TO XMD83	418.	12.42	50.	15.	5.	.99
+	HYDROGRAPH AT ERMD83	395.	12.67	79.	22.	7.	.99
+	3 COMBINED AT CMD83	406.	12.67	149.	40.	13.	5.80
+	HYDROGRAPH AT PR83TM	283.	12.33	169.	55.	18.	3.41
+	ROUTED TO RP83MD	283.	12.50	169.	55.	18.	3.41
+	2 COMBINED AT CPMD83	689.	12.67	316.	94.	32.	5.80
+	DIVERSION TO DP83MD	340.	12.58	213.	68.	23.	5.80
+	HYDROGRAPH AT D83MD	349.	12.67	104.	26.	9.	5.80
+	ROUTED TO RWMD91	322.	13.50	104.	26.	9.	5.80
+	HYDROGRAPH AT DRMD91	188.	13.58	45.	11.	4.	4.96
+	ROUTED TO RSMD91	169.	14.08	45.	11.	4.	4.96
+	HYDROGRAPH AT MD91	314.	12.75	114.	35.	12.	1.01
+	DIVERSION TO XMD91	307.	12.58	37.	11.	4.	1.01
+	HYDROGRAPH AT ERMD91	314.	12.75	89.	24.	8.	1.01
+	3 COMBINED AT CMD91	618.	13.75	232.	60.	20.	10.61
+	HYDROGRAPH AT PR91TM	287.	12.67	173.	48.	16.	4.96
+	ROUTED TO RP91MD	287.	12.83	173.	48.	16.	4.96
+	2 COMBINED AT CPMD91	905.	13.75	403.	108.	36.	10.61

+	DIVERSION TO	DP91MD	345.	12.75	226.	63.	21.	10.61
+	HYDROGRAPH AT	D91MD	560.	13.75	177.	44.	15.	10.61
+	DIVERSION TO	DSIN91	112.	13.75	35.	9.	3.	10.61
+	HYDROGRAPH AT	DWMDLO	448.	13.75	142.	35.	12.	10.61
+	ROUTED TO	RWMDLO	440.	14.08	142.	35.	12.	10.61
+	HYDROGRAPH AT	MDLO	334.	12.42	80.	25.	8.	.67
+	DIVERSION TO	XMDLO	334.	12.42	80.	25.	8.	.67
+	HYDROGRAPH AT	ERMDLO	0.	.00	0.	0.	0.	.67
+	3 COMBINED AT	CMDLO	678.	14.08	244.	65.	22.	14.07
+	ROUTED TO	RSINLO	678.	14.08	244.	65.	22.	14.07
+	DIVERSION TO	DEIN95	0.	.00	0.	0.	0.	14.07
+	HYDROGRAPH AT	DSINLO	678.	14.08	244.	65.	22.	14.07
+	HYDROGRAPH AT	IN27	66.	12.25	15.	5.	2.	.10
+	HYDROGRAPH AT	PR27MD	246.	12.00	205.	75.	29.	4.65
+	ROUTED TO	RP27IN	246.	12.08	205.	75.	29.	4.65
+	2 COMBINED AT	CPIN27	312.	12.25	222.	80.	31.	.10
+	DIVERSION TO	DSVB27	225.	12.25	160.	58.	23.	.10
+	HYDROGRAPH AT	DWIN35	87.	12.25	62.	22.	9.	.10
+	ROUTED TO	RWIN35	82.	13.00	61.	22.	9.	.10
+	HYDROGRAPH AT	DRIN35	381.	12.83	103.	26.	9.	9.29
+	ROUTED TO	RSIN35	378.	13.00	103.	26.	9.	9.29
+	HYDROGRAPH AT	IN35	298.	12.08	34.	11.	4.	.24
+	3 COMBINED AT	CIN35	482.	13.00	191.	58.	21.	6.11
+	HYDROGRAPH AT	PR35MD	507.	12.17	422.	172.	61.	9.29
+	ROUTED TO	RP35IN	507.	12.25	422.	172.	61.	9.29
+	2 COMBINED AT	CPIN35	989.	13.00	612.	230.	82.	6.11
+	DIVERSION TO	DSVB35	860.	13.00	532.	200.	71.	6.11
+	HYDROGRAPH AT	DWIN43	129.	13.00	80.	30.	11.	6.11
+	ROUTED TO	RWIN43	126.	13.50	79.	30.	11.	6.11
+	HYDROGRAPH AT	DRIN43	527.	12.50	122.	31.	10.	6.96
+	ROUTED TO	RSIN43	521.	12.50	122.	31.	10.	6.96

+	HYDROGRAPH AT	IN43	236.	12.17	32.	10.	3.	.26
+	3 COMBINED AT	CIN43	717.	12.50	231.	70.	24.	7.99
+	HYDROGRAPH AT	PR43MD	629.	12.08	486.	176.	59.	6.96
+	ROUTED TO	RP43IN	629.	12.17	486.	176.	59.	6.96
+	2 COMBINED AT	CPIN43	1346.	12.50	716.	245.	83.	7.99
+	DIVERSION TO	DSVB43	1090.	12.50	580.	199.	67.	7.99
+	HYDROGRAPH AT	DWIN51	256.	12.50	136.	47.	16.	7.99
+	ROUTED TO	RWIN51	242.	12.67	136.	47.	16.	7.99
+	HYDROGRAPH AT	DRIN51	66.	12.75	10.	2.	1.	2.37
+	ROUTED TO	RSIN51	62.	13.08	10.	2.	1.	2.37
+	HYDROGRAPH AT	IN51	119.	12.33	33.	11.	4.	.23
+	3 COMBINED AT	CIN51	358.	12.92	179.	60.	20.	2.68
+	HYDROGRAPH AT	PR51MD	368.	12.50	209.	73.	27.	2.37
+	ROUTED TO	RP51IN	368.	12.58	209.	73.	27.	2.37
+	2 COMBINED AT	CPIN51	726.	12.92	387.	132.	47.	2.68
+	DIVERSION TO	DSVB51	0.	.00	0.	0.	0.	2.68
+	HYDROGRAPH AT	DWIN59	726.	12.92	387.	132.	47.	2.68
+	ROUTED TO	RWIN59	715.	13.00	386.	132.	47.	2.68
+	HYDROGRAPH AT	DRIN59	105.	12.67	28.	7.	2.	4.05
+	ROUTED TO	RSIN59	105.	12.75	28.	7.	2.	4.05
+	HYDROGRAPH AT	IN59	61.	12.75	25.	8.	3.	.20
+	3 COMBINED AT	CIN59	871.	13.00	438.	147.	52.	4.90
+	HYDROGRAPH AT	PR59MD	468.	12.42	328.	133.	46.	4.05
+	ROUTED TO	RP59IN	468.	12.50	328.	133.	46.	4.05
+	2 COMBINED AT	CPIN59	1339.	13.00	765.	280.	98.	4.90
+	DIVERSION TO	DSVB59	0.	.00	0.	0.	0.	4.90
+	HYDROGRAPH AT	DWIN67	1339.	13.00	765.	280.	98.	4.90
+	ROUTED TO	RWIN67	1328.	13.08	763.	280.	98.	4.90
+	HYDROGRAPH AT	DRIN67	27.	13.50	8.	2.	1.	4.41
+	ROUTED TO	RSIN67	27.	13.58	8.	2.	1.	4.41
+	HYDROGRAPH AT	IN67	51.	12.83	24.	8.	3.	.20

+	DIVERSION TO	XIN67	51.	12.83	16.	5.	2.	.20
+	HYDROGRAPH AT	ERIN67	33.	14.08	12.	3.	1.	.20
+	3 COMBINED AT	CIN67	1354.	13.17	781.	285.	100.	5.78
+	HYDROGRAPH AT	PR67MD	400.	12.50	268.	87.	29.	4.41
+	ROUTED TO	RP67IN	400.	12.58	268.	87.	29.	4.41
+	2 COMBINED AT	CPIN67	1754.	13.17	1048.	371.	129.	5.78
+	DIVERSION TO	DSVB67	0.	.00	0.	0.	0.	5.78
+	HYDROGRAPH AT	DWIN75	1754.	13.17	1048.	371.	129.	5.78
+	ROUTED TO	RWIN75	1752.	13.25	1048.	371.	129.	5.78
+	HYDROGRAPH AT	DRIN75	106.	13.67	32.	8.	3.	6.14
+	ROUTED TO	RSIN75	105.	13.75	32.	8.	3.	6.14
+	HYDROGRAPH AT	IN75	53.	12.75	23.	8.	3.	.20
+	DIVERSION TO	XIN75	16.	12.00	4.	1.	0.	.20
+	HYDROGRAPH AT	ERIN75	53.	12.75	22.	6.	2.	.20
+	3 COMBINED AT	CIN75	1886.	13.25	1099.	385.	133.	8.11
+	HYDROGRAPH AT	PR75MD	364.	12.25	233.	72.	24.	6.14
+	ROUTED TO	RP75IN	364.	12.33	233.	72.	24.	6.14
+	2 COMBINED AT	CPIN75	2250.	13.25	1326.	456.	157.	8.11
+	DIVERSION TO	DSVB75	0.	.00	0.	0.	0.	8.11
+	HYDROGRAPH AT	DWIN83	2250.	13.25	1326.	456.	157.	8.11
+	ROUTED TO	RWIN83	2243.	13.33	1324.	456.	157.	8.11
+	HYDROGRAPH AT	IN83	60.	12.67	25.	8.	3.	.20
+	DIVERSION TO	XIN83	60.	12.67	22.	6.	2.	.20
+	HYDROGRAPH AT	ERIN83	20.	14.83	7.	2.	1.	.20
+	2 COMBINED AT	CIN83	2243.	13.33	1330.	458.	158.	8.31
+	HYDROGRAPH AT	PR83MD	340.	12.58	213.	68.	23.	5.80
+	ROUTED TO	RP83IN	340.	12.67	213.	68.	23.	5.80
+	2 COMBINED AT	CPIN83	2583.	13.33	1542.	525.	181.	8.31
+	DIVERSION TO	DSVB83	0.	.00	0.	0.	0.	8.31
+	HYDROGRAPH AT	DWIN91	2583.	13.33	1542.	525.	181.	8.31
+	ROUTED TO	RWIN91	2578.	13.50	1540.	525.	181.	8.31

+	HYDROGRAPH AT	DRIN91	112.	13.75	35.	9.	3.	10.61
+	ROUTED TO	RSIN91	112.	13.83	35.	9.	3.	10.61
+	HYDROGRAPH AT	IN91	88.	12.33	25.	8.	3.	.19
+	3 COMBINED AT	CIN91	2714.	13.50	1592.	540.	186.	10.57
+	HYDROGRAPH AT	PR91MD	345.	12.75	226.	63.	21.	10.61
+	ROUTED TO	RP91IN	345.	12.83	226.	63.	21.	10.61
+	2 COMBINED AT	CPIN91	3059.	13.50	1815.	603.	207.	10.57
+	DIVERSION TO	DSVB91	0.	.00	0.	0.	0.	10.57
+	HYDROGRAPH AT	DWINLO	3059.	13.50	1815.	603.	207.	10.57
+	ROUTED TO	RWINLO	3054.	13.58	1813.	603.	207.	10.57
+	DIVERSION TO	DNINLO	0.	.00	0.	0.	0.	10.57
+	HYDROGRAPH AT	DWIN07	3054.	13.58	1813.	603.	207.	10.57
+	HYDROGRAPH AT	INLO	59.	12.42	17.	5.	2.	.15
+	DIVERSION TO	XINLO	1.	5.08	1.	0.	0.	.15
+	HYDROGRAPH AT	ERINLO	59.	12.42	17.	5.	2.	.15
+	HYDROGRAPH AT	DRINLO	0.	.00	0.	0.	0.	10.57
+	HYDROGRAPH AT	DRIN95	0.	.00	0.	0.	0.	14.07
+	3 COMBINED AT	CIN95	59.	12.42	17.	5.	2.	24.79
+	ROUTED TO	SRINLO	11.	14.25	10.	4.	2.	24.79
+	3 COMBINED AT	CINLO	3565.	13.92	1960.	638.	218.	24.79
+	ROUTED TO	RWIN07	3554.	14.08	1957.	638.	218.	24.79
+	HYDROGRAPH AT	DITM07	111.	13.58	36.	10.	3.	1.67
+	ROUTED TO	SRRI03	0.	23.83	0.	0.	0.	1.67
+	ROUTED TO	RWTM07	0.	26.00	0.	0.	0.	1.67
+	HYDROGRAPH AT	DRTM07	72.	13.58	23.	6.	2.	1.67
+	ROUTED TO	RSTM07	62.	13.92	23.	6.	2.	1.67
+	HYDROGRAPH AT	TM07	65.	12.75	24.	7.	2.	.26
+	3 COMBINED AT	CTM07	99.	13.83	45.	13.	4.	1.61
+	DIVERSION TO	DWTMAF	65.	13.83	29.	8.	3.	1.61
+	HYDROGRAPH AT	DSMD07	35.	13.83	16.	5.	2.	1.61
+	ROUTED TO	RSMD07	31.	14.75	15.	5.	2.	1.61

+	HYDROGRAPH AT	DRMD99	45.	12.75	19.	5.	2.	.62
+	ROUTED TO	RSMD99	41.	13.75	19.	5.	2.	.62
+	HYDROGRAPH AT	MD99	63.	12.75	24.	7.	2.	.32
+	2 COMBINED AT	CMD99	87.	13.50	42.	12.	4.	.60
+	DIVERSION TO	DMD99	49.	13.50	24.	7.	2.	.60
+	HYDROGRAPH AT	DWTMRI	38.	13.50	19.	5.	2.	.60
+	ROUTED TO	RWTMRI	37.	13.67	18.	5.	2.	.60
+	HYDROGRAPH AT	TMRI	155.	12.25	18.	5.	2.	.24
+	2 COMBINED AT	CTMRI	158.	12.25	36.	10.	3.	.51
+	ROUTED TO	SRTMRI	16.	15.58	7.	2.	1.	.51
+	ROUTED TO	RMD07	11.	17.08	7.	2.	1.	.51
+	HYDROGRAPH AT	DIMD99	49.	13.50	24.	7.	2.	.60
+	DIVERSION TO	DSIN99	24.	13.50	12.	3.	1.	.60
+	HYDROGRAPH AT	DWMD07	24.	13.50	12.	3.	1.	.60
+	ROUTED TO	SRMD99	0.	.00	0.	0.	0.	.60
+	ROUTED TO	RWMD07	0.	.00	0.	0.	0.	.60
+	HYDROGRAPH AT	MD07	250.	12.67	87.	26.	9.	.78
+	DIVERSION TO	XMD07	250.	12.67	86.	25.	8.	.78
+	HYDROGRAPH AT	ERMD07	6.	20.42	4.	1.	0.	.78
+	4 COMBINED AT	CMD07	31.	14.75	21.	8.	3.	2.50
+	DIVERSION TO	DWMDAV	23.	14.75	16.	6.	2.	2.50
+	HYDROGRAPH AT	DSIN07	8.	14.75	5.	2.	1.	2.50
+	ROUTED TO	RSIN07	7.	15.08	5.	2.	1.	2.50
+	HYDROGRAPH AT	DRIN99	24.	13.50	12.	3.	1.	.60
+	ROUTED TO	RSIN99	23.	14.25	12.	3.	1.	.60
+	HYDROGRAPH AT	IN07	114.	12.33	30.	10.	3.	.26
+	DIVERSION TO	XIN07	114.	12.33	14.	4.	1.	.26
+	HYDROGRAPH AT	ERIN07	104.	12.58	20.	6.	2.	.26
+	4 COMBINED AT	CIN07	3573.	14.08	1974.	643.	220.	27.09
+	DIVERSION TO	DSVB07	0.	.00	0.	0.	0.	27.09
+	HYDROGRAPH AT	DWINAV	3573.	14.08	1974.	643.	220.	27.09

+	ROUTED TO	RWINAV	3567.	14.17	1972.	643.	220.	27.09
+	HYDROGRAPH AT	DRTMAF	65.	13.83	29.	8.	3.	1.61
+	ROUTED TO	RWTMAF	58.	14.67	29.	8.	3.	1.61
+	HYDROGRAPH AT	TMAF	196.	12.75	78.	25.	8.	.76
+	2 COMBINED AT	CTMAF	197.	12.75	103.	33.	11.	1.33
+	DIVERSION TO	DWAF02	175.	12.75	92.	29.	10.	1.33
+	HYDROGRAPH AT	DSMDAV	22.	12.75	11.	4.	1.	1.33
+	ROUTED TO	RSMDAV	19.	14.33	11.	4.	1.	1.33
+	HYDROGRAPH AT	DRMDAV	23.	14.75	16.	6.	2.	2.50
+	ROUTED TO	RWMDAV	20.	15.92	15.	6.	2.	2.50
+	HYDROGRAPH AT	MDAV	260.	12.67	90.	27.	9.	.95
+	DIVERSION TO	XMDAV	260.	12.67	90.	27.	9.	.95
+	HYDROGRAPH AT	ERMDAV	0.	.00	0.	0.	0.	.95
+	3 COMBINED AT	CMDAV	35.	15.67	24.	9.	3.	1.72
+	DIVERSION TO	DWMDAF	25.	15.67	18.	7.	2.	1.72
+	HYDROGRAPH AT	DSINAV	9.	15.67	7.	3.	1.	1.72
+	ROUTED TO	RSINAV	9.	15.92	7.	3.	1.	1.72
+	HYDROGRAPH AT	INAV	100.	12.33	24.	7.	2.	.23
+	DIVERSION TO	XINAV	64.	12.08	6.	2.	1.	.23
+	HYDROGRAPH AT	ERINAV	100.	12.33	21.	6.	2.	.23
+	3 COMBINED AT	CINAV	3574.	14.17	1983.	647.	221.	28.58
+	DIVERSION TO	DSVBAF	0.	.00	0.	0.	0.	28.58
+	HYDROGRAPH AT	DWINAF	3574.	14.17	1983.	647.	221.	28.58
+	ROUTED TO	RWINAF	3551.	14.33	1977.	647.	221.	28.58
+	HYDROGRAPH AT	DRMDAF	25.	15.67	18.	7.	2.	1.72
+	ROUTED TO	RWMDAF	24.	16.92	18.	7.	2.	1.72
+	HYDROGRAPH AT	MDAF	138.	12.75	54.	16.	5.	.83
+	2 COMBINED AT	CMDAF	139.	12.75	65.	23.	8.	1.30
+	DIVERSION TO	DWAF03	106.	12.75	49.	17.	6.	1.30
+	HYDROGRAPH AT	DSINAF	33.	12.75	16.	5.	2.	1.30
+	ROUTED TO	RSINAF	33.	13.00	15.	5.	2.	1.30

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         HYDROGRAPH AT
+                        INAF        85.   12.75          33.         10.          3.        .47

         DIVERSION TO
+                        XINAF       85.   12.75          15.          4.          1.        .47

         HYDROGRAPH AT
+                       ERINAF       75.   13.25          21.          6.          2.        .47

         3 COMBINED AT
+                        CINAF     3596.   14.25        2003.        655.        224.      29.36
1
                                    SUMMARY OF KINEMATIC WAVE - MUSKINGUM-CUNGE ROUTING
                                       (FLOW IS DIRECT RUNOFF WITHOUT BASE FLOW)
                                                                    INTERPOLATED TO
                                                                  COMPUTATION INTERVAL
           ISTAQ    ELEMENT      DT       PEAK    TIME TO      VOLUME      DT       PEAK    TIME TO      VOLUME
                                                     PEAK                                     PEAK

                                (MIN)      (CFS)      (MIN)      (IN)     (MIN)      (CFS)      (MIN)       (IN)

          FOR STORM = 1  STORM AREA (SQ MI) =        .00
            RPTB83  MANE          3.14    161.00    738.06       .69      5.00    161.00    740.00         .69

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4363E+02 EXCESS= .0000E+00 OUTFLOW= .4363E+02 BASIN STORAGE= .3052E-09 PERCENT ERROR=    .0

          FOR STORM = 2  STORM AREA (SQ MI) =      10.00
            RPTB83  MANE          3.29    161.00    736.91       .67      5.00    161.00    740.00         .67

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4197E+02 EXCESS= .0000E+00 OUTFLOW= .4200E+02 BASIN STORAGE= .3370E-09 PERCENT ERROR=   -.1

          FOR STORM = 3  STORM AREA (SQ MI) =      30.00
            RPTB83  MANE          2.40    161.00    738.82       .64      5.00    161.00    740.00         .64

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4027E+02 EXCESS= .0000E+00 OUTFLOW= .4026E+02 BASIN STORAGE= .3630E-09 PERCENT ERROR=    .0

          FOR STORM = 4  STORM AREA (SQ MI) =      60.00
            RPTB83  MANE          1.69    161.00    739.67       .62      5.00    161.00    740.00         .62

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3920E+02 EXCESS= .0000E+00 OUTFLOW= .3929E+02 BASIN STORAGE= .2852E-09 PERCENT ERROR=   -.2

          FOR STORM = 5  STORM AREA (SQ MI) =      90.00
            RPTB83  MANE          1.64    161.00    739.02       .61      5.00    161.00    740.00         .61

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3856E+02 EXCESS= .0000E+00 OUTFLOW= .3856E+02 BASIN STORAGE= .2959E-09 PERCENT ERROR=    .0

          FOR STORM = 6  STORM AREA (SQ MI) =     120.00
            RPTB83  MANE          2.54    161.00    753.80       .60      5.00    161.00    755.00         .60

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3816E+02 EXCESS= .0000E+00 OUTFLOW= .3746E+02 BASIN STORAGE= .2940E-09 PERCENT ERROR=   1.9

          FOR STORM = 1  STORM AREA (SQ MI) =        .00
            RPTBLO  MANE           .72    247.00    766.91       .77      5.00    247.00    770.00         .77

CONTINUITY SUMMARY (AC-FT) - INFLOW= .7235E+02 EXCESS= .0000E+00 OUTFLOW= .7235E+02 BASIN STORAGE= .2751E-09 PERCENT ERROR=    .0

          FOR STORM = 2  STORM AREA (SQ MI) =      10.00
            RPTBLO  MANE           .79    247.00    772.31       .74      5.00    247.00    775.00         .74

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6940E+02 EXCESS= .0000E+00 OUTFLOW= .6940E+02 BASIN STORAGE= .2596E-09 PERCENT ERROR=    .0

          FOR STORM = 3  STORM AREA (SQ MI) =      30.00
            RPTBLO  MANE           .74    247.00    776.56       .70      5.00    247.00    780.00         .70

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6620E+02 EXCESS= .0000E+00 OUTFLOW= .6620E+02 BASIN STORAGE= .2077E-09 PERCENT ERROR=    .0

          FOR STORM = 4  STORM AREA (SQ MI) =      60.00
            RPTBLO  MANE           .72    247.00    781.50       .68      5.00    247.00    785.00         .68

 *** The remainder of the continuity summary has been deleted for brevity, but the entire output is included on the CD ***

*** NORMAL END OF HEC-1 ***
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1*************************************
*                                   *
*   FLOOD HYDROGRAPH PACKAGE  (HEC-1)   *
*             JUN  1998             *
*           VERSION 4.1             *
*                                   *
*  RUN DATE   01NOV10  TIME  14:00:38   *
*                                   *
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*                                   *
*   U.S. ARMY CORPS OF ENGINEERS    *
*   HYDROLOGIC ENGINEERING CENTER   *
*        609 SECOND STREET          *
*      DAVIS, CALIFORNIA 95616      *
*          (916) 756-1104           *
*                                   *
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X     X  XXXXXXX   XXXXX          X
X     X  X        X     X        XX
X     X  X        X              X
XXXXXXX  XXXX     X        XXXXX  X
X     X  X        X              X
X     X  X        X     X        X
X     X  XXXXXXX   XXXXX         XXX
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THIS PROGRAM REPLACES ALL PREVIOUS VERSIONS OF HEC-1 KNOWN AS HEC1 (JAN 73), HEC1GS, HEC1DB, AND HEC1KW.

THE DEFINITIONS OF VARIABLES -RTIMP- AND -RTIOR- HAVE CHANGED FROM THOSE USED WITH THE 1973-STYLE INPUT STRUCTURE.
THE DEFINITION OF -AMSKK- ON RM-CARD WAS CHANGED WITH REVISIONS DATED 28 SEP 81. THIS IS THE FORTRAN77 VERSION
NEW OPTIONS: DAMBREAK OUTFLOW SUBMERGENCE , SINGLE EVENT DAMAGE CALCULATION, DSS:WRITE STAGE FREQUENCY,
DSS:READ TIME SERIES AT DESIRED CALCULATION INTERVAL LOSS RATE:GREEN AND AMPT INFILTRATION
KINEMATIC WAVE: NEW FINITE DIFFERENCE ALGORITHM

1 HEC-1 INPUT PAGE 1

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LINE          ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10
    1         ID      GLENDALE STORMWATER MANAGEMENT PLAN
    2         ID      Model for Glendale/Peoria Watershed
    3         ID      Existing Conditions
    4         ID
    5         ID      Prepared for the City of Glendale
    6         ID      In Association with the Flood Control District of Maricopa County
    7         ID      City Project Number 089017
    8         ID
    9         ID      Prepared by Kimley-Horn and Associates, Inc.
   10         ID      KHA Project Number 091910009
   11         ID      Octover 2010
   12         ID
   13         ID      MODELING PARAMETERS
   14         ID      - 10 Year  24 Hour Storm Event
   15         ID      - NOAA 14 Rainfall Data
   16         ID      - Clark Unit Hydrograph
   17         ID      - Green and Ampt Rainfall Loss Method
   18         ID
   19         ID      Topo data extracted from Flood Control District database July 24, 2009
   20         ID      Land use obtained from City of Glendale General Plan August 2009, City of
   21         ID           Phoenix General Plan August 2009, and MAG General Plan Land Use 2007
   22         ID
   23         ID      Storage routing data obtained from As-built Records or Final Drainage
   24         ID           Reports where possible
   25         ID      When As-built data/Drainage reports were not available data was obtained
   26         ID           from HEC-1 models and checked for accuracy.
   27         ID      Storage routing data obtained from the following HEC-1 models:
   28         ID           - Glendale/Peoria ADMPU, May 2001
   29         ID           - Glendale/Peoria ADMP Northwest Region Update, May 2007
   30         ID      The source of data is identified on each individual storage routing card
   31         ID
   32         ID  **********************************************************************
   33         ID
   34         ID      MODELING NOMENCLATURE
   35         ID      SUBBASIN HYDROGRAPH:
   36         ID         Example: JMRS   - the subbasin upstream of Jomax and Rock Springs Wash
   37         ID
   38         ID      STORM DRAIN DIVERSION:
   39         ID         Example: DBL59  - flow from subbasin BL59 is diverted to a storm drain
   40         ID
   41         ID      SUBBASIN DIVERSION:
   42         ID         Example: DWBL59 - flow is diverted west towards Bell and 59th Avenue
   43         ID         Example: DSGW51 - flow is diverted south towards Greenway and 51st Ave
   44         ID
   45         ID      ROUTE HYDROGRAPH:
   46         ID         Example: RWBL51 - flow is routed west towards Bell and 51st Avenue
   47         ID         Example: RSGW59 - flow is routed south towards Greenway and 59th Ave
   48         ID
   49         ID      COMBINE HYDROGRAPH:
   50         ID         Example: CJMRS  - combine flow at Jomax and Rock Springs Wash
   51         ID
   52         ID      STREET NAME ABBREVIATIONS
   53         ID         Jomax Road              JM
   54         ID         Happy Valley Road       HV
   55         ID         Pinnacle Peak Road      PP
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1 HEC-1 INPUT PAGE 2

```
LINE          ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10
   56         ID         Deer Valley Road          DV
   57         ID         Loop 101                  LO
   58         ID         Rose Garden Lane          RG
   59         ID         Beardsley Road            BY
   60         ID         Union Hills Drive         UH
   61         ID         Bell Road                 BL
   62         ID         Greenway Road             GW
   63         ID         Thunderbird Road          TB
   64         ID         Cactus Road               CT
   65         ID         Peoria Avenue             PE
   66         ID         Olive Avenue              OL
   67         ID         Northern Avenue           NO
   68         ID         Glendale Avenue           GL
   69         ID         Bethany Home Road         BH
   70         ID         Camelback Road            CB
   71         ID         Indian School Road        IS
   72         ID         Thomas Road               TM
   73         ID         McDowell Road             MD
   74         ID         Interstate 10             IN
   75         ID         Grand Avenue              GR
   76         ID         Glen Harbor Boulevard     GH
   77         ID         Rock Springs Wash         RS
   78         ID         Lake Pleasant Parkway     LP
   79         ID         Westwing Parkway          WW
   80         ID         Black Rock Boulevard      BR
   81         ID         Yearling Road             YL
   82         ID         Calle Lejos               CL
   83         ID         Williams Road             WL
   84         ID         Del Webb Boulevard        DW
   85         ID         Talisman Road             TL
   86         ID         Meade Drive               ME
   87         ID         Burns Drive               BN
   88         ID         Royal Oak Road            RO
   89         ID         Acoma Drive               AM
   90         ID         Athens Street             AT
   91         ID         Agua Fria River           AF
   92         ID         New River                 NR
   93         ID         Skunk Creek               SK
   94         ID         ACDC                      AC
   95         ID
   96         ID      PREFIXES FOR MODELING OPERATIONS
   97         ID         RW    Routing flow in the west direction
   98         ID         RS    Routing flow in the south direction
   99         ID         RP    Routing storm drain pipe flow
  100         ID         C     Combination point
  101         ID         CI    Combination point at an intersection
  102         ID         CP    Combination point for storm drain pipe flow
  103         ID         SR    Storage for detention/retention basins
  104         ID         DW    Divert flow to the west
  105         ID         DE    Divert flow to the east
  106         ID         DS    Divert flow to the south
  107         ID         DN    Divert flow to the north
  108         ID         ER    Divert flow for existing 100-yr 2-hr retention
  109         ID         X     Existing retention diversion does not return to model
  110         ID         DR    Divert retrieval from surface flow
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1 HEC-1 INPUT PAGE 3

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LINE          ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10
  111         ID         DI    Divert retrieval from intersection flow
  112         ID         D     Divert surface flow (remains after storm drain divert)
  113         ID         DP    Divert flow to a storm drain pipe
  114         ID         PR    Divert retrieval from a storm drain pipe
  115         ID
  116         ID  **********************************************************************
  117         IT      5       0       0    1000
  118         IN     15
  119         IO      5
              *DIAGRAM
              *
  120         JD  2.327  0.0001
  121         PC  0.000  0.002  0.005  0.008  0.011  0.014  0.017  0.020  0.023  0.026
  122         PC  0.029  0.032  0.035  0.038  0.041  0.044  0.048  0.052  0.056  0.060
  123         PC  0.064  0.068  0.072  0.076  0.080  0.085  0.090  0.095  0.100  0.105
  124         PC  0.110  0.115  0.120  0.126  0.133  0.140  0.147  0.155  0.163  0.172
  125         PC  0.181  0.191  0.203  0.218  0.236  0.257  0.283  0.387  0.663  0.707
  126         PC  0.735  0.758  0.776  0.791  0.804  0.815  0.825  0.834  0.842  0.849
  127         PC  0.856  0.863  0.869  0.875  0.881  0.887  0.893  0.898  0.903  0.908
  128         PC  0.913  0.918  0.922  0.926  0.930  0.934  0.938  0.942  0.946  0.950
  129         PC  0.953  0.956  0.959  0.962  0.965  0.968  0.971  0.974  0.977  0.980
  130         PC  0.983  0.986  0.989  0.992  0.995  0.998  1.000
  131         JD  2.211   10.0
  132         JD  2.094   30.0
  133         JD  2.024   60.0
  134         JD  1.983   90.0
  135         JD  1.957  120.0
              *
  136         KK   UH35   BASIN
```

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 137          KM   Runoff hydrograph for subbasin UH35 northeast of the intersection of Union
 138          KM   Hills Drive and 35th Avenue
 139          BA   1.136
 140          LG    0.20    0.13   10.10    0.03      51
 141          UC   1.126   0.711
 142          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
 143          UA     100
              *
 144          KK  ERUH35  DIVERT
 145          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
 146          KM   retention developed after 1990 in subbasin UH35
 147          DT   XUH35     47.3      0.0
 148          DI     0.0 50000.0      0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
 149          DQ     0.0 50000.0      0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *
 150          KK   DUH35  DIVERT
 151          KM   Divert calculated full flow capacity of 875 cfs into a 114-inch storm drain
 152          KM   pipe at the intersection of Union Hills Drive and 35th Avenue
 153          DT   DPUH35      0.0    875.0
 154          DI     0.0 50000.0      0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
 155          DQ     0.0 50000.0      0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *
1                                        HEC-1 INPUT                                        PAGE  4
     LINE     ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10
              *
 156          KK  DSBL35  DIVERT
 157          KM   Divert remaining runoff hydrograph from subbasin UH35 south to combination
 158          KM   point CBL35
 159          DT   DWUH43      0.0      0.0
 160          DI       0.0   100.0    200.0    500.0   1000.0   2000.0   4000.0  10000.0  20000.0  50000.0
 161          DQ       0.0    51.0    102.0    255.0    510.0   1020.0   2040.0   5100.0  10200.0  25500.0
              *
 162          KK  RSBL35   ROUTE
 163          KM   Route diversion DSBL35 south to combination point CBL35
 164          RS       6    FLOW
 165          RC   0.035   0.015    0.035    5280  0.0030     0.00
 166          RX    0.00    0.00    76.50   76.50  372.50  372.50  449.00  449.00
 167          RY    3.00    1.27     0.50    0.00    0.00     0.50    1.27    3.00
              *
 168          KK    BL35   BASIN
 169          KM   Runoff hydrograph for subbasin BL35 northeast of the intersection of Bell
 170          KM   Road and 35th Avenue
 171          BA   1.139
 172          LG    0.22    0.15    7.30    0.09      42
 173          UC   1.322   0.844
 174          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
 175          UA     100
              *
 176          KK  ERBL35  DIVERT
 177          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
 178          KM   retention developed after 1990 in subbasin BL35
 179          DT   XBL35      8.0      0.0
 180          DI     0.0 50000.0      0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
 181          DQ     0.0 50000.0      0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *
 182          KK   CBL35 COMBINE
 183          KM   Combine route RSBL35 and subbasin BL35
 184          HC       2    1.70
              *
 185          KK   D35BL  DIVERT
 186          KM   Divert calculated full flow capacity of 158 cfs into a 60-inch storm drain
 187          KM   pipe at the intersection of Bell Road and 35th Avenue
 188          DT   DP35BL      0.0    158.0
 189          DI     0.0 50000.0      0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
 190          DQ     0.0 50000.0      0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *
 191          KK  DSGW35  DIVERT
 192          KM   Divert remaining runoff hydrograph from combination point CBL35 south to
 193          KM   combination point CGW35
 194          DT   DWBL43      0.0      0.0
 195          DI       0.0   100.0    200.0    500.0   1000.0   2000.0   4000.0  10000.0  20000.0  50000.0
 196          DQ       0.0    66.0    132.0    330.0    660.0   1320.0   2640.0   6600.0  13200.0  33000.0
              *
1                                        HEC-1 INPUT                                        PAGE  5
     LINE     ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10
              *
 197          KK  RSGW35   ROUTE
 198          KM   Route diversion DSGW35 south to combination point CGW35
 199          RS       3    FLOW
 200          RC   0.035   0.015    0.035    5280  0.0041     0.00
 201          RX    0.00    0.00    45.00   45.00  229.00  229.00  274.00  274.00
```



```
 202          RY    3.00    0.95    0.50    0.00    0.00    0.50    0.95    3.00
              *
 203          KK    GW35   BASIN
 204          KM   Runoff hydrograph for subbasin GW35 northeast of the intersection of Greenway
 205          KM   Road and 35th Avenue
 206          BA   1.008
 207          LG    0.21    0.17    6.80    0.12      45
 208          UC   1.487   0.988
 209          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
 210          UA     100
              *
 211          KK   CGW35 COMBINE
 212          KM   Combine route RSGW35 and subbasin GW35
 213          HC       2    1.58
              *
 214          KK  PR35BLRETRIEVE
 215          KM   Retrieve full flow capacity of 158 cfs from 60-inch storm drain pipe at the
 216          KM   intersection of Bell Road and 35th Avenue
 217          DR  DP35BL
              *
 218          KK  RP35GW   ROUTE
 219          KM   Route full flow capacity of 158 cfs through 60-inch storm drain pipe in
 220          KM   35th Avenue to the intersection of Greenway Road and 35th Avenue
 221          RK    5260  0.0037   0.015             CIRC   5.000
              *
 222          KK  CPGW35 COMBINE
 223          KM   Combine pipe return PR35BL with the runoff hydrograph at combination point
 224          KM   CGW35 at the intersection of Greenway Road and 35th Avenue
 225          HC       2
              *
 226          KK   D35GW  DIVERT
 227          KM   Divert calculated full flow capacity of 318 cfs into a 78-inch storm drain
 228          KM   pipe at the intersection of Greenway Road and 35th Avenue
 229          DT   DP35GW      0.0    318.0
 230          DI     0.0 50000.0      0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
 231          DQ     0.0 50000.0      0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *
1                                        HEC-1 INPUT                                        PAGE  6
     LINE     ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10
              *
 232          KK  DSTB35  DIVERT
 233          KM   Divert remaining runoff hydrograph from combination point CGW35 south to
 234          KM   combination point CTB35
 235          DT   DWGW43      0.0      0.0
 236          DI       0.0   100.0    200.0    500.0   1000.0   2000.0   4000.0  10000.0  20000.0  50000.0
 237          DQ       0.0    58.0    116.0    290.0    580.0   1160.0   2320.0   5800.0  11600.0  29000.0
              *
 238          KK  RSTB35   ROUTE
 239          KM   Route diversion DSTB35 south to combination point CTB35
 240          RS       2    FLOW
 241          RC   0.035   0.015    0.035    5280  0.0035     0.00
 242          RX    0.00    0.00    54.50   54.50  269.50  269.50  324.00  324.00
 243          RY    3.00    1.04     0.50    0.00    0.00     0.50    1.04    3.00
              *
 244          KK    TB35   BASIN
 245          KM   Runoff hydrograph for subbasin TB35 northeast of the intersection of
 246          KM   Thunderbird Road and 35th Avenue
 247          BA   0.976
 248          LG    0.23    0.15    7.60    0.08      36
 249          UC   1.500   1.012
 250          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
 251          UA     100
              *
 252          KK   CTB35 COMBINE
 253          KM   Combine route RSTB35 and subbasin TB35
 254          HC       2    1.65
              *
 255          KK  PR35GWRETRIEVE
 256          KM   Retrieve full flow capacity of 318 cfs from 78-inch storm drain pipe at the
 257          KM   intersection of Greenway Road and 35th Avenue
 258          DR  DP35GW
              *
 259          KK  RP35TB   ROUTE
 260          KM   Route full flow capacity of 318 cfs through 78-inch storm drain pipe in
 261          KM   35th Avenue to the intersection of Thunderbird Road and 35th Avenue
 262          RK    5252  0.0037   0.015             CIRC   6.500
              *
 263          KK  CPTB35 COMBINE
 264          KM   Combine pipe return PR35GW with the runoff hydrograph at combination point
```

```
265          KM   CTB35 at the intersection of Thundebird Road and 35th Avenue
266          HC       2
             *
1                                        HEC-1 INPUT                                        PAGE  7

LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


267          KK   D35TB  DIVERT
268          KM   Divert calculated full flow capacity of 554 cfs into a 96-inch storm drain
269          KM   pipe at the intersection of Thunderbird Road and 35th Avenue
270          DT  DP35TB      0.0    554.0
271          DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
272          DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
             *

273          KK  DSCT35  DIVERT
274          KM   Divert remaining runoff hydrograph from combination point CTB35 south to
275          KM   combination point CCT35
276          DT  DWTB43      0.0      0.0
277          DI      0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0  10000.0  20000.0  50000.0
278          DQ      0.0     52.0    104.0    260.0    520.0   1040.0   2080.0   5200.0  10400.0  26000.0
             *

279          KK  RSCT35   ROUTE
280          KM   Route diversion DSCT35 south to combination point CCT35
281          RS        4    FLOW
282          RC   0.035    0.015    0.035     5280   0.0036     0.00
283          RX    0.00     0.00    86.00    86.00   413.00   413.00   499.00   499.00
284          RY    3.00     1.36     0.50     0.00     0.00     0.50     1.36     3.00
             *

285          KK    CT35   BASIN
286          KM   Runoff hydrograph for subbasin CT35 northeast of the intersection of Cactus
287          KM   Road and 35th Avenue
288          BA   0.976
289          LG    0.21     0.25     5.20     0.21       47
290          UC   1.474    0.992
291          UA       0      5.0     16.0     30.0     65.0     77.0     84.0     90.0     94.0     97.0
292          UA     100
             *

293          KK   CCT35 COMBINE
294          KM   Combine route RSCT35 and subbasin CT35
295          HC       2     1.76
             *

296          KK  PR35TBRETRIEVE
297          KM   Retrieve full flow capacity of 554 cfs from 96-inch storm drain pipe at the
298          KM   intersection of Thunderbird Road and 35th Avenue
299          DR  DP35TB
             *

300          KK  RP35CT   ROUTE
301          KM   Route full flow capacity of 554 cfs through 96-inch storm drain pipe in
302          KM   35th Avenue to the intersection of Cactus Road and 35th Avenue
303          RK    5200  0.0037   0.015            CIRC   8.000
             *
1                                        HEC-1 INPUT                                        PAGE  8

LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


304          KK  CPCT35 COMBINE
305          KM   Combine pipe return PR35TB with the runoff hydrograph at combination point
306          KM   CCT35 at the intersection of Cactus Road and 35th Avenue
307          HC       2
             *

308          KK   D35CT  DIVERT
309          KM   Divert calculated full flow capacity of 554 cfs into a 96-inch storm drain
310          KM   pipe at the intersection of Cactus Road and 35th Avenue
311          DT  DP35CT      0.0    554.0
312          DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
313          DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
             *

314          KK  DSPE35  DIVERT
315          KM   Divert remaining runoff hydrograph from combination point CCT35 south to
316          KM   combination point CPE35
317          DT  DWCT43      0.0      0.0
318          DI      0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0  10000.0  20000.0  50000.0
319          DQ      0.0     58.0    116.0    290.0    580.0   1160.0   2320.0   5800.0  11600.0  29000.0
             *

320          KK  RSPE35   ROUTE
321          KM   Route diversion DSPE35 south to combination point CPE35
322          RS        5    FLOW
323          RC   0.035    0.015    0.035     5280   0.0023     0.00
324          RX    0.00     0.00    67.00    67.00   332.00   332.00   399.00   399.00
325          RY    3.00     1.17     0.50     0.00     0.00     0.50     1.17     3.00
             *
```



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326          KK    PE35   BASIN
327          KM   Runoff hydrograph for subbasin PE35 northeast of the intersection of Peoria
328          KM   Avenue and 35th Avenue
329          BA   0.977
330          LG    0.23     0.24     4.70     0.27       40
331          UC   1.500    1.016
332          UA       0      5.0     16.0     30.0     65.0     77.0     84.0     90.0     94.0     97.0
333          UA     100
             *

334          KK   CPE35 COMBINE
335          KM   Combine route RSPE35 and subbasin PE35
336          HC       2     1.71
             *

337          KK  PR35CTRETRIEVE
338          KM   Retrieve full flow capacity of 554 cfs from 96-inch storm drain pipe at the
339          KM   intersection of Cactus Road and 35th Avenue
340          DR  DP35CT
             *
1                                        HEC-1 INPUT                                        PAGE  9

LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


341          KK  RP35PE   ROUTE
342          KM   Route full flow capacity of 554 cfs through 96-inch storm drain pipe in
343          KM   35th Avenue to the intersection of Peoria Avenue and 35th Avenue
344          RK    5256  0.0037   0.015            CIRC   8.000
             *

345          KK  CPPE35 COMBINE
346          KM   Combine pipe return PR35CT with the runoff hydrograph at combination point
347          KM   CPE35 at the intersection of Peoria Avenue and 35th Avenue
348          HC       2
             *

349          KK   D35PE  DIVERT
350          KM   Divert calculated full flow capacity of 466 cfs into a 90-inch storm drain
351          KM   pipe at the intersection of Peoria Avenue and 35th Avenue
352          DT  DP35PE      0.0    466.0
353          DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
354          DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
             *

355          KK  DSAC35  DIVERT
356          KM   Divert remaining runoff hydrograph from combination point CPE35 south to
357          KM   combination pointCAC01
358          DT  DWPE43      0.0      0.0
359          DI      0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0  10000.0  20000.0  50000.0
360          DQ      0.0     70.0    140.0    350.0    700.0   1400.0   2800.0   7000.0  14000.0  35000.0
             *

361          KK  RSAC35   ROUTE
362          KM   Route diversion DSAC35 south to combination pointCAC01
363          RS        3    FLOW
364          RC   0.035    0.015    0.035     3447   0.0041     0.00
365          RX    0.00     0.00    41.00    41.00   184.00   184.00   225.00   225.00
366          RY    3.00     0.91     0.50     0.00     0.00     0.50     0.91     3.00
             *

367          KK    AC35   BASIN
368          KM   Runoff hydrograph for subbasin AC35 northeast of the intersection of the ACDC
369          KM   Canal and 35th Avenue
370          BA   0.755
371          LG    0.15     0.25     5.30     0.20       67
372          UC   0.987    0.660
373          UA       0      5.0     16.0     30.0     65.0     77.0     84.0     90.0     94.0     97.0
374          UA     100
             *

375          KK   CAC01 COMBINE
376          KM   Combine route RSAC35 and subbasin AC35
377          HC       2     1.27
             *
1                                        HEC-1 INPUT                                        PAGE 10

LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


378          KK  PR35PERETRIEVE
379          KM   Retrieve full flow capacity of 446 cfs from 90-inch storm drain pipe at the
380          KM   intersection of Peoria Avenue and 35th Avenue
381          DR  DP35PE
             *

382          KK  RP35AC   ROUTE
383          KM   Route full flow capacity of 446 cfs through 90-inch storm drain pipe in
384          KM   35th Avenue to the intersection of ACDC and 35th Avenue
385          RK    3523  0.0037   0.015            CIRC   7.500
             *

386          KK  CPAC01 COMBINE
```

```
 387          KM   Combine pipe return PR35PE with the runoff hydrograph at combination point
 388          KM   CAC01 at the intersection of ACDC and 35th Avenue
 389          HC       2
              *

 390          KK  DRUH43RETRIEVE
 391          KM   Retrieve divert DRUH43 from combination point CUH35 and divert west to
 392          KM   combination point CUH43
 393          DR  DWUH43
              *

 394          KK  RWUH43   ROUTE
 395          KM   Route diversion retrieval DRUH43 west to combination point CUH43
 396          RS       6    FLOW
 397          RC  0.035   0.015   0.035    5280  0.0041    0.00
 398          RX   0.00    0.00   67.00   67.00  332.00  332.00  399.00  399.00
 399          RY   3.00    1.17    0.50    0.00    0.00    0.50    1.17    3.00
              *

 400          KK   UH43   BASIN
 401          KM   Runoff hydrograph for subbasin UH43 northeast of the intersection of Unioin
 402          KM   Hills Drive and 43rd Avenue
 403          BA   1.025
 404          LG    0.26    0.17    7.30    0.11      17
 405          UC   1.486   0.986
 406          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
 407          UA     100
              *

 408          KK  ERUH43  DIVERT
 409          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
 410          KM   retention developed after 1990 in subbasin UH43
 411          DT   XUH43     26.8      0.0
 412          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
 413          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *
```



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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 414          KK   CUH43 COMBINE
 415          KM   Combine route RWUH43 and subbasin UH43
 416          HC       2    1.60
              *

 417          KK  PRUH35RETRIEVE
 418          KM   Retrieve full flow capacity of 875 cfs from 114-inch storm drain pipe at the
 419          KM   intersection of Union Hills Drive and 35th Avenue
 420          DR  DPUH35
              *

 421          KK  RPUH43   ROUTE
 422          KM   Route full flow capacity of 875 cfs through 114-inch storm drain pipe in
 423          KM   Union Hills Drive to the intersection of Union Hills Drive and 43rd Avenue
 424          RK    5324  0.0037   0.015            CIRC   9.500
              *

 425          KK  CPUH43 COMBINE
 426          KM   Combine pipe return PRUH35 with the runoff hydrograph at combination point
 427          KM   CUH43 at the intersection of Union Hills Drive and 43rd Avenue
 428          HC       2
              *

 429          KK   DUH43  DIVERT
 430          KM   Divert calculated full flow capacity of 1268 cfs into a 132-inch storm drain
 431          KM   pipe at the intersection of Union Hills Drive and 43rd Avenue
 432          DT   DPUH43      0.0  1268.0
 433          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
 434          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

 435          KK  DSBL43  DIVERT
 436          KM   Divert remaining runoff hydrograph from combination point CUH43 south to
 437          KM   combination point CBL43
 438          DT   DWUH51      0.0      0.0
 439          DI     0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0  10000.0  20000.0  50000.0
 440          DQ     0.0     42.0     84.0    210.0    420.0    840.0   1680.0   4200.0   8400.0  21000.0
              *

 441          KK  RSBL43   ROUTE
 442          KM   Route diversion DSBL43 south to combination point CBL43
 443          RS       4    FLOW
 444          RC  0.035   0.015   0.035    5280  0.0037    0.00
 445          RX   0.00    0.00   48.00   48.00  251.00  251.00  299.00  299.00
 446          RY   3.00    0.98    0.50    0.00    0.00    0.50    0.98    3.00
              *

 447          KK  DRBL43RETRIEVE
 448          KM   Retrieve divert DRBL43 from combination point CBL35 and divert west to
 449          KM   combination point CBL43
 450          DR  DWBL43
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 451          KK  RWBL43   ROUTE
 452          KM   Route diversion retrieval DRBL43 west to combination point CBL43
 453          RS       2    FLOW
 454          RC  0.035   0.015   0.035    5280  0.0047    0.00
 455          RX   0.00    0.00   86.00   86.00  413.00  413.00  499.00  499.00
 456          RY   3.00    1.36    0.50    0.00    0.00    0.50    1.36    3.00
              *

 457          KK   BL43   BASIN
 458          KM   Runoff hydrograph for subbasin BL43 northeast of the intersection of Bell
 459          KM   Road and 43rd Avenue
 460          BA   1.049
 461          LG    0.24    0.15    8.00    0.07      33
 462          UC   1.436   0.952
 463          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
 464          UA     100
              *

 465          KK   CBL43 COMBINE
 466          KM   Combine route RSBL43, route RWBL43, and subbasin BL43
 467          HC       3    3.10
              *

 468          KK   D43BL  DIVERT
 469          KM   Divert calculated full flow capacity of 117 cfs into a 54-inch storm drain
 470          KM   pipe at the intersection of Bell Road and 43rd Avenue
 471          DT   DP43BL      0.0   117.0
 472          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
 473          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

 474          KK  DSGW43  DIVERT
 475          KM   Divert remaining runoff hydrograph from combination point CBL43 south to
 476          KM   combination point CGW43
 477          DT   DWBL51      0.0      0.0
 478          DI     0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0  10000.0  20000.0  50000.0
 479          DQ     0.0     46.0     92.0    230.0    460.0    920.0   1840.0   4600.0   9200.0  23000.0
              *

 480          KK  RSGW43   ROUTE
 481          KM   Route diversion DSGW43 south to combination point CGW43
 482          RS       3    FLOW
 483          RC  0.035   0.015   0.035    5280  0.0028    0.00
 484          RX   0.00    0.00   57.50   57.50  291.50  291.50  349.00  349.00
 485          RY   3.00    1.08    0.50    0.00    0.00    0.50    1.08    3.00
              *

 486          KK  DRGW43RETRIEVE
 487          KM   Retrieve divert DRGW43 from combination point CGW35 and divert west to
 488          KM   combination point CGW43
 489          DR  DWGW43
              *
```



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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 490          KK  RWGW43   ROUTE
 491          KM   Route diversion retrieval DRGW43 west to combination point CGW43
 492          RS       2    FLOW
 493          RC  0.035   0.015   0.035    5280  0.0034    0.00
 494          RX   0.00    0.00   76.50   76.50  372.50  372.50  449.00  449.00
 495          RY   3.00    1.27    0.50    0.00    0.00    0.50    1.27    3.00
              *

 496          KK   GW43   BASIN
 497          KM   Runoff hydrograph for subbasin GW43 northeast of the intersection of Greenway
 498          KM   Road and 43rd Avenue
 499          BA   0.987
 500          LG    0.24    0.19    6.60    0.13      36
 501          UC   1.355   0.909
 502          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
 503          UA     100
              *

 504          KK  ERGW43  DIVERT
 505          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
 506          KM   retention developed after 1990 in subbasin GW43
 507          DT   XGW43      5.5      0.0
 508          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
 509          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

 510          KK   CGW43 COMBINE
 511          KM   Combine route RSGW43, route RWGW43, and subbasin GW43
 512          HC       3    3.57
              *
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513          KK  PR43BLRETRIEVE
514          KM   Retrieve full flow capacity of 117 cfs from 54-inch storm drain pipe at the
515          KM   intersection of Bell Road and 43rd Avenue
516          DR  DP43BL
             *
517          KK  RP43GW   ROUTE
518          KM   Route full flow capacity of 117 cfs through 54-inch storm drain pipe in
519          KM   43rd Avenue to the intersection of Greenway Road and 43rd Avenue
520          RK    5150  0.0035   0.015            CIRC   4.500
             *
521          KK  CPGW43 COMBINE
522          KM   Combine pipe return PR43BL with the runoff hydrograph at combination point
523          KM   CGW43 at the intersection of Greenway Road and 43rd Avenue
524          HC       2
             *
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        LINE         ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

525          KK   D43GW  DIVERT
526          KM   Divert calculated full flow capacity of 155 cfs into a 60-inch storm drain
527          KM   pipe at the intersection of Greenway Road and 43rd Avenue
528          DT  DP43GW     0.0   155.0
529          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
530          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
             *
531          KK  DSTB43  DIVERT
532          KM   Divert remaining runoff hydrograph from combination point CGW43 south to
533          KM   combination point CTB43
534          DT  DWGW51     0.0     0.0
535          DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
536          DQ     0.0    53.0   106.0   265.0   530.0  1060.0  2120.0  5300.0 10600.0 26500.0
             *
537          KK  RSTB43   ROUTE
538          KM   Route diversion DSTB43 south to combination point CTB43
539          RS       2    FLOW
540          RC   0.035   0.015   0.035    5280  0.0038    0.00
541          RX    0.00    0.00   67.00   67.00  332.00  332.00  399.00  399.00
542          RY    3.00    1.17    0.50    0.00    0.00    0.50    1.17    3.00
             *
543          KK  DRTB43RETRIEVE
544          KM   Retrieve divert DRTB43 from combination point CTB35 and divert west to
545          KM   combination point CTB43
546          DR  DWTB43
             *
547          KK  RWTB43   ROUTE
548          KM   Route diversion retrieval DRTB43 west to combination point CTB43
549          RS       4    FLOW
550          RC   0.035   0.015   0.035    5280  0.0037    0.00
551          RX    0.00    0.00   95.50   95.50  453.50  453.50  549.00  549.00
552          RY    3.00    1.46    0.50    0.00    0.00    0.50    1.46    3.00
             *
553          KK    TB43   BASIN
554          KM   Runoff hydrograph for subbasin TB43 northeast of the intersection of
555          KM   Thunderbird Road and 43rd Avenue
556          BA   0.995
557          LG    0.26    0.15    7.30    0.10      25
558          UC   1.500   1.013
559          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
560          UA     100
             *
561          KK   CTB43 COMBINE
562          KM   Combine route RSTB43, route RWTB43, and subbasin TB43
563          HC       3    3.55
             *
1                                        HEC-1 INPUT                                    PAGE 15

        LINE         ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

564          KK  PR43GWRETRIEVE
565          KM   Retrieve full flow capacity of 155 cfs from 60-inch storm drain pipe at the
566          KM   intersection of Greenway Road and 43rd Avenue
567          DR  DP43GW
             *
568          KK  RP43TB   ROUTE
569          KM   Route full flow capacity of 155 cfs through 60-inch storm drain pipe in
570          KM   43rd Avenue to the intersection of Thunderbird Road and 43rd Avenue
571          RK    5245  0.0035   0.015            CIRC   5.000
             *
572          KK  CPTB43 COMBINE
573          KM   Combine pipe return PR43GW with the runoff hydrograph at combination point
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574          KM   CTB43 at the intersection of Thunderbird Road and 43rd Avenue
575          HC       2
             *
576          KK   D43TB  DIVERT
577          KM   Divert calculated full flow capacity of 312 cfs into a 78-inch storm drain
578          KM   pipe at the intersection of Tunderbird Road and 43rd Avenue
579          DT  DP43TB     0.0   312.0
580          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
581          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
             *
582          KK  DSCT43  DIVERT
583          KM   Divert remaining runoff hydrograph from combination point CTB43 south to
584          KM   combination point CCT43
585          DT  DWTB51     0.0     0.0
586          DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
587          DQ     0.0    63.0   126.0   315.0   630.0  1260.0  2520.0  6300.0 12600.0 31500.0
             *
588          KK  RSCT43   ROUTE
589          KM   Route diversion DSCT43 south to combination point CCT43
590          RS       3    FLOW
591          RC   0.035   0.015   0.035    5280  0.0030    0.00
592          RX    0.00    0.00   48.00   48.00  251.00  251.00  299.00  299.00
593          RY    3.00    0.98    0.50    0.00    0.00    0.50    0.98    3.00
             *
594          KK  DRCT43RETRIEVE
595          KM   Retrieve divert DRCT43 from combination point CCT35 and divert west to
596          KM   combination point CCT43
597          DR  DWCT43
             *
598          KK  RWCT43   ROUTE
599          KM   Route diversion retrieval DRCT43 west to combination point CCT43
600          RS       4    FLOW
601          RC   0.035   0.015   0.035    5280  0.0029    0.00
602          RX    0.00    0.00   86.00   86.00  413.00  413.00  499.00  499.00
603          RY    3.00    1.36    0.50    0.00    0.00    0.50    1.36    3.00
             *
1                                        HEC-1 INPUT                                    PAGE 16

        LINE         ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

604          KK    CT43   BASIN
605          KM   Runoff hydrograph for subbasin CT43 northeast of the intersection of Cactus
606          KM   Road and 43rd Avenue
607          BA   0.996
608          LG    0.23    0.15    8.00    0.07      37
609          UC   1.418   0.952
610          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
611          UA     100
             *
612          KK  ERCT43  DIVERT
613          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
614          KM   retention developed after 1990 in subbasin CT43
615          DT  XCT43     41.4     0.0
616          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
617          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
             *
618          KK   CCT43 COMBINE
619          KM   Combine route RSCT43, route RWCT43, and subbasin CT43
620          HC       3    3.35
             *
621          KK  PR43TBRETRIEVE
622          KM   Retrieve full flow capacity of 312 cfs from 78-inch storm drain pipe at the
623          KM   intersection of Thunderbird Road and 43rd Avenue
624          DR  DP43TB
             *
625          KK  RP43CT   ROUTE
626          KM   Route full flow capacity of 312 cfs through 78-inch storm drain pipe in
627          KM   43rd Avenue to the intersection of Cactus Road and 43rd Avenue
628          RK    5194  0.0035   0.015            CIRC   6.500
             *
629          KK  CPCT43 COMBINE
630          KM   Combine pipe return PR43TB with the runoff hydrograph at combination point
631          KM   CCT43 at the intersection of Cactus Road and 43rd Avenue
632          HC       2
             *
633          KK   D43CT  DIVERT
634          KM   Divert calculated full flow capacity of 380 cfs into an 84-inch storm drain
635          KM   pipe at the intersection of Cactus Road and 43rd Avenue
636          DT  DP43CT     0.0   380.0
637          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
638          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
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        *
1                                    HEC-1 INPUT                                        PAGE 17

LINE    ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

        KK  DSPE43  DIVERT
        KM   Divert remaining runoff hydrograph from combination point CCT43 south to
        KM   combination point CPE43
        DT  DWCT51     0.0     0.0
        DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
        DQ     0.0    63.0   126.0   315.0   630.0  1260.0  2520.0  6300.0 12600.0 31500.0
        *

        KK  RSPE43   ROUTE
        KM   Route diversion DSPE43 south to combination point CPE43
        RS       3    FLOW
        RC   0.035   0.015   0.035    5280  0.0024    0.00
        RX    0.00    0.00   48.00   48.00  251.00  251.00  299.00  299.00
        RY    3.00    0.98    0.50    0.00    0.00    0.50    0.98    3.00
        *

        KK  DRPE43RETRIEVE
        KM   Retrieve divert DRPE43 from combination point CPE35 and divert west to
        KM   combination point CPE43
        DR  DWPE43
        *

        KK  RWPE43   ROUTE
        KM   Route diversion retrieval DRPE43 west to combination point CPE43
        RS       4    FLOW
        RC   0.035   0.015   0.035    5280  0.0030    0.00
        RX    0.00    0.00  105.00  105.00  494.00  494.00  599.00  599.00
        RY    3.00    1.55    0.50    0.00    0.00    0.50    1.55    3.00
        *

        KK    PE43   BASIN
        KM   Runoff hydrograph for subbasin PE43 northeast of the intersection of Peoria
        KM   Avenue and 43rd Avenue
        BA   0.997
        LG    0.24    0.25    5.70    0.19      32
        UC   1.500   1.012
        UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
        UA     100
        *

        KK  CPE43 COMBINE
        KM   Combine route RSPE43, route RWPE43, and subbasin PE43
        HC       3    3.42
        *

        KK  PR43CTRETRIEVE
        KM   Retrieve full flow capacity of 380 cfs from 84-inch storm drain pipe at the
        KM   intersection of Cactus Road and 43rd Avenue
        DR  DP43CT
        *
1                                    HEC-1 INPUT                                        PAGE 18

LINE    ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

        KK  RP43PE   ROUTE
        KM   Route full flow capacity of 380 cfs through 84-inch storm drain pipe in
        KM   43rd Avenue to the intersection of Peoria Avenue and 43rd Avenue
        RK    4928  0.0035   0.015              CIRC   7.000
        *

        KK  CPPE43 COMBINE
        KM   Combine pipe return PR43CT with the runoff hydrograph at combination point
        KM   CPE43 at the intersection of Peoria Avenue and 43rd Avenue
        HC       2
        *

        KK  D43PE  DIVERT
        KM   Capacity of storm drain in Peoria Avenue and 43rd Avenue diverted together.
        KM   Divert combined calculated full flow capacity of 456 cfs in the 90-inch storm
        KM   drain pipe in Peoria Avenue and 64 cfs in the 42-inch storm drain pipe in
        KM   43rd Avenue. The total calculated combined full flow capacity diverted at the
        KM   intersection of Peoria Avenue and 43rd Avenue is 520 cfs in an equivalent
        KM   diameter pipe of 96 inches
        DT  DP43PE     0.0   520.0
        DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
        DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
        *

        KK  DSAC43  DIVERT
        KM   Divert remaining runoff hydrograph from combination point CPE43 south to
        KM   combination point CAC02
        DT  DWAC51     0.0     0.0
        DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
        DQ     0.0    38.0    76.0   190.0   380.0   760.0  1520.0  3800.0  7600.0 19000.0
        *
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```
        KK    AC43   BASIN
        KM   Runoff hydrograph for subbasin AC43 northeast of the intersection of the ACDC
        KM   Canal and 43rd Avenue
        BA   0.362
        LG    0.23    0.25    4.35    0.35      37
        UC   1.409   1.546
        UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
        UA     100
        *

        KK   CAC02 COMBINE
        KM   Combine divert DSAC43, subbasin AC43, and combination point CPAC01
        HC       3    3.75
        *

        KK  PR43PERETRIEVE
        KM   Retrieve combined full flow capacity of 520 cfs from 96-inch equivalent
        KM   diameter pipe at the intersection of Peoria Avenue and 43rd Avenue
        DR  DP43PE
        *
1                                    HEC-1 INPUT                                        PAGE 19

LINE    ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

        KK  CPAC02 COMBINE
        KM   Combine pipe return PR43PE with the runoff hydrograph at combination point
        KM   CAC02 at the intersection of ACDC and 43rd Avenue
        HC       2
        *

        KK  DRUH51RETRIEVE
        KM   Retrieve divert DRUH51 from combination point CUH43 and divert west to
        KM   combination point CUH51
        DR  DWUH51
        *

        KK  RWUH51   ROUTE
        KM   Route diversion retrieval DRUH51 west to combination point CUH51
        RS       5    FLOW
        RC   0.035   0.015   0.035    5280  0.0037    0.00
        RX    0.00    0.00   76.50   76.50  372.50  372.50  449.00  449.00
        RY    3.00    1.27    0.50    0.00    0.00    0.50    1.27    3.00
        *

        KK    UH51   BASIN
        KM   Runoff hydrograph for subbasin UH51 northeast of the intersection of Union
        KM   Hills Drive and 51st Avenue
        BA   0.990
        LG    0.23    0.26    4.60    0.29      36
        UC   1.500   1.008
        UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
        UA     100
        *

        KK  ERUH51  DIVERT
        KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
        KM   retention developed after 1990 in subbasin UH51
        DT   XUH51    48.6     0.0
        DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
        DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
        *

        KK   CUH51 COMBINE
        KM   Combine route RWUH51 and subbasin UH51
        HC       2    1.66
        *

        KK  DSBL51  DIVERT
        KM   Divert remaining runoff hydrograph from combination point CUH51 south to
        KM   combination point CBL51
        DT  DWUHSK     0.0     0.0
        DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
        DQ     0.0    61.0   122.0   305.0   610.0  1220.0  2440.0  6100.0 12200.0 30500.0
        *
1                                    HEC-1 INPUT                                        PAGE 20

LINE    ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

        KK  PRUH43RETRIEVE
        KM   Retrieve full flow capacity of 1268 cfs from 132-inch storm drain pipe at the
        KM   intersection of Union Hills Drive and 43rd Avenue
        DR  DPUH43
        *

        KK  RPUH51   ROUTE
        KM   Route full flow capacity of 1268 cfs through 132-inch storm drain pipe in
        KM   Union Hills Drive to the intersection of Union Hills Drive and 51st Avenue
        RK    5152  0.0035   0.015              CIRC  11.000
        *

        KK  CPUH51 COMBINE
```

```
761          KM   Combine pipe return PRUH43 with diversion DSBL51 at the intersection of Union
762          KM   Hills Drive and 51st Avenue
763          HC       2
             *
764          KK   DUH51  DIVERT
765          KM   Divert calculated full flow capacity of 1548 cfs into a 144-inch storm drain
766          KM   pipe at the intersection of Union Hills Drive and 51st Avenue.
767          KM   Storm drain flow discharges to Skunk Creek and is not returned to the model.
768          DT  DPUH51      0.0  1548.0
769          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
770          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
             *
771          KK  RSBL51   ROUTE
772          KM   Route diversion DUH51 south to combination point CBL51
773          RS       6    FLOW
774          RC   0.035   0.015   0.035    5280  0.0040     0.00
775          RX    0.00    0.00   48.00   48.00  251.00  251.00  299.00  299.00
776          RY    3.00    0.98    0.50    0.00    0.00    0.50    0.98    3.00
             *
777          KK  DRBL51RETRIEVE
778          KM   Retrieve divert DRBL51 from combination point CBL43 and divert west to
779          KM   combination point CBL51
780          DR  DWBL51
             *
781          KK  RWBL51   ROUTE
782          KM   Route diversion retrieval DRBL51 west to combination point CBL51
783          RS       3    FLOW
784          RC   0.035   0.015   0.035    5280  0.0040     0.00
785          RX    0.00    0.00   38.50   38.50  210.50  210.50  249.00  249.00
786          RY    3.00    0.88    0.50    0.00    0.00    0.50    0.88    3.00
             *
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LINE         ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

787          KK    BL51   BASIN
788          KM   Runoff hydrograph for subbasin BL51 northeast of the intersection of Bell
789          KM   Road and 51st Avenue
790          BA   1.045
791          LG    0.22    0.19    6.60    0.14      31
792          UC   1.406   0.935
793          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
794          UA     100
             *
795          KK  ERBL51   DIVERT
796          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
797          KM   retention developed after 1990 in subbasin BL51
798          DT   XBL51     23.0      0.0
799          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
800          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
             *
801          KK   CBL51 COMBINE
802          KM   Combine route RSBL51, route RWBL51, and subbasin BL51
803          HC       3    3.12
             *
804          KK   D51BL  DIVERT
805          KM   Divert calculated full flow capacity of 38 cfs into a 36-inch storm drain
806          KM   pipe at the intersection of Bell Road and 51st Avenue
807          DT  DP51BL      0.0     38.0
808          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
809          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
             *
810          KK  DSGW51  DIVERT
811          KM   Divert remaining runoff hydrograph from combination point CBL51 south to
812          KM   combination point CGW51
813          DT  DWBL59      0.0      0.0
814          DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
815          DQ     0.0    52.0   104.0   260.0   520.0  1040.0  2080.0  5200.0 10400.0 26000.0
             *
816          KK  RSGW51   ROUTE
817          KM   Route diversion DSGW51 south to combination point CGW51
818          RS       2    FLOW
819          RC   0.035   0.015   0.035    5280  0.0035     0.00
820          RX    0.00    0.00   48.00   48.00  251.00  251.00  299.00  299.00
821          RY    3.00    0.98    0.50    0.00    0.00    0.50    0.98    3.00
             *
822          KK  DRGW51RETRIEVE
823          KM   Retrieve divert DRGW51 from combination point CGW43 and divert west to
824          KM   combination point CGW51
825          DR  DWGW51
             *
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LINE         ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

826          KK  RWGW51   ROUTE
827          KM   Route diversion retrieval DRGW51 west to combination point CGW51
828          RS       2    FLOW
829          RC   0.035   0.015   0.035    5280  0.0047     0.00
830          RX    0.00    0.00   67.00   67.00  332.00  332.00  399.00  399.00
831          RY    3.00    1.17    0.50    0.00    0.00    0.50    1.17    3.00
             *
832          KK    GW51   BASIN
833          KM   Runoff hydrograph for subbasin GW51 northeast of the intersection of Greenway
834          KM   Road and 51st Avenue
835          BA   0.962
836          LG    0.26    0.21    6.40    0.17      21
837          UC   1.500   1.021
838          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
839          UA     100
             *
840          KK  ERGW51  DIVERT
841          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
842          KM   retention developed after 1990 in subbasin GW51
843          DT   XGW51      1.3      0.0
844          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
845          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
             *
846          KK   CGW51 COMBINE
847          KM   Combine route RSGW51, route RWGW51, and subbasin GW51
848          HC       3    4.34
             *
849          KK  PR51BLRETRIEVE
850          KM   Retrieve full flow capacity of 38 cfs from 36-inch storm drain pipe at the
851          KM   intersection of Bell Road and 51st Avenue
852          DR  DP51BL
             *
853          KK  RP51GW   ROUTE
854          KM   Route full flow capacity of 38 cfs through 36-inch storm drain pipe in
855          KM   51st Avenue to the intersection of Greenway Road and 51st Avenue
856          RK    4986  0.0033   0.015            CIRC   3.000
             *
857          KK  CPGW51 COMBINE
858          KM   Combine pipe return PR51BL with the runoff hydrograph at combination point
859          KM   CGW51 at the intersection of Greenway Road and 51st Avenue
860          HC       2
             *
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LINE         ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

861          KK   D51GW  DIVERT
862          KM   Divert calculated full flow capacity of 150 cfs into a 60-inch storm drain
863          KM   pipe at the intersection of Greenway Road and 51st Avenue
864          DT  DP51GW      0.0     150.0
865          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
866          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
             *
867          KK  DSTB51  DIVERT
868          KM   Divert remaining runoff hydrograph from combination point CGW51 south to
869          KM   combination point CTB51
870          DT  DWGW59      0.0      0.0
871          DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
872          DQ     0.0    65.0   130.0   325.0   650.0  1300.0  2600.0  6500.0 13000.0 32500.0
             *
873          KK  RSTB51   ROUTE
874          KM   Route diversion DSTB51 south to combination point CTB51
875          RS       3    FLOW
876          RC   0.035   0.015   0.035    5280  0.0027     0.00
877          RX    0.00    0.00   38.50   38.50  210.50  210.50  249.00  249.00
878          RY    3.00    0.88    0.50    0.00    0.00    0.50    0.88    3.00
             *
879          KK  DRTB51RETRIEVE
880          KM   Retrieve divert DRTB51 from combination point CTB43 and divert west to
881          KM   combination point CTB51
882          DR  DWTB51
             *
883          KK  RWTB51   ROUTE
884          KM   Route diversion retrieval DRTB51 west to combination point CTB51
885          RS       2    FLOW
886          RC   0.035   0.015   0.035    5280  0.0037     0.00
887          RX    0.00    0.00   76.50   76.50  372.50  372.50  449.00  449.00
888          RY    3.00    1.27    0.50    0.00    0.00    0.50    1.27    3.00
```

```
                *
          889   KK    TB51    BASIN
          890   KM   Runoff hydrograph for subbasin TB51 northeast of the intersection of
          891   KM   Thunderbird Road and 51st Avenue
          892   BA   0.990
          893   LG    0.27    0.19    6.60    0.15      21
          894   UC   1.500   1.012
          895   UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
          896   UA     100
                *
          897   KK   CTB51 COMBINE
          898   KM   Combine route RSTB51, route RWTB51, and subbasin TB51
          899   HC       3    4.70
                *
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        LINE    ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

          900   KK  PR51GWRETRIEVE
          901   KM   Retrieve full flow capacity of 150 cfs from 60-inch storm drain pipe at the
          902   KM   intersection of Greenway Road and 51st Avenue
          903   DR  DP51GW
                *
          904   KK  RP51TB    ROUTE
          905   KM   Route full flow capacity of 150 cfs through 60-inch storm drain pipe in
          906   KM   51st Avenue to the intersection of Thunderbird Road and 51st Avenue
          907   RK    5283  0.0033    0.015             CIRC    5.000
                *
          908   KK  CPTB51 COMBINE
          909   KM   Combine pipe return PR51GW with the runoff hydrograph at combination point
          910   KM   CTB51 at the intersection of Thunderbird Road and 51st Avenue
          911   HC       2
                *
          912   KK   D51TB  DIVERT
          913   KM   Divert calculated full flow capacity of 244 cfs into a 72-inch storm drain
          914   KM   pipe at the intersection of Thunderbird Road and 51st Avenue
          915   DT  DP51TB      0.0   244.0
          916   DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
          917   DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
                *
          918   KK  DSCT51  DIVERT
          919   KM   Divert remaining runoff hydrograph from combination point CTB51 south to
          920   KM   combination point CCT51
          921   DT  DWTB59      0.0     0.0
          922   DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
          923   DQ     0.0    61.0   122.0   305.0   610.0  1220.0  2440.0  6100.0 12200.0 30500.0
                *
          924   KK  RSCT51   ROUTE
          925   KM   Route diversion DSCT51 south to combination point CCT51
          926   RS       3    FLOW
          927   RC   0.035   0.015   0.035    5280  0.0026    0.00
          928   RX    0.00    0.00   26.00   26.00  148.00  148.00  174.00  174.00
          929   RY    3.00    0.76    0.50    0.00    0.00    0.50    0.76    3.00
                *
          930   KK  DRCT51RETRIEVE
          931   KM   Retrieve divert DRCT51 from combination point CCT43 and divert west to
          932   KM   combination point CCT51
          933   DR  DWCT51
                *
          934   KK  RWCT51   ROUTE
          935   KM   Route diversion retrieval DRCT51 west to combination point CCT51
          936   RS       3    FLOW
          937   RC   0.035   0.015   0.035    5280  0.0032    0.00
          938   RX    0.00    0.00   76.50   76.50  372.50  372.50  449.00  449.00
          939   RY    3.00    1.27    0.50    0.00    0.00    0.50    1.27    3.00
                *
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        LINE    ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

          940   KK    CT51    BASIN
          941   KM   Runoff hydrograph for subbasin CT51 northeast of the intersection of Cactus
          942   KM   Road and 51st Avenue
          943   BA   0.988
          944   LG    0.24    0.26    6.40    0.13      32
          945   UC   1.329   0.886
          946   UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
          947   UA     100
                *
          948   KK  ERCT51  DIVERT
          949   KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
```



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          950   KM   retention developed after 1990 in subbasin CT51
          951   DT   XCT51     29.9     0.0
          952   DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
          953   DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
                *
          954   KK   CCT51 COMBINE
          955   KM   Combine route RSCT51, route RWCT51, and subbasin CT51
          956   HC       3    4.94
                *
          957   KK  PR51TBRETRIEVE
          958   KM   Retrieve full flow capacity of 244 cfs from 72-inch storm drain pipe at the
          959   KM   intersection of Thunderbird Road and 51st Avenue
          960   DR  DP51TB
                *
          961   KK  RP51CT   ROUTE
          962   KM   Route full flow capacity of 244 cfs through 72-inch storm drain pipe in
          963   KM   51st Avenue to the intersection of Cactus Road and 51st Avenue
          964   RK    5189  0.0033    0.015             CIRC    6.000
                *
          965   KK  CPCT51 COMBINE
          966   KM   Combine pipe return PR51TB with the runoff hydrograph at combination point
          967   KM   CCT51 at the intersection of Cactus Road and 51st Avenue
          968   HC       2
                *
          969   KK   D51CT  DIVERT
          970   KM   Divert calculated full flow capacity of 244 cfs into a 72-inch storm drain
          971   KM   pipe at the intersection of Cactus Road and 51st Avenue
          972   DT  DP51CT      0.0   244.0
          973   DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
          974   DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
                *
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        LINE    ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

          975   KK  DSAC51  DIVERT
          976   KM   Divert remaining runoff hydrograph from combination point CCT51 south to
          977   KM   combination pointCAC03
          978   DT  DWAC59      0.0     0.0
          979   DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
          980   DQ     0.0    33.0    66.0   165.0   330.0   660.0  1320.0  3300.0  6600.0 16500.0
                *
          981   KK  DRAC51RETRIEVE
          982   KM   Retrieve divert DRAC51 from combination point CPE43 and divert west to
          983   KM   combination point CAC03
          984   DR  DWAC51
                *
          985   KK    AC51    BASIN
          986   KM   Runoff hydrograph for subbasin AC51 northeast of the intersection of the ACDC
          987   KM   Canal and 51st Avenue
          988   BA   0.576
          989   LG    0.23    0.15    8.00    0.07      35
          990   UC   1.500   1.622
          991   UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
          992   UA     100
                *
          993   KK   CAC03 COMBINE
          994   KM   Combine divert DSAC51, subbasin AC51, divert retrieval DRAC51, and
          995   KM   combination point CPAC02
          996   HC       4    8.95
                *
          997   KK  PR51CTRETRIEVE
          998   KM   Retrieve full flow capacity of 244 cfs from 72-inch storm drain pipe at the
          999   KM   intersection of Cactus Road and 51st Avenue
         1000   DR  DP51CT
                *
         1001   KK  CPAC03 COMBINE
         1002   KM   Combine pipe return PR51CT with the runoff hydrograph at combination point
         1003   KM   CAC03 at the intersection of ACDC and 51st Avenue
         1004   HC       2
                *
         1005   KK  DRBL59RETRIEVE
         1006   KM   Retrieve divert DRBL59 from combination point CBL51 and divert west to
         1007   KM   combination point CBL59
         1008   DR  DWBL59
                *
         1009   KK  RWBL59   ROUTE
         1010   KM   Route diversion retrieval DRBL59 west to combination point CBL59
         1011   RS       3    FLOW
         1012   RC   0.035   0.015   0.035    5280  0.0031    0.00
```

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1013          RX    0.00    0.00   51.50   51.50  296.50  296.50  348.00  348.00
1014          RY    3.00    1.02    0.50    0.00    0.00    0.50    1.02    3.00
                *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9.....10

1015          KK    BL59    BASIN
1016          KM    Runoff hydrograph for subbasin BL59 northeast of the intersection of Bell
1017          KM    Road and 59th Avenue
1018          BA    1.075
1019          LG     0.23    0.18    6.80    0.12      38
1020          UC    1.351   0.887
1021          UA        0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
1022          UA      100
                *
1023          KK  ERBL59  DIVERT
1024          KM    Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
1025          KM    retention developed after 1990 in subbasin BL59
1026          DT    XBL59    72.8     0.0
1027          DI      0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
1028          DQ      0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
                *
1029          KK    CBL59 COMBINE
1030          KM    Combine route RWBL59 and subbasin BL59
1031          HC        2    2.71
                *
1032          KK    D59BL  DIVERT
1033          KM    Divert calculated full flow capacity of 108 cfs into 54-inch storm drain
1034          KM    pipe at the intersection of Bell Road and 59th Avenue
1035          DT  DP59BL      0.0   108.0
1036          DI      0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
1037          DQ      0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
                *
1038          KK  DSGW59  DIVERT
1039          KM    Divert remaining runoff hydrograph from combination point CBL59 south to
1040          KM    combination point CGW59
1041          DT  DWBL67      0.0     0.0
1042          DI      0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
1043          DQ      0.0    31.0    62.0   155.0   310.0   620.0  1240.0  3100.0  6200.0 15500.0
                *
1044          KK  RSGW59    ROUTE
1045          KM    Route diversion DSGW59 south to combination point CGW59
1046          RS        5     FLOW
1047          RC    0.035   0.015   0.035    5280  0.0038     0.00
1048          RX     0.00    0.00   38.50   38.50  241.50  241.50  280.00  280.00
1049          RY     3.00    0.88    0.50    0.00    0.00    0.50    0.88    3.00
                *
1050          KK  DRGW59RETRIEVE
1051          KM    Retrieve divert DRGW59 from combination point CGW51 and divert west to
1052          KM    combination point CGW59
1053          DR  DWGW59
                *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9.....10

1054          KK  RWGW59    ROUTE
1055          KM    Route diversion retrieval DRGW59 west to combination point CGW59
1056          RS        2     FLOW
1057          RC    0.035   0.015   0.035    5280  0.0033     0.00
1058          RX     0.00    0.00   68.50   68.50  359.50  359.50  428.00  428.00
1059          RY     3.00    1.18    0.50    0.00    0.00    0.50    1.18    3.00
                *
1060          KK     GW59    BASIN
1061          KM    Runoff hydrograph for subbasin GW59 northeast of the intersection of Greenway
1062          KM    Road and 59th Avenue
1063          BA    0.944
1064          LG     0.21    0.16    7.30    0.10      40
1065          UC    1.394   0.947
1066          UA        0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
1067          UA      100
                *
1068          KK  ERGW59  DIVERT
1069          KM    Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
1070          KM    retention developed after 1990 in subbasin GW59
1071          DT    XGW59     35.3     0.0
1072          DI      0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
1073          DQ      0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
                *
1074          KK    CGW59 COMBINE
1075          KM    Combine route RSGW59, route RWGW59, and subbasin GW59
```



```
1076          HC        3    5.64
                *
1077          KK  PR59BLRETRIEVE
1078          KM    Retrieve full flow capacity of 108 cfs from 54-inch storm drain pipe at the
1079          KM    intersection of Bell Road and 59th Avenue
1080          DR  DP59BL
                *
1081          KK  RP59GW    ROUTE
1082          KM    Route full flow capacity of 108 cfs through 54-inch storm drain pipe in
1083          KM    59th Avenue to the intersection of Greenway Road and 59th Avenue
1084          RK     4995  0.0030   0.015             CIRC    4.500
                *
1085          KK  CPGW59 COMBINE
1086          KM    Combine pipe return PR59BL with the runoff hydrograph at combination point
1087          KM    CGW59 at the intersection of Greenway Road and 59th Avenue
1088          HC        2
                *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9.....10

1089          KK    D59GW  DIVERT
1090          KM    Divert calculated full flow capacity of 273 cfs into 78-inch storm drain
1091          KM    pipe at the intersection of Greenway Road and 59th Avenue
1092          DT  DP59GW      0.0   273.0
1093          DI      0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
1094          DQ      0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
                *
1095          KK  DSTB59  DIVERT
1096          KM    Divert remaining runoff hydrograph from combination point CPGW59 south to
1097          KM    combination point CTB59
1098          DT  DWGW67      0.0     0.0
1099          DI      0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
1100          DQ      0.0    45.0    90.0   225.0   450.0   900.0  1800.0  4500.0  9000.0 22500.0
                *
1101          KK  RSTB59    ROUTE
1102          KM    Route diversion DSTB59 south to combination point CTB59
1103          RS        3     FLOW
1104          RC    0.035   0.015   0.035    5280  0.0026     0.00
1105          RX     0.00    0.00   65.50   65.50  382.50  382.50  448.00  448.00
1106          RY     3.00    1.16    0.50    0.00    0.00    0.50    1.16    3.00
                *
1107          KK  DRTB59RETRIEVE
1108          KM    Retrieve divert DRTB59 from combination point CTB51 and divert west to
1109          KM    combination point CTB59
1110          DR  DWTB59
                *
1111          KK  RWTB59    ROUTE
1112          KM    Route diversion retrieval DRTB59 west to combination point CTB59
1113          RS        3     FLOW
1114          RC    0.035   0.015   0.035    5280  0.0032     0.00
1115          RX     0.00    0.00   37.50   37.50  210.50  210.50  248.00  248.00
1116          RY     3.00    0.88    0.50    0.00    0.00    0.50    0.88    3.00
                *
1117          KK     TB59    BASIN
1118          KM    Runoff hydrograph for subbasin TB59 northeast of the intersection of
1119          KM    Thunderbird Road and 59th Avenue
1120          BA    0.995
1121          LG     0.25    0.25    6.20    0.15      34
1122          UC    1.432   0.962
1123          UA        0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
1124          UA      100
                *
1125          KK    CTB59 COMBINE
1126          KM    Combine route RSTB59, route RWTB59, and subbasin TB59
1127          HC        3    6.96
                *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9.....10

1128          KK  PR59GWRETRIEVE
1129          KM    Retrieve full flow capacity of 273 cfs from 78-inch storm drain pipe at the
1130          KM    intersection of Greenway Road and 59th Avenue
1131          DR  DP59GW
                *
1132          KK  RP59AM    ROUTE
1133          KM    Route full flow capacity of 273 cfs through 78-inch storm drain pipe in
1134          KM    59th Avenue to the intersection of Acoma Drive and 59th Avenue
1135          RK     2519  0.0027   0.015             CIRC    6.500
                *
```

```
1136          KK  SRAM59 STORAGE
1137          KM   Storage route pipe flow PR59GW through the regional retention basin located
1138          KM     in subbasin TB59 near the intersection of Acoma Drive and 59th Avenue
1139          KM   Stage-storage data from 59th Avenue Detention Basin As-built records, 1990
1140          RS       1    STOR
1141          SV            0.20    2.80   10.90   11.80   12.70   14.90
1142          SQ            3.00  118.00  206.00  478.00  970.00 2354.00
1143          SE  1214.5 1215.00 1218.00 1224.00 1224.50 1225.00 1226.00
              *

1144          KK  RP59TB   ROUTE
1145          KM   Route full flow capacity of 135 cfs through 60-inch storm drain pipe in
1146          KM   59th Avenue to the intersection of Thunderbird Road and 59th Avenue
1147          RK    2759  0.0027   0.015            CIRC   5.000
              *

1148          KK  CPTB59 COMBINE
1149          KM   Combine pipe return PR59GW with the runoff hydrograph at combination point
1150          KM   CTB59 at the intersection of Thunderbird Road and 59th Avenue
1151          HC       2
              *

1152          KK   DTB59  DIVERT
1153          KM   Divert calculated full flow capacity of 578 cfs into 96-inch storm drain
1154          KM   pipe at the intersection of Olive Avenue and 43rd Avenue
1155          DT  DPTB59      0.0   578.0
1156          DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
1157          DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

1158          KK  DSAC59  DIVERT
1159          KM   Divert remaining runoff hydrograph from combination point CPTB59 south to
1160          KM   combination point CAC04
1161          DT  DWAC67      0.0      0.0
1162          DI      0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0 10000.0 20000.0 50000.0
1163          DQ      0.0     41.0     82.0    205.0    410.0    820.0   1640.0  4100.0  8200.0 20500.0
              *
```

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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1164          KK  DRAC59RETRIEVE
1165          KM   Retrieve divert DRAC59 from combination point CCT51 and divert west to
1166          KM   combination point CAC04
1167          DR  DWAC59
              *

1168          KK    AC59   BASIN
1169          KM   Runoff hydrograph for subbasin AC59 northeast of the intersection of the ACDC
1170          KM   Canal and 59th Avenue
1171          BA   0.742
1172          LG    0.18     0.15     8.00     0.08       38
1173          UC   1.500    1.459
1174          UA       0      5.0     16.0     30.0     65.0     77.0     84.0     90.0     94.0     97.0
1175          UA     100
              *

1176          KK  ERAC59  DIVERT
1177          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
1178          KM   retention developed after 1990 in subbasin AC59
1179          DT   XAC59     56.5      0.0
1180          DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
1181          DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

1182          KK   CAC04 COMBINE
1183          KM   Combine divert DSAC59 and subbasin AC59
1184          HC       4   15.39
              *

1185          KK  PRTB59RETRIEVE
1186          KM   Retrieve full flow capacity of 578 cfs from 96-inch storm drain pipe at the
1187          KM   intersection of Thunderbird Road and 59th Avenue
1188          DR  DPTB59
              *

1189          KK  CPAC04 COMBINE
1190          KM   Combine pipe return PRTB59 with the runoff hydrograph at combination point
1191          KM   CAC04 at the intersection of the ACDC canal and 59th Avenue
1192          HC       2
              *

1193          KK  DRBL67RETRIEVE
1194          KM   Retrieve divert DRBL67 from combination point CBL59 and divert west to
1195          KM   combination point CBL67
1196          DR  DWBL67
              *

1197          KK   DBL67  DIVERT
1198          KM   Divert portion of diversion retrieval DRBL67 west to subbasin SK67 and the
1199          KM   remaining flow follow to subbasin BL67 at combination point CBL67
```



```
1200          DT  DWSK67      0.0      0.0
1201          DI      0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0 10000.0 20000.0 50000.0
1202          DQ      0.0     74.0    148.0    370.0    740.0   1480.0   2960.0  7400.0 14800.0 37000.0
              *
```

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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1203          KK  RWBL67   ROUTE
1204          KM   Route diversion retrieval DRBL67 west to combination point CBL67
1205          RS       7    FLOW
1206          RC   0.035    0.015    0.035     5280   0.0037     0.00
1207          RX    0.00     0.00    17.50    17.50   112.50   112.50   130.00   130.00
1208          RY    3.00     0.68     0.50     0.00     0.00     0.50     0.68     3.00
              *

1209          KK    BL67   BASIN
1210          KM   Runoff hydrograph for subbasin BL67 northeast of the intersection of Bell
1211          KM   Road and 67th Avenue
1212          BA   0.233
1213          LG    0.19     0.26     6.20     0.15       45
1214          UC   0.962    0.941
1215          UA       0      5.0     16.0     30.0     65.0     77.0     84.0     90.0     94.0     97.0
1216          UA     100
              *

1217          KK  ERBL67  DIVERT
1218          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
1219          KM   retention developed after 1990 in subbasin BL67
1220          DT   XBL67     13.0      0.0
1221          DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
1222          DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

1223          KK   CBL67 COMBINE
1224          KM   Combine route RWBL67 and subbasin BL67
1225          HC       2    0.46
              *

1226          KK   D67BL  DIVERT
1227          KM   Divert calculated full flow capacity of 32 cfs into 36-inch storm drain
1228          KM   pipe at the intersection of Bell Road and 67th Avenue
1229          DT  DP67BL      0.0     32.0
1230          DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
1231          DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

1232          KK  DSGW67  DIVERT
1233          KM   Divert remaining runoff hydrograph from combination point CBL67 south to
1234          KM   combination point CGW67
1235          DT  DWBL75      0.0      0.0
1236          DI      0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0 10000.0 20000.0 50000.0
1237          DQ      0.0     61.0    122.0    305.0    610.0   1220.0   2440.0  6100.0 12200.0 30500.0
              *

1238          KK  RSGW67   ROUTE
1239          KM   Route diversion DSGW67 south to combination point CGW67
1240          RS      10    FLOW
1241          RC   0.035    0.015    0.035     5280   0.0025     0.00
1242          RX    0.00     0.00    44.50    44.50   253.50   253.50   298.00   298.00
1243          RY    3.00     0.94     0.50     0.00     0.00     0.50     0.94     3.00
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1244          KK  DRGW67RETRIEVE
1245          KM   Retrieve divert DRGW67 from combination point CGW59 and divert west to
1246          KM   combination point CGW67
1247          DR  DWGW67
              *

1248          KK  RWGW67   ROUTE
1249          KM   Route diversion retrieval DRGW67 west to combination point CGW67
1250          RS       3    FLOW
1251          RC   0.035    0.015    0.035     5280   0.0025     0.00
1252          RX    0.00     0.00    61.50    61.50   316.50   316.50   378.00   378.00
1253          RY    3.00     1.12     0.50     0.00     0.00     0.50     1.12     3.00
              *

1254          KK    GW67   BASIN
1255          KM   Runoff hydrograph for subbasin GW67 northeast of the intersection of Greenway
1256          KM   Road and 67th Avenue
1257          BA   0.892
1258          LG    0.24     0.16     8.40     0.06       35
1259          UC   1.342    0.915
1260          UA       0      5.0     16.0     30.0     65.0     77.0     84.0     90.0     94.0     97.0
1261          UA     100
              *

1262          KK  ERGW67  DIVERT
```

```
1263          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
1264          KM   retention developed after 1990 in subbasin GW67
1265          DT   XGW67     47.9       0.0
1266          DI      0.0 50000.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0
1267          DQ      0.0 50000.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0
              *


1268          KK   CGW67 COMBINE
1269          KM   Combine route RSGW67, route RWGW67, and subbasin GW67
1270          HC        3     3.63
              *


1271          KK  PR67BLRETRIEVE
1272          KM   Retrieve full flow capacity of 32 cfs from 36-inch storm drain pipe at the
1273          KM   intersection of Bell Road and 67th Avenue
1274          DR  DP67BL
              *


1275          KK  RP67GW   ROUTE
1276          KM   Route full flow capacity of 32 cfs through 36-inch storm drain pipe in
1277          KM   67th Avenue to the intersection of Greenway Road and 67th Avenue
1278          RK    5072  0.0023    0.015             CIRC    3.000
              *

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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


1279          KK  CPGW67 COMBINE
1280          KM   Combine pipe return PR67BL with the runoff hydrograph at combination point
1281          KM   CGW67 at the intersection of Greenway Road and 67th Avenue
1282          HC        2
              *


1283          KK   D67GW   DIVERT
1284          KM   Divert calculated full flow capacity of 608 cfs into 84-inch storm drain
1285          KM   pipe at the intersection of Greenway Road and 67th Avenue
1286          DT  DP67GW      0.0    608.0
1287          DI      0.0 50000.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0
1288          DQ      0.0 50000.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0
              *


1289          KK  DSAC67   DIVERT
1290          KM   Divert remaining runoff hydrograph from combination point CPGW67 south to
1291          KM   combination point CAC05
1292          DT  DWAC75      0.0       0.0
1293          DI      0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
1294          DQ      0.0    84.0   168.0   420.0   840.0  1680.0  3360.0  8400.0 16800.0 42000.0
              *


1295          KK  RSAC67    ROUTE
1296          KM   Route diversion DSAC67 south to combination point CAC05
1297          RS        1      FLOW
1298          RC    0.035    0.015    0.035     1216  0.0020     0.00
1299          RX     0.00     0.00    34.00    34.00  184.00  184.00  218.00  218.00
1300          RY     3.00     0.84     0.50     0.00    0.00    0.50    0.84    3.00
              *


1301          KK  DRAC67RETRIEVE
1302          KM   Retrieve divert DRAC67 from combination point CPTB59 and divert west to
1303          KM   combination point CAC05
1304          DR  DWAC67
              *


1305          KK  RWAC67    ROUTE
1306          KM   Route diversion retrieval DRAC67 west to combination point CAC05
1307          RS        1      FLOW
1308          RC    0.035    0.015    0.035     1071  0.0029     0.00
1309          RX     0.00     0.00    28.00    28.00  172.00  172.00  200.00  200.00
1310          RY     3.00     0.78     0.50     0.00    0.00    0.50    0.78    3.00
              *


1311          KK    AC67    BASIN
1312          KM   Runoff hydrograph for subbasin AC67 northeast of the intersection of the ACDC
1313          KM   Canal and 67th Avenue
1314          BA   0.698
1315          LG    0.22    0.15    8.40    0.07      29
1316          UC   1.500   1.392
1317          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
1318          UA     100
              *

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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


1319          KK    CAC05 COMBINE
1320          KM   Combine route RSAC67, and subbasin AC67
1321          HC        4   19.52
              *


1322          KK  PR67GWRETRIEVE
1323          KM   Retrieve full flow capacity of 608 cfs from 84-inch storm drain pipe at the
```



```
1324          KM   intersection of Greenway Road and 67th Avenue
1325          DR  DP67GW
              *


1326          KK  RP67AC   ROUTE
1327          KM   Route full flow capacity of 608 cfs through 84-inch storm drain pipe in
1328          KM   67th Avenue to the intersection of the ACDC canal and 67th Avenue
1329          RK    1168  0.0090    0.015             CIRC    7.000
              *


1330          KK  CPAC05 COMBINE
1331          KM   Combine pipe return PR67GW with the runoff hydrograph at combination point
1332          KM   CAC05 at the intersection of the ACDC canal and 67th Avenue
1333          HC        2   19.55
              *


1334          KK  DRAC75RETRIEVE
1335          KM   Retrieve divert DRAC75 from combination point CPGW67 and divert west to
1336          KM   combination point CAC06
1337          DR  DWAC75
              *


1338          KK    AC75    BASIN
1339          KM   Runoff hydrograph for subbasin AC75 near the intersection of the ACDC Canal
1340          KM   75th Avenue
1341          BA   0.842
1342          LG    0.21    0.26    5.80    0.18      28
1343          UC   1.500   1.251
1344          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
1345          UA     100
              *


1346          KK  ERAC75   DIVERT
1347          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
1348          KM   retention developed after 1990 in subbasin AC75
1349          DT   XAC75     10.9       0.0
1350          DI      0.0 50000.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0
1351          DQ      0.0 50000.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0
              *


1352          KK    CAC06 COMBINE
1353          KM   Combine route RAC75 and subbasin AC75
1354          HC        3   23.43
              *

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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


1355          KK    HV55    BASIN
1356          KM   Runoff hydrograph for subbasin HV55 near the intersection of Happy Valley
1357          KM   Road and 55th Avenue
1358          BA   2.054
1359          LG    0.20    0.30    4.40    0.32      29
1360          UC   1.163   0.627
1361          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
1362          UA     100
              *


1363          KK  ERHV55   DIVERT
1364          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
1365          KM   retention developed after 1990 in subbasin HV55
1366          DT   XHV55     94.8       0.0
1367          DI      0.0 50000.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0
1368          DQ      0.0 50000.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0
              *


1369          KK   RCL57    ROUTE
1370          KM   Route runoff hydrograph at subbasin HV55 to combination point CCL57
1371          RS        4      FLOW
1372          RC    0.045    0.035    0.045     5676  0.0078     0.00
1373          RX     0.00     0.00    40.00    50.00   60.00   70.00  110.00  110.00
1374          RY     6.20     5.20     5.00     0.00    0.00    5.00    5.20    6.20
              *


1375          KK    CL57    BASIN
1376          KM   Runoff hydrograph for subbasin CL57 near the intersection of Pinnacle Hill
1377          KM   Road and 57th Avenue
1378          BA   0.746
1379          LG    0.22    0.28    4.55    0.32      27
1380          UC   1.008   0.541
1381          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
1382          UA     100
              *


1383          KK  ERCL57   DIVERT
1384          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
1385          KM   retention developed after 1990 in subbasin CL57
1386          DT   XCL57     41.3       0.0
1387          DI      0.0 50000.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0
1388          DQ      0.0 50000.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0
              *
```

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1389          KK   CCL57 COMBINE
1390          KM   Combine route RCL57 and subbasin CL57
1391          HC       2    2.80
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


1392          KK   RWL59   ROUTE
1393          KM   Route runoff hydrograph at combination point CCL57 to combination point CWL59
1394          RS       6    FLOW
1395          RC   0.045   0.035   0.045    8099  0.0061    0.00
1396          RX    0.00    0.00   40.00   50.00   60.00   70.00  110.00  110.00
1397          RY    6.20    5.20    5.00    0.00    0.00    5.00    5.20    6.20
              *

1398          KK    WL59   BASIN
1399          KM   Runoff hydrograph for subbasin WL59 near the intersection of Williams Road
1400          KM   and 59th Avenue
1401          BA   0.562
1402          LG    0.17    0.32    4.70    0.29      22
1403          UC   1.282   1.006
1404          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
1405          UA     100
              *

1406          KK  ERWL59  DIVERT
1407          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
1408          KM   retention developed after 1990 in subbasin WL59
1409          DT   XWL59    11.1     0.0
1410          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
1411          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

1412          KK   CWL59 COMBINE
1413          KM   Combine route RWL59 and subbasin WL59
1414          HC       2    3.36
              *

1415          KK    DV56   BASIN
1416          KM   Runoff hydrograph for subbasin DV56 near the intersection of Deer Valley Road
1417          KM   and 56th Avenue
1418          BA   0.287
1419          LG    0.10    0.33    4.65    0.27      38
1420          UC   0.647   0.361
1421          UA       0     3.0     5.0     8.0    12.0    20.0    43.0    75.0    90.0    96.0
1422          UA     100
              *

1423          KK   CDV56 COMBINE
1424          KM   Combine route RDV56 and subbasin DV56
1425          HC       2    3.65
              *

1426          KK  SRDV56 STORAGE
1427          KM   Storage route runoff hydrograph from combination point CDV56 through
1428          KM     regional detention basin located in subbasin DV56 (Arrowhead Lake 1)
1429          KM   Stage-storage-discharge data from Glendale/Peoria ADMPU Arrowhead Lakes
1430          KM     Hydrology Report (Volume AL), 2001
1431          RS       1    STOR
1432          SV            8.50   17.19   26.06   35.12   44.34   53.71   63.24   72.91
1433          SQ          139.00  399.00  732.00 1146.00 1639.00 2202.00 2814.00 3516.00
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1434          SE           0.50    1.00    1.50    2.00    2.50    3.00    3.50    4.00
              *

1435          KK    LO51   BASIN
1436          KM   Runoff hydrograph for subbasin LO51 near the intersection of SR Loop 101
1437          KM   and 51st Avenue
1438          BA   1.130
1439          LG    0.14    0.25    4.25    0.35      44
1440          UC   1.445   0.831
1441          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
1442          UA     100
              *

1443          KK   CLO51 COMBINE
1444          KM   Combine route RLO51 and subbasin LO51
1445          HC       2    4.78
              *

1446          KK   D51LO  DIVERT
1447          KM   Divert calculated full flow capacity of 38 cfs into a 36-inch storm drain
1448          KM   pipe at the intersection of SR Loop 101 and 51st Avenue.
1449          KM   Storm drain flow discharges to Skunk Creek and is not returned to the model.
1450          DT  DP51LO     0.0    38.0
1451          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
1452          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *
```



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1453          KK  SRLO51 STORAGE
1454          KM   Storage route runoff hydrograph from combination point CLO51 through
1455          KM     regional detention basin located in subbasin LO51 (Arrowhead Lakes 2-5)
1456          KM   Stage-storage-discharge data from Glendale/Peoria ADMPU Arrowhead Lakes
1457          KM     Hydrology Report (Volume AL), 2001
1458          RS       1    STOR
1459          SV           62.29  129.43  199.09  270.01  340.91  411.82  482.73  582.60
1460          SQ          120.00  346.00  634.00  993.00 1421.00 1908.00 2439.00 3047.00
1461          SE            0.50    1.00    1.50    2.00    2.50    3.00    3.50    4.00
              *

1462          KK  RUHSKA   ROUTE
1463          KM   Route runoff hydrograph at combination point CLO51 to combination point CSK01
1464          RS       4    FLOW
1465          RC   0.045   0.035   0.045    4440  0.0034    0.00
1466          RX    0.00    0.00   55.00   75.00  100.00  120.00  175.00  175.00
1467          RY   11.20   10.20   10.00    0.00    0.00   10.00   10.20   11.20
              *

1468          KK  DRUHSKRETRIEVE
1469          KM   Retrieve divert DRUHSK from combination point CUH51 and divert west to
1470          KM   combination point CUHSK
1471          DR  DWUHSK
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


1472          KK   D51SK  DIVERT
1473          KM   Divert calculated full flow capacity of 24 cfs into a 30-inch storm drain
1474          KM   pipe near the intersection of Skunk Creek and 51st Avenue
1475          KM   Storm drain flow discharges to Skunk Creek and is not returned to the model.
1476          DT  DP51SK     0.0    24.0
1477          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
1478          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

1479          KK  RUHSKB   ROUTE
1480          KM   Route diversion D51SK to combination point CSK01
1481          RS       6    FLOW
1482          RC   0.035   0.015   0.035    6960  0.0034    0.00
1483          RX    0.00    0.00   17.50   17.50  112.50  112.50  130.00  130.00
1484          RY    3.00    0.68    0.50    0.00    0.00    0.50    0.68    3.00
              *

1485          KK    UHSK   BASIN
1486          KM   Runoff hydrograph for subbasin UHSK northeast of the intersection of Union
1487          KM   Hills Drive and 59th Avenue
1488          BA   0.933
1489          LG    0.22    0.28    5.00    0.24      26
1490          UC   1.215   0.795
1491          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
1492          UA     100
              *

1493          KK  ERUHSK  DIVERT
1494          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
1495          KM   retention developed after 1990 in subbasin UHSK
1496          DT   XUHSK    15.2     0.0
1497          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
1498          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

1499          KK   CSK01 COMBINE
1500          KM   Combine route RUHSKA, route RUHSKB, and subbasin UHSK
1501          HC       3    6.73
              *

1502          KK   DUHSK  DIVERT
1503          KM   Divert calculated full flow capacity of 10 cfs into 24-inch storm drain
1504          KM   pipe at the intersection of Union Hills Drive and 59th Avenue
1505          DT  DPUHSK     0.0    10.0
1506          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
1507          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

1508          KK  DRSK67RETRIEVE
1509          KM   Retrieve divert DRSK67 from combination point CBL59 and divert west to
1510          KM   combination point CSK67
1511          DR  DWSK67
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


1512          KK   RSK67   ROUTE
1513          KM   Route diversion retrieval DRSK67 to combination point CSK67
1514          RS       7    FLOW
1515          RC   0.035   0.015   0.035    5113  0.0037    0.00
1516          RX    0.00    0.00   68.50   68.50  359.50  359.50  428.00  428.00
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1517          RY   3.00    1.18    0.50    0.00    0.00    0.50    1.18    3.00
              *

1518          KK    SK67    BASIN
1519          KM   Runoff hydrograph for subbasin SK67 northeast of the intersection of
1520          KM   Greenbriar Drive and 67th Avenue
1521          BA   0.942
1522          LG    0.26    0.26    5.20    0.24      27
1523          UC   1.226   0.664
1524          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
1525          UA     100
              *

1526          KK  ERSK67   DIVERT
1527          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
1528          KM   retention developed after 1990 in subbasin SK67
1529          DT   XSK67      25.1      0.0
1530          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
1531          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

1532          KK   CSK02 COMBINE
1533          KM   Combine route RSK67 and subbasin SK67
1534          HC         3     8.30
              *

1535          KK  PRUHSKRETRIEVE
1536          KM   Retrieve full flow capacity of 10 cfs from 24-inch storm drain pipe at the
1537          KM   intersection of Union Hills Drive and 59th Avenue
1538          DR  DPUHSK
              *

1539          KK  RPSK67    ROUTE
1540          KM   Route full flow capacity of 10 cfs through 24-inch storm drain pipe in
1541          KM   67th Avenue to the intersection of Greenbriar Drive and 67th Avenue
1542          RK    6044  0.0020   0.015             CIRC   2.000
              *

1543          KK  CPSK02 COMBINE
1544          KM   Combine pipe return PRUHSK with the runoff hydrograph at combination point
1545          KM   CSK67 at the intersection of Greenbriar Drive and 67th Avenue
1546          HC         2
              *
```



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LINE          ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

1547          KK    UH67    BASIN
1548          KM   Runoff hydrograph for subbasin UH67 near the intersection of Utopia Road
1549          KM   67th Avenue
1550          BA   0.784
1551          LG    0.23    0.26    5.80    0.17      40
1552          UC   1.169   0.830
1553          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
1554          UA     100
              *

1555          KK  ERUH67   DIVERT
1556          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
1557          KM   retention developed after 1990 in subbasin UH67
1558          DT   XUH67      66.1      0.0
1559          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
1560          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

1561          KK    RUH75    ROUTE
1562          KM   Route runoff hydrograph at subbasin UH67 to combination point CUH75
1563          RS        10      FLOW
1564          RC    0.045    0.035    0.045     7047   0.0021     0.00
1565          RX     0.00     0.00    19.00    25.00    30.00    36.00    55.00    55.00
1566          RY     4.10     3.10     3.00     0.00     0.00     3.00     3.10     4.10
              *

1567          KK    UH75    BASIN
1568          KM   Runoff hydrograph for subbasin UH75 near the intersection of Union Hills
1569          KM   Road and 75th Avenue
1570          BA   0.814
1571          LG    0.22    0.15    7.30    0.11      29
1572          UC   1.500   1.021
1573          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
1574          UA     100
              *

1575          KK  ERUH75   DIVERT
1576          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
1577          KM   retention developed after 1990 in subbasin UH75
1578          DT   XUH75      65.2      0.0
1579          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
1580          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

1581          KK   CUH75 COMBINE
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1582          KM   Combine route RUH75 and subbasin UH75
1583          HC         2     1.60
              *
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LINE          ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

1584          KK  RBL75A    ROUTE
1585          KM   Route runoff hydrograph at combination point CUH75 to combination point CSK03
1586          RS         6      FLOW
1587          RC    0.045    0.035    0.045     4730   0.0037     0.00
1588          RX     0.00     0.00    19.00    25.00    30.00    36.00    55.00    55.00
1589          RY     4.10     3.10     3.00     0.00     0.00     3.00     3.10     4.10
              *

1590          KK  DRBL75RETRIEVE
1591          KM   Retrieve divert DRBL75 from combination point CBL67 and divert west to
1592          KM   combination point CSK03
1593          DR  DWBL75
              *

1594          KK  RBL75B    ROUTE
1595          KM   Route diversion retrieval DRBL75 to combination point CSK03
1596          RS         4      FLOW
1597          RC    0.035    0.015    0.035     2940   0.0048     0.00
1598          RX     0.00     0.00    17.50    17.50   112.50   112.50   130.00   130.00
1599          RY     3.00     0.68     0.50     0.00     0.00     0.50     0.68     3.00
              *

1600          KK    BL75    BASIN
1601          KM   Runoff hydrograph for subbasin BL75 near the intersection of Bell Road
1602          KM   75th Avenue
1603          BA   1.063
1604          LG    0.24    0.26    5.20    0.24      30
1605          UC   1.358   0.878
1606          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
1607          UA     100
              *

1608          KK  ERBL75   DIVERT
1609          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
1610          KM   retention developed after 1990 in subbasin BL75
1611          DT   XBL75      13.2      0.0
1612          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
1613          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

1614          KK   CSK03 COMBINE
1615          KM   Combine route RBL75A, route RBL75B and subbasin BL75
1616          HC         4    11.24
              *

1617          KK    UHLO    BASIN
1618          KM   Runoff hydrograph for subbasin UHLO near the intersection of SR Loop 101 and
1619          KM   Union Hills Drive
1620          BA   0.822
1621          LG    0.21    0.25    5.80    0.19      31
1622          UC   1.093   0.535
1623          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
1624          UA     100
              *
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LINE          ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

1625          KK  ERUHLO   DIVERT
1626          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
1627          KM   retention developed after 1990 in subbasin UHLO
1628          DT   XUHLO      66.5      0.0
1629          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
1630          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

1631          KK    RBLLO    ROUTE
1632          KM   Route runoff hydrograph at subbasin UHLO to combination point CBLLO
1633          RS        10      FLOW
1634          RC    0.035    0.015    0.035     9255   0.0033     0.00
1635          RX     0.00     0.00    17.50    17.50   112.50   112.50   130.00   130.00
1636          RY     3.00     0.68     0.50     0.00     0.00     0.50     0.68     3.00
              *

1637          KK    BLLO    BASIN
1638          KM   Runoff hydrograph for subbasin BLLO near the intersection of Bell Road and
1639          KM   SR Loop 101
1640          BA   0.765
1641          LG    0.18    0.25    4.35    0.34      55
1642          UC   1.192   0.819
1643          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
1644          UA     100
              *
```

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1645          KK  ERBLLO  DIVERT
1646          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
1647          KM   retention developed after 1990 in subbasin BLLO
1648          DT   XBLLO     70.9      0.0
1649          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
1650          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *


1651          KK   CBLLO COMBINE
1652          KM   Combine route RBLLO and subbasin BLLO
1653          HC        2     1.59
              *


1654          KK   DBLLO  DIVERT
1655          KM   Divert calculated full flow capacity of 169 cfs into 84-inch storm drain
1656          KM   pipe at the intersection of Bell Road and SR Loop 101
1657          DT  DPBLLO      0.0    169.0
1658          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
1659          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *


1660          KK   RGWLO    ROUTE
1661          KM   Route diversion DBLLO to combination point CSK04
1662          RS        9     FLOW
1663          RC    0.035    0.015    0.035     6833   0.0066     0.00
1664          RX     0.00     0.00    16.50    16.50   107.50   107.50   124.00   124.00
1665          RY     3.00     0.66     0.50     0.00     0.00     0.50     0.66     3.00
              *

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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


1666          KK    GWLO    BASIN
1667          KM   Runoff hydrograph for subbasin GWLO near the intersection of Greenway Road
1668          KM   and SR Loop 101
1669          BA   0.814
1670          LG    0.10     0.25     4.20     0.43       59
1671          UC   0.678    0.419
1672          UA       0      5.0     16.0     30.0     65.0     77.0     84.0     90.0     94.0     97.0
1673          UA     100
              *


1674          KK  ERGWLO  DIVERT
1675          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
1676          KM   retention developed after 1990 in subbasin GWLO
1677          DT   XGWLO     53.2      0.0
1678          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
1679          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *


1680          KK   CSK04 COMBINE
1681          KM   Combine route RGWLO and subbasin GWLO
1682          HC        4    37.07
              *


1683          KK   PRBLLORETRIEVE
1684          KM   Retrieve full flow capacity of 169 cfs from 84-inch storm drain pipe at the
1685          KM   intersection of Bell Road and SR Loop 101
1686          DR   DPBLLO
              *


1687          KK   RPGWLO    ROUTE
1688          KM   Route full flow capacity of 169 cfs through 84-inch storm drain pipe in
1689          KM   Greenway Road to the intersection of Greenway Road and SR Loop 101
1690          RK     2236   0.0007    0.015              CIRC    7.000
              *


1691          KK   CPSK04 COMBINE
1692          KM   Combine pipe return PRBLLO with the runoff hydrograph at combination point
1693          KM   CSK04 at the intersection of Greenway Road and SR Loop 101
1694          HC        2
              *


1695          KK    JM63    BASIN
1696          KM   Runoff hydrograph for subbasin JM63 near the intersection of Pyramid Peak
1697          KM   Boulevard and Bent Tree Drive
1698          BA   0.840
1699          LG    0.18     0.30     5.10     0.23       21
1700          UC   0.947    0.498
1701          UA       0      5.0     16.0     30.0     65.0     77.0     84.0     90.0     94.0     97.0
1702          UA     100
              *

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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


1703          KK  ERJM63  DIVERT
1704          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
1705          KM   retention developed after 1990 in subbasin JM63
1706          DT   XJM63     50.3      0.0
1707          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
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1708          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *


1709          KK    RJM67    ROUTE
1710          KM   Route runoff hydrograph at subbasin JM63 to combination point CJM67
1711          RS        2     FLOW
1712          RC    0.045    0.020    0.045     4129   0.0076     0.00
1713          RX     0.00     0.00    19.00    25.00    30.00    36.00    55.00    55.00
1714          RY     4.10     3.10     3.00     0.00     0.00     3.00     3.10     4.10
              *


1715          KK    JM67    BASIN
1716          KM   Runoff hydrograph for subbasin JM67 near the intersection of Pyramid Peak
1717          KM   Boulevard and and 67th Avenue
1718          BA   0.381
1719          LG    0.20     0.29     4.35     0.33       34
1720          UC   0.878    0.603
1721          UA       0      5.0     16.0     30.0     65.0     77.0     84.0     90.0     94.0     97.0
1722          UA     100
              *


1723          KK  ERJM67  DIVERT
1724          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
1725          KM   retention developed after 1990 in subbasin JM67
1726          DT   XJM67     20.3      0.0
1727          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
1728          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *


1729          KK   CJM67 COMBINE
1730          KM   Combine route RJM67 and subbasin JM67
1731          HC        2     1.22
              *


1732          KK    RHV75    ROUTE
1733          KM   Route runoff hydrograph at combination point CJM67 to combination point CHV75
1734          RS        2     FLOW
1735          RC    0.045    0.020    0.045     7197   0.0099     0.00
1736          RX     0.00     0.00    40.00    50.00    60.00    70.00   110.00   110.00
1737          RY     6.20     5.20     5.00     0.00     0.00     5.00     5.20     6.20
              *


1738          KK    HV75    BASIN
1739          KM   Runoff hydrograph for subbasin HV75 near the intersection of Happy Valley
1740          KM   Road and 75th Avenue
1741          BA   0.958
1742          LG    0.24     0.26     4.10     0.40       26
1743          UC   1.131    0.639
1744          UA       0      5.0     16.0     30.0     65.0     77.0     84.0     90.0     94.0     97.0
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1745          UA     100
              *


1746          KK  ERHV75  DIVERT
1747          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
1748          KM   retention developed after 1990 in subbasin HV75
1749          DT   XHV75     70.0      0.0
1750          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
1751          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *


1752          KK   CHV75 COMBINE
1753          KM   Combine route RHV75 and subbasin HV75
1754          HC        2     2.18
              *


1755          KK    JM80    BASIN
1756          KM   Runoff hydrograph for subbasin JM80 near the intersection of Jomax Road
1757          KM   and 80th Avenue
1758          BA   0.164
1759          LG    0.24     0.35     3.88     0.42        5
1760          UC   0.711    0.521
1761          UA       0      5.0     16.0     30.0     65.0     77.0     84.0     90.0     94.0     97.0
1762          UA     100
              *


1763          KK    JM76    BASIN
1764          KM   Runoff hydrograph for subbasin JM76 near the intersection of Jomax Road
1765          KM   and 76th Avenue
1766          BA   0.169
1767          LG    0.25     0.35     3.92     0.41        0
1768          UC   0.917    0.790
1769          UA       0      5.0     16.0     30.0     65.0     77.0     84.0     90.0     94.0     97.0
1770          UA     100
              *


1771          KK    JMNR    BASIN
1772          KM   Runoff hydrograph for subbasin JMNR near the intersection of Jomax Road
1773          KM   and New River
1774          BA   0.149
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1775          LG    0.16    0.35    3.29    0.63       1
1776          UC  1.349   1.526
1777          UA       0     3.0     5.0     8.0    12.0    20.0    43.0    75.0    90.0    96.0
1778          UA     100
              *
1779          KK   CNR01 COMBINE
1780          KM   Combine route subbasin JM76, and subbasin JMNR
1781          HC       3    0.48
              *
1                                        HEC-1 INPUT                                        PAGE 47
LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9.....10
1782          KK    JM75   BASIN
1783          KM   Runoff hydrograph for subbasin JM75 near the intersection of Jomax Road
1784          KM   and 75th Avenue
1785          BA   1.112
1786          LG    0.11    0.34    4.30    0.34      12
1787          UC   0.817   0.370
1788          UA       0     3.0     5.0     8.0    12.0    20.0    43.0    75.0    90.0    96.0
1789          UA     100
              *
1790          KK  ERJM75  DIVERT
1791          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
1792          KM   retention developed after 1990 in subbasin JM75
1793          DT   XJM75     5.6     0.0
1794          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
1795          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *
1796          KK    HVNR   BASIN
1797          KM   Runoff hydrograph for subbasin HVNR near the intersection of Happy Valley
1798          KM   Road and New River
1799          BA   0.202
1800          LG    0.10    0.35    3.48    0.55       0
1801          UC  1.480   1.592
1802          UA       0     3.0     5.0     8.0    12.0    20.0    43.0    75.0    90.0    96.0
1803          UA     100
              *
1804          KK   CNR02 COMBINE
1805          KM   Combine subbasin HVNR
1806          HC       4    3.98
              *
1807          KK    HV67   BASIN
1808          KM   Runoff hydrograph for subbasin HV67 near the intersection of Happy Valley
1809          KM   Road and 67th Avenue
1810          BA   0.544
1811          LG    0.16    0.30    4.20    0.36      57
1812          UC  0.668   0.397
1813          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
1814          UA     100
              *
1815          KK  ERHV67  DIVERT
1816          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
1817          KM   retention developed after 1990 in subbasin HV67
1818          DT   XHV67    23.4     0.0
1819          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
1820          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *
1                                        HEC-1 INPUT                                        PAGE 48
LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9.....10
1821          KK   RCL67    ROUTE
1822          KM   Route runoff hydrograph at subbasin HV67 to combination point CCL67
1823          RS       2     FLOW
1824          RC   0.045   0.035   0.045    3990  0.0076    0.00
1825          RX    0.00    0.00   40.00   50.00   60.00   70.00  110.00  110.00
1826          RY    6.20    5.20    5.00    0.00    0.00    5.00    5.20    6.20
              *
1827          KK    CL67   BASIN
1828          KM   Runoff hydrograph for subbasin CL67 near the intersection of Calle Lejos Road
1829          KM   67th Avenue
1830          BA   0.275
1831          LG    0.22    0.27    4.40    0.38      23
1832          UC  1.071   1.021
1833          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
1834          UA     100
              *
1835          KK  ERCL67  DIVERT
1836          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
1837          KM   retention developed after 1990 in subbasin CL67
1838          DT   XCL67    16.5     0.0
1839          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
```



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1840          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *
1841          KK   CCL67 COMBINE
1842          KM   Combine route RCL67 and subbasin CL67
1843          HC       2    0.82
              *
1844          KK  RPP73A   ROUTE
1845          KM   Route runoff hydrograph at combination point CCL67 to combination point CPP73
1846          RS       3     FLOW
1847          RC   0.045   0.035   0.045    5599  0.0045    0.00
1848          RX    0.00    0.00   40.00   50.00   60.00   70.00  110.00  110.00
1849          RY    6.20    5.20    5.00    0.00    0.00    5.00    5.20    6.20
              *
1850          KK    PP67   BASIN
1851          KM   Runoff hydrograph for subbasin PP67 near the intersection of Pinnacle Peak
1852          KM   Road and 67th Avenue
1853          BA   0.096
1854          LG    0.30    0.25    4.55    0.41       6
1855          UC  1.114   1.233
1856          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
1857          UA     100
              *
1                                        HEC-1 INPUT                                        PAGE 49
LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9.....10
1858          KK  ERPP67  DIVERT
1859          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
1860          KM   retention developed after 1990 in subbasin PP67
1861          DT   XPP67     5.8     0.0
1862          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
1863          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *
1864          KK  DWPP73  DIVERT
1865          KM   Divert remaining runoff hydrograph at subbasin PP67 west to combination point
1866          KM   CPP73
1867          DT  DSWL67     0.0     0.0
1868          DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
1869          DQ     0.0    32.0    64.0   160.0   320.0   640.0  1280.0  3200.0  6400.0 16000.0
              *
1870          KK  RPP73B   ROUTE
1871          KM   Route diversion DWPP73 west to combination point CPP73
1872          RS       1     FLOW
1873          RC   0.035   0.015   0.035    3886  0.0064    0.00
1874          RX    0.00    0.00   16.50   16.50  107.50  107.50  124.00  124.00
1875          RY    3.00    0.66    0.50    0.00    0.00    0.50    0.66    3.00
              *
1876          KK    PP73   BASIN
1877          KM   Runoff hydrograph for subbasin PP73 near the intersection of Pinnacle Peak
1878          KM   Road and 73rd Avenue
1879          BA   0.545
1880          LG    0.29    0.25    4.70    0.31      18
1881          UC  1.124   0.716
1882          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
1883          UA     100
              *
1884          KK  ERPP73  DIVERT
1885          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
1886          KM   retention developed after 1990 in subbasin PP73
1887          DT   XPP73    10.3     0.0
1888          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
1889          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *
1890          KK   CPP73 COMBINE
1891          KM   Combine route RPP73A, route RPP73B, and subbasin PP73
1892          HC       3    1.43
              *
1893          KK  DWPP75  DIVERT
1894          KM   Divert remaining runoff hydrograph at combination point CPP73 west to
1895          KM   combination point CPP75
1896          DT  DSWL75     0.0     0.0
1897          DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
1898          DQ     0.0    41.0    82.0   205.0   410.0   820.0  1640.0  4100.0  8200.0 20500.0
              *
1                                        HEC-1 INPUT                                        PAGE 50
LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9.....10
1899          KK    RPPNR   ROUTE
1900          KM   Route diversion DWPP75 west to combination point CNR03
1901          RS       1     FLOW
1902          RC   0.045   0.020   0.045    1225  0.0052    0.00
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1903          RX    0.00    0.00   40.00   50.00   60.00   70.00  110.00  110.00
1904          RY    6.20    5.20    5.00    0.00    0.00    5.00    5.20    6.20
                    *

1905          KK    PP75   BASIN
1906          KM    Runoff hydrograph for subbasin PP75 near the intersection of Pinnacle Peak
1907          KM    Road and 75th Avenue
1908          BA    0.420
1909          LG     0.28    0.29    4.25    0.40      18
1910          UC    0.862   0.599
1911          UA        0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
1912          UA      100
                    *

1913          KK  ERPP75  DIVERT
1914          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
1915          KM   retention developed after 1990 in subbasin PP75
1916          DT   XPP75    12.5     0.0
1917          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
1918          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
                    *

1919          KK    PPNR   BASIN
1920          KM   Runoff hydrograph for subbasin PPNR near the intersection of Pinnacle Peak
1921          KM   Road and New River
1922          BA   0.237
1923          LG    0.13    0.34    3.53    0.53       1
1924          UC   1.492   1.435
1925          UA       0     3.0     5.0     8.0    12.0    20.0    43.0    75.0    90.0    96.0
1926          UA     100
                    *

1927          KK   CNR03 COMBINE
1928          KM   Combine route RPPNR and subbasin PPNR
1929          HC       4    5.47
                    *

1930          KK  DRWL75RETRIEVE
1931          KM   Retrieve divert DRWL75 from combination point CPP73 and divert to
1932          KM   combination point CWL75
1933          DR  DSWL75
                    *

1934          KK  RWL75B   ROUTE
1935          KM   Route diversion retrieval DRWL75 to combination point CWL75
1936          RS       1    FLOW
1937          RC   0.035   0.015   0.035    2577  0.0049    0.00
1938          RX    0.00    0.00    7.00    7.00   43.00   43.00   50.00   50.00
1939          RY    3.00    0.57    0.50    0.00    0.00    0.50    0.57    3.00
                    *
1                                   HEC-1 INPUT                                 PAGE 51

LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


1940          KK  DRWL67RETRIEVE
1941          KM   Retrieve divert DRWL67 from subbasin PP67 and divert to combination point
1942          KM   CTB67
1943          DR  DSWL67
                    *

1944          KK   RWL67   ROUTE
1945          KM   Route diversion retrieval DRWL67 to combination point CWL67
1946          RS       1    FLOW
1947          RC   0.035   0.015   0.035    1195  0.0014    0.00
1948          RX    0.00    0.00   20.50   20.50   89.50   89.50  110.00  110.00
1949          RY    3.00    0.70    0.50    0.00    0.00    0.50    0.70    3.00
                    *

1950          KK    WL67   BASIN
1951          KM   Runoff hydrograph for subbasin WL67 near the intersection of Thunderbird Park
1952          KM   Road and 67th Avenue
1953          BA   0.103
1954          LG    0.24    0.28    4.70    0.34       6
1955          UC   1.157   1.263
1956          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
1957          UA     100
                    *

1958          KK  ERWL67  DIVERT
1959          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
1960          KM   retention developed after 1990 in subbasin WL67
1961          DT   XWL67     4.3     0.0
1962          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
1963          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
                    *

1964          KK   CWL67 COMBINE
1965          KM   Combine route RWL67 and subbasin WL67
1966          HC       2    0.13
                    *

1967          KK  RWL75A   ROUTE
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1968          KM   Route runoff hydrograph at combination point CWL67 to combination point CWL75
1969          RS       9    FLOW
1970          RC   0.035   0.015   0.035    5062  0.0072    0.00
1971          RX    0.00    0.00    7.00    7.00   43.00   43.00   50.00   50.00
1972          RY    3.00    0.57    0.50    0.00    0.00    0.50    0.57    3.00
                    *

1973          KK    WL75   BASIN
1974          KM   Runoff hydrograph for subbasin WL75 near the intersection of Williams Road
1975          KM   Road and 75th Avenue
1976          BA   0.475
1977          LG    0.29    0.25    4.70    0.31       25
1978          UC   1.039   0.674
1979          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
1980          UA     100
                    *
1                                   HEC-1 INPUT                                 PAGE 52

LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


1981          KK  ERWL75  DIVERT
1982          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
1983          KM   retention developed after 1990 in subbasin WL75
1984          DT   XWL75    18.0     0.0
1985          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
1986          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
                    *

1987          KK   CWL75 COMBINE
1988          KM   Combine route RWL75A, route RWL75B, and subbasin WL75
1989          HC       3    1.20
                    *

1990          KK    WWBR   BASIN
1991          KM   Runoff hydrograph for subbasin WWBR near the intersection of Westwing Parkway
1992          KM   and Black Rock Boulevard
1993          BA   0.184
1994          LG    0.22    0.19    7.00    0.10       25
1995          UC   0.435   0.270
1996          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
1997          UA     100
                    *

1998          KK  ERWWBR  DIVERT
1999          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
2000          KM   retention developed after 1990 in subbasin WWBR
2001          DT   XWWBR    12.2     0.0
2002          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
2003          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
                    *

2004          KK   RWWRS   ROUTE
2005          KM   Route runoff hydrograph at subbasin WWBR to combination point CWWRS
2006          RS       2    FLOW
2007          RC   0.045   0.035   0.045    2599  0.0063    0.00
2008          RX    0.00    0.00   19.00   25.00   30.00   36.00   55.00   55.00
2009          RY    4.10    3.10    3.00    0.00    0.00    3.00    3.10    4.10
                    *

2010          KK    WWRS   BASIN
2011          KM   Runoff hydrograph for subbasin WWRS near the intersection of Westwing Parkway
2012          KM   and Rock Springs wash
2013          BA   0.144
2014          LG    0.20    0.26    4.30    0.44       32
2015          UC   0.637   0.543
2016          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
2017          UA     100
                    *
1                                   HEC-1 INPUT                                 PAGE 53

LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


2018          KK  ERWWRS  DIVERT
2019          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
2020          KM   retention developed after 1990 in subbasin WWRS
2021          DT   XWWRS     7.1     0.0
2022          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
2023          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
                    *

2024          KK   CWWRS COMBINE
2025          KM   Combine route RWWRS and subbasin WWRS
2026          HC       2    0.33
                    *

2027          KK   RJMRS   ROUTE
2028          KM   Route runoff hydrograph at combination point CWWRS to combination point CJMRS
2029          RS       3    FLOW
2030          RC   0.045   0.035   0.045    4005  0.0060    0.00
2031          RX    0.00    0.00   40.00   50.00   60.00   70.00  110.00  110.00
2032          RY    6.20    5.20    5.00    0.00    0.00    5.00    5.20    6.20
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                *
2033            KK    JMRS    BASIN
2034            KM    Runoff hydrograph for subbasin JMRS near the intersection of Jomax Road and
2035            KM    Rock Springs wash
2036            BA    0.567
2037            LG     0.20     0.31     5.30     0.20       18
2038            UC    0.948    0.630
2039            UA        0      5.0     16.0     30.0     65.0     77.0     84.0     90.0     94.0     97.0
2040            UA      100
                *
2041            KK  ERJMRS   DIVERT
2042            KM    Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
2043            KM    retention developed after 1990 in subbasin JMRS
2044            DT    XJMRS     27.7      0.0
2045            DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
2046            DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
                *
2047            KK    CJMRS COMBINE
2048            KM    Combine route RJMRS and subbasin JMRS
2049            HC         2     0.90
                *
2050            KK  RHVRSB    ROUTE
2051            KM    Route runoff hydrograph at combination point CJMRS to combination point CHVRS
2052            RS         5      FLOW
2053            RC     0.045    0.035    0.045     5791   0.0051     0.00
2054            RX      0.00     0.00    19.00    25.00    30.00    36.00    55.00    55.00
2055            RY      4.10     3.10     3.00     0.00     0.00     3.00     3.10     4.10
                *
1                                                HEC-1 INPUT                                                PAGE 54

LINE            ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

2056            KK    83RS    BASIN
2057            KM    Runoff hydrograph for subbasin 83RS near the intersection of 83rd Avenue and
2058            KM    Rock Springs wash
2059            BA    0.638
2060            LG     0.18     0.30     4.50     0.30       38
2061            UC    0.582    0.243
2062            UA        0      5.0     16.0     30.0     65.0     77.0     84.0     90.0     94.0     97.0
2063            UA      100
                *
2064            KK  ER83RS   DIVERT
2065            KM    Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
2066            KM    retention developed after 1990 in subbasin 83RS
2067            DT    X83RS     27.5      0.0
2068            DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
2069            DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
                *
2070            KK  RHVRSA   ROUTE
2071            KM    Route runoff hydrograph at subbasin 83RS to combination point CHVRS
2072            RS         3      FLOW
2073            RC     0.045    0.035    0.045     6390   0.0071     0.00
2074            RX      0.00     0.00    40.00    50.00    60.00    70.00   110.00   110.00
2075            RY      6.20     5.20     5.00     0.00     0.00     5.00     5.20     6.20
                *
2076            KK    HVRS    BASIN
2077            KM    Runoff hydrograph for subbasin HVRS near the intersection of Happy Valley
2078            KM    Road and Rock Springs wash
2079            BA    0.630
2080            LG     0.10     0.35     4.10     0.38        1
2081            UC    1.413    0.951
2082            UA        0      3.0      5.0      8.0     12.0     20.0     43.0     75.0     90.0     96.0
2083            UA      100
                *
2084            KK  ERHVRS   DIVERT
2085            KM    Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
2086            KM    retention developed after 1990 in subbasin HVRS
2087            DT    XHVRS      1.1      0.0
2088            DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
2089            DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
                *
2090            KK    CHVRS COMBINE
2091            KM    Combine route RHVRSA, route RHVRSB, and subbasin HVRS
2092            HC         3     2.16
                *
1                                                HEC-1 INPUT                                                PAGE 55

LINE            ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

2093            KK  RCL77B   ROUTE
2094            KM    Route runoff hydrograph at combination point CHVRS to combination point CCL77
2095            RS         2      FLOW
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2096            RC     0.045    0.035    0.045     2864   0.0057     0.00
2097            RX      0.00   480.00   500.00   518.00   544.00   609.00   900.00  1121.00
2098            RY     11.00    10.00     0.00     0.20    10.00    11.00    12.00    13.00
                *
2099            KK    HV83    BASIN
2100            KM    Runoff hydrograph for subbasin HV83 near the intersection of Happy Valley
2101            KM    Road and 83rd Avenue
2102            BA    0.035
2103            LG     0.10     0.35     4.15     0.37       20
2104            UC    0.394    0.410
2105            UA        0      5.0     16.0     30.0     65.0     77.0     84.0     90.0     94.0     97.0
2106            UA      100
                *
2107            KK  RCL77A   ROUTE
2108            KM    Route runoff hydrograph at subbasin HV83 to combination point CCL77
2109            RS         2      FLOW
2110            RC     0.045    0.035    0.045     3884   0.0111     0.00
2111            RX      0.00     0.00    19.00    25.00    30.00    36.00    55.00    55.00
2112            RY      4.10     3.10     3.00     0.00     0.00     3.00     3.10     4.10
                *
2113            KK    CL77    BASIN
2114            KM    Runoff hydrograph for subbasin CL77 near the intersection of Calle Lejos Road
2115            KM    and 77th Avenue
2116            BA    0.316
2117            LG     0.24     0.31     4.40     0.34        6
2118            UC    0.805    0.511
2119            UA        0      5.0     16.0     30.0     65.0     77.0     84.0     90.0     94.0     97.0
2120            UA      100
                *
2121            KK  ERCL77   DIVERT
2122            KM    Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
2123            KM    retention developed after 1990 in subbasin CL77
2124            DT    XCL77     12.3      0.0
2125            DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
2126            DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
                *
2127            KK    CCL77 COMBINE
2128            KM    Combine route RCL77A, route RCL77B, and subbasin CL77
2129            HC         3     2.51
                *
1                                                HEC-1 INPUT                                                PAGE 56

LINE            ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

2130            KK    RPP77    ROUTE
2131            KM    Route runoff hydrograph at combination point CCL77 to combination point CPP77
2132            RS         2      FLOW
2133            RC     0.045    0.035    0.045     2947   0.0041     0.00
2134            RX      0.00   480.00   500.00   518.00   544.00   609.00   900.00  1121.00
2135            RY     11.00    10.00     0.00     0.20    10.00    11.00    12.00    13.00
                *
2136            KK    PP77    BASIN
2137            KM    Runoff hydrograph for subbasin PP77 near the intersection of Pinnacle Peak
2138            KM    Road and 77th Avenue
2139            BA    0.270
2140            LG     0.27     0.30     4.20     0.39        7
2141            UC    1.250    1.133
2142            UA        0      5.0     16.0     30.0     65.0     77.0     84.0     90.0     94.0     97.0
2143            UA      100
                *
2144            KK  ERPP77   DIVERT
2145            KM    Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
2146            KM    retention developed after 1990 in subbasin PP77
2147            DT    XPP77      0.6      0.0
2148            DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
2149            DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
                *
2150            KK    CPP77 COMBINE
2151            KM    Combine route RPP77 and subbasin PP77
2152            HC         2     2.78
                *
2153            KK    RWLNR    ROUTE
2154            KM    Route runoff hydrograph at combination point CPP77 to combination point CNR04
2155            RS         2      FLOW
2156            RC     0.045    0.035    0.045     3822   0.0048     0.00
2157            RX      0.00   256.00   372.00   397.00   407.00   419.00   464.00   800.00
2158            RY     12.00    10.00     8.00     0.00     0.00     6.00     8.00    12.00
                *
2159            KK    WLNR    BASIN
2160            KM    Runoff hydrograph for subbasin WLNR near the intersection of Williams Road
2161            KM    New River
2162            BA    0.390
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2163          LG    0.28    0.31    4.70    0.27       7
2164          UC   1.121   0.735
2165          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
2166          UA     100
              *
1                                        HEC-1 INPUT                                          PAGE 57

LINE          ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10


2167          KK   CNR04 COMBINE
2168          KM   Combine route RWLNR and subbasin WLNR
2169          HC       4    9.84
              *

2170          KK    DV75   BASIN
2171          KM   Runoff hydrograph for subbasin DV75 near the intersection of Deer Valley Road
2172          KM   and 75th Avenue
2173          BA   0.501
2174          LG    0.24    0.25    4.90    0.26      34
2175          UC   1.225   0.941
2176          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
2177          UA     100
              *

2178          KK  ERDV75  DIVERT
2179          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
2180          KM   retention developed after 1990 in subbasin DV75
2181          DT   XDV75    22.6     0.0
2182          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
2183          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

2184          KK  DWDVNR  DIVERT
2185          KM   Divert remaining runoff hydrograph at subbasin DV75 west to combination point
2186          KM   CNR05
2187          DT  DSLO75     0.0     0.0
2188          DI     0.0     1.0    92.0   274.0   365.0   456.0   546.0   700.0   800.0  1000.0
2189          DQ     0.0     0.0    26.0    70.0    87.0   109.0   131.0   167.0   191.0   239.0
              *

2190          KK   RDVNR   ROUTE
2191          KM   Route diversion DWDVNR west to combination point CNR05
2192          RS       2    FLOW
2193          RC   0.045   0.015   0.045    2707  0.0015    0.00
2194          RX    0.00    0.00   19.00   25.00   30.00   36.00   55.00   55.00
2195          RY    4.10    3.10    3.00    0.00    0.00    3.00    3.10    4.10
              *

2196          KK    DVNR   BASIN
2197          KM   Runoff hydrograph for subbasin DVNR near the intersection of Deer Valley Road
2198          KM   and New River
2199          BA   0.401
2200          LG    0.23    0.26    4.35    0.34      33
2201          UC   1.244   0.863
2202          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
2203          UA     100
              *
1                                        HEC-1 INPUT                                          PAGE 58

LINE          ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10


2204          KK   CNR05 COMBINE
2205          KM   Combine route RDVNR and subbasin DVNR
2206          HC       3   10.50
              *

2207          KK    DV67   BASIN
2208          KM   Runoff hydrograph for subbasin DV67 near the intersection of Deer Valley Road
2209          KM   and 67th Avenue
2210          BA   0.503
2211          LG    0.18    0.29    4.55    0.32      38
2212          UC   0.469   0.184
2213          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
2214          UA     100
              *

2215          KK  SRDV67 STORAGE
2216          KM   Storage route runoff hydrograph from combination point CDV67 thru regional
2217          KM     detention basin located in subbasin DV67 (Arrowhead Lakes 6, 7, and 11-13)
2218          KM   Stage-storage-discharge data from Glendale/Peoria ADMPU Arrowhead Lakes
2219          KM     Hydrology Report (Volume AL), 2001
2220          RS       1    STOR
2221          SV            4.49    9.21   14.15   19.27   24.51   29.86   35.24   40.67
2222          SQ           91.00  285.00  566.00  886.00 1243.00 1638.00 2064.00 2523.00
2223          SE            0.50    1.00    1.50    2.00    2.50    3.00    3.50    4.00
              *

2224          KK    LO67   BASIN
2225          KM   Runoff hydrograph for subbasin LO67 near the intersection of SR Loop 101 and
2226          KM   67th Avenue
2227          BA   1.217
```



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2228          LG    0.20    0.25    5.70    0.20      33
2229          UC   1.154   0.542
2230          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
2231          UA     100
              *

2232          KK   CLO67 COMBINE
2233          KM   Combine route RLO67 and subbasin LO67
2234          HC       2    1.72
              *

2235          KK  SRLO67 STORAGE
2236          KM   Storage route runoff hydrograph from combination point CLO67 thru regional
2237          KM     detention basin located in subbasin LO67 (Arrowhead Lakes 8-10 and 14-20)
2238          KM   Stage-storage-discharge data from Glendale/Peoria ADMPU Arrowhead Lakes
2239          KM     Hydrology Report (Volume AL), 2001
2240          RS       1    STOR
2241          SV           12.86   26.19   39.86   53.86   69.64   84.08  100.17  114.88  149.69
2242          SV  188.50
2243          SQ       9      41     100     175     245     326     396     502     657     703
2244          SQ     749
2245          SE    0.00    0.50    1.00    1.50    2.00    2.50    3.00    3.50    4.00    4.50
2246          SE    5.00
              *
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LINE          ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10


2247          KK    LO75   BASIN
2248          KM   Runoff hydrograph for subbasin LO75 near the intersection of SR Loop 101 and
2249          KM   75th Avenue
2250          BA   0.970
2251          LG    0.24    0.25    6.00    0.16      34
2252          UC   1.174   0.595
2253          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
2254          UA     100
              *

2255          KK  ERLO75  DIVERT
2256          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
2257          KM   retention developed after 1990 in subbasin LO75
2258          DT   XLO75    34.3     0.0
2259          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
2260          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

2261          KK   CLO75 COMBINE
2262          KM   Combine storage route SRLO67 and subbasin LO75
2263          HC       2    2.69
              *

2264          KK  SRLO75 STORAGE
2265          KM   Storage route runoff hydrograph from combination point CLO75 thru regional
2266          KM     detention basin located in subbasin LO75 (Arrowhead Lakes L21AP1 to L21AP5)
2267          KM   Stage-storage-discharge data from Glendale/Peoria ADMPU Arrowhead Lakes
2268          KM     Hydrology Report (Volume AL), 2001
2269          RS       1    STOR
2270          SV           12.58   31.24   52.02
2271          SQ           46.00  418.00  768.00
2272          SE            0.50    1.00    1.50
              *

2273          KK  DRLO75RETRIEVE
2274          KM   Retrieve divert DROL75 from subbasin DV75 and divert to combination point
2275          KM   CLO75
2276          DR  DSLO75
              *

2277          KK   RLO75   ROUTE
2278          KM   Route diversion DRLO75 to combination point CLO75
2279          RS       8    FLOW
2280          RC   0.035   0.015   0.035    7499  0.0047    0.00
2281          RX    0.00    0.00   13.00   13.00   55.00   55.00   68.00   68.00
2282          RY    3.00    0.63    0.50    0.00    0.00    0.50    0.63    3.00
              *

2283          KK  CILO75 COMBINE
2284          KM   Combine route RLO75A and storage route SRLO75
2285          HC       2    2.94
              *
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LINE          ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10


2286          KK  RBYNRB   ROUTE
2287          KM   Route runoff hydrograph at combination point CLO75 to combination point CBYNR
2288          RS       1    FLOW
2289          RC   0.045   0.015   0.045    3176  0.0058    0.00
2290          RX    0.00    3.00    5.00   29.00   41.00   65.00   67.00   70.00
2291          RY   13.00   12.00   12.00    0.00    0.00   12.00   12.00   13.00
              *
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2292          KK    PP81   BASIN
2293          KM   Runoff hydrograph for subbasin PP81 near the intersection of Pinnacle Peak
2294          KM   Road and 81st Avenue
2295          BA   0.197
2296          LG    0.30    0.25    6.00    0.18      15
2297          UC   0.811   0.472
2298          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
2299          UA     100
              *

2300          KK  ERPP81  DIVERT
2301          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
2302          KM   retention developed after 1990 in subbasin PP81
2303          DT   XPP81     12.8      0.0
2304          DI     0.0 50000.0      0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
2305          DQ     0.0 50000.0      0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

2306          KK   RWL83   ROUTE
2307          KM   Route runoff hydrograph at subbasin PP81 to combination point CWL83
2308          RS       4    FLOW
2309          RC   0.045   0.035   0.045    3222  0.0050    0.00
2310          RX    0.00    0.00   19.00   25.00   30.00   36.00   55.00   55.00
2311          RY    4.10    3.10    3.00    0.00    0.00    3.00    3.10    4.10
              *

2312          KK    WL83   BASIN
2313          KM   Runoff hydrograph for subbasin WL83 near the intersection of Williams Road
2314          KM   and 83rd Avenue
2315          BA   0.125
2316          LG    0.30    0.10   11.20    0.02      15
2317          UC   0.989   0.940
2318          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
2319          UA     100
              *

2320          KK  ERWL83  DIVERT
2321          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
2322          KM   retention developed after 1990 in subbasin WL83
2323          DT   XWL83      4.3      0.0
2324          DI     0.0 50000.0      0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
2325          DQ     0.0 50000.0      0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

2326          KK   CWL83 COMBINE
2327          KM   Combine route RW183 and subbasin WL83
2328          HC       2     0.32
              *

2329          KK    HV87   BASIN
2330          KM   Runoff hydrograph for subbasin HV87 near the intersection of Happy Valley
2331          KM   Road and 87th Avenue
2332          BA   0.285
2333          LG    0.10    0.35    4.00    0.39      35
2334          UC   0.383   0.154
2335          UA       0     3.0     5.0     8.0    12.0    20.0    43.0    75.0    90.0    96.0
2336          UA     100
              *

2337          KK   RPP87   ROUTE
2338          KM   Route runoff hydrograph at subbasin HV87 to combination point CPP87
2339          RS       1    FLOW
2340          RC   0.045   0.020   0.045    5446  0.0172    0.00
2341          RX    0.00    0.00   40.00   50.00   60.00   70.00  110.00  110.00
2342          RY    6.20    5.20    5.00    0.00    0.00    5.00    5.20    6.20
              *

2343          KK    PP87   BASIN
2344          KM   Runoff hydrograph for subbasin PP87 near the intersection of Pinnacle Peak
2345          KM   Road and 87th Avenue
2346          BA   0.981
2347          LG    0.25    0.28    4.45    0.35      10
2348          UC   0.785   0.293
2349          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
2350          UA     100
              *

2351          KK  ERPP87  DIVERT
2352          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
2353          KM   retention developed after 1990 in subbasin PP87
2354          DT   XPP87     29.0      0.0
2355          DI     0.0 50000.0      0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
2356          DQ     0.0 50000.0      0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

2357          KK   CPP87 COMBINE
2358          KM   Combine route RPP87 and subbasin PP87
2359          HC       2     1.27
```



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              *

2360          KK  SRPP87 STORAGE
2361          KM   Storage route runoff hydrograph from combination point CPP87 through the
2362          KM     regional detention basin located near the intersection of Pinnacle Peak Rd
2363          KM     and 87th Avenue
2364          KM   Stage-storage-discharge data from 83rd Avenue/Pinnacle Peak Road Drainage
2365          KM     Improvements Final Drainage Report, 2006
2366          RS       1    STOR
2367          SV            0.81     3.43    7.18   11.20   15.45   19.87   24.47   29.24   32.60
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

2368          SV   34.10   36.28   38.47
2369          SQ                   34.13   53.39   68.62   81.63   93.17  103.66  113.33  120.0
2370          SQ   208.0   499.0   814.0
2371          SE  1313.0 1314.00 1315.00 1316.00 1317.00 1318.00 1319.00 1320.00 1321.00  1321.7
2372          SE  1322.0  1322.5  1322.9
              *

2373          KK   DPP87  DIVERT
2374          KM   Divert calculated full flow capacity of 128 cfs into 48-inch storm drain
2375          KM   pipe at the intersection of Pinnacle Peak Road and 87th Avenue
2376          DT  DPPP87       0.0    128.0
2377          DI     0.0 50000.0      0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
2378          DQ     0.0 50000.0      0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

2379          KK  PRPP87RETRIEVE
2380          KM   Retrieve full flow capacity of 128 cfs from 48-inch storm drain pipe at the
2381          KM   intersection of Pinnacle Peak Road and 87th Avenue
2382          DR  DPPP87
              *

2383          KK  RP87PP   ROUTE
2384          KM   Route full flow capacity of 128 cfs through 48-inch storm drain pipe in
2385          KM   87th Avenue to the intersection of Pinnacle Peak Road and 87th Avenue
2386          RK    1251  0.0079   0.015             CIRC   4.000
              *

2387          KK    PP91   BASIN
2388          KM   Runoff hydrograph for subbasin PP91 near the intersection of Pinnacle Peak
2389          KM   Road and 91st Avenue
2390          BA   0.161
2391          LG    0.30    0.25    4.20    0.44      15
2392          UC   1.104   0.929
2393          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
2394          UA     100
              *

2395          KK  ERPP91  DIVERT
2396          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
2397          KM   retention developed after 1990 in subbasin PP91
2398          DT   XPP91      7.7      0.0
2399          DI     0.0 50000.0      0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
2400          DQ     0.0 50000.0      0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

2401          KK  DPPP91  DIVERT
2402          KM   Divert calculated full flow capacity of 88 cfs into 54-inch storm drain
2403          KM   pipe at the intersection of Pinnacle Peak Road and 91st Avenue
2404          DT   DPP91       0.0      0.0
2405          DI     0.0      88.0     88.1 50000.0      0.0     0.0     0.0     0.0     0.0     0.0
2406          DQ     0.0       0.0      0.1 49912.0      0.0     0.0     0.0     0.0     0.0     0.0
              *
              * KKRPPP87   ROUTE
              * KM Route full flow capacity of 88 cfs through 54-inch storm drain pipe in
              * KM Pinnacle Peak Road to the intersection of Pinnacle Peak Road and 87th Avenu
              * RK  2635  0.0020   0.015             CIRC   4.500
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

2407          KK   CPPP87 COMBINE
2408          KM   Combine pipe flow DPPP91 with pipe return flow PRPP87 at the intersection of
2409          KM   Pinnacle Peak Road and 87th Avenue
2410          HC       2
              *

2411          KK  RPPP83   ROUTE
2412          KM   Route full flow capacity of 127 cfs through 72-inch storm drain pipe in
2413          KM   Pinnacle Peak Road to the intersection of Pinnacle Peak Road and 83rd Avenue
2414          RK    1891  0.0009   0.015             CIRC   6.000
              *

2415          KK   CPPP83 COMBINE
2416          KM   Combine pipe flow from combination point CPPP87 with the runoff hydrograph at
2417          KM   combination point CPP87 at the intersection of Pinnacle Peak Road and 83rd
2418          KM   Avenue
2419          HC       2
```

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                *
2420            KK  SRPP83 STORAGE
2421            KM   Storage route runoff hydrograph from combination point CPPP83 through the
2422            KM     regional detention basin located near the intersection of Pinnacle Peak Rd
2423            KM     and 83rd Avenue
2424            KM   Stage-storage-discharge data from 83rd Avenue/Pinnacle Peak Road Drainage
2425            KM     Improvements Final Drainage Report, 2006
2426            RS       1    STOR
2427            SV    0.41    1.96    4.32    6.86    9.60   12.51   15.62   18.93   22.43   26.13
2428            SV   30.04   34.15   38.47   43.00   47.74   52.69
2429            SQ                                    1.03    2.10   11.31   13.59   15.65   17.54
2430            SQ   19.29   20.95   22.51   24.00   25.43   26.79
2431            SE  1298.0  1299.0  1300.0  1301.0  1302.0  1303.0  1304.0  1305.0  1306.0  1307.0
2432            SE  1308.0  1309.0  1310.0  1311.0  1312.0  1313.0
                *
2433            KK  DP83PP  DIVERT
2434            KM   Divert calculated full flow capacity of 31 cfs into 36-inch storm drain
2435            KM   pipe at the intersection of Pinnacle Peak Road and 83rd Avenue
2436            DT   D83PP      0.0     0.0
2437            DI     0.0     31.0    31.1 50000.0     0.0     0.0     0.0     0.0     0.0     0.0
2438            DQ     0.0      0.0     0.1 49969.0     0.0     0.0     0.0     0.0     0.0     0.0
                *
2439            KK  RP83WL   ROUTE
2440            KM   Route full flow capacity of 31 cfs through 36-inch storm drain pipe in
2441            KM   83rd Avenue to the intersection of Williams Road and 83rd Avenue
2442            RK    2980  0.0022   0.015            CIRC   3.000
                *
2443            KK  CPWL83 COMBINE
2444            KM   Combine pipe flow DP83PP with the runoff hydrograph at combination point
2445            KM   CWL83 at the intersection of Williams Road and 83rd Avenue
2446            HC       2
                *
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LINE            ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

2447            KK   RDV83   ROUTE
2448            KM   Route runoff hydrograph at combination point CPWL83 to combination point
2449            KM   CDV83
2450            RS       2    FLOW
2451            RC   0.045   0.015   0.045    2933  0.0051    0.00
2452            RX    0.00    0.00   40.00   50.00   60.00   70.00  110.00  110.00
2453            RY    6.20    5.20    5.00    0.00    0.00    5.00    5.20    6.20
                *
2454            KK    DV83   BASIN
2455            KM   Runoff hydrograph for subbasin DV83 near the intersection of Deer Valley
2456            KM   Road and 83rd Avenue
2457            BA   0.107
2458            LG    0.25    0.10   11.20    0.02      30
2459            UC   1.084   1.210
2460            UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
2461            UA     100
                *
2462            KK  ERDV83  DIVERT
2463            KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
2464            KM   retention developed after 1990 in subbasin DV83
2465            DT   XDV83     1.7     0.0
2466            DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
2467            DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
                *
2468            KK   CDV83 COMBINE
2469            KM   Combine route RDV83 and subbasin DV83
2470            HC       2    0.43
                *
2471            KK  RBYNRA   ROUTE
2472            KM   Route runoff hydrograph at combination point CDV83 to combination point CBYNR
2473            RS       5    FLOW
2474            RC   0.045   0.035   0.045    6713  0.0060    0.00
2475            RX    0.00    0.00   19.00   25.00   30.00   36.00   55.00   55.00
2476            RY    4.10    3.10    3.00    0.00    0.00    3.00    3.10    4.10
                *
2477            KK    BYNR   BASIN
2478            KM   Runoff hydrograph for subbasin BYNR near the intersection of Beardsley Road
2479            KM   Road and New River
2480            BA   1.034
2481            LG    0.22    0.27    5.80    0.17      27
2482            UC   1.240   0.665
2483            UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
2484            UA     100
                *
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2485            KK  ERBYNR  DIVERT
2486            KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
2487            KM   retention developed after 1990 in subbasin BYNR
2488            DT   XBYNR     4.5     0.0
2489            DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
2490            DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
                *
2491            KK   CNR06 COMBINE
2492            KM   Combine route RBYNRA, route RBYNRB, and subbasin BYNR
2493            HC       4   14.90
                *
2494            KK  DR83PPRETRIEVE
2495            KM   Retrieve divert DR83PP from combination point CPPP83 and divert to
2496            KM   combination point CDV87
2497            DR   D83PP
                *
2498            KK   RDV87   ROUTE
2499            KM   Route diversion retrieval DR83PP to combination point CDV87
2500            RS       1    FLOW
2501            RC   0.035   0.015   0.035    5316  0.0063    0.00
2502            RX    0.00    0.00   12.50   12.50   62.50   62.50   75.00   75.00
2503            RY    3.00    0.62    0.50    0.00    0.00    0.50    0.62    3.00
                *
2504            KK    DV87   BASIN
2505            KM   Runoff hydrograph for subbasin DV87 near the intersection of Deer Valley Road
2506            KM   and 87th Avenue
2507            BA   1.004
2508            LG    0.30    0.17    6.80    0.13      15
2509            UC   0.964   0.357
2510            UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
2511            UA     100
                *
2512            KK  ERDV87  DIVERT
2513            KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
2514            KM   retention developed after 1990 in subbasin DV87
2515            DT   XDV87     5.3     0.0
2516            DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
2517            DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
                *
2518            KK   CDV87 COMBINE
2519            KM   Combine route RDV87 and subbasin DV87
2520            HC       2    2.27
                *
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LINE            ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

2521            KK   RBY87   ROUTE
2522            KM   Route runoff hydrograph at combination point CDV87 to combination point CBY87
2523            RS       2    FLOW
2524            RC   0.045   0.035   0.045    6699  0.0045    0.00
2525            RX    0.00    0.00   55.00   75.00  100.00  120.00  175.00  175.00
2526            RY   11.20   10.20   10.00    0.00    0.00   10.00   10.20   11.20
                *
2527            KK    BY87   BASIN
2528            KM   Runoff hydrograph for subbasin BY87 near the intersection of Beardsley Road
2529            KM   and 87th Avenue
2530            BA   0.959
2531            LG    0.24    0.15    8.00    0.08      33
2532            UC   1.119   0.559
2533            UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
2534            UA     100
                *
2535            KK  ERBY87  DIVERT
2536            KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
2537            KM   retention developed after 1990 in subbasin BY87
2538            DT   XBY87    76.7     0.0
2539            DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
2540            DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
                *
2541            KK   CBY87 COMBINE
2542            KM   Combine route RBY87 and subbasin BY87
2543            HC       2    3.23
                *
2544            KK   RUH87   ROUTE
2545            KM   Route runoff hydrograph at combination point CBY87 to combination point CUH87
2546            RS       5    FLOW
2547            RC   0.045   0.035   0.045    6701  0.0037    0.00
2548            RX    0.00    0.00   40.00   50.00   60.00   70.00  110.00  110.00
2549            RY    6.20    5.20    5.00    0.00    0.00    5.00    5.20    6.20
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                *
2550            KK    UH87   BASIN
2551            KM   Runoff hydrograph for subbasin UH87 near the intersection of Union Hills
2552            KM   Drive and 87th Avenue
2553            BA   0.998
2554            LG    0.21    0.15    7.60    0.10      26
2555            UC   1.031   0.490
2556            UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
2557            UA     100
                *
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LINE            ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


2558            KK  ERUH87  DIVERT
2559            KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
2560            KM   retention developed after 1990 in subbasin UH87
2561            DT   XUH87     71.9      0.0
2562            DI     0.0 50000.0      0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
2563            DQ     0.0 50000.0      0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
                *

2564            KK   CUH87 COMBINE
2565            KM   Combine route RUH87 and subbasin UH87
2566            HC        2    4.23
                *

2567            KK  DSBLNR  DIVERT
2568            KM   Divert remaining runoff hydrograph from combination point CUH87 south to
2569            KM   combination point CBLNR
2570            DT  DSBL91      0.0      0.0
2571            DI      0.0   100.0    200.0    500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
2572            DQ      0.0    59.0    118.0    295.0   590.0  1180.0  2360.0  5900.0 11800.0 29500.0
                *

2573            KK  DPUHNR  DIVERT
2574            KM   Divert calculated full flow capacity of 50 cfs into 42-inch storm drain
2575            KM   pipe at the intersection of Union Hills Drive and 87th Avenue
2576            DT   DUHNR      0.0      0.0
2577            DI     0.0     50.0     50.1 50000.0      0.0     0.0     0.0     0.0     0.0     0.0
2578            DQ     0.0      0.0      0.1 49950.0      0.0     0.0     0.0     0.0     0.0     0.0
                *

2579            KK  RPUHNR   ROUTE
2580            KM   Route full flow capacity of 50 cfs through 42-inch storm drain pipe in
2581            KM   Union Hills Drive to the intersection of Union Hills Drive and New River
2582            RK    1703  0.0025   0.015             CIRC   3.500
                *

2583            KK    UHNR   BASIN
2584            KM   Runoff hydrograph for subbasin UHNR near the intersection of Union Hills
2585            KM   Drive and New River
2586            BA   0.386
2587            LG    0.14    0.29    4.60    0.28      40
2588            UC   1.063   0.804
2589            UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
2590            UA     100
                *

2591            KK  ERUHNR  DIVERT
2592            KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
2593            KM   retention developed after 1990 in subbasin UHNR
2594            DT   XUHNR      0.1      0.0
2595            DI     0.0 50000.0      0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
2596            DQ     0.0 50000.0      0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
                *
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LINE            ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


2597            KK   CNR07 COMBINE
2598            KM   Combine route RPUHNR, and subbasin UHNR
2599            HC        3   15.29
                *

2600            KK  DRUHNRRETRIEVE
2601            KM   Retrieve divert DRUHNR from combination point CUH87 and divert to
2602            KM   combination point CNR08
2603            DR   DUHNR
                *

2604            KK   RBLNR   ROUTE
2605            KM   Route diversion retrieval DRUHNR to combination point CNR08
2606            RS        1    FLOW
2607            RC    0.035   0.015   0.035    2700  0.0028    0.00
2608            RX     0.00    0.00    7.00    7.00   43.00   43.00   50.00   50.00
2609            RY     3.00    0.57    0.50    0.00    0.00    0.50    0.57    3.00
                *

2610            KK    BLNR   BASIN
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2611            KM   Runoff hydrograph for subbasin BLNR near the intersection of Bell Road and
2612            KM   New River
2613            BA   0.603
2614            LG    0.18    0.27    5.20    0.21      44
2615            UC   1.047   0.699
2616            UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
2617            UA     100
                *

2618            KK  ERBLNR  DIVERT
2619            KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
2620            KM   retention developed after 1990 in subbasin BLNR
2621            DT   XBLNR      5.1      0.0
2622            DI     0.0 50000.0      0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
2623            DQ     0.0 50000.0      0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
                *

2624            KK   CNR08 COMBINE
2625            KM   Combine route RBLNR and subbasin BLNR
2626            HC        3   17.63
                *

2627            KK  DRPP91RETRIEVE
2628            KM   Retrieve divert DRPP91 from subbasin PP91 and divert to combination point
2629            KM   CRG93
2630            DR   DPP91
                *

2631            KK   RDV91   ROUTE
2632            KM   Route diversion retrieval DRPP91 to combination point CDV91
2633            RS        1    FLOW
2634            RC    0.035   0.015   0.035    5295  0.0064    0.00
2635            RX     0.00    0.00   16.50   16.50  107.50  107.50  124.00  124.00
2636            RY     3.00    0.66    0.50    0.00    0.00    0.50    0.66    3.00
                *
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LINE            ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


2637            KK   RRG93   ROUTE
2638            KM   Route runoff hydrograph at route RDV91 to combination point CRG93
2639            RS        1    FLOW
2640            RC    0.045   0.015   0.045    4406  0.0036    0.00
2641            RX     0.00    0.00   19.00   25.00   30.00   36.00   55.00   55.00
2642            RY     4.10    3.10    3.00    0.00    0.00    3.00    3.10    4.10
                *

2643            KK    RG93   BASIN
2644            KM   Runoff hydrograph for subbasin RG93 near the intersection of Rose Garden Lane
2645            KM   93rd Avenue
2646            BA   0.248
2647            LG    0.25    0.25    4.60    0.30      30
2648            UC   1.139   0.815
2649            UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
2650            UA     100
                *

2651            KK  ERRG93  DIVERT
2652            KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
2653            KM   retention developed after 1990 in subbasin RG93
2654            DT   XRG93     20.3      0.0
2655            DI     0.0 50000.0      0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
2656            DQ     0.0 50000.0      0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
                *

2657            KK   CRG93 COMBINE
2658            KM   Combine route RRG93 and subbasin RG93
2659            HC        2    0.41
                *

2660            KK  DSBY91  DIVERT
2661            KM   Divert remaining runoff hydrograph from combination point CRG93 south to
2662            KM   combination point CBY91
2663            DT  DWRGLP      0.0      0.0
2664            DI      0.0     5.0     9.0    50.0    84.0   113.0   140.0   205.0     0.0     0.0
2665            DQ      0.0     0.0     0.0    35.0    66.0    93.0   118.0   182.0     0.0     0.0
                *

2666            KK   RBY91   ROUTE
2667            KM   Route diversion DSBY91 south to combination point CBY91
2668            RS        8    FLOW
2669            RC    0.045   0.035   0.045    2901  0.0041    0.00
2670            RX     0.00    0.00   19.00   25.00   30.00   36.00   55.00   55.00
2671            RY     4.10    3.10    3.00    0.00    0.00    3.00    3.10    4.10
                *

2672            KK    BY91   BASIN
2673            KM   Runoff hydrograph for subbasin BY91 near the intersection of Beardsley Road
2674            KM   91st Avenue
2675            BA   0.501
2676            LG    0.23    0.25    4.50    0.34      27
2677            UC   0.856   0.390
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2678          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10
2679          UA     100
              *
2680          KK  ERBY91   DIVERT
2681          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
2682          KM   retention developed after 1990 in subbasin BY91
2683          DT   XBY91     38.6      0.0
2684          DI      0.0 50000.0      0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
2685          DQ      0.0 50000.0      0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *
2686          KK   CBY91 COMBINE
2687          KM   Combine route RBY91 and subbasin BY91
2688          HC        2     0.71
              *
2689          KK   RUH91    ROUTE
2690          KM   Route runoff hydrograph at combination point CBY91 to combination point CUH91
2691          RS       10     FLOW
2692          RC   0.045    0.035   0.045    9978  0.0027    0.00
2693          RX    0.00     0.00   19.00   25.00   30.00   36.00   55.00   55.00
2694          RY    4.10     3.10    3.00    0.00    0.00    3.00    3.10    4.10
              *
2695          KK    UH91    BASIN
2696          KM   Runoff hydrograph for subbasin UH91 near the intersection of Union Hills
2697          KM   Drive and 91st Avenue
2698          BA   0.929
2699          LG    0.21     0.25    4.80    0.31      27
2700          UC   1.500    1.066
2701          UA       0      5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
2702          UA     100
              *
2703          KK  ERUH91   DIVERT
2704          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
2705          KM   retention developed after 1990 in subbasin UH91
2706          DT   XUH91     4.0      0.0
2707          DI      0.0 50000.0      0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
2708          DQ      0.0 50000.0      0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *
2709          KK   CUH91 COMBINE
2710          KM   Combine route RUH91 and subbasin UH91
2711          HC        2     1.63
              *
2712          KK  DRBL91RETRIEVE
2713          KM   Retrieve divert DRBL91 from combination point CBL59 and divert to
2714          KM   combination point CIUH91
2715          DR  DSBL91
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10
2716          KK   DUH91   DIVERT
2717          KM   Capacity of storm drain in 89th Avenue and 91st Avenue diverted together.
2718          KM   Divert combined calculated full flow capacity of 454 cfs in the 78-inch storm
2719          KM   drain pipe in 89th Avenue and 129 cfs in the 54-inch storm drain pipe in
2720          KM   91st Avenue. The total calculated combined full flow capacity diverted at the
2721          KM   intersection of 91st Avenue and Union Hills Drive is 583 cfs in an equivalent
2722          KM   diameter pipe of 96 inches
2723          DT  DPUH91      0.0   583.0
2724          DI      0.0 50000.0      0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
2725          DQ      0.0 50000.0      0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *
2726          KK  CIUH91 COMBINE
2727          KM   Combine diversion DUH91 with runoff hydrograph at combination point CUH91
2728          KM   at the intersection of 91st Avenue and Union Hills Drive
2729          HC        2     4.12
              *
2730          KK   RBL91    ROUTE
2731          KM   Route runoff hydrograph at combination point CIUH91 to combination point CBL9
2732          RS        2     FLOW
2733          RC    0.035    0.015   0.035    5280  0.0045    0.00
2734          RX     0.00     0.00   38.50   38.50  210.50  210.50  249.00  249.00
2735          RY     3.00     0.88    0.50    0.00    0.00    0.50    0.88    3.00
              *
2736          KK    BL91    BASIN
2737          KM   Runoff hydrograph for subbasin BL91 near the intersection of Bell Road and
2738          KM   91st Avenue
2739          BA   0.901
2740          LG    0.19     0.16    7.00    0.10      51
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2741          UC   1.066    0.545
2742          UA       0      5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
2743          UA     100
              *
2744          KK  ERBL91   DIVERT
2745          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
2746          KM   retention developed after 1990 in subbasin BL91
2747          DT   XBL91     79.1      0.0
2748          DI      0.0 50000.0      0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
2749          DQ      0.0 50000.0      0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *
2750          KK   CBL91 COMBINE
2751          KM   Combine route RBL91 and subbasin BL91
2752          HC        2     5.02
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10
2753          KK  PRUH91RETRIEVE
2754          KM   Retrieve combined full flow capacity of 583 cfs from 96-inch equivalent
2755          KM   diameter pipe at the intersection of Union Hills Drive and 91st Avenue
2756          DR  DPUH91
              *
2757          KK  RP91AT   ROUTE
2758          KM   Route the combined full flow capacity of 583 cfs through an equivalent storm
2759          KM   drain pipe diameter of 96 inches in 91st Avenue to the intersection of
2760          KM   91st Avenue and Athens Street
2761          RK     1467  0.0043   0.015            CIRC   8.000
              *
2762          KK  SRAT91 STORAGE
2763          KM   Storage route pipe flow PRUH91 through the regional detention basin located
2764          KM     in subbasin BL91 near the intersection of Athens Street and 91st Avenue
2765          KM   Storage routing ID S-DET in Glendale/Peoria ADMPU, May 2001
2766          KM   Comments from ADMPU:
2767          KM   * PROPOSED DESERT AMETHYST DETENTION BASIN
2768          KM   * **** LTM: Use design-level storage volume/elevation data provided by Wood
2769          KM   *      Patel. Basin size reduced to accommodate potential landscaping req'mts
2770          RS        1    STOR
2771          SV             0.00    0.04    0.38    1.53    3.87    7.06   10.53   14.03   17.61
2772          SV    21.25  24.973  28.766  32.634  36.576  40.594  44.688  44.689    44.8    44.9
2773          SQ        0      60      68      80      96     117     148     188     237     288
2774          SQ      329     333     337     341     345     348     357     500    1000    1500
2775          SE   1201.6  1203.0  1203.5  1204.0  1204.5  1205.0  1205.5  1206.0  1206.5  1207.0
2776          SE   1207.5  1208.0  1208.5  1209.0  1209.5  1210.0  1210.5  1210.6  1211.0  1211.3
              *
2777          KK  RP91BL   ROUTE
2778          KM   Route full flow capacity of 311 cfs through 78-inch storm drain pipe in
2779          KM   91st Avenue to the intersection of Bell Road and 91st Avenue
2780          RK     3333  0.0035   0.015            CIRC   6.500
              *
2781          KK  CPBL91 COMBINE
2782          KM   Combine pipe return PRUH91 with the runoff hydrograph at combination point
2783          KM   CBL91 at the intersection of Bell Road and 87th Avenue
2784          HC        2
              *
2785          KK  DSGWNR   DIVERT
2786          KM   Divert remaining runoff hydrograph from combination point CPBL91 south to
2787          KM   combination point CNR09
2788          DT  DSGW91      0.0      0.0
2789          DI      0.0   100.0    200.0    500.0   1000.0   2000.0   4000.0  10000.0  20000.0  50000.0
2790          DQ      0.0    58.0    116.0    290.0    580.0   1160.0   2320.0   5800.0  11600.0  29000.0
              *
1                                          HEC-1 INPUT                                        PAGE 73
LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10
2791          KK  DPBLNR   DIVERT
2792          KM   Divert calculated full flow capacity of 159 cfs into 72-inch storm drain
2793          KM   pipe at the intersection of Bell Road and 87th Avenue
2794          DT   DBLNR      0.0      0.0
2795          DI      0.0   159.0    159.1 50000.0      0.0      0.0      0.0      0.0      0.0      0.0
2796          DQ      0.0     0.0      0.1 49841.0      0.0      0.0      0.0      0.0      0.0      0.0
              *
2797          KK  RPBLNR    ROUTE
2798          KM   Route full flow capacity of 159 cfs through 72-inch storm drain pipe in
2799          KM   Bell Road to the intersection of Bell Road and New River
2800          RK     1896  0.0014   0.015            CIRC   6.000
              *
2801          KK  CPNR08 COMBINE
2802          KM   Combine pipe flow DPBLNR with the runoff hydrograph at combination point
2803          KM   CNR08 at the intersection of Bell Road and New River
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2804          HC       2   17.63
              *

2805          KK  DRBLNRRETRIEVE
2806          KM   Retrieve divert DRBLNR from combination point CPBL91 and divert to
2807          KM   combination point CNR09
2808          DR   DBLNR
              *

2809          KK  RGWNRB    ROUTE
2810          KM   Route diversion retrieval DRBLNR to combination point CNR09
2811          RS       4     FLOW
2812          RC  0.035   0.015   0.035    9106  0.0029    0.00
2813          RX   0.00    0.00   12.50   12.50   62.50   62.50   75.00   75.00
2814          RY   3.00    0.62    0.50    0.00    0.00    0.50    0.62    3.00
              *

2815          KK  DRGW91RETRIEVE
2816          KM   Retrieve divert DRGW91 from combination point CPBL91 and divert to
2817          KM   combination point CGW91
2818          DR  DSGW91
              *

2819          KK   RGW91    ROUTE
2820          KM   Route diversion retrieval DRGW91 to combination point CGW91
2821          RS       2     FLOW
2822          RC  0.035   0.015   0.035    5450  0.0039    0.00
2823          RX   0.00    0.00   16.50   16.50  107.50  107.50  124.00  124.00
2824          RY   3.00    0.66    0.50    0.00    0.00    0.50    0.66    3.00
              *

2825          KK    GW91    BASIN
2826          KM   Runoff hydrograph for subbasin GW91 near the intersection of Greenway Road
2827          KM   91st Avenue
2828          BA   0.477
2829          LG    0.20    0.25    5.60    0.19      42
2830          UC   0.979   0.564
```



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LINE          ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

2831          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
2832          UA     100
              *

2833          KK  ERGW91  DIVERT
2834          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
2835          KM   retention developed after 1990 in subbasin GW91
2836          DT   XGW91     22.0      0.0
2837          DI     0.0 50000.0      0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
2838          DQ     0.0 50000.0      0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

2839          KK   CGW91 COMBINE
2840          KM   Combine route RGW91 and subbasin GW91
2841          HC       2    3.40
              *

2842          KK  DEGWNR  DIVERT
2843          KM   Divert remaining runoff hydrograph at combination point CGW91 east to
2844          KM   combination point CNR09
2845          DT  DSTBNR      0.0       0.0
2846          DI      0.0  1350.0  1350.1 50000.0      0.0     0.0     0.0     0.0     0.0     0.0
2847          DQ      0.0     0.0  1350.1 50000.0      0.0     0.0     0.0     0.0     0.0     0.0
              *

2848          KK  RGWNRA   ROUTE
2849          KM   Route diversion DEGWNR east to combination point CNR09
2850          RS       5     FLOW
2851          RC  0.045   0.015   0.045    6001  0.0010    0.00
2852          RX   0.00    0.00   40.00   50.00   60.00   70.00  110.00  110.00
2853          RY   6.20    5.20    5.00    0.00    0.00    5.00    5.20    6.20
              *

2854          KK    GWNR    BASIN
2855          KM   Runoff hydrograph for subbasin GWNR near the intersection of Greenway Road
2856          KM   and New River
2857          BA   0.696
2858          LG    0.18    0.27    4.65    0.29      32
2859          UC   1.221   0.835
2860          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
2861          UA     100
              *

2862          KK  ERGWNR  DIVERT
2863          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
2864          KM   retention developed after 1990 in subbasin GWNR
2865          DT   XGWNR     26.6      0.0
2866          DI     0.0 50000.0      0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
2867          DQ     0.0 50000.0      0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *
```



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LINE          ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

2868          KK   CNR09 COMBINE
2869          KM   Combine route RGWNRA, route RGWNRB and subbasin
2870          KM   DV87
2871          HC       5   59.19
              *

2872          KK  DRTBNRRETRIEVE
2873          KM   Retrieve divert DRTBNR from combination point CGW91 and divert to
2874          KM   combination point CNR10
2875          DR  DSTBNR
              *

2876          KK   RTBNR    ROUTE
2877          KM   Route diversion retrieval DRTBNR to combination point CNR10
2878          RS       1     FLOW
2879          RC  0.035   0.015   0.035    6342  0.0031    0.00
2880          RX   0.00    0.00   16.50   16.50  107.50  107.50  124.00  124.00
2881          RY   3.00    0.66    0.50    0.00    0.00    0.50    0.66    3.00
              *

2882          KK    TBNR    BASIN
2883          KM   Runoff hydrograph for subbasin TBNR near the intersection of Thunderbird Road
2884          KM   and New River
2885          BA   1.123
2886          LG    0.19    0.24    4.65    0.30      30
2887          UC   1.294   0.600
2888          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
2889          UA     100
              *

2890          KK  ERTBNR  DIVERT
2891          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
2892          KM   retention developed after 1990 in subbasin TBNR
2893          DT   XTBNR     15.5      0.0
2894          DI     0.0 50000.0      0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
2895          DQ     0.0 50000.0      0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

2896          KK   CNR10 COMBINE
2897          KM   Combine route RTBNR and subbasin TBNR
2898          HC       3   62.01
              *

2899          KK    HV93    BASIN
2900          KM   Runoff hydrograph for subbasin HV93 near the intersection of Happy Valley
2901          KM   Road and 93rd Avenue
2902          BA   0.172
2903          LG    0.24    0.28    4.15    0.42      30
2904          UC   0.490   0.332
2905          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
2906          UA     100
              *
```



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LINE          ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

2907          KK  DSPPLP  DIVERT
2908          KM   Divert remaining runoff hydrograph from subbasin HV93 south to combination
2909          KM   point CPPLP
2910          DT  DWHVLP      0.0       0.0
2911          DI      0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
2912          DQ      0.0    42.0    84.0   210.0   420.0   840.0  1680.0  4200.0  8400.0 21000.0
              *

2913          KK   RPPLP    ROUTE
2914          KM   Route diversion DSPPLP south to combination point CPPLP
2915          RS       4     FLOW
2916          RC  0.035   0.015   0.035    8751  0.0066    0.00
2917          RX   0.00    0.00    9.50    9.50   40.50   40.50   50.00   50.00
2918          RY   3.00    0.60    0.50    0.00    0.00    0.50    0.60    3.00
              *

2919          KK    PPLP    BASIN
2920          KM   Runoff hydrograph for subbasin PPLP near the intersection of Pinnacle Peak
2921          KM   Road and Lake Pleasant Parkway
2922          BA   0.885
2923          LG    0.23    0.28    4.35    0.37      13
2924          UC   1.355   0.967
2925          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
2926          UA     100
              *

2927          KK  ERPPLP  DIVERT
2928          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
2929          KM   retention developed after 1990 in subbasin PPLP
2930          DT   XPPLP     19.3      0.0
2931          DI     0.0 50000.0      0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
2932          DQ     0.0 50000.0      0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *
```

```
2933          KK   CPPLP COMBINE
2934          KM   Combine route RPPLP and subbasin PPLP
2935          HC       2    0.98
              *

2936          KK  DSDV99  DIVERT
2937          KM   Divert remaining runoff hydrograph from combination point CPPLP south to
2938          KM   combination point CDV99
2939          DT  DWPP03      0.0      0.0
2940          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
2941          DQ     0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

2942          KK   DDV99  DIVERT
2943          KM   Divert portion of diversion DSDV99 south to subbasin DVLP and the
2944          KM   remaining flow follow to subbasin DV99 at combination point CDV99
2945          DT  DSDVLP      0.0      0.0
2946          DI     0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0  10000.0  20000.0  50000.0
2947          DQ     0.0     33.0     66.0    165.0    330.0    660.0   1320.0   3300.0   6600.0  16500.0
              *

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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9.....10

2948          KK    DV99   BASIN
2949          KM   Runoff hydrograph for subbasin DV99 near the intersection of Deer Valley
2950          KM   Road and 99th Avenue
2951          BA   1.217
2952          LG    0.12     0.34     4.40     0.32        4
2953          UC   1.130    0.409
2954          UA       0      3.0      5.0      8.0     12.0     20.0     43.0     75.0     90.0     96.0
2955          UA     100
              *

2956          KK  ERDV99  DIVERT
2957          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
2958          KM   retention developed after 1990 in subbasin DV99
2959          DT   XDV99      7.9      0.0
2960          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
2961          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

2962          KK   CDV99 COMBINE
2963          KM   Combine divert DDV99 and subbasin DV99
2964          HC       2    1.88
              *

2965          KK  RRGLPA   ROUTE
2966          KM   Route runoff hydrograph at combination point CDV99 to combination point CRGLP
2967          RS       1    FLOW
2968          RC   0.045    0.020    0.045     2633   0.0048     0.00
2969          RX    0.00     0.00    40.00    50.00    60.00    70.00   110.00   110.00
2970          RY    6.20     5.20     5.00     0.00     0.00     5.00     5.20     6.20
              *

2971          KK  DRRGLPRETRIEVE
2972          KM   Retrieve divert DRRGLP from combination point CRG93 and divert to
2973          KM   combination point CRGLP
2974          DR  DWRGLP
              *

2975          KK  RRGLPB   ROUTE
2976          KM   Route diversion retrieval DRRGLP to combination point CRGLP
2977          RS      10    FLOW
2978          RC   0.045    0.020    0.045     3160   0.0003     0.00
2979          RX    0.00     0.00    19.00    25.00    30.00    36.00    55.00    55.00
2980          RY    4.10     3.10     3.00     0.00     0.00     3.00     3.10     4.10
              *

2981          KK    RGLP   BASIN
2982          KM   Runoff hydrograph for subbasin RGLP near the intersection of Rose Garden Lane
2983          KM   and Lake Pleasant Parkway
2984          BA   0.410
2985          LG    0.26     0.33     4.35     0.33       19
2986          UC   0.966    0.634
2987          UA       0      5.0     16.0     30.0     65.0     77.0     84.0     90.0     94.0     97.0
2988          UA     100
              *

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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9.....10

2989          KK  ERRGLP  DIVERT
2990          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
2991          KM   retention developed after 1990 in subbasin RGLP
2992          DT   XRGLP     28.3      0.0
2993          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
2994          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *
```



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2995          KK   CRGLP COMBINE
2996          KM   Combine route RRGLPA, route RRGLPB, and subbasin RGLP
2997          HC       3    2.49
              *

2998          KK  DSBY07  DIVERT
2999          KM   Divert remaining runoff hydrograph from combination point CRGLP south to
3000          KM   combination point CBY07
3001          DT  DWRG07      0.0      0.0
3002          DI     0.0     50.0    100.0    300.0    750.0   1200.0   2000.0      0.0      0.0      0.0
3003          DQ     0.0     40.0     80.0    240.0    600.0   1050.0   1850.0      0.0      0.0      0.0
              *

3004          KK   RBY99   ROUTE
3005          KM   Route diversion DSBY07 south to combination point CBY99
3006          RS       4    FLOW
3007          RC   0.045    0.035    0.045     3939   0.0041     0.00
3008          RX    0.00     1.00    16.00    36.00    51.00   123.00   148.00   648.00
3009          RY   16.00     8.00     0.00     0.00     8.00     8.00     9.00    11.00
              *

3010          KK    BY07   BASIN
3011          KM   Runoff hydrograph for subbasin BY07 near the intersection of Beardsley Road
3012          KM   and 87th Avenue
3013          BA   0.513
3014          LG    0.23     0.25     5.10     0.23       34
3015          UC   0.986    0.498
3016          UA       0      5.0     16.0     30.0     65.0     77.0     84.0     90.0     94.0     97.0
3017          UA     100
              *

3018          KK  ERBY07  DIVERT
3019          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
3020          KM   retention developed after 1990 in subbasin BY07
3021          DT   XBY07     36.1      0.0
3022          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
3023          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

3024          KK   CBY07 COMBINE
3025          KM   Combine route RBY99 and subbasin BY07
3026          HC       2    1.76
              *

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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9.....10

3027          KK  DSUH99  DIVERT
3028          KM   Divert remaining runoff hydrograph from combination point CBY07 south to
3029          KM   combination point CUH99
3030          DT  DWBYAF      0.0      0.0
3031          DI     0.0     10.0     30.0     50.0    100.0    500.0    700.0   1000.0      0.0      0.0
3032          DQ     0.0     10.0     30.0     50.0    100.0    420.0    450.0    500.0      0.0      0.0
              *

3033          KK   RUH99   ROUTE
3034          KM   Route diversion DSUH99 south to combination point CUH99
3035          RS       4    FLOW
3036          RC   0.045    0.015    0.045     5347   0.0042     0.00
3037          RX    0.00     0.00    19.00    25.00    30.00    36.00    55.00    55.00
3038          RY    4.10     3.10     3.00     0.00     0.00     3.00     3.10     4.10
              *

3039          KK    UH99   BASIN
3040          KM   Runoff hydrograph for subbasin UH99 near the intersection of Union Hills
3041          KM   Drive and 99th Avenue
3042          BA   0.563
3043          LG    0.25     0.15     7.00     0.10       35
3044          UC   1.458    1.079
3045          UA       0      5.0     16.0     30.0     65.0     77.0     84.0     90.0     94.0     97.0
3046          UA     100
              *

3047          KK   CUH99 COMBINE
3048          KM   Combine route RUH99 and subbasin UH99
3049          HC       2    1.44
              *

3050          KK  RDW99A   ROUTE
3051          KM   Route runoff hydrograph at combination point CUH99 to combination point CDW99
3052          RS       1    FLOW
3053          RC   0.045    0.015    0.045     2292   0.0029     0.00
3054          RX    0.00     0.00    40.00    50.00    60.00    70.00   110.00   110.00
3055          RY    6.20     5.20     5.00     0.00     0.00     5.00     5.20     6.20
              *

3056          KK    UH97   BASIN
3057          KM   Runoff hydrograph for subbasin UH97 near the intersection of Happy Valley
3058          KM   Road and Palo Verde Drive
3059          BA   0.272
3060          LG    0.21     0.25     5.60     0.22       28
3061          UC   1.158    1.065
```

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3062          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
3063          UA     100
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


3064          KK  RDW99B    ROUTE
3065          KM   Route runoff hydrograph at subbasin UH97 to combination point CDW99
3066          RS        4     FLOW
3067          RC   0.045   0.035   0.045    2848  0.0034    0.00
3068          RX    0.00    0.00   19.00   25.00   30.00   36.00   55.00   55.00
3069          RY    4.10    3.10    3.00    0.00    0.00    3.00    3.10    4.10
              *


3070          KK    DW99    BASIN
3071          KM   Runoff hydrograph for subbasin DW99 near the intersection of Del Webb
3072          KM   Boulevard and 99th Avenue
3073          BA   0.155
3074          LG    0.18    0.16    7.00    0.12      35
3075          UC   0.902   0.838
3076          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
3077          UA     100
              *


3078          KK   CDW99 COMBINE
3079          KM   Combine route RDW99 and subbasin DW99
3080          HC       3    1.87
              *


3081          KK  DSBL99  DIVERT
3082          KM   Divert remaining runoff hydrograph from combination point CDW99 south to
3083          KM   combination point CBL99
3084          DT  DWDW07      0.0    550.0
3085          DI       0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
3086          DQ       0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *


3087          KK   RBL99   ROUTE
3088          KM   Route diversion DSBL99 south to combination point CBL99
3089          RS        5     FLOW
3090          RC   0.035   0.015   0.035    3206  0.0041    0.00
3091          RX    0.00    0.00   16.50   16.50  107.50  107.50  124.00  124.00
3092          RY    3.00    0.66    0.50    0.00    0.00    0.50    0.66    3.00
              *


3093          KK    BL99    BASIN
3094          KM   Runoff hydrograph for subbasin BL99 near the intersection of Bell Road and
3095          KM   99th Avenue
3096          BA   1.133
3097          LG    0.22    0.21    6.40    0.14      36
3098          UC   1.269   0.654
3099          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
3100          UA     100
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


3101          KK   CBL99 COMBINE
3102          KM   Combine route RBL99 and subbasin BL99
3103          HC       2    2.07
              *


3104          KK   RBN99   ROUTE
3105          KM   Route runoff hydrograph at combination point CBL99 to combination point CBN99
3106          RS        1     FLOW
3107          RC   0.045   0.015   0.045    3854  0.0052    0.00
3108          RX    0.00    0.00   40.00   50.00   60.00   70.00  110.00  110.00
3109          RY    6.20    5.20    5.00    0.00    0.00    5.00    5.20    6.20
              *


3110          KK    BN99    BASIN
3111          KM   Runoff hydrograph for subbasin BN99 near the intersection of Burns Road and
3112          KM   99th Avenue
3113          BA   1.037
3114          LG    0.21    0.25    6.00    0.17      34
3115          UC   1.236   0.597
3116          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
3117          UA     100
              *


3118          KK   CBN99 COMBINE
3119          KM   Combine route RBN99 and subbasin BN99
3120          HC       2    3.10
              *


3121          KK   RTB99   ROUTE
3122          KM   Route runoff hydrograph at combination point CBN99 to combination point CTB99
3123          RS        3     FLOW
3124          RC   0.045   0.015   0.045    6842  0.0039    0.00
```



```
3125          RX    0.00    0.00   40.00   50.00   60.00   70.00  110.00  110.00
3126          RY    6.20    5.20    5.00    0.00    0.00    5.00    5.20    6.20
              *


3127          KK    TB99    BASIN
3128          KM   Runoff hydrograph for subbasin TB99 near the intersection of Thunderbird Road
3129          KM   and 99th Avenue
3130          BA   0.976
3131          LG    0.23    0.25    5.80    0.18      30
3132          UC   1.345   0.782
3133          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
3134          UA     100
              *


3135          KK   CTB99 COMBINE
3136          KM   Combine route RTB99 and subbasin TB99
3137          HC       2    4.08
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


3138          KK  RGRNRA    ROUTE
3139          KM   Route runoff hydrograph at combination point CTB99 to combination point CNR11
3140          RS        1     FLOW
3141          RC   0.045   0.015   0.045    6205  0.0045    0.00
3142          RX    0.00    0.00   55.00   75.00  100.00  120.00  175.00  175.00
3143          RY   11.20   10.20   10.00    0.00    0.00   10.00   10.20   11.20
              *


3144          KK  DRDW07RETRIEVE
3145          KM   Retrieve divert DRDW07 from combination point CDW99 and divert to
3146          KM   combination point CDW07
3147          DR  DWDW07
              *


3148          KK   RDW07   ROUTE
3149          KM   Route diversion retrieval DRDW07 to combination point CDW07
3150          RS        3     FLOW
3151          RC   0.045   0.015   0.045    4743  0.0007    0.00
3152          RX    0.00    0.00   40.00   50.00   60.00   70.00  110.00  110.00
3153          RY    6.20    5.20    5.00    0.00    0.00    5.00    5.20    6.20
              *


3154          KK    DW07    BASIN
3155          KM   Runoff hydrograph for subbasin DW07 near the intersection of Del Webb
3156          KM   Boulevard and 107th Avenue
3157          BA   0.484
3158          LG    0.19    0.19    6.60    0.16      28
3159          UC   1.446   1.033
3160          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
3161          UA     100
              *


3162          KK   CDW07 COMBINE
3163          KM   Combine route RDW07 and subbasin DW07
3164          HC       2    1.42
              *


3165          KK  DSTL07  DIVERT
3166          KM   Divert remaining runoff hydrograph from combination point CDW07 south to
3167          KM   combination point CTL07
3168          DT  DWBL15      0.0    550.0
3169          DI       0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
3170          DQ       0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *


3171          KK   RTL07   ROUTE
3172          KM   Route diversion DSTL07 south to combination point CTL07
3173          RS        6     FLOW
3174          RC   0.035   0.015   0.035    8131  0.0048    0.00
3175          RX    0.00    0.00   16.50   16.50  107.50  107.50  124.00  124.00
3176          RY    3.00    0.66    0.50    0.00    0.00    0.50    0.66    3.00
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


3177          KK    TL07    BASIN
3178          KM   Runoff hydrograph for subbasin TL07 near the intersection of Talisman Road
3179          KM   and 107th Avenue
3180          BA   0.580
3181          LG    0.21    0.25    5.00    0.29      27
3182          UC   1.228   0.914
3183          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
3184          UA     100
              *


3185          KK   CTL07 COMBINE
3186          KM   Combine route RTL07 and subbasin TL07
3187          HC       2    1.29
```

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                *
3188            KK  RGR99A   ROUTE
3189            KM   Route runoff hydrograph at combination point CTL07 to combination point CGR99
3190            RS       4    FLOW
3191            RC  0.045   0.020   0.045   12358  0.0025    0.00
3192            RX   0.00    0.00   40.00   50.00   60.00   70.00  110.00  110.00
3193            RY   6.20    5.20    5.00    0.00    0.00    5.00    5.20    6.20
                *
3194            KK   RO99   BASIN
3195            KM   Runoff hydrograph for subbasin RO99 near the intersection of Royal Oak Road
3196            KM   and 99th Avenue
3197            BA   0.414
3198            LG   0.20    0.22    4.70    0.26      38
3199            UC  1.500   1.341
3200            UA      0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
3201            UA    100
                *
3202            KK  RGR99B   ROUTE
3203            KM   Route runoff hydrograph at subbasin RO99 to combination point CGR99
3204            RS       1    FLOW
3205            RC  0.045   0.015   0.045    1046  0.0060    0.00
3206            RX   0.00    0.00   19.00   25.00   30.00   36.00   55.00   55.00
3207            RY   4.10    3.10    3.00    0.00    0.00    3.00    3.10    4.10
                *
3208            KK   GR99   BASIN
3209            KM   Runoff hydrograph for subbasin GR99 near the intersection of Grand Avenue
3210            KM   and 99th Avenue
3211            BA   1.309
3212            LG   0.20    0.17    6.80    0.12      41
3213            UC  1.500   1.089
3214            UA      0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
3215            UA    100
                *
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LINE            ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

3216            KK   CGR99 COMBINE
3217            KM   Combine route RGR99A, route RGR99B, and subbasin GR99
3218            HC       3    3.01
                *
3219            KK  RGRNRB   ROUTE
3220            KM   Route runoff hydrograph at combination point CGR99 to combination point CNR11
3221            RS       1    FLOW
3222            RC  0.045   0.015   0.045    3071  0.0051    0.00
3223            RX   0.00    0.00   55.00   75.00  100.00  120.00  175.00  175.00
3224            RY  11.20   10.20   10.00    0.00    0.00   10.00   10.20   11.20
                *
3225            KK   GRNR   BASIN
3226            KM   Runoff hydrograph for subbasin GRNR near the intersection of Grand Avenue
3227            KM   and New River
3228            BA   0.947
3229            LG   0.20    0.29    5.00    0.23      33
3230            UC  1.047   0.514
3231            UA      0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
3232            UA    100
                *
3233            KK  ERGRNR  DIVERT
3234            KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
3235            KM   retention developed after 1990 in subbasin GRNR
3236            DT  XGRNR      3.0     0.0
3237            DI      0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
3238            DQ      0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
                *
3239            KK   CNR11 COMBINE
3240            KM   Combine route RGRNRA, route RGRNRB and subbasin GRNR
3241            HC       4   70.05
                *
3242            KK   PE99   BASIN
3243            KM   Runoff hydrograph for subbasin PE99 near the intersection of Peoria Avenue
3244            KM   and 99th Avenue
3245            BA   0.294
3246            LG   0.21    0.25    4.90    0.28      33
3247            UC  1.500   1.849
3248            UA      0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
3249            UA    100
                *
3250            KK  DEPE97  DIVERT
3251            KM   Divert remaining runoff hydrograph at subbasin PE99 east to combination point
3252            KM   CNR12
3253            DT  DSOL99      0.0     0.0
3254            DI      0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
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3255            DQ      0.0    30.0    60.0   150.0   300.0   600.0  1200.0  3000.0  6000.0 15000.0
                *
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LINE            ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

3256            KK   RPE97   ROUTE
3257            KM   Route diversion DEPE97 east to combination point CNR12
3258            RS       2    FLOW
3259            RC  0.035   0.015   0.035    1508  0.0023    0.00
3260            RX   0.00    0.00   64.00   64.00  310.00  310.00  374.00  374.00
3261            RY   3.00    1.14    0.50    0.00    0.00    0.50    1.14    3.00
                *
3262            KK   PENR   BASIN
3263            KM   Runoff hydrograph for subbasin PENR near the intersection of Peoria Avenue
3264            KM   and New River
3265            BA   0.197
3266            LG   0.10    0.28    4.70    0.26      59
3267            UC  1.292   0.954
3268            UA      0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
3269            UA    100
                *
3270            KK  ERPENR  DIVERT
3271            KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
3272            KM   retention developed after 1990 in subbasin PENR
3273            DT  XPENR      6.9     0.0
3274            DI      0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
3275            DQ      0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
                *
3276            KK  DWPE99  DIVERT
3277            KM   Divert remaining runoff hydrograph at subbasin PENR west to combination point
3278            KM   CNR12
3279            DT  DSOLNR      0.0     0.0
3280            DI      0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
3281            DQ      0.0    44.0    88.0   220.0   440.0   880.0  1760.0  4400.0  8800.0 22000.0
                *
3282            KK   PE97   BASIN
3283            KM   Runoff hydrograph for subbasin PE97 near the intersection of Peoria Avenue
3284            KM   Road and 97th Avenue
3285            BA   0.560
3286            LG   0.18    0.26    4.65    0.31      29
3287            UC  1.176   0.903
3288            UA      0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
3289            UA    100
                *
3290            KK   CNR12 COMBINE
3291            KM   Combine route RPE97, divert DWPE99, and subbasin PE97
3292            HC       4   70.93
                *
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LINE            ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

3293            KK  DROL99RETRIEVE
3294            KM   Retrieve divert DROL99 from subbasin PE99 and divert to combination point
3295            KM   CNR13
3296            DR  DSOL99
                *
3297            KK  ROL99A   ROUTE
3298            KM   Route diversion retrieval DROL99 to combination point CNR13
3299            RS       8    FLOW
3300            RC  0.035   0.015   0.035    5677  0.0038    0.00
3301            RX   0.00    0.00   16.50   16.50  107.50  107.50  124.00  124.00
3302            RY   3.00    0.66    0.50    0.00    0.00    0.50    0.66    3.00
                *
3303            KK   PE11   BASIN
3304            KM   Runoff hydrograph for subbasin PE11 near the intersection of Peoria Avenue
3305            KM   and 111th Avenue
3306            BA   0.924
3307            LG   0.20    0.25    6.00    0.18      30
3308            UC  1.500   1.103
3309            UA      0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
3310            UA    100
                *
3311            KK  ROL03A   ROUTE
3312            KM   Route runoff hydrograph at subbasin PE11 to combination point COL03
3313            RS       3    FLOW
3314            RC  0.045   0.015   0.045    7132  0.0024    0.00
3315            RX   0.00    0.00   40.00   50.00   60.00   70.00  110.00  110.00
3316            RY   6.20    5.20    5.00    0.00    0.00    5.00    5.20    6.20
                *
3317            KK   PE07   BASIN
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3318          KM   Runoff hydrograph for subbasin PE07 near the intersection of Peoria Avenue
3319          KM   and 107th Avenue
3320          BA   0.575
3321          LG    0.18    0.25    5.30    0.27      23
3322          UC   1.428   1.184
3323          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
3324          UA     100
              *
3325          KK  ROL03B   ROUTE
3326          KM   Route runoff hydrograph at subbasin PE07 to combination point COL03
3327          RS       4    FLOW
3328          RC   0.035   0.015   0.035    6517  0.0026    0.00
3329          RX    0.00    0.00    9.50    9.50   40.50   40.50   50.00   50.00
3330          RY    3.00    0.60    0.50    0.00    0.00    0.50    0.60    3.00
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

3331          KK    PE03   BASIN
3332          KM   Runoff hydrograph for subbasin PE03 near the intersection of Peoria Avenue
3333          KM   and 103rd Avenue
3334          BA   0.409
3335          LG    0.20    0.25    4.80    0.32      29
3336          UC   1.269   1.092
3337          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
3338          UA     100
              *
3339          KK  ROL03C   ROUTE
3340          KM   Route runoff hydrograph at subbasin PE03 to combination point COL03
3341          RS       5    FLOW
3342          RC   0.035   0.015   0.035    5865  0.0030    0.00
3343          RX    0.00    0.00   12.50   12.50   62.50   62.50   75.00   75.00
3344          RY    3.00    0.62    0.50    0.00    0.00    0.50    0.62    3.00
              *
3345          KK    OL03   BASIN
3346          KM   Runoff hydrograph for subbasin OL03 near the intersection of Olive Avenue and
3347          KM   103rd Avenue
3348          BA   1.099
3349          LG    0.22    0.25    5.20    0.24      33
3350          UC   1.421   0.814
3351          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
3352          UA     100
              *
3353          KK   COL03 COMBINE
3354          KM   Combine route ROL03A, route ROL03B, route ROL03C, and subbasin OL03
3355          HC       4    3.01
              *
3356          KK  ROL99B   ROUTE
3357          KM   Route runoff hydrograph at combination point COL03 to combination point CNR13
3358          RS       1    FLOW
3359          RC   0.045   0.015   0.045    1627  0.0124    0.00
3360          RX    0.00    0.00   40.00   50.00   60.00   70.00  110.00  110.00
3361          RY    6.20    5.20    5.00    0.00    0.00    5.00    5.20    6.20
              *
3362          KK  DROLNRRETRIEVE
3363          KM   Retrieve divert DROLNR from subbasin PENR and divert to combination point
3364          KM   COLNR
3365          DR  DSOLNR
              *
3366          KK   ROLNR   ROUTE
3367          KM   Route diversion retreival DROLNR to combination point COLNR
3368          RS      10    FLOW
3369          RC   0.035   0.015   0.035    8150  0.0031    0.00
3370          RX    0.00    0.00   12.50   12.50   62.50   62.50   75.00   75.00
3371          RY    3.00    0.62    0.50    0.00    0.00    0.50    0.62    3.00
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

3372          KK    OLNR   BASIN
3373          KM   Runoff hydrograph for subbasin OLNR near the intersection of Olive Avenue
3374          KM   and New River
3375          BA   0.696
3376          LG    0.24    0.19    6.80    0.11      34
3377          UC   1.500   1.147
3378          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
3379          UA     100
              *
3380          KK  EROLNR  DIVERT
3381          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
3382          KM   retention developed after 1990 in subbasin OLNR
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3383          DT   XOLNR    24.5     0.0
3384          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
3385          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *
3386          KK   COLNR COMBINE
3387          KM   Combine route ROLNR and subbasin OLNR
3388          HC       2    0.78
              *
3389          KK  DWOL99  DIVERT
3390          KM   Divert runoff hydrograph at combination point COLNR west to combination point
3391          KM   CNR13
3392          DT  DSNONR     0.0     0.0
3393          DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
3394          DQ     0.0    33.0    66.0   165.0   330.0   660.0  1320.0  3300.0  6600.0 16500.0
              *
3395          KK    OL99   BASIN
3396          KM   Runoff hydrograph for subbasin OL99 near the intersection of Olive Avenue
3397          KM   and 99th Avenue
3398          BA   0.436
3399          LG    0.21    0.28    4.25    0.36      28
3400          UC   1.236   1.023
3401          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
3402          UA     100
              *
3403          KK   CNR13 COMBINE
3404          KM   Combine route ROL99A, route ROL99B and subbasin OL99
3405          HC       5   74.98
              *
3406          KK  DRNONRRETRIEVE
3407          KM   Retrieve divert DRNONR from subbasin OLNR and divert to combination point
3408          KM   CNONR
3409          DR  DSNONR
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

3410          KK   RNONR   ROUTE
3411          KM   Route diversion retrieval DRNONR to combination point CNONR
3412          RS      10    FLOW
3413          RC   0.035   0.015   0.035    8560  0.0031    0.00
3414          RX    0.00    0.00   12.50   12.50   62.50   62.50   75.00   75.00
3415          RY    3.00    0.62    0.50    0.00    0.00    0.50    0.62    3.00
              *
3416          KK    NONR   BASIN
3417          KM   Runoff hydrograph for subbasin NONR near the intersection of Northern Avenue
3418          KM   and New River
3419          BA   0.830
3420          LG    0.27    0.15    7.60    0.10      34
3421          UC   1.500   1.128
3422          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
3423          UA     100
              *
3424          KK  ERNONR  DIVERT
3425          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
3426          KM   retention developed after 1990 in subbasin NONR
3427          DT   XNONR    34.6     0.0
3428          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
3429          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *
3430          KK   CNONR COMBINE
3431          KM   Combine route RNONR and subbasin NONR
3432          HC       2    1.09
              *
3433          KK    NO99   BASIN
3434          KM   Runoff hydrograph for subbasin NO99 near the intersection of Northern Avenue
3435          KM   and 99th Avenue
3436          BA   0.858
3437          LG    0.23    0.29    4.25    0.38      19
3438          UC   1.500   0.932
3439          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
3440          UA     100
              *
3441          KK  ERNO99  DIVERT
3442          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
3443          KM   retention developed after 1990 in subbasin NO99
3444          DT   XNO99     7.0     0.0
3445          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
3446          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *
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LINE      ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

3447      KK   CNR14 COMBINE
3448      KM   Combine combination point CNONR, and subbasin NO99
3449      HC       3   76.93
          *
3450      KK    GL03   BASIN
3451      KM   Runoff hydrograph for subbasin GL03 near the intersection of Glendale Avenue
3452      KM   and 103rd Avenue
3453      BA   0.649
3454      LG    0.17    0.30    4.10    0.38      41
3455      UC   1.047   0.663
3456      UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
3457      UA     100
          *
3458      KK  ERGL03  DIVERT
3459      KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
3460      KM   retention developed after 1990 in subbasin GL03
3461      DT   XGL03    27.6     0.0
3462      DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
3463      DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
          *
3464      KK   CNR15 COMBINE
3465      KM   Combine subbasin GL03
3466      HC       2   77.58
          *
3467      KK    GLGH   BASIN
3468      KM   Runoff hydrograph for subbasin GLGH near the intersection of Glendale Avenue
3469      KM   and Glen Harbor Boulevard
3470      BA   0.079
3471      LG    0.30    0.35    4.40    0.32      16
3472      UC   0.595   0.499
3473      UA       0     3.0     5.0     8.0    12.0    20.0    43.0    75.0    90.0    96.0
3474      UA     100
          *
3475      KK   RGHNR   ROUTE
3476      KM   Route runoff hydrograph at subbasin GLGH to combination point CNR16
3477      RS       6    FLOW
3478      RC   0.045   0.035   0.045    7516  0.0045    0.00
3479      RX    0.00    0.00   19.00   25.00   30.00   36.00   55.00   55.00
3480      RY    4.10    3.10    3.00    0.00    0.00    3.00    3.10    4.10
          *
3481      KK    GHNR   BASIN
3482      KM   Runoff hydrograph for subbasin GHNR near the intersection of Glen Harbor
3483      KM   Boulevard and New River
3484      BA   0.841
3485      LG    0.16    0.30    3.71    0.47      32
3486      UC   1.260   0.844
3487      UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
3488      UA     100
          *
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LINE      ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

3489      KK   CNR16 COMBINE
3490      KM   Combine route RGHNR and subbasin GHNR
3491      HC       3   78.50
          *
3492      KK    AF11   BASIN
3493      KM   Runoff hydrograph for subbasin AF11 near the intersection of the Agua Fria
3494      KM   River and 111th Avenue
3495      BA   0.375
3496      LG    0.14    0.29    3.07    0.74      70
3497      UC   0.644   0.342
3498      UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
3499      UA     100
          *
3500      KK    GHAF   BASIN
3501      KM   Runoff hydrograph for subbasin GHAF near the intersection of Glen Harbor
3502      KM   Boulevard and the Agua Fria River
3503      BA   0.563
3504      LG    0.10    0.34    3.03    0.76       9
3505      UC   1.500   1.066
3506      UA       0     3.0     5.0     8.0    12.0    20.0    43.0    75.0    90.0    96.0
3507      UA     100
          *
3508      KK   CAF06 COMBINE
3509      KM   Combine combination point CNR16, subbasin AF11, and subbasin GHAF
3510      HC       3   79.31
          *
```



```
3511      KK    JMAF   BASIN
3512      KM   Runoff hydrograph for subbasin JMAF near the intersection of Jomax Road and
3513      KM   the Agua Fria River
3514      BA   0.147
3515      LG    0.19    0.35    4.90    0.24       5
3516      UC   0.586   0.530
3517      UA       0     3.0     5.0     8.0    12.0    20.0    43.0    75.0    90.0    96.0
3518      UA     100
          *
3519      KK  ERJMAF  DIVERT
3520      KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
3521      KM   retention developed after 1990 in subbasin JMAF
3522      DT   XJMAF     4.2     0.0
3523      DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
3524      DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
          *
3525      KK    HV07   BASIN
3526      KM   Runoff hydrograph for subbasin HV07 near the intersection of Happy Valley
3527      KM   Road and 107th Avenue
3528      BA   0.304
3529      LG    0.28    0.32    3.92    0.41      11
3530      UC   0.491   0.226
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3531      UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
3532      UA     100
          *
3533      KK  ERHV07  DIVERT
3534      KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
3535      KM   retention developed after 1990 in subbasin HV07
3536      DT   XHV07     13.1     0.0
3537      DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
3538      DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
          *
3539      KK   RHVAF   ROUTE
3540      KM   Route runoff hydrograph at subbasin HV07 to combination point CHVAF
3541      RS       1    FLOW
3542      RC   0.045   0.020   0.045    2397  0.0013    0.00
3543      RX    0.00    0.00   19.00   25.00   30.00   36.00   55.00   55.00
3544      RY    4.10    3.10    3.00    0.00    0.00    3.00    3.10    4.10
          *
3545      KK    HVAF   BASIN
3546      KM   Runoff hydrograph for subbasin HVAF near the intersection of Happy Valley
3547      KM   Road and the Agua Fria River
3548      BA   0.215
3549      LG    0.30    0.35    3.92    0.41       0
3550      UC   0.567   0.250
3551      UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
3552      UA     100
          *
3553      KK  ERHVAF  DIVERT
3554      KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
3555      KM   retention developed after 1990 in subbasin HVAF
3556      DT   XHVAF    12.4     0.0
3557      DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
3558      DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
          *
3559      KK    JM99   BASIN
3560      KM   Runoff hydrograph for subbasin HV07 near the intersection of Jomax Road and
3561      KM   99th Avenue
3562      BA   0.568
3563      LG    0.23    0.16   10.10    0.03      21
3564      UC   0.854   0.462
3565      UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
3566      UA     100
          *
3567      KK  ERJM99  DIVERT
3568      KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
3569      KM   retention developed after 1990 in subbasin JM99
3570      DT   XJM99    38.5     0.0
3571      DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
3572      DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
          *
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LINE      ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

3573      KK    WWLP   BASIN
3574      KM   Runoff hydrograph for subbasin WWLP near the intersection of Westwing Parkway
3575      KM   and Lake Pleasant Parkway
3576      BA   0.136
3577      LG    0.16    0.27    7.00    0.10      15
```

```
3578          UC   0.349    0.165
3579          UA       0      5.0     16.0     30.0     65.0     77.0     84.0     90.0     94.0     97.0
3580          UA     100
              *

3581          KK  ERWWLP  DIVERT
3582          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
3583          KM   retention developed after 1990 in subbasin WWLP
3584          DT   XWWLP      6.7      0.0
3585          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
3586          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

3587          KK   RJMLP   ROUTE
3588          KM   Route runoff hydrograph at subbasin WWLP to combination point CJMLP
3589          RS       4    FLOW
3590          RC   0.045    0.035    0.045     5973   0.0084     0.00
3591          RX    0.00     0.00    40.00    50.00    60.00    70.00   110.00   110.00
3592          RY    6.20     5.20     5.00     0.00     0.00     5.00     5.20     6.20
              *

3593          KK    JMLP   BASIN
3594          KM   Runoff hydrograph for subbasin JMLP near the intersection of Jomax Road and
3595          KM   Lake Pleasant Parkway
3596          BA   0.705
3597          LG    0.22     0.28     6.00     0.16       27
3598          UC   0.897    0.481
3599          UA       0      5.0     16.0     30.0     65.0     77.0     84.0     90.0     94.0     97.0
3600          UA     100
              *

3601          KK  ERJMLP  DIVERT
3602          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
3603          KM   retention developed after 1990 in subbasin JMLP
3604          DT   XJMLP      44.9      0.0
3605          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
3606          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

3607          KK   CJMLP COMBINE
3608          KM   Combine route RJMLP, subbasin JM99, and subbasin JMLP
3609          HC       3     1.41
              *
```



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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

3610          KK  RHV01A    ROUTE
3611          KM   Route runoff hydrograph at combination point CJMLP to combination point CHV01
3612          RS       2    FLOW
3613          RC   0.045    0.035    0.045     5774   0.0093     0.00
3614          RX    0.00     0.00    55.00    75.00   100.00   120.00   175.00   175.00
3615          RY   11.20    10.20    10.00     0.00     0.00    10.00    10.20    11.20
              *

3616          KK    YLLP   BASIN
3617          KM   Runoff hydrograph for subbasin YLLP near the intersection of Yearling Road
3618          KM   and Lake Pleasant Parkway
3619          BA   0.595
3620          LG    0.22     0.28     4.35     0.37       30
3621          UC   0.814    0.556
3622          UA       0      5.0     16.0     30.0     65.0     77.0     84.0     90.0     94.0     97.0
3623          UA     100
              *

3624          KK  ERYLLP  DIVERT
3625          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
3626          KM   retention developed after 1990 in subbasin YLLP
3627          DT   XYLLP      6.0      0.0
3628          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
3629          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

3630          KK  RHV01B    ROUTE
3631          KM   Route runoff hydrograph at subbasin YLLP to combination point CHV01
3632          RS       1    FLOW
3633          RC   0.045    0.035    0.045     2017   0.0107     0.00
3634          RX    0.00     0.00    40.00    50.00    60.00    70.00   110.00   110.00
3635          RY    6.20     5.20     5.00     0.00     0.00     5.00     5.20     6.20
              *

3636          KK  DRHVLPRETRIEVE
3637          KM   Retrieve divert DRHVLP from subbasin HV93 and divert to combination point
3638          KM   CHVLP
3639          DR  DWHVLP
              *

3640          KK   RHVLP    ROUTE
3641          KM   Route diversion retrieval DRHVLP to combination point CHVLP
3642          RS       2    FLOW
3643          RC   0.045    0.020    0.045     4021   0.0052     0.00
3644          RX    0.00     0.00    19.00    25.00    30.00    36.00    55.00    55.00
```



```
3645          RY    4.10     3.10     3.00     0.00     0.00     3.00     3.10     4.10
              *

3646          KK    HVLP   BASIN
3647          KM   Runoff hydrograph for subbasin HVLP near the intersection of Happy Valley
3648          KM   Road and Lake Pleasant Parkway
3649          BA   0.198
3650          LG    0.19     0.26     4.30     0.36       43
3651          UC   0.724    0.677
```



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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

3652          UA       0      5.0     16.0     30.0     65.0     77.0     84.0     90.0     94.0     97.0
3653          UA     100
              *

3654          KK  ERHVLP  DIVERT
3655          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
3656          KM   retention developed after 1990 in subbasin HVLP
3657          DT   XHVLP      7.3      0.0
3658          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
3659          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

3660          KK   CHVLP COMBINE
3661          KM   Combine route RHVLP and subbasin HVLP
3662          HC       2     0.27
              *

3663          KK  RHV01C    ROUTE
3664          KM   Route runoff hydrograph at combination point CHVLP to combination point CHV01
3665          RS       1    FLOW
3666          RC   0.045    0.020    0.045     1200   0.0174     0.00
3667          RX    0.00     0.00    40.00    50.00    60.00    70.00   110.00   110.00
3668          RY    6.20     5.20     5.00     0.00     0.00     5.00     5.20     6.20
              *

3669          KK    HV01   BASIN
3670          KM   Runoff hydrograph for subbasin HV01 near the intersection of Happy Valley
3671          KM   Road and 101st Avenue
3672          BA   0.444
3673          LG    0.15     0.30     5.30     0.20       35
3674          UC   0.777    0.476
3675          UA       0      5.0     16.0     30.0     65.0     77.0     84.0     90.0     94.0     97.0
3676          UA     100
              *

3677          KK  ERHV01  DIVERT
3678          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
3679          KM   retention developed after 1990 in subbasin HV01
3680          DT   XHV01      18.2      0.0
3681          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
3682          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

3683          KK   CHV01 COMBINE
3684          KM   Combine route RHV01A, route RHV01B, route RHV01C, and subbasin HV01
3685          HC       4     2.72
              *

3686          KK   RCL07   ROUTE
3687          KM   Route runoff hydrograph at combination point CHV01 to combination point CCL07
3688          RS       2    FLOW
3689          RC   0.045    0.035    0.045     5019   0.0120     0.00
3690          RX    0.00     0.00    55.00    75.00   100.00   120.00   175.00   175.00
3691          RY   11.20    10.20    10.00     0.00     0.00    10.00    10.20    11.20
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

3692          KK  RCLAFA    ROUTE
3693          KM   Route runoff hydrograph from route RCL07 to combination point CCLAF
3694          RS       1    FLOW
3695          RC   0.045    0.020    0.045     2211   0.0045     0.00
3696          RX    0.00     0.00    40.00    50.00    60.00    70.00   110.00   110.00
3697          RY    6.20     5.20     5.00     0.00     0.00     5.00     5.20     6.20
              *

3698          KK    CL07   BASIN
3699          KM   Runoff hydrograph for subbasin CL07 near the intersection of Calle Lejos Road
3700          KM   and 107th Avenue
3701          BA   0.524
3702          LG    0.19     0.31     4.55     0.29       17
3703          UC   1.002    0.709
3704          UA       0      5.0     16.0     30.0     65.0     77.0     84.0     90.0     94.0     97.0
3705          UA     100
              *

3706          KK  ERCL07  DIVERT
3707          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
```

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3708          KM   retention developed after 1990 in subbasin CL07
3709          DT   XCL07     25.2      0.0
3710          DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
3711          DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

3712          KK  DWCLAF  DIVERT
3713          KM   Divert remaining runoff hydrograph at subbasin CL07 west to combination point
3714          KM   CCLAF
3715          DT  DSPP03      0.0      0.0
3716          DI      0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0  10000.0  20000.0  50000.0
3717          DQ      0.0     12.0     24.0     60.0    120.0    240.0    480.0   1200.0   2400.0   6000.0
              *

3718          KK  RCLAFB   ROUTE
3719          KM   Route diversion DWCLAF west to combination point CCLAF
3720          RS       2    FLOW
3721          RC   0.045    0.035    0.045     2215   0.0045     0.00
3722          RX    0.00     0.00    19.00    25.00    30.00    36.00    55.00    55.00
3723          RY    4.10     3.10     3.00     0.00     0.00     3.00     3.10     4.10
              *

3724          KK   CLAF   BASIN
3725          KM   Runoff hydrograph for subbasin CLAF near the intersection of Calle Lejos Road
3726          KM   and the Agua Fria River
3727          BA   0.289
3728          LG    0.18     0.35     3.95     0.40        0
3729          UC   0.994    0.692
3730          UA       0      3.0      5.0      8.0     12.0     20.0     43.0     75.0     90.0     96.0
3731          UA     100
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

3732          KK  ERCLAF  DIVERT
3733          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
3734          KM   retention developed after 1990 in subbasin CLAF
3735          DT   XCLAF      6.7      0.0
3736          DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
3737          DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

3738          KK   CCLAF COMBINE
3739          KM   Combine route RCLAFA, route RCLAFB, and subbasin CLAF
3740          HC       3     3.47
              *

3741          KK   CAF01 COMBINE
3742          KM   Combine route RHVAF, subbasin JMAF, subbasin HVAF, and combination point
3743          KM   CCLAF
3744          HC       4     4.13
              *

3745          KK  DR03PPRETRIEVE
3746          KM   Retrieve divert DR03PP from combination point CPPLP and divert to
3747          KM   combination point CPP03
3748          DR  DWPP03
              *

3749          KK  RPP03B   ROUTE
3750          KM   Route diversion retrieval DR03PP to combination point CPP03
3751          RS       1    FLOW
3752          RC   0.035    0.015    0.035     1900   0.0047     0.00
3753          RX    0.00     0.00     9.50     9.50    40.50    40.50    50.00    50.00
3754          RY    3.00     0.60     0.50     0.00     0.00     0.50     0.60     3.00
              *

3755          KK  DRPP03RETRIEVE
3756          KM   Retrieve divert DRPP03 from subbasin CL07 and divert to combination point
3757          KM   CPP03
3758          DR  DSPP03
              *

3759          KK  RPP03A   ROUTE
3760          KM   Route diversion retrieval DRPP03 to combination point CPP03
3761          RS       4    FLOW
3762          RC   0.045    0.035    0.045     2970   0.0057     0.00
3763          RX    0.00     0.00    19.00    25.00    30.00    36.00    55.00    55.00
3764          RY    4.10     3.10     3.00     0.00     0.00     3.00     3.10     4.10
              *

3765          KK    PP03   BASIN
3766          KM   Runoff hydrograph for subbasin PP03 near the intersection of Pinnacle Peak
3767          KM   Road and 103rd Avenue
3768          BA   0.325
3769          LG    0.30     0.25     4.45     0.38       15
3770          UC   1.500    1.214
3771          UA       0      5.0     16.0     30.0     65.0     77.0     84.0     90.0     94.0     97.0
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10
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3772          UA     100
              *

3773          KK  ERPP03  DIVERT
3774          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
3775          KM   retention developed after 1990 in subbasin PP03
3776          DT   XPP03      3.4      0.0
3777          DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
3778          DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

3779          KK   CPP03 COMBINE
3780          KM   Combine route RPP03A, route RPP03B, and subbasin PP03
3781          HC       3     0.39
              *

3782          KK  DWPP07  DIVERT
3783          KM   Divert remaining runoff hydrograph at combination point CPP03 west to
3784          KM   combination point CPP07
3785          DT  DSDV07      0.0      0.0
3786          DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
3787          DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

3788          KK   RPP07   ROUTE
3789          KM   Route diversion DWPP07 west to combination point CPP07
3790          RS       1    FLOW
3791          RC   0.045    0.035    0.045     2508   0.0128     0.00
3792          RX    0.00     0.00    19.00    25.00    30.00    36.00    55.00    55.00
3793          RY    4.10     3.10     3.00     0.00     0.00     3.00     3.10     4.10
              *

3794          KK    PP07   BASIN
3795          KM   Runoff hydrograph for subbasin PP07 near the intersection of Pinnacle Peak
3796          KM   Road and 107th Avenue
3797          BA   0.195
3798          LG    0.21     0.31     5.30     0.22        8
3799          UC   0.828    0.618
3800          UA       0      5.0     16.0     30.0     65.0     77.0     84.0     90.0     94.0     97.0
3801          UA     100
              *

3802          KK   CPP07 COMBINE
3803          KM   Combine route RPP07 and subbasin PP07
3804          HC       2     0.20
              *

3805          KK   RDVAF   ROUTE
3806          KM   Route runoff hydrograph at combination point CPP07 to combination point CDVAF
3807          RS       2    FLOW
3808          RC   0.045    0.035    0.045     3702   0.0135     0.00
3809          RX    0.00     0.00    19.00    25.00    30.00    36.00    55.00    55.00
3810          RY    4.10     3.10     3.00     0.00     0.00     3.00     3.10     4.10
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

3811          KK    DVAF   BASIN
3812          KM   Runoff hydrograph for subbasin DVAF near the intersection of Deer Valley Road
3813          KM   and the Agua Fria River
3814          BA   0.412
3815          LG    0.15     0.34     5.60     0.18        9
3816          UC   0.944    0.562
3817          UA       0      5.0     16.0     30.0     65.0     77.0     84.0     90.0     94.0     97.0
3818          UA     100
              *

3819          KK  ERDVAF  DIVERT
3820          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
3821          KM   retention developed after 1990 in subbasin DVAF
3822          DT   XDVAF     10.3      0.0
3823          DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
3824          DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

3825          KK   CDVAF COMBINE
3826          KM   Combine route RDVAF and subbasin DVAF
3827          HC       2     0.61
              *

3828          KK    PPAF   BASIN
3829          KM   Runoff hydrograph for subbasin PPAF near the intersection of Pinnacle Peak
3830          KM   Road and the Agua Fria River
3831          BA   0.270
3832          LG    0.15     0.25     4.20     0.36       80
3833          UC   0.376    0.255
3834          UA       0      5.0     16.0     30.0     65.0     77.0     84.0     90.0     94.0     97.0
3835          UA     100
              *
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3836          KK   CAF02 COMBINE
3837          KM   Combine combination point CDVAF and subbasin PPAF
3838          HC       2    0.88
              *

3839          KK  DRDV07RETRIEVE
3840          KM   Retrieve divert DRDV07 from combination point CPP03 and divert to
3841          KM   combination point CDV07
3842          DR  DSDV07
              *

3843          KK   RDV07   ROUTE
3844          KM   Route diversion retrieval DRDV07 to combination point CDV07
3845          RS       5    FLOW
3846          RC   0.045   0.035   0.045    6455  0.0071    0.00
3847          RX    0.00    0.00   40.00   50.00   60.00   70.00  110.00  110.00
3848          RY    6.20    5.20    5.00    0.00    0.00    5.00    5.20    6.20
              *
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LINE          ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

3849          KK    DV07   BASIN
3850          KM   Runoff hydrograph for subbasin DV07 near the intersection of Deer Valley Road
3851          KM   and 107th Avenue
3852          BA   0.645
3853          LG    0.25    0.25    4.65    0.29      27
3854          UC   1.086   0.662
3855          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
3856          UA     100
              *

3857          KK  ERDV07  DIVERT
3858          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
3859          KM   retention developed after 1990 in subbasin DV07
3860          DT   XDV07    44.0     0.0
3861          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
3862          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

3863          KK   CDV07 COMBINE
3864          KM   Combine route RDV07 and subbasin DV07
3865          HC       2    1.03
              *

3866          KK  RRG07A   ROUTE
3867          KM   Route runoff hydrograph at combination point CDV07 to combination point CRG07
3868          RS       2    FLOW
3869          RC   0.045   0.015   0.045    2573  0.0027    0.00
3870          RX    0.00    0.00   19.00   25.00   30.00   36.00   55.00   55.00
3871          RY    4.10    3.10    3.00    0.00    0.00    3.00    3.10    4.10
              *

3872          KK  DRRG07RETRIEVE
3873          KM   Retrieve divert DRRG07 from combination point CRGLP and divert to
3874          KM   combination point CRG07
3875          DR  DWRG07
              *

3876          KK  RRG07C   ROUTE
3877          KM   Route diversion retrieval DRRG07 to combination point CRG07
3878          RS       1    FLOW
3879          RC   0.045   0.020   0.045    4816  0.0056    0.00
3880          RX    0.00    0.00   40.00   50.00   60.00   70.00  110.00  110.00
3881          RY    6.20    5.20    5.00    0.00    0.00    5.00    5.20    6.20
              *

3882          KK  DRDVLPRETRIEVE
3883          KM   Retrieve divert DRDVLP from combination point CPPLP and divert to
3884          KM   combination point CDVLP
3885          DR  DSDVLP
              *
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LINE          ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

3886          KK   RDVLP   ROUTE
3887          KM   Route diversion retrieval DRDVLP to combination point CDVLP
3888          RS       4    FLOW
3889          RC   0.045   0.035   0.045    5616  0.0059    0.00
3890          RX    0.00    0.00   19.00   25.00   30.00   36.00   55.00   55.00
3891          RY    4.10    3.10    3.00    0.00    0.00    3.00    3.10    4.10
              *

3892          KK    DVLP   BASIN
3893          KM   Runoff hydrograph for subbasin DVLP near the intersection of Deer Valley Road
3894          KM   and Lake Pleasant Parkway
3895          BA   0.136
3896          LG    0.12    0.32    4.45    0.31      21
3897          UC   1.098   1.331
3898          UA       0     3.0     5.0     8.0    12.0    20.0    43.0    75.0    90.0    96.0
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3899          UA     100
              *

3900          KK  ERDVLP  DIVERT
3901          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
3902          KM   retention developed after 1990 in subbasin DVLP
3903          DT   XDVLP     1.8     0.0
3904          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
3905          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

3906          KK   CDVLP COMBINE
3907          KM   Combine route RDVLP and subbasin DVLP
3908          HC       2    0.46
              *

3909          KK  RRG07B   ROUTE
3910          KM   Route runoff hydrograph at combination point CDVLP to combination point CRG07
3911          RS       3    FLOW
3912          RC   0.045   0.020   0.045    5903  0.0059    0.00
3913          RX    0.00    0.00   40.00   50.00   60.00   70.00  110.00  110.00
3914          RY    6.20    5.20    5.00    0.00    0.00    5.00    5.20    6.20
              *

3915          KK    RG07   BASIN
3916          KM   Runoff hydrograph for subbasin RG07 near the intersection of Rose Garden Lane
3917          KM   and 107th Avenue
3918          BA   0.350
3919          LG    0.28    0.32    4.55    0.29       7
3920          UC   1.220   0.899
3921          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
3922          UA     100
              *
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LINE          ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

3923          KK  ERRG07  DIVERT
3924          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
3925          KM   retention developed after 1990 in subbasin RG07
3926          DT   XRG07    22.0     0.0
3927          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
3928          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

3929          KK   CRG07 COMBINE
3930          KM   Combine route RRG07A, route RRG07B, route RRG07C, and subbasin RG07
3931          HC       4    3.09
              *

3932          KK   RRGAF   ROUTE
3933          KM   Route runoff hydrograph at combination point CRG07 to combination point CRGAF
3934          RS       1    FLOW
3935          RC   0.045   0.020   0.045    4328  0.0083    0.00
3936          RX    0.00    0.00   40.00   50.00   60.00   70.00  110.00  110.00
3937          RY    6.20    5.20    5.00    0.00    0.00    5.00    5.20    6.20
              *

3938          KK    RGAF   BASIN
3939          KM   Runoff hydrograph for subbasin RGAF near the intersection of Rose Garden Lane
3940          KM   and the Agua Fria River
3941          BA   0.332
3942          LG    0.16    0.33    6.20    0.14      12
3943          UC   1.247   1.093
3944          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
3945          UA     100
              *

3946          KK  ERRGAF  DIVERT
3947          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
3948          KM   retention developed after 1990 in subbasin RGAF
3949          DT   XRGAF    10.4     0.0
3950          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
3951          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

3952          KK   CRGAF COMBINE
3953          KM   Combine route RRGAF and subbasin RGAF
3954          HC       2    3.42
              *

3955          KK  DRBYAFRETRIEVE
3956          KM   Retrieve divert DRBYAF from combination point CBY07 and divert to
3957          KM   combination point CBYAF
3958          DR  DWBYAF
              *
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LINE          ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

3959          KK   RBY07   ROUTE
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3960          KM   Route diversion retrieval DRBYAF to route RBYAF
3961          RS      2     FLOW
3962          RC  0.045   0.020   0.045    3085  0.0019    0.00
3963          RX   0.00    1.00   16.00   36.00   51.00  123.00  148.00  648.00
3964          RY  16.00    8.00    0.00    0.00    8.00    8.00    9.00   11.00
              *

3965          KK   RBYAF   ROUTE
3966          KM   Route runoff hydrograph at route RBY07 to combination point CBYAF
3967          RS      7     FLOW
3968          RC  0.045   0.035   0.045    8144  0.0065    0.00
3969          RX   0.00    0.00   19.00   25.00   30.00   36.00   55.00   55.00
3970          RY   4.10    3.10    3.00    0.00    0.00    3.00    3.10    4.10
              *

3971          KK    BYAF   BASIN
3972          KM   Runoff hydrograph for subbasin BYAF near the intersection of Beardsley Road
3973          KM   and the Agua Fria River
3974          BA   0.609
3975          LG    0.23    0.28    4.70    0.27      24
3976          UC   1.135   0.916
3977          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
3978          UA     100
              *

3979          KK  ERBYAF  DIVERT
3980          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
3981          KM   retention developed after 1990 in subbasin BYAF
3982          DT   XBYAF    13.2     0.0
3983          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
3984          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

3985          KK   CBYAF COMBINE
3986          KM   Combine route RBYAF and subbasin BYAF
3987          HC       2    1.49
              *

3988          KK    UHAF   BASIN
3989          KM   Runoff hydrograph for subbasin UHAF near the intersection of Union Hills
3990          KM   Drive and the Agua Fria River
3991          BA   0.489
3992          LG    0.15    0.30    3.50    0.54      12
3993          UC   1.500   1.290
3994          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
3995          UA     100
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

3996          KK  ERUHAF  DIVERT
3997          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
3998          KM   retention developed after 1990 in subbasin UHAF
3999          DT   XUHAF    19.8     0.0
4000          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
4001          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

4002          KK   CAF03 COMBINE
4003          KM   Combine combination point CRGAF, combination point CBYAF, and subbasin UHAF
4004          HC       3    5.56
              *

4005          KK    UH07   BASIN
4006          KM   Runoff hydrograph for subbasin UH07 near the intersection of Union Hills
4007          KM   Drive and 107th Avenue
4008          BA   0.252
4009          LG    0.20    0.25    4.80    0.34      22
4010          UC   1.480   1.557
4011          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
4012          UA     100
              *

4013          KK   RUH11   ROUTE
4014          KM   Route runoff hydrograph at subbasin UH07 to route RUH15
4015          RS      1     FLOW
4016          RC  0.045   0.020   0.045    2740  0.0090    0.00
4017          RX   0.00    1.00   13.00   23.00   53.00   83.00  108.00  109.00
4018          RY  14.00    6.00    0.00    0.00    6.00    6.00    7.00   15.00
              *

4019          KK   RUH15   ROUTE
4020          KM   Route runoff hydrograph at route RUH11 to combination point CUH15
4021          RS      2     FLOW
4022          RC  0.045   0.035   0.045    2598  0.0120    0.00
4023          RX   0.00   50.00   62.00   72.00   84.00  104.00  139.00  640.00
4024          RY   9.00    6.00    0.00    0.00    6.00    7.00    7.00    9.00
              *

4025          KK    UH15   BASIN
4026          KM   Runoff hydrograph for subbasin UH15 near the intersection of Union Hills
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4027          KM   Drive and 115th Avenue
4028          BA   1.019
4029          LG    0.28    0.31    5.80    0.17      18
4030          UC   1.112   0.579
4031          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
4032          UA     100
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

4033          KK  ERUH15  DIVERT
4034          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
4035          KM   retention developed after 1990 in subbasin UH15
4036          DT   XUH15    20.8     0.0
4037          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
4038          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

4039          KK   CUH15 COMBINE
4040          KM   Combine route RUH15 and subbasin UH15
4041          HC       2    1.27
              *

4042          KK  RBL15B   ROUTE
4043          KM   Route runoff hydrograph at combination point CUH15 to combination point CBL15
4044          RS      4     FLOW
4045          RC  0.045   0.035   0.045    4894  0.0020    0.00
4046          RX   0.00  100.00  112.00  147.00  159.00  179.00  214.00  580.00
4047          RY   8.00    6.00    0.00    0.00    6.00    7.00    7.00    9.00
              *

4048          KK  DRBL15RETRIEVE
4049          KM   Retrieve divert DRBL15 from combination point CDW07 and divert to
4050          KM   combination point CBL15
4051          DR  DWBL15
              *

4052          KK  RBL15A   ROUTE
4053          KM   Route diversion retrieval DRBL15 to combination point CBL15
4054          RS      1     FLOW
4055          RC  0.045   0.015   0.045    6041  0.0082    0.00
4056          RX   0.00    0.00   40.00   50.00   60.00   70.00  110.00  110.00
4057          RY   6.20    5.20    5.00    0.00    0.00    5.00    5.20    6.20
              *

4058          KK    BL15   BASIN
4059          KM   Runoff hydrograph for subbasin Bl15 near the intersection of Bell Road and
4060          KM   115th Avenue
4061          BA   0.962
4062          LG    0.24    0.27    4.60    0.32      24
4063          UC   1.121   0.569
4064          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
4065          UA     100
              *

4066          KK  ERBL15  DIVERT
4067          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
4068          KM   retention developed after 1990 in subbasin BL15
4069          DT   XBL15    31.6     0.0
4070          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
4071          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

4072          KK   CBL15 COMBINE
4073          KM   Combine route RBL15A, route RBL15B, and subbasin BL15
4074          HC       3    2.94
              *

4075          KK   RMEAF   ROUTE
4076          KM   Route runoff hydrograph at combination point CBL15 to combination point CMEAF
4077          RS      3     FLOW
4078          RC  0.045   0.020   0.045    5783  0.0053    0.00
4079          RX   0.00    0.00   40.00   50.00   60.00   70.00  110.00  110.00
4080          RY   6.20    5.20    5.00    0.00    0.00    5.00    5.20    6.20
              *

4081          KK    MEAF   BASIN
4082          KM   Runoff hydrograph for subbasin MEAF near the intersection of Meade Drive and
4083          KM   the Agua Fria River
4084          BA   1.369
4085          LG    0.17    0.28    4.65    0.30      22
4086          UC   1.092   0.560
4087          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
4088          UA     100
              *

4089          KK  ERMEAF  DIVERT
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4090          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
4091          KM   retention developed after 1990 in subbasin MEAF
4092          DT   XMEAF     9.9      0.0
4093          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
4094          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

4095          KK   CMEAF COMBINE
4096          KM   Combine route RMEAF and subbasin MEAF
4097          HC        2    4.31
              *

4098          KK    BLAF   BASIN
4099          KM   Runoff hydrograph for subbasin BLAF near the intersection of Bell Road and
4100          KM   the Agua Fria River
4101          BA   0.283
4102          LG    0.17    0.29    3.55    0.52      16
4103          UC   1.500   1.613
4104          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
4105          UA     100
              *

4106          KK  ERBLAF  DIVERT
4107          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
4108          KM   retention developed after 1990 in subbasin BLAF
4109          DT   XBLAF     12.5      0.0
4110          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
4111          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *
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LINE          ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

4112          KK    GRAF   BASIN
4113          KM   Runoff hydrograph for subbasin GRAF near the intersection of Grand Avenue and
4114          KM   the Agua Fria River
4115          BA   0.859
4116          LG    0.21    0.17    7.00    0.11      34
4117          UC   1.337   1.028
4118          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
4119          UA     100
              *

4120          KK    PEAF   BASIN
4121          KM   Runoff hydrograph for subbasin PEAF near the intersection of Kansas Avenue
4122          KM   and the Agua Fria River
4123          BA   0.531
4124          LG    0.19    0.25    4.20    0.36      48
4125          UC   0.797   0.382
4126          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
4127          UA     100
              *

4128          KK   CAF04 COMBINE
4129          KM   Combine combination point CMEAF, subbasin BLAF, subbasin GRAF, and subbasin
4130          KM   PEAF
4131          HC        4    5.94
              *

4132          KK    OL11   BASIN
4133          KM   Runoff hydrograph for subbasin OL11 near the intersection of Olive Avenue and
4134          KM   111th Avenue
4135          BA   0.339
4136          LG    0.23    0.27    4.25    0.40      21
4137          UC   1.031   0.605
4138          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
4139          UA     100
              *

4140          KK   RNO11   ROUTE
4141          KM   Route runoff hydrograph at subbasin OL11 to combination point CNO11
4142          RS        3    FLOW
4143          RC    0.045   0.020   0.045    6339  0.0057    0.00
4144          RX     0.00    0.00   19.00   25.00   30.00   36.00   55.00   55.00
4145          RY     4.10    3.10    3.00    0.00    0.00    3.00    3.10    4.10
              *

4146          KK    NO11   BASIN
4147          KM   Runoff hydrograph for subbasin NO11 near the intersection of Northern Avenue
4148          KM   and 111th Avenue
4149          BA   0.860
4150          LG    0.19    0.26    3.95    0.40      49
4151          UC   0.806   0.389
4152          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
4153          UA     100
              *
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LINE          ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

4154          KK  ERNO11  DIVERT
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```
4155          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
4156          KM   retention developed after 1990 in subbasin NO11
4157          DT   XNO11     16.3      0.0
4158          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
4159          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

4160          KK   CNO11 COMBINE
4161          KM   Combine route RNO11 and subbasin NO11
4162          HC        2    1.20
              *

4163          KK  RGL14A   ROUTE
4164          KM   Route runoff hydrograph at combination point CNO11 to combination point CGL14
4165          RS        6    FLOW
4166          RC   0.045   0.035   0.045    7959  0.0008    0.00
4167          RX    0.00    0.00   55.00   75.00  100.00  120.00  175.00  175.00
4168          RY   11.20   10.20   10.00    0.00    0.00   10.00   10.20   11.20
              *

4169          KK    NO07   BASIN
4170          KM   Runoff hydrograph for subbasin NO07 near the intersection of Northern Avenue
4171          KM   and 107th Avenue
4172          BA   0.340
4173          LG    0.21    0.26    4.55    0.35      27
4174          UC   1.108   0.773
4175          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
4176          UA     100
              *

4177          KK  ERNO07  DIVERT
4178          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
4179          KM   retention developed after 1990 in subbasin NO07
4180          DT   XNO07     8.6      0.0
4181          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
4182          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

4183          KK   RGL11   ROUTE
4184          KM   Route runoff hydrograph at subbasin NO07 to combination point CGL11
4185          RS        5    FLOW
4186          RC   0.035   0.015   0.035    5370  0.0041    0.00
4187          RX    0.00    0.00   13.00   13.00   55.00   55.00   68.00   68.00
4188          RY    3.00    0.63    0.50    0.00    0.00    0.50    0.63    3.00
              *

4189          KK    GL11   BASIN
4190          KM   Runoff hydrograph for subbasin GL11 near the intersection of Glendale Avenue
4191          KM   and 111th Avenue
4192          BA   0.426
4193          LG    0.19    0.26    4.35    0.33      57
4194          UC   1.074   0.656
4195          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
1                                        HEC-1 INPUT                                        PAGE109

LINE          ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

4196          UA     100
              *

4197          KK  ERGL11  DIVERT
4198          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
4199          KM   retention developed after 1990 in subbasin GL11
4200          DT   XGL11     36.6      0.0
4201          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
4202          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

4203          KK   CGL11 COMBINE
4204          KM   Combine route RGL11 and subbasin GL11
4205          HC        2    0.77
              *

4206          KK  RGL14B   ROUTE
4207          KM   Route runoff hydrograph at combination point CGL11 to combination point CGL14
4208          RS        3    FLOW
4209          RC   0.045   0.035   0.045    4950  0.0021    0.00
4210          RX    0.00    0.00   40.00   50.00   60.00   70.00  110.00  110.00
4211          RY    6.20    5.20    5.00    0.00    0.00    5.00    5.20    6.20
              *

4212          KK    GL14   BASIN
4213          KM   Runoff hydrograph for subbasin GL14 near the intersection of Glendale Avenue
4214          KM   and 114th Avenue
4215          BA   0.481
4216          LG    0.30    0.35    3.81    0.44       1
4217          UC   1.460   1.125
4218          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
4219          UA     100
              *

4220          KK   CGL14 COMBINE
4221          KM   Combine route RGL14A, RGL14B, and subbasin GL14
```

```
          4222          HC       3    2.45
                        *

          4223          KK   RGLAF   ROUTE
          4224          KM   Route runoff hydrograph at combination point CGL14 to combination point CGLAF
          4225          RS       2    FLOW
          4226          RC   0.045   0.035   0.045    3487  0.0023    0.00
          4227          RX    0.00    0.00   55.00   75.00  100.00  120.00  175.00  175.00
          4228          RY   11.20   10.20   10.00    0.00    0.00   10.00   10.20   11.20
                        *

          4229          KK    GLAF   BASIN
          4230          KM   Runoff hydrograph for subbasin GLAF near the intersection of Glendale Avenue
          4231          KM   and the Agua Fria River
          4232          BA   0.388
          4233          LG    0.18    0.29    3.07    0.74      65
          4234          UC   0.966   0.902
          4235          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
          4236          UA     100
                        *
1                                                HEC-1 INPUT                                                 PAGE110

          LINE          ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10


          4237          KK   CGLAF COMBINE
          4238          KM   Combine route RGLAF and subbasin GLAF
          4239          HC       2    2.83
                        *

          4240          KK    OLAF   BASIN
          4241          KM   Runoff hydrograph for subbasin OLAF near the intersection of Olive Avenue and
          4242          KM   the Agua Fria River
          4243          BA   1.026
          4244          LG    0.18    0.30    3.60    0.50      19
          4245          UC   1.500   0.988
          4246          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
          4247          UA     100
                        *

          4248          KK  EROLAF  DIVERT
          4249          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
          4250          KM   retention developed after 1990 in subbasin OLAF
          4251          DT   XOLAF    22.0     0.0
          4252          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
          4253          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
                        *

          4254          KK    NOAF   BASIN
          4255          KM   Runoff hydrograph for subbasin NOAF near the intersection of Northern Avenue
          4256          KM   and the Agua Fria River
          4257          BA   0.285
          4258          LG    0.11    0.33    2.92    0.82      23
          4259          UC   1.181   1.025
          4260          UA       0     3.0     5.0     8.0    12.0    20.0    43.0    75.0    90.0    96.0
          4261          UA     100
                        *

          4262          KK   CAF05 COMBINE
          4263          KM   Combine combination point CGLAF, subbasin OLAF, and subbasin NOAF
          4264          HC       3    4.15
                        *
          4265          ZZ
1
               SCHEMATIC DIAGRAM OF STREAM NETWORK

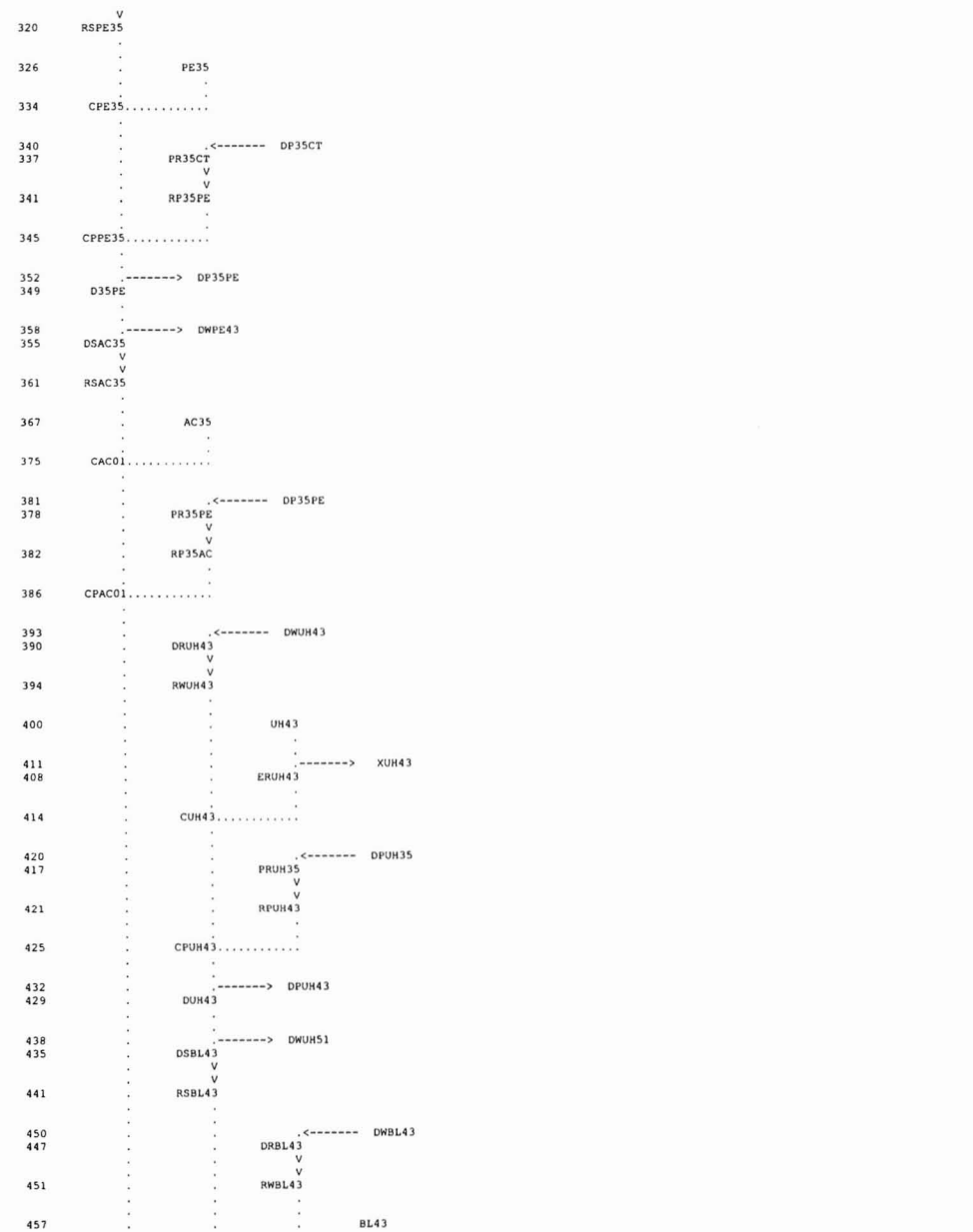
 INPUT
  LINE      (V) ROUTING          (--->) DIVERSION OR PUMP FLOW

   NO.      (.) CONNECTOR        (<---) RETURN OF DIVERTED OR PUMPED FLOW

   136        UH35
              .
              .
   147        .------->   XUH35
   144      ERUH35
              .
              .
   153        .------->  DPUH35
   150       DUH35
              .
              .
   159        .------->  DWUH43
   156      DSBL35
             V
             V
   162      RSBL35
              .
              .
   168        .        BL35
              .          .
              .          .
   179        .        .------->   XBL35
   176        .      ERBL35
```



```
              .          .
              .          .
   182      CBL35.....
              .
              .
   188        .------->  DP35BL
   185      D35BL
              .
              .
   194        .------->  DWBL43
   191      DSGW35
             V
             V
   197      RSGW35
              .
              .
   203        .        GW35
              .          .
              .          .
   211      CGW35.....
              .
              .
   217        .          .<-------  DP35BL
   214        .      PR35BL
              .          V
              .          V
   218        .      RP35GW
              .          .
              .          .
   222      CPGW35.....
              .
              .
   229        .------->  DP35GW
   226      D35GW
              .
              .
   235        .------->  DWGW43
   232      DSTB35
             V
             V
   238      RSTB35
              .
              .
   244        .        TB35
              .          .
              .          .
   252      CTB35.....
              .
              .
   258        .          .<-------  DP35GW
   255        .      PR35GW
              .          V
              .          V
   259        .      RP35TB
              .          .
              .          .
   263      CPTB35.....
              .
              .
   270        .------->  DP35TB
   267      D35TB
              .
              .
   276        .------->  DWTB43
   273      DSCT35
             V
             V
   279      RSCT35
              .
              .
   285        .        CT35
              .          .
              .          .
   293      CCT35.....
              .
              .
   299        .          .<-------  DP35TB
   296        .      PR35TB
              .          V
              .          V
   300        .      RP35CT
              .          .
              .          .
   304      CPCT35.....
              .
              .
   311        .------->  DP35CT
   308      D35CT
              .
              .
   317        .------->  DWCT43
   314      DSPE35
             V
```


V
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PE35
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CPE35
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DP35CT
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PR35CT
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RP35PE
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CPPE35
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DP35PE
352
D35PE
349
DWPE43
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DSAC35
355
RSAC35
361
AC35
367
CAC01
375
DP35PE
381
PR35PE
378
RP35AC
382
CPAC01
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DWUH43
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DRUH43
390
RWUH43
394
UH43
400
XUH43
411
ERUH43
408
CUH43
414
DPUH35
420
PRUH35
417
RPUH43
421
CPUH43
425
DPUH43
432
DUH43
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RSBL43
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DWBL43
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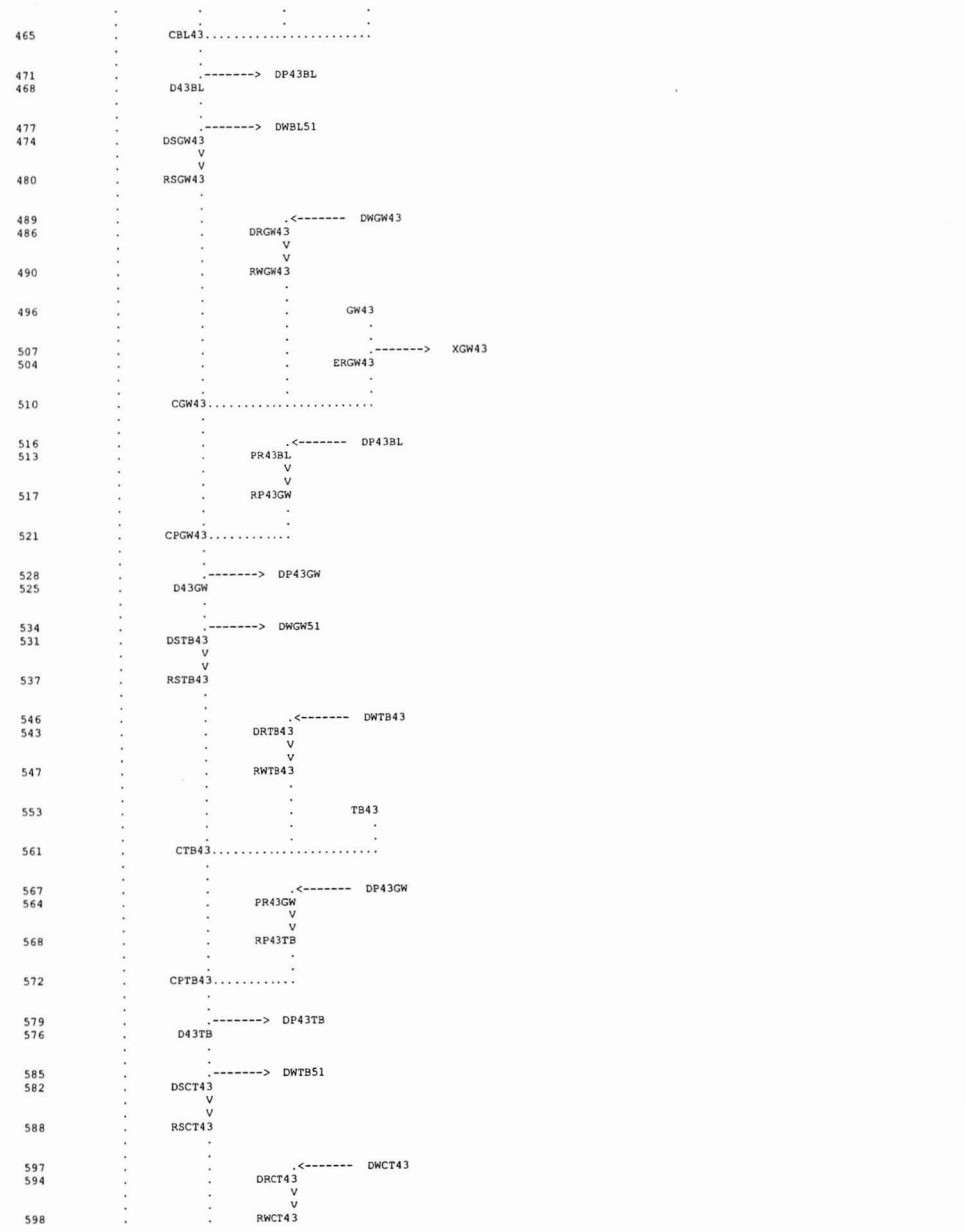
DRBL43
447
RWBL43
451
BL43
457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D43BL
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DSGW43
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RSGW43
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DWGW43
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DRGW43
486
RWGW43
490
GW43
496
XGW43
507
ERGW43
504
CGW43
510
DP43BL
516
PR43BL
513
RP43GW
517
CPGW43
521
DP43GW
528
D43GW
525
DWGW51
534
DSTB43
531
RSTB43
537
DWTB43
546
DRTB43
543
RWTB43
547
TB43
553
CTB43
561
DP43GW
567
PR43GW
564
RP43TB
568
CPTB43
572
DP43TB
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DRCT43
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RWCT43
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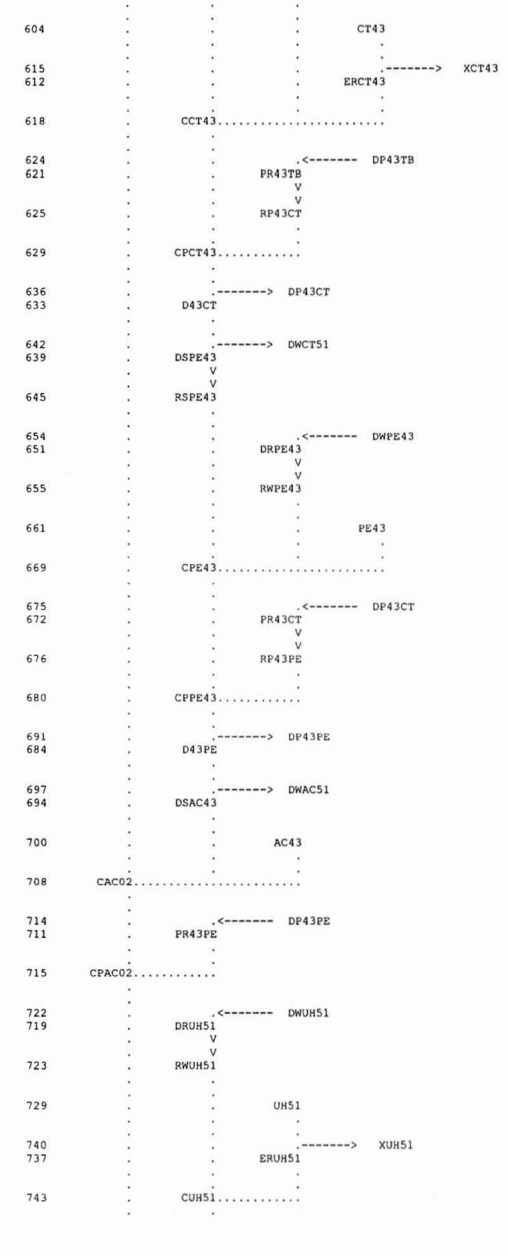
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642 DWCT51
639 DSPE43
645 RSPE43
654 DWPE43
651 DRPE43
655 RWPE43
661 PE43
669 CPE43
675 DP43CT
672 PR43CT
676 RP43PE
680 CPPE43
691 DP43PE
684 D43PE
697 DWAC51
694 DSAC43
700 AC43
708 CAC02
714 DP43PE
711 PR43PE
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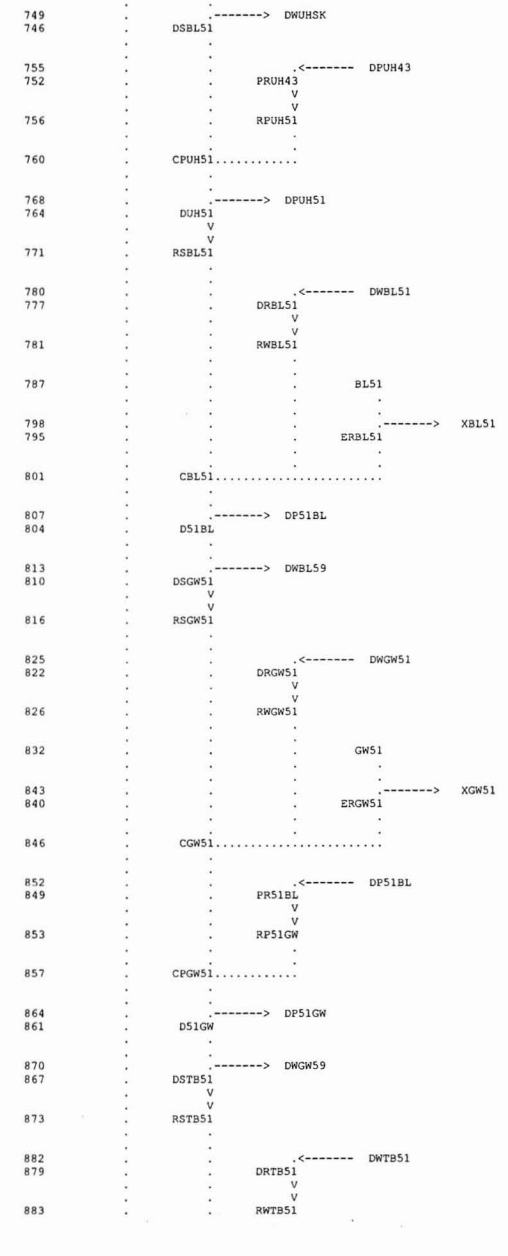
719 DRUH51
723 RWUH51
729 UH51
740 XUH51
737 ERUH51
743 CUH51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777 DRBL51
781 RWBL51
787 BL51
798 XBL51
795 ERBL51
801 CBL51
807 DP51BL
804 D51BL
813 DWBL59
810 DSGW51
816 RSGW51
825 DWGW51
822 DRGW51
826 RWGW51
832 GW51
843 XGW51
840 ERGW51
846 CGW51
852 DP51BL
849 PR51BL
853 RP51GW
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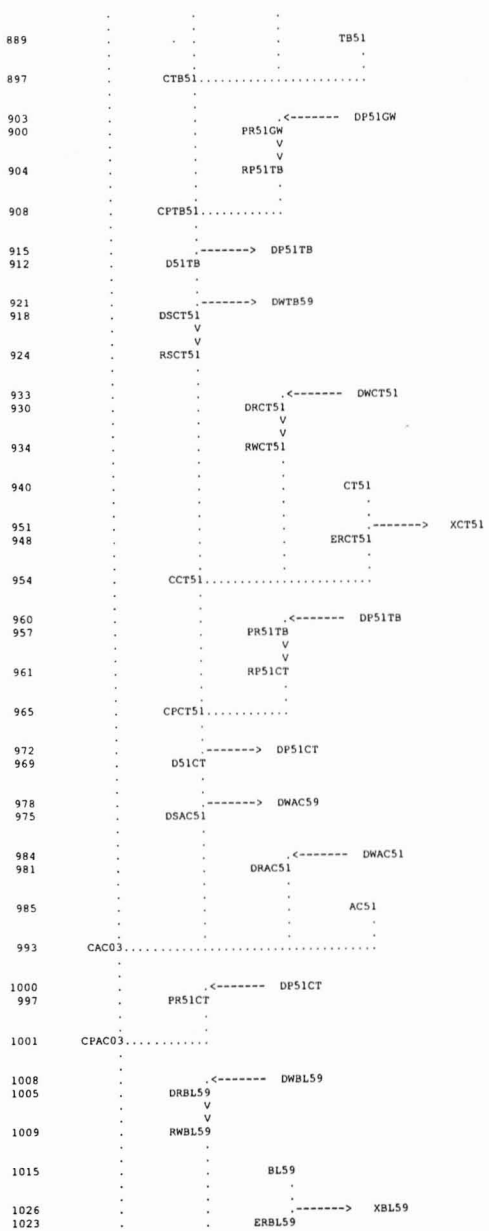
883 RWTB51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918
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XCT51
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DRAC51
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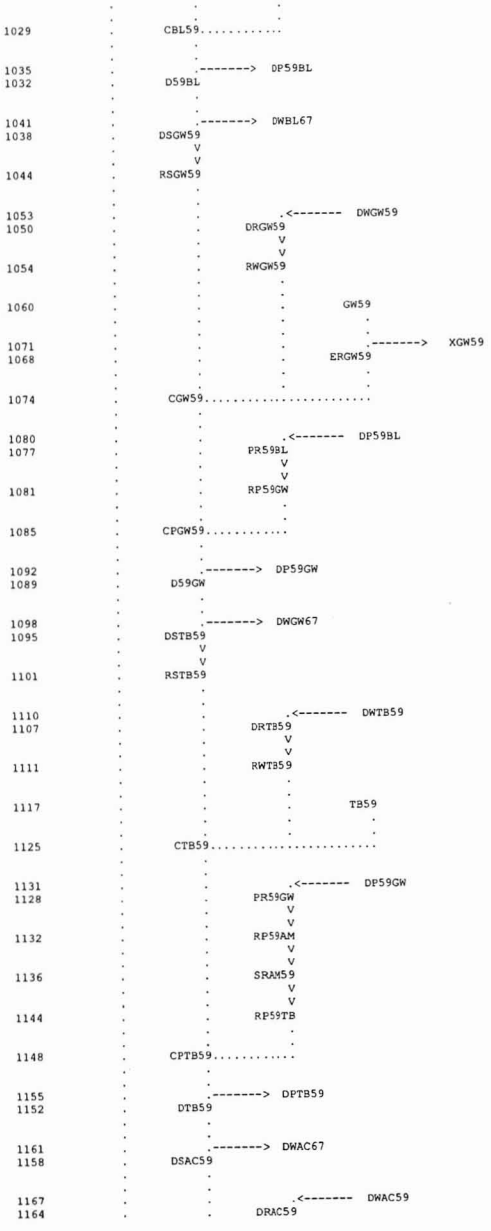
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GW59
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CGW59
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1085
CPGW59
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DP59GW
D59GW
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1095
DWGW67
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RSTB59
1110
1107
DWTB59
DRTB59
1111
RWTB59
1117
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CTB59
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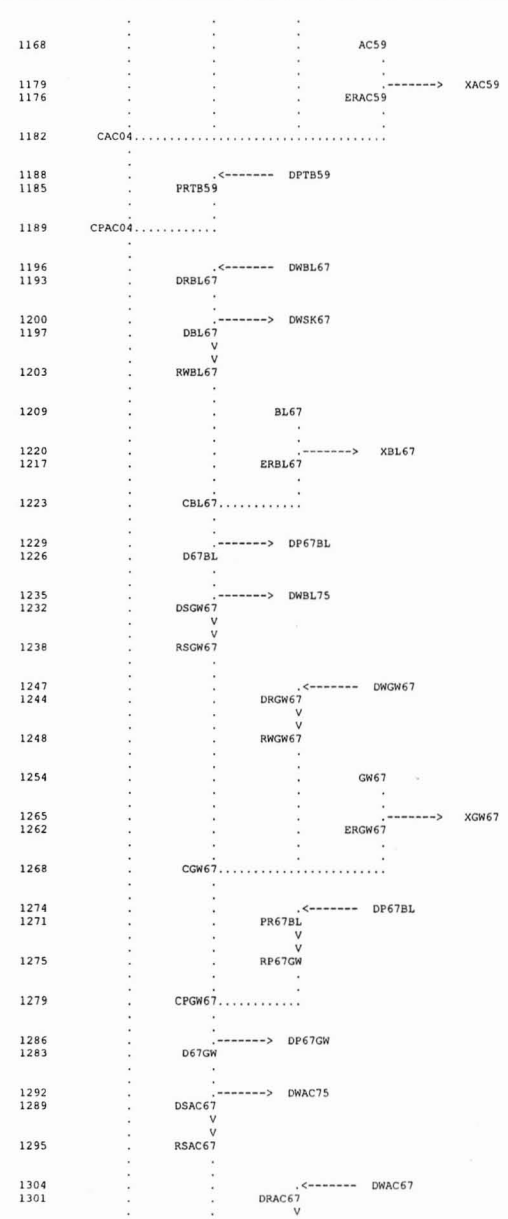
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1223 CBL67
1229 DP67BL
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1238 RSGW67
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1248 RWGW67
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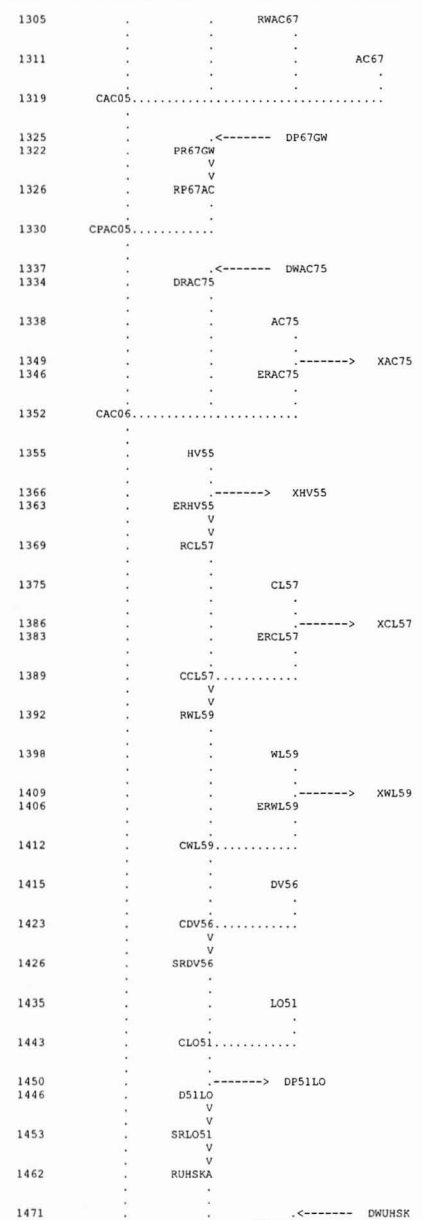
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1346 ERAC75
1352 CAC06
1355 HV55
1366 XHV55
1363 ERHV55
1369 RCL57
1375 CL57
1386 XCL57
1383 ERCL57
1389 CCL57
1392 RWL59
1398 WL59
1409 XWL59
1406 ERWL59
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1423 CDV56
1426 SRDV56
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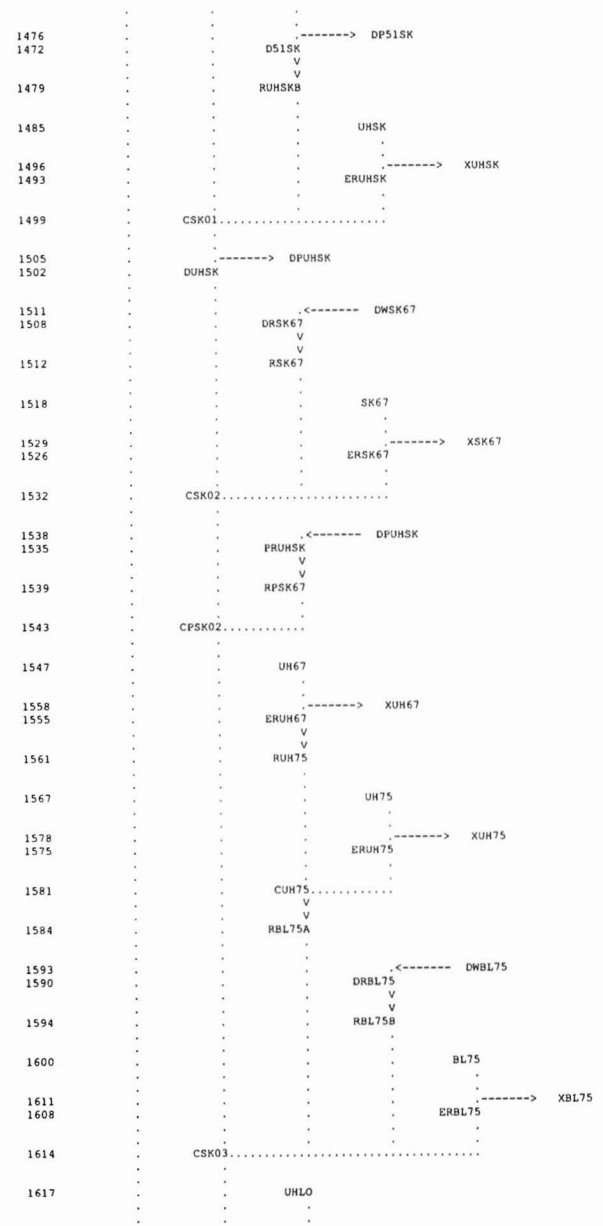
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1508
DRSK67
DWSK67
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RSK67
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SK67
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1526
ERSK67
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1532
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1535
PRUHSK
DPUHSK
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CPSK02
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1555
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XUH67
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RUH75
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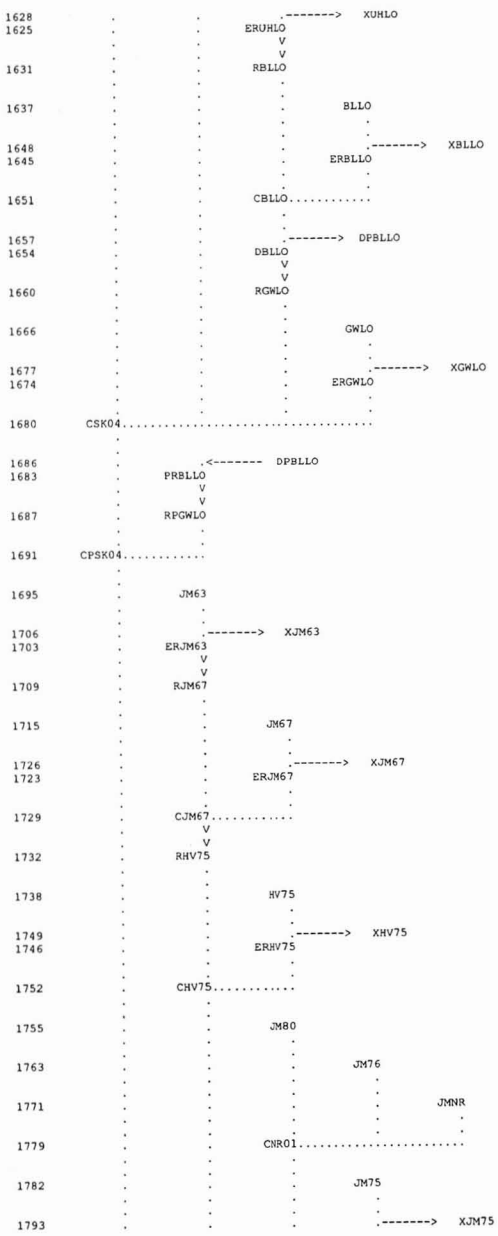
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ERBLLO
XBLLO
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1654
DBLLO
DPBLLO
1660
RGWLO
1666
GWLO
1677
1674
ERGWLO
XGWLO
1680
CSK04
1686
1683
PRBLLO
DPBLLO
1687
RPGWLO
1691
CPSK04
1695
JM63
1706
1703
ERJM63
XJM63
1709
RJM67
1715
JM67
1726
1723
ERJM67
XJM67
1729
CJM67
1732
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1738
HV75
1749
1746
ERHV75
XHV75
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JM76
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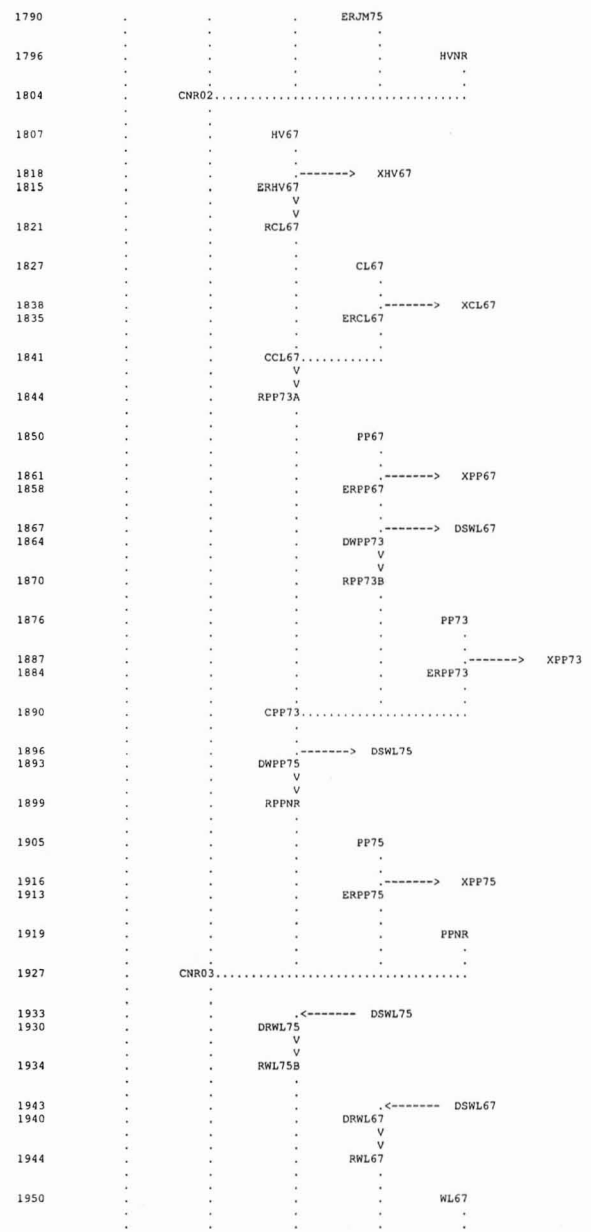
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1841 CCL67
1844 RPP73A
1850 PP67
1861 XPP67
1858 ERPP67
1867 DSWL67
1864 DWPP73
1870 RPP73B
1876 PP73
1887 XPP73
1884 ERPP73
1890 CPP73
1896 DSWL75
1893 DWPP75
1899 RPPNR
1905 PP75
1916 XPP75
1913 ERPP75
1919 PPNR
1927 CNR03
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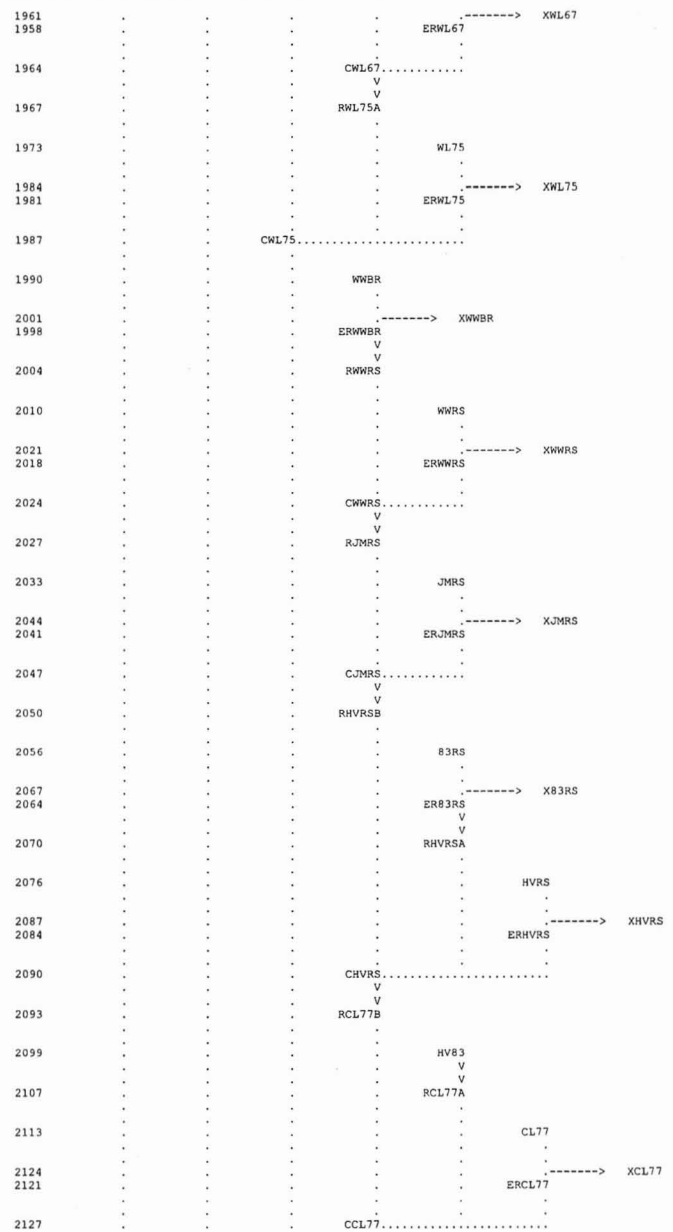
1930 DRWL75
1934 RWL75B
1943 DSWL67
1940 DRWL67
1944 RWL67
1950 WL67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1964 CWL67
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1998 ERWWBR
2004 RWWRS
2010 WWRS
2021 XWWRS
2018 ERWWRS
2024 CWWRS
2027 RJMRS
2033 JMRS
2044 XJMRS
2041 ERJMRS
2047 CJMRS
2050 RHVRSB
2056 83RS
2067 X83RS
2064 ER83RS
2070 RHVRSA
2076 HVRS
2087 XHVRS
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2093 RCL77B
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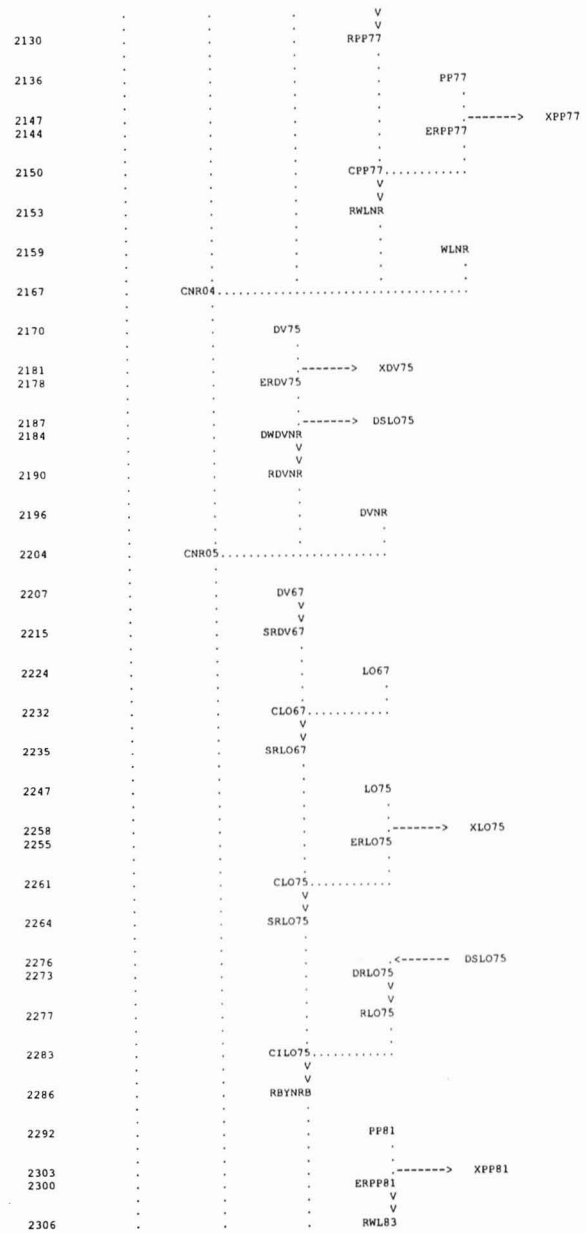
2107 RCL77A
2113 CL77
2124 XCL77
2121 ERCL77
2127 CCL77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ERPP77
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DV75
2181
2178
XDV75
ERDV75
2187
2184
DSLO75
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RDVNR
2196
DVNR
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CNR05
2207
DV67
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SRDV67
2224
LO67
2232
CLO67
2235
SRLO67
2247
LO75
2258
2255
XLO75
ERLO75
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CLO75
2264
SRLO75
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2273
DSLO75
DRLO75
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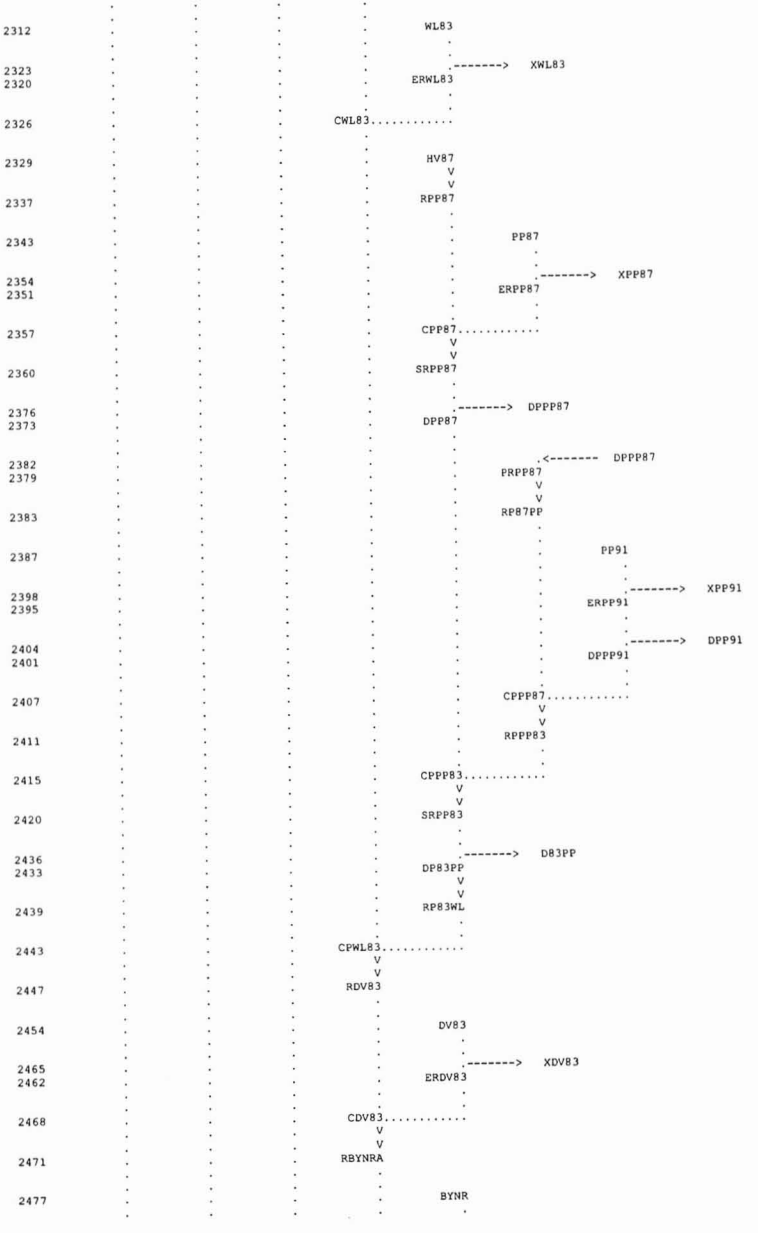
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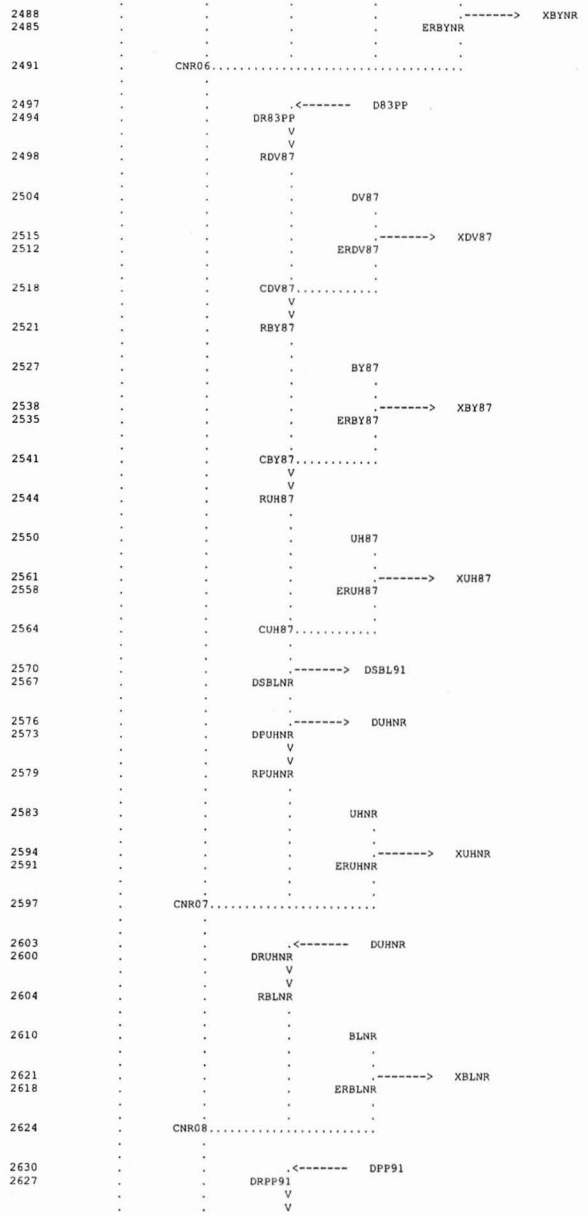
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ERDV87
2518
CDV87
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RBY87
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BY87
2538
2535
XBY87
ERBY87
2541
CBY87
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RUH87
2550
UH87
2561
2558
XUH87
ERUH87
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CUH87
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DSBL91
DSBLNR
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DUHNR
DPUHNR
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RPUHNR
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UHNR
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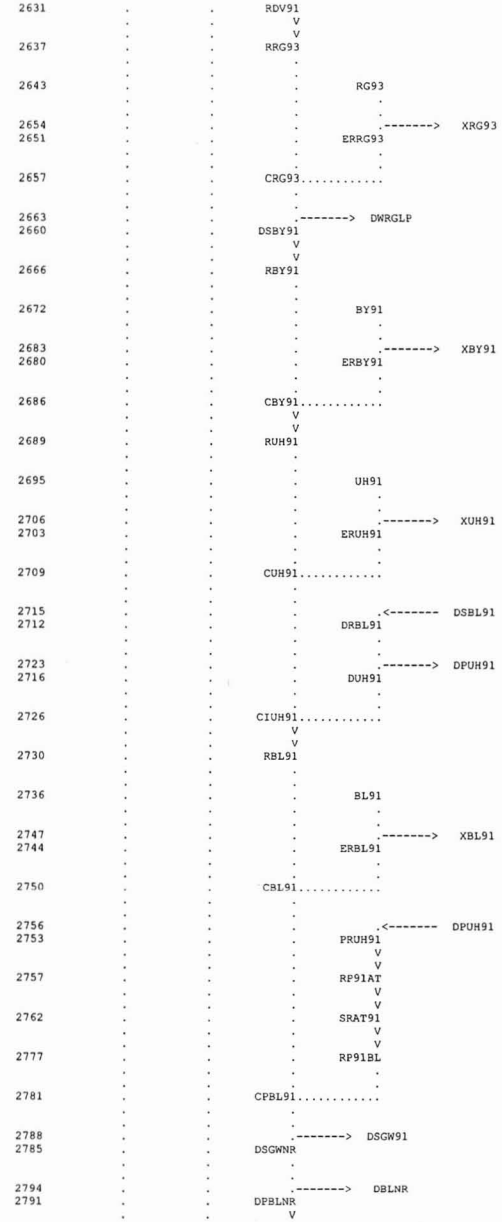
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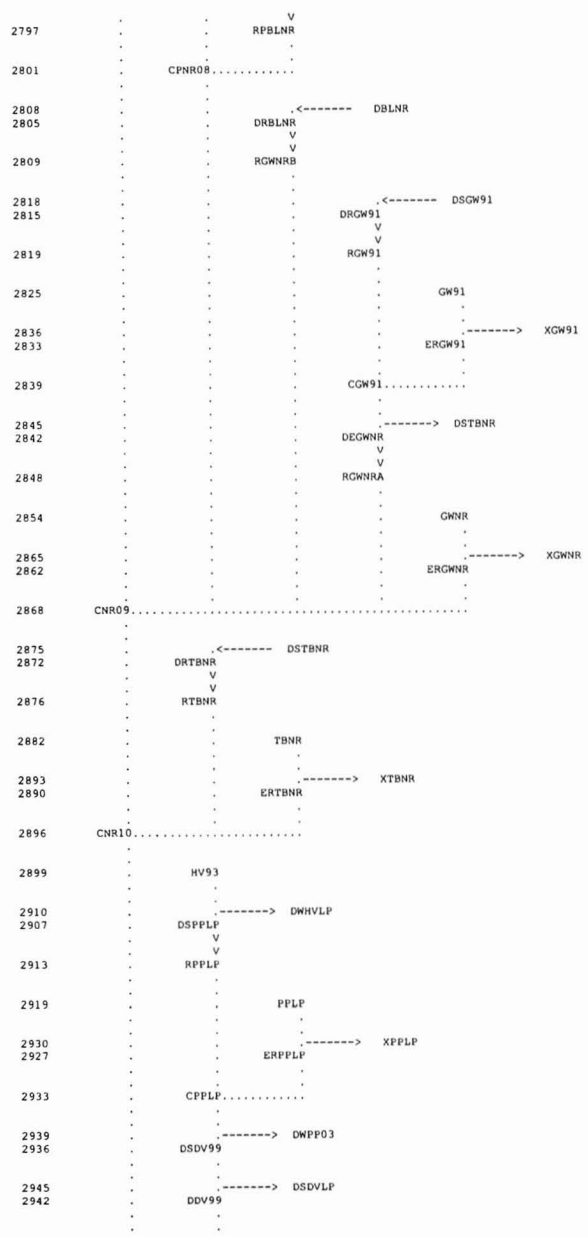
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2836 XGW91
2833 ERGW91
2839 CGW91
2845 DSTBNR
2842 DEGWNR
2848 RGWNRA
2854 GWNR
2865 XGWNR
2862 ERGWNR
2868 CNR09
2875 DSTBNR
2872 DRTBNR
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2882 TBNR
2893 XTBNR
2890 ERTBNR
2896 CNR10
2899 HV93
2910 DWHVLP
2907 DSPPLP
2913 RPPLP
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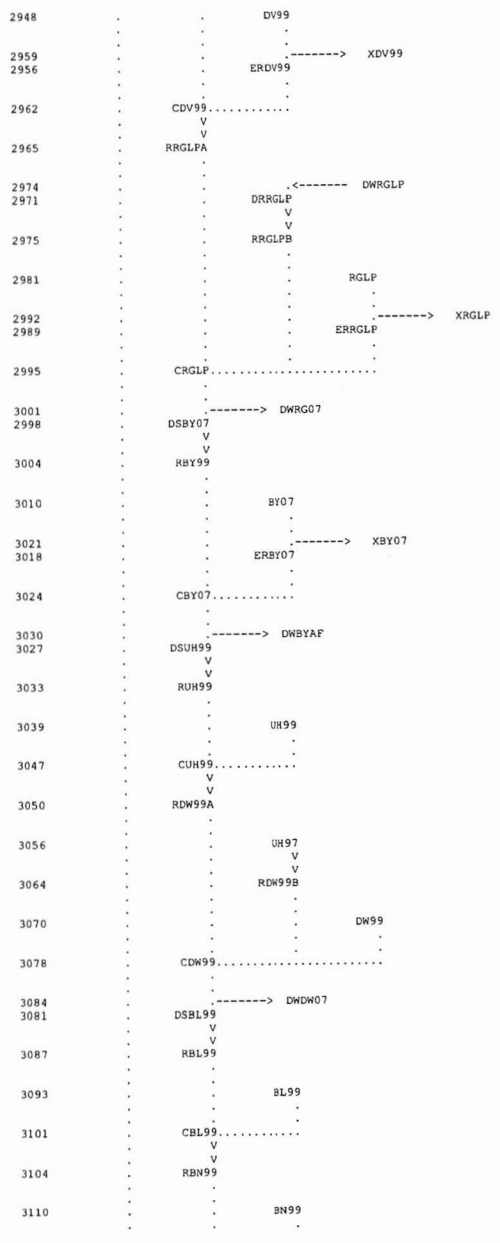
2942 DDV99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3010 BY07
3021 XBY07
3018 ERBY07
3024 CBY07
3030 DWBYAF
3027 DSUH99
3033 RUH99
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3047 CUH99
3050 RDW99A
3056 UH97
3064 RDW99B
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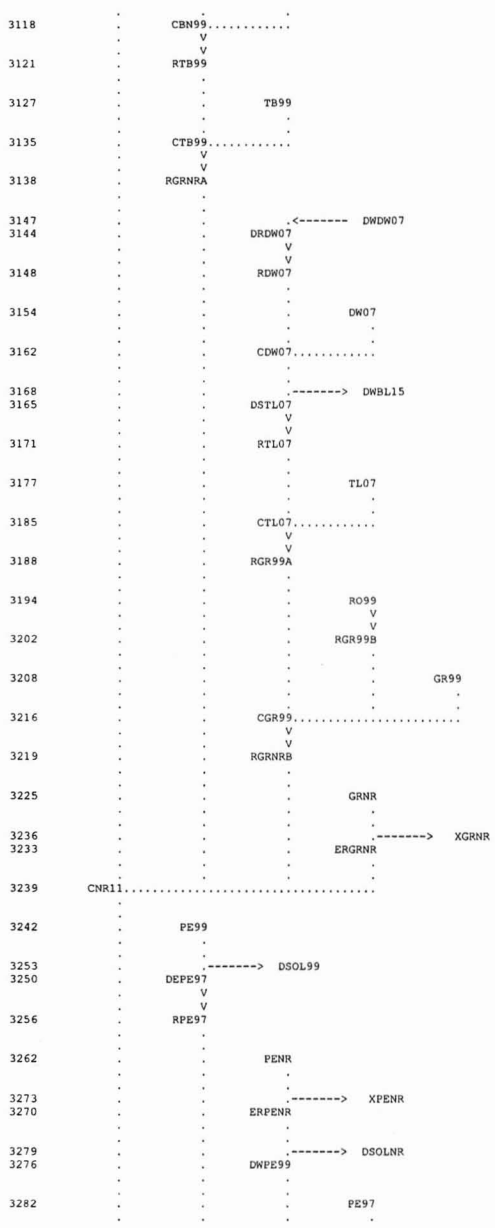
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3168 DWBL15
3165 DSTL07
3171 RTL07
3177 TL07
3185 CTL07
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3194 RO99
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3208 GR99
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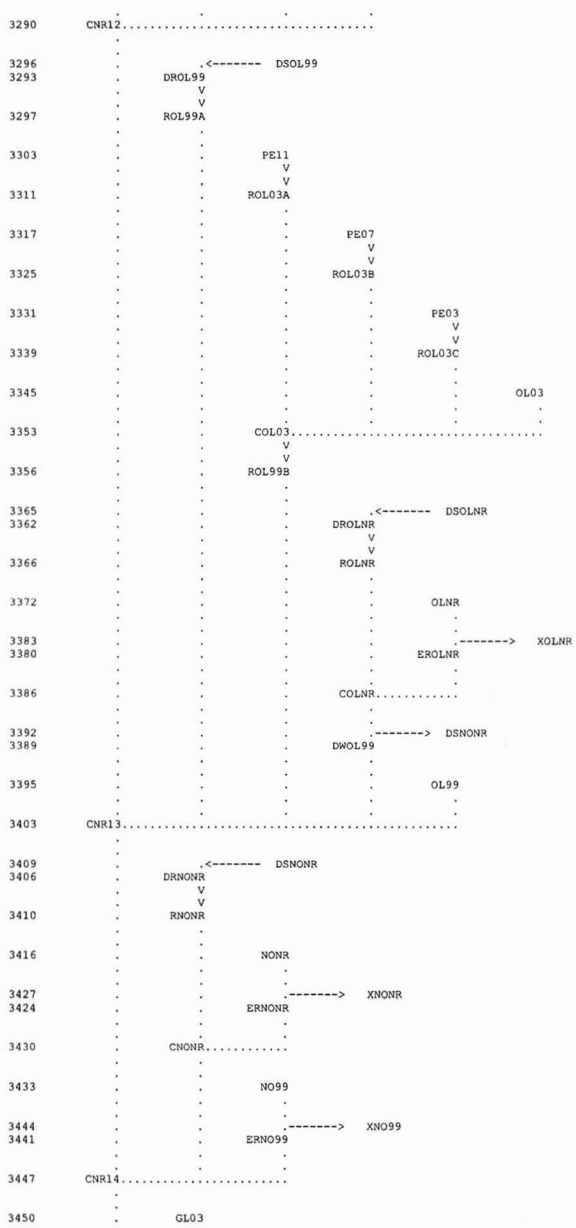
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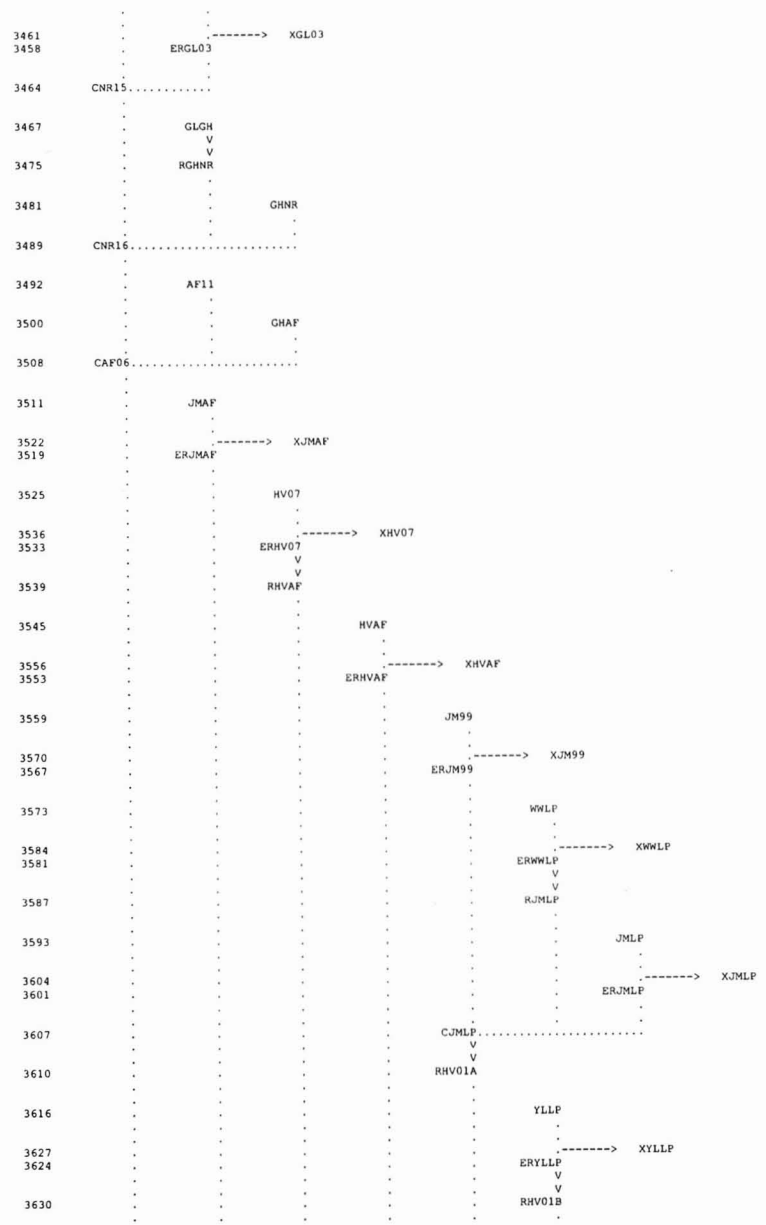
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3508 CAF06
3511 JMAF
3522
3519 ERJMAF
XJMAF
3525 HV07
3536
3533 ERHV07
XHV07
3539 RHVAF
3545 HVAF
3556
3553 ERHVAF
XHVAF
3559 JM99
3570
3567 ERJM99
XJM99
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3584
3581 ERWWLP
XWWLP
3587 RJMLP
3593 JMLP
3604
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XYLLP
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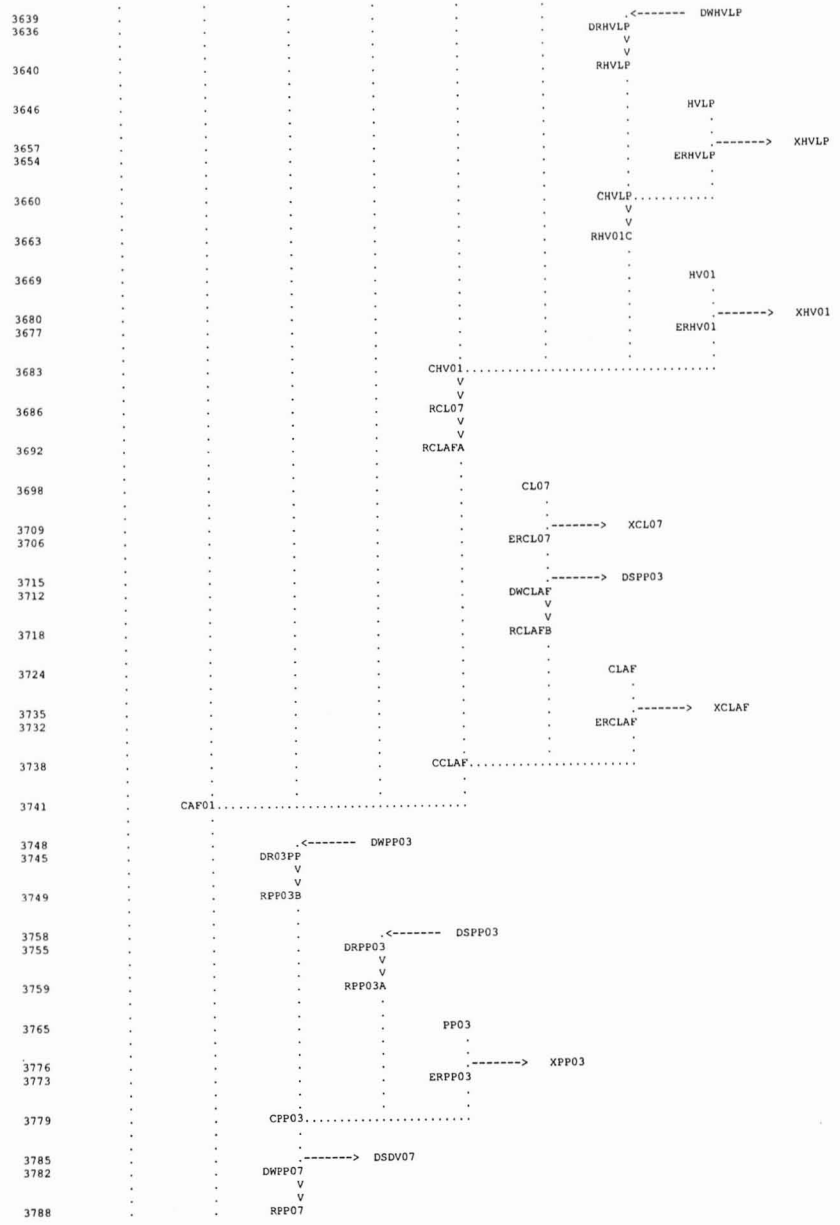
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3669 HV01
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3677 ERHV01
XHV01
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3686 RCL07
3692 RCLAFA
3698 CL07
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XCL07
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3718 RCLAFB
3724 CLAF
3735
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3741 CAF01
3748
3745 DR03PP
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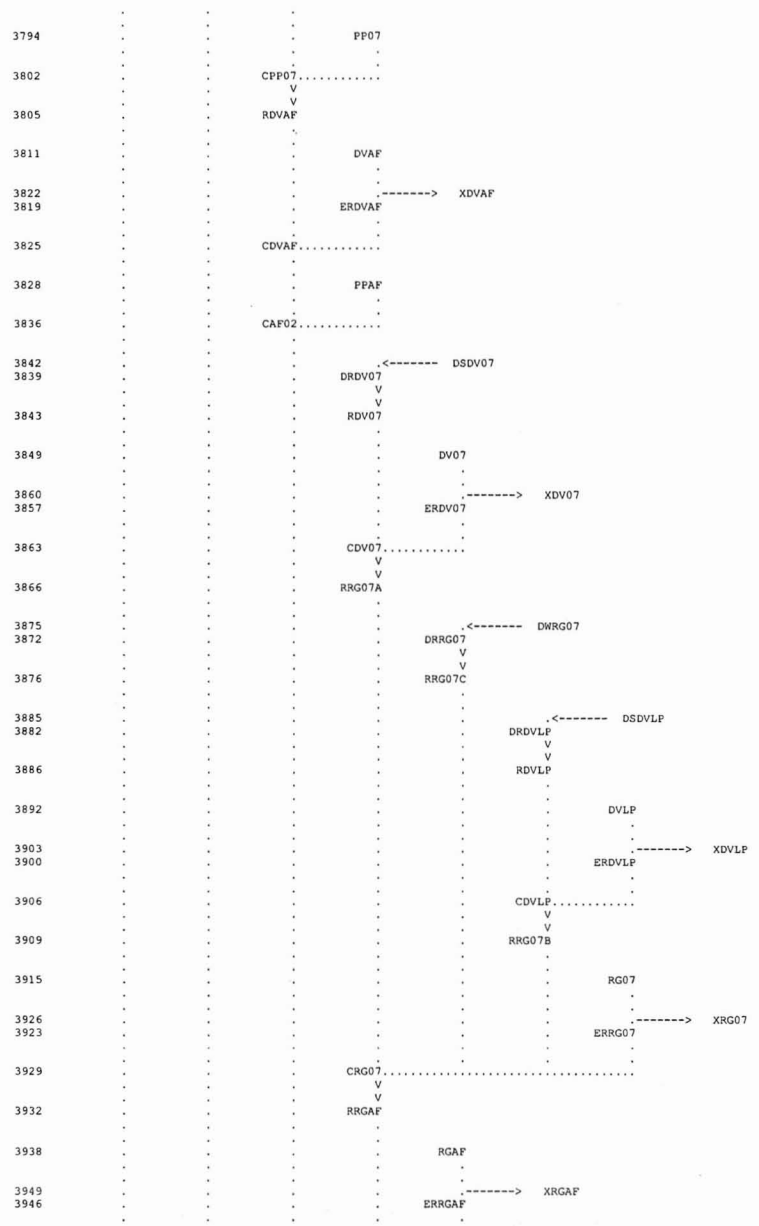
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3857 ERDV07
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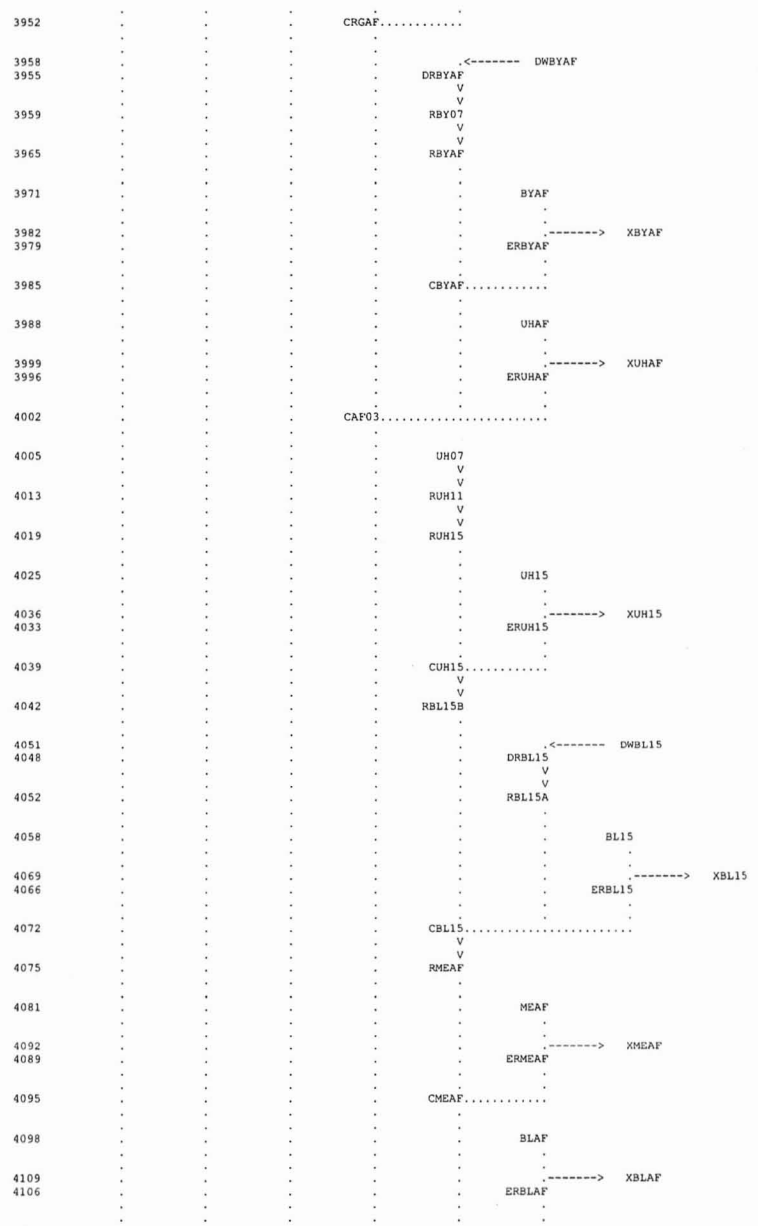
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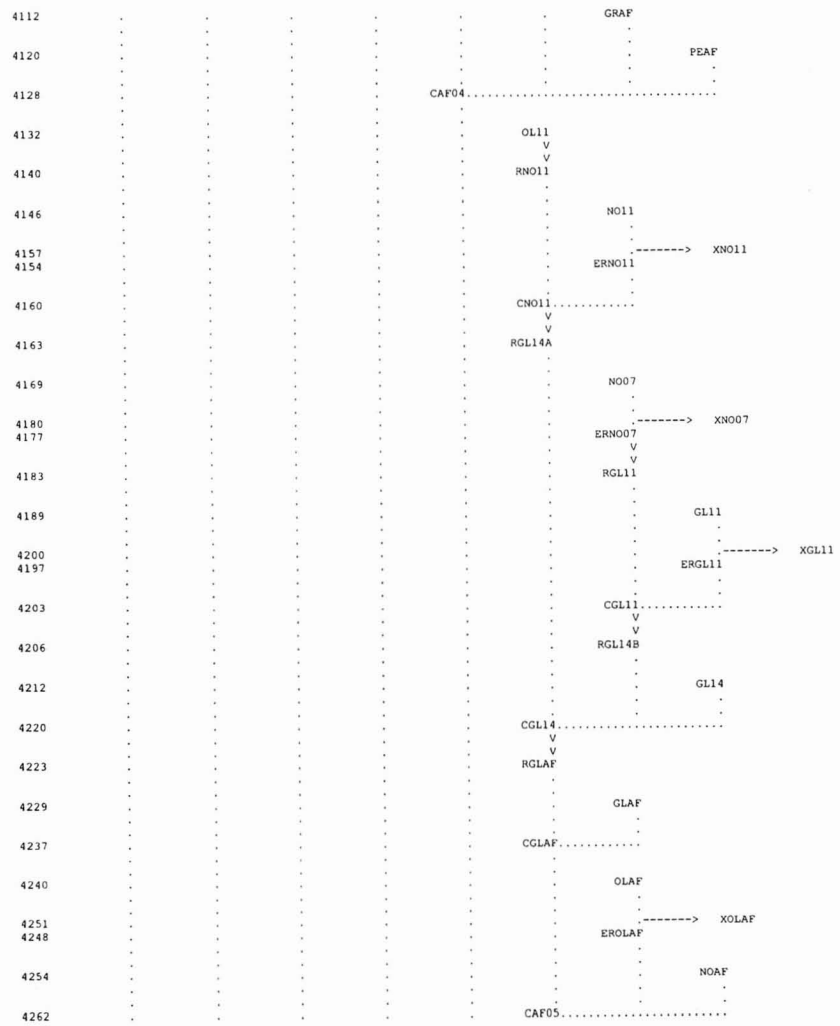

(***) RUNOFF ALSO COMPUTED AT THIS LOCATION

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*                                       *
*   FLOOD HYDROGRAPH PACKAGE  (HEC-1)   *
*             JUN  1998                 *
*          VERSION 4.1                  *
*                                       *
*  RUN DATE  01NOV10  TIME  14:00:38    *
*                                       *
*****************************************
```

```
*****************************************
*                                       *
*   U.S. ARMY CORPS OF ENGINEERS        *
*   HYDROLOGIC ENGINEERING CENTER       *
*      609 SECOND STREET                *
*      DAVIS, CALIFORNIA 95616          *
*         (916) 756-1104                *
*                                       *
*****************************************
```


GLENDALE STORMWATER MANAGEMENT PLAN
Model for Glendale/Peoria Watershed
Existing Conditions

Prepared for the City of Glendale
In Association with the Flood Control District of Maricopa County
City Project Number 089017

Prepared by Kimley-Horn and Associates, Inc.
KHA Project Number 091910009
Octover 2010

MODELING PARAMETERS
- 10 Year 24 Hour Storm Event
- NOAA 14 Rainfall Data
- Clark Unit Hydrograph
- Green and Ampt Rainfall Loss Method

Topo data extracted from Flood Control District database July 24, 2009
Land use obtained from City of Glendale General Plan August 2009, City of Phoenix General Plan August 2009, and MAG General Plan Land Use 2007

Storage routing data obtained from As-built Records or Final Drainage Reports where possible
When As-built data/Drainage reports were not available data was obtained from HEC-1 models and checked for accuracy.
Storage routing data obtained from the following HEC-1 models:
- Glendale/Peoria ADMPU, May 2001
- Glendale/Peoria ADMP Northwest Region Update, May 2007
The source of data is identified on each individual storage routing card

****

MODELING NOMENCLATURE
SUBBASIN HYDROGRAPH:
Example: JMRS - the subbasin upstream of Jomax and Rock Springs Wash

STORM DRAIN DIVERSION:
Example: DBL59 - flow from subbasin BL59 is diverted to a storm drain

SUBBASIN DIVERSION:
Example: DWBL59 - flow is diverted west towards Bell and 59th Avenue
Example: DSGW51 - flow is diverted south towards Greenway and 51st Ave

ROUTE HYDROGRAPH:
Example: RWBL51 - flow is routed west towards Bell and 51st Avenue
Example: RSGW59 - flow is routed south towards Greenway and 59th Ave

COMBINE HYDROGRAPH:
Example: CJMRS - combine flow at Jomax and Rock Springs Wash

STREET NAME ABBREVIATIONS

Jomax Road	JM
Happy Valley Road	HV
Pinnacle Peak Road	PP
Deer Valley Road	DV
Loop 101	LO
Rose Garden Lane	RG
Beardsley Road	BY
Union Hills Drive	UH
Bell Road	BL
Greenway Road	GW
Thunderbird Road	TB
Cactus Road	CT
Peoria Avenue	PE
Olive Avenue	OL
Northern Avenue	NO
Glendale Avenue	GL
Bethany Home Road	BH
Camelback Road	CB
Indian School Road	IS
Thomas Road	TM
McDowell Road	MD
Interstate 10	IN
Grand Avenue	GR
Glen Harbor Boulevard	GH
Rock Springs Wash	RS
Lake Pleasant Parkway	LP
Westwing Parkway	WW
Black Rock Boulevard	BR
Yearling Road	YL
Calle Lejos	CL
Williams Road	WL
Del Webb Boulevard	DW
Talisman Road	TL
Meade Drive	ME
Burns Drive	BN
Royal Oak Road	RO
Acoma Drive	AM
Athens Street	AT
Agua Fria River	AF
New River	NR
Skunk Creek	SK

```
                    ACDC                    AC

                  PREFIXES FOR MODELING OPERATIONS
                     RW      Routing flow in the west direction
                     RS      Routing flow in the south direction
                     RP      Routing storm drain pipe flow
                     C       Combination point
                     CI      Combination point at an intersection
                     CP      Combination point for storm drain pipe flow
                     SR      Storage for detention/retention basins
                     DW      Divert flow to the west
                     DE      Divert flow to the east
                     DS      Divert flow to the south
                     DN      Divert flow to the north
                     ER      Divert flow for existing 100-yr 2-hr retention
                     X       Existing retention diversion does not return to model
                     DR      Divert retrieval from surface flow
                     DI      Divert retrieval from intersection flow
                     D       Divert surface flow (remains after storm drain divert)
                     DP      Divert flow to a storm drain pipe
                     PR      Divert retrieval from a storm drain pipe

                  *********************************************************************

 119 IO      OUTPUT CONTROL VARIABLES
                   IPRNT          5  PRINT CONTROL
                   IPLOT          0  PLOT CONTROL
                   QSCAL          0.  HYDROGRAPH PLOT SCALE

     IT      HYDROGRAPH TIME DATA
                    NMIN          5  MINUTES IN COMPUTATION INTERVAL
                   IDATE     1    0  STARTING DATE
                   ITIME       0000  STARTING TIME
                      NQ       1000  NUMBER OF HYDROGRAPH ORDINATES
                  NDDATE     4    0  ENDING DATE
                  NDTIME       1115  ENDING TIME
                   ICENT         19  CENTURY MARK

               COMPUTATION INTERVAL     .08 HOURS
                    TOTAL TIME BASE   83.25 HOURS

        ENGLISH UNITS
             DRAINAGE AREA          SQUARE MILES
             PRECIPITATION DEPTH    INCHES
             LENGTH, ELEVATION      FEET
             FLOW                   CUBIC FEET PER SECOND
             STORAGE VOLUME         ACRE-FEET
             SURFACE AREA           ACRES
             TEMPERATURE            DEGREES FAHRENHEIT

 120 JD      INDEX STORM NO. 1
                   STRM        2.33  PRECIPITATION DEPTH
                   TRDA         .00  TRANSPOSITION DRAINAGE AREA

 121 PI        PRECIPITATION PATTERN
              .00     .00     .00     .00     .00     .00     .00     .00     .00     .00
              .00     .00     .00     .00     .00     .00     .00     .00     .00     .00
              .00     .00     .00     .00     .00     .00     .00     .00     .00     .00
              .00     .00     .00     .00     .00     .00     .00     .00     .00     .00
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              .00     .00     .00     .00     .00     .00     .00     .00     .00     .00
              .00     .00     .00     .00     .00     .00     .00     .01     .00     .01
              .01     .01     .01     .01     .01     .01     .01     .01     .03     .03
              .03     .09     .09     .09     .01     .01     .01     .01     .01     .01
              .01     .01     .01     .01     .01     .01     .00     .00     .00     .00
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              .00     .00     .00     .00     .00     .00     .00     .00     .00     .00
              .00     .00     .00     .00     .00     .00     .00     .00

 131 JD      INDEX STORM NO. 2
                   STRM        2.21  PRECIPITATION DEPTH
                   TRDA       10.00  TRANSPOSITION DRAINAGE AREA

   0 PI        PRECIPITATION PATTERN
              .00     .00     .00     .00     .00     .00     .00     .00     .00     .00
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              .00     .00     .00     .00     .00     .00     .00     .01     .00     .01
              .01     .01     .01     .01     .01     .01     .01     .01     .03     .03
              .03     .09     .09     .09     .01     .01     .01     .01     .01     .01
              .01     .01     .01     .01     .01     .01     .00     .00     .00     .00
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 132 JD      INDEX STORM NO. 3
                   STRM        2.09  PRECIPITATION DEPTH
                   TRDA       30.00  TRANSPOSITION DRAINAGE AREA

   0 PI        PRECIPITATION PATTERN
              .00     .00     .00     .00     .00     .00     .00     .00     .00     .00
              .00     .00     .00     .00     .00     .00     .00     .00     .00     .00
              .00     .00     .00     .00     .00     .00     .00     .00     .00     .00
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              .00     .00     .00     .00     .00     .00     .00     .01     .00     .01
              .01     .01     .01     .01     .01     .01     .01     .01     .03     .03
              .03     .09     .09     .09     .01     .01     .01     .01     .01     .01
              .01     .01     .01     .01     .01     .01     .00     .00     .00     .00
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 133 JD      INDEX STORM NO. 4
                   STRM        2.02  PRECIPITATION DEPTH
                   TRDA       60.00  TRANSPOSITION DRAINAGE AREA

   0 PI        PRECIPITATION PATTERN
              .00     .00     .00     .00     .00     .00     .00     .00     .00     .00
              .00     .00     .00     .00     .00     .00     .00     .00     .00     .00
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              .00     .00     .00     .00     .00     .00     .00     .01     .00     .01
              .01     .01     .01     .01     .01     .01     .01     .01     .03     .03
              .03     .09     .09     .09     .01     .01     .01     .01     .01     .01
              .01     .01     .01     .01     .01     .01     .00     .00     .00     .00
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134 JD        INDEX STORM NO. 5
                 STRM       1.98  PRECIPITATION DEPTH
                 TRDA      90.00  TRANSPOSITION DRAINAGE AREA

  0 PI          PRECIPITATION PATTERN
                 .00      .00      .00      .00      .00      .00      .00      .00      .00      .00
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                 .00      .00      .00      .00      .00      .00      .00      .01      .00      .01
                 .01      .01      .01      .01      .01      .01      .01      .01      .03      .03
                 .03      .09      .09      .09      .01      .01      .01      .01      .01      .01
                 .01      .01      .01      .01      .01      .01      .00      .00      .00      .00
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135 JD        INDEX STORM NO. 6
                 STRM       1.96  PRECIPITATION DEPTH
                 TRDA     120.00  TRANSPOSITION DRAINAGE AREA

  0 PI          PRECIPITATION PATTERN
                 .00      .00      .00      .00      .00      .00      .00      .00      .00      .00
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                 .00      .00      .00      .00      .00      .00      .00      .01      .00      .01
                 .01      .01      .01      .01      .01      .01      .01      .01      .03      .03
                 .03      .09      .09      .09      .01      .01      .01      .01      .01      .01
                 .01      .01      .01      .01      .01      .01      .00      .00      .00      .00
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     *** FDKRUT WARNING TIME STEP CALCULATION FAILED TO CONVERGE. STABILITY PROBLEMS MAY RESULT

     WARNING EXCESS AT PONDING LESS THAN ZERO FOR PERIOD. EXCESS SET TO ZERO

 *** Multiple FDKRUT Warnings deleted from model for brevity and in consideration of the environment when printing ***
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RUNOFF SUMMARY
FLOW IN CUBIC FEET PER SECOND
TIME IN HOURS, AREA IN SQUARE MILES

	OPERATION	STATION	PEAK FLOW	TIME OF PEAK	AVERAGE FLOW FOR MAXIMUM PERIOD 6-HOUR	24-HOUR	72-HOUR	BASIN AREA	MAXIMUM STAGE	TIME OF MAX STAGE
+	HYDROGRAPH AT	UH35	526.	12.50	156.	49.	16.	1.14		
+	DIVERSION TO	XUH35	526.	12.50	85.	24.	8.	1.14		
+	HYDROGRAPH AT	ERUH35	444.	12.92	90.	25.	8.	1.14		
+	DIVERSION TO	DPUH35	444.	12.92	90.	25.	8.	1.14		
+	HYDROGRAPH AT	DUH35	0.	.00	0.	0.	0.	1.14		
+	DIVERSION TO	DWUH43	0.	.00	0.	0.	0.	1.14		
+	HYDROGRAPH AT	DSBL35	0.	.00	0.	0.	0.	1.14		
+	ROUTED TO	RSBL35	0.	.00	0.	0.	0.	1.14		
+	HYDROGRAPH AT	BL35	414.	12.58	132.	41.	14.	1.14		
+	DIVERSION TO	XBL35	18.	9.75	12.	4.	1.	1.14		
+	HYDROGRAPH AT	ERBL35	414.	12.58	132.	38.	13.	1.14		
+	2 COMBINED AT	CBL35	413.	12.58	132.	38.	13.	1.70		
+	DIVERSION TO	DP35BL	158.	12.17	88.	27.	9.	1.70		
+	HYDROGRAPH AT	D35BL	255.	12.58	44.	11.	4.	1.70		
+	DIVERSION TO	DWBL43	168.	12.58	29.	7.	2.	1.70		
+	HYDROGRAPH AT	DSGW35	87.	12.58	15.	4.	1.	1.70		
+	ROUTED TO	RSGW35	66.	13.25	15.	4.	1.	1.70		
+	HYDROGRAPH AT	GW35	316.	12.67	115.	37.	12.	1.01		
+	2 COMBINED AT	CGW35	344.	13.00	130.	40.	14.	1.58		
+	HYDROGRAPH AT	PR35BL	158.	12.17	88.	27.	9.	1.70		
+	ROUTED TO	RP35GW	158.	12.33	88.	27.	9.	1.70		
+	2 COMBINED AT	CPGW35	502.	13.00	218.	67.	22.	1.58		
+	DIVERSION TO	DP35GW	318.	12.25	180.	58.	19.	1.58		
+	HYDROGRAPH AT	D35GW	184.	13.00	38.	9.	3.	1.58		
+	DIVERSION TO	DWGW43	106.	13.00	22.	5.	2.	1.58		
+	HYDROGRAPH AT	DSTB35	77.	13.00	16.	4.	1.	1.58		
+	ROUTED TO	RSTB35	56.	13.58	16.	4.	1.	1.58		
+	HYDROGRAPH AT	TB35	304.	12.67	109.	33.	11.	.98		
+	2 COMBINED AT	CTB35	319.	12.83	124.	37.	13.	1.65		
+	HYDROGRAPH AT	PR35GW	318.	12.25	180.	58.	19.	1.58		
+	ROUTED TO	RP35TB	318.	12.42	180.	58.	19.	1.58		
	2 COMBINED AT									

+		CPTB35	637.	12.83	305.	95.	32.	1.65
+	DIVERSION TO	DP35TB	554.	12.42	292.	92.	31.	1.65
+	HYDROGRAPH AT	D35TB	83.	12.83	13.	3.	1.	1.65
+	DIVERSION TO	DWTB43	43.	12.83	7.	2.	1.	1.65
+	HYDROGRAPH AT	DSCT35	40.	12.83	6.	2.	1.	1.65
+	ROUTED TO	RSCT35	28.	13.75	6.	2.	1.	1.65
+	HYDROGRAPH AT	CT35	280.	12.67	105.	34.	12.	.98
+	2 COMBINED AT	CCT35	280.	12.75	110.	36.	12.	1.76
+	HYDROGRAPH AT	PR35TB	554.	12.42	292.	92.	31.	1.65
+	ROUTED TO	RP35CT	554.	12.50	292.	92.	31.	1.65
+	2 COMBINED AT	CPCT35	834.	12.75	402.	127.	43.	1.76
+	DIVERSION TO	DP35CT	554.	12.33	332.	110.	37.	1.76
+	HYDROGRAPH AT	D35CT	280.	12.75	70.	18.	6.	1.76
+	DIVERSION TO	DWCT43	162.	12.75	41.	10.	3.	1.76
+	HYDROGRAPH AT	DSPE35	118.	12.75	29.	7.	2.	1.76
+	ROUTED TO	RSPE35	108.	13.58	29.	7.	2.	1.76
+	HYDROGRAPH AT	PE35	250.	12.67	94.	30.	10.	.98
+	2 COMBINED AT	CPE35	301.	13.33	123.	38.	13.	1.71
+	HYDROGRAPH AT	PR35CT	554.	12.33	332.	110.	37.	1.76
+	ROUTED TO	RP35PE	554.	12.50	332.	110.	37.	1.76
+	2 COMBINED AT	CPPE35	855.	13.33	455.	147.	49.	1.71
+	DIVERSION TO	DP35PE	466.	12.25	327.	116.	39.	1.71
+	HYDROGRAPH AT	D35PE	389.	13.33	128.	32.	11.	1.71
+	DIVERSION TO	DWPE43	273.	13.33	89.	22.	7.	1.71
+	HYDROGRAPH AT	DSAC35	117.	13.33	38.	10.	3.	1.71
+	ROUTED TO	RSAC35	114.	13.58	38.	10.	3.	1.71
+	HYDROGRAPH AT	AC35	345.	12.42	100.	34.	11.	.75
+	2 COMBINED AT	CAC01	375.	12.75	138.	43.	14.	1.27
+	HYDROGRAPH AT	PR35PE	466.	12.25	327.	116.	39.	1.71
+	ROUTED TO	RP35AC	466.	12.33	327.	116.	39.	1.71
+	2 COMBINED AT	CPAC01	841.	12.75	464.	159.	53.	1.27
	HYDROGRAPH AT							

+		DRUH43	0.	.00	0.	0.	0.	1.14
+	ROUTED TO	RWUH43	0.	.00	0.	0.	0.	1.14
+	HYDROGRAPH AT	UH43	276.	12.67	89.	25.	9.	1.02
+	DIVERSION TO	XUH43	276.	12.67	51.	14.	5.	1.02
+	HYDROGRAPH AT	ERUH43	210.	13.33	44.	12.	4.	1.02
+	2 COMBINED AT	CUH43	210.	13.33	44.	12.	4.	1.60
+	HYDROGRAPH AT	PRUH35	444.	12.92	90.	25.	8.	1.14
+	ROUTED TO	RPUH43	429.	13.00	89.	25.	8.	1.14
+	2 COMBINED AT	CPUH43	538.	13.33	133.	37.	12.	1.60
+	DIVERSION TO	DPUH43	538.	13.33	133.	37.	12.	1.60
+	HYDROGRAPH AT	DUH43	0.	.00	0.	0.	0.	1.60
+	DIVERSION TO	DWUH51	0.	.00	0.	0.	0.	1.60
+	HYDROGRAPH AT	DSBL43	0.	.00	0.	0.	0.	1.60
+	ROUTED TO	RSBL43	0.	.00	0.	0.	0.	1.60
+	HYDROGRAPH AT	DRBL43	168.	12.58	29.	7.	2.	1.70
+	ROUTED TO	RWBL43	121.	13.25	29.	7.	2.	1.70
+	HYDROGRAPH AT	BL43	343.	12.67	116.	35.	12.	1.05
+	3 COMBINED AT	CBL43	414.	13.00	144.	42.	14.	3.10
+	DIVERSION TO	DP43BL	117.	12.17	74.	25.	8.	3.10
+	HYDROGRAPH AT	D43BL	297.	13.00	70.	18.	6.	3.10
+	DIVERSION TO	DWBL51	137.	13.00	32.	8.	3.	3.10
+	HYDROGRAPH AT	DSGW43	161.	13.00	38.	9.	3.	3.10
+	ROUTED TO	RSGW43	147.	13.50	38.	9.	3.	3.10
+	HYDROGRAPH AT	DRGW43	106.	13.00	22.	5.	2.	1.58
+	ROUTED TO	RWGW43	77.	13.58	22.	5.	2.	1.58
+	HYDROGRAPH AT	GW43	308.	12.58	102.	32.	11.	.99
+	DIVERSION TO	XGW43	13.	9.50	9.	3.	1.	.99
+	HYDROGRAPH AT	ERGW43	308.	12.58	102.	29.	10.	.99
+	3 COMBINED AT	CGW43	428.	13.25	160.	44.	15.	3.57
+	HYDROGRAPH AT	PR43BL	117.	12.17	74.	25.	8.	3.10
+	ROUTED TO	RP43GW	117.	12.33	74.	25.	8.	3.10
	2 COMBINED AT							

+		CPGW43	545.	13.25	234.	68.	23.	3.57
+	DIVERSION TO	DP43GW	155.	12.08	114.	38.	13.	3.57
+	HYDROGRAPH AT	D43GW	390.	13.25	120.	30.	10.	3.57
+	DIVERSION TO	DWGW51	207.	13.25	63.	16.	5.	3.57
+	HYDROGRAPH AT	DSTB43	183.	13.25	56.	14.	5.	3.57
+	ROUTED TO	RSTB43	171.	13.67	56.	14.	5.	3.57
+	HYDROGRAPH AT	DRTB43	43.	12.83	7.	2.	1.	1.65
+	ROUTED TO	RWTB43	31.	13.75	7.	2.	1.	1.65
+	HYDROGRAPH AT	TB43	285.	12.67	97.	29.	10.	1.00
+	3 COMBINED AT	CTB43	398.	13.33	159.	44.	15.	3.55
+	HYDROGRAPH AT	PR43GW	155.	12.08	114.	38.	13.	3.57
+	ROUTED TO	RP43TB	155.	12.25	114.	38.	13.	3.57
+	2 COMBINED AT	CPTB43	553.	13.33	273.	83.	28.	3.55
+	DIVERSION TO	DP43TB	312.	12.33	212.	67.	22.	3.55
+	HYDROGRAPH AT	D43TB	241.	13.33	62.	15.	5.	3.55
+	DIVERSION TO	DWTB51	152.	13.33	39.	10.	3.	3.55
+	HYDROGRAPH AT	DSCT43	89.	13.33	23.	6.	2.	3.55
+	ROUTED TO	RSCT43	81.	13.83	23.	6.	2.	3.55
+	HYDROGRAPH AT	DRCT43	162.	12.75	41.	10.	3.	1.76
+	ROUTED TO	RWCT43	149.	13.50	41.	10.	3.	1.76
+	HYDROGRAPH AT	CT43	332.	12.67	114.	35.	12.	1.00
+	DIVERSION TO	XCT43	332.	12.67	76.	21.	7.	1.00
+	HYDROGRAPH AT	ERCT43	206.	13.58	50.	14.	5.	1.00
+	3 COMBINED AT	CCT43	423.	13.58	111.	30.	10.	3.35
+	HYDROGRAPH AT	PR43TB	312.	12.33	212.	67.	22.	3.55
+	ROUTED TO	RP43CT	312.	12.50	212.	67.	22.	3.55
+	2 COMBINED AT	CPCT43	735.	13.58	320.	97.	32.	3.35
+	DIVERSION TO	DP43CT	380.	13.00	256.	81.	27.	3.35
+	HYDROGRAPH AT	D43CT	355.	13.58	65.	16.	5.	3.35
+	DIVERSION TO	DWCT51	224.	13.58	41.	10.	3.	3.35
+	HYDROGRAPH AT	DSPE43	131.	13.58	24.	6.	2.	3.35
	ROUTED TO							

+		RSPE43	95.	14.33	24.	6.	2.	3.35
+	HYDROGRAPH AT	DRPE43	273.	13.33	89.	22.	7.	1.71
+	ROUTED TO	RWPE43	262.	13.75	89.	22.	7.	1.71
+	HYDROGRAPH AT	PE43	251.	12.67	90.	28.	9.	1.00
+	3 COMBINED AT	CPE43	436.	13.33	202.	56.	19.	3.42
+	HYDROGRAPH AT	PR43CT	380.	13.00	256.	81.	27.	3.35
+	ROUTED TO	RP43PE	380.	13.17	256.	81.	27.	3.35
+	2 COMBINED AT	CPPE43	816.	13.33	457.	137.	46.	3.42
+	DIVERSION TO	DP43PE	520.	12.50	361.	113.	38.	3.42
+	HYDROGRAPH AT	D43PE	296.	13.33	96.	24.	8.	3.42
+	DIVERSION TO	DWAC51	113.	13.33	37.	9.	3.	3.42
+	HYDROGRAPH AT	DSAC43	184.	13.33	60.	15.	5.	3.42
+	HYDROGRAPH AT	AC43	68.	12.83	31.	10.	4.	.36
+	3 COMBINED AT	CAC02	1019.	13.08	552.	183.	62.	3.75
+	HYDROGRAPH AT	PR43PE	520.	12.50	361.	113.	38.	3.42
+	2 COMBINED AT	CPAC02	1539.	13.08	912.	296.	99.	3.75
+	HYDROGRAPH AT	DRUH51	0.	.00	0.	0.	0.	1.60
+	ROUTED TO	RWUH51	0.	.00	0.	0.	0.	1.60
+	HYDROGRAPH AT	UH51	239.	12.67	88.	28.	10.	.99
+	DIVERSION TO	XUH51	239.	12.67	86.	25.	8.	.99
+	HYDROGRAPH AT	ERUH51	26.	16.25	12.	4.	1.	.99
+	2 COMBINED AT	CUH51	26.	16.25	12.	4.	1.	1.66
+	DIVERSION TO	DWUHSK	16.	16.25	7.	2.	1.	1.66
+	HYDROGRAPH AT	DSBL51	10.	16.25	4.	2.	1.	1.66
+	HYDROGRAPH AT	PRUH43	538.	13.33	133.	37.	12.	1.60
+	ROUTED TO	RPUH51	529.	13.42	133.	37.	12.	1.60
+	2 COMBINED AT	CPUH51	529.	13.42	136.	39.	13.	1.66
+	DIVERSION TO	DPUH51	529.	13.42	136.	39.	13.	1.66
+	HYDROGRAPH AT	DUH51	0.	.00	0.	0.	0.	1.66
+	ROUTED TO	RSBL51	0.	.00	0.	0.	0.	1.66
+	HYDROGRAPH AT	DRBL51	137.	13.00	32.	8.	3.	3.10
	ROUTED TO							

+		RWBL51	129.	13.42	32.	8.	3.	3.10
+	HYDROGRAPH AT	BL51	305.	12.67	101.	31.	10.	1.04
+	DIVERSION TO	XBL51	305.	12.67	41.	12.	4.	1.04
+	HYDROGRAPH AT	ERBL51	295.	12.83	71.	20.	7.	1.04
+	3 COMBINED AT	CBL51	371.	13.08	102.	27.	9.	3.12
+	DIVERSION TO	DP51BL	38.	12.75	28.	9.	3.	3.12
+	HYDROGRAPH AT	D51BL	333.	13.08	75.	19.	6.	3.12
+	DIVERSION TO	DWBL59	173.	13.08	39.	10.	3.	3.12
+	HYDROGRAPH AT	DSGW51	160.	13.08	36.	9.	3.	3.12
+	ROUTED TO	RSGW51	129.	13.75	36.	9.	3.	3.12
+	HYDROGRAPH AT	DRGW51	207.	13.25	63.	16.	5.	3.57
+	ROUTED TO	RWGW51	195.	13.58	63.	16.	5.	3.57
+	HYDROGRAPH AT	GW51	228.	12.67	78.	23.	8.	.96
+	DIVERSION TO	XGW51	4.	5.67	3.	1.	0.	.96
+	HYDROGRAPH AT	ERGW51	228.	12.67	78.	22.	7.	.96
+	3 COMBINED AT	CGW51	467.	13.50	176.	47.	16.	4.34
+	HYDROGRAPH AT	PR51BL	38.	12.75	28.	9.	3.	3.12
+	ROUTED TO	RP51GW	38.	15.75	28.	9.	3.	3.12
+	2 COMBINED AT	CPGW51	505.	13.50	201.	56.	19.	4.34
+	DIVERSION TO	DP51GW	150.	12.42	107.	32.	11.	4.34
+	HYDROGRAPH AT	D51GW	355.	13.50	94.	24.	8.	4.34
+	DIVERSION TO	DWGW59	230.	13.50	61.	15.	5.	4.34
+	HYDROGRAPH AT	DSTB51	124.	13.50	33.	8.	3.	4.34
+	ROUTED TO	RSTB51	114.	14.00	33.	8.	3.	4.34
+	HYDROGRAPH AT	DRTB51	152.	13.33	39.	10.	3.	3.55
+	ROUTED TO	RWTB51	136.	13.75	39.	10.	3.	3.55
+	HYDROGRAPH AT	TB51	246.	12.67	83.	25.	8.	.99
+	3 COMBINED AT	CTB51	374.	13.75	154.	42.	14.	4.70
+	HYDROGRAPH AT	PR51GW	150.	12.42	107.	32.	11.	4.34
+	ROUTED TO	RP51TB	150.	12.58	107.	32.	11.	4.34
+	2 COMBINED AT	CPTB51	524.	13.75	261.	74.	25.	4.70
+	DIVERSION TO	DP51TB	244.	12.33	176.	53.	18.	4.70
+	HYDROGRAPH AT	D51TB	280.	13.75	85.	21.	7.	4.70
+	DIVERSION TO	DWTB59	171.	13.75	52.	13.	4.	4.70
+	HYDROGRAPH AT	DSCT51	109.	13.75	33.	8.	3.	4.70
+	ROUTED TO	RSCT51	104.	14.08	33.	8.	3.	4.70
+	HYDROGRAPH AT	DRCT51	224.	13.58	41.	10.	3.	3.35
+	ROUTED TO	RWCT51	171.	14.25	41.	10.	3.	3.35
+	HYDROGRAPH AT	CT51	296.	12.58	94.	29.	10.	.99
+	DIVERSION TO	XCT51	296.	12.58	54.	15.	5.	.99
+	HYDROGRAPH AT	ERCT51	234.	13.17	50.	14.	5.	.99
+	3 COMBINED AT	CCT51	365.	14.17	122.	32.	11.	4.94
+	HYDROGRAPH AT	PR51TB	244.	12.33	176.	53.	18.	4.70
+	ROUTED TO	RP51CT	244.	12.50	176.	53.	18.	4.70
+	2 COMBINED AT	CPCT51	609.	14.17	297.	85.	29.	4.94
+	DIVERSION TO	DP51CT	244.	12.50	187.	58.	19.	4.94
+	HYDROGRAPH AT	D51CT	365.	14.17	110.	27.	9.	4.94
+	DIVERSION TO	DWAC59	120.	14.17	36.	9.	3.	4.94
+	HYDROGRAPH AT	DSAC51	245.	14.17	73.	18.	6.	4.94
+	HYDROGRAPH AT	DRAC51	113.	13.33	37.	9.	3.	3.42
+	HYDROGRAPH AT	AC51	136.	12.92	63.	20.	7.	.58
+	4 COMBINED AT	CAC03	1947.	13.17	1079.	342.	115.	8.95
+	HYDROGRAPH AT	PR51CT	244.	12.50	187.	58.	19.	4.94
+	2 COMBINED AT	CPAC03	2191.	13.17	1264.	399.	134.	8.95
+	HYDROGRAPH AT	DRBL59	173.	13.08	39.	10.	3.	3.12
+	ROUTED TO	RWBL59	146.	13.75	39.	10.	3.	3.12
+	HYDROGRAPH AT	BL59	352.	12.58	115.	36.	12.	1.08
+	DIVERSION TO	XBL59	352.	12.58	115.	36.	12.	1.08
+	HYDROGRAPH AT	ERBL59	2.	21.33	1.	0.	0.	1.08
+	2 COMBINED AT	CBL59	146.	13.75	39.	10.	3.	2.71
+	DIVERSION TO	DP59BL	108.	13.50	36.	9.	3.	2.71
+	HYDROGRAPH AT	D59BL	38.	13.75	3.	1.	0.	2.71
+	DIVERSION TO							

+		DWBL67	12.	13.75	1.	0.	0.	2.71
+	HYDROGRAPH AT	DSGW59	26.	13.75	2.	1.	0.	2.71
+	ROUTED TO	RSGW59	14.	14.50	2.	1.	0.	2.71
+	HYDROGRAPH AT	DRGW59	230.	13.50	61.	15.	5.	4.34
+	ROUTED TO	RWGW59	207.	14.00	61.	15.	5.	4.34
+	HYDROGRAPH AT	GW59	309.	12.67	106.	33.	11.	.94
+	DIVERSION TO	XGW59	309.	12.67	64.	18.	6.	.94
+	HYDROGRAPH AT	ERGW59	231.	13.33	54.	16.	5.	.94
+	3 COMBINED AT	CGW59	355.	13.75	115.	31.	10.	5.64
+	HYDROGRAPH AT	PR59BL	108.	13.50	36.	9.	3.	2.71
+	ROUTED TO	RP59GW	108.	13.67	36.	9.	3.	2.71
+	2 COMBINED AT	CPGW59	463.	13.75	151.	40.	13.	5.64
+	DIVERSION TO	DP59GW	273.	13.33	119.	32.	11.	5.64
+	HYDROGRAPH AT	D59GW	190.	13.75	32.	8.	3.	5.64
+	DIVERSION TO	DWGW67	86.	13.75	15.	4.	1.	5.64
+	HYDROGRAPH AT	DSTB59	105.	13.75	18.	4.	1.	5.64
+	ROUTED TO	RSTB59	69.	14.67	18.	4.	1.	5.64
+	HYDROGRAPH AT	DRTB59	171.	13.75	52.	13.	4.	4.70
+	ROUTED TO	RWTB59	164.	14.08	52.	13.	4.	4.70
+	HYDROGRAPH AT	TB59	275.	12.67	95.	30.	10.	1.00
+	3 COMBINED AT	CTB59	313.	14.00	163.	47.	16.	6.96
+	HYDROGRAPH AT	PR59GW	273.	13.33	119.	32.	11.	5.64
+	ROUTED TO	RP59AM	273.	13.42	119.	32.	11.	5.64
+	ROUTED TO	SRAM59	273.	14.50	118.	32.	11.	5.64
+	ROUTED TO	RP59TB	273.	14.58	118.	32.	11.	5.64
+	2 COMBINED AT	CPTB59	549.	14.50	276.	78.	26.	6.96
+	DIVERSION TO	DPTB59	548.	14.50	276.	78.	26.	6.96
+	HYDROGRAPH AT	DTB59	2.	14.42	0.	0.	0.	6.96
+	DIVERSION TO	DWAC67	1.	14.42	0.	0.	0.	6.96
+	HYDROGRAPH AT	DSAC59	1.	14.42	0.	0.	0.	6.96
+	HYDROGRAPH AT	DRAC59	120.	14.17	36.	9.	3.	4.94
	HYDROGRAPH AT							

+		AC59	188.	12.83	82.	26.	9.	.74
+	DIVERSION TO	XAC59	188.	12.83	82.	26.	9.	.74
+	HYDROGRAPH AT	ERAC59	0.	.00	0.	0.	0.	.74
+	4 COMBINED AT	CAC04	2211.	13.33	1271.	399.	134.	15.39
+	HYDROGRAPH AT	PRTB59	548.	14.50	276.	78.	26.	6.96
+	2 COMBINED AT	CPAC04	2562.	14.08	1526.	472.	158.	15.39
+	HYDROGRAPH AT	DRBL67	12.	13.75	1.	0.	0.	2.71
+	DIVERSION TO	DWSK67	9.	13.75	1.	0.	0.	2.71
+	HYDROGRAPH AT	DBL67	3.	13.75	0.	0.	0.	2.71
+	ROUTED TO	RWBL67	2.	14.58	0.	0.	0.	2.71
+	HYDROGRAPH AT	BL67	78.	12.50	25.	8.	3.	.23
+	DIVERSION TO	XBL67	78.	12.50	23.	7.	2.	.23
+	HYDROGRAPH AT	ERBL67	15.	14.83	5.	2.	1.	.23
+	2 COMBINED AT	CBL67	16.	14.83	5.	2.	1.	.46
+	DIVERSION TO	DP67BL	16.	14.83	5.	2.	1.	.46
+	HYDROGRAPH AT	D67BL	0.	.00	0.	0.	0.	.46
+	DIVERSION TO	DWBL75	0.	.00	0.	0.	0.	.46
+	HYDROGRAPH AT	DSGW67	0.	.00	0.	0.	0.	.46
+	ROUTED TO	RSGW67	0.	.00	0.	0.	0.	.46
+	HYDROGRAPH AT	DRGW67	86.	13.75	15.	4.	1.	5.64
+	ROUTED TO	RWGW67	56.	14.67	15.	4.	1.	5.64
+	HYDROGRAPH AT	GW67	309.	12.67	101.	31.	10.	.89
+	DIVERSION TO	XGW67	309.	12.67	89.	24.	8.	.89
+	HYDROGRAPH AT	ERGW67	79.	14.50	22.	7.	2.	.89
+	3 COMBINED AT	CGW67	134.	14.50	36.	10.	3.	3.63
+	HYDROGRAPH AT	PR67BL	16.	14.83	5.	2.	1.	.46
+	ROUTED TO	RP67GW	14.	15.08	5.	2.	1.	.46
+	2 COMBINED AT	CPGW67	137.	14.50	40.	12.	4.	3.63
+	DIVERSION TO	DP67GW	137.	14.50	40.	12.	4.	3.63
+	HYDROGRAPH AT	D67GW	0.	.00	0.	0.	0.	3.63
+	DIVERSION TO	DWAC75	0.	.00	0.	0.	0.	3.63
	HYDROGRAPH AT							

+		DSAC67	0.	.00	0.	0.	0.	3.63
+	ROUTED TO	RSAC67	0.	.00	0.	0.	0.	3.63
+	HYDROGRAPH AT	DRAC67	1.	14.42	0.	0.	0.	6.96
+	ROUTED TO	RWAC67	1.	14.50	0.	0.	0.	6.96
+	HYDROGRAPH AT	AC67	176.	12.83	73.	22.	7.	.70
+	4 COMBINED AT	CAC05	2646.	13.33	1569.	485.	163.	19.52
+	HYDROGRAPH AT	PR67GW	137.	14.50	40.	12.	4.	3.63
+	ROUTED TO	RP67AC	134.	14.58	40.	12.	4.	3.63
+	2 COMBINED AT	CPAC05	2646.	13.33	1594.	494.	166.	19.55
+	HYDROGRAPH AT	DRAC75	0.	.00	0.	0.	0.	3.63
+	HYDROGRAPH AT	AC75	182.	12.75	72.	23.	8.	.84
+	DIVERSION TO	XAC75	164.	12.50	18.	5.	2.	.84
+	HYDROGRAPH AT	ERAC75	182.	12.75	62.	17.	6.	.84
+	3 COMBINED AT	CAC06	2763.	13.33	1625.	503.	169.	23.43
+	HYDROGRAPH AT	HV55	630.	12.50	162.	51.	17.	2.05
+	DIVERSION TO	XHV55	630.	12.50	162.	48.	16.	2.05
+	HYDROGRAPH AT	ERHV55	14.	19.25	11.	3.	1.	2.05
+	ROUTED TO	RCL57	14.	20.33	10.	3.	1.	2.05
+	HYDROGRAPH AT	CL57	255.	12.42	58.	18.	6.	.75
+	DIVERSION TO	XCL57	255.	12.42	58.	18.	6.	.75
+	HYDROGRAPH AT	ERCL57	0.	.00	0.	0.	0.	.75
+	2 COMBINED AT	CCL57	14.	20.33	10.	3.	1.	2.80
+	ROUTED TO	RWL59	13.	21.42	10.	3.	1.	2.80
+	HYDROGRAPH AT	WL59	119.	12.58	40.	12.	4.	.56
+	DIVERSION TO	XWL59	119.	12.58	20.	6.	2.	.56
+	HYDROGRAPH AT	ERWL59	103.	13.08	24.	7.	2.	.56
+	2 COMBINED AT	CWL59	101.	13.08	24.	10.	3.	3.36
+	HYDROGRAPH AT	DV56	166.	12.42	27.	9.	3.	.29
+	2 COMBINED AT	CDV56	163.	12.42	48.	18.	6.	3.65
+	ROUTED TO	SRDV56	97.	13.50	48.	18.	6.	3.65
+	HYDROGRAPH AT	LO51	329.	12.67	112.	37.	12.	1.13
	2 COMBINED AT							

+		CLO51	403.	12.67	157.	53.	18.	4.78
+	DIVERSION TO	DP51LO	38.	11.33	38.	23.	8.	4.78
+	HYDROGRAPH AT	D51LO	365.	12.67	119.	30.	10.	4.78
+	ROUTED TO	SRLO51	81.	14.92	67.	29.	10.	4.78
+	ROUTED TO	RUHSKA	81.	15.25	67.	29.	10.	4.78
+	HYDROGRAPH AT	DRUHSK	16.	16.25	7.	2.	1.	1.66
+	DIVERSION TO	DP51SK	16.	16.25	7.	2.	1.	1.66
+	HYDROGRAPH AT	D51SK	1.	15.25	0.	0.	0.	1.66
+	ROUTED TO	RUHSKB	0.	16.33	0.	0.	0.	1.66
+	HYDROGRAPH AT	UHSK	256.	12.50	74.	23.	8.	.93
+	DIVERSION TO	XUHSK	248.	12.50	27.	8.	3.	.93
+	HYDROGRAPH AT	ERUHSK	250.	12.67	56.	15.	5.	.93
+	3 COMBINED AT	CSK01	250.	12.67	115.	44.	15.	6.73
+	DIVERSION TO	DPUHSK	10.	12.58	10.	9.	3.	6.73
+	HYDROGRAPH AT	DUHSK	240.	12.67	105.	35.	12.	6.73
+	HYDROGRAPH AT	DRSK67	9.	13.75	1.	0.	0.	2.71
+	ROUTED TO	RSK67	5.	14.50	1.	0.	0.	2.71
+	HYDROGRAPH AT	SK67	288.	12.50	76.	23.	8.	.94
+	DIVERSION TO	XSK67	288.	12.50	46.	13.	4.	.94
+	HYDROGRAPH AT	ERSK67	205.	13.08	38.	11.	4.	.94
+	3 COMBINED AT	CSK02	401.	13.08	142.	46.	15.	8.30
+	HYDROGRAPH AT	PRUHSK	10.	12.58	10.	9.	3.	6.73
+	ROUTED TO	RPSK67	10.	13.00	10.	9.	3.	6.73
+	2 COMBINED AT	CPSK02	411.	13.08	152.	54.	18.	8.30
+	HYDROGRAPH AT	UH67	256.	12.50	80.	25.	8.	.78
+	DIVERSION TO	XUH67	256.	12.50	80.	25.	8.	.78
+	HYDROGRAPH AT	ERUH67	0.	.00	0.	0.	0.	.78
+	ROUTED TO	RUH75	0.	.00	0.	0.	0.	.78
+	HYDROGRAPH AT	UH75	235.	12.67	82.	25.	8.	.81
+	DIVERSION TO	XUH75	235.	12.67	82.	25.	8.	.81
+	HYDROGRAPH AT	ERUH75	0.	.00	0.	0.	0.	.81
	2 COMBINED AT							

+		CUH75	0.	.00	0.	0.	0.	1.60
+	ROUTED TO	RBL75A	0.	.00	0.	0.	0.	1.60
+	HYDROGRAPH AT	DRBL75	0.	.00	0.	0.	0.	.46
+	ROUTED TO	RBL75B	0.	.00	0.	0.	0.	.46
+	HYDROGRAPH AT	BL75	277.	12.58	90.	28.	9.	1.06
+	DIVERSION TO	XBL75	194.	12.33	22.	7.	2.	1.06
+	HYDROGRAPH AT	ERBL75	277.	12.58	78.	21.	7.	1.06
+	4 COMBINED AT	CSK03	624.	13.08	223.	74.	25.	11.24
+	HYDROGRAPH AT	UHLO	324.	12.42	75.	23.	8.	.82
+	DIVERSION TO	XUHLO	324.	12.42	75.	23.	8.	.82
+	HYDROGRAPH AT	ERUHLO	0.	.00	0.	0.	0.	.82
+	ROUTED TO	RBLLO	0.	.00	0.	0.	0.	.82
+	HYDROGRAPH AT	BLLO	258.	12.58	86.	29.	10.	.76
+	DIVERSION TO	XBLLO	258.	12.58	86.	29.	10.	.76
+	HYDROGRAPH AT	ERBLLO	0.	.00	0.	0.	0.	.76
+	2 COMBINED AT	CBLLO	0.	.00	0.	0.	0.	1.59
+	DIVERSION TO	DPBLLO	0.	.00	0.	0.	0.	1.59
+	HYDROGRAPH AT	DBLLO	0.	.00	0.	0.	0.	1.59
+	ROUTED TO	RGWLO	0.	.00	0.	0.	0.	1.59
+	HYDROGRAPH AT	GWLO	449.	12.25	95.	32.	11.	.81
+	DIVERSION TO	XGWLO	449.	12.25	93.	27.	9.	.81
+	HYDROGRAPH AT	ERGWLO	25.	14.83	15.	5.	2.	.81
+	4 COMBINED AT	CSK04	3146.	13.33	1753.	550.	186.	37.07
+	HYDROGRAPH AT	PRBLLO	0.	.00	0.	0.	0.	1.59
+	ROUTED TO	RPGWLO	0.	.00	0.	0.	0.	1.59
+	2 COMBINED AT	CPSK04	3146.	13.33	1753.	550.	186.	37.07
+	HYDROGRAPH AT	JM63	312.	12.42	63.	19.	6.	.84
+	DIVERSION TO	XJM63	312.	12.42	63.	19.	6.	.84
+	HYDROGRAPH AT	ERJM63	0.	.00	0.	0.	0.	.84
+	ROUTED TO	RJM67	0.	.00	0.	0.	0.	.84
+	HYDROGRAPH AT	JM67	135.	12.42	33.	10.	3.	.38
	DIVERSION TO							

+		XJM67	135.	12.42	33.	10.	3.	.38
+	HYDROGRAPH AT	ERJM67	2.	24.25	1.	0.	0.	.38
+	2 COMBINED AT	CJM67	2.	24.25	1.	0.	0.	1.22
+	ROUTED TO	RHV75	1.	24.92	1.	0.	0.	1.22
+	HYDROGRAPH AT	HV75	275.	12.50	70.	22.	7.	.96
+	DIVERSION TO	XHV75	275.	12.50	70.	22.	7.	.96
+	HYDROGRAPH AT	ERHV75	0.	.00	0.	0.	0.	.96
+	2 COMBINED AT	CHV75	1.	24.92	1.	0.	0.	2.18
+	HYDROGRAPH AT	JM80	42.	12.33	7.	2.	1.	.16
+	HYDROGRAPH AT	JM76	28.	12.42	6.	2.	1.	.17
+	HYDROGRAPH AT	JMNR	12.	13.08	4.	1.	0.	.15
+	3 COMBINED AT	CNR01	69.	12.33	17.	4.	1.	.48
+	HYDROGRAPH AT	JM75	444.	12.58	63.	18.	6.	1.11
+	DIVERSION TO	XJM75	92.	12.17	9.	3.	1.	1.11
+	HYDROGRAPH AT	ERJM75	444.	12.58	58.	15.	5.	1.11
+	HYDROGRAPH AT	HVNR	18.	13.17	6.	2.	1.	.20
+	4 COMBINED AT	CNR02	506.	12.58	80.	21.	7.	3.98
+	HYDROGRAPH AT	HV67	307.	12.25	62.	21.	7.	.54
+	DIVERSION TO	XHV67	307.	12.25	41.	12.	4.	.54
+	HYDROGRAPH AT	ERHV67	193.	12.67	31.	9.	3.	.54
+	ROUTED TO	RCL67	145.	12.92	30.	9.	3.	.54
+	HYDROGRAPH AT	CL67	58.	12.58	19.	6.	2.	.28
+	DIVERSION TO	XCL67	58.	12.58	19.	6.	2.	.28
+	HYDROGRAPH AT	ERCL67	0.	.00	0.	0.	0.	.28
+	2 COMBINED AT	CCL67	145.	12.92	30.	9.	3.	.82
+	ROUTED TO	RPP73A	112.	13.33	29.	9.	3.	.82
+	HYDROGRAPH AT	PP67	13.	12.58	4.	1.	0.	.10
+	DIVERSION TO	XPP67	13.	12.58	4.	1.	0.	.10
+	HYDROGRAPH AT	ERPP67	0.	.00	0.	0.	0.	.10
+	DIVERSION TO	DSWL67	0.	.00	0.	0.	0.	.10
+	HYDROGRAPH AT	DWPP73	0.	.00	0.	0.	0.	.10
	ROUTED TO							

+		RPP73B	0.	.00	0.	0.	0.	.10
+	HYDROGRAPH AT	PP73	141.	12.50	36.	11.	4.	.55
+	DIVERSION TO	XPP73	141.	12.50	19.	5.	2.	.55
+	HYDROGRAPH AT	ERPP73	114.	12.92	20.	6.	2.	.55
+	3 COMBINED AT	CPP73	187.	13.25	49.	15.	5.	1.43
+	DIVERSION TO	DSWL75	77.	13.25	20.	6.	2.	1.43
+	HYDROGRAPH AT	DWPP75	111.	13.25	29.	9.	3.	1.43
+	ROUTED TO	RPPNR	109.	13.25	29.	9.	3.	1.43
+	HYDROGRAPH AT	PP75	116.	12.42	26.	8.	3.	.42
+	DIVERSION TO	XPP75	116.	12.42	23.	6.	2.	.42
+	HYDROGRAPH AT	ERPP75	17.	14.00	4.	1.	0.	.42
+	HYDROGRAPH AT	PPNR	24.	13.17	8.	2.	1.	.24
+	4 COMBINED AT	CNR03	510.	12.58	118.	33.	11.	5.47
+	HYDROGRAPH AT	DRWL75	77.	13.25	20.	6.	2.	1.43
+	ROUTED TO	RWL75B	72.	13.42	20.	6.	2.	1.43
+	HYDROGRAPH AT	DRWL67	0.	.00	0.	0.	0.	.10
+	ROUTED TO	RWL67	0.	.00	0.	0.	0.	.10
+	HYDROGRAPH AT	WL67	15.	12.58	5.	1.	0.	.10
+	DIVERSION TO	XWL67	15.	12.58	5.	1.	0.	.10
+	HYDROGRAPH AT	ERWL67	0.	.00	0.	0.	0.	.10
+	2 COMBINED AT	CWL67	0.	.00	0.	0.	0.	.13
+	ROUTED TO	RWL75A	0.	.00	0.	0.	0.	.13
+	HYDROGRAPH AT	WL75	140.	12.42	36.	11.	4.	.47
+	DIVERSION TO	XWL75	140.	12.42	33.	9.	3.	.47
+	HYDROGRAPH AT	ERWL75	18.	14.50	6.	2.	1.	.47
+	3 COMBINED AT	CWL75	72.	13.42	25.	8.	3.	1.20
+	HYDROGRAPH AT	WWBR	145.	12.17	18.	5.	2.	.18
+	DIVERSION TO	XWWBR	145.	12.17	18.	5.	2.	.18
+	HYDROGRAPH AT	ERWWBR	0.	.00	0.	0.	0.	.18
+	ROUTED TO	RWWRS	0.	.00	0.	0.	0.	.18
+	HYDROGRAPH AT	WWRS	54.	12.25	12.	4.	1.	.14
	DIVERSION TO							

+		XWWRS	54.	12.25	12.	4.	1.	.14
+	HYDROGRAPH AT	ERWWRS	1.	23.33	0.	0.	0.	.14
+	2 COMBINED AT	CWWRS	1.	23.33	0.	0.	0.	.33
+	ROUTED TO	RJMRS	1.	24.50	0.	0.	0.	.33
+	HYDROGRAPH AT	JMRS	185.	12.42	41.	12.	4.	.57
+	DIVERSION TO	XJMRS	185.	12.42	41.	12.	4.	.57
+	HYDROGRAPH AT	ERJMRS	0.	.00	0.	0.	0.	.57
+	2 COMBINED AT	CJMRS	1.	24.50	0.	0.	0.	.90
+	ROUTED TO	RHVRSB	1.	25.92	0.	0.	0.	.90
+	HYDROGRAPH AT	83RS	409.	12.17	59.	19.	6.	.64
+	DIVERSION TO	X83RS	409.	12.17	50.	14.	5.	.64
+	HYDROGRAPH AT	ER83RS	90.	12.83	16.	5.	2.	.64
+	ROUTED TO	RHVRSA	48.	13.33	15.	5.	2.	.64
+	HYDROGRAPH AT	HVRS	101.	13.00	26.	7.	2.	.63
+	DIVERSION TO	XHVRS	31.	12.58	2.	1.	0.	.63
+	HYDROGRAPH AT	ERHVRS	101.	13.00	24.	6.	2.	.63
+	3 COMBINED AT	CHVRS	136.	13.25	38.	11.	4.	2.16
+	ROUTED TO	RCL77B	132.	13.42	38.	11.	4.	2.16
+	HYDROGRAPH AT	HV83	16.	12.17	2.	1.	0.	.04
+	ROUTED TO	RCL77A	12.	12.50	2.	1.	0.	.04
+	HYDROGRAPH AT	CL77	90.	12.33	15.	4.	1.	.32
+	DIVERSION TO	XCL77	90.	12.33	15.	4.	1.	.32
+	HYDROGRAPH AT	ERCL77	0.	.00	0.	0.	0.	.32
+	3 COMBINED AT	CCL77	134.	13.42	39.	12.	4.	2.51
+	ROUTED TO	RPP77	129.	13.58	39.	12.	4.	2.51
+	HYDROGRAPH AT	PP77	39.	12.67	13.	4.	1.	.27
+	DIVERSION TO	XPP77	8.	12.08	1.	0.	0.	.27
+	HYDROGRAPH AT	ERPP77	39.	12.67	12.	3.	1.	.27
+	2 COMBINED AT	CPP77	152.	13.50	50.	15.	5.	2.78
+	ROUTED TO	RWLNR	145.	13.75	50.	15.	5.	2.78
+	HYDROGRAPH AT	WLNR	87.	12.50	21.	6.	2.	.39
	4 COMBINED AT							

+		CNR04	609.	12.58	208.	60.	20.	9.84
+	HYDROGRAPH AT	DV75	133.	12.58	45.	14.	5.	.50
+	DIVERSION TO	XDV75	133.	12.58	41.	11.	4.	.50
+	HYDROGRAPH AT	ERDV75	24.	15.00	9.	3.	1.	.50
+	DIVERSION TO	DSLO75	7.	15.00	2.	1.	0.	.50
+	HYDROGRAPH AT	DWDVNR	17.	15.00	7.	2.	1.	.50
+	ROUTED TO	RDVNR	15.	15.33	6.	2.	1.	.50
+	HYDROGRAPH AT	DVNR	105.	12.58	34.	11.	4.	.40
+	3 COMBINED AT	CNR05	709.	12.58	242.	72.	24.	10.50
+	HYDROGRAPH AT	DV67	377.	12.17	46.	15.	5.	.50
+	ROUTED TO	SRDV67	232.	12.33	46.	15.	5.	.50
+	HYDROGRAPH AT	LO67	471.	12.50	112.	35.	12.	1.22
+	2 COMBINED AT	CLO67	695.	12.42	158.	50.	17.	1.72
+	ROUTED TO	SRLO67	207.	13.50	129.	48.	22.	1.72
+	HYDROGRAPH AT	LO75	372.	12.50	93.	29.	10.	.97
+	DIVERSION TO	XLO75	372.	12.50	63.	17.	6.	.97
+	HYDROGRAPH AT	ERLO75	241.	13.08	41.	12.	4.	.97
+	2 COMBINED AT	CLO75	433.	13.08	168.	60.	26.	2.69
+	ROUTED TO	SRLO75	264.	14.08	154.	59.	26.	2.69
+	HYDROGRAPH AT	DRLO75	7.	15.00	2.	1.	0.	.50
+	ROUTED TO	RLO75	5.	16.25	2.	1.	0.	.50
+	2 COMBINED AT	CILO75	264.	14.08	156.	60.	26.	2.94
+	ROUTED TO	RBYNRB	263.	14.17	155.	60.	26.	2.94
+	HYDROGRAPH AT	PP81	80.	12.33	14.	4.	1.	.20
+	DIVERSION TO	XPP81	80.	12.33	14.	4.	1.	.20
+	HYDROGRAPH AT	ERPP81	0.	.00	0.	0.	0.	.20
+	ROUTED TO	RWL83	0.	.00	0.	0.	0.	.20
+	HYDROGRAPH AT	WL83	49.	12.50	16.	4.	1.	.13
+	DIVERSION TO	XWL83	49.	12.50	8.	2.	1.	.13
+	HYDROGRAPH AT	ERWL83	36.	13.17	8.	2.	1.	.13
+	2 COMBINED AT	CWL83	36.	13.17	8.	2.	1.	.32
	HYDROGRAPH AT							

+		HV87	224.	12.17	24.	8.	3.	.28
+	ROUTED TO	RPP87	195.	12.33	24.	8.	3.	.28
+	HYDROGRAPH AT	PP87	394.	12.33	53.	15.	5.	.98
+	DIVERSION TO	XPP87	394.	12.33	52.	15.	5.	.98
+	HYDROGRAPH AT	ERPP87	1.	14.17	1.	0.	0.	.98
+	2 COMBINED AT	CPP87	195.	12.33	25.	8.	3.	1.27
+	ROUTED TO	SRPP87	52.	12.75	24.	8.	3.	1.27
+	DIVERSION TO	DPPP87	52.	12.75	24.	8.	3.	1.27
+	HYDROGRAPH AT	DPP87	0.	.00	0.	0.	0.	1.27
+	HYDROGRAPH AT	PRPP87	52.	12.75	24.	8.	3.	1.27
+	ROUTED TO	RP87PP	52.	12.75	24.	8.	3.	1.27
+	HYDROGRAPH AT	PP91	31.	12.50	9.	3.	1.	.16
+	DIVERSION TO	XPP91	31.	12.50	9.	3.	1.	.16
+	HYDROGRAPH AT	ERPP91	0.	.00	0.	0.	0.	.16
+	DIVERSION TO	DPP91	0.	.00	0.	0.	0.	.16
+	HYDROGRAPH AT	DPPP91	0.	.00	0.	0.	0.	.16
+	2 COMBINED AT	CPPP87	53.	12.75	25.	8.	3.	.16
+	ROUTED TO	RPPP83	53.	12.83	25.	8.	3.	.16
+	2 COMBINED AT	CPPP83	52.	12.83	24.	8.	3.	1.43
+	ROUTED TO	SRPP83	3.	20.08	3.	2.	1.	1.43
+	DIVERSION TO	D83PP	0.	.00	0.	0.	0.	1.43
+	HYDROGRAPH AT	DP83PP	3.	20.08	3.	2.	1.	1.43
+	ROUTED TO	RP83WL	3.	20.08	3.	2.	1.	1.43
+	2 COMBINED AT	CPWL83	35.	13.17	9.	4.	2.	1.75
+	ROUTED TO	RDV83	31.	13.42	9.	4.	2.	1.75
+	HYDROGRAPH AT	DV83	37.	12.67	14.	4.	1.	.11
+	DIVERSION TO	XDV83	29.	12.33	3.	1.	0.	.11
+	HYDROGRAPH AT	ERDV83	37.	12.67	12.	3.	1.	.11
+	2 COMBINED AT	CDV83	59.	13.33	21.	7.	3.	.43
+	ROUTED TO	RBYNRA	53.	13.83	21.	7.	3.	.43
+	HYDROGRAPH AT	BYNR	344.	12.50	90.	27.	9.	1.03
	DIVERSION TO							

+		XBYNR	10.	9.42	7.	2.	1.	1.03
+	HYDROGRAPH AT	ERBYNR	344.	12.50	90.	25.	8.	1.03
+	4 COMBINED AT	CNR06	1029.	12.58	467.	155.	59.	14.90
+	HYDROGRAPH AT	DR83PP	0.	.00	0.	0.	0.	1.43
+	ROUTED TO	RDV87	0.	.00	0.	0.	0.	1.43
+	HYDROGRAPH AT	DV87	511.	12.33	82.	23.	8.	1.00
+	DIVERSION TO	XDV87	57.	11.83	8.	3.	1.	1.00
+	HYDROGRAPH AT	ERDV87	511.	12.33	79.	20.	7.	1.00
+	2 COMBINED AT	CDV87	508.	12.33	78.	20.	7.	2.27
+	ROUTED TO	RBY87	411.	12.67	77.	20.	7.	2.27
+	HYDROGRAPH AT	BY87	443.	12.50	105.	32.	11.	.96
+	DIVERSION TO	XBY87	443.	12.50	105.	32.	11.	.96
+	HYDROGRAPH AT	ERBY87	0.	.00	0.	0.	0.	.96
+	2 COMBINED AT	CBY87	411.	12.67	77.	20.	7.	3.23
+	ROUTED TO	RUH87	384.	13.00	76.	20.	7.	3.23
+	HYDROGRAPH AT	UH87	486.	12.42	100.	30.	10.	1.00
+	DIVERSION TO	XUH87	486.	12.42	100.	30.	10.	1.00
+	HYDROGRAPH AT	ERUH87	0.	.00	0.	0.	0.	1.00
+	2 COMBINED AT	CUH87	384.	13.00	76.	20.	7.	4.23
+	DIVERSION TO	DSBL91	226.	13.00	45.	12.	4.	4.23
+	HYDROGRAPH AT	DSBLNR	157.	13.00	31.	8.	3.	4.23
+	DIVERSION TO	DUHNR	107.	13.00	12.	3.	1.	4.23
+	HYDROGRAPH AT	DPUHNR	50.	12.67	19.	5.	2.	4.23
+	ROUTED TO	RPUHNR	50.	12.75	19.	5.	2.	4.23
+	HYDROGRAPH AT	UHNR	122.	12.50	37.	12.	4.	.39
+	DIVERSION TO	XUHNR	2.	1.42	0.	0.	0.	.39
+	HYDROGRAPH AT	ERUHNR	122.	12.50	37.	12.	4.	.39
+	3 COMBINED AT	CNR07	1145.	12.58	518.	171.	64.	15.29
+	HYDROGRAPH AT	DRUHNR	107.	13.00	12.	3.	1.	4.23
+	ROUTED TO	RBLNR	91.	13.17	12.	3.	1.	4.23
+	HYDROGRAPH AT	BLNR	224.	12.42	63.	20.	7.	.60
	DIVERSION TO							

+		XBLNR	12.	10.25	8.	3.	1.	.60
+	HYDROGRAPH AT	ERBLNR	224.	12.42	63.	18.	6.	.60
+	3 COMBINED AT	CNR08	1338.	12.58	577.	188.	70.	17.63
+	HYDROGRAPH AT	DRPP91	0.	.00	0.	0.	0.	.16
+	ROUTED TO	RDV91	0.	.00	0.	0.	0.	.16
+	ROUTED TO	RRG93	0.	.00	0.	0.	0.	.16
+	HYDROGRAPH AT	RG93	69.	12.50	21.	6.	2.	.25
+	DIVERSION TO	XRG93	69.	12.50	21.	6.	2.	.25
+	HYDROGRAPH AT	ERRG93	0.	.00	0.	0.	0.	.25
+	2 COMBINED AT	CRG93	0.	.00	0.	0.	0.	.41
+	DIVERSION TO	DWRGLP	0.	.00	0.	0.	0.	.41
+	HYDROGRAPH AT	DSBY91	0.	.00	0.	0.	0.	.41
+	ROUTED TO	RBY91	0.	.00	0.	0.	0.	.41
+	HYDROGRAPH AT	BY91	215.	12.33	39.	12.	4.	.50
+	DIVERSION TO	XBY91	215.	12.33	39.	12.	4.	.50
+	HYDROGRAPH AT	ERBY91	0.	.00	0.	0.	0.	.50
+	2 COMBINED AT	CBY91	0.	.00	0.	0.	0.	.71
+	ROUTED TO	RUH91	0.	.00	0.	0.	0.	.71
+	HYDROGRAPH AT	UH91	195.	12.75	72.	22.	8.	.93
+	DIVERSION TO	XUH91	9.	9.83	6.	2.	1.	.93
+	HYDROGRAPH AT	ERUH91	195.	12.75	72.	21.	7.	.93
+	2 COMBINED AT	CUH91	194.	12.75	71.	20.	7.	1.63
+	HYDROGRAPH AT	DRBL91	226.	13.00	45.	12.	4.	4.23
+	DIVERSION TO	DPUH91	226.	13.00	45.	12.	4.	4.23
+	HYDROGRAPH AT	DUH91	0.	.00	0.	0.	0.	4.23
+	2 COMBINED AT	CIUH91	194.	12.75	71.	20.	7.	4.12
+	ROUTED TO	RBL91	180.	13.17	71.	20.	7.	4.12
+	HYDROGRAPH AT	BL91	450.	12.42	112.	36.	12.	.90
+	DIVERSION TO	XBL91	450.	12.42	112.	36.	12.	.90
+	HYDROGRAPH AT	ERBL91	0.	.00	0.	0.	0.	.90
+	2 COMBINED AT	CBL91	180.	13.17	71.	20.	7.	5.02
	HYDROGRAPH AT							

+		PRUH91	226.	13.00	45.	12.	4.	4.23
+	ROUTED TO	RP91AT	224.	13.00	45.	12.	4.	4.23
+	ROUTED TO	SRAT91	130.	13.58	45.	12.	4.	4.23
+	ROUTED TO	RP91BL	130.	13.58	45.	12.	4.	4.23
+	2 COMBINED AT	CPBL91	297.	13.33	115.	32.	11.	5.02
+	DIVERSION TO	DSGW91	172.	13.33	67.	19.	6.	5.02
+	HYDROGRAPH AT	DSGWNR	125.	13.33	48.	14.	5.	5.02
+	DIVERSION TO	DBLNR	0.	.00	0.	0.	0.	5.02
+	HYDROGRAPH AT	DPBLNR	125.	13.33	48.	14.	5.	5.02
+	ROUTED TO	RPBLNR	125.	13.42	48.	14.	5.	5.02
+	2 COMBINED AT	CPNR08	1360.	12.58	623.	201.	74.	17.63
+	HYDROGRAPH AT	DRBLNR	0.	.00	0.	0.	0.	5.02
+	ROUTED TO	RGWNRB	0.	.00	0.	0.	0.	5.02
+	HYDROGRAPH AT	DRGW91	172.	13.33	67.	19.	6.	5.02
+	ROUTED TO	RGW91	168.	13.67	66.	19.	6.	5.02
+	HYDROGRAPH AT	GW91	205.	12.42	50.	16.	5.	.48
+	DIVERSION TO	XGW91	205.	12.42	40.	11.	4.	.48
+	HYDROGRAPH AT	ERGW91	71.	13.42	16.	5.	2.	.48
+	2 COMBINED AT	CGW91	229.	13.42	81.	23.	8.	3.40
+	DIVERSION TO	DSTBNR	0.	.00	0.	0.	0.	3.40
+	HYDROGRAPH AT	DEGWNR	229.	13.42	81.	23.	8.	3.40
+	ROUTED TO	RGWNRA	222.	13.83	81.	23.	8.	3.40
+	HYDROGRAPH AT	GWNR	191.	12.58	59.	19.	6.	.70
+	DIVERSION TO	XGWNR	191.	12.58	49.	13.	4.	.70
+	HYDROGRAPH AT	ERGWNR	71.	13.92	18.	5.	2.	.70
+	5 COMBINED AT	CNR09	4062.	13.42	2291.	727.	252.	59.19
+	HYDROGRAPH AT	DRTBNR	0.	.00	0.	0.	0.	3.40
+	ROUTED TO	RTBNR	0.	.00	0.	0.	0.	3.40
+	HYDROGRAPH AT	TBNR	363.	12.50	94.	29.	10.	1.12
+	DIVERSION TO	XTBNR	244.	12.33	26.	8.	3.	1.12
+	HYDROGRAPH AT	ERTBNR	363.	12.50	79.	22.	7.	1.12
+	3 COMBINED AT							

+		CNR10	4201.	12.75	2345.	742.	257.	62.01
+	HYDROGRAPH AT	HV93	87.	12.17	13.	4.	1.	.17
+	DIVERSION TO	DWHVLP	37.	12.17	6.	2.	1.	.17
+	HYDROGRAPH AT	DSPPLP	51.	12.17	8.	2.	1.	.17
+	ROUTED TO	RPPLP	35.	12.67	8.	2.	1.	.17
+	HYDROGRAPH AT	PPLP	159.	12.67	50.	15.	5.	.88
+	DIVERSION TO	XPPLP	159.	12.67	36.	10.	3.	.88
+	HYDROGRAPH AT	ERPPLP	73.	13.83	17.	5.	2.	.88
+	2 COMBINED AT	CPPLP	84.	13.75	24.	7.	2.	.98
+	DIVERSION TO	DWPP03	0.	.00	0.	0.	0.	.98
+	HYDROGRAPH AT	DSDV99	84.	13.75	24.	7.	2.	.98
+	DIVERSION TO	DSDVLP	28.	13.75	8.	2.	1.	.98
+	HYDROGRAPH AT	DDV99	56.	13.75	16.	5.	2.	.98
+	HYDROGRAPH AT	DV99	390.	12.75	58.	15.	5.	1.22
+	DIVERSION TO	XDV99	282.	12.58	15.	4.	1.	1.22
+	HYDROGRAPH AT	ERDV99	390.	12.75	44.	11.	4.	1.22
+	2 COMBINED AT	CDV99	411.	12.75	60.	16.	5.	1.88
+	ROUTED TO	RRGLPA	378.	12.92	60.	16.	5.	1.88
+	HYDROGRAPH AT	DRRGLP	0.	.00	0.	0.	0.	.41
+	ROUTED TO	RRGLPB	0.	.00	0.	0.	0.	.41
+	HYDROGRAPH AT	RGLP	114.	12.42	27.	8.	3.	.41
+	DIVERSION TO	XRGLP	114.	12.42	27.	8.	3.	.41
+	HYDROGRAPH AT	ERRGLP	0.	.00	0.	0.	0.	.41
+	3 COMBINED AT	CRGLP	378.	12.92	60.	16.	5.	2.49
+	DIVERSION TO	DWRG07	302.	12.92	48.	13.	4.	2.49
+	HYDROGRAPH AT	DSBY07	75.	12.92	12.	3.	1.	2.49
+	ROUTED TO	RBY99	60.	13.25	12.	3.	1.	2.49
+	HYDROGRAPH AT	BY07	215.	12.42	47.	15.	5.	.51
+	DIVERSION TO	XBY07	215.	12.42	47.	15.	5.	.51
+	HYDROGRAPH AT	ERBY07	0.	.00	0.	0.	0.	.51
+	2 COMBINED AT	CBY07	60.	13.25	12.	3.	1.	1.76
	DIVERSION TO							

+		DWBYAF	60.	13.25	12.	3.	1.	1.76
+	HYDROGRAPH AT	DSUH99	0.	.00	0.	0.	0.	1.76
+	ROUTED TO	RUH99	0.	.00	0.	0.	0.	1.76
+	HYDROGRAPH AT	UH99	165.	12.67	61.	19.	6.	.56
+	2 COMBINED AT	CUH99	164.	12.67	60.	19.	6.	1.44
+	ROUTED TO	RDW99A	163.	12.75	60.	19.	6.	1.44
+	HYDROGRAPH AT	UH97	67.	12.58	23.	7.	2.	.27
+	ROUTED TO	RDW99B	66.	12.83	23.	7.	2.	.27
+	HYDROGRAPH AT	DW99	59.	12.42	17.	5.	2.	.16
+	3 COMBINED AT	CDW99	279.	12.75	99.	31.	10.	1.87
+	DIVERSION TO	DWDW07	279.	12.75	99.	31.	10.	1.87
+	HYDROGRAPH AT	DSBL99	0.	.00	0.	0.	0.	1.87
+	ROUTED TO	RBL99	0.	.00	0.	0.	0.	1.87
+	HYDROGRAPH AT	BL99	427.	12.50	116.	36.	12.	1.13
+	2 COMBINED AT	CBL99	425.	12.50	115.	36.	12.	2.07
+	ROUTED TO	RBN99	416.	12.58	115.	36.	12.	2.07
+	HYDROGRAPH AT	BN99	389.	12.50	99.	31.	10.	1.04
+	2 COMBINED AT	CBN99	793.	12.58	213.	66.	22.	3.10
+	ROUTED TO	RTB99	780.	12.75	213.	66.	22.	3.10
+	HYDROGRAPH AT	TB99	295.	12.58	88.	27.	9.	.98
+	2 COMBINED AT	CTB99	1066.	12.67	300.	93.	31.	4.08
+	ROUTED TO	RGRNRA	1035.	12.83	299.	93.	31.	4.08
+	HYDROGRAPH AT	DRDW07	279.	12.75	99.	31.	10.	1.87
+	ROUTED TO	RDW07	272.	13.00	99.	31.	10.	1.87
+	HYDROGRAPH AT	DW07	128.	12.67	45.	14.	5.	.48
+	2 COMBINED AT	CDW07	392.	12.92	143.	44.	15.	1.42
+	DIVERSION TO	DWBL15	392.	12.92	143.	44.	15.	1.42
+	HYDROGRAPH AT	DSTL07	0.	.00	0.	0.	0.	1.42
+	ROUTED TO	RTL07	0.	.00	0.	0.	0.	1.42
+	HYDROGRAPH AT	TL07	143.	12.58	46.	14.	5.	.58
+	2 COMBINED AT	CTL07	142.	12.58	45.	14.	5.	1.29
	ROUTED TO							

+		RGR99A	126.	13.25	45.	14.	5.	1.29
+	HYDROGRAPH AT	RO99	91.	12.75	39.	13.	4.	.41
+	ROUTED TO	RGR99B	91.	12.83	39.	13.	4.	.41
+	HYDROGRAPH AT	GR99	379.	12.75	144.	46.	15.	1.31
+	3 COMBINED AT	CGR99	559.	13.00	227.	72.	24.	3.01
+	ROUTED TO	RGRNRB	557.	13.08	227.	72.	24.	3.01
+	HYDROGRAPH AT	GRNR	373.	12.42	85.	27.	9.	.95
+	DIVERSION TO	XGRNR	8.	6.67	6.	2.	1.	.95
+	HYDROGRAPH AT	ERGRNR	373.	12.42	85.	25.	8.	.95
+	4 COMBINED AT	CNR11	5743.	12.75	2843.	899.	310.	70.05
+	HYDROGRAPH AT	PE99	48.	12.92	24.	8.	3.	.29
+	DIVERSION TO	DSOL99	14.	12.92	7.	2.	1.	.29
+	HYDROGRAPH AT	DEPE97	34.	12.92	17.	6.	2.	.29
+	ROUTED TO	RPE97	33.	13.33	17.	6.	2.	.29
+	HYDROGRAPH AT	PENR	64.	12.58	24.	8.	3.	.20
+	DIVERSION TO	XPENR	64.	12.58	12.	3.	1.	.20
+	HYDROGRAPH AT	ERPENR	58.	13.00	16.	5.	2.	.20
+	DIVERSION TO	DSOLNR	26.	13.00	7.	2.	1.	.20
+	HYDROGRAPH AT	DWPE99	33.	13.00	9.	3.	1.	.20
+	HYDROGRAPH AT	PE97	143.	12.58	45.	14.	5.	.56
+	4 COMBINED AT	CNR12	5876.	12.75	2899.	918.	316.	70.93
+	HYDROGRAPH AT	DROL99	14.	12.92	7.	2.	1.	.29
+	ROUTED TO	ROL99A	14.	13.92	7.	2.	1.	.29
+	HYDROGRAPH AT	PE11	221.	12.75	82.	26.	9.	.92
+	ROUTED TO	ROL03A	216.	13.00	82.	26.	9.	.92
+	HYDROGRAPH AT	PE07	113.	12.75	43.	13.	4.	.57
+	ROUTED TO	ROL03B	108.	13.25	43.	13.	4.	.57
+	HYDROGRAPH AT	PE03	90.	12.67	33.	10.	3.	.41
+	ROUTED TO	ROL03C	87.	13.08	32.	10.	3.	.41
+	HYDROGRAPH AT	OL03	309.	12.58	98.	31.	10.	1.10
+	4 COMBINED AT	COL03	674.	12.92	251.	79.	27.	3.01
	ROUTED TO							

+		ROL99B	673.	13.00	251.	79.	27.	3.01
+	HYDROGRAPH AT	DROLNR	26.	13.00	7.	2.	1.	.20
+	ROUTED TO	ROLNR	17.	14.25	7.	2.	1.	.20
+	HYDROGRAPH AT	OLNR	188.	12.75	72.	22.	7.	.70
+	DIVERSION TO	XOLNR	188.	12.75	45.	12.	4.	.70
+	HYDROGRAPH AT	EROLNR	133.	13.58	35.	10.	3.	.70
+	2 COMBINED AT	COLNR	134.	13.58	42.	12.	4.	.78
+	DIVERSION TO	DSNONR	44.	13.58	14.	4.	1.	.78
+	HYDROGRAPH AT	DWOL99	90.	13.58	28.	8.	3.	.78
+	HYDROGRAPH AT	OL99	96.	12.58	33.	11.	4.	.44
+	5 COMBINED AT	CNR13	6481.	12.83	3152.	998.	343.	74.98
+	HYDROGRAPH AT	DRNONR	44.	13.58	14.	4.	1.	.78
+	ROUTED TO	RNONR	34.	14.75	13.	4.	1.	.78
+	HYDROGRAPH AT	NONR	231.	12.75	87.	27.	9.	.83
+	DIVERSION TO	XNONR	231.	12.75	64.	17.	6.	.83
+	HYDROGRAPH AT	ERNONR	120.	14.00	33.	10.	3.	.83
+	2 COMBINED AT	CNONR	120.	14.00	46.	14.	5.	1.09
+	HYDROGRAPH AT	NO99	165.	12.67	54.	17.	6.	.86
+	DIVERSION TO	XNO99	101.	12.33	12.	4.	1.	.86
+	HYDROGRAPH AT	ERNO99	165.	12.67	48.	13.	4.	.86
+	3 COMBINED AT	CNR14	6602.	12.83	3206.	1015.	349.	76.93
+	HYDROGRAPH AT	GL03	218.	12.42	61.	20.	7.	.65
+	DIVERSION TO	XGL03	218.	12.42	50.	14.	5.	.65
+	HYDROGRAPH AT	ERGL03	75.	13.67	19.	6.	2.	.65
+	2 COMBINED AT	CNR15	6602.	12.83	3214.	1019.	350.	77.58
+	HYDROGRAPH AT	GLGH	29.	12.42	5.	1.	0.	.08
+	ROUTED TO	RGHNR	20.	13.08	5.	1.	0.	.08
+	HYDROGRAPH AT	GHNR	206.	12.58	66.	21.	7.	.84
+	3 COMBINED AT	CNR16	6763.	12.83	3266.	1036.	356.	78.50
+	HYDROGRAPH AT	AF11	237.	12.25	48.	16.	6.	.38
+	HYDROGRAPH AT	GHAF	66.	13.08	21.	6.	2.	.56
+	3 COMBINED AT							

+		CAF06	6876.	12.83	3317.	1054.	362.	79.31
+	HYDROGRAPH AT	JMAF	53.	12.42	8.	2.	1.	.15
+	DIVERSION TO	XJMAF	53.	12.42	8.	2.	1.	.15
+	HYDROGRAPH AT	ERJMAF	0.	15.42	0.	0.	0.	.15
+	HYDROGRAPH AT	HV07	149.	12.17	16.	4.	1.	.30
+	DIVERSION TO	XHV07	149.	12.17	16.	4.	1.	.30
+	HYDROGRAPH AT	ERHV07	0.	.00	0.	0.	0.	.30
+	ROUTED TO	RHVAF	0.	.00	0.	0.	0.	.30
+	HYDROGRAPH AT	HVAF	79.	12.25	7.	2.	1.	.22
+	DIVERSION TO	XHVAF	79.	12.25	7.	2.	1.	.22
+	HYDROGRAPH AT	ERHVAF	0.	.00	0.	0.	0.	.22
+	HYDROGRAPH AT	JM99	333.	12.33	65.	18.	6.	.57
+	DIVERSION TO	XJM99	333.	12.33	65.	18.	6.	.57
+	HYDROGRAPH AT	ERJM99	0.	.00	0.	0.	0.	.57
+	HYDROGRAPH AT	WWLP	130.	12.08	12.	3.	1.	.14
+	DIVERSION TO	XWWLP	130.	12.08	12.	3.	1.	.14
+	HYDROGRAPH AT	ERWWLP	0.	21.92	0.	0.	0.	.14
+	ROUTED TO	RJMLP	0.	24.00	0.	0.	0.	.14
+	HYDROGRAPH AT	JMLP	307.	12.33	62.	19.	6.	.70
+	DIVERSION TO	XJMLP	307.	12.33	62.	19.	6.	.70
+	HYDROGRAPH AT	ERJMLP	0.	.00	0.	0.	0.	.70
+	3 COMBINED AT	CJMLP	0.	24.00	0.	0.	0.	1.41
+	ROUTED TO	RHV01A	0.	24.42	0.	0.	0.	1.41
+	HYDROGRAPH AT	YLLP	212.	12.33	47.	15.	5.	.60
+	DIVERSION TO	XYLLP	54.	12.00	9.	3.	1.	.60
+	HYDROGRAPH AT	ERYLLP	212.	12.33	43.	12.	4.	.60
+	ROUTED TO	RHV01B	206.	12.42	43.	12.	4.	.60
+	HYDROGRAPH AT	DRHVLP	37.	12.17	6.	2.	1.	.17
+	ROUTED TO	RHVLP	32.	12.42	6.	2.	1.	.17
+	HYDROGRAPH AT	HVLP	75.	12.33	19.	6.	2.	.20
+	DIVERSION TO	XHVLP	75.	12.33	13.	4.	1.	.20
	HYDROGRAPH AT							

+	ERHVLP	43.	13.00	9.	3.	1.	.20
+ 2 COMBINED AT	CHVLP	55.	13.00	14.	4.	1.	.27
+ ROUTED TO	RHV01C	53.	13.08	14.	4.	1.	.27
+ HYDROGRAPH AT	HV01	209.	12.33	42.	13.	4.	.44
+ DIVERSION TO	XHV01	209.	12.33	33.	9.	3.	.44
+ HYDROGRAPH AT	ERHV01	78.	13.08	13.	4.	1.	.44
+ 4 COMBINED AT	CHV01	237.	13.08	69.	20.	7.	2.72
+ ROUTED TO	RCL07	216.	12.67	68.	20.	7.	2.72
+ ROUTED TO	RCLAFA	211.	12.75	68.	20.	7.	2.72
+ HYDROGRAPH AT	CL07	140.	12.42	34.	10.	3.	.52
+ DIVERSION TO	XCL07	140.	12.42	34.	10.	3.	.52
+ HYDROGRAPH AT	ERCL07	0.	.00	0.	0.	0.	.52
+ DIVERSION TO	DSPP03	0.	.00	0.	0.	0.	.52
+ HYDROGRAPH AT	DWCLAF	0.	.00	0.	0.	0.	.52
+ ROUTED TO	RCLAFB	0.	.00	0.	0.	0.	.52
+ HYDROGRAPH AT	CLAF	59.	12.75	11.	3.	1.	.29
+ DIVERSION TO	XCLAF	59.	12.75	11.	3.	1.	.29
+ HYDROGRAPH AT	ERCLAF	0.	.00	0.	0.	0.	.29
+ 3 COMBINED AT	CCLAF	211.	12.75	68.	20.	7.	3.47
+ 4 COMBINED AT	CAF01	211.	12.75	68.	20.	7.	4.13
+ HYDROGRAPH AT	DR03PP	0.	.00	0.	0.	0.	.98
+ ROUTED TO	RPP03B	0.	.00	0.	0.	0.	.98
+ HYDROGRAPH AT	DRPP03	0.	.00	0.	0.	0.	.52
+ ROUTED TO	RPP03A	0.	.00	0.	0.	0.	.52
+ HYDROGRAPH AT	PP03	50.	12.75	19.	6.	2.	.32
+ DIVERSION TO	XPP03	50.	12.67	6.	2.	1.	.32
+ HYDROGRAPH AT	ERPP03	49.	12.92	15.	4.	1.	.32
+ 3 COMBINED AT	CPP03	49.	12.92	15.	4.	1.	.39
+ DIVERSION TO	DSDV07	49.	12.92	15.	4.	1.	.39
+ HYDROGRAPH AT	DWPP07	0.	.00	0.	0.	0.	.39
+ ROUTED TO	RPP07	0.	.00	0.	0.	0.	.39
HYDROGRAPH AT							

+	PP07	59.	12.33	11.	3.	1.	.19
+ 2 COMBINED AT	CPP07	59.	12.33	11.	3.	1.	.20
+ ROUTED TO	RDVAF	55.	12.58	11.	3.	1.	.20
+ HYDROGRAPH AT	DVAF	137.	12.42	26.	7.	2.	.41
+ DIVERSION TO	XDVAF	137.	12.42	20.	5.	2.	.41
+ HYDROGRAPH AT	ERDVAF	56.	13.17	8.	2.	1.	.41
+ 2 COMBINED AT	CDVAF	86.	13.17	19.	5.	2.	.61
+ HYDROGRAPH AT	PPAF	239.	12.17	39.	14.	5.	.27
+ 2 COMBINED AT	CAF02	250.	12.17	57.	19.	6.	.88
+ HYDROGRAPH AT	DRDV07	49.	12.92	15.	4.	1.	.39
+ ROUTED TO	RDV07	43.	13.58	14.	4.	1.	.39
+ HYDROGRAPH AT	DV07	199.	12.50	51.	16.	5.	.64
+ DIVERSION TO	XDV07	199.	12.50	51.	16.	5.	.64
+ HYDROGRAPH AT	ERDV07	0.	.00	0.	0.	0.	.64
+ 2 COMBINED AT	CDV07	43.	13.58	14.	4.	1.	1.03
+ ROUTED TO	RRG07A	41.	13.75	14.	4.	1.	1.03
+ HYDROGRAPH AT	DRRG07	302.	12.92	48.	13.	4.	2.49
+ ROUTED TO	RRG07C	254.	13.08	47.	13.	4.	2.49
+ HYDROGRAPH AT	DRDVLP	28.	13.75	8.	2.	1.	.98
+ ROUTED TO	RDVLP	21.	14.33	8.	2.	1.	.98
+ HYDROGRAPH AT	DVLP	27.	12.83	9.	3.	1.	.14
+ DIVERSION TO	XDVLP	27.	12.83	3.	1.	0.	.14
+ HYDROGRAPH AT	ERDVLP	26.	13.00	7.	2.	1.	.14
+ 2 COMBINED AT	CDVLP	33.	14.33	15.	4.	1.	.46
+ ROUTED TO	RRG07B	31.	14.58	15.	4.	1.	.46
+ HYDROGRAPH AT	RG07	65.	12.58	18.	5.	2.	.35
+ DIVERSION TO	XRG07	65.	12.58	18.	5.	2.	.35
+ HYDROGRAPH AT	ERRG07	0.	.00	0.	0.	0.	.35
+ 4 COMBINED AT	CRG07	255.	13.08	75.	21.	7.	3.09
+ ROUTED TO	RRGAF	235.	13.17	75.	21.	7.	3.09
+ HYDROGRAPH AT	RGAF	74.	12.58	24.	7.	2.	.33
DIVERSION TO							

+		XRGAF	74.	12.58	20.	5.	2.	.33
+	HYDROGRAPH AT	ERRGAF	20.	14.50	5.	1.	0.	.33
+	2 COMBINED AT	CRGAF	235.	13.17	79.	22.	7.	3.42
+	HYDROGRAPH AT	DRBYAF	60.	13.25	12.	3.	1.	1.76
+	ROUTED TO	RBY07	45.	13.58	12.	3.	1.	1.76
+	ROUTED TO	RBYAF	41.	14.17	12.	3.	1.	1.76
+	HYDROGRAPH AT	BYAF	149.	12.58	46.	14.	5.	.61
+	DIVERSION TO	XBYAF	149.	12.58	24.	7.	2.	.61
+	HYDROGRAPH AT	ERBYAF	125.	13.00	27.	7.	2.	.61
+	2 COMBINED AT	CBYAF	124.	13.00	38.	11.	4.	1.49
+	HYDROGRAPH AT	UHAF	62.	12.75	24.	7.	2.	.49
+	DIVERSION TO	XUHAF	62.	12.75	24.	7.	2.	.49
+	HYDROGRAPH AT	ERUHAF	0.	.00	0.	0.	0.	.49
+	3 COMBINED AT	CAF03	341.	13.17	116.	33.	11.	5.56
+	HYDROGRAPH AT	UH07	39.	12.83	17.	5.	2.	.25
+	ROUTED TO	RUH11	38.	13.00	17.	5.	2.	.25
+	ROUTED TO	RUH15	38.	13.17	17.	5.	2.	.25
+	HYDROGRAPH AT	UH15	330.	12.50	74.	22.	7.	1.02
+	DIVERSION TO	XUH15	330.	12.50	39.	10.	3.	1.02
+	HYDROGRAPH AT	ERUH15	262.	12.83	41.	11.	4.	1.02
+	2 COMBINED AT	CUH15	295.	12.83	58.	17.	6.	1.27
+	ROUTED TO	RBL15B	224.	13.33	57.	17.	6.	1.27
+	HYDROGRAPH AT	DRBL15	392.	12.92	143.	44.	15.	1.42
+	ROUTED TO	RBL15A	386.	13.08	143.	44.	15.	1.42
+	HYDROGRAPH AT	BL15	299.	12.50	70.	22.	7.	.96
+	DIVERSION TO	XBL15	299.	12.50	59.	16.	5.	.96
+	HYDROGRAPH AT	ERBL15	90.	13.58	19.	6.	2.	.96
+	3 COMBINED AT	CBL15	613.	13.50	214.	66.	22.	2.94
+	ROUTED TO	RMEAF	593.	13.58	214.	66.	22.	2.94
+	HYDROGRAPH AT	MEAF	435.	12.42	99.	30.	10.	1.37
+	DIVERSION TO	XMEAF	100.	12.00	15.	5.	2.	1.37
+	HYDROGRAPH AT							

+		ERMEAF	435.	12.42	93.	25.	8.	1.37
+	2 COMBINED AT	CMEAF	734.	13.42	305.	90.	30.	4.31
+	HYDROGRAPH AT	BLAF	34.	12.83	15.	5.	2.	.28
+	DIVERSION TO	XBLAF	34.	12.83	15.	5.	2.	.28
+	HYDROGRAPH AT	ERBLAF	0.	.00	0.	0.	0.	.28
+	HYDROGRAPH AT	GRAF	259.	12.67	90.	28.	9.	.86
+	HYDROGRAPH AT	PEAF	279.	12.33	55.	18.	6.	.53
+	4 COMBINED AT	CAF04	1026.	12.67	443.	135.	45.	5.94
+	HYDROGRAPH AT	OL11	96.	12.42	23.	7.	2.	.34
+	ROUTED TO	RNO11	90.	12.67	23.	7.	2.	.34
+	HYDROGRAPH AT	NO11	442.	12.33	90.	30.	10.	.86
+	DIVERSION TO	XNO11	185.	12.00	26.	8.	3.	.86
+	HYDROGRAPH AT	ERNO11	442.	12.33	77.	22.	7.	.86
+	2 COMBINED AT	CNO11	481.	12.33	99.	28.	9.	1.20
+	ROUTED TO	RGL14A	368.	13.17	95.	28.	9.	1.20
+	HYDROGRAPH AT	NO07	92.	12.50	26.	8.	3.	.34
+	DIVERSION TO	XNO07	92.	12.50	16.	4.	1.	.34
+	HYDROGRAPH AT	ERNO07	67.	13.08	13.	4.	1.	.34
+	ROUTED TO	RGL11	50.	13.58	13.	4.	1.	.34
+	HYDROGRAPH AT	GL11	169.	12.50	49.	17.	6.	.43
+	DIVERSION TO	XGL11	169.	12.50	49.	17.	6.	.43
+	HYDROGRAPH AT	ERGL11	0.	.00	0.	0.	0.	.43
+	2 COMBINED AT	CGL11	50.	13.58	13.	4.	1.	.77
+	ROUTED TO	RGL14B	35.	14.33	12.	4.	1.	.77
+	HYDROGRAPH AT	GL14	51.	12.67	16.	4.	1.	.48
+	3 COMBINED AT	CGL14	409.	13.17	121.	36.	12.	2.45
+	ROUTED TO	RGLAF	388.	13.33	120.	36.	12.	2.45
+	HYDROGRAPH AT	GLAF	130.	12.50	46.	16.	5.	.39
+	2 COMBINED AT	CGLAF	468.	13.33	161.	51.	17.	2.83
+	HYDROGRAPH AT	OLAF	178.	12.67	61.	19.	6.	1.03
+	DIVERSION TO	XOLAF	178.	12.67	41.	11.	4.	1.03
+	HYDROGRAPH AT							

```
+                         EROLAF       117.   13.58          28.          8.          3.       1.03

          HYDROGRAPH AT
+                          NOAF        48.   12.92          16.          5.          2.        .28

          3 COMBINED AT
+                          CAF05       565.   13.58         202.         64.         21.       4.15
1
                                        SUMMARY OF KINEMATIC WAVE - MUSKINGUM-CUNGE ROUTING
                                            (FLOW IS DIRECT RUNOFF WITHOUT BASE FLOW)
                                                                                  INTERPOLATED TO
                                                                                  COMPUTATION INTERVAL
             ISTAQ     ELEMENT      DT        PEAK     TIME TO      VOLUME       DT        PEAK     TIME TO      VOLUME
                                                          PEAK                                          PEAK

                                    (MIN)      (CFS)      (MIN)      (IN)      (MIN)      (CFS)      (MIN)       (IN)

            FOR STORM = 1  STORM AREA (SQ MI) =         .00
              RP35GW  MANE          2.66    158.00    735.74       .60       5.00    158.00    740.00          .60

  CONTINUITY SUMMARY (AC-FT) - INFLOW= .5445E+02 EXCESS= .0000E+00 OUTFLOW= .5446E+02 BASIN STORAGE= .2782E-09 PERCENT ERROR=     .0

            FOR STORM = 2  STORM AREA (SQ MI) =       10.00
              RP35GW  MANE          2.76    158.00    738.05       .58       5.00    158.00    740.00          .58

  CONTINUITY SUMMARY (AC-FT) - INFLOW= .5239E+02 EXCESS= .0000E+00 OUTFLOW= .5242E+02 BASIN STORAGE= .2272E-09 PERCENT ERROR=    -.1

            FOR STORM = 3  STORM AREA (SQ MI) =       30.00
              RP35GW  MANE          2.80    158.00    738.10       .55       5.00    158.00    740.00          .55

  CONTINUITY SUMMARY (AC-FT) - INFLOW= .5025E+02 EXCESS= .0000E+00 OUTFLOW= .5030E+02 BASIN STORAGE= .2716E-09 PERCENT ERROR=    -.1

            FOR STORM = 4  STORM AREA (SQ MI) =       60.00
              RP35GW  MANE          2.71    158.00    737.36       .54       5.00    158.00    740.00          .54

  CONTINUITY SUMMARY (AC-FT) - INFLOW= .4895E+02 EXCESS= .0000E+00 OUTFLOW= .4899E+02 BASIN STORAGE= .2881E-09 PERCENT ERROR=    -.1

            FOR STORM = 5  STORM AREA (SQ MI) =       90.00
              RP35GW  MANE          2.66    158.00    741.60       .53       5.00    158.00    745.00          .53

  CONTINUITY SUMMARY (AC-FT) - INFLOW= .4817E+02 EXCESS= .0000E+00 OUTFLOW= .4819E+02 BASIN STORAGE= .3088E-09 PERCENT ERROR=     .0

            FOR STORM = 6  STORM AREA (SQ MI) =      120.00
              RP35GW  MANE          2.66    158.00    741.69       .53       5.00    158.00    745.00          .53

  CONTINUITY SUMMARY (AC-FT) - INFLOW= .4767E+02 EXCESS= .0000E+00 OUTFLOW= .4770E+02 BASIN STORAGE= .2748E-09 PERCENT ERROR=    -.1

            FOR STORM = 1  STORM AREA (SQ MI) =         .00
              RP35TB  MANE          2.32    318.00    741.53      1.40       5.00    318.00    745.00         1.40

  CONTINUITY SUMMARY (AC-FT) - INFLOW= .1182E+03 EXCESS= .0000E+00 OUTFLOW= .1183E+03 BASIN STORAGE= .9300E-09 PERCENT ERROR=     .0

            FOR STORM = 2  STORM AREA (SQ MI) =       10.00
              RP35TB  MANE          2.32    318.00    740.13      1.35       5.00    318.00    745.00         1.35

  CONTINUITY SUMMARY (AC-FT) - INFLOW= .1141E+03 EXCESS= .0000E+00 OUTFLOW= .1141E+03 BASIN STORAGE= .1006E-08 PERCENT ERROR=     .0

            FOR STORM = 3  STORM AREA (SQ MI) =       30.00
              RP35TB  MANE          2.29    318.00    745.20      1.30       5.00    318.00    750.00         1.30

  CONTINUITY SUMMARY (AC-FT) - INFLOW= .1097E+03 EXCESS= .0000E+00 OUTFLOW= .1097E+03 BASIN STORAGE= .9795E-09 PERCENT ERROR=     .0

            FOR STORM = 4  STORM AREA (SQ MI) =       60.00
              RP35TB  MANE          2.33    318.00    746.61      1.27       5.00    318.00    750.00         1.27

    *** The remainder of the continuity summary has been deleted for brevity, but the entire output is included on the CD ***

  *** NORMAL END OF HEC-1 ***
```

```
1**************************************
*                                    *
*   FLOOD HYDROGRAPH PACKAGE  (HEC-1)   *
*             JUN  1998              *
*           VERSION 4.1              *
*                                    *
*  RUN DATE   01NOV10  TIME  11:09:18   *
*                                    *
**************************************
```

```
**************************************
*                                    *
*   U.S. ARMY CORPS OF ENGINEERS     *
*   HYDROLOGIC ENGINEERING CENTER    *
*      609 SECOND STREET             *
*     DAVIS, CALIFORNIA 95616        *
*        (916) 756-1104              *
*                                    *
**************************************
```

```
X     X  XXXXXXX   XXXXX          X
X     X  X        X     X        XX
X     X  X        X              X
XXXXXXX  XXXX     X       XXXXX  X
X     X  X        X              X
X     X  X        X     X        X
X     X  XXXXXXX   XXXXX         XXX
```

THIS PROGRAM REPLACES ALL PREVIOUS VERSIONS OF HEC-1 KNOWN AS HEC1 (JAN 73), HEC1GS, HEC1DB, AND HEC1KW.

THE DEFINITIONS OF VARIABLES -RTIMP- AND -RTIOR- HAVE CHANGED FROM THOSE USED WITH THE 1973-STYLE INPUT STRUCTURE.
THE DEFINITION OF -AMSKK- ON RM-CARD WAS CHANGED WITH REVISIONS DATED 28 SEP 81. THIS IS THE FORTRAN77 VERSION
NEW OPTIONS: DAMBREAK OUTFLOW SUBMERGENCE , SINGLE EVENT DAMAGE CALCULATION, DSS:WRITE STAGE FREQUENCY,
DSS:READ TIME SERIES AT DESIRED CALCULATION INTERVAL LOSS RATE:GREEN AND AMPT INFILTRATION
KINEMATIC WAVE: NEW FINITE DIFFERENCE ALGORITHM

1 HEC-1 INPUT PAGE 1

```
LINE          ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

   1          ID      GLENDALE STORMWATER MANAGEMENT PLAN
   2          ID      Model for Maryvale Watershed
   3          ID      Future Conditions
   4          ID
   5          ID      Prepared for the City of Glendale
   6          ID      In Association with the Flood Control District of Maricopa County
   7          ID      City Project Number 089017
   8          ID
   9          ID      Prepared by Kimley-Horn and Associates, Inc.
  10          ID      KHA Project Number 091910009
  11          ID      October 2010
  12          ID
  13          ID      MODELING PARAMETERS
  14          ID      - 100 Year 6 Hour Storm Event
  15          ID      - NOAA 14 Rainfall Data
  16          ID      - Clark Unit Hydrograph
  17          ID      - Green and Ampt Rainfall Loss Method
  18          ID
  19          ID      Topo data extracted from Flood Control District database July 24, 2009
  20          ID      Land use obtained from City of Glendale General Plan August 2009, City of
  21          ID            Phoenix General Plan August 2009, and MAG General Plan Land Use 2007
  22          ID
  23          ID      Storage routing data obtained from As-built records where possible
  24          ID      When As-built data was not available data was obtained from HEC-1 models
  25          ID            and checked for accuracy. HEC-1 models used include:
  26          ID            - Maryvale ADMS, February 1997
  27          ID            - Maryvale model modified by DMJM for improvements along the Bethany
  28          ID              Home Outfall Channel, file BHGC00C6.dat, November 2004
  29          ID            - Update to ponding areas along Grand Canal in the City of Glendale
  30          ID              for a CLOMR by PEC, February 2008
  31          ID      The source of data is identified on each individual storage routing card
  32          ID
  33          ID   ************************************************************************
  34          ID
  35          ID      MODELING NOMENCLATURE
  36          ID      SUBBASIN HYDROGRAPH:
  37          ID         Example: OL51   - the subbasin northeast of Olive and 51st Avenue
  38          ID
  39          ID      STORM DRAIN DIVERSION:
  40          ID         Example: DOL51  - flow from subbasin OL51 is diverted to a storm drain
  41          ID
  42          ID      SUBBASIN DIVERSION:
  43          ID         Example: DWOL59 - flow is diverted west towards Olive and 59th Avenue
  44          ID         Example: DSNO51 - flow is diverted south towards Northern and 51st Ave
  45          ID
  46          ID      ROUTE HYDROGRAPH:
  47          ID         Example: RWOL59 - flow is routed west towards Olive and 59th Avenue
  48          ID         Example: RSNO59 - flow is routed south towards Northern and 59th Ave
  49          ID
  50          ID      COMBINE HYDROGRAPH:
  51          ID         Example: COL59  - combine flow at Olive and 59th Avenue
  52          ID
  53          ID      NAME ABBREVIATIONS
  54          ID         Jomax Road             JM
  55          ID         Happy Valley Road      HV
```


1 HEC-1 INPUT PAGE 2

```
LINE          ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

  56          ID         Pinnacle Peak Road     PP
  57          ID         Deer Valley Road       DV
  58          ID         Loop 101               LO
  59          ID         Beardsley Road         BY
  60          ID         Union Hills Drive      UH
  61          ID         Bell Road              BL
  62          ID         Greenway Road          GW
  63          ID         Thunderbird Road       TB
  64          ID         Cactus Road            CT
  65          ID         Peoria Avenue          PE
  66          ID         Olive Avenue           OL
  67          ID         Northern Avenue        NO
  68          ID         Glendale Avenue        GL
  69          ID         Bethany Home Road      BH
  70          ID         Camelback Road         CB
  71          ID         Indian School Road     IS
  72          ID         Thomas Road            TM
  73          ID         McDowell Road          MD
  74          ID         Interstate 10          IN
  75          ID         Van Buren Street       VB
  76          ID         Avondale Boulevard     AV
  77          ID         Grand Avenue           GR
  78          ID         Grand Canal            GC
  79          ID         Brown Street           BR
  80          ID         Mountain View Road     MV
  81          ID         Orangewood Avenue      OW
  82          ID         Mitchell Drive         ML
  83          ID         Agua Fria River        AF
  84          ID         New River              NR
  85          ID         Skunk Creek            SK
  86          ID         Roosevelt Irrigation   RI
  87          ID
  88          ID      PREFIXES FOR MODELING OPERATIONS
  89          ID         RW     Routing flow in the west direction
  90          ID         RS     Routing flow in the south direction
  91          ID         RP     Routing storm drain pipe flow
  92          ID         C      Combination point
  93          ID         CI     Combination point at an intersection
  94          ID         CP     Combination point for storm drain pipe flow
  95          ID         SR     Storage for detention/retention basins
  96          ID         DW     Divert flow to the west
  97          ID         DE     Divert flow to the east
  98          ID         DS     Divert flow to the south
  99          ID         DN     Divert flow to the north
 100          ID         ER     Divert flow for existing 100-yr 2-hr retention
 101          ID         X      Existing retention divertion does not return to model
 102          ID         DR     Divert retrieval from surface flow
 103          ID         DI     Divert retrieval from intersection flow
 104          ID         D      Divert surface flow (remains after storm drain divert)
 105          ID         DP     Divert flow to a storm drain pipe
 106          ID         PR     Divert retrieval from a storm drain pipe
 107          ID
 108          ID   ************************************************************************
 109          IT      5       0       0    1000
 110          IN     15
```

1 HEC-1 INPUT PAGE 3

```
LINE          ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

 111          IO      5
              *DIAGRAM
              *
 112          JD   2.638  0.0001
 113          PC   0.000  0.008  0.016  0.025  0.033  0.041  0.050  0.058  0.066  0.074
 114          PC   0.087  0.099  0.118  0.138  0.216  0.377  0.834  0.911  0.931  0.950
 115          PC   0.962  0.972  0.983  0.991  1.000
 116          JD   2.622  0.5000
 117          PC   0.000  0.008  0.016  0.025  0.033  0.041  0.050  0.058  0.066  0.074
 118          PC   0.087  0.099  0.118  0.138  0.216  0.377  0.834  0.911  0.931  0.950
 119          PC   0.962  0.972  0.983  0.991  1.000
 120          JD   2.572    2.8
 121          PC   0.000  0.009  0.016  0.025  0.034  0.042  0.051  0.059  0.068  0.077
 122          PC   0.088  0.101  0.121  0.164  0.253  0.451  0.694  0.836  0.900  0.938
 123          PC   0.950  0.963  0.975  0.988  1.000
 124          JD   2.432   16.0
 125          PC   0.000  0.015  0.020  0.030  0.048  0.063  0.076  0.090  0.105  0.119
 126          PC   0.135  0.152  0.175  0.222  0.304  0.472  0.670  0.796  0.868  0.912
 127          PC   0.946  0.960  0.973  0.987  1.000
 128          JD   2.137   90.0
 129          PC   0.000  0.021  0.035  0.051  0.071  0.087  0.105  0.125  0.143  0.160
 130          PC   0.179  0.201  0.232  0.281  0.364  0.500  0.658  0.773  0.841  0.888
 131          PC   0.927  0.945  0.964  0.982  1.000
 132          JD   2.110   100.0
 133          PC   0.000  0.021  0.036  0.052  0.072  0.088  0.106  0.126  0.145  0.162
 134          PC   0.182  0.204  0.235  0.284  0.368  0.501  0.656  0.770  0.839  0.886
 135          PC   0.925  0.944  0.963  0.982  1.000
              *
 136          KK   GW83   BASIN
```

```
          KM   Runoff hydrograph for subbasin GW83 northeast of the intersection of Greenway
          KM   Road and 83rd Avenue
          BA   0.291
          LG    0.25    0.25    4.70    0.28      30
          UC   1.142   1.095
          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
          UA     100
          *

          KK   DGW83  DIVERT
          KM   Divert calculated full flow capapcity of 45 cfs into 42-inch storm drain
          KM   pipe at the intersection of Greenway Road and 83rd Avenue
          DT  DPGW83     0.0    45.0
          DI      0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
          DQ      0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
          *

          KK  DSTB83  DIVERT
          KM   Divert portion of runoff hydrograph from subbasin GW83 south to the
          KM   intersection of Thunderbird Road and 83rd Avenue and the remaining flow west
          KM   to Skunk Creek. The diversion is based on topography
          DT  DWSK01      0.0     0.0
          DI      0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
          DQ      0.0    57.0   114.0   285.0   570.0  1140.0  2280.0  5700.0 11400.0 28500.0
          *
1                                        HEC-1 INPUT                                    PAGE  4
     LINE      ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

          KK  RSTB83   ROUTE
          KM   Route diversion DSTB83 south to combination point CTB83
          RS       10    FLOW
          RC   0.035   0.015   0.035    5280  0.0023     0.00
          RX    0.00    0.00   48.00   48.00  251.00  251.00  299.00  299.00
          RY    3.00    0.98    0.50    0.00    0.00    0.50    0.98    3.00
          *

          KK    TB67   BASIN
          KM   Runoff hydrograph for subbasin TB67 northeast of the intersection of
          KM   Thunderbird Road and 67th Avenue
          BA   0.265
          LG    0.21    0.15    9.70    0.05      25
          UC   0.687   0.400
          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
          UA     100
          *

          KK  DWTB75  DIVERT
          KM   Divert remaining runoff hydrograph from subbasin TB67 west to combination
          KM   point CTB75
          DT  DSCT67      0.0     0.0
          DI      0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
          DQ      0.0    40.0    80.0   200.0   400.0   800.0  1600.0  4000.0  8000.0 20000.0
          *

          KK  RWTB75   ROUTE
          KM   Route diversion DWTB75 west to combination point CTB75
          RS        5    FLOW
          RC   0.035   0.015   0.035    5280  0.0027     0.00
          RX    0.00    0.00   48.00   48.00  251.00  251.00  299.00  299.00
          RY    3.00    0.98    0.50    0.00    0.00    0.50    0.98    3.00
          *

          KK    TB75   BASIN
          KM   Runoff hydrograph for subbasin TB75 northeast of the intersection of
          KM   Thunderbird Road and 75th Avenue
          BA   1.026
          LG    0.23    0.15    7.00    0.11      33
          UC   1.163   0.612
          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
          UA     100
          *

          KK  ERTB75  DIVERT
          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
          KM   retention developed after 1990 in subbasin TB75
          DT   XTB75      9.7     0.0
          DI      0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
          DQ      0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
          *
1                                        HEC-1 INPUT                                    PAGE  5
     LINE      ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

          KK   CTB75 COMBINE
          KM   Combine route RWTB75 and subbasin TB75
          HC        2    1.18
          *

          KK   DTB75  DIVERT
          KM   Divert calculated full flow capapcity of 161 cfs into 66-inch storm drain
```



```
          KM   pipe at the intersection of Thunderbird Road and 75th Avenue
          DT  DPTB75      0.0   161.0
          DI      0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
          DQ      0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
          *

          KK  DWTB83  DIVERT
          KM   Divert remaining runoff hydrograph from subbasin TB83 west to combination
          KM   point CTB83
          DT  DSCT75      0.0     0.0
          DI      0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
          DQ      0.0    45.0    90.0   225.0   450.0   900.0  1800.0  4500.0  9000.0 22500.0
          *

          KK  RWTB83   ROUTE
          KM   Route diversion DWTB83 west to combination point CTB83
          RS        3    FLOW
          RC   0.035   0.015   0.035    5280  0.0034     0.00
          RX    0.00    0.00   76.50   76.50  372.50  372.50  449.00  449.00
          RY    3.00    1.27    0.50    0.00    0.00    0.50    1.27    3.00
          *

          KK    TB83   BASIN
          KM   Runoff hydrograph for square mile subbasin TB83 northeast of the intersection
          KM   Thunderbird Road and 83rd Avenue
          BA   0.994
          LG    0.25    0.21    6.40    0.14      31
          UC   1.408   0.949
          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
          UA     100
          *

          KK  ERTB83  DIVERT
          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
          KM   retention developed after 1990 in subbasin TB83
          DT   XTB83     19.4     0.0
          DI      0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
          DQ      0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
          *

          KK   CTB83 COMBINE
          KM   Combine route RWTB83, route south RSTB83, and subbasin TB83
          HC        3    1.77
          *
1                                        HEC-1 INPUT                                    PAGE  6
     LINE      ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

          KK  PRTB75RETRIEVE
          KM   Retrieve full flow capacity of 161 cfs from 66-inch storm drain pipe at the
          KM   intersection of Thunderbird Road and 75th Avenue
          DR  DPTB75
          *

          KK  RPTB83   ROUTE
          KM   Route full flow capacity of 161 cfs through 66-inch storm drain pipe in
          KM   Thunderbird Road to the intersection of Thunderbird Road and 83rd Avenue
          RK    5194  0.0023   0.015            CIRC   5.500
          *

          KK  CPTB83 COMBINE
          KM   Combine pipe return PRTB75 with the runoff hydrograph at combination point
          KM   CTB83 at the intersection of Thunderbird Road and 83rd Avenue
          HC        2
          *

          KK   DTB83  DIVERT
          KM   Divert calculated full flow capapcity of 247 cfs into 72-inch storm drain
          KM   pipe at the intersection of Thunderbird Road and 83rd Avenue
          DT  DPTB83      0.0   247.0
          DI      0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
          DQ      0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
          *

          KK  DWTBLO  DIVERT
          KM   Divert remaining runoff hydrograph from subbasin TB83 west to combination
          KM   point CTBLO
          DT  DSCT83      0.0     0.0
          DI      0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
          DQ      0.0    71.0   142.0   355.0   710.0  1420.0  2840.0  7100.0 14200.0 35500.0
          *

          KK  RWTBLO   ROUTE
          KM   Route diversion DWTBLO west to combination point CTBLO
          RS        1    FLOW
          RC   0.035   0.015   0.035     2002  0.0030     0.00
          RX    0.00    0.00   16.50   16.50  107.50  107.50  124.00  124.00
          RY    3.00    0.66    0.50    0.00    0.00    0.50    0.66    3.00
          *

          KK    TBLO   BASIN
          KM   Runoff hydrograph for subbasin TBLO northeast of the intersection of
```

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267          KM   Thunderbird Road and SR Loop 101
268          BA   0.099
269          LG    0.14    0.15    8.80    0.05      72
270          UC   0.731   0.881
271          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
272          UA     100
             *
1                                        HEC-1 INPUT                                        PAGE  7

LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


273          KK  ERTBLO  DIVERT
274          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
275          KM   retention developed after 1990 in subbasin TBLO
276          DT   XTBLO    10.8      0.0
277          DI     0.0 50000.0      0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
278          DQ     0.0 50000.0      0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
             *

279          KK   CTBLO COMBINE
280          KM   Combine route RWTBLO and subbasin TBLO
281          HC       2     0.62
             *

282          KK  PRTB83RETRIEVE
283          KM   Retrieve full flow capacity of 247 cfs from 72-inch storm drain pipe at the
284          KM   intersection of Thunderbird Road and 83rd Avenue
285          DR  DPTB83
             *

286          KK  RPTBLO   ROUTE
287          KM   Route full flow capacity of 247 cfs through 72-inch storm drain pipe in
288          KM   Thunderbird Road to the intersection of Thunderbird Road and 83rd Avenue
289          RK    1532  0.0034   0.015             CIRC   6.000
             *

290          KK  CPTBLO COMBINE
291          KM   Combine pipe return PRTBLO with the runoff hydrograph at combination point
292          KM   CTBLO at the intersection of Thunderbird Road and SR Loop 101
293          HC       2
             *

294          KK  RSCTLO   ROUTE
295          KM   Route runoff hydrograph at combination point CPTBLO south to combination
296          KM   point CCTLO
297          RS       2    FLOW
298          RC   0.035   0.015   0.035    4816  0.0016    0.00
299          RX    0.00    3.00   13.00   29.00   39.00   55.00   65.00   68.00
300          RY    9.00    8.00    8.00    0.00    0.00    8.00    8.00    9.00
             *

301          KK   CT59   BASIN
302          KM   Runoff hydrograph for subbasin CT59 northeast of the intersection of
303          KM   Cactus Road and 59th Avenue
304          BA   0.296
305          LG    0.24    0.15    8.80    0.06      30
306          UC   0.874   0.586
307          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
308          UA     100
             *
1                                        HEC-1 INPUT                                        PAGE  8

LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


309          KK  ERCT59  DIVERT
310          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
311          KM   retention developed after 1990 in subbasin CT59
312          DT   XCT59    24.6      0.0
313          DI     0.0 50000.0      0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
314          DQ     0.0 50000.0      0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
             *

315          KK   D59CT  DIVERT
316          KM   Divert calculated full flow capapcity of 18 cfs into 30-inch storm drain
317          KM   pipe at the intersection of Cactus Road and 59th Avenue
318          DT  DP59CT     0.0     18.0
319          DI     0.0 50000.0      0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
320          DQ     0.0 50000.0      0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
             *

321          KK  DWCT67  DIVERT
322          KM   Divert remaining runoff hydrograph from subbasin CT59 west to combination
323          KM   point CCT67
324          DT  DSPE59      0.0      0.0
325          DI      0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0  10000.0  20000.0  50000.0
326          DQ      0.0     68.0    136.0    340.0    680.0   1360.0   2720.0   6800.0  13600.0  34000.0
             *

327          KK  RWCT67   ROUTE
328          KM   Route diversion DWCT67 west to combination point CCT67
329          RS      10    FLOW
```



```
330          RC   0.035   0.015   0.035    5280  0.0041    0.00
331          RX    0.00    0.00   33.50   33.50  144.50  144.50  178.00  178.00
332          RY    3.00    0.84    0.50    0.00    0.00    0.50    0.84    3.00
             *

333          KK  DRCT67RETRIEVE
334          KM   Retrieve divert DRCT67 from subbasin TB67 and divert south to combination
335          KM   point CCT67
336          DR  DSCT67
             *

337          KK  RSCT67   ROUTE
338          KM   Route retrieval DRCT67 south to combination point CCT67
339          RS       5    FLOW
340          RC   0.035   0.015   0.035    5280  0.0035    0.00
341          RX    0.00    0.00   24.50   24.50  155.50  155.50  180.00  180.00
342          RY    3.00    0.74    0.50    0.00    0.00    0.50    0.74    3.00
             *

343          KK   CT67   BASIN
344          KM   Runoff hydrograph for subbasin CT67 northeast of the intersection of Cactus
345          KM   Road and 67th Avenue
346          BA   0.910
347          LG    0.26    0.15    7.30    0.11      28
348          UC   1.099   0.638
349          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
350          UA     100
             *
1                                        HEC-1 INPUT                                        PAGE  9

LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


351          KK  ERCT67  DIVERT
352          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
353          KM   retention developed after 1990 in subbasin CT67
354          DT   XCT67    26.8      0.0
355          DI     0.0 50000.0      0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
356          DQ     0.0 50000.0      0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
             *

357          KK   CCT67 COMBINE
358          KM   Combine route RWCT67, route RSCT67, and subbasin CT67
359          HC       3     1.11
             *

360          KK   DCT67  DIVERT
361          KM   Divert calculated full flow capapcity of 268 cfs into 78-inch storm drain
362          KM   pipe at the intersection of Cactus Road and 67th Avenue
363          DT  DPCT67      0.0     268.0
364          DI     0.0 50000.0      0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
365          DQ     0.0 50000.0      0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
             *

366          KK  DWCT75  DIVERT
367          KM   Divert remaining runoff hydrograph from combination point CCT67 west to
368          KM   combination point CCT75
369          DT  DSPE67      0.0      0.0
370          DI      0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0  10000.0  20000.0  50000.0
371          DQ      0.0     43.0     86.0    215.0    430.0    860.0   1720.0   4300.0   8600.0  21500.0
             *

372          KK  RWCT75   ROUTE
373          KM   Route diversion DWCT75 west to combination point CCT75
374          RS       7    FLOW
375          RC   0.035   0.015   0.035    5280  0.0030    0.00
376          RX    0.00    0.00   76.50   76.50  372.50  372.50  449.00  449.00
377          RY    3.00    1.27    0.50    0.00    0.00    0.50    1.27    3.00
             *

378          KK  DRCT75RETRIEVE
379          KM   Retrieve divert DRCT75 from combination point CTB75 and divert south to
380          KM   combination point CCT75
381          DR  DSCT75
             *

382          KK  RSCT75   ROUTE
383          KM   Route retrieval DRCT75 south to combination point CCT75
384          RS       3    FLOW
385          RC   0.035   0.015   0.035    5280  0.0038    0.00
386          RX    0.00    0.00   57.50   57.50  291.50  291.50  349.00  349.00
387          RY    3.00    1.08    0.50    0.00    0.00    0.50    1.08    3.00
             *
1                                        HEC-1 INPUT                                        PAGE 10

LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


388          KK   CT75   BASIN
389          KM   Runoff hydrograph for square mile subbasin CT75 northeast of the intersection
390          KM   of Cactus Road and 75th Avenue
391          BA   1.003
392          LG    0.26    0.15    8.80    0.06      27
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393          UC   1.390   0.927
394          UA      0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
395          UA    100
             *

396          KK  ERCT75  DIVERT
397          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
398          KM   retention developed after 1990 in subbasin CT75
399          DT   XCT75    29.2     0.0
400          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
401          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
             *

402          KK   CCT75 COMBINE
403          KM   Combine route RWCT75, route RSCT75, and subbasin CT75
404          HC       3    2.17
             *

405          KK  PRCT67RETRIEVE
406          KM   Retrieve full flow capacity of 268 cfs from 78-inch storm drain pipe at the
407          KM   intersection of Cactus Road and 67th Avenue
408          DR  DPCT67
             *

409          KK  RPCT75   ROUTE
410          KM   Route full flow capacity of 268 cfs through 78-inch storm drain pipe in
411          KM   Cactus Road to the intersection of Cactus Road and 75th Avenue
412          RK    5321  0.0026   0.015            CIRC   6.500
             *

413          KK  CPCT75 COMBINE
414          KM   Combine pipe return PRCT67 with the runoff hydrograph at combination point
415          KM   CCT75 at the intersection of Cactus Road and 75th Avenue
416          HC       2
             *

417          KK   DCT75  DIVERT
418          KM   Divert calculated full flow capapcity of 651 cfs into 108-inch storm drain
419          KM   pipe at the intersection of Cactus Road and 75th Avenue
420          DT  DPCT75     0.0    651.0
421          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
422          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
             *
1                                          HEC-1 INPUT                                          PAGE 11

        LINE  ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

423          KK  DWCT83  DIVERT
424          KM   Divert remaining runoff hydrograph from combination point CCT75 west to
425          KM   combination point CCT83
426          DT  DSPE75     0.0     0.0
427          DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
428          DQ     0.0    50.0   100.0   250.0   500.0  1000.0  2000.0  5000.0 10000.0 25000.0
             *

429          KK  RWCT83   ROUTE
430          KM   Route diversion DWCT83 west to combination point CCT83
431          RS       4    FLOW
432          RC   0.035   0.015   0.035    5280  0.0026    0.00
433          RX    0.00    0.00   57.50   57.50  291.50  291.50  349.00  349.00
434          RY    3.00    1.08    0.50    0.00    0.00    0.50    1.08    3.00
             *

435          KK  DRCT83RETRIEVE
436          KM   Retrieve divert DRCT83 from combination point CPTB83 and divert south to
437          KM   combination point CCT83
438          DR  DSCT83
             *

439          KK  RSCT83   ROUTE
440          KM   Route retrieval DRCT83 south to combination point CCT83
441          RS       4    FLOW
442          RC   0.035   0.015   0.035    5280  0.0030    0.00
443          RX    0.00    0.00   48.00   48.00  251.00  251.00  299.00  299.00
444          RY    3.00    0.98    0.50    0.00    0.00    0.50    0.98    3.00
             *

445          KK    CT83   BASIN
446          KM   Runoff hydrograph for square mile subbasin CT83 northeast of the intersection
447          KM   of Cactus Road and 83rd Avenue
448          BA   1.008
449          LG    0.25    0.15    8.40    0.06      30
450          UC   1.397   0.933
451          UA      0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
452          UA    100
             *

453          KK  ERCT83  DIVERT
454          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
455          KM   retention developed after 1990 in subbasin CT83
456          DT   XCT83    28.8     0.0
457          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
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458          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
             *

459          KK   CCT83 COMBINE
460          KM   Combine route RWCT83, route RSCT83, and subbasin CT83
461          HC       3    3.34
             *
1                                          HEC-1 INPUT                                          PAGE 12

        LINE  ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

462          KK  PRCT75RETRIEVE
463          KM   Retrieve full flow capacity of 651 cfs from 108-inch storm drain pipe at the
464          KM   intersection of Cactus Road and 75th Avenue
465          DR  DPCT75
             *

466          KK  RPCT83   ROUTE
467          KM   Route full flow capacity of 651 cfs through 108-inch storm drain pipe in
468          KM   Cactus Road to the intersection of Cactus Road and 83rd Avenue
469          RK    5246  0.0027   0.015            CIRC   9.000
             *

470          KK  CPCT83 COMBINE
471          KM   Combine pipe return PRCT75 with the runoff hydrograph at combination point
472          KM   CCT83 at the intersection of Cactus Road and 83rd Avenue
473          HC       2
             *

474          KK   DCT83  DIVERT
475          KM   Divert calculated full flow capapcity of 663 cfs into 120-inch storm drain
476          KM   pipe at the intersection of Cactus Road and 83rd Avenue
477          DT  DPCT83     0.0    663.0
478          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
479          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
             *

480          KK  DWCTLO  DIVERT
481          KM   Divert remaining runoff hydrograph from combination point CCT83 west to
482          KM   combination point CCTLO
483          DT  DSPE83     0.0     0.0
484          DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
485          DQ     0.0    41.0    82.0   205.0   410.0   820.0  1640.0  4100.0  8200.0 20500.0
             *

486          KK  RWCTLO   ROUTE
487          KM   Route diversion DWCTLO west to combination point CCTLO
488          RS       4    FLOW
489          RC   0.035   0.015   0.035    6650  0.0048    0.00
490          RX    0.00    0.00   76.50   76.50  372.50  372.50  449.00  449.00
491          RY    3.00    1.27    0.50    0.00    0.00    0.50    1.27    3.00
             *

492          KK    CTLO   BASIN
493          KM   Runoff hydrograph for subbasin CTLO northeast of the intersection of Cactus
494          KM   Road and SR Loop 101
495          BA   0.865
496          LG    0.20    0.15    7.30    0.09      47
497          UC   1.287   1.021
498          UA      0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
499          UA    100
             *
1                                          HEC-1 INPUT                                          PAGE 13

        LINE  ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

500          KK  ERCTLO  DIVERT
501          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
502          KM   retention developed after 1990 in subbasin CTLO
503          DT   XCTLO    46.0     0.0
504          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
505          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
             *

506          KK   CCTLO COMBINE
507          KM   Combine route RWCTLO, route RSCTLO, and subbasin CTLO
508          HC       3    3.46
             *

509          KK  PRCT83RETRIEVE
510          KM   Retrieve full flow capacity of 663 cfs from 120-inch storm drain pipe at the
511          KM   intersection of Cactus Road and 83rd Avenue
512          DR  DPCT83
             *

513          KK  RPCTLO   ROUTE
514          KM   Route full flow capacity of 663 cfs through 120-inch storm drain pipe in
515          KM   Cactus Road to the intersection of Cactus Road and SR Loop 101
516          RK    6334  0.0016   0.015            CIRC  10.000
             *
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```
KK  CPCTLO COMBINE
KM   Combine pipe return PRCT83 with the runoff hydrograph at combination point
KM   CCTLO at the intersection of Cactus Road and SR Loop 101
HC       2
*

KK  DSCTLO  DIVERT
KM   Divert portion of runoff hydrograph from combination point CPCTLO south to
KM   combination point CGRLO
DT  DWNR01      0.0  1927.0
DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
*

KK  DSPELO  DIVERT
KM   Divert remainder of runoff hydrograph from divert DSCTLO south to
KM   combination point CGRLO
DT  DSGR91      0.0     0.0
DI     0.0  1299.0  1299.1 50000.0     0.0     0.0     0.0     0.0     0.0     0.0
DQ     0.0     0.0  1299.1 50000.0     0.0     0.0     0.0     0.0     0.0     0.0
*

KK    PE51   BASIN
KM   Runoff hydrograph for subbasin PE51 northeast of the intersection of Peoria
KM   Avenue and 51st Avenue
BA   0.419
LG    0.22    0.15    8.80    0.05      37
UC   0.920   0.558
UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
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LINE  ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

UA     100
*

KK  DWPE59  DIVERT
KM   Divert remaining runoff hydrograph from subbasin PE59 west to combination
KM   point CPE59
DT  DSOL51      0.0     0.0
DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
DQ     0.0    40.0    80.0   200.0   400.0   800.0  1600.0  4000.0  8000.0 20000.0
*

KK  RWPE59   ROUTE
KM   Route diversion DWPE59 west to combination point CPE59
RS       5    FLOW
RC   0.035   0.015   0.035    5280  0.0042    0.00
RX    0.00    0.00   79.50   79.50  468.50  468.50  548.00  548.00
RY    3.00    1.30    0.50    0.00    0.00    0.50    1.30    3.00
*

KK  DRPE59RETRIEVE
KM   Retrieve divert DRPE59 from subbasin CPCT59 and divert south to combination
KM   point CPE59
DR  DSPE59
*

KK  RSPE59   ROUTE
KM   Route diversion retrieval DRPE59 south to combination point CPE59
RS      10    FLOW
RC   0.035   0.015   0.035    5280  0.0037    0.00
RX    0.00    0.00   58.50   58.50  339.50  339.50  398.00  398.00
RY    3.00    1.08    0.50    0.00    0.00    0.50    1.08    3.00
*

KK    PE59   BASIN
KM   Runoff hydrograph for square mile subbasin PE59 northeast of the intersection
KM   of Peoria Avenue and 59th Avenue
BA   0.989
LG    0.25    0.15    8.80    0.05      31
UC   1.264   0.817
UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
UA     100
*

KK  ERPE59  DIVERT
KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
KM   retention developed after 1990 in subbasin PE59
DT  XPE59       8.6     0.0
DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
*
```



```
LINE  ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

KK   CPE59 COMBINE
KM   Combine route RWPE59, route RSPE59, and subbasin PE59
HC       3    1.44
*
```



```
KK  PR59CTRETRIEVE
KM   Retrieve full flow capacity of 18 cfs from 30-inch storm drain pipe at the
KM   intersection of Cactus Road and 59th Avenue
DR  DP59CT
*
* KKRP59PE   ROUTE
* KM Route full flow capacity of 18 cfs through 30-inch storm drain pipe in
* KM 59th Avenue to the intersection of Peoria Avenue and 59th Avenue
* RK  5358  0.0020   0.015            CIRC   2.500
*

KK  CPPE59 COMBINE
KM   Combine pipe return PR59CT with the runoff hydrograph at combination point
KM   CPE59 at the intersection of Peoria Avenue and 59th Avenue
HC       2
*

KK   D59PE  DIVERT
KM   Divert calculated full flow capapcity of 235 cfs into 78-inch storm drain
KM   pipe at the intersection of Peoria Avenue and 59th Avenue
DT  DP59PE      0.0   235.0
DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
*

KK  DWPE67  DIVERT
KM   Divert remaining runoff hydrograph from combination point CPPE59 west to
KM   combination point CPE67
DT  DSOL59      0.0     0.0
DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
DQ     0.0    57.0   114.0   285.0   570.0  1140.0  2280.0  5700.0 11400.0 28500.0
*

KK  RWPE67   ROUTE
KM   Route diversion DWPE67 west to combination point CPE67
RS       5    FLOW
RC   0.035   0.015   0.035    5280  0.0026    0.00
RX    0.00    0.00   51.50   51.50  296.50  296.50  348.00  348.00
RY    3.00    1.02    0.50    0.00    0.00    0.50    1.02    3.00
*

KK  DRPE67RETRIEVE
KM   Retrieve divert DRPE67 from combination point CCT67 and divert south to
KM   combination point CPE67
DR  DSPE67
*
```



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LINE  ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

KK  RSPE67   ROUTE
KM   Route diversion retrieval DRPE67 south to combination point CPE67
RS       9    FLOW
RC   0.035   0.015   0.035    5280  0.0022    0.00
RX    0.00    0.00   58.50   58.50  339.50  339.50  398.00  398.00
RY    3.00    1.08    0.50    0.00    0.00    0.50    1.08    3.00
*

KK    PE67   BASIN
KM   Runoff hydrograph for square mile subbasin PE67 northeast of the intersection
KM   of Peoria Avenue and 67th Avenue
BA   0.962
LG    0.23    0.15    7.60    0.09      37
UC   1.295   0.863
UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
UA     100
*

KK  ERPE67  DIVERT
KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
KM   retention developed after 1990 in subbasin PE67
DT  XPE67       56.2    0.0
DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
*

KK   CPE67 COMBINE
KM   Combine route RWPE67, route RSPE67, and subbasin PE67
HC       3    2.06
*

KK  SRPE67 STORAGE
KM   Storage route runoff hydrograph from combination point CPE67 through
KM     regional detention basin located in subbasin PE67
KM   Stage-storage data from Sunnyside Park As-built records, 1991
RS       1    STOR
SV            5.24   11.27   12.67   18.77   26.81   35.20
SQ                          217.00 2430.00 6873.0012627.00
SE   87.00   88.00   89.00   89.20   90.00   91.00   92.00
*

KK   D67PE  DIVERT
```

```
          KM   Divert calculated full flow capapcity of 162 cfs into 60-inch storm drain
          KM   pipe at the intersection of Peoria Avenue and 67th Avenue
          DT  DP67PE      0.0    162.0
          DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
          DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
          *
1                                        HEC-1 INPUT                                                 PAGE 17
        LINE      ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

          KK  DWPE75  DIVERT
          KM   Divert remaining runoff hydrograph from combination point CPE67 west to
          KM   combination point CPE75
          DT  DSOL67      0.0      0.0
          DI      0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0  10000.0  20000.0  50000.0
          DQ      0.0     38.0     76.0    190.0    380.0    760.0   1520.0   3800.0   7600.0  19000.0
          *

          KK  RWPE75   ROUTE
          KM   Route diversion DWPE75 west to combination point CPE75
          RS        6    FLOW
          RC   0.035   0.015   0.035    5280  0.0035    0.00
          RX    0.00    0.00   86.00   86.00  413.00  413.00  499.00  499.00
          RY    3.00    1.36    0.50    0.00    0.00    0.50    1.36    3.00
          *

          KK  DRPE75RETRIEVE
          KM   Retrieve divert DRPE75 from combination point CPCT75 and divert south to
          KM   combination point CPE75
          DR  DSPE75
          *

          KK  RSPE75   ROUTE
          KM   Route diversion retrieval DRPE75 south to combination point CPE75
          RS        4    FLOW
          RC   0.035   0.015   0.035    5280  0.0027    0.00
          RX    0.00    0.00   57.50   57.50  291.50  291.50  349.00  349.00
          RY    3.00    1.08    0.50    0.00    0.00    0.50    1.08    3.00
          *

          KK   PE75   BASIN
          KM   Runoff hydrograph for square mile subbasin PE75 northeast of the intersection
          KM   of Peoria Avenue and 75th Avenue
          BA   1.007
          LG    0.24    0.15    8.00    0.07      33
          UC   1.409   0.943
          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
          UA     100
          *

          KK  ERPE75  DIVERT
          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
          KM   retention developed after 1990 in subbasin PE75
          DT  XPE75       9.4      0.0
          DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
          DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
          *

          KK   CPE75 COMBINE
          KM   Combine route RWPE75, route RSPE75, and subbasin PE75
          HC        3    3.36
          *
1                                        HEC-1 INPUT                                                 PAGE 18
        LINE      ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

          KK   D75PE  DIVERT
          KM   Divert calculated full flow capapcity of 179 cfs into 60-inch storm drain
          KM   pipe at the intersection of Peoria Avenue and 75th Avenue
          DT  DP75PE      0.0    179.0
          DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
          DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
          *

          KK  DWPE83  DIVERT
          KM   Divert remaining runoff hydrograph from combination point CPE75 west to
          KM   combination point CPE83
          DT  DSOL75      0.0      0.0
          DI      0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0  10000.0  20000.0  50000.0
          DQ      0.0     52.0    104.0    260.0    520.0   1040.0   2080.0   5200.0  10400.0  26000.0
          *

          KK  RWPE83   ROUTE
          KM   Route diversion DWPE83 west to combination point CPE83
          RS        3    FLOW
          RC   0.035   0.015   0.035    5280  0.0023    0.00
          RX    0.00    0.00   57.50   57.50  291.50  291.50  349.00  349.00
          RY    3.00    1.08    0.50    0.00    0.00    0.50    1.08    3.00
          *

          KK  DRPE83RETRIEVE
```



```
          KM   Retrieve divert DRPE83 from combination point CPCT83 and divert south to
          KM   combination point CPE83
          DR  DSPE83
          *

          KK  RSPE83   ROUTE
          KM   Route diversion retrieval DRPE83 south to combination point CPE83
          RS        4    FLOW
          RC   0.035   0.015   0.035    5280  0.0023    0.00
          RX    0.00    0.00   76.50   76.50  372.50  372.50  449.00  449.00
          RY    3.00    1.27    0.50    0.00    0.00    0.50    1.27    3.00
          *

          KK   PE83   BASIN
          KM   Runoff hydrograph for square mile subbasin PE83 northeast of the intersection
          KM   of Peoria Avenue, 83rd Avenue, and Grand Avenue
          BA   1.000
          LG    0.24    0.13   10.10    0.03      35
          UC   1.444   0.969
          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
          UA     100
          *

          KK  ERPE83  DIVERT
          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
          KM   retention developed after 1990 in subbasin PE83
          DT  XPE83      36.8      0.0
          DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
          DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
          *
1                                        HEC-1 INPUT                                                 PAGE 19
        LINE      ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

          KK   CPE83 COMBINE
          KM   Combine route RWPE83, route RSPE83, and subbasin PE83
          HC        3    3.97
          *

          KK   DPE83  DIVERT
          KM   Divert calculated full flow capapcity of 112 cfs into 48-inch storm drain
          KM   pipe at the intersection of Peoria Avenue and 83rd Avenue
          DT  DPPE83      0.0    112.0
          DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
          DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
          *

          KK  DWGR91  DIVERT
          KM   Divert portion of runoff hydrograph from subbasin CPE83 west through subbasin
          KM   GR91 using the ratio of the widths and slopes od the streets going west and
          KM   the widths and slopes of the streets going south. The remaining flow is
          KM   diverted south through subbasin GR83
          DT  DSGR83      0.0      0.0
          DI      0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0  10000.0  20000.0  50000.0
          DQ      0.0     48.0     96.0    240.0    480.0    960.0   1920.0   4800.0   9600.0  24000.0
          *

          KK   DGR91  DIVERT
          KM   Divert portion of DWGR91 west to subbasin GR91 using the ratio of the width
          KM   of the collector and local streets and the width of the arterial street. The
          KM   remaining flow is diverted west to subbasin PE91 along Peoria Avenue
          DT  DWPE91      0.0      0.0
          DI      0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0  10000.0  20000.0  50000.0
          DQ      0.0     36.0     72.0    180.0    360.0    720.0   1440.0   3600.0   7200.0  18000.0
          *

          KK  DRGR91RETRIEVE
          KM   Retrieve divert DRGR91 from combination point CPCTLO and divert south to
          KM   combination point CGR91
          DR  DSGR91
          *

          KK  RSGR91   ROUTE
          KM   Route diversion retrieval DRGR91 south to combination point CGR91
          RS        4    FLOW
          RC   0.035   0.015   0.035    4969  0.0024    0.00
          RX    0.00    0.00   57.50   57.50  291.50  291.50  349.00  349.00
          RY    3.00    1.08    0.50    0.00    0.00    0.50    1.08    3.00
          *

          KK   GR91   BASIN
          KM   Runoff hydrograph for subbasin GR91 north of Grand Avenue and east of 91st
          KM   Avenue
          BA   0.514
          LG    0.23    0.13   10.10    0.03      40
          UC   0.934   0.477
          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
          UA     100
          *
1                                        HEC-1 INPUT                                                 PAGE 20
        LINE      ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10
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KK  ERGR91  DIVERT
KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
KM   retention developed after 1990 in subbasin GR91
DT   XGR91     28.6      0.0
DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
*

KK   CGR91 COMBINE
KM   Combine divert DGR91, route RSGR91, and subbasin GR91
HC        3     3.58
*

KK  DWGRLO  DIVERT
KM   Divert portion of runoff hydrograph from combination point CGR91 west to the
KM   intersection of Grand Avenue and SR Loop 101 and the remaining flow south to
KM   the intersection of Peoria Avenue and Grand Avenue. The diversion is based on
KM   topography
DT  DSPE91       0.0       0.0
DI      0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0  10000.0  20000.0  50000.0
DQ      0.0     67.0    134.0    335.0    670.0   1340.0   2680.0   6700.0  13400.0  33500.0
*

KK   CGRLO COMBINE
KM   Combine divert DWGRLO and divert DSPELO
HC        2     2.91
*

KK  RSPELO    ROUTE
KM   Route hydrograph at combination point CGRLO south to combination point CIPEGR
RS        1     FLOW
RC   0.035    0.015    0.035     2704   0.0018     0.00
RX     0.00     3.00    13.00    25.00    35.00    47.00    57.00    60.00
RY     7.00     6.00     6.00     0.00     0.00     6.00     6.00     7.00
*

KK  DSOLLO  DIVERT
KM   Divert remaining runoff hydrograph from combination point CPPELO south to
KM   combination point COLLO
DT  DWNR02       0.0   7462.0
DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
*

KK  DRPE91RETRIEVE
KM   Retrieve divert DRPE91 from combination point CPE83 and divert west to
KM   combination point CIPEGR
DR  DSPE91
*
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LINE      ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

KK  SRGR91 STORAGE
KM   Storage route runoff hydrograph from divert retrieval DRPE91 through ponding
KM     area at Grand Avenue near the intersection of Peoria Avenue and 83rd Avenue
KM   Storage routing ID RES22 in Maryvale ADMS, Feb 1997 - comments from ADMS:
KM   PONDING AREA RESERVOIR ROUTE
KM   SUB-BASIN 22-31E
KM   PONDING AREA NORTHEAST OF GRAND AVENUE/RR EMBANKMENT
RS        1     STOR
SV              5.40     9.60    39.75
SQ              0.10  970.0010990.00
SE  1134.0 1136.00 1136.50 1138.00
*

KK  DIPE91RETRIEVE
KM   Retrieve arterial street flow diverted to Peoria Avenue at the intersection
KM   of Peoria Avenue and Grand Avenue
DR  DWPE91
*

KK  CIPEGR COMBINE
KM   Combine arterial street flow from Peoria Avenue DIPE91 with runoff hydrograph
KM   DRPE91 at the intersection of Peoria Avenue and Grand Avenue
HC        2     3.14
*

KK  RWPE91    ROUTE
KM   Route hydrograph at combination point CIPEGR at the intersection of Peoria
KM   Avenue and Grand Avenue west to combination point CPE91
RS        3     FLOW
RC   0.035    0.015    0.035     5280   0.0037     0.00
RX     0.00     0.00    67.00    67.00   332.00   332.00   399.00   399.00
RY     3.00     1.17     0.50     0.00     0.00     0.50     1.17     3.00
*

KK    PE91    BASIN
KM   Runoff hydrograph for subbasin PE91 northeast of the intersection of Peoria
KM   Avenue and 91st Avenue
```



```
BA   0.509
LG    0.20     0.15     9.70     0.04       50
UC   0.842    0.450
UA       0      5.0     16.0     30.0     65.0     77.0     84.0     90.0     94.0     97.0
UA     100
*

KK  ERPE91  DIVERT
KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
KM   retention developed after 1990 in subbasin PE91
DT   XPE91     13.1      0.0
DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
*
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LINE      ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

KK   CPE91 COMBINE
KM   Combine route RWPE91 and subbasin PE91
HC        2     3.65
*

KK  PRPE83RETRIEVE
KM   Retrieve full flow capacity of 112 cfs from 48-inch storm drain pipe at the
KM   intersection of Peoria Avenue and 83rd Avenue
DR  DPPE83
*

KK  RPPE91    ROUTE
KM   Route full flow capacity of 112 cfs through 48-inch storm drain pipe in
KM   Peoria Avenue to the intersection of Peoria Avenue and 91st Avenue
RK     5350  0.0061    0.015              CIRC    4.000
*

KK  CPPE91 COMBINE
KM   Combine pipe return PRPE83 with the runoff hydrograph at combination point
KM   CPE91 at the intersection of Peoria Avenue and 91st Avenue
HC        2
*

KK   DPE91  DIVERT
KM   Divert calculated full flow capapcity of 147 cfs into 72-inch storm drain
KM   pipe at the intersection of Peoria Avenue and 91st Avenue
DT  DPPE91       0.0    147.0
DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
*

KK  DWPELO  DIVERT
KM   Divert remaining runoff hydrograph from combination point CPPE91 west to
KM   combination point CPELO
DT  DSOL91       0.0       0.0
DI      0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0  10000.0  20000.0  50000.0
DQ      0.0     55.0    110.0    275.0    550.0   1100.0   2200.0   5500.0  11000.0  27500.0
*

KK  RWPELO    ROUTE
KM   Route diversion DWPELO west to combination point CPELO
RS        1     FLOW
RC   0.035    0.015    0.035     1289   0.0017     0.00
RX     0.00     0.00    73.50    73.50   350.50   350.50   424.00   424.00
RY     3.00     1.23     0.50     0.00     0.00     0.50     1.23     3.00
*

KK    PELO    BASIN
KM   Runoff hydrograph for subbasin PELO northeast of the intersection of Peoria
KM   Avenue and SR Loop 101
BA   0.271
LG    0.19     0.21     6.40     0.13       52
UC   0.944    0.771
UA       0      5.0     16.0     30.0     65.0     77.0     84.0     90.0     94.0     97.0
```



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LINE      ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

UA     100
*

KK  ERPELO  DIVERT
KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
KM   retention developed after 1990 in subbasin PELO
DT   XPELO       9.1       0.0
DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
*

KK   CPELO COMBINE
KM   Combine route RWPELO, route RSPELO, and subbasin PELO
HC        3     4.81
*
```

```
 896          KK  PRPE91RETRIEVE
 897          KM   Retrieve full flow capacity of 147 cfs from 72-inch storm drain pipe at the
 898          KM   intersection of Peoria Avenue and 91st Avenue
 899          DR  DPPE91
              *

 900          KK  RPPELO   ROUTE
 901          KM   Route full flow capacity of 147 cfs through 72-inch storm drain pipe in
 902          KM   Peoria Avenue to the intersection of Peoria Avenue and St Loop 101
 903          RK    1594  0.0012   0.015             CIRC   6.000
              *

 904          KK  CPPELO COMBINE
 905          KM   Combine pipe return PRPE91 with the runoff hydrograph at combination point
 906          KM   CPELO at the intersection of Peoria Avenue and SR Loop 101
 907          HC       2
              *

 908          KK   DPELO  DIVERT
 909          KM   Divert calculated full flow capapcity of 255 cfs into 72-inch storm drain
 910          KM   pipe at the intersection of Peoria Avenue and Loop 101
 911          DT  DPPELO      0.0   255.0
 912          DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
 913          DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

 914          KK  RSOLLO   ROUTE
 915          KM   Route diversion DSOLLO south to combination point COLLO
 916          RS       2     FLOW
 917          RC   0.035    0.015    0.035     5324  0.0018     0.00
 918          RX    0.00     3.00    13.00    33.00   63.00    83.00    93.00    96.00
 919          RY   11.00    10.00    10.00     0.00    0.00    10.00    10.00    11.00
              *

1                                        HEC-1 INPUT                                                    PAGE 24

 LINE        ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

 920          KK    OL35   BASIN
 921          KM   Runoff hydrograph for subbasin OL35 northeast of the intersection of Olive
 922          KM   Avenue and 35th Avenue
 923          BA   0.214
 924          LG    0.10     0.25     5.40     0.23       58
 925          UC   0.697    0.700
 926          UA       0      5.0     16.0     30.0     65.0     77.0     84.0     90.0     94.0     97.0
 927          UA     100
              *

 928          KK   D35OL  DIVERT
 929          KM   Divert calculated full flow capapcity of 61 cfs into 42-inch storm drain
 930          KM   pipe at the intersection of Olive Avenue and 35th Avenue
 931          DT  DP35OL      0.0     61.0
 932          DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
 933          DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

 934          KK  DWOL43  DIVERT
 935          KM   Divert remaining runoff hydrograph from subbasin OL35 west to combination
 936          KM   point COL43
 937          DT  DSNO35      0.0      0.0
 938          DI      0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0 10000.0 20000.0 50000.0
 939          DQ      0.0     70.0    140.0    350.0    700.0   1400.0   2800.0  7000.0 14000.0 35000.0
              *

 940          KK  RWOL43   ROUTE
 941          KM   Route diversion DWOL43 west to combination point COL43
 942          RS      10     FLOW
 943          RC   0.035    0.015    0.035     5280  0.0022     0.00
 944          RX    0.00     0.00    35.50    35.50  188.50   188.50   224.00   224.00
 945          RY    3.00     0.86     0.50     0.00    0.00     0.50     0.86     3.00
              *

 946          KK    OL43   BASIN
 947          KM   Runoff hydrograph for subbasin OL43 northeast of the intersection of Olive
 948          KM   Avenue and 43rd Avenue
 949          BA   0.635
 950          LG    0.25     0.25     5.40     0.20       33
 951          UC   1.253    0.768
 952          UA       0      5.0     16.0     30.0     65.0     77.0     84.0     90.0     94.0     97.0
 953          UA     100
              *

 954          KK   COL43 COMBINE
 955          KM   Combine route RWOL43 and subbasin OL43
 956          HC       2     0.70
              *

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 957          KK   D43OL  DIVERT
 958          KM   Divert calculated full flow capapcity of 85 cfs into 48-inch storm drain
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 959          KM   pipe at the intersection of Olive Avenue and 43rd Avenue
 960          DT  DP43OL      0.0     85.0
 961          DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
 962          DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

 963          KK  DWOL51  DIVERT
 964          KM   Divert remaining runoff hydrograph from combination point COL43 west to
 965          KM   combination point COL51
 966          DT  DSNO43      0.0      0.0
 967          DI      0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0 10000.0 20000.0 50000.0
 968          DQ      0.0     59.0    118.0    295.0    590.0   1180.0   2360.0  5900.0 11800.0 29500.0
              *

 969          KK  RWOL51   ROUTE
 970          KM   Route diversion DWOL51 west to combination point COL51
 971          RS       6     FLOW
 972          RC   0.035    0.015    0.035     5280  0.0035     0.00
 973          RX    0.00     0.00    47.50    47.50  230.50   230.50   278.00   278.00
 974          RY    3.00     0.98     0.50     0.00    0.00     0.50     0.98     3.00
              *

 975          KK  DROL51RETRIEVE
 976          KM   Retrieve divert DROL51 from subbasin CPE51 and divert south to combination
 977          KM   point COL51
 978          DR  DSOL51
              *

 979          KK  RSOL51   ROUTE
 980          KM   Route diversion retrieval DROL51 south to combination point COL51
 981          RS       6     FLOW
 982          RC   0.035    0.015    0.035     5280  0.0031     0.00
 983          RX    0.00     0.00    68.50    68.50  359.50   359.50   428.00   428.00
 984          RY    3.00     1.18     0.50     0.00    0.00     0.50     1.18     3.00
              *

 985          KK    OL51   BASIN
 986          KM   Runoff hydrograph for square mile subbasin OL51 northeast of the intersection
 987          KM   of Olive Avenue and 51st Avenue
 988          BA   0.993
 989          LG    0.23     0.15     7.30     0.10       36
 990          UC   1.300    0.865
 991          UA       0      5.0     16.0     30.0     65.0     77.0     84.0     90.0     94.0     97.0
 992          UA     100
              *

 993          KK  EROL51  DIVERT
 994          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
 995          KM   retention developed after 1990 in subbasin OL51
 996          DT   XOL51      6.0      0.0
 997          DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
 998          DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

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 LINE        ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

 999          KK   COL51 COMBINE
1000          KM   Combine route RWOL51, route RSOL51, and subbasin OL51
1001          HC       3     1.45
              *

1002          KK   DOL51  DIVERT
1003          KM   Divert calculated full flow capapcity of 297 cfs into 78-inch storm drain
1004          KM   pipe at the intersection of Olive Avenue and 51st Avenue
1005          DT  DPOL51      0.0    297.0
1006          DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
1007          DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

1008          KK  DWOL59  DIVERT
1009          KM   Divert remaining runoff hydrograph from combination point COL51 west to
1010          KM   combination point COL59
1011          DT  DSNO51      0.0      0.0
1012          DI      0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0 10000.0 20000.0 50000.0
1013          DQ      0.0     34.0     68.0    170.0    340.0    680.0   1360.0  3400.0  6800.0 17000.0
              *

1014          KK  RWOL59   ROUTE
1015          KM   Route diversion DWOL59 west to combination point COL59
1016          RS       4     FLOW
1017          RC   0.035    0.015    0.035     5280  0.0034     0.00
1018          RX    0.00     0.00    75.50    75.50  402.50   402.50   478.00   478.00
1019          RY    3.00     1.25     0.50     0.00    0.00     0.50     1.25     3.00
              *

1020          KK  DROL59RETRIEVE
1021          KM   Retrieve divert DROL59 from combination point CPPE59 and divert south to
1022          KM   combination point COL59
1023          DR  DSOL59
              *
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1024          KK  RSOL59    ROUTE
1025          KM   Route diversion retrieval DROL59 south to combination point COL59
1026          RS      5     FLOW
1027          RC  0.035   0.015   0.035    5280  0.0023    0.00
1028          RX   0.00    0.00   72.50   72.50  425.50  425.50  498.00  498.00
1029          RY   3.00    1.23    0.50    0.00    0.00    0.50    1.23    3.00
              *

1030          KK    OL59    BASIN
1031          KM   Runoff hydrograph for square mile subbasin OL59 northeast of the intersection
1032          KM   of Olive Avenue and 59th Avenue
1033          BA  0.990
1034          LG   0.24    0.15    8.80    0.05      34
1035          UC  1.336   0.890
1036          UA      0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
1037          UA    100
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1038          KK  EROL59  DIVERT
1039          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
1040          KM   retention developed after 1990 in subbasin OL59
1041          DT   XOL59    21.9     0.0
1042          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
1043          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

1044          KK   COL59 COMBINE
1045          KM   Combine route RWOL59, route RSOL59, and subbasin OL59
1046          HC       3    2.78
              *

1047          KK  PR59PERETRIEVE
1048          KM   Retrieve full flow capacity of 235 cfs from 78-inch storm drain pipe at the
1049          KM   intersection of Peoria Avenue and 59th Avenue
1050          DR  DP59PE
              *

1051          KK  RP59BR    ROUTE
1052          KM   Route full flow capacity of 235 cfs through 78-inch storm drain pipe in
1053          KM   59th Avenue to the intersection of Brown Street and 59th Avenue
1054          RK    1231  0.0020   0.015             CIRC   6.500
              *

1055          KK   DBR59  DIVERT
1056          KM   Divert calculated full flow capapcity of 161 cfs into 60-inch storm drain
1057          KM   pipe at the intersection of Brown Street and 59th Avenue
1058          DT  DPBR59      0.0    161.0
1059          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
1060          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

1061          KK  RP59OL    ROUTE
1062          KM   Route full flow capacity of 161 cfs through 60-inch storm drain pipe in
1063          KM   59th Avenue to the intersection of Olive Avenue and 59th Avenue
1064          RK    1446  0.0031   0.015             CIRC   3.500
              *

1065          KK  PROL51RETRIEVE
1066          KM   Retrieve full flow capacity of 297 cfs from 78-inch storm drain pipe at the
1067          KM   intersection of Olive Avenue and 51st Avenue
1068          DR  DPOL51
              *

1069          KK  RPOL59    ROUTE
1070          KM   Route full flow capacity of 297 cfs through 78-inch storm drain pipe in
1071          KM   Olive Avenue to the intersection of Olive Avenue and 59th Avenue
1072          RK    5117  0.0032   0.015             CIRC   6.500
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1073          KK  CPOL59 COMBINE
1074          KM   Combine pipe return PROL51 and the remainder of pipe return PR59PE with the
1075          KM   runoff hydrograph at combination point COL59 at the intersection of Olive
1076          KM   Avenue and 59th Avenue
1077          HC       3
              *

1078          KK   DOL59  DIVERT
1079          KM   Divert calculated full flow capapcity of 475 cfs into 90-inch storm drain
1080          KM   pipe at the intersection of Olive Avenue and 59th Avenue
1081          DT  DPOL59      0.0    475.0
1082          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
1083          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

1084          KK  DWOL67  DIVERT
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1085          KM   Divert remaining runoff hydrograph from combination point CPOL59 west to
1086          KM   combination point COL67
1087          DT  DSNO59      0.0      0.0
1088          DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
1089          DQ     0.0    61.0   122.0   305.0   610.0  1220.0  2440.0  6100.0 12200.0 30500.0
              *

1090          KK  RWOL67    ROUTE
1091          KM   Route diversion DWOL67 west to combination point COL67
1092          RS       3    FLOW
1093          RC   0.035   0.015   0.035    5280  0.0034    0.00
1094          RX    0.00    0.00   54.50   54.50  273.50  273.50  328.00  328.00
1095          RY    3.00    1.04    0.50    0.00    0.00    0.50    1.04    3.00
              *

1096          KK  DROL67RETRIEVE
1097          KM   Retrieve divert DROL67 from combination point CPE67 and divert south to
1098          KM   combination point COL67
1099          DR  DSOL67
              *

1100          KK  RSOL67    ROUTE
1101          KM   Route diversion retrieval DROL67 south to combination point COL67
1102          RS       7    FLOW
1103          RC   0.035   0.015   0.035    5280  0.0031    0.00
1104          RX    0.00    0.00   45.50   45.50  284.50  284.50  330.00  330.00
1105          RY    3.00    0.96    0.50    0.00    0.00    0.50    0.96    3.00
              *

1106          KK    OL67    BASIN
1107          KM   Runoff hydrograph for square mile subbasin OL67 northeast of the intersection
1108          KM   of Olive Avenue and 67th Avenue
1109          BA  0.960
1110          LG   0.23    0.15    8.40    0.07      36
1111          UC  1.159   0.764
1112          UA      0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
1113          UA    100
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1114          KK  EROL67  DIVERT
1115          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
1116          KM   retention developed after 1990 in subbasin OL67
1117          DT   XOL67    39.8     0.0
1118          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
1119          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

1120          KK   COL67 COMBINE
1121          KM   Combine route RWOL67, route RSOL67, and subbasin OL67
1122          HC       3    2.84
              *

1123          KK  PRBR59RETRIEVE
1124          KM   Retrieve full flow capacity of 161 cfs from 60-inch storm drain pipe at the
1125          KM   intersection of Brown Street and 59th Avenue
1126          DR  DPBR59
              *

1127          KK  RPBR63    ROUTE
1128          KM   Route full flow capacity of 161 cfs through 60-inch storm drain pipe in
1129          KM   63rd Avenue to the intersection of Brown Street and 63rd Avenue
1130          RK     528  0.0038   0.015             CIRC   5.000
              *

1131          KK  SRBR63 STORAGE
1132          KM   Storage route pipe flow PRBR59 from the storm drain in Brown Street
1133          KM     through regional detention basin located near the intersection of Brown
1134          KM     Street and 63rd Avenue
1135          KM   Stage-storage from Sahuaro Ranch Park - Phase VI Civil Survey, 1988
1136          RS       1    STOR
1137          SV            0.83    1.95    7.59    8.05    8.59
1138          SQ            9.00   25.00   52.00  201.00  474.00
1139          SE    57.00   58.00   59.00   63.00   63.20   63.50
              *

1140          KK  RP63OL    ROUTE
1141          KM   Route full flow capacity of 161 cfs through 60-inch storm drain pipe in
1142          KM   63rd Avenue to the intersection of Olive Avenue and 63rd Avenue
1143          RK    3878  0.0040   0.015             CIRC   2.500
              *

1144          KK  PROL59RETRIEVE
1145          KM   Retrieve full flow capacity of 475 cfs from 90-inch diameter pipe at the
1146          KM   intersection of Olive Avenue and 59th Avenue
1147          DR  DPOL59
              *

1148          KK  RPOL63    ROUTE
1149          KM   Route full flow capacity of 475 cfs through 90-inch storm drain pipe in
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1150          KM   in Olive Avenue to the intersection of Olive Avenue and 63rd Avenue
1151          RK    2835  0.0038   0.015            CIRC   7.500
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


1152          KK  CPOL63 COMBINE
1153          KM   Combine pipe return PROL67 with pipe return PRBR59 at the intersection of
1154          KM   Olive Avenue and 63rd Avenue
1155          HC       2    2.84
              *

1156          KK  RPOL67   ROUTE
1157          KM   Route full flow capacity of 161 cfs through 60inch storm drain pipe in
1158          KM   59th Avenue to the intersection of Olive Avenue and 59th Avenue
1159          RK    2409  0.0033   0.015            CIRC   7.500
              *

1160          KK  PR67PERETRIEVE
1161          KM   Retrieve full flow capacity of 161 cfs from 60-inch storm drain pipe at the
1162          KM   intersection of Olive Avenue and 67th Avenue
1163          DR  DP67PE
              *

1164          KK  RP67MV   ROUTE
1165          KM   Route full flow capacity of 162 cfs through 60-inch storm drain pipe in
1166          KM   67th Avenue to the intersection of Mountain View Road and 67th Avenue
1167          RK    2679  0.0039   0.015            CIRC   5.000
              *

1168          KK  SR67MV STORAGE
1169          KM   Storage route pipe flow PR67PE from storm drain in 67th Avenue through
1170          KM     regional detention basin located near the intersection of Mountain View
1171          KM     Road and 67th Avenue
1172          KM   Stage-storage from Chaparral Ranch Retention Basin Plans, 1984
1173          RS       1     STOR
1174          SV            2.29    2.93    3.65    5.28
1175          SQ           17.00  201.00  531.00 1457.00
1176          SE  1170.0 1171.00 1171.20 1171.50 1172.00
              *

1177          KK  RP67OL   ROUTE
1178          KM   Route full flow capacity of 175 cfs through 66-inch storm drain pipe in
1179          KM   67th Avenue to the intersection of Olive Avenue and 67th Avenue
1180          RK    2627  0.0027   0.015            CIRC   5.500
              *

1181          KK  CPOL67 COMBINE
1182          KM   Combine pipe return PR67PE with the runoff hydrograph at combination point
1183          KM   COL67 at the intersection of Olive Avenue and 67th Avenue
1184          HC       3
              *

1185          KK   DOL67  DIVERT
1186          KM   Divert calculated full flow capapcity of 662 cfs into 72-inch storm drain
1187          KM   pipe at the intersection of Olive Avenue and 67th Avenue
1188          DT  DPOL67     0.0   662.0
1189          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
1190          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


1191          KK  DWOL75  DIVERT
1192          KM   Divert remaining runoff hydrograph from combination point CPOL67 west to
1193          KM   combination point COL75
1194          DT  DSNO67     0.0     0.0
1195          DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
1196          DQ     0.0    44.0    88.0   220.0   440.0   880.0  1760.0  4400.0  8800.0 22000.0
              *

1197          KK  RWOL75   ROUTE
1198          KM   Route diversion DWOL75 west to combination point COL75
1199          RS       2     FLOW
1200          RC   0.035   0.015   0.035    5280  0.0031    0.00
1201          RX    0.00    0.00   67.00   67.00  332.00  332.00  399.00  399.00
1202          RY    3.00    1.17    0.50    0.00    0.00    0.50    1.17    3.00
              *

1203          KK  DROL75RETRIEVE
1204          KM   Retrieve divert DROL75 from combination point CPE75 and divert south to
1205          KM   combination point COL75
1206          DR  DSOL75
              *

1207          KK  RSOL75   ROUTE
1208          KM   Route diversion retrieval DROL75 south to combination point COL75
1209          RS       3    FLOW
1210          RC   0.035   0.015   0.035    5280  0.0027    0.00
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1211          RX    0.00    0.00   57.50   57.50  291.50  291.50  349.00  349.00
1212          RY    3.00    1.08    0.50    0.00    0.00    0.50    1.08    3.00
              *

1213          KK   OL75   BASIN
1214          KM   Runoff hydrograph for square mile subbasin OL75 northeast of the intersection
1215          KM   of Olive Avenue and 75th Avenue
1216          BA   1.004
1217          LG    0.23    0.15    8.80    0.06      32
1218          UC   1.344   0.896
1219          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
1220          UA     100
              *

1221          KK  EROL75  DIVERT
1222          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
1223          KM   retention developed after 1990 in subbasin OL75
1224          DT   XOL75     40.9     0.0
1225          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
1226          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

1227          KK   COL75 COMBINE
1228          KM   Combine route RWOL75, route RSOL75, and subbasin OL75
1229          HC       3    4.34
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


1230          KK  PROL67RETRIEVE
1231          KM   Retrieve full flow capacity of 662 cfs from 72-inch storm drain pipe at the
1232          KM   intersection of Olive Avenue and 67th Avenue
1233          DR  DPOL67
              *

1234          KK  RPOL71   ROUTE
1235          KM   Route full flow capacity of 662 cfs through 72-inch storm drain pipe in
1236          KM   Olive Avenue to the intersection of Olive Avenue and 71st Avenue
1237          RK    2746  0.0243   0.015            CIRC   6.000
              *

1238          KK  CPOL71 COMBINE
1239          KM   Combine pipe return PROL67 with the runoff hydrograph at combination point
1240          KM   COL71 at the intersection of Olive Avenue and 71st Avenue
1241          HC       2
              *

1242          KK  SROL71 STORAGE
1243          KM   Storage route runoff hydrograph from combination point CPOL71 through
1244          KM     regional detention basin located near the intersection of Olive Avenue
1245          KM     and 71st Avenue
1246          KM   Stage-storage data from topography provided by FCDMC dated 3/28/1994
1247          RS       1     STOR
1248          SV            8.78   27.11   47.24   69.15   92.94  105.55  118.61
1249          SQ           57.00  147.00  148.00  184.00  213.00 2792.00 7494.00
1250          SE  1128.0 1130.00 1132.00 1134.00 1136.00 1138.00 1139.00 1140.00
              *

1251          KK   DOL71  DIVERT
1252          KM   Divert calculated full flow capapcity of 386 cfs into 78-inch storm drain
1253          KM   pipe at the intersection of Olive Avenue and 71st Avenue
1254          DT  DPOL71     0.0   386.0
1255          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
1256          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

1257          KK  PR75PERETRIEVE
1258          KM   Retrieve full flow capacity of 179 cfs from 60-inch storm drain pipe at the
1259          KM   intersection of Peoria Avenue and 75th Avenue
1260          DR  DP75PE
              *

1261          KK  RP75OL   ROUTE
1262          KM   Route full flow capacity of 179 cfs through 60-inch storm drain pipe in
1263          KM   75th Avenue to the intersection of Olive Avenue and 75th Avenue
1264          RK    5035  0.0047   0.015            CIRC   5.000
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


1265          KK  PROL71RETRIEVE
1266          KM   Retrieve full flow capacity of 386 cfs from 78-inch storm drain pipe at the
1267          KM   intersection of Olive Avenue and 71st Avenue
1268          DR  DPOL71
              *

1269          KK  RPOL75   ROUTE
1270          KM   Route full flow capacity of 386 cfs through 78-inch storm drain pipe in
1271          KM   Olive Avenue to the intersection of Olive Avenue and 75th Avenue
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1272          RK    2971  0.0054   0.015            CIRC   6.500
              *

1273          KK  CPOL75 COMBINE
1274          KM   Combine pipe return PROL71 with the runoff hydrograph at combination point
1275          KM   COL75 at the intersection of Olive Avenue and 75th Avenue
1276          HC       3
              *

1277          KK   DOL75  DIVERT
1278          KM   Divert calculated full flow capapcity of 239 cfs into 90-inch storm drain
1279          KM   pipe at the intersection of Olive Avenue and 75th Avenue
1280          DT  DPOL75      0.0   239.0
1281          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
1282          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

1283          KK  DWGR83  DIVERT
1284          KM   Divert remaining runoff hydrograph from combination point CPOL75 west to
1285          KM   combination point CGR83
1286          DT  DSGR75      0.0     0.0
1287          DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
1288          DQ     0.0    51.0   102.0   255.0   510.0  1020.0  2040.0  5100.0 10200.0 25500.0
              *

1289          KK  DRGR83RETRIEVE
1290          KM   Retrieve divert DRGR83 from combination point CPE83 and divert south to
1291          KM   combination point CGR83
1292          DR  DSGR83
              *

1293          KK   D83GR  DIVERT
1294          DT  DSOL83      0.0     0.0
1295          DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
1296          DQ     0.0    28.0    56.0   140.0   280.0   560.0  1120.0  2800.0  5600.0 14000.0
              *

1297          KK  RSGR83   ROUTE
1298          KM   Route diversion D83GR south to combination point CGR83
1299          RS      10    FLOW
1300          RC   0.035   0.015   0.035    7145  0.0003    0.00
1301          RX    0.00    0.00   67.00   67.00  332.00  332.00  399.00  399.00
1302          RY    3.00    1.17    0.50    0.00    0.00    0.50    1.17    3.00
              *
```



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LINE          ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

1303          KK    GR83   BASIN
1304          KM   Runoff hydrograph for subbasin GR83 southeast of the intersection of Grand
1305          KM   Avenue and 83rd Avenue
1306          BA   0.468
1307          LG    0.17    0.13   10.10    0.03      58
1308          UC   0.899   0.499
1309          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
1310          UA     100
              *

1311          KK  ERGR83  DIVERT
1312          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
1313          KM   retention developed after 1990 in subbasin GR83
1314          DT  XGR83     32.4     0.0
1315          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
1316          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

1317          KK   CGR83 COMBINE
1318          KM   Combine divert DWGR83, route RSGR83, and subbasin GR83
1319          HC       3    3.99
              *

1320          KK  SRGR83 STORAGE
1321          KM   Storage routing ID RES26S in Maryvale ADMS, Feb 1997 - comments from ADMS:
1322          KM   PONDING AREA RESERVOIR ROUTE
1323          KM   SUB-BASIN 26-31E
1324          KM   PONDING AREA NORTHEAST OF GRAND AVENUE/RR EMBANKMENT
1325          KM   OUTFLOW REPRESENTS BOTH FLOW WEST (OVER THE RR EMBANKEMENT) AND
1326          KM   FLOW SOUTH OVER OLIVE AVENUE
1327          KM   ------------------------------------------------------------------------------
1328          KM   REVISION TO MARYVALE ADMS MODEL KHA --> COMBINED STORAGE AT 75TH AND 83RD AVE
1329          KM
1330          KM   Storage route runoff hydrograph from combination point CGR83 through ponding
1331          KM     area at Grand Avenue between 75th Avenue and 83rd Avenue
1332          KM   ------------------------------------------------------------------------------
1333          RS       1    STOR
1334          SV              3.40   27.60   58.20  102.60  145.28  278.39  315.39  329.41  339.52
1335          SV  350.22  367.41
1336          SQ       0     0.1     0.2    0.35  2170.1 4810.15  51070.  51070.  51070.    5117
1337          SQ  51230.  52040.
1338          SE   1132.   1134.   1136.   1137.   1138.  1138.5   1140.   1141.  1141.3    1141
1339          SE  1141.7   1142.
              *
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1340          KK  DWOL83  DIVERT
1341          KM   Divert ID D26AW in Maryvale ADMS, Feb 1997
1342          KM   Divert remaining runoff hydrograph from combination point CGR83 west to
1343          KM   combination point COL83
1344          DT  DS75NO      0.0     0.0
1345          DI     0.0  2170.0  4810.0 52040.0     0.0     0.0     0.0     0.0     0.0     0.0
1346          DQ     0.0  2170.0  4160.0 51390.0     0.0     0.0     0.0     0.0     0.0     0.0
              *
```



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LINE          ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

1347          KK  RWOL83   ROUTE
1348          KM   Route diversion DWOL83 west to combination point COL83
1349          RS       1    FLOW
1350          RC   0.035   0.015   0.035    5280  0.0027    0.00
1351          RX    0.00    0.00   26.00   26.00  148.00  148.00  174.00  174.00
1352          RY    3.00    0.76    0.50    0.00    0.00    0.50    0.76    3.00
              *

1353          KK  DIOL83RETRIEVE
1354          KM   Retrieve arterial street flow diverted to 83rd Avenue at the intersection
1355          KM   of 83rd Avenue and Grand Avenue
1356          DR  DSOL83
              *

1357          KK  RSOL83   ROUTE
1358          KM   Route diversion retrieval DIOL83 south to combination point COL83
1359          RS       6    FLOW
1360          RC   0.035   0.015   0.035    5280  0.0031    0.00
1361          RX    0.00    0.00   67.00   67.00  332.00  332.00  399.00  399.00
1362          RY    3.00    1.17    0.50    0.00    0.00    0.50    1.17    3.00
              *

1363          KK    OL83   BASIN
1364          KM   Runoff hydrograph for subbasin OL83 northeast of the intersection
1365          KM   of Olive Avenue and 83rd Avenue
1366          BA   0.537
1367          LG    0.19    0.13   10.10    0.03      53
1368          UC   0.958   0.515
1369          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
1370          UA     100
              *

1371          KK  EROL83  DIVERT
1372          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
1373          KM   retention developed after 1990 in subbasin OL83
1374          DT  XOL83     36.7     0.0
1375          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
1376          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

1377          KK   COL83 COMBINE
1378          KM   Combine route RWOL83, route RSOL83, and subbasin OL83
1379          HC       3    1.06
              *

1380          KK    NO27   BASIN
1381          KM   Runoff hydrograph for subbasin NO27 northeast of the intersection of Northern
1382          KM   Avenue and 27th Avenue
1383          BA   0.126
1384          LG    0.18    0.15    8.80    0.05      63
1385          UC   0.754   0.978
1386          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
1387          UA     100
              *
```



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LINE          ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

1388          KK   D27NO  DIVERT
1389          KM   Divert calculated full flow capapcity of 114 cfs into 54-inch storm drain
1390          KM   pipe at the intersection of Northern Avenue and 27th Avenue
1391          DT  DP27NO      0.0   114.0
1392          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
1393          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

1394          KK  DWNO35  DIVERT
1395          KM   Divert remaining runoff hydrograph from subbasin NO27 west to combination
1396          KM   point CN035
1397          DT  DSGL27      0.0     0.0
1398          DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
1399          DQ     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
              *

1400          KK  RWNO35   ROUTE
1401          KM   Route diversion DWNO35 west to combination point CNO35
1402          RS       1    FLOW
1403          RC   0.035   0.015   0.035    5280  0.0001    0.00
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```
1404          RX    0.00    0.00   76.50   76.50  372.50  372.50  449.00  449.00
1405          RY    3.00    1.27    0.50    0.00    0.00    0.50    1.27    3.00
              *

1406          KK  DRNO35RETRIEVE
1407          KM   Retrieve divert DRNO35 from subbasin OL35 and divert south to
1408          KM   combination point CNO35
1409          DR  DSNO35
              *

1410          KK  RSNO35   ROUTE
1411          KM   Route diversion retrieval DRNO35 south to combination point CNO35
1412          RS      10    FLOW
1413          RC   0.035   0.015   0.035    5280  0.0036    0.00
1414          RX    0.00    0.00   67.00   67.00  332.00  332.00  399.00  399.00
1415          RY    3.00    1.17    0.50    0.00    0.00    0.50    1.17    3.00
              *

1416          KK    NO35   BASIN
1417          KM   Runoff hydrograph for square mile subbasin NO35 northeast of the intersection
1418          KM   of Norhtern Avenue and 35th Avenue
1419          BA   0.991
1420          LG    0.24    0.25    5.80    0.17      38
1421          UC   1.471   0.901
1422          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
1423          UA     100
              *

1424          KK   CNO35 COMBINE
1425          KM   Combine route RWNO35, route RSNO35, and subbasin NO35
1426          HC       3    1.14
              *

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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1427          KK  PR27NORETRIEVE
1428          KM   Retrieve full flow capacity of 114 cfs from 54-inch diameter pipe at the
1429          KM   intersection of Northern Avenue and 27th Avenue
1430          DR  DP27NO
              *

1431          KK  CPNO29 COMBINE
1432          KM   Combine pipe return PR27NO with the runoff hydrograph at combination point
1433          KM   CNO29 at the intersection of Northern Avenue and 29th Avenue
1434          HC       2
              *

1435          KK   D29NO  DIVERT
1436          KM   Divert calculated full flow capapcity of 114 cfs into 54-inch storm drain
1437          KM   pipe at the intersection of Northern Avenue and 29th Avenue
1438          DT  DP29NO      0.0   114.0
1439          DI      0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
1440          DQ      0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

1441          KK  PR35OLRETRIEVE
1442          KM   Retrieve full flow capacity of 61 cfs from 42-inch diameter pipe at the
1443          KM    intersection of Northern Avenue and 35th Avenue
1444          DR  DP35OL
              *

1445          KK  RP35NO   ROUTE
1446          KM   Route full flow capacity of 61 cfs through 42-inch storm drain pipe in
1447          KM   35th Avenue to the intersection of Northern Avenue and 35th Avenue
1448          RK    5191  0.0037   0.015            CIRC   3.500
              *

1449          KK  CPNO35 COMBINE
1450          KM   Combine pipe return PR35OL with the runoff hydrograph at combination point
1451          KM   CNO35 at the intersection of Northern Avenue and 35th Avenue
1452          HC       2
              *

1453          KK   D35NO  DIVERT
1454          KM   Capacity of storm drain in 31st Avenue and 35th Avenue diverted together.
1455          KM   Divert combined calculated full flow capacity of 26 cfs in the 30-inch storm
1456          KM   drain pipe in 31st Avenue and 87 cfs in the 48-inch storm drain pipe in
1457          KM   35th Avenue. The total calculated combined full flow capacity diverted at the
1458          KM   intersection of 35th Avenue and Northern Avenue is 113 cfs in an equivalent
1459          KM   diameter pipe of 53 inches
1460          DT  DP35NO      0.0   113.0
1461          DI      0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
1462          DQ      0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1463          KK  DWNO43  DIVERT
1464          KM   Divert remaining runoff hydrograph from combination point CPNO353 west to
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1465          KM   combination point CNO43
1466          DT  DSGL35      0.0      0.0
1467          DI      0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
1468          DQ      0.0    46.0    92.0   230.0   460.0   920.0  1840.0  4600.0  9200.0 23000.0
              *

1469          KK  RWNO43   ROUTE
1470          KM   Route diversion DWNO43 west to combination point CNO43
1471          RS       7    FLOW
1472          RC   0.035   0.015   0.035    5280  0.0021    0.00
1473          RX    0.00    0.00  114.50  114.50  534.50  534.50  649.00  649.00
1474          RY    3.00    1.64    0.50    0.00    0.00    0.50    1.64    3.00
              *

1475          KK  DRNO43RETRIEVE
1476          KM   Retrieve divert DRNO43 from combination point COL43 and divert south to
1477          KM   combination point CNO43
1478          DR  DSNO43
              *

1479          KK  RSNO43   ROUTE
1480          KM   Route diversion retrieval DRNO43 south to combination point CNO43
1481          RS       6    FLOW
1482          RC   0.035   0.015   0.035    5280  0.0035    0.00
1483          RX    0.00    0.00   67.00   67.00  332.00  332.00  399.00  399.00
1484          RY    3.00    1.17    0.50    0.00    0.00    0.50    1.17    3.00
              *

1485          KK    NO43   BASIN
1486          KM   Runoff hydrograph for square mile subbasin NO43 northeast of the intersection
1487          KM   of Norhtern Avenue and 43rd Avenue
1488          BA   0.995
1489          LG    0.24    0.21    6.40    0.14      33
1490          UC   1.451   0.973
1491          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
1492          UA     100
              *

1493          KK   CNO43 COMBINE
1494          KM   Combine route RWNO43, route RSNO43, and subbasin NO43
1495          HC       3    2.02
              *

1496          KK  PR43OLRETRIEVE
1497          KM   Retrieve full flow capacity of 85 cfs from 48-inch storm drain pipe at the
1498          KM   intersection of Olive Avenue and 43rd Avenue
1499          DR  DP43OL
              *

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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1500          KK  RP43NO   ROUTE
1501          KM   Route full flow capacity of 85 cfs through 48-inch storm drain pipe in
1502          KM   43rd Avenue to the intersection of Northern Avenue and 43rd Avenue
1503          RK    5100  0.0035   0.015            CIRC   4.000
              *

1504          KK  CPNO43 COMBINE
1505          KM   Combine pipe return PR43OL with the runoff hydrograph at combination point
1506          KM   CPNO43 at the intersection of Northern Avenue and 43rd Avenue
1507          HC       2
              *

1508          KK   D43NO  DIVERT
1509          KM   Capacity of storm drain in 43rd Avenue and 39th Avenue diverted together.
1510          KM   Divert combined calculated full flow capacity of 124 cfs in the 54-inch storm
1511          KM   drain pipe in 39th AVenue and 117 cfs in the 54-inch storm drain pipe in
1512          KM   43rd Avenue. The total calculated combined full flow capacity diverted at the
1513          KM   intersection of 43rd Avenue and Northern Avenue is 241 cfs in an equivalent
1514          KM   diameter pipe of 71 inches
1515          DT  DP43NO      0.0   241.0
1516          DI      0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
1517          DQ      0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

1518          KK  DWNO51  DIVERT
1519          KM   Divert remaining runoff hydrograph from combination point CPNO43 west to
1520          KM   combination point CNO51
1521          DT  DSGL43      0.0      0.0
1522          DI      0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
1523          DQ      0.0    51.0   102.0   255.0   510.0  1020.0  2040.0  5100.0 10200.0 25500.0
              *

1524          KK  RWNO51   ROUTE
1525          KM   Route diversion DWNO51 west to combination point CNO51
1526          RS       5    FLOW
1527          RC   0.035   0.015   0.035    5280  0.0019    0.00
1528          RX    0.00    0.00   65.50   65.50  382.50  382.50  448.00  448.00
1529          RY    3.00    1.16    0.50    0.00    0.00    0.50    1.16    3.00
              *
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1530          KK  DRNO51RETRIEVE
1531          KM   Retrieve divert DRNO51 from combination point COL51 and divert south to
1532          KM   combination point CNO51
1533          DR  DSNO51
              *
1534          KK  RSNO51    ROUTE
1535          KM   Route diversion retrieval DRNO51 south to combination point CNO51
1536          RS       6      FLOW
1537          RC   0.035   0.015   0.035    5280  0.0019    0.00
1538          RX    0.00    0.00   54.50   54.50  273.50  273.50  328.00  328.00
1539          RY    3.00    1.04    0.50    0.00    0.00    0.50    1.04    3.00
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1540          KK   NO51    BASIN
1541          KM   Runoff hydrograph for square mile subbasin NO51 northeast of the intersection
1542          KM   of Norhtern Avenue and 51st Avenue
1543          BA   0.993
1544          LG    0.24    0.25    6.00    0.16      37
1545          UC   1.423   0.953
1546          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
1547          UA     100
              *
1548          KK   CNO51 COMBINE
1549          KM   Combine route RWNO51, route RSNO51, and subbasin NO51
1550          HC       3    2.47
              *
1551          KK   DNO51  DIVERT
1552          KM   Divert calculated full flow capapcity of 168 cfs into 66-inch storm drain
1553          KM   pipe at the intersection of Northern Avenue and 51st Avenue
1554          DT  DPNO51      0.0   168.0
1555          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
1556          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *
1557          KK  DWNO59  DIVERT
1558          KM   Divert remaining runoff hydrograph from combination point CNO51 west to
1559          KM   combination point CNO59
1560          DT  DSGL51      0.0     0.0
1561          DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
1562          DQ     0.0    44.0    88.0   220.0   440.0   880.0  1760.0  4400.0  8800.0 22000.0
              *
1563          KK  RWNO59    ROUTE
1564          KM   Route diversion DWNO59 west to combination point CNO59
1565          RS       3     FLOW
1566          RC   0.035   0.015   0.035    5280  0.0040    0.00
1567          RX    0.00    0.00   58.50   58.50  339.50  339.50  398.00  398.00
1568          RY    3.00    1.08    0.50    0.00    0.00    0.50    1.08    3.00
              *
1569          KK  DRNO59RETRIEVE
1570          KM   Retrieve divert DRNO59 from combination point CPOL59 and divert south to
1571          KM   combination point CNO59
1572          DR  DSNO59
              *
1573          KK  RSNO59    ROUTE
1574          KM   Route diversion retrieval DRNO59 south to combination point CNO59
1575          RS       4     FLOW
1576          RC   0.035   0.015   0.035    5280  0.0024    0.00
1577          RX    0.00    0.00   86.50   86.50  511.50  511.50  598.00  598.00
1578          RY    3.00    1.36    0.50    0.00    0.00    0.50    1.36    3.00
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1579          KK   NO59    BASIN
1580          KM   Runoff hydrograph for square mile subbasin NO59 northeast of the intersection
1581          KM   of Norhtern Avenue and 59th Avenue
1582          BA   0.992
1583          LG    0.23    0.15    7.60    0.09      33
1584          UC   1.345   0.896
1585          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
1586          UA     100
              *
1587          KK  ERNO59  DIVERT
1588          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
1589          KM   retention developed after 1990 in subbasin NO59
1590          DT   XNO59     22.4     0.0
1591          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
1592          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *
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1593          KK   CNO59 COMBINE
1594          KM   Combine route RWNO59, route RSNO59, and subbasin NO59
1595          HC       3    4.06
              *
1596          KK  SRNO59 STORAGE
1597          KM   Storage route runoff hydrograph from combination point CNO59 through
1598          KM     regional detention basin located in subbasin NO59
1599          KM   Combined storage from two retention basins
1600          KM   Stage-storage data from Butler Park Detention Basin As-built record, 1991 and
1601          KM     Butler Park Street Improvements Retention Basin As-built record, 1990
1602          RS       1    STOR
1603          SV            1.87    4.65    7.68   15.59
1604          SQ                                  2430.00
1605          SE   96.00   97.00   98.00   99.00  100.00
              *
1606          KK  PRNO51RETRIEVE
1607          KM   Retrieve full flow capacity of 168 cfs from 66-inch storm drain pipe at the
1608          KM   intersection of Northern Avenue and 51st Avenue
1609          DR  DPNO51
              *
1610          KK  RPNO59    ROUTE
1611          KM   Route full flow capacity of 168 cfs through 66-inch storm drain pipe in
1612          KM   Northern Avenue to the intersection of Northern Avenue and 51st Avenue
1613          RK    5146  0.0025   0.015             CIRC   5.500
              *
1614          KK  CPNO59 COMBINE
1615          KM   Combine pipe return PRNO51 with the runoff hydrograph at combination point
1616          KM   CNO59 at the intersection of Northern Avenue and 59th Avenue
1617          HC       2
              *
1                                        HEC-1 INPUT                                    PAGE 42

LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1618          KK   DNO59  DIVERT
1619          KM   Divert calculated full flow capapcity of 134 cfs into 72-inch storm drain
1620          KM   pipe at the intersection of Northern Avenue and 59th Avenue
1621          DT  DPNO59      0.0   134.0
1622          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
1623          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *
1624          KK  DWNO67  DIVERT
1625          KM   Divert remaining runoff hydrograph from combination point CPNO59 west to
1626          KM   combination point CNO67
1627          DT  DSGL59      0.0     0.0
1628          DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
1629          DQ     0.0    33.0    66.0   165.0   330.0   660.0  1320.0  3300.0  6600.0 16500.0
              *
1630          KK  RWNO67    ROUTE
1631          KM   Route diversion DWNO67 west to combination point CNO67
1632          RS       3     FLOW
1633          RC   0.035   0.015   0.035    5280  0.0029    0.00
1634          RX    0.00    0.00   58.50   58.50  339.50  339.50  398.00  398.00
1635          RY    3.00    1.08    0.50    0.00    0.00    0.50    1.08    3.00
              *
1636          KK  DRNO67RETRIEVE
1637          KM   Retrieve divert DRNO67 from combination point CPOL67 and divert south to
1638          KM   combination point CNO67
1639          DR  DSNO67
              *
1640          KK  RSNO67    ROUTE
1641          KM   Route diversion retrieval DRNO67 south to combination point CNO67
1642          RS       3     FLOW
1643          RC   0.035   0.015   0.035    5280  0.0019    0.00
1644          RX    0.00    0.00   58.50   58.50  339.50  339.50  398.00  398.00
1645          RY    3.00    1.08    0.50    0.00    0.00    0.50    1.08    3.00
              *
1646          KK   NO67    BASIN
1647          KM   Runoff hydrograph for square mile subbasin NO67 northeast of the intersection
1648          KM   of Norhtern Avenue and 67th Avenue
1649          BA   0.956
1650          LG    0.22    0.15    8.80    0.05      45
1651          UC   1.358   0.914
1652          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
1653          UA     100
              *
1654          KK  ERNO67  DIVERT
1655          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
1656          KM   retention developed after 1990 in subbasin NO67
1657          DT   XNO67     54.3     0.0
1658          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
1659          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
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1                                         HEC-1 INPUT                                         PAGE 43

 LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 1660         KK   CNO67 COMBINE
 1661         KM   Combine route RWNO67, route RSNO67, and subbasin NO67
 1662         HC       3    4.93
                   *
 1663         KK   DWGR75  DIVERT
 1664         KM   Divert portion of runoff hydrograph from subbasin CNO67 west through subbasin
 1665         KM   GR75 using the ratio of the widths and slopes of the streets going west and
 1666         KM   the widths and slopes of the streets going south. The remaining flow is
 1667         KM   diverted south through subbasin GR67
 1668         DT  DSGR67     0.0      0.0
 1669         DI      0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
 1670         DQ      0.0    65.0   130.0   325.0   650.0  1300.0  2600.0  6500.0 13000.0 32500.0
                   *
 1671         KK   DGR75  DIVERT
 1672         KM   Divert portion of DWGR75 west to subbasin GR75 using the ratio of the width
 1673         KM   of the collector and local streets and the width of the arterial street. The
 1674         KM   remaining flow is diverted west to subbasin NO75 along Northern Avenue
 1675         DT  DWNO75     0.0      0.0
 1676         DI      0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
 1677         DQ      0.0    33.0    66.0   165.0   330.0   660.0  1320.0  3300.0  6600.0 16500.0
                   *
 1678         KK   RWGR75   ROUTE
 1679         KM   Route diversion DGR75 west to combination point CGR75
 1680         RS      10    FLOW
 1681         RC   0.035   0.015   0.035    7409  0.0008    0.00
 1682         RX    0.00    0.00   44.50   44.50  253.50  253.50  298.00  298.00
 1683         RY    3.00    0.94    0.50    0.00    0.00    0.50    0.94    3.00
                   *
 1684         KK   DRGR75RETRIEVE
 1685         KM   Retrieve divert DRGR75 from combination point CPOL75 and divert south to
 1686         KM   combination point CGR75
 1687         DR  DSGR75
                   *
 1688         KK   D75GR  DIVERT
 1689         KM   Divert portion of divert retrieval DRGR75 south to subbasin NO75 along
 1690         KM   collector and local streets. The remaining flow is diverted south to subbasin
 1691         KM   GR75 along 75th Avenue to combination point CGR75
 1692         DT  DSNO75     0.0      0.0
 1693         DI      0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
 1694         DQ      0.0    36.0    72.0   180.0   360.0   720.0  1440.0  3600.0  7200.0 18000.0
                   *
 1695         KK    GR75    BASIN
 1696         KM   Runoff hydrograph for subbasin GR75 southeast of the intersection of Grand
 1697         KM   Avenue and 75th Avenue
 1698         BA   0.496
 1699         LG    0.21    0.15    8.80    0.05      55
 1700         UC   0.867   0.463
 1701         UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
1                                         HEC-1 INPUT                                         PAGE 44

 LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 1702         UA     100
                   *
 1703         KK   ERGR75  DIVERT
 1704         KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
 1705         KM   retention developed after 1990 in subbasin GR75
 1706         DT   XGR75    31.1      0.0
 1707         DI      0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
 1708         DQ      0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
                   *
 1709         KK   CGR75 COMBINE
 1710         KM   Combine runoff hydrographs from route RWGR75, divert D75GR, and subbasin GR75
 1711         HC       3    3.09
                   *
 1712         KK   SRGR75 STORAGE
 1713         KM   Storage route runoff hydrograph from combination point CGR75 through regional
 1714         KM      detention basin located near the intersection of Grand Avenue and Olive
 1715         KM      Avenue
 1716         KM   Stage-storage-discharge data from State Highway Wickenburg-Phoenix Highway
 1717         KM      (US 60), Grand Ave: 75th Ave-Olive Ave As-builts, ADOT, August 2004
 1718         RS       1    STOR
 1719         SV     0.0     0.4     2.1     4.8     7.7    14.0    21.0    28.7    37.2    46.3
 1720         SV    56.2    66.9    72.6    75.5    78.4
 1721         SQ     0.0     8.0    20.0    25.0    29.0    36.0    42.0    47.0    52.0    56.0
 1722         SQ    60.0    64.0    66.0   305.0  1417.0
 1723         SE  1118.0  1119.0  1120.0  1121.0  1122.0  1124.0  1126.0  1128.0  1130.0  1132.0
 1724         SE  1134.0  1136.0  1137.0  1137.5  1138.0
```



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                   *
 1725         KK   PROL75RETRIEVE
 1726         KM   Retrieve full flow capacity of 239 cfs from 90-inch storm drain pipe at the
 1727         KM   intersection of Olive Avenue and 75th Avenue
 1728         DR  DPOL75
                   *
 1729         KK   CPOLGR COMBINE
 1730         KM   Combine pipe return PROL75 with storage route SRGR75 at combination point
 1731         KM   CPOLGR at the intersection of Olive Avenue and Grand Avenue
 1732         HC       2
                   *
 1733         KK   DPOLGR  DIVERT
 1734         KM   Divert calculated full flow capapcity of 239 cfs into 90-inch storm drain
 1735         KM   pipe at the intersection of Olive Avenue and Grand Avenue. The pipe flow is
 1736         KM   followed to combination point CPOL83 and the remaining surface flow is
 1737         KM   diverted to combination point CIGR75 at the intersection of Grand Avenue and
 1738         KM   75th Avenue
 1739         DT   DOLGR     0.0      0.0
 1740         DI      0.0   239.0   239.1 50000.0     0.0     0.0     0.0     0.0     0.0     0.0
 1741         DQ      0.0     0.0     0.1 49761.0     0.0     0.0     0.0     0.0     0.0     0.0
                   *
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 LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 1742         KK   RPOL83   ROUTE
 1743         KM   Route full flow capacity of 239 cfs through 90-inch storm drain pipe in
 1744         KM   Olive Avenue to the intersection of Olive Avenue and 83rd Avenue
 1745         RK    4974  0.0010   0.015            CIRC   7.500
                   *
 1746         KK   CPOL83 COMBINE
 1747         KM   Combine pipe return PROL75 with the runoff hydrograph at combination point
 1748         KM   COL83 at the intersection of Olive Avenue and 83rd Avenue
 1749         HC       2
                   *
 1750         KK   SROL83 STORAGE
 1751         KM   Storage route runoff hydrograph from combination point CPOL83 through
 1752         KM      regional detention basin located near the intersection of Olive Avenue
 1753         KM      and 83rd Avenue
 1754         KM   Stage-storage data from topography provided by FCDMC dated 3/28/1994
 1755         RS       1    STOR
 1756         SV            5.45   13.07   21.61   23.90   26.31   31.42
 1757         SQ           57.00  147.00  148.00  635.00 1517.00 4002.00
 1758         SE  1118.0 1120.00 1122.00 1124.00 1124.50 1125.00 1126.00
                   *
 1759         KK   DOL83  DIVERT
 1760         KM   Divert calculated full flow capapcity of 243 cfs into 90-inch storm drain
 1761         KM   pipe at the intersection of Olive Avenue and 83rd Avenue
 1762         DT  DPOL83     0.0    243.0
 1763         DI      0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
 1764         DQ      0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
                   *
 1765         KK   DWOL91  DIVERT
 1766         KM   Divert remaining runoff hydrograph from combination point CPOL83 west to
 1767         KM   combination point COL91
 1768         DT  DSNO83     0.0      0.0
 1769         DI      0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
 1770         DQ      0.0    39.0    78.0   195.0   390.0   780.0  1560.0  3900.0  7800.0 19500.0
                   *
 1771         KK   RWOL91   ROUTE
 1772         KM   Route diversion DWOL91 west to combination point COL91
 1773         RS       6    FLOW
 1774         RC   0.035   0.015   0.035    5280  0.0025    0.00
 1775         RX    0.00    0.00   76.50   76.50  372.50  372.50  449.00  449.00
 1776         RY    3.00    1.27    0.50    0.00    0.00    0.50    1.27    3.00
                   *
 1777         KK   DROL91RETRIEVE
 1778         KM   Retrieve divert DROL91 from combination point CPPE91 and divert south to
 1779         KM   combination point COL91
 1780         DR  DSOL91
                   *
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 LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 1781         KK   RSOL91   ROUTE
 1782         KM   Route diversion retrieval DROL91 south to combination point COL91
 1783         RS       4    FLOW
 1784         RC   0.035   0.015   0.035    5280  0.0019    0.00
 1785         RX    0.00    0.00   86.00   86.00  413.00  413.00  499.00  499.00
 1786         RY    3.00    1.36    0.50    0.00    0.00    0.50    1.36    3.00
                   *
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1787          KK    OL91   BASIN
1788          KM   Runoff hydrograph for square mile subbasin OL91 northeast of the intersection
1789          KM   of Olive Avenue and 91st Avenue
1790          BA   1.016
1791          LG    0.21    0.15    9.70    0.04      43
1792          UC   1.288   0.856
1793          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
1794          UA     100
              *

1795          KK  EROL91  DIVERT
1796          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
1797          KM   retention developed after 1990 in subbasin OL91
1798          DT   XOL91    47.7     0.0
1799          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
1800          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

1801          KK   COL91 COMBINE
1802          KM   Combine route RWOL91, route RSOL91, and subbasin OL91
1803          HC       3    3.68
              *

1804          KK  PROL83RETRIEVE
1805          KM   Retrieve full flow capacity of 243 cfs from 90-inch storm drain pipe at the
1806          KM   intersection of Olive Avenue and 83rd Avenue
1807          DR  DPOL83
              *

1808          KK  RPOL91   ROUTE
1809          KM   Route full flow capacity of 243 cfs through 90-inch storm drain pipe in
1810          KM   Olive Avenue to the intersection of Olive Avenue and 91st Avenue
1811          RK    5184  0.0010   0.015            CIRC   7.500
              *

1812          KK  CPOL91 COMBINE
1813          KM   Combine pipe return PROL83 with the runoff hydrograph at combination point
1814          KM   COL91 at the intersection of Olive Avenue and 91st Avenue
1815          HC       2
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1816          KK  DWOLLO  DIVERT
1817          KM   Divert remaining runoff hydrograph from combination point CPOL91 west to
1818          KM   combination point COLLO
1819          DT  DSNO91      0.0     0.0
1820          DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
1821          DQ     0.0    67.0   134.0   335.0   670.0  1340.0  2680.0  6700.0 13400.0 33500.0
              *

1822          KK  RWOLLO   ROUTE
1823          KM   Route diversion DWOLLO west to combination point COLLO
1824          RS       1    FLOW
1825          RC   0.035   0.015   0.035     600  0.0039    0.00
1826          RX    0.00    0.00   16.50   16.50  107.50  107.50  124.00  124.00
1827          RY    3.00    0.66    0.50    0.00    0.00    0.50    0.66    3.00
              *

1828          KK    OLLO   BASIN
1829          KM   Runoff hydrograph for subbasin OLLO northeast of the intersection of Olive
1830          KM   Avenue and SR Loop 101
1831          BA   0.160
1832          LG    0.10    0.15    8.80    0.05      83
1833          UC   0.652   0.716
1834          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
1835          UA     100
              *

1836          KK  EROLLO  DIVERT
1837          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
1838          KM   retention developed after 1990 in subbasin OLLO
1839          DT   XOLLO    11.4     0.0
1840          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
1841          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

1842          KK   COLLO COMBINE
1843          KM   Combine route RWOLLO, route RSOLLO, and subbasin OLLO
1844          HC       3    6.18
              *

1845          KK  RSNOLO   ROUTE
1846          KM   Route hydrograph at combination point COLLO south to combination point CNOLO
1847          RS       2    FLOW
1848          RC   0.035   0.015   0.035    6136  0.0023    0.00
1849          RX    0.00    4.00   16.00   26.00   34.00   44.00   56.00   59.00
1850          RY    6.24    5.24    5.00    0.00    0.20    5.20    5.44    6.44
              *
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1851          KK  DROLGRRETRIEVE
1852          KM   Retrieve remaining surface flow runoff hydrograph DROLGR following pipe
1853          KM   diversion DPOLGR after combination point CPOLGR at the intersection of Grand
1854          KM   Avenue and Olive Avenue
1855          DR   DOLGR
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1856          KK  DI75NORETRIEVE
1857          KM   Retrieve arterial street flow diverted to 75th Avenue at the intersection
1858          KM   of 75th Avenue and Grand Avenue
1859          DR  DSNO75
              *

1860          KK  DR75NORETRIEVE
1861          KM   Retrieve divert DR75NO from combination point CGR83 and divert south to
1862          KM   combination point CIGR75
1863          DR  DS75NO
              *

1864          KK  CIGR75 COMBINE
1865          KM   Combine arterial street flow from 75th Avenue DI75NO, divert retrieval DR75NO
1866          KM   and storage route SRGR75 at the intersection of 75th Avenue and Grand Avenue
1867          HC       3    7.85
              *

1868          KK  RSNO75   ROUTE
1869          KM   Route hydrograph at intersection combination point CIGR75
1870          KM   south to combination point CNO75
1871          RS       3    FLOW
1872          RC   0.035   0.015   0.035    5280  0.0019    0.00
1873          RX    0.00    0.00   29.00   29.00  170.00  170.00  199.00  199.00
1874          RY    3.00    0.79    0.50    0.00    0.00    0.50    0.79    3.00
              *

1875          KK  DINO75RETRIEVE
1876          KM   Retrieve arterial street flow diverted to Northern Avenue and 75th Avenue
1877          KM   from the intersection of Northern Avenue and 67th Avenue
1878          DR  DWNO75
              *

1879          KK  RWNO75   ROUTE
1880          KM   Route diversion retrieval DINO75 at the intersection of Norhtern Avenue
1881          KM   and 75th Avenue west to combination point CNO75
1882          RS       4    FLOW
1883          RC   0.035   0.015   0.035    5280  0.0030    0.00
1884          RX    0.00    0.00   16.50   16.50  107.50  107.50  124.00  124.00
1885          RY    3.00    0.66    0.50    0.00    0.00    0.50    0.66    3.00
              *

1886          KK    NO75   BASIN
1887          KM   Runoff hydrograph for subbasin NO75 northeast of the intersection of
1888          KM   Norhtern Avenue and 75th Avenue
1889          BA   0.506
1890          LG    0.10    0.15    8.40    0.06      80
1891          UC   0.789   0.416
1892          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
1893          UA     100
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1894          KK  ERNO75  DIVERT
1895          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
1896          KM   retention developed after 1990 in subbasin NO75
1897          DT   XNO75    19.5     0.0
1898          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
1899          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

1900          KK   CNO75 COMBINE
1901          KM   Combine route RWNO75, route RSNO75, and subbasin NO75
1902          HC       3    8.93
              *

1903          KK   DNO75  DIVERT
1904          KM   Divert calculated full flow capapcity of 161 cfs into 60-inch storm drain
1905          KM   pipe at the intersection of Northern Avenue and 75th Avenue
1906          DT  DPNO75      0.0   161.0
1907          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
1908          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

1909          KK  DWNO83  DIVERT
1910          KM   Divert remaining runoff hydrograph from combination point CNO75 west to
1911          KM   combination point CNO83
1912          DT  DSOW75      0.0     0.0
1913          DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
```

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1914          DQ      0.0     48.0     96.0    240.0    480.0    960.0   1920.0   4800.0   9600.0 24000.0
              *

1915          KK  RWNO83    ROUTE
1916          KM   Route diversion DWNO83 west to combination point CNO83
1917          RS       2     FLOW
1918          RC   0.035    0.015    0.035     5280   0.0048     0.00
1919          RX    0.00     0.00    35.50    35.50   188.50   188.50   224.00   224.00
1920          RY    3.00     0.86     0.50     0.00     0.00     0.50     0.86     3.00
              *

1921          KK  DRNO83RETRIEVE
1922          KM   Retrieve divert DRNO83 from combination point COL83 and divert south to
1923          KM   combination point CNO83
1924          DR  DSNO83
              *

1925          KK  RSNO83    ROUTE
1926          KM   Route diversion retrieval DRNO83 south to combination point CNO83
1927          RS       4     FLOW
1928          RC   0.035    0.015    0.035     5280   0.0040     0.00
1929          RX    0.00     0.00    35.50    35.50   188.50   188.50   224.00   224.00
1930          RY    3.00     0.86     0.50     0.00     0.00     0.50     0.86     3.00
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1931          KK    NO83    BASIN
1932          KM   Runoff hydrograph for square mile subbasin NO83 northeast of the intersection
1933          KM   of Norhtern Avenue and 83rd Avenue
1934          BA   1.005
1935          LG    0.10     0.15     8.80     0.05       80
1936          UC   1.288    0.854
1937          UA       0      5.0     16.0     30.0     65.0     77.0     84.0     90.0     94.0     97.0
1938          UA     100
              *

1939          KK  ERNO83   DIVERT
1940          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
1941          KM   retention developed after 1990 in subbasin NO83
1942          DT   XNO83     74.7      0.0
1943          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
1944          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

1945          KK   CNO83 COMBINE
1946          KM   Combine route RWNO83, route RSNO83, and subbasin NO83
1947          HC       3     6.05
              *

1948          KK  PRNO75RETRIEVE
1949          KM   Retrieve full flow capacity of 161 cfs from 60-inch storm drain pipe at the
1950          KM   intersection of Thunderbird Road and 75th Avenue
1951          DR  DPNO75
              *

1952          KK  RPNO83    ROUTE
1953          KM   Route full flow capacity of 161 cfs through 60-inch storm drain pipe in
1954          KM   Northern Avenue to the intersection of Northern Avenue and 83rd Avenue
1955          RK    5291  0.0038    0.015             CIRC    5.000
              *

1956          KK  CPNO83 COMBINE
1957          KM   Combine pipe return PRNO75 with the runoff hydrograph at combination point
1958          KM   CNO83 at the intersection of Northern Avenue and 83rd Avenue
1959          HC       2
              *

1960          KK   DNO83   DIVERT
1961          KM   Divert calculated full flow capapcity of 233 cfs into 72-inch storm drain
1962          KM   pipe at the intersection of Northern Avenue and 83rd Avenue
1963          DT  DPNO83      0.0    233.0
1964          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
1965          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *
1                                        HEC-1 INPUT                                        PAGE 51

LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1966          KK  RWNO91    ROUTE
1967          KM   Route diversion DWNO91 west to combination point CNO91
1968          RS       3     FLOW
1969          RC   0.035    0.015    0.035     5280   0.0014     0.00
1970          RX    0.00     0.00    45.00    45.00   229.00   229.00   274.00   274.00
1971          RY    3.00     0.95     0.50     0.00     0.00     0.50     0.95     3.00
              *

1972          KK  DRNO91RETRIEVE
1973          KM   Retrieve divert DRNO91 from combination point CPOL91 and divert south to
1974          KM   combination point CNO91
```



```
1975          DR  DSNO91
              *

1976          KK  RSNO91    ROUTE
1977          KM   Route diversion retrieval DRNO91 south to combination point CNO91
1978          RS       3     FLOW
1979          RC   0.035    0.015    0.035     5280   0.0029     0.00
1980          RX    0.00     0.00    48.00    48.00   251.00   251.00   299.00   299.00
1981          RY    3.00     0.98     0.50     0.00     0.00     0.50     0.98     3.00
              *

1982          KK    NO91    BASIN
1983          KM   Runoff hydrograph for square mile subbasin NO91 northeast of the intersection
1984          KM   of Norhtern Avenue and 91st Avenue
1985          BA   0.993
1986          LG    0.24     0.15     8.00     0.07       33
1987          UC   1.426    0.959
1988          UA       0      5.0     16.0     30.0     65.0     77.0     84.0     90.0     94.0     97.0
1989          UA     100
              *

1990          KK  ERNO91   DIVERT
1991          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
1992          KM   retention developed after 1990 in subbasin NO91
1993          DT   XNO91     53.9      0.0
1994          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
1995          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

1996          KK   CNO91 COMBINE
1997          KM   Combine route RWNO91, route RSNO91, and subbasin NO91
1998          HC       3     9.52
              *

1999          KK  PRNO83RETRIEVE
2000          KM   Retrieve full flow capacity of 233 cfs from 72-inch storm drain pipe at the
2001          KM   intersection of Northern Avenue and 83rd Avenue
2002          DR  DPNO83
              *
1                                        HEC-1 INPUT                                        PAGE 52

LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

2003          KK  RPNO91    ROUTE
2004          KM   Route full flow capacity of 233 cfs through 72-inch storm drain pipe in
2005          KM   Northern Avenue to the intersection of Northern Avenue and 91st Avenue
2006          RK    6941  0.0030    0.015             CIRC    6.000
              *

2007          KK  CPNO91 COMBINE
2008          KM   Combine pipe return PRNO83 with the runoff hydrograph at combination point
2009          KM   CNO91 at the intersection of Northern Avenue and 91st Avenue
2010          HC       2
              *

2011          KK  SRNO91 STORAGE
2012          KM   Storage route runoff hydrograph from combination point CPNO91 through
2013          KM     regional detention basin located near the intersection of Northern Avenue
2014          KM     and 87th Avenue
2015          KM   Stage-storage data from Northern and Butler Storm Drains Sub-Phase "A"
2016          KM     As-built records, 2001
2017          RS       1     STOR
2018          SV             7.00    21.80    62.20    67.50    72.90    84.00   107.20
2019          SQ            18.00    26.00    38.00 1526.00 4245.0011934.0033681.00
2020          SE  1089.2 1090.90 1092.50 1095.80 1096.20 1096.60 1097.50 1099.10
              *

2021          KK   DNO91   DIVERT
2022          KM   Divert calculated full flow capapcity of 69 cfs into 60-inch storm drain
2023          KM   pipe at the intersection of Northern Avenue and 29th Avenue
2024          DT  DPNO91      0.0     69.0
2025          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
2026          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

2027          KK  DWNOLO   DIVERT
2028          KM   Divert remaining runoff hydrograph from combination point CPNO91 west to
2029          KM   combination point CNOLO
2030          DT  DSGL91      0.0      0.0
2031          DI     0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0 10000.0 20000.0 50000.0
2032          DQ     0.0     53.0    106.0    265.0    530.0   1060.0   2120.0  5300.0 10600.0 26500.0
              *

2033          KK  RWNOLO    ROUTE
2034          KM   Route diversion DWNOLO west to combination point CNOLO
2035          RS       2     FLOW
2036          RC   0.035    0.015    0.035     3480   0.0026     0.00
2037          RX    0.00     0.00    45.00    45.00   229.00   229.00   274.00   274.00
2038          RY    3.00     0.95     0.50     0.00     0.00     0.50     0.95     3.00
              *

2039          KK    NOLO    BASIN
```

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2040          KM   Runoff hydrograph for subbasin NOLO northeast of the intersection of Northern
2041          KM   Avenue and SR Loop 101
2042          BA   0.280
2043          LG    0.10    0.15    7.30    0.09      84
2044          UC   0.746   0.828
1                                  HEC-1 INPUT                                        PAGE 53

LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

2045          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
2046          UA     100
              *
2047          KK  ERNOLO   DIVERT
2048          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
2049          KM   retention developed after 1990 in subbasin NOLO
2050          DT   XNOLO     19.9      0.0
2051          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
2052          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *
2053          KK   CNOLO COMBINE
2054          KM   Combine route RWNOLO, route RSNOLO, and subbasin NOLO
2055          HC        3    10.91
              *
2056          KK  PRNO91RETRIEVE
2057          KM   Retrieve full flow capacity of 69 cfs from 60-inch storm drain pipe at the
2058          KM   intersection of Northern Avenue and 91st Avenue
2059          DR  DPNO91
              *
2060          KK  RPNOLO    ROUTE
2061          KM   Route full flow capacity of 69cfs through 60-inch storm drain pipe in
2062          KM   Northern Avenue to the intersection of Northern Avenue and SR Loop 101
2063          RK    2827  0.0007   0.015             CIRC    5.000
              *
2064          KK  CPNOLO COMBINE
2065          KM   Combine pipe return PRNO91 with the runoff hydrograph at combination point
2066          KM   CNOLO at the intersection of Northern Avenue and SR Loop 101
2067          HC        2
              *
2068          KK   DNOLO   DIVERT
2069          KM   Divert calculated full flow capapcity of 15 cfs into 24-inch storm drain
2070          KM   pipe at the intersection of Northern Avenue and SR Loop 101
2071          DT  DPNOLO      0.0     15.0
2072          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
2073          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *
2074          KK  DSGLLO   DIVERT
2075          KM   Divert remaining runoff hydrograph from combination point CPNOLO south to
2076          KM   combination point CGLLO
2077          DT  DWNR03      0.0   917.0
2078          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
2079          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *
1                                  HEC-1 INPUT                                        PAGE 54

LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

2080          KK  RSGLLO    ROUTE
2081          KM   Route diversion DSGLLO south to combination point CGLLO
2082          RS        1    FLOW
2083          RC   0.035   0.015   0.035    2381  0.0023    0.00
2084          RX    0.00    4.00   16.00   26.00   34.00   44.00   56.00   59.00
2085          RY    6.24    5.24    5.00    0.00    0.20    5.20    5.44    6.44
              *
2086          KK  DRGL43RETRIEVE
2087          KM   Retrieve divert DRGL43 from combination point CPNO43 and divert south to
2088          KM   combination point CGL43
2089          DR  DSGL43
              *
2090          KK  RSGL43    ROUTE
2091          KM   Route diversion retrieval DRGL43 south to combination point CGL43
2092          RS        4    FLOW
2093          RC   0.035   0.015   0.035    5280  0.0034    0.00
2094          RX    0.00    0.00   57.50   57.50  291.50  291.50  349.00  349.00
2095          RY    3.00    1.08    0.50    0.00    0.00    0.50    1.08    3.00
              *
2096          KK    GL43   BASIN
2097          KM   Runoff hydrograph for square mile subbasin GL43 northeast of the intersection
2098          KM   of Glendale Avenue and 43rd Avenue
2099          BA   0.998
2100          LG    0.24    0.15    7.30    0.09      36
2101          UC   1.388   0.924
2102          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
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```
2103          UA     100
              *
2104          KK   CGL43 COMBINE
2105          KM   Combine route RSGL43, and subbasin GL43
2106          HC        2    2.03
              *
2107          KK  PR43NORETRIEVE
2108          KM   Retrieve combined full flow capacity of 241 cfs from 71-inch equivalent
2109          KM   diameter pipe at the intersection of Northern Avenue and 43rd Avenue
2110          DR  DP43NO
              *
2111          KK  RP43GL    ROUTE
2112          KM   Route the combined full flow capacity of 241 cfs through an equivalent storm
2113          KM   drain pipe diameter of 71 inches in 43rd Avenue to the intersection of
2114          KM   43rd Avenue and Glendale Avenue
2115          RK    5336  0.0035   0.015             CIRC    5.917
              *
1                                  HEC-1 INPUT                                        PAGE 55

LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

2116          KK  CPGL43 COMBINE
2117          KM   Combine pipe return PR43NO with the runoff hydrograph at combination point
2118          KM   CGL43 at the intersection of Glendale Avenue and 43rd Avenue
2119          HC        2
              *
2120          KK   D43GL  DIVERT
2121          KM   Capacity of storm drain in 39th Avenue and 43rd Avenue diverted together.
2122          KM   Divert combined calculated full flow capacity of 268 cfs in the 72-inch storm
2123          KM   drain pipe in 39th Avenue and 117 cfs in the 54-inch storm drain pipe in
2124          KM   43rd Avenue. The total calculated combined full flow capacity diverted at the
2125          KM   intersection of 43rd Avenue and Glendale Avenue is 385 cfs in an equivalent
2126          KM   diameter pipe of 85 inches
2127          DT  DP43GL      0.0     385.0
2128          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
2129          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *
2130          KK  DWGL51  DIVERT
2131          KM   Divert remaining runoff hydrograph from combination point CPGL43 west to
2132          KM   combination point CGL51
2133          DT  DSBH43      0.0     0.0
2134          DI      0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
2135          DQ      0.0    59.0   118.0   295.0   590.0  1180.0  2360.0  5900.0 11800.0 29500.0
              *
2136          KK  RWGL51    ROUTE
2137          KM   Route diversion DWGL51 west to combination point CGL51
2138          RS        5    FLOW
2139          RC   0.035   0.015   0.035    5280  0.0011    0.00
2140          RX    0.00    0.00   61.50   61.50  316.50  316.50  378.00  378.00
2141          RY    3.00    1.12    0.50    0.00    0.00    0.50    1.12    3.00
              *
2142          KK  DRGL51RETRIEVE
2143          KM   Retrieve divert DRGL51 from combination point CNO51 and divert south to
2144          KM   combination point CGL51
2145          DR  DSGL51
              *
2146          KK  RSGL51    ROUTE
2147          KM   Route diversion retrieval DRGL51 south to combination point CGL51
2148          RS        4    FLOW
2149          RC   0.035   0.015   0.035    5280  0.0027    0.00
2150          RX    0.00    0.00   61.50   61.50  316.50  316.50  378.00  378.00
2151          RY    3.00    1.12    0.50    0.00    0.00    0.50    1.12    3.00
              *
2152          KK    GL51   BASIN
2153          KM   Runoff hydrograph for square mile subbasin GL51 northeast of the intersection
2154          KM   of Glendale Avenue and 51st Avenue
2155          BA   1.002
2156          LG    0.23    0.25    5.40    0.20      42
2157          UC   1.500   1.009
1                                  HEC-1 INPUT                                        PAGE 56

LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

2158          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
2159          UA     100
              *
2160          KK   CGL51 COMBINE
2161          KM   Combine route RWGL51, route RSGL51, and subbasin GL51
2162          HC        3    2.91
              *
2163          KK  DWGL59  DIVERT
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2164          KM   Divert remaining runoff hydrograph from combination point CGL51 west to
2165          KM   combination point CGL59
2166          DT  DSBH51      0.0     0.0
2167          DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
2168          DQ     0.0    47.0    94.0   235.0   470.0   940.0  1880.0  4700.0  9400.0 23500.0
              *

2169          KK   D47GL  DIVERT
2170          KM   Capacity of storm drain in 47th Avenue and 49th Avenue diverted together.
2171          KM   Divert combined calculated full flow capacity of 284 cfs in the 60-inch storm
2172          KM   drain pipe in 47th Avenue and 96 cfs in the 48-inch storm drain pipe in
2173          KM   49th Avenue. The total calculated combined full flow capacity diverted at the
2174          KM   intersection of 47rd Avenue and Glendale Avenue is 379 cfs in an equivalent
2175          KM   diameter pipe of 85 inches
2176          DT  DP47GL      0.0   379.0
2177          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
2178          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

2179          KK  RWGL59   ROUTE
2180          KM   Route diversion DWGL59 west to combination point CGL59
2181          RS       5    FLOW
2182          RC   0.035   0.015   0.035    5280  0.0031    0.00
2183          RX    0.00    0.00   68.50   68.50  359.50  359.50  428.00  428.00
2184          RY    3.00    1.18    0.50    0.00    0.00    0.50    1.18    3.00
              *

2185          KK  DRGL59RETRIEVE
2186          KM   Retrieve divert DRGL59 from combination point CPNO59 and divert south to
2187          KM   combination point CGL59
2188          DR  DSGL59
              *

2189          KK  RSGL59   ROUTE
2190          KM   Route diversion retrieval DRGL59 south to combination point CGL59
2191          RS       4    FLOW
2192          RC   0.035   0.015   0.035    5280  0.0018    0.00
2193          RX    0.00    0.00   37.50   37.50  210.50  210.50  248.00  248.00
2194          RY    3.00    0.88    0.50    0.00    0.00    0.50    0.88    3.00
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9.....10

2195          KK    GL59   BASIN
2196          KM   Runoff hydrograph for square mile subbasin GL59 northeast of the intersection
2197          KM   of Glendale Avenue and 59th Avenue
2198          BA   1.015
2199          LG    0.20    0.25    5.20    0.22      47
2200          UC   1.310   0.872
2201          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
2202          UA     100
              *

2203          KK  ERGL59  DIVERT
2204          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
2205          KM   retention developed after 1990 in subbasin GL59
2206          DT  XGL59     22.3     0.0
2207          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
2208          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

2209          KK   CGL59 COMBINE
2210          KM   Combine route RWGL59, route RSGL59, and subbasin GL59
2211          HC       3    3.91
              *

2212          KK   D59GL  DIVERT
2213          KM   Divert calculated full flow capapcity of 217 cfs into 72-inch storm drain
2214          KM   pipe at the intersection of Glendale Avenue and 59th Avenue
2215          DT  DP59GL      0.0   217.0
2216          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
2217          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

2218          KK  DWGR67  DIVERT
2219          KM   Divert portion of runoff hydrograph from combination point CGL59 west through
2220          KM   subbasin GR67 using the ratio of the widths and slopes of the streets going
2221          KM   west and the widths and slopes of the streets going south. The remaining flow
2222          KM   is diverted south through subbasin GR59
2223          DT  DSGR59      0.0     0.0
2224          DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
2225          DQ     0.0    46.0    92.0   230.0   460.0   920.0  1840.0  4600.0  9200.0 23000.0
              *

2226          KK   DGR67  DIVERT
2227          KM   Divert portion of DWGR67 west to subbasin GR67 using the ratio of the width
2228          KM   of the collector and local streets and the width of the arterial street. The
2229          KM   remaining flow is diverted west to subbasin GL67 along Glendale Avenue
2230          DT  DWGL67      0.0     0.0
2231          DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
2232          DQ     0.0    26.0    52.0   130.0   260.0   520.0  1040.0  2600.0  5200.0 13000.0
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9.....10

2233          KK  DRGL35RETRIEVE
2234          KM   Retrieve divert DRGL35 from combination point CPNO35 and divert south to
2235          KM   combination point CGL35
2236          DR  DSGL35
              *

2237          KK  RSGL35   ROUTE
2238          KM   Route diversion retrieval DRGL35 south to combination point CGL35
2239          RS       6    FLOW
2240          RC   0.035   0.015   0.035    5280  0.0032    0.00
2241          RX    0.00    0.00   76.50   76.50  372.50  372.50  449.00  449.00
2242          RY    3.00    1.27    0.50    0.00    0.00    0.50    1.27    3.00
              *

2243          KK    GL35   BASIN
2244          KM   Runoff hydrograph for square mile subbasin GL35 northeast of the intersection
2245          KM   of Glendale Avenue and 35th Avenue
2246          BA   1.004
2247          LG    0.23    0.23    6.20    0.15      34
2248          UC   1.500   1.012
2249          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
2250          UA     100
              *

2251          KK   CGL35 COMBINE
2252          KM   Combine route RSGL35, and subbasin GL35
2253          HC       2    1.53
              *

2254          KK  PR35NORETRIEVE
2255          KM   Retrieve combined full flow capacity of 113 cfs from 53-inch equivalent
2256          KM   diameter pipe at the intersection of Northern Avenue and 35th Avenue
2257          DR  DP35NO
              *

2258          KK  RP35GL   ROUTE
2259          KM   Route the combined full flow capacity of 113 cfs through an equivalent storm
2260          KM   drain pipe diameter of 53 inches in 35th Avenue to the intersection of
2261          KM   35th Avenue and Glendale Avenue
2262          RK    5335  0.0037   0.015            CIRC   4.417
              *

2263          KK  CPGL35 COMBINE
2264          KM   Combine pipe return PR35NO with the runoff hydrograph at combination point
2265          KM   CGL35 at the intersection of Glendale Avenue and 35th Avenue
2266          HC       2
              *

2267          KK   D35GL  DIVERT
2268          KM   Capacity of storm drain in 31st Avenue and 35th Avenue diverted together.
2269          KM   Divert combined calculated full flow capacity of 165 cfs in the 60-inch storm
2270          KM   drain pipe in 31st Avenue and 61 cfs in the 42-inch storm drain pipe in
2271          KM   49th Avenue. The total calculated combined full flow capacity diverted at the
2272          KM   intersection of 35th Avenue and Glendale Avenue is 226 cfs in an equivalent
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9.....10

2273          KM   diameter pipe of 69 inches
2274          DT  DP35GL      0.0   226.0
2275          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
2276          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

2277          KK  DEGL27  DIVERT
2278          KM   Divert remaining runoff hydrograph from combination point CPGL35 east to
2279          KM   combination point CGL27
2280          DT  DSBH35      0.0     0.0
2281          DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
2282          DQ     0.0    61.0   122.0   305.0   610.0  1220.0  2440.0  6100.0 12200.0 30500.0
              *

2283          KK  DRGL27RETRIEVE
2284          KM   Retrieve divert DRGL27 from subbasin NO27 and divert south to combination
2285          KM   point CGL27
2286          DR  DSGL27
              *

2287          KK  RSGL27   ROUTE
2288          KM   Route diversion retrieval DRGL27 south to combination point CGL27
2289          RS       1    FLOW
2290          RC   0.035   0.015   0.035    5280  0.0040    0.00
2291          RX    0.00    0.00   26.00   26.00  148.00  148.00  174.00  174.00
2292          RY    3.00    0.76    0.50    0.00    0.00    0.50    0.76    3.00
              *

2293          KK    GL27   BASIN
```

```
KM   Runoff hydrograph for subbasin GL27 northeast of the intersection of Glendale
KM   Avenue and 27th Avenue
BA   0.258
LG    0.23    0.17    6.80    0.11      45
UC   0.930   0.739
UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
UA     100
*

KK   CGL27 COMBINE
KM   Combine divert DEGL27, route RSGL27, and subbasin GL27
HC       3    0.98
*

KK  PR29NORETRIEVE
KM   Retrieve full flow capacity of 114 cfs from 54-inch diameter pipe at the
KM   intersection of Northern Avenue and 29th Avenue
DR  DP29NO
*

KK  RP27GL   ROUTE
KM   Route full flow capacity of 114 cfs through 54-inch storm drain pipe in
KM   in 27th Avenue to the intersection of 27th Avenue and Glendale Avenue
RK    5260  0.0034   0.015            CIRC   4.500
*
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LINE  ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

KK  CPGL27 COMBINE
KM   Combine pipe return PR29NO with the runoff hydrograph at combination point
KM   CGL27 at the intersection of Glendale Avenue and 27th Avenue
HC       2
*

KK   D27GL  DIVERT
KM   Divert calculated full flow capapcity of 132 cfs into 57-inch storm drain
KM   pipe at the intersection of Glendale Avenue and 27th Avenue
DT  DP27GL      0.0   132.0
DI      0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
DQ      0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
*

KK  RSBH27   ROUTE
KM   Route remainder of divert D27GL south to combination point CBH27
RS       2    FLOW
RC   0.035   0.015   0.035    5280  0.0039    0.00
RX    0.00    0.00   26.00   26.00  148.00  148.00  174.00  174.00
RY    3.00    0.76    0.50    0.00    0.00    0.50    0.76    3.00
*

KK    BH27   BASIN
KM   Runoff hydrograph for subbasin BH27 northeast of the intersection of Bethany
KM   Home Road and 27th Avenue
BA   0.258
LG    0.21    0.25    4.80    0.25      55
UC   0.834   0.654
UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
UA     100
*

KK   CBH27 COMBINE
KM   Combine route RSBH27, and subbasin BH27
HC       2    1.24
*

KK  PR27GLRETRIEVE
KM   Retrieve full flow capacity of 132 cfs from 57-inch storm drain pipe at the
KM   intersection of Glendale Avenue and 27th Avenue
DR  DP27GL
*

KK  RP27BH   ROUTE
KM   Route full flow capacity of 132 cfs through 57-inch storm drain pipe in
KM   27th Avenue to the intersection of Bethany Home Road and 27th Avenue
RK    5221  0.0034   0.015            CIRC   4.750
*
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LINE  ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

KK  CPBH27 COMBINE
KM   Combine pipe return PR27GL with the runoff hydrograph at combination point
KM   CBH27 at the intersection of Bethany Home Road and 27th Avenue
HC       2
*

KK   D27BH  DIVERT
KM   Divert calculated full flow capapcity of 132 cfs into 57-inch storm drain
KM   pipe at the intersection of Bethany Home Road and 27th Avenue
DT  DP27BH      0.0   132.0
```



```
DI      0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
DQ      0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
*

KK  DWBH35  DIVERT
KM   Divert remaining runoff hydrograph from combination point CPBH27 west to
KM   combination point CBH35
DT  DSCB27      0.0     0.0
DI      0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
DQ      0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
*

KK  RWBH35   ROUTE
KM   Route diversion DWBH35 west to combination point CBH35
RS       1    FLOW
RC   0.035   0.015   0.035    5280  0.0002    0.00
RX    0.00    0.00   86.00   86.00  413.00  413.00  499.00  499.00
RY    3.00    1.36    0.50    0.00    0.00    0.50    1.36    3.00
*

KK  DRBH35RETRIEVE
KM   Retrieve divert DRBH35 from combination point CGL35 and divert south to
KM   combination point CBH35
DR  DSBH35
*

KK  RSBH35   ROUTE
KM   Route diversion retrieval DRBH35 south to combination point CBH35
RS       3    FLOW
RC   0.035   0.015   0.035    5280  0.0049    0.00
RX    0.00    0.00   67.00   67.00  332.00  332.00  399.00  399.00
RY    3.00    1.17    0.50    0.00    0.00    0.50    1.17    3.00
*

KK    BH35   BASIN
KM   Runoff hydrograph for square mile subbasin BH35 northeast of the intersection
KM   of Bethany Home Road and 35th Avenue
BA   1.005
LG    0.23    0.25    5.20    0.22      37
UC   0.922   0.337
UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
UA     100
*
```

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LINE  ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

KK  ERBH35  DIVERT
KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
KM   retention developed after 1990 and NOAA14 rainfall for future retention in
KM   subbasin BH35
DT  XBH35       3.2     0.0
DI      0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
DQ      0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
*

KK   CBH35 COMBINE
KM   Combine route RWBH35, route RSBH35, and subbasin BH35
HC       3    1.94
*

KK  PR35GLRETRIEVE
KM   Retrieve combined full flow capacity of 226 cfs from 69-inch equivalent
KM   diameter pipe at the intersection of Glendale Avenue and 35th Avenue
DR  DP35GL
*

KK  RP35BH   ROUTE
KM   Route the combined full flow capacity of 226 cfs through an equivalent storm
KM   drain pipe diameter of 69 inches in 35th Avenue to the intersection of
KM   35th Avenue and Bethany Home Road
RK    5147  0.0037   0.015            CIRC   5.750
*

KK  CPBH35 COMBINE
KM   Combine pipe return PR35GL with the runoff hydrograph at combination point
KM   CBH35 at the intersection of Bethany Home Road and 35th Avenue
HC       2
*

KK   D35BH  DIVERT
KM   Capacity of storm drain in 31st Avenue and 35th Avenue diverted together.
KM   Divert combined calculated full flow capacity of 165 cfs in the 60-inch storm
KM   drain pipe in 31st Avenue and 61 cfs in the 42-inch storm drain pipe in
KM   49th Avenue. The total calculated combined full flow capacity diverted at the
KM   intersection of 35th Avenue and Bethany Home Road is 226 cfs in an equivalent
KM   diameter pipe of 69 inches
DT  DP35BH      0.0   226.0
DI      0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
DQ      0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
*
```

```
2420          KK  DWBH43  DIVERT
2421          KM   Divert remaining runoff hydrograph from combination point CPBH35 west to
2422          KM   combination point CBH43
2423          DT  DSCB35      0.0      0.0
2424          DI      0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0 10000.0 20000.0 50000.0
2425          DQ      0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0 10000.0 20000.0 50000.0
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

2426          KK  RWBH43   ROUTE
2427          KM   Route diversion DWBH43 west to combination point CBH43
2428          RS       1    FLOW
2429          RC   0.035   0.015   0.035    5280  0.0001     0.00
2430          RX    0.00    0.00  133.50  133.50  615.50  615.50  749.00  749.00
2431          RY    3.00    1.84    0.50    0.00    0.00    0.50    1.84    3.00
              *

2432          KK  DRBH43RETRIEVE
2433          KM   Retrieve divert DRBH43 from combination point CGL43 and divert south to
2434          KM   combination point CBH43
2435          DR  DSBH43
              *

2436          KK  RSBH43   ROUTE
2437          KM   Route diversion retrieval DRBH43 south to combination point CBH43
2438          RS       3    FLOW
2439          RC   0.035   0.015   0.035    5280  0.0028     0.00
2440          RX    0.00    0.00   57.50   57.50  291.50  291.50  349.00  349.00
2441          RY    3.00    1.08    0.50    0.00    0.00    0.50    1.08    3.00
              *

2442          KK    BH43   BASIN
2443          KM   Runoff hydrograph for square mile subbasin BH43 northeast of the intersection
2444          KM   of Bethany Home Road and 43rd Avenue
2445          BA   0.993
2446          LG    0.23    0.25    5.20    0.24      32
2447          UC   1.498   1.013
2448          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
2449          UA     100
              *

2450          KK   CBH43 COMBINE
2451          KM   Combine route RWBH43, route RSBH43, and subbasin BH43
2452          HC       3    2.19
              *

2453          KK  PR43GLRETRIEVE
2454          KM   Retrieve combined full flow capacity of 385 cfs from 85-inch equivalent
2455          KM   diameter pipe at the intersection of Glendale Avenue and 43rd Avenue
2456          DR  DP43GL
              *

2457          KK  RP43BH   ROUTE
2458          KM   Route the combined full flow capacity of 385 cfs through an equivalent storm
2459          KM   drain pipe diameter of 85 inches in 43rd Avenue to the intersection of
2460          KM   43rd Avenue and Bethany Home Road
2461          RK    5295  0.0035   0.015            CIRC   7.083
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

2462          KK  CPBH43 COMBINE
2463          KM   Combine pipe return PR43GL with the runoff hydrograph at combination point
2464          KM   CBH43 at the intersection of Bethany Home Road and 43rd Avenue
2465          HC       2
              *

2466          KK   D43BH  DIVERT
2467          KM   Capacity of storm drain in 39th Avenue and 43rd Avenue diverted together.
2468          KM   Divert combined calculated full flow capacity of 268 cfs in the 72-inch storm
2469          KM   drain pipe in 39th Avenue and 117 cfs in the 54-inch storm drain pipe in
2470          KM   43rd Avenue. The total calculated combined full flow capacity diverted at the
2471          KM   intersection of 43rd Avenue and Glendale Avenue is 385 cfs in an equivalent
2472          KM   diameter pipe of 85 inches
2473          DT  DP43BH      0.0    385.0
2474          DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
2475          DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

2476          KK  DWBH51  DIVERT
2477          KM   Divert remaining runoff hydrograph from combination point CPBH43 west to
2478          KM   combination point CBH51
2479          DT  DSCB43      0.0      0.0
2480          DI      0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0 10000.0 20000.0 50000.0
2481          DQ      0.0     51.0    102.0    255.0    510.0   1020.0   2040.0  5100.0 10200.0 25500.0
              *

2482          KK  RWBH51   ROUTE
```



```
2483          KM   Route diversion DWBH51 west to combination point CBH51
2484          RS       5    FLOW
2485          RC   0.035   0.015   0.035    5280  0.0016     0.00
2486          RX    0.00    0.00   75.50   75.50  402.50  402.50  478.00  478.00
2487          RY    3.00    1.25    0.50    0.00    0.00    0.50    1.25    3.00
              *

2488          KK  DRBH51RETRIEVE
2489          KM   Retrieve divert DRBH51 from combination point CGL51 and divert south to
2490          KM   combination point CBH51
2491          DR  DSBH51
              *

2492          KK  RSBH51   ROUTE
2493          KM   Route diversion retrieval DRBH51 south to combination point CBH51
2494          RS       5    FLOW
2495          RC   0.035   0.015   0.035    5280  0.0030     0.00
2496          RX    0.00    0.00   61.50   61.50  316.50  316.50  378.00  378.00
2497          RY    3.00    1.12    0.50    0.00    0.00    0.50    1.12    3.00
              *

2498          KK    BH51   BASIN
2499          KM   Runoff hydrograph for square mile subbasin BH51 northeast of the intersection
2500          KM   of Bethany Home Road and 51st Avenue
2501          BA   0.995
2502          LG    0.22    0.23    6.20    0.15      43
2503          UC   1.500   1.025
1                                        HEC-1 INPUT                                          PAGE 65

LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

2504          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
2505          UA     100
              *

2506          KK   CBH51 COMBINE
2507          KM   Combine route RWBH51, route RSBH51, and subbasin BH51
2508          HC       3    3.42
              *

2509          KK  PR47GLRETRIEVE
2510          KM   Retrieve combined full flow capacity of 379 cfs from 85-inch equivalent
2511          KM   diameter pipe at the intersection of Glendale Avenue and 47th Avenue
2512          DR  DP47GL
              *

2513          KK  RP51BH   ROUTE
2514          KM   Route the combined full flow capacity of 379 cfs through an equivalent storm
2515          KM   drain pipe diameter of 85 inches in 51st Avenue to the intersection of
2516          KM   51st Avenue and Bethany Home Road
2517          RK    2773  0.0118   0.015            CIRC   7.083
              *

2518          KK  CPBH51 COMBINE
2519          KM   Combine pipe return PR47GL with the runoff hydrograph at combination point
2520          KM   CBH51 at the intersection of Bethany Home Road and 51st Avenue
2521          HC       2
              *

2522          KK  SRBH51 STORAGE
2523          KM   Storage route runoff hydrograph from combination point CPBH51 through the
2524          KM     regional detention basin located near the intersection of Bethany Home Road
2525          KM     and 51st Avenue
2526          KM   Combined storage from two retention basins
2527          KM   Stage-storage data from topography provided by FCDMC dated 3/28/1994
2528          RS       1    STOR
2529          SV            1.99   12.41   22.30   22.30   31.52   42.36   53.20
2530          SQ            8.00   24.00 1649.00 1649.00 1649.00 1649.00 4349.00
2531          SE  1146.0 1148.00 1150.00 1151.00 1152.00 1154.00 1156.00 1157.00
              *

2532          KK  DWGR59  DIVERT
2533          KM   Divert portion of runoff hydrograph from combination point CPBH51 west
2534          KM   through subbasin GR59 using the ratio of the widths and slopes of the streets
2535          KM   going west and the widths and slopes of the streets going south. The
2536          KM   remaining flow is diverted south through subbasin GR43
2537          DT  DSGR43      0.0      0.0
2538          DI      0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0 10000.0 20000.0 50000.0
2539          DQ      0.0     32.0     64.0    160.0    320.0    640.0   1280.0  3200.0  6400.0 16000.0
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

2540          KK   DGR59  DIVERT
2541          KM   Divert portion of DWGR59 west to subbasin GR59 using the ratio of the width
2542          KM   of the collector and local streets and the width of the arterial street. The
2543          KM   remaining flow is diverted west to subbasin BH59 along Bethany Home Road
2544          DT  DWBH59      0.0      0.0
2545          DI      0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0 10000.0 20000.0 50000.0
2546          DQ      0.0     23.0     46.0    115.0    230.0    460.0    920.0  2300.0  4600.0 11500.0
              *
```

```
2547          KK  DRGR59RETRIEVE
2548          KM   Retrieve divert DRGR59 from combination point CGL59 and divert south to
2549          KM   combination point CGR59
2550          DR  DSGR59
              *

2551          KK   D59GR  DIVERT
2552          KM   Divert portion of divert retrieval DRGR59 south to subbasin BH59 along 59th
2553          KM   Avenue. Divert remaining runoff hydrograph south to combination point CGR59
2554          DT  DSBH59      0.0      0.0
2555          DI     0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0 10000.0 20000.0 50000.0
2556          DQ     0.0     52.0    104.0    260.0    520.0   1040.0   2080.0  5200.0 10400.0 26000.0
              *

2557          KK    GR59   BASIN
2558          KM   Runoff hydrograph for subbasin GR59 southeast of the intersection of Grand
2559          KM   Avenue and 59th Avenue
2560          BA   0.518
2561          LG    0.16    0.25    4.80    0.25      62
2562          UC   0.611   0.309
2563          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
2564          UA     100
              *

2565          KK   CGR59 COMBINE
2566          KM   Combine remainder of divert retrieval DRGR59, divert DGR59, and subbasin GR59
2567          HC       3    3.18
              *

2568          KK  DNGR67  DIVERT
2569          KM   Divert portion of runoff hydrograph from combination point CGR59 north to the
2570          KM   intersection of 67th Avenue and Grand Avenue and the remaining flow south
2571          KM   to the intersection of Bethany Home Road and Grand Avenue. The diversion is
2572          KM   based on topography
2573          DT   DBH59      0.0      0.0
2574          DI     0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0 10000.0 20000.0 50000.0
2575          DQ     0.0     50.0    100.0    250.0    500.0   1000.0   2000.0  5000.0 10000.0 25000.0
              *

2576          KK    DGRGL  DIVERT
2577          KM   Divert calculated full flow capapcity of 234 cfs into 60-inch storm drain
2578          KM   pipe at the intersection of Grand Avenue and Glendale Avenue
2579          DT  DPGRGL      0.0    234.0
2580          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
2581          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

2582          KK  CIGR59 COMBINE
2583          KM   Combine diverts DRGL and DGR67 at the intersection of Grand Avenue and 59th
2584          KM   Avenue
2585          HC       2    3.15
              *

2586          KK  RWGR67   ROUTE
2587          KM   Route diversion DGR67 west to combination point CGR67
2588          RS       8    FLOW
2589          RC   0.035   0.015   0.035    7222  0.0008     0.00
2590          RX    0.00    0.00   75.50   75.50  402.50  402.50  478.00  478.00
2591          RY    3.00    1.25    0.50    0.00    0.00    0.50    1.25    3.00
              *

2592          KK  DRGR67RETRIEVE
2593          KM   Retrieve divert DRGR67 from combination point CNO67 and divert south to
2594          KM   combination point CGR67
2595          DR  DSGR67
              *

2596          KK    GR67   BASIN
2597          KM   Runoff hydrograph for subbasin GR67 southeast of the intersection of Grand
2598          KM   Avenue and 67th Avenue
2599          BA   0.497
2600          LG    0.16    0.15    7.60    0.09      44
2601          UC   0.765   0.406
2602          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
2603          UA     100
              *

2604          KK  ERGR67  DIVERT
2605          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
2606          KM   retention developed after 1990 in subbasin GR67
2607          DT   XGR67      1.2      0.0
2608          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
2609          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

2610          KK   CGR67 COMBINE
2611          KM   Combine route RWGR67, divert retrieval DRGR67, and subbasin GR67
2612          HC       3    6.83
```



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              *

2613          KK  PRNO59RETRIEVE
2614          KM   Retrieve full flow capacity of 134 cfs from 72-inch storm drain pipe at the
2615          KM   intersection of Northern Avenue and 59th Avenue
2616          DR  DPNO59
              *

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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

2617          KK  RPNO67   ROUTE
2618          KM   Route full flow capacity of 134 cfs through 72-inch storm drain pipe in
2619          KM   Grand Avenue to the intersection of Grand Avenue and 67th Avenue
2620          RK    2688  0.0010   0.015            CIRC   6.000
              *

2621          KK  PR59GLRETRIEVE
2622          KM   Retrieve full flow capacity of 217 cfs from 72-inch storm drain pipe at the
2623          KM   intersection of Glendale Avenue and 59th Avenue
2624          DR  DP59GL
              *

2625          KK  PRGRGLRETRIEVE
2626          KM   Retrieve full flow capacity of 234 cfs from 60-inch storm drain pipe at the
2627          KM   intersection of Grand Avenue and Glendale Avenue
2628          DR  DPGRGL
              *

2629          KK  CPGL59 COMBINE
2630          KM   Combine pipe return PR59GL with pipe return PRGRGL at combination point
2631          KM   CGL59 near the intersection of Glendale Avenue and 59th Avenue
2632          HC       2    1.42
              *

2633          KK  RPGR67   ROUTE
2634          KM   Route combined full flow capacity of 451 cfs through 108-inch storm drain pip
2635          KM   Grand Avenue to the intersection of Grand Avenue and 67th Avenue
2636          RK    4247  0.0018   0.015            CIRC   9.000
              *

2637          KK  CPGR67 COMBINE
2638          KM   Combine pipe return PRNO59, pipe route RPGR67 and the runoff hydrograph at
2639          KM   combination point CGR67 at the intersection of Grand Avenue and 67th Avenue
2640          HC       3
              *

2641          KK  SRGR67 STORAGE
2642          KM   Storage route runoff hydrograph from combination point CPGR67 through
2643          KM     regional detention basin located near the intersection of Grand Avenue
2644          KM     and 67th Avenue
2645          KM   Stage-storage data from Orangewood Ave Storm Drain Sub-Phase "C" As-builts
2646          RS       1    STOR
2647          SV            2.25    11.38    31.32    57.76   140.64   378.04   409.71   478.76
2648          SQ           24.00    62.00   105.00   133.00   189.00   299.00 1529.00 6654.00
2649          SE  1130.0 1131.00 1132.00 1133.00 1134.00 1136.00 1142.00 1143.00 1145.00
              *

2650          KK   D67GR  DIVERT
2651          KM   Divert calculated full flow capapcity of 546 cfs into 108-inch storm drain
2652          KM   pipe at the intersection of Grand Avenue and 67th Avenue
2653          DT  DP67GR      0.0    546.0
2654          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
2655          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

2656          KK  RSOW67   ROUTE
2657          KM   Route remainder of divert D67GR south to combination point COW67
2658          RS       1    FLOW
2659          RC   0.035   0.015   0.035    2640  0.0035     0.00
2660          RX    0.00    0.00   17.50   17.50  112.50  112.50  130.00  130.00
2661          RY    3.00    0.68    0.50    0.00    0.00    0.50    0.68    3.00
              *

2662          KK    OW67   BASIN
2663          KM   Runoff hydrograph for subbasin OW67 northeast of the intersection of
2664          KM   Orangewood Avenue and 67th Avenue
2665          BA   0.119
2666          LG    0.15    0.15    8.00    0.07      80
2667          UC   0.392   0.265
2668          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
2669          UA     100
              *

2670          KK  EROW67  DIVERT
2671          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
2672          KM   retention developed after 1990 and NOAA14 rainfall for future retention in
2673          KM   subbasin OW67
```

```
2674          DT   XOW67     2.5      0.0
2675          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
2676          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

2677          KK   COW67 COMBINE
2678          KM   Combine route RWOW67 and subbasin OW67
2679          HC        2    6.95
              *

2680          KK  PRGR67RETRIEVE
2681          KM   Retrieve full flow capacity of 546 cfs from 108-inch storm drain pipe at the
2682          KM   intersection of Grand Avenue and 67th Avenue
2683          DR  DP67GR
              *

2684          KK  RPOW67   ROUTE
2685          KM   Route full flow capacity of 546 cfs through 108-inch storm drain pipe in
2686          KM   Orangewood Avenue to the intersection of Orangewood Avenue and 67th Avenue
2687          RK    2517  0.0019   0.015            CIRC   9.000
              *

2688          KK  CPOW67 COMBINE
2689          KM   Combine pipe return PRGR67 with the runoff hydrograph at combination point
2690          KM   COW67 at the intersection of Orangewood Avenue and 67th Avenue
2691          HC        2
              *

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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


2692          KK   DOW67  DIVERT
2693          KM   Divert calculated full flow capapcity of 181 cfs into 66-inch storm drain
2694          KM   pipe at the intersection of Orangewood Avenue and 67th Avenue
2695          DT  DPOW67       0.0    181.0
2696          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
2697          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

2698          KK  DWOW75  DIVERT
2699          KM   Divert remaining runoff hydrograph from combination point CPOW67 west to
2700          KM   combination point COW75
2701          DT  DSGL67       0.0      0.0
2702          DI     0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0  10000.0  20000.0  50000.0
2703          DQ     0.0     51.0    102.0    255.0    510.0   1020.0   2040.0   5100.0  10200.0  25500.0
              *

2704          KK  RWOW75   ROUTE
2705          KM   Route diversion DWOW75 west to combination point COW75
2706          RS        9    FLOW
2707          RC   0.035    0.015    0.035     5280   0.0025      0.00
2708          RX    0.00     0.00    34.00    34.00   184.00   184.00   218.00   218.00
2709          RY    3.00     0.84     0.50     0.00     0.00     0.50     0.84     3.00
              *

2710          KK  DROW75RETRIEVE
2711          KM   Retrieve divert DROW75 from combination point CNO75 and divert south to
2712          KM   combination point COW75
2713          DR  DSOW75
              *

2714          KK  RSOW75   ROUTE
2715          KM   Route diversion retrieval DROW75 south to combination point COW75
2716          RS        1    FLOW
2717          RC   0.035    0.015    0.035     2640   0.0025      0.00
2718          RX    0.00     0.00    47.50    47.50   240.50   240.50   288.00   288.00
2719          RY    3.00     0.98     0.50     0.00     0.00     0.50     0.98     3.00
              *

2720          KK    OW75   BASIN
2721          KM   Runoff hydrograph for half square mile subbasin OW75 northeast of the
2722          KM   intersection of Orangewood Avenue and 75th Avenue
2723          BA   0.498
2724          LG    0.17     0.15     8.80     0.05       60
2725          UC   0.818    0.610
2726          UA       0      5.0     16.0     30.0     65.0     77.0     84.0     90.0     94.0     97.0
2727          UA     100
              *

2728          KK  EROW75  DIVERT
2729          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
2730          KM   retention developed after 1990 in subbasin OW75
2731          DT   XOW75     28.5      0.0
2732          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
2733          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


2734          KK   COW75 COMBINE
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2735          KM   Combine route RWOW75, route RSOW75, and subbasin OW75
2736          HC        3    8.17
              *

2737          KK  PROW67RETRIEVE
2738          KM   Retrieve full flow capacity of 181 cfs from 66-inch storm drain pipe at the
2739          KM   intersection of Orangewood Avenue and 67th Avenue
2740          DR  DPOW67
              *

2741          KK  RPOW71   ROUTE
2742          KM   Route full flow capacity of 181 cfs through 66-inch storm drain pipe in
2743          KM   Orangewood Avenue to the intersection of Orangewood Avenue and 71st Avenue
2744          RK    2145  0.0029   0.015            CIRC   5.500
              *

2745          KK  CPOW71 COMBINE
2746          KM   Combine pipe return PROW67 with the runoff hydrograph at combination point
2747          KM   COW71 at the intersection of Orangewood Avenue and 71st Avenue
2748          HC        2
              *

2749          KK  SROW75 STORAGE
2750          KM   Storage route runoff hydrograph from combination point CPOW71 through
2751          KM     regional detention basin located near the intersection of Orangewood Avenue
2752          KM     and 71st Avenue
2753          KM   Stage-storage data from Orangewood Avenue Storm Drain As-builts, 1980
2754          RS        1    STOR
2755          SV              8.74    20.36    34.36    49.53    65.12    97.58   118.22
2756          SQ                              42.00   400.00  1044.00  2459.00  3812.00
2757          SE  1121.0 1122.00 1123.00 1124.00 1125.00 1126.00 1128.00 1129.00
              *

2758          KK   DOW71  DIVERT
2759          KM   Divert calculated full flow capapcity of 44 cfs into 42-inch storm drain
2760          KM   pipe at the intersection of Orangewood Avenue and 71st Avenue
2761          DT  DPOW71       0.0     44.0
2762          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
2763          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

2764          KK  PROW71RETRIEVE
2765          KM   Retrieve full flow capacity of 44 cfs from 42-inch storm drain pipe at the
2766          KM   intersection of Orangewood Avenue and 71st Avenue
2767          DR  DPOW71
              *

2768          KK  RPOW75   ROUTE
2769          KM   Route full flow capacity of 44 cfs through 42-inch storm drain pipe in
2770          KM   Orangewood Avenue to the intersection of Orangewood Avenue and 75th Avenue
2771          RK    3391  0.0019   0.015            CIRC   3.500
              *

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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


2772          KK  CPOW75 COMBINE
2773          KM   Combine pipe return PROW71 with the runoff hydrograph at combination point
2774          KM   COW75 at the intersection of Orangewood Avenue and 75th Avenue
2775          HC        2
              *

2776          KK   DOW75  DIVERT
2777          KM   Divert calculated full flow capapcity of 66 cfs into 48-inch storm drain
2778          KM   pipe at the intersection of Orangewood Avenue and 75th Avenue
2779          DT  DPOW75       0.0     66.0
2780          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
2781          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

2782          KK  DWOW83  DIVERT
2783          KM   Divert remaining runoff hydrograph from combination point CPOW75 west to
2784          KM   combination point COW83
2785          DT  DSGL75       0.0      0.0
2786          DI     0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0  10000.0  20000.0  50000.0
2787          DQ     0.0     76.0    152.0    380.0    760.0   1520.0   3040.0   7600.0  15200.0  38000.0
              *

2788          KK  RWOW83   ROUTE
2789          KM   Route diversion DWOW83 west to combination point COW83
2790          RS        4    FLOW
2791          RC   0.035    0.015    0.035     5280   0.0029      0.00
2792          RX    0.00     0.00    20.00    20.00    98.00    98.00   118.00   118.00
2793          RY    3.00     0.70     0.50     0.00     0.00     0.50     0.70     3.00
              *

2794          KK    OW83   BASIN
2795          KM   Runoff hydrograph for half square mile subbasin OW83 northeast of the
2796          KM   intersection of Orangewood Avenue and 83rd Avenue
2797          BA   0.496
2798          LG    0.25     0.15     8.40     0.07       33
2799          UC   1.253    0.980
```

```
2800          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
2801          UA     100
              *
2802          KK  EROW83  DIVERT
2803          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
2804          KM   retention developed after 1990 in subbasin OW83
2805          DT   XOW83     16.5      0.0
2806          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
2807          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *
2808          KK   COW83 COMBINE
2809          KM   Combine route RWOW83 and subbasin OW83
2810          HC       2    2.46
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9.....10

2811          KK  PROW75RETRIEVE
2812          KM   Retrieve full flow capacity of 66 cfs from 48-inch storm drain pipe at the
2813          KM   intersection of Orangewood Avenue and 75th Avenue
2814          DR  DPOW75
              *
2815          KK  RPOW83   ROUTE
2816          KM   Route full flow capacity of 66 cfs through 48-inch storm drain pipe in
2817          KM   Orangewood Avenue to the intersection of Orangewood Avenue and 67th Avenue
2818          RK    5178  0.0021   0.015             CIRC   4.000
              *
2819          KK  CPOW83 COMBINE
2820          KM   Combine pipe return PROW75 with the runoff hydrograph at combination point
2821          KM   COW83 at the intersection of Orangewood Avenue and 83rd Avenue
2822          HC       2
              *
2823          KK   D83OW  DIVERT
2824          KM   Divert calculated full flow capapcity of 255 cfs into 72-inch storm drain
2825          KM   pipe at the intersection of Orangewood Avenue and 83rd Avenue
2826          DT  DP83OW      0.0    255.0
2827          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
2828          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *
2829          KK  DWOW91  DIVERT
2830          KM   Divert remaining runoff hydrograph from combination point CPOW83 west to
2831          KM   combination point CGL91
2832          DT  DSGL83      0.0      0.0
2833          DI     0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0  10000.0  20000.0  50000.0
2834          DQ     0.0     85.0    170.0    425.0    850.0   1700.0   3400.0   8500.0  17000.0  42500.0
              *
2835          KK  RWOW91   ROUTE
2836          KM   Route diversion DWOW91 west to combination point COW91
2837          RS       7     FLOW
2838          RC   0.035    0.015    0.035     5280   0.0038     0.00
2839          RX    0.00     0.00     7.00     7.00    43.00    43.00    50.00    50.00
2840          RY    3.00     0.57     0.50     0.00     0.00     0.50     0.57     3.00
              *
2841          KK  DIGL67RETRIEVE
2842          KM   Retrieve arterial street flow diverted to Glendale Avenue at the intersection
2843          KM   of Glendale Avenue and 67th Avenue
2844          DR  DWGL67
              *
2845          KK  RWGL67   ROUTE
2846          KM   Route diversion retrieval DIGL67 at the intersection of Glendale Avenue
2847          KM   and 67th Avenue west to combination point CGL67
2848          RS       4     FLOW
2849          RC   0.035    0.015    0.035     5280   0.0037     0.00
2850          RX    0.00     0.00    41.50    41.50   218.50   218.50   260.00   260.00
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9.....10

2851          RY    3.00     0.92     0.50     0.00     0.00     0.50     0.92     3.00
              *
2852          KK    GL67   BASIN
2853          KM   Runoff hydrograph for square mile subbasin GL67 northeast of the intersection
2854          KM   of Glendale Avenue and 67th Avenue
2855          BA   0.359
2856          LG    0.19     0.25     5.40     0.19       63
2857          UC   0.667    0.410
2858          UA       0      5.0     16.0     30.0     65.0     77.0     84.0     90.0     94.0     97.0
2859          UA     100
              *
2860          KK  DRGL67RETRIEVE
```



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2861          KM   Retrieve divert DRGL67 from combination point CPOW67 and divert south to
2862          KM   combination point CGL67
2863          DR  DSGL67
              *
2864          KK  RSGL67   ROUTE
2865          KM   Route diversion retrieval DRGL67 south to combination point CGL67
2866          RS       3     FLOW
2867          RC   0.035    0.015    0.035     2640   0.0052     0.00
2868          RX    0.00     0.00    27.50    27.50   132.50   132.50   160.00   160.00
2869          RY    3.00     0.78     0.50     0.00     0.00     0.50     0.78     3.00
              *
2870          KK   CGL67 COMBINE
2871          KM   Combine route RWGL67, route RSGL67, and subbasin GL67
2872          HC       3    4.47
              *
2873          KK  DWGL75  DIVERT
2874          KM   Divert remaining runoff hydrograph from combination point CGL67 west to
2875          KM   combination point CGL75
2876          DT  DSBH67      0.0      0.0
2877          DI     0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0  10000.0  20000.0  50000.0
2878          DQ     0.0     49.0     98.0    245.0    490.0    980.0   1960.0   4900.0   9800.0  24500.0
              *
2879          KK  RWGL75   ROUTE
2880          KM   Route diversion DWGL75 west to combination point CGL75
2881          RS       5     FLOW
2882          RC   0.035    0.015    0.035     5280   0.0034     0.00
2883          RX    0.00     0.00    47.00    47.00   283.00   283.00   330.00   330.00
2884          RY    3.00     0.97     0.50     0.00     0.00     0.50     0.97     3.00
              *
2885          KK  DRGL75RETRIEVE
2886          KM   Retrieve divert DRGL75 from combination point CPOW75 and divert south to
2887          KM   combination point CGL75
2888          DR  DSGL75
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9.....10

2889          KK  RSGL75   ROUTE
2890          KM   Route diversion retrieval DRGL75 south to combination point CGL75
2891          RS       1     FLOW
2892          RC   0.035    0.015    0.035     2640   0.0035     0.00
2893          RX    0.00     0.00    54.50    54.50   283.50   283.50   338.00   338.00
2894          RY    3.00     1.04     0.50     0.00     0.00     0.50     1.04     3.00
              *
2895          KK    GL75   BASIN
2896          KM   Runoff hydrograph for half square mile subbasin GL75 northeast of the
2897          KM   intersection of Glendale Avenue and 75th Avenue
2898          BA   0.499
2899          LG    0.24     0.15     8.80     0.05       46
2900          UC   1.226    0.953
2901          UA       0      5.0     16.0     30.0     65.0     77.0     84.0     90.0     94.0     97.0
2902          UA     100
              *
2903          KK  ERGL75  DIVERT
2904          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
2905          KM   retention developed after 1990 in subbasin GL75
2906          DT   XGL75     42.2      0.0
2907          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
2908          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *
2909          KK   CGL75 COMBINE
2910          KM   Combine route RWGL75, route RSGL75, and subbasin GL75
2911          HC       3    8.97
              *
2912          KK  DWGL83  DIVERT
2913          KM   Divert remaining runoff hydrograph from combination point CGL75 west to
2914          KM   combination point CGL83
2915          DT  DSBH75      0.0      0.0
2916          DI     0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0  10000.0  20000.0  50000.0
2917          DQ     0.0     50.0    100.0    250.0    500.0   1000.0   2000.0   5000.0  10000.0  25000.0
              *
2918          KK  RWGL83   ROUTE
2919          KM   Route diversion DWGL83 west to combination point CGL83
2920          RS       3     FLOW
2921          RC   0.035    0.015    0.035     5280   0.0032     0.00
2922          RX    0.00     0.00    47.00    47.00   283.00   283.00   330.00   330.00
2923          RY    3.00     0.97     0.50     0.00     0.00     0.50     0.97     3.00
              *
2924          KK  DRGL83RETRIEVE
2925          KM   Retrieve divert DRGL83 from combination point CPOW83 and divert south to
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2926          KM   combination point CGL83
2927          DR  DSGL83
                  *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


2928          KK  RSGL83    ROUTE
2929          KM   Route diversion retrieval DRGL83 south to combination point CGL83
2930          RS       3     FLOW
2931          RC   0.035   0.015   0.035    2640  0.0041     0.00
2932          RX    0.00    0.00   38.50   38.50  241.50  241.50  280.00  280.00
2933          RY    3.00    0.88    0.50    0.00    0.00    0.50    0.88    3.00
                  *

2934          KK    GL83    BASIN
2935          KM   Runoff hydrograph for half square mile subbasin GL83 northeast of the
2936          KM   intersection of Glendale Avenue and 83rd Avenue
2937          BA   0.495
2938          LG    0.25    0.15    7.00    0.11      31
2939          UC   1.202   0.932
2940          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
2941          UA     100
                  *

2942          KK  ERGL83   DIVERT
2943          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
2944          KM   retention developed after 1990 in subbasin GL83
2945          DT   XGL83     18.1      0.0
2946          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
2947          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
                  *

2948          KK   CGL83 COMBINE
2949          KM   Combine route RWGL83, route RSGL83, and subbasin GL83
2950          HC       3     7.11
                  *

2951          KK  PR83OWRETRIEVE
2952          KM   Retrieve full flow capacity of 255 cfs from 72-inch storm drain pipe at the
2953          KM   intersection of Orangewood Avenue and 83rd Avenue
2954          DR  DP83OW
                  *

2955          KK  RP83GL    ROUTE
2956          KM   Route full flow capacity of 255 cfs through 72-inch storm drain pipe in
2957          KM   83rd Avenue to the intersection of Glendale Avenue and 83rd Avenue
2958          RK    2644  0.0036    0.015             CIRC    6.000
                  *

2959          KK  CPGL83 COMBINE
2960          KM   Combine pipe return PR83OW with the runoff hydrograph at combination point
2961          KM   CGL83 at the intersection of Glendale Avenue and 83rd Avenue
2962          HC       2
                  *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


2963          KK    DGL83   DIVERT
2964          KM   Divert calculated full flow capapcity of 374 cfs into 84-inch storm drain
2965          KM   pipe at the intersection of Glendale Avenue and 83rd Avenue
2966          DT   DPGL83      0.0    374.0
2967          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
2968          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
                  *

2969          KK  DWGL91   DIVERT
2970          KM   Divert remaining runoff hydrograph from combination point CPGL83 west to
2971          KM   combination point CGL91
2972          DT   DSBH83      0.0      0.0
2973          DI       0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0 10000.0 20000.0 50000.0
2974          DQ       0.0     63.0    126.0    315.0    630.0   1260.0   2520.0  6300.0 12600.0 31500.0
                  *

2975          KK  RWGL91    ROUTE
2976          KM   Route diversion DWGL91 west to combination point CGL92
2977          RS       4     FLOW
2978          RC   0.035   0.015   0.035    5280  0.0032     0.00
2979          RX    0.00    0.00   33.00   33.00  197.00  197.00  230.00  230.00
2980          RY    3.00    0.83    0.50    0.00    0.00    0.50    0.83    3.00
                  *

2981          KK  DRGL91RETRIEVE
2982          KM   Retrieve divert DRGL91 from combination point CCPNO91 and divert south to
2983          KM   combination point CGL91
2984          DR  DSGL91
                  *

2985          KK  RSGL91    ROUTE
2986          KM   Route diversion retrieval DRGL91 south to combination point CGL91
```



```
2987          RS       2     FLOW
2988          RC   0.035   0.015   0.035    5280  0.0032     0.00
2989          RX    0.00    0.00   38.50   38.50  241.50  241.50  280.00  280.00
2990          RY    3.00    0.88    0.50    0.00    0.00    0.50    0.88    3.00
                  *

2991          KK    GL91    BASIN
2992          KM   Runoff hydrograph for square mile subbasin GL91 northeast of the intersection
2993          KM   of Glendale Avenue and 91st Avenue
2994          BA   0.979
2995          LG    0.25    0.17    6.80    0.12      34
2996          UC   1.475   1.000
2997          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
2998          UA     100
                  *

2999          KK  ERGL91   DIVERT
3000          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
3001          KM   retention developed after 1990 in subbasin GL91
3002          DT   XGL91     65.2      0.0
3003          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
3004          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
                  *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


3005          KK   CGL91 COMBINE
3006          KM   Combine route RWGL91, route RSGL91, route RWoW91, and subbasin GL91
3007          HC       4     9.02
                  *

3008          KK  PRGL83RETRIEVE
3009          KM   Retrieve full flow capacity of 374 cfs from 84-inch storm drain pipe at the
3010          KM   intersection of Glendale Avenue and 83rd Avenue
3011          DR  DPGL83
                  *

3012          KK  RPGL91    ROUTE
3013          KM   Route full flow capacity of 374 cfs through 84-inch storm drain pipe in
3014          KM   Glendale Avenue to the intersection of Glendale Avenue and 91st Avenue
3015          RK    5306  0.0034    0.015             CIRC    7.000
                  *

3016          KK  CPGL91 COMBINE
3017          KM   Combine pipe return PRGL83 with the runoff hydrograph at combination point
3018          KM   CGL91 at the intersection of Glendale Avenue and 91st Avenue
3019          HC       2
                  *

3020          KK    DGL91   DIVERT
3021          KM   Divert calculated full flow capapcity of 449 cfs into 90-inch storm drain
3022          KM   pipe at the intersection of Glendale Avenue and 91st Avenue
3023          DT   DPGL91      0.0    449.0
3024          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
3025          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
                  *

3026          KK  DWGLLO   DIVERT
3027          KM   Divert remaining runoff hydrograph from combination point CPGL91 west to
3028          KM   combination point CGLLO
3029          DT   DSBH91      0.0      0.0
3030          DI       0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0 10000.0 20000.0 50000.0
3031          DQ       0.0     62.0    124.0    310.0    620.0   1240.0   2480.0  6200.0 12400.0 31000.0
                  *

3032          KK  RWGLLO    ROUTE
3033          KM   Route diversion DWGLLO west to combination point CGLLO
3034          RS       3     FLOW
3035          RC   0.035   0.015   0.035    4441  0.0027     0.00
3036          RX    0.00    0.00   19.00   19.00  111.00  111.00  130.00  130.00
3037          RY    3.00    0.69    0.50    0.00    0.00    0.50    0.69    3.00
                  *

3038          KK    GLLO    BASIN
3039          KM   Runoff hydrograph for subbasin GLLO northeast of the intersection of Glendale
3040          KM   Avenue and SR Loop 101
3041          BA   0.848
3042          LG    0.10    0.19    6.60    0.12      80
3043          UC   1.297   0.872
3044          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
1                                          HEC-1 INPUT                                                PAGE 79

LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

3045          UA     100
                  *

3046          KK  ERGLLO   DIVERT
3047          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
3048          KM   retention developed after 1990 in subbasin GLLO
3049          DT   XGLLO     75.5      0.0
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3050          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
3051          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

3052          KK  CGLLO COMBINE
3053          KM  Combine route RWGLLO, route RSGLLO, and subbasin GLLO
3054          HC       3   15.23
              *

3055          KK  PRGL91RETRIEVE
3056          KM  Retrieve full flow capacity of 449 cfs from 90-inch storm drain pipe at the
3057          KM  intersection of Glendale Avenue and 91st Avenue
3058          DR  DPGL91
              *

3059          KK  RPGLLO   ROUTE
3060          KM  Route full flow capacity of 449 cfs through 90-inch storm drain pipe in
3061          KM  Glendale Avenue to the intersection of Glendale Avenue and SR Loop 101
3062          RK    4160  0.0034   0.015            CIRC   7.500
              *

3063          KK  CPGLLO COMBINE
3064          KM  Combine pipe return PRGL91 with the runoff hydrograph at combination point
3065          KM  CGLLO at the intersection of Glendale Avenue and SR Loop 101
3066          HC       2
              *

3067          KK  RSBHLO   ROUTE
3068          KM  Route hydrograph at combination point CPGLLO south to combination point CBHLO
3069          RS       2    FLOW
3070          RC   0.035   0.015   0.035    5165  0.0005    0.00
3071          RX    0.00    4.00   16.00   34.00   57.00   74.00   86.00   89.00
3072          RY   10.24    9.24    9.00    0.00    0.20    8.70    8.97    9.94
              *

3073          KK  DIBH59RETRIEVE
3074          KM  Retrieve arterial street flow diverted to Bethany Home Road at the intersecti
3075          KM  of Bethany Home Road and Grand Avenue
3076          DR  DWBH59
              *

3077          KK  DRBH59RETRIEVE
3078          KM  Retrieve divert DRBH59 from combination point CGR59 and divert south to
3079          KM  combination point CIBHGR
3080          DR  DBH59
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

3081          KK  SRGR59 STORAGE
3082          KM  Storage route runoff hydrograph from divert retrieval DRBH59 through ponding
3083          KM    area at Grand Avenue between 51st and 59th Avenues
3084          KM  Storage routing ID RES8 in DMJM HEC-1 revision (model BHGC00C6, Nov 2004)
3085          KM  Comments from DMJM model:
3086          KM  PONDING AREA RESERVOIR ROUTE
3087          KM  PONDING AREA NORTHEAST OF GRAND AVENUE/RR EMBANKMENT
3088          KM  SUB-BASIN 8-22E
3089          RS       1    STOR
3090          SV           14.95   50.65   78.30  116.78  220.43
3091          SQ            0.10    0.20  310.00 1070.00 4090.00
3092          SE  1148.0 1149.00 1150.00 1150.50 1151.00 1152.00
              *

3093          KK  CIBHGR COMBINE
3094          KM  Combine arterial street flow from Bethany Home Road DIBH59 with runoff
3095          KM  hydrograph DRBH59 at the intersection of Bethany Home Road and Grand Avenue
3096          HC       2    2.13
              *

3097          KK  RWBH59   ROUTE
3098          KM  Route hydrograph at combination point CIBHGR at the intersection of Bethany
3099          KM  Home Road and Grand Avenue west to combination point CBH59
3100          RS       4    FLOW
3101          RC   0.035   0.015   0.035    5280  0.0025    0.00
3102          RX    0.00    0.00   47.50   47.50  230.50  230.50  278.00  278.00
3103          RY    3.00    0.98    0.50    0.00    0.00    0.50    0.98    3.00
              *

3104          KK  DI59BHRETRIEVE
3105          KM  Retrieve arterial street flow diverted to 59th Avenue at the intersection
3106          KM  of Bethany Home Road and Grand Avenue
3107          DR  DSBH59
              *

3108          KK  RSBH59   ROUTE
3109          KM  Route diversion retrieval DI59HB at the intersection of Bethany Home Road and
3110          KM  59th Avenue south to combination point CBH59
3111          RS       3    FLOW
3112          RC   0.035   0.015   0.035    5280  0.0024    0.00
3113          RX    0.00    0.00   30.50   30.50  167.50  167.50  198.00  198.00
3114          RY    3.00    0.80    0.50    0.00    0.00    0.50    0.80    3.00
```



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              *

3115          KK   BH59   BASIN
3116          KM  Runoff hydrograph for subbasin BH59 northeast of the intersection of Bethany
3117          KM  Home Road and 59th Avenue
3118          BA  0.493
3119          LG   0.16    0.25    5.00    0.23      71
3120          UC  0.671   0.356
3121          UA      0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
3122          UA    100
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

3123          KK  ERBH59  DIVERT
3124          KM  Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
3125          KM  retention developed after 1990 and NOAA14 rainfall for future retention in
3126          KM  subbasin BH59
3127          DT  XBH59     3.1     0.0
3128          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
3129          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

3130          KK  CBH59 COMBINE
3131          KM  Combine route RWBH59, route RSBH59, and subbasin BH59
3132          HC       3    3.58
              *

3133          KK  DWBH67  DIVERT
3134          KM  Divert remaining runoff hydrograph from combination point CBH59 west to
3135          KM  combination point CBH67
3136          DT  DSCB59      0.0     0.0
3137          DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
3138          DQ     0.0    42.0    84.0   210.0   420.0   840.0  1680.0  4200.0  8400.0 21000.0
              *

3139          KK  RWBH67   ROUTE
3140          KM  Route diversion DWBH67 west to combination point CBH67
3141          RS       4    FLOW
3142          RC   0.035   0.015   0.035    5280  0.0028    0.00
3143          RX    0.00    0.00   68.50   68.50  359.50  359.50  428.00  428.00
3144          RY    3.00    1.18    0.50    0.00    0.00    0.50    1.18    3.00
              *

3145          KK  DRBH67RETRIEVE
3146          KM  Retrieve divert DRBH67 from combination point CGL75 and divert south to
3147          KM  combination point CBH67
3148          DR  DSBH67
              *

3149          KK  RSBH67   ROUTE
3150          KM  Route diversion retrieval DRBH67 south to combination point CBH67
3151          RS       8    FLOW
3152          RC   0.035   0.015   0.035    5280  0.0015    0.00
3153          RX    0.00    0.00   75.50   75.50  402.50  402.50  478.00  478.00
3154          RY    3.00    1.25    0.50    0.00    0.00    0.50    1.25    3.00
              *

3155          KK   BH67   BASIN
3156          KM  Runoff hydrograph for square mile subbasin BH67 northeast of the intersection
3157          KM  of Bethany Home Road and 67th Avenue
3158          BA  0.971
3159          LG   0.23    0.25    5.60    0.19      40
3160          UC  1.459   0.985
3161          UA      0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
3162          UA    100
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

3163          KK  CBH67 COMBINE
3164          KM  Combine route RWBH67, route RSBH67, and subbasin BH67
3165          HC       3    5.24
              *

3166          KK  DWBH75  DIVERT
3167          KM  Divert remaining runoff hydrograph from combination point CBH67 west to
3168          KM  combination point CBH75
3169          DT  DSCB67      0.0     0.0
3170          DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
3171          DQ     0.0    44.0    88.0   220.0   440.0   880.0  1760.0  4400.0  8800.0 22000.0
              *

3172          KK  RWBH75   ROUTE
3173          KM  Route diversion DWBH75 west to combination point CBH75
3174          RS       4    FLOW
3175          RC   0.035   0.015   0.035    5280  0.0038    0.00
3176          RX    0.00    0.00   61.50   61.50  316.50  316.50  378.00  378.00
3177          RY    3.00    1.12    0.50    0.00    0.00    0.50    1.12    3.00
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                *
3178            KK  DRBH75RETRIEVE
3179            KM   Retrieve divert DRBH75 from combination point CGL75 and divert south to
3180            KM   combination point CBH75
3181            DR  DSBH75
                *
3182            KK  RSBH75   ROUTE
3183            KM   Route diversion retrieval DRBH75 south to combination point CBH75
3184            RS       4    FLOW
3185            RC   0.035   0.015   0.035    5280  0.0019    0.00
3186            RX    0.00    0.00   68.50   68.50  359.50  359.50  428.00  428.00
3187            RY    3.00    1.18    0.50    0.00    0.00    0.50    1.18    3.00
                *
3188            KK    BH75   BASIN
3189            KM   Runoff hydrograph for square mile subbasin BH75 northeast of the intersection
3190            KM   of Bethany Home Road and 75th Avenue
3191            BA   1.003
3192            LG    0.24    0.15    9.70    0.04      37
3193            UC   1.413   0.944
3194            UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
3195            UA     100
                *
3196            KK  ERBH75  DIVERT
3197            KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
3198            KM   retention developed after 1990 in subbasin BH75
3199            DT   XBH75    69.9     0.0
3200            DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
3201            DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
                *
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LINE            ID.......1.......2.......3.......4.......5.......6.......7.......8.......9.....10

3202            KK   CBH75 COMBINE
3203            KM   Combine route RWBH75, route RSBH75, and subbasin BH75
3204            HC       3    8.42
                *
3205            KK   DBH75  DIVERT
3206            KM   Divert calculated full flow capapcity of 560 cfs into 108-inch storm drain
3207            KM   pipe at the intersection of Bethany Home Road and 75th Avenue
3208            DT   DPBH75      0.0   560.0
3209            DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
3210            DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
                *
3211            KK  DWBH83  DIVERT
3212            KM   Divert remaining runoff hydrograph from combination point CBH75 west to
3213            KM   combination point CBH83
3214            DT   DSCB75      0.0     0.0
3215            DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
3216            DQ     0.0    53.0   106.0   265.0   530.0  1060.0  2120.0  5300.0 10600.0 26500.0
                *
3217            KK  RWBH83   ROUTE
3218            KM   Route diversion DWBH83 west to combination point CBH83
3219            RS      10    FLOW
3220            RC   0.035   0.015   0.035    5280  0.0034    0.00
3221            RX    0.00    0.00   47.50   47.50  230.50  230.50  278.00  278.00
3222            RY    3.00    0.98    0.50    0.00    0.00    0.50    0.98    3.00
                *
3223            KK  DRBH83RETRIEVE
3224            KM   Retrieve divert DRBH83 from combination point CGL83 and divert south to
3225            KM   combination point CBH83
3226            DR  DSBH83
                *
3227            KK  RSBH83   ROUTE
3228            KM   Route diversion retrieval DRBH83 south to combination point CBH83
3229            RS       5    FLOW
3230            RC   0.035   0.015   0.035    5280  0.0021    0.00
3231            RX    0.00    0.00   72.50   72.50  425.50  425.50  498.00  498.00
3232            RY    3.00    1.23    0.50    0.00    0.00    0.50    1.23    3.00
                *
3233            KK    BH83   BASIN
3234            KM   Runoff hydrograph for square mile subbasin BH83 northeast of the intersection
3235            KM   of Bethany Home Road and 83rd Avenue
3236            BA   0.998
3237            LG    0.22    0.15    7.60    0.09      31
3238            UC   1.316   0.879
3239            UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
3240            UA     100
                *
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LINE            ID.......1.......2.......3.......4.......5.......6.......7.......8.......9.....10
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3241            KK  ERBH83  DIVERT
3242            KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
3243            KM   retention developed after 1990 in subbasin BH83
3244            DT   XBH83    62.4     0.0
3245            DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
3246            DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
                *
3247            KK   CBH83 COMBINE
3248            KM   Combine route RWBH83, route RSBH83, and subbasin BH83
3249            HC       3    9.47
                *
3250            KK  PRBH75RETRIEVE
3251            KM   Retrieve full flow capacity of 560 cfs from 108-inch storm drain pipe at the
3252            KM   intersection of Bethany Home Road and 75th Avenue
3253            DR  DPBH75
                *
3254            KK  RPBH83   ROUTE
3255            KM   Route full flow capacity of 560 cfs through 108-inch storm drain pipe in
3256            KM   Bethany Home Road to the intersection of Bethany Home Road and 83rd Avenue
3257            RK    4286  0.0020   0.015            CIRC   9.000
                *
3258            KK  CPBH83 COMBINE
3259            KM   Combine pipe return PRBH75 with the runoff hydrograph at combination point
3260            KM   CBH83 at the intersection of Bethany Home Road and 83rd Avenue
3261            HC       2
                *
3262            KK  DWBH91  DIVERT
3263            KM   Divert remaining runoff hydrograph from combination point CPBH83 west to
3264            KM   combination point CIBH83
3265            DT   DSGC83      0.0     0.0
3266            DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
3267            DQ     0.0    34.0    68.0   170.0   340.0   680.0  1360.0  3400.0  6800.0 17000.0
                *
3268            KK  DRCB27RETRIEVE
3269            KM   Retrieve divert DRCB27 from combination point CPBH27 and divert south to
3270            KM   combination point CCB27
3271            DR  DSCB27
                *
3272            KK  RSCB27   ROUTE
3273            KM   Route diversion retrieval DRCB27 south to combination point CCB27
3274            RS       4    FLOW
3275            RC   0.035   0.015   0.035    5280  0.0037    0.00
3276            RX    0.00    0.00   26.00   26.00  148.00  148.00  174.00  174.00
3277            RY    3.00    0.76    0.50    0.00    0.00    0.50    0.76    3.00
                *
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LINE            ID.......1.......2.......3.......4.......5.......6.......7.......8.......9.....10

3278            KK    CB27   BASIN
3279            KM   Runoff hydrograph for subbasin CB27 northeast of the intersection of
3280            KM   Camelback Road and 27th Avenue
3281            BA   0.262
3282            LG    0.20    0.25    5.10    0.22      54
3283            UC   0.855   0.673
3284            UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
3285            UA     100
                *
3286            KK   CCB27 COMBINE
3287            KM   Combine route RSCB27, and subbasin CB27
3288            HC       2    1.50
                *
3289            KK  PR27BHRETRIEVE
3290            KM   Retrieve full flow capacity of 132 cfs from 57-inch diameter pipe at the
3291            KM   intersection of Bethany Home Road and 27th Avenue
3292            DR  DP27BH
                *
3293            KK  RP27CB   ROUTE
3294            KM   Route full flow capacity of 132 cfs through 57-inch storm drain pipe in
3295            KM   27th Avenue to the intersection of 27th Avenue and Camelback Road
3296            RK    5336  0.0034   0.015            CIRC   4.750
                *
3297            KK  CPCB27 COMBINE
3298            KM   Combine pipe return PR27BH with the runoff hydrograph at combination point
3299            KM   CGL83 at the intersection of Camelback Road and 27th Avenue
3300            HC       2
                *
3301            KK   D27CB  DIVERT
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3302          KM   Divert calculated full flow capapcity of 132 cfs into 57-inch storm drain
3303          KM   pipe at the intersection of Camelback Road and 27th Avenue
3304          DT  DP27CB      0.0    132.0
3305          DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
3306          DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

3307          KK  DWCB35  DIVERT
3308          KM   Divert remaining runoff hydrograph from combination point CPCB27 west to
3309          KM   combination point CCB35
3310          DT  DS1S27      0.0      0.0
3311          DI      0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0  10000.0  20000.0  50000.0
3312          DQ      0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0  10000.0  20000.0  50000.0
              *
1                                          HEC-1 INPUT                                          PAGE 86

LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

3313          KK  RWCB35   ROUTE
3314          KM   Route diversion DWCB35 west to combination point CCB35
3315          RS       1     FLOW
3316          RC   0.035    0.015    0.035     5280   0.0006     0.00
3317          RX    0.00     0.00   105.00   105.00   494.00   494.00   599.00   599.00
3318          RY    3.00     1.55     0.50     0.00     0.00     0.50     1.55     3.00
              *

3319          KK  DRCB35RETRIEVE
3320          KM   Retrieve divert DRCB35 from combination point CPBH35 and divert south to
3321          KM   combination point CCB35
3322          DR  DSCB35
              *

3323          KK  RSCB35   ROUTE
3324          KM   Route diversion retrieval DRCB35 south to combination point CCB35
3325          RS       3     FLOW
3326          RC   0.035    0.015    0.035     5280   0.0040     0.00
3327          RX    0.00     0.00    95.50    95.50   453.50   453.50   549.00   549.00
3328          RY    3.00     1.46     0.50     0.00     0.00     0.50     1.46     3.00
              *

3329          KK   CB35   BASIN
3330          KM   Runoff hydrograph for square mile subbasin CB35 northeast of the intersection
3331          KM   of Camelback Road and 35th Avenue
3332          BA   1.000
3333          LG    0.24    0.25    5.00    0.25      39
3334          UC   1.483   0.997
3335          UA        0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
3336          UA      100
              *

3337          KK   CCB35 COMBINE
3338          KM   Combine route RWCB35, route RSCB35, and subbasin CB35
3339          HC        3    2.94
              *

3340          KK  PR27CBRETRIEVE
3341          KM   Retrieve combined full flow capacity of 132 cfs from 57-inch equivalent
3342          KM   diameter pipe at the intersection of Camelback Road and 27th Avenue
3343          DR  DP27CB
              *

3344          KK  CPCB29 COMBINE
3345          KM   Combine pipe return PR27CB with the runoff hydrograph at combination point
3346          KM   CCB29 at the intersection of Camelback Road and 29thth Avenue
3347          HC        2
              *
1                                          HEC-1 INPUT                                          PAGE 87

LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

3348          KK   D29CB  DIVERT
3349          KM   Divert calculated full flow capapcity of 132 cfs into 57-inch storm drain
3350          KM   pipe at the intersection of Camelback Road and 29th Avenue
3351          DT  DP29CB      0.0    132.0
3352          DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
3353          DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

3354          KK  PR35BHRETRIEVE
3355          KM   Retrieve combined full flow capacity of 226 cfs from 69-inch equivalent
3356          KM   diameter pipe at the intersection of Bethany Home Road and 35th Avenue
3357          DR  DP35BH
              *

3358          KK  RP35CB   ROUTE
3359          KM   Route the combined full flow capacity of 226 cfs through an equivalent storm
3360          KM   drain pipe diameter of 69 inches in 35th Avenue to the intersection of
3361          KM   35th Avenue and Camelback Road
3362          RK     5249  0.0037   0.015            CIRC   5.750
              *
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3363          KK  CPCB35 COMBINE
3364          KM   Combine pipe return PR35BH with the runoff hydrograph at combination point
3365          KM   CCB35 at the intersection of Camelback Road and 35th Avenue
3366          HC        2
              *

3367          KK   D35CB  DIVERT
3368          KM   Capacity of storm drain in 31st Avenue and 35th Avenue diverted together.
3369          KM   Divert combined calculated full flow capacity of 213 cfs in the 66-inch storm
3370          KM   drain pipe in 31st Avenue and 40 cfs in the 36-inch storm drain pipe in
3371          KM   35th Avenue. The total calculated combined full flow capacity diverted at the
3372          KM   intersection of 35th Avenue and Camelback Road is 253 cfs in an equivalent
3373          KM   diameter pipe of 73 inches
3374          DT  DP35CB      0.0    253.0
3375          DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
3376          DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

3377          KK  DWCB43  DIVERT
3378          KM   Divert remaining runoff hydrograph from combination point CPCB35 west to
3379          KM   combination point CCB43
3380          DT  DSIS35      0.0      0.0
3381          DI      0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0  10000.0  20000.0  50000.0
3382          DQ      0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0  10000.0  20000.0  50000.0
              *

3383          KK  RWCB43   ROUTE
3384          KM   Route diversion DWCB43 west to combination point CCB43
3385          RS       1     FLOW
3386          RC   0.035    0.015    0.035     5280   0.0001     0.00
3387          RX    0.00     0.00    86.00    86.00   413.00   413.00   499.00   499.00
3388          RY    3.00     1.36     0.50     0.00     0.00     0.50     1.36     3.00
              *
1                                          HEC-1 INPUT                                          PAGE 88

LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

3389          KK  DRCB43RETRIEVE
3390          KM   Retrieve divert DRCB43 from combination point CPBH43 and divert south to
3391          KM   combination point CCB43
3392          DR  DSCB43
              *

3393          KK  RSCB43   ROUTE
3394          KM   Route diversion retrieval DRCB43 south to combination point CCB43
3395          RS       3     FLOW
3396          RC   0.035    0.015    0.035     5280   0.0032     0.00
3397          RX    0.00     0.00    57.50    57.50   291.50   291.50   349.00   349.00
3398          RY    3.00     1.08     0.50     0.00     0.00     0.50     1.08     3.00
              *

3399          KK   CB43   BASIN
3400          KM   Runoff hydrograph for square mile subbasin CB43 northeast of the intersection
3401          KM   of Camelback Road and 43rd Avenue
3402          BA   0.999
3403          LG    0.24    0.25    4.80    0.26      35
3404          UC   0.959   0.353
3405          UA        0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
3406          UA      100
              *

3407          KK   CCB43 COMBINE
3408          KM   Combine route RWCB43, route RSCB43, and subbasin CB43
3409          HC        3    2.12
              *

3410          KK  PR43BHRETRIEVE
3411          KM   Retrieve combined full flow capacity of 385 cfs from 85-inch equivalent
3412          KM   diameter pipe at the intersection of Bethany Home Road and 43rd Avenue
3413          DR  DP43BH
              *

3414          KK  RP43CB   ROUTE
3415          KM   Route the combined full flow capacity of 385 cfs through an equivalent storm
3416          KM   drain pipe diameter of 85 inches in 43rd Avenue to the intersection of
3417          KM   43rd Avenue and Camelback Road
3418          RK     5172  0.0035   0.015            CIRC   7.083
              *

3419          KK  CPCB43 COMBINE
3420          KM   Combine pipe return PR43BH with the runoff hydrograph at combination point
3421          KM   CCB43 at the intersection of Camelback Road and 43rd Avenue
3422          HC        2
              *

3423          KK   D39CB  DIVERT
3424          KM   Divert calculated full flow capapcity of 268 cfs into 72-inch storm drain
3425          KM   pipe at the intersection of Camelback Road and 39th Avenue
3426          DT  DP39CB      0.0    268.0
3427          DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
3428          DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *
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 LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 3429          KK   D43CB  DIVERT
 3430          KM   Divert calculated full flow capapcity of 155 cfs into 60-inch storm drain
 3431          KM   pipe at the intersection of Camelback Road and 43rd Avenue
 3432          DT  DP43CB     0.0    155.0
 3433          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
 3434          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
               *

 3435          KK  DWGR43  DIVERT
 3436          KM   Divert portion of runoff hydrograph from combination point CPCB43 west
 3437          KM   through subbasin GR43 using the ratio of the widths and slopes of the streets
 3438          KM   going west and the widths and slopes of the streets going south. The
 3439          KM   remaining flow is diverted south through subbasin IS43
 3440          DT  DSGR35     0.0     0.0
 3441          DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
 3442          DQ     0.0    57.0   114.0   285.0   570.0  1140.0  2280.0  5700.0 11400.0 28500.0
               *

 3443          KK   DGR43  DIVERT
 3444          KM   Divert portion of DWGR43 west to subbasin GR43 using the ratio of the width
 3445          KM   of the collector and local streets and the width of the arterial street. The
 3446          KM   remaining flow is diverted west to subbasin CB51 along Camelback Road
 3447          DT   DCB51     0.0     0.0
 3448          DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
 3449          DQ     0.0    25.0    50.0   125.0   250.0   500.0  1000.0  2500.0  5000.0 12500.0
               *

 3450          KK  DRGR43RETRIEVE
 3451          KM   Retrieve divert DRGR43 from combination point CPBH51 and divert south to
 3452          KM   combination point CGR43
 3453          DR  DSGR43
               *

 3454          KK  RSGR43   ROUTE
 3455          KM   Route diversion retrieval DRGR43 south to combination point CGR43
 3456          RS       6    FLOW
 3457          RC   0.035   0.015   0.035    7370  0.0013    0.00
 3458          RX    0.00    0.00   31.50   31.50  143.50  143.50  175.00  175.00
 3459          RY    3.00    0.82    0.50    0.00    0.00    0.50    0.82    3.00
               *

 3460          KK    GR43   BASIN
 3461          KM   Runoff hydrograph for subbasin GR43 northwest of the intersection of Grand
 3462          KM   Avenue and 43rd Avenue
 3463          BA   0.514
 3464          LG    0.21    0.25    4.90    0.24      51
 3465          UC   0.775   0.411
 3466          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
 3467          UA     100
               *
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 LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 3468          KK  ERGR43  DIVERT
 3469          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
 3470          KM   retention developed after 1990 in subbasin GR43
 3471          DT   XGR43     6.6     0.0
 3472          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
 3473          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
               *

 3474          KK   CGR43 COMBINE
 3475          KM   Combine route RSGR43, remainder of combination point CPCB43, and subbasin
 3476          KM   GR43
 3477          HC       3    2.28
               *

 3478          KK  SRGR43 STORAGE
 3479          KM   Combined storage routing IDs BCm1 and BCm2 from PEC model, Feb 2008
 3480          KM   Storage routing through two basins along Grand Avenue between 51st Avenue and
 3481          KM     Bethany Home and 43rd Avenue and Camelback
 3482          RS       1    STOR
 3483          SV           20.40   65.70  122.40  136.72  212.40  323.58  339.80
 3484          SE  1126.0  1131.0  1136.0  1141.0  1142.0  1146.0  1150.0  1151.0
 3485          SQ     0.0     0.0     0.0    10.0    17.0    40.0    80.0   100.0   160.0     200
 3486          SQ   300.0   400.0   500.0   600.0   700.0   800.0   900.0  1000.0  1100.0
 3487          SE  1126.0  1140.0  1142.5 1142.67  1142.7  1142.8 1142.91 1142.95 1143.05   1143.
 3488          SE  1143.2 1143.38 1143.48 1143.58 1143.67 1143.75 1143.83 1143.91 1143.98
               *

 3489          KK   DGR35  DIVERT
 3490          KM   Divert portion of runoff hydrograph from combination point CGR43 west to
 3491          KM   combination point CICBGR using the ratio of the widths and slopes of the
 3492          KM   streets going east and the widths and slopes of the streets going south. The
 3493          KM   remaining flow is diverted east through subbasin GR35 along Grand Avenue.
 3494          DT  DEGR35     0.0     0.0
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 3495          DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
 3496          DQ     0.0    35.0    70.0   175.0   350.0   700.0  1400.0  3500.0  7000.0 17500.0
               *

 3497          KK  DWCB51  DIVERT
 3498          KM   Divert portion of DGR35 south to subbasin IS43 using the ratio of the width
 3499          KM   of the collector and local streets and the width of the arterial street. The
 3500          KM   remaining flow is diverted west to combination point CICBGR at the
 3501          KM   intersection of Camelback Road and 51st Avenue
 3502          DT  DSIS43     0.0     0.0
 3503          DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
 3504          DQ     0.0    65.0   130.0   325.0   650.0  1300.0  2600.0  6500.0 13000.0 32500.0
               *

 3505          KK  DICB51RETRIEVE
 3506          KM   Retrieve arterial street flow diverted to Camelback Road at the intersection
 3507          KM   of Bethany Home Road and 51st Avenue
 3508          DR   DCB51
               *
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 LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 3509          KK  CICBGR COMBINE
 3510          KM   Combine arterial street flow from Camelback Rd DICB51 with runoff hydrograph
 3511          KM   DWCB51 at the intersection of Camelback Road and 51st Avenue
 3512          HC       2    0.74
               *

 3513          KK  RWCB51   ROUTE
 3514          KM   Route hydrograph at combination point CICBGR at the intersection of Camelback
 3515          KM   Road and 51st Avenue west to combination point CCB51
 3516          RS       5    FLOW
 3517          RC   0.035   0.015   0.035    5280  0.0014    0.00
 3518          RX    0.00    0.00   16.50   16.50  107.50  107.50  124.00  124.00
 3519          RY    3.00    0.66    0.50    0.00    0.00    0.50    0.66    3.00
               *

 3520          KK    CB51   BASIN
 3521          KM   Runoff hydrograph for subbasin CB51 northeast of the intersection
 3522          KM   of Camelback Road and 51st Avenue
 3523          BA   0.483
 3524          LG    0.15    0.25    5.00    0.23      80
 3525          UC   0.449   0.227
 3526          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
 3527          UA     100
               *

 3528          KK   CCB51 COMBINE
 3529          KM   Combine hydrograph at combination point CICBGR and subbasin CB51
 3530          HC       2    1.23
               *

 3531          KK  DWCB59  DIVERT
 3532          KM   Divert remaining runoff hydrograph from combination point CCB51 west to
 3533          KM   combination point CCB59
 3534          DT  DSIS51     0.0     0.0
 3535          DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
 3536          DQ     0.0    51.0   102.0   255.0   510.0  1020.0  2040.0  5100.0 10200.0 25500.0
               *

 3537          KK  RWCB59   ROUTE
 3538          KM   Route diversion DWCB59 west to combination point CCB59
 3539          RS       4    FLOW
 3540          RC   0.035   0.015   0.035    5280  0.0023    0.00
 3541          RX    0.00    0.00   48.00   48.00  251.00  251.00  299.00  299.00
 3542          RY    3.00    0.98    0.50    0.00    0.00    0.50    0.98    3.00
               *

 3543          KK  DRCB59RETRIEVE
 3544          KM   Retrieve divert DRCB59 from combination point CBH59 and divert south to
 3545          KM   combination point CCB59
 3546          DR  DSCB59
               *
1                                  HEC-1 INPUT                                      PAGE 92

 LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 3547          KK  RSCB59   ROUTE
 3548          KM   Route diversion retrieval DRCB59 south to combination point CCB59
 3549          RS       4    FLOW
 3550          RC   0.035   0.015   0.035    5280  0.0030    0.00
 3551          RX    0.00    0.00   48.00   48.00  251.00  251.00  299.00  299.00
 3552          RY    3.00    0.98    0.50    0.00    0.00    0.50    0.98    3.00
               *

 3553          KK    CB59   BASIN
 3554          KM   Runoff hydrograph for square mile subbasin CB59 northeast of the intersection
 3555          KM   of Camelback Road and 59th Avenue
 3556          BA   1.010
 3557          LG    0.16    0.25    5.10    0.22      72
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3558          UC   1.007    0.651
3559          UA       0      5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
3560          UA     100
              *

3561          KK  ERCB59  DIVERT
3562          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
3563          KM   retention developed after 1990 in subbasin CB59
3564          DT   XCB59     16.6      0.0
3565          DI     0.0 50000.0      0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
3566          DQ     0.0 50000.0      0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

3567          KK   CCB59 COMBINE
3568          KM   Combine route RWCB59, route RSCB59, and subbasin CB59
3569          HC         3    3.11
              *

3570          KK   DCB59  DIVERT
3571          KM   Divert calculated full flow capapcity of 351 cfs into 84-inch storm drain
3572          KM   pipe at the intersection of Camelback Road and 59th Avenue
3573          KM   This is a future storm drain currently under design
3574          DT  DPCB59      0.0    351.0
3575          DI     0.0 50000.0      0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
3576          DQ     0.0 50000.0      0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

3577          KK  DWCB67  DIVERT
3578          KM   Divert remaining runoff hydrograph from combination point CCB59 west to
3579          KM   combination point CCB67
3580          DT  DSIS59      0.0      0.0
3581          DI     0.0   100.0    200.0    500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
3582          DQ     0.0    53.0    106.0    265.0   530.0  1060.0  2120.0  5300.0 10600.0 26500.0
              *

3583          KK  RWCB67   ROUTE
3584          KM   Route diversion DWCB67 west to combination point CCB67
3585          RS        5    FLOW
3586          RC   0.035   0.015   0.035     5280  0.0025     0.00
3587          RX    0.00    0.00   67.00    67.00  332.00  332.00  399.00  399.00
3588          RY    3.00    1.17    0.50     0.00    0.00    0.50    1.17    3.00
              *
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LINE          ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

3589          KK  DRCB67RETRIEVE
3590          KM   Retrieve divert DRCB67 from combination point CBH67 and divert south to
3591          KM   combination point CCB67
3592          DR  DSCB67
              *

3593          KK  RSCB67   ROUTE
3594          KM   Route diversion retrieval DRCB67 south to combination point CCB67
3595          RS        4    FLOW
3596          RC   0.035   0.015   0.035     5280  0.0027     0.00
3597          RX    0.00    0.00   57.50    57.50  291.50  291.50  349.00  349.00
3598          RY    3.00    1.08    0.50     0.00    0.00    0.50    1.08    3.00
              *

3599          KK   CB67   BASIN
3600          KM   Runoff hydrograph for square mile subbasin CB67 northeast of the intersection
3601          KM   of Camelback Road and 67th Avenue
3602          BA   0.970
3603          LG    0.24    0.15    7.60    0.08      36
3604          UC   1.393   0.936
3605          UA       0      5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
3606          UA     100
              *

3607          KK  ERCB67  DIVERT
3608          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
3609          KM   retention developed after 1990 in subbasin CB67
3610          DT   XCB67     3.2      0.0
3611          DI     0.0 50000.0      0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
3612          DQ     0.0 50000.0      0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

3613          KK   CCB67 COMBINE
3614          KM   Combine route RWCB67, route RSCB67, and subbasin CB67
3615          HC         3    4.73
              *

3616          KK  PRCB59RETRIEVE
3617          KM   Retrieve full flow capacity of 351 cfs from 84-inch diameter pipe at the
3618          KM   intersection of Camelback Road and 59th Avenue
3619          KM   This is a future storm drain currently under design
3620          DR  DPCB59
              *

3621          KK  RPCB67   ROUTE
3622          KM   Route full flow capacity of 351 cfs through 84-inch storm drain pipe in
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3623          KM   Camelback Road to the intersection of 67th Avenue and Camelback Road
3624          KM   This is a future storm drain currently under design
3625          RK    2642  0.0030   0.015            CIRC   7.000
              *
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LINE          ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

3626          KK  CPCB67 COMBINE
3627          KM   Combine pipe return PRCB59 with the runoff hydrograph at combination point
3628          KM   CCB67 at the intersection of Camelback Road and 67th Avenue
3629          HC         2
              *

3630          KK   DCB67  DIVERT
3631          KM   Divert calculated full flow capapcity of 504 cfs into 102-inch storm drain
3632          KM   pipe at the intersection of Camelback Road and 67th Avenue
3633          KM   This is a future storm drain currently under design
3634          DT  DPCB67      0.0    504.0
3635          DI     0.0 50000.0      0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
3636          DQ     0.0 50000.0      0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

3637          KK  DWCB75  DIVERT
3638          KM   Divert remaining runoff hydrograph from combination point CPCB67 west to
3639          KM   combination point CCB75
3640          DT  DSGC67      0.0      0.0
3641          DI     0.0   100.0    200.0    500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
3642          DQ     0.0    43.0     86.0    215.0   430.0   860.0  1720.0  4300.0  8600.0 21500.0
              *

3643          KK  RWCB75   ROUTE
3644          KM   Route diversion DWCB75 west to combination point CCB75
3645          RS        4    FLOW
3646          RC   0.035   0.015   0.035     5280  0.0024     0.00
3647          RX    0.00    0.00   86.00    86.00  413.00  413.00  499.00  499.00
3648          RY    3.00    1.36    0.50     0.00    0.00    0.50    1.36    3.00
              *

3649          KK  DRCB75RETRIEVE
3650          KM   Retrieve divert DRCB75 from combination point CBH75 and divert south to
3651          KM   combination point CCB75
3652          DR  DSCB75
              *

3653          KK  RSCB75   ROUTE
3654          KM   Route diversion retrieval DRCB75 south to combination point CCB75
3655          RS       10    FLOW
3656          RC   0.035   0.015   0.035     5280  0.0013     0.00
3657          RX    0.00    0.00   86.00    86.00  413.00  413.00  499.00  499.00
3658          RY    3.00    1.36    0.50     0.00    0.00    0.50    1.36    3.00
              *

3659          KK   CB75   BASIN
3660          KM   Runoff hydrograph for square mile subbasin CB75 northeast of the intersection
3661          KM   of Camelback Road and 75th Avenue
3662          BA   0.998
3663          LG    0.24    0.15    7.30    0.10      33
3664          UC   1.478   0.995
3665          UA       0      5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
3666          UA     100
              *
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LINE          ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

3667          KK  ERCB75  DIVERT
3668          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
3669          KM   retention developed after 1990 in subbasin CB75
3670          DT   XCB75     25.1      0.0
3671          DI     0.0 50000.0      0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
3672          DQ     0.0 50000.0      0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

3673          KK   CCB75 COMBINE
3674          KM   Combine RWCB75, route RSCB75, and subbasin CB75
3675          HC         3    8.14
              *

3676          KK  PRCB67RETRIEVE
3677          KM   Retrieve full flow capacity of 504 cfs from 102-inch diameter pipe at the
3678          KM   intersection of Camelback Road and 67th Avenue
3679          KM   This is a future storm drain currently under design
3680          DR  DPCB67
              *

3681          KK  RPCB75   ROUTE
3682          KM   Route full flow capacity of 504 cfs through 102-inch storm drain pipe in
3683          KM   Camelback Road to the intersection of 75th Avenue and Camelback Road
3684          KM   This is a future storm drain currently under design
3685          RK    4997  0.0022   0.015            CIRC   8.500
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                *
3686            KK  CPCB75 COMBINE
3687            KM   Combine pipe return PRCB67 with the runoff hydrograph at combination point
3688            KM   CCB75 at the intersection of Camelback Road and 75th Avenue
3689            HC       2
                *
3690            KK  DWGC83  DIVERT
3691            KM   Divert remaining runoff hydrograph from combination point CPCB75 west to
3692            KM   combination point CICB75
3693            DT  DSGC75      0.0      0.0
3694            DI      0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0  10000.0  20000.0  50000.0
3695            DQ      0.0     44.0     88.0    220.0    440.0    880.0   1760.0   4400.0   8800.0  22000.0
                *
3696            KK  DRIS27RETRIEVE
3697            KM   Retrieve divert DRIS27 from combination point CPCB27 and divert south to
3698            KM   combination point CIS27
3699            DR  DSIS27
                *
3700            KK  RSIS27   ROUTE
3701            KM   Route diversion retrieval DRIS27 south to combination point CIS27
3702            RS       3    FLOW
3703            RC   0.035   0.015   0.035    5280  0.0038    0.00
3704            RX    0.00    0.00   26.00   26.00  148.00  148.00  174.00  174.00
3705            RY    3.00    0.76    0.50    0.00    0.00    0.50    0.76    3.00
                *
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LINE            ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

3706            KK    IS27   BASIN
3707            KM   Runoff hydrograph for subbasin IS27 northeast of the intersection of Indian
3708            KM   School Road and 27th Avenue
3709            BA   0.239
3710            LG    0.20    0.15    7.30    0.09      58
3711            UC   1.057   0.890
3712            UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
3713            UA     100
                *
3714            KK   CIS27 COMBINE
3715            KM   Combine route RSIS27 and subbasin IS27
3716            HC       2    1.74
                *
3717            KK  PR29CBRETRIEVE
3718            KM   Retrieve full flow capacity of 132 cfs from 57-inch storm drain pipe at the
3719            KM   intersection of Camelback Road and 29th Avenue
3720            DR  DP29CB
                *
3721            KK  RP27IS   ROUTE
3722            KM   Route full flow capacity of 132 cfs through 57-inch storm drain pipe in
3723            KM   27th Avenue to the intersection of Indian School Road and 43rd Avenue
3724            RK    5210  0.0034   0.015            CIRC   4.750
                *
3725            KK  CPIS27 COMBINE
3726            KM   Combine pipe return PR29CB with the runoff hydrograph at combination point
3727            KM   CIS27 at the intersection of Indian School Road and 27th Avenue
3728            HC       2
                *
3729            KK   D27IS  DIVERT
3730            KM   Divert calculated full flow capapcity of 151 cfs into 60-inch storm drain
3731            KM   pipe at the intersection of Indian School Road and 27th Avenue
3732            DT  DP27IS      0.0   151.0
3733            DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
3734            DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
                *
3735            KK  DWIS35  DIVERT
3736            KM   Divert remaining runoff hydrograph from combination point CIS27 west to
3737            KM   combination point CIS35
3738            DT  DSGC27      0.0      0.0
3739            DI      0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0  10000.0  20000.0  50000.0
3740            DQ      0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0  10000.0  20000.0  50000.0
                *
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LINE            ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

3741            KK  RWIS35   ROUTE
3742            KM   Route diversion DWIS35 west to combination point CIS35
3743            RS       1    FLOW
3744            RC   0.035   0.015   0.035    5280  0.0006    0.00
3745            RX    0.00    0.00   95.50   95.50  453.50  453.50  549.00  549.00
3746            RY    3.00    1.46    0.50    0.00    0.00    0.50    1.46    3.00
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                *
3747            KK  DRIS35RETRIEVE
3748            KM   Retrieve divert DRIS35 from combination point CPCB35 and divert south to
3749            KM   combination point CIS35
3750            DR  DSIS35
                *
3751            KK  RSIS35   ROUTE
3752            KM   Route diversion retrieval DRIS35 south to combination point CIS35
3753            RS       3    FLOW
3754            RC   0.035   0.015   0.035    5280  0.0038    0.00
3755            RX    0.00    0.00   86.00   86.00  413.00  413.00  499.00  499.00
3756            RY    3.00    1.36    0.50    0.00    0.00    0.50    1.36    3.00
                *
3757            KK    IS35   BASIN
3758            KM   Runoff hydrograph for square mile subbasin IS35 northeast of the intersection
3759            KM   Indian School Road and 35th Avenue
3760            BA   0.990
3761            LG    0.24    0.15    7.60    0.09      31
3762            UC   0.883   0.324
3763            UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
3764            UA     100
                *
3765            KK   CIS35 COMBINE
3766            KM   Combine route RWIS35, route RSIS35, and subbasin IS35
3767            HC       3    3.93
                *
3768            KK  PR35CBRETRIEVE
3769            KM   Retrieve combined full flow capacity of 253 cfs from 73-inch equivalent
3770            KM   diameter pipe at the intersection of Camelback Road and 35th Avenue
3771            DR  DP35CB
                *
3772            KK  RP35IS   ROUTE
3773            KM   Route the combined full flow capacity of 253 cfs through an equivalent storm
3774            KM   drain pipe diameter of 73 inches in 35th Avenue to the intersection of
3775            KM   35th Avenue and Indian School Road
3776            RK    2083  0.0037   0.015            CIRC   6.083
                *
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LINE            ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

3777            KK  CPIS35 COMBINE
3778            KM   Combine pipe return PR35CB with the runoff hydrograph at combination point
3779            KM   CIS35 at the intersection of Indian School Road and 35th Avenue
3780            HC       2
                *
3781            KK   D31IS  DIVERT
3782            KM   Divert calculated full flow capapcity of 268 cfs into 72-inch storm drain
3783            KM   pipe at the intersection of Indian School Road and 31st Avenue
3784            DT  DP31IS      0.0   268.0
3785            DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
3786            DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
                *
3787            KK   D35IS  DIVERT
3788            KM   Divert calculated full flow capapcity of 40 cfs into 36-inch storm drain
3789            KM   pipe at the intersection of Indian School Road and 35th Avenue
3790            DT  DP35IS      0.0     40.0
3791            DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
3792            DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
                *
3793            KK  DWGR35  DIVERT
3794            KM   Divert remaining runoff hydrograph from combination point CIS35 west to
3795            KM   combination point CGR35
3796            DT  DSGC35      0.0      0.0
3797            DI      0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0  10000.0  20000.0  50000.0
3798            DQ      0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0  10000.0  20000.0  50000.0
                *
3799            KK  DIGR35RETRIEVE
3800            KM   Retrieve arterial street flow diverted to Grand Avenue at the intersection
3801            KM   of Grand Avenue and 35th Avenue
3802            DR  DEGR35
                *
3803            KK  DRGR35RETRIEVE
3804            KM   Retrieve subbasin flow diverted to the intersection of 43rd Avenue and
3805            KM   Grand Avenue
3806            DR  DSGR35
                *
3807            KK   D35GR  DIVERT
3808            KM   Divert portion of divert return DRGR35 south to subbasin GR35 using the ratio
3809            KM   of the width of the collector and local streets and the width of the arterial
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3810          KM   street. The remaining flow is diverted south to combination point CICB43
3811          KM   along 43rd Avenue
3812          DT  DS43IS      0.0      0.0
3813          DI     0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0 10000.0 20000.0 50000.0
3814          DQ     0.0     36.0     72.0    180.0    360.0    720.0   1440.0  3600.0  7200.0 18000.0
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


3815          KK  CIGR43 COMBINE
3816          KM   Combine arterial street flow from Grand Avenue DIGR35 with runoff hydrograph
3817          KM   D35GR at the intersection of 43rd Avenue and Grand Avenue
3818          HC        2     1.58
              *

3819          KK  RSGR35    ROUTE
3820          KM   Route hydrograph at combination point CIGR43 at the intersection of Grand
3821          KM   Avenue and 43rd Avenue south to combination point CGR35
3822          RS        4     FLOW
3823          RC   0.035   0.015   0.035    7095  0.0033     0.00
3824          RX    0.00    0.00   48.00   48.00  251.00  251.00  299.00  299.00
3825          RY    3.00    0.98    0.50    0.00    0.00    0.50    0.98    3.00
              *

3826          KK    GR35    BASIN
3827          KM   Runoff hydrograph for subbasin GR35 northwest of the intersection of Grand
3828          KM   Avenue, 35th Avenue, and Indian School Road
3829          BA   0.531
3830          LG    0.20    0.25    4.80    0.26      51
3831          UC   0.808   0.436
3832          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
3833          UA     100
              *

3834          KK   CGR35 COMBINE
3835          KM   Combine divert DWGR35, route RSGR35, and subbasin GR35
3836          HC        3     2.11
              *

3837          KK  PR39CBRETRIEVE
3838          KM   Retrieve full flow capacity of 268 cfs from 72-inch diameter pipe at the
3839          KM   intersection of Camelback Road and 39th Avenue
3840          DR  DP39CB
              *

3841          KK  RP39GR    ROUTE
3842          KM   Route the full flow capacity of 268 cfs through 72-inch storm drain pipe
3843          KM   diameter in 39th Avenue to the intersection of 39th Avenue and Indian School
3844          KM   Road
3845          RK    2846  0.0040    0.015             CIRC    6.000
              *

3846          KK  CPGR35 COMBINE
3847          KM   Combine pipe return PR39CB with the runoff hydrograph at combination point
3848          KM   CGC35 at the intersection of Grand Avenue and 35th Avenue
3849          HC        2
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


3850          KK  DP39GR  DIVERT
3851          KM   Divert calculated full flow capapcity of 251 cfs into 72-inch storm drain
3852          KM   pipe at the intersection of Grand Avenue and 39th Avenue. The pipe flow is
3853          KM   followed to combination point CPIS43 and the remaining surface flow is
3854          KM   diverted to combination point CIIS53 at the intersection of Indian School
3855          KM   Road and 35th Avenue
3856          DT  D39GR      0.0      0.0
3857          DI     0.0    251.0    251.1 50000.0      0.0      0.0      0.0      0.0      0.0      0.0
3858          DQ     0.0      0.0      0.1 49749.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

3859          KK  RP39IS    ROUTE
3860          KM   Route the full flow capacity of 251 cfs through 72-inch storm drain pipe
3861          KM   diameter in 39th Avenue to the intersection of 39th Avenue and Indian School
3862          KM   Road
3863          RK    2428  0.0035    0.015             CIRC    6.000
              *

3864          KK  DRIS43RETRIEVE
3865          KM   Retrieve divert DRIS43 in 43rd Avenue from combination point CGR43 and divert
3866          KM   south to intersection combination point CICB43
3867          DR  DSIS43
              *

3868          KK  DI43ISRETRIEVE
3869          KM   Retrieve subbasin flow diverted to the intersection of Camelback Road and
3870          KM   43rd Avenue
3871          DR  DS43IS
              *
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3872          KK  CICB43 COMBINE
3873          KM   Combine arterial street flow from 43rd Avenue DRIS43 with arterial street
3874          KM   flow DI43IS at the intersection of 43rd Avenue and Camelback Road
3875          HC        2     1.40
              *

3876          KK  RSIS43    ROUTE
3877          KM   Route hydrograph at intersection combination point CICB43 at the intersection
3878          KM   of Camelback Road and 43rd Avenue south to combination point CIS43
3879          RS        3     FLOW
3880          RC   0.035   0.015   0.035    5280  0.0048     0.00
3881          RX    0.00    0.00   16.50   16.50  107.50  107.50  124.00  124.00
3882          RY    3.00    0.66    0.50    0.00    0.00    0.50    0.66    3.00
              *

3883          KK    IS43    BASIN
3884          KM   Runoff hydrograph for subbasin IS43 northeast of the intersection of Indian
3885          KM   School Road and 43rd Avenue
3886          BA   0.467
3887          LG    0.15    0.25    4.80    0.25      80
3888          UC   0.456   0.225
3889          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
3890          UA     100
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


3891          KK   CIS43 COMBINE
3892          KM   Combine route RSIS43 and subbasin IS43
3893          HC        2     1.87
              *

3894          KK  PR43CBRETRIEVE
3895          KM   Retrieve full flow capacity of 155 cfs from 60-inch storm drain pipe at the
3896          KM   intersection of Camelback Road and 43rd Avenue
3897          DR  DP43CB
              *

3898          KK  RP43IS    ROUTE
3899          KM   Route full flow capacity of 155 cfs through 60-inch storm drain pipe in
3900          KM   43rd Avenue to the intersection of Indian School Road and 43rd Avenue
3901          RK    5374  0.0035    0.015             CIRC    5.000
              *

3902          KK  CPIS43 COMBINE
3903          KM   Combine pipe return PR43CB with the runoff hydrograph at combination point
3904          KM   CIS43 at the intersection of Indian School Road and 43rd Avenue
3905          HC        3
              *

3906          KK   D43IS  DIVERT
3907          KM   Capacity of storm drain in 39th Avenue and 43rd Avenue diverted together.
3908          KM   Divert combined calculated full flow capacity of 251 cfs in the 72-inch storm
3909          KM   drain pipe in 39th Avenue and 154 cfs in the 60-inch storm drain pipe in
3910          KM   43rd Avenue. The total calculated combined full flow capacity diverted at the
3911          KM   intersection of 43rd Avenue and Indian School Road is 406 cfs in an
3912          KM   equivalent diameter pipe of 87 inches
3913          DT  DP43IS      0.0    406.0
3914          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
3915          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

3916          KK  DWIS51  DIVERT
3917          KM   Divert runoff hydrograph from combination point CPIS43 west to combination
3918          KM   point CIS51
3919          DT  DSGC43      0.0      0.0
3920          DI     0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0 10000.0 20000.0 50000.0
3921          DQ     0.0     83.0    166.0    415.0    830.0   1660.0   3320.0  8300.0 16600.0 41500.0
              *

3922          KK  RWIS51    ROUTE
3923          KM   Route diversion DWIS51 west to combination point CIS51
3924          RS       10     FLOW
3925          RC   0.035   0.015   0.035    5280  0.0003     0.00
3926          RX    0.00    0.00   45.00   45.00  229.00  229.00  274.00  274.00
3927          RY    3.00    0.95    0.50    0.00    0.00    0.50    0.95    3.00
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


3928          KK  DRIS51RETRIEVE
3929          KM   Retrieve divert DRIS51 from combination point CCB51 and divert south to
3930          KM   combination point CIS51
3931          DR  DSIS51
              *

3932          KK  RSIS51    ROUTE
3933          KM   Route diversion retrieval DRIS51 south to combination point CIS51
```

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3934          RS       3    FLOW
3935          RC   0.035   0.015   0.035    5280  0.0037    0.00
3936          RX    0.00    0.00   38.50   38.50  210.50  210.50  249.00  249.00
3937          RY    3.00    0.88    0.50    0.00    0.00    0.50    0.88    3.00
              *

3938          KK    IS51   BASIN
3939          KM   Runoff hydrograph for square mile subbasin IS51 northeast of the intersection
3940          KM   of Indian School Road and 51st Avenue
3941          BA   0.994
3942          LG    0.19    0.25    5.00    0.23      59
3943          UC   1.167   0.764
3944          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
3945          UA     100
              *

3946          KK  ERIS51  DIVERT
3947          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
3948          KM   retention developed after 1990 in subbasin IS51
3949          DT   XIS51    49.9     0.0
3950          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
3951          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

3952          KK   CIS51 COMBINE
3953          KM   Combine route RWIS51, route RSIS51, and subbasin IS51
3954          HC       3    1.94
              *

3955          KK   D51IS  DIVERT
3956          KM   Divert calculated full flow capapcity of 244 cfs into 72-inch storm drain
3957          KM   pipe at the intersection of Indian School Road and 51st Avenue
3958          DT  DP51IS      0.0    244.0
3959          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
3960          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

3961          KK  DWIS59  DIVERT
3962          KM   Divert remaining runoff hydrograph from combination point CIS51 west to
3963          KM   combination point CIS59
3964          DT  DSGC51      0.0     0.0
3965          DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
3966          DQ     0.0    62.0   124.0   310.0   620.0  1240.0  2480.0  6200.0 12400.0 31000.0
              *

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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

3967          KK  RWIS59   ROUTE
3968          KM   Route diversion DWIS59 west to combination point CIS59
3969          RS       8    FLOW
3970          RC   0.035   0.015   0.035    5280  0.0016    0.00
3971          RX    0.00    0.00   67.00   67.00  332.00  332.00  399.00  399.00
3972          RY    3.00    1.17    0.50    0.00    0.00    0.50    1.17    3.00
              *

3973          KK  DRIS59RETRIEVE
3974          KM   Retrieve divert DRIS59 from combination point CCB59 and divert south to
3975          KM   combination point CIS59
3976          DR  DSIS59
              *

3977          KK  RSIS59   ROUTE
3978          KM   Route diversion retrieval DRIS59 south to combination point CIS59
3979          RS       4    FLOW
3980          RC   0.035   0.015   0.035    5280  0.0030    0.00
3981          RX    0.00    0.00   67.00   67.00  332.00  332.00  399.00  399.00
3982          RY    3.00    1.17    0.50    0.00    0.00    0.50    1.17    3.00
              *

3983          KK    IS59   BASIN
3984          KM   Runoff hydrograph for square mile subbasin IS59 northeast of the intersection
3985          KM   of Indian School Road and 59th Avenue
3986          BA   1.014
3987          LG    0.22    0.25    5.30    0.21      43
3988          UC   1.413   0.942
3989          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
3990          UA     100
              *

3991          KK   CIS59 COMBINE
3992          KM   Combine route RWIS59, route RSIS59, and subbasin IS59
3993          HC       3    3.38
              *

3994          KK   D59IS  DIVERT
3995          KM   Divert calculated full flow capapcity of 353 cfs into 81-inch storm drain
3996          KM   pipe at the intersection of Indian School Road and 59th Avenue
3997          DT  DP59IS      0.0    353.0
3998          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
3999          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *
```



```
4000          KK  DWGC67  DIVERT
4001          KM   Divert remaining runoff hydrograph from combination point CIS59 west to
4002          KM   combination point CGC67
4003          DT  DSGC59      0.0     0.0
4004          DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
4005          DQ     0.0    60.0   120.0   300.0   600.0  1200.0  2400.0  6000.0 12000.0 30000.0
              *

1                                    HEC-1 INPUT                                    PAGE104

LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

4006          KK  RWGC67   ROUTE
4007          KM   Route diversion DWGC67 west to combination point CGC67
4008          RS       4    FLOW
4009          RC   0.035   0.015   0.035    3841  0.0016    0.00
4010          RX    0.00    0.00   48.00   48.00  251.00  251.00  299.00  299.00
4011          RY    3.00    0.98    0.50    0.00    0.00    0.50    0.98    3.00
              *

4012          KK  DRGC67RETRIEVE
4013          KM   Retrieve divert DRGC67 from combination point CCB67 and divert south to
4014          KM   combination point CGC67
4015          DR  DSGC67
              *

4016          KK  RSGC67   ROUTE
4017          KM   Route diversion retrieval DRGC67 south to combination point CGC67
4018          RS       5    FLOW
4019          RC   0.035   0.015   0.035    5280  0.0017    0.00
4020          RX    0.00    0.00   76.50   76.50  372.50  372.50  449.00  449.00
4021          RY    3.00    1.27    0.50    0.00    0.00    0.50    1.27    3.00
              *

4022          KK    GC67   BASIN
4023          KM   Runoff hydrograph for subbasin GC67 northeast of the intersection of the
4024          KM   Grand Canal and 67th Avenue
4025          BA   0.936
4026          LG    0.21    0.15    7.30    0.11      28
4027          UC   1.256   0.767
4028          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
4029          UA     100
              *

4030          KK   CGC67 COMBINE
4031          KM   Combine route RWGC67, route RSGC67, and subbasin GC67
4032          HC       3    4.34
              *

4033          KK   D67IS  DIVERT
4034          KM   Divert calculated full flow capapcity of 175 cfs into 66-inch storm drain
4035          KM   pipe at the intersection of Indian School Road and 67th Avenue
4036          DT  DP67IS      0.0    175.0
4037          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
4038          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

4039          KK  DWGC75  DIVERT
4040          KM   Divert remaining runoff hydrograph from combination point CGC67 west to
4041          KM   combination point CGC75
4042          DT  DSISGC      0.0     0.0
4043          DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
4044          DQ     0.0    51.0   102.0   255.0   510.0  1020.0  2040.0  5100.0 10200.0 25500.0
              *

1                                    HEC-1 INPUT                                    PAGE105

LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

4045          KK  DRGR39RETRIEVE
4046          KM   Retrieve remaining surface flow runoff hydrograph DRGR39 following pipe
4047          KM   diversion DP39GR after combination point CPGR35 at the intersection of 39th
4048          KM   Avenue and Grand Avenue
4049          DR   D39GR
              *

4050          KK   DGC35  DIVERT
4051          KM   Divert runoff hydrograph DRGR39 along Grand Avenue.  Remaining hydrograph
4052          KM   flows along 35th Avenue to the intersection of 35th Avenue and the Grand
4053          KM   Canal
4054          DT  DEGCGR      0.0     0.0
4055          DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
4056          DQ     0.0    48.0    96.0   240.0   480.0   960.0  1920.0  4800.0  9600.0 24000.0
              *

4057          KK  DRGC35RETRIEVE
4058          KM   Retrieve remaining runoff hydrograph DRGC35 coming south from combination
4059          KM   point CPIS35 at the intersection of 35th Avenue and Grand Avenue
4060          DR  DSGC35
              *

4061          KK  DS35GC  DIVERT
```

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 4062          KM   Divert runoff hydrograph DRGC35 along Grand Avenue. Remaining hydrograph
 4063          KM   flows along 35th Avenue to the intersection of 35th Avenue and the Grand
 4064          KM   Canal
 4065          DT  DSGCGR     0.0     0.0
 4066          DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
 4067          DQ     0.0    25.0    50.0   125.0   250.0   500.0  1000.0  2500.0  5000.0 12500.0
               *

 4068          KK  CIIS35 COMBINE
 4069          KM   Combine arterial street flow from 35th Avenue DIGC35 with areterial street
 4070          KM   flow from 35th Avenue DRGC35 at the intersection of 35th Avenue and Indian
 4071          KM   School Road
 4072          HC       2    2.06
               *

 4073          KK  RSGC35   ROUTE
 4074          KM   Route hydrograph at combination point CIIS35 at the intersection of Indian
 4075          KM   School Road and 35th Avenue south to combination point CGC35
 4076          RS       1    FLOW
 4077          RC   0.035   0.015   0.035    1973  0.0033    0.00
 4078          RX    0.00    0.00   16.50   16.50  107.50  107.50  124.00  124.00
 4079          RY    3.00    0.66    0.50    0.00    0.00    0.50    0.66    3.00
               *

 4080          KK    GC35   BASIN
 4081          KM   Runoff hydrograph for subbasin GC35 northeast of the intersection of the
 4082          KM   Grand Canal and 35th Avenue
 4083          BA   0.077
 4084          LG    0.15    0.25    4.25    0.35      80
 4085          UC   0.342   0.219
 4086          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
1                                            HEC-1 INPUT                                          PAGE106

 LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 4087          UA     100
               *

 4088          KK   CGC35 COMBINE
 4089          KM   Combine route RSGC35 and subbasin GC35
 4090          HC       2    2.14
               *

 4091          KK  PR35ISRETRIEVE
 4092          KM   Retrieve full flow capacity of 40 cfs from 36-inch diameter pipe at the
 4093          KM   intersection of Indian School Road and 35th Avenue
 4094          DR  DP35IS
               *

 4095          KK  RP35GC   ROUTE
 4096          KM   Route the full flow capacity of 40 cfs through 36-inch storm drain pipe
 4097          KM   diameter in 35th Avenue to the intersection of 35th Avenue and the Grand
 4098          KM   Canal
 4099          RK    2327  0.0035   0.015            CIRC   3.000
               *

 4100          KK  CPGC35 COMBINE
 4101          KM   Combine pipe return PR35IS with the runoff hydrograph at combination point
 4102          KM   CGC35 at the intersection of the Grand Canal and 35th Avenue
 4103          HC       2
               *

 4104          KK   D35GC  DIVERT
 4105          KM   Divert calculated full flow capapcity of 40 cfs into 36-inch storm drain
 4106          KM   pipe at the intersection of the Grand Canal and 35th Avenue
 4107          DT  DP35GC     0.0    40.0
 4108          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
 4109          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
               *

 4110          KK  DWGC43  DIVERT
 4111          KM   Divert runoff hydrograph from combination point CGC35 west to combination
 4112          KM   point CGC35
 4113          DT  DSTM35     0.0     0.0
 4114          DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
 4115          DQ     0.0    85.0   170.0   425.0   850.0  1700.0  3400.0  8500.0 17000.0 42500.0
               *

 4116          KK  RWGC43   ROUTE
 4117          KM   Route hydrograph at combination point CGC35 at the intersection of the Grand
 4118          KM   Canal and 35th Avenue west to combination point CGC43
 4119          RS       5    FLOW
 4120          RC   0.035   0.015   0.035    6627  0.0009    0.00
 4121          RX    0.00    0.00    9.50    9.50   40.50   40.50   50.00   50.00
 4122          RY    3.00    0.60    0.50    0.00    0.00    0.50    0.60    3.00
               *
1                                            HEC-1 INPUT                                          PAGE107

 LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 4123          KK  DRGC43RETRIEVE
 4124          KM   Retrieve divert DRGC43 from combination point CPIS43 and divert south to
```



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 4125          KM   combination point CGC43
 4126          DR  DSGC43
               *

 4127          KK  RSGC43   ROUTE
 4128          KM   Route diversion retrieval DRGC43 south to combination point CGC43
 4129          RS       1    FLOW
 4130          RC   0.035   0.015   0.035    2155  0.0038    0.00
 4131          RX    0.00    0.00   57.50   57.50  291.50  291.50  349.00  349.00
 4132          RY    3.00    1.08    0.50    0.00    0.00    0.50    1.08    3.00
               *

 4133          KK    GC43   BASIN
 4134          KM   Runoff hydrograph for subbasin GC43 northeast of the intersection of the
 4135          KM   Grand Canal and 43rd Avenue
 4136          BA   0.370
 4137          LG    0.15    0.25    6.00    0.15      80
 4138          UC   0.832   0.724
 4139          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
 4140          UA     100
               *

 4141          KK   CGC43 COMBINE
 4142          KM   Combine route RWGC43, route RSGC43, and subbasin GC43
 4143          HC       3    2.23
               *

 4144          KK  PR43ISRETRIEVE
 4145          KM   Retrieve combined full flow capacity of 406 cfs from 87-inch equivalent
 4146          KM   diameter pipe at the intersection of Indian School Road and 43rd Avenue
 4147          DR  DP43IS
               *

 4148          KK  RP43GC   ROUTE
 4149          KM   Route the combined full flow capacity of 406 cfs through an equivalent storm
 4150          KM   drain pipe diameter of 87 inches in 43rd Avenue to the intersection of
 4151          KM   43rd Avenue and the Grand Canal
 4152          RK    2347  0.0035   0.015            CIRC   6.083
               *

 4153          KK  CPGC43 COMBINE
 4154          KM   Combine pipe return PR43IS with the runoff hydrograph at combination point
 4155          KM   CGC43 at the intersection of the Grand Canal and 43rd Avenue
 4156          HC       2
               *

 4157          KK   D43GC  DIVERT
 4158          KM   Capacity of storm drain in 39th Avenue and 43rd Avenue diverted together.
 4159          KM   Divert combined calculated full flow capacity of 251 cfs in the 72-inch storm
 4160          KM   drain pipe in 39th Avenue and 154 cfs in the 60-inch storm drain pipe in
 4161          KM   43rdAvenue. The total calculated combined full flow capacity diverted at the
 4162          KM   intersection of 43rd Avenue and the Grand Canal is 406 cfs in an
1                                            HEC-1 INPUT                                          PAGE108

 LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 4163          KM   equivalent diameter pipe of 87 inches
 4164          DT  DP43GC     0.0   406.0
 4165          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
 4166          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
               *

 4167          KK  SRGC43 STORAGE
 4168          KM     Storage routing ID PA43 in Maryvale ADMS, Feb 1997 - comments from ADMS:
 4169          KM     STORAGE ROUTING
 4170          KM     PONDING AREA IN THE VICINITY OF 43RD AVE
 4171          KM     PRELIMINARY COMPUTATIONS BY WPA 6/96
 4172          KM     CAPACITY OF SURFACE FLOW NORTH OF CANAL = 200 CFS
 4173          KM     DIVERSION OF FLOW UNDER THE GRAND CANAL BY AN EXISTING STORM DRAIN SYSTEM
 4174          KM     ESTIMATED STORM DRAIN CAPACITY(63") = 89 CFS
 4175          KM     TOP OF CANAL BANK ELEVATION = 1108
 4176          KM
 4177          KM   ==========================================================================
 4178          KM   REVISED BY KHA ---> storm drain flows diverted previously. Subtracted out
 4179          KM                       pipe capacity from SQ cards
 4180          KM                       Confirmed capacity of surface flow on north side of bank
 4181          KM
 4182          KM   Storage route runoff hydrograph from divert D43GC through ponding
 4183          KM     area at the Grand Canal between 35th and 43rd Avenues
 4184          KM   ==========================================================================
 4185          RS       1    STOR      -1   1104.
 4186          SV            0.01    0.10    0.64    4.77    6.79   29.76   33.00
 4187          SQ                                          200.00  200.00 2200.00
 4188          SE  1104.0 1104.10 1105.00 1106.00 1106.80 1107.00 1108.00 1109.00
               *

 4189          KK  DWGC51  DIVERT
 4190          KM     Divert ID D43 in Maryvale ADMS, Feb 1997 - comments from ADMS:
 4191          KM     FLOW DIVERSION AT 43RD AVE
 4192          KM     DIVERSION TO SOUTH
 4193          KM     PRELIMINARY COMPUTATIONS BY WPA 6/96
 4194          KM     CAPACITY OF SURFACE FLOW NORTH OF CANAL = 200 CFS
 4195          KM     DIVERSION OF FLOW SOUTH UNDER THE GRAND CANAL BY EXIST. STORM DRAIN SYSTEM
```

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KM    ESTIMATED STORM DRAIN CAPACITY(63") = 89 CFS
KM    ************************************************************************
KM    Divert runoff hydrograph from combination point CGC43 west to combination
KM    point CGC51
KM    ************************************************************************
DT  DSTM43      0.0      0.0
DI      0.0    200.0   2200.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
DQ      0.0      0.0   2000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
*

KK  RWGC51    ROUTE
KM  Route diversion DWGC51 west to combination point CGC51
RS       10     FLOW
RC   0.035    0.015    0.035     5614   0.0005     0.00
RX     0.00     0.00    19.00    19.00    81.00    81.00   100.00   100.00
RY     3.00     0.69     0.50     0.00     0.00     0.50     0.69     3.00
*
```



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LINE  ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

KK  DRGC51RETRIEVE
KM  Retrieve divert DRGC51 from combination point CIS51 and divert south to
KM  combination point CGC51
DR  DSGC51
*

KK  RSGC51    ROUTE
KM  Route diversion retrieval DRGC51 south to combination point CGC51
RS        2     FLOW
RC   0.035    0.015    0.035     2155   0.0045     0.00
RX     0.00     0.00    67.00    67.00   332.00   332.00   399.00   399.00
RY     3.00     1.17     0.50     0.00     0.00     0.50     1.17     3.00
*

KK    GC51    BASIN
KM  Runoff hydrograph for subbasin GC51 northeast of the intersection of the
KM  Grand Canal and 51st Avenue
BA   0.448
LG    0.24     0.25     5.00     0.24       36
UC   1.500    1.228
UA       0      5.0     16.0     30.0     65.0     77.0     84.0     90.0     94.0     97.0
UA     100
*

KK  CGC51 COMBINE
KM  Combine route RWGC51, route RSGC51, and subbasin GC51
HC        3     2.04
*

KK  PR51ISRETRIEVE
KM  Retrieve full flow capacity of 244 cfs from 72-inch storm drain pipe at the
KM  intersection of Indian School Road and 51st Avenue
DR  DP51IS
*

KK  RP51ML    ROUTE
KM  Route full flow capacity of 244 cfs through 72-inch storm drain pipe in
KM  51st Avenue to the intersection of Mitchell Drive and 51st Avenue
RK     2089  0.0033    0.015              CIRC    6.000
*

KK  CPML51 COMBINE
KM  Combine pipe return PR51IS with the runoff hydrograph at combination point
KM  CGC51 at the intersection of the Grand Canal and 51st Avenue
HC        2
*

KK   DML51  DIVERT
KM  Divert calculated full flow capapcity of 136 cfs into 72-inch storm drain
KM  pipe at the intersection of Mitchell Drive and 51st Avenue
DT  DPML51      0.0    136.0
DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
*
```



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LINE  ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

KK   D51GC  DIVERT
KM  Divert calculated full flow capapcity of 113 cfs into 54-inch storm drain
KM  pipe near the intersection of the Grand Canal and 51st Avenue
DT  DP51GC      0.0    113.0
DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
*

KK  SRGC51 STORAGE
KM    Storage routing ID PA47 in Maryvale ADMS, Feb 1997 - comments from ADMS:
KM    PONDING AREA IN THE VICINITY OF 47TH  AND 51ST AVE
KM
```



```
KM    PRELIMINARY COMPUTATIONS BY WPA 6/96
KM    CAPACITY OF FLOW NORTH OF CANAL = 300 CFS+(STORM DRAIN CAP)105CFS PER CVL
KM    DIVERSION OF FLOW OVER THE CANAL BANKS
KM    TOP OF CANAL BANK ELEV = 1105
KM    ************************************************************************
KM    REVISION TO MARYVALE ADMS MODEL BY KHA --> COMBINE DIVERTS AT 47TH & 51ST AVE
KM                          SUBTRACTED OUT STORM DRAIN CAPACITY FROM SQ CARDS
KM                          CONFIRMED CAPACITY OF SURFACE FLOW ON NORTH SIDE OF BANK
KM
KM    Storage route runoff hydrograph from divert D51GC through ponding
KM      area at the Grand Canal between 43rd 51st Avenues
KM    ************************************************************************
RS       1    STOR      -1
SV            4.82    23.64    29.62    63.89    86.57
SQ           25.00   275.00   350.00  1350.00  4250.00
SE  1103.0 1104.00 1104.80 1105.00 1105.50 1106.00
*

KK  DWGC53  DIVERT
KM    Divert ID D47 in Maryvale ADMS, Feb 1997 - comments from ADMS:
KM    DIVERSION AT 47TH AVE
KM    PRELIMINARY COMPUTATIONS BY WPA 6/96
KM    AN EXISTING STORM DRAIN SYSTEM CONVEYS FLOW TO THE WEST ONLY
KM    CAPACITY OF FLOW NORTH OF CANAL = 300 CFS+(STORM DRAIN CAP)105CFS PER CVL
KM    DIVERSION OF FLOW OVER THE CANAL BANKS
KM    ************************************************************************
KM    REVISION TO MARYVALE ADMS MODEL BY KHA --> COMBINE DIVERTS AT 47TH & 51ST AVE
KM                          SUBTRACTED OUT STORM DRAIN CAPACITY FROM SQ CARDS
KM                          CONFIRMED CAPACITY OF SURFACE FLOW ON NORTH SIDE OF BANK
KM
KM    Divert remaining runoff hydrograph from combination point CPGC51 west to
KM    combination point CGC59
KM    ************************************************************************
DT  DSTM51      0.0      0.0
DI      0.0    300.0   2300.0   4250.0      0.0      0.0      0.0      0.0      0.0      0.0
DQ      0.0      0.1   2000.0   3950.0      0.0      0.0      0.0      0.0      0.0      0.0
*
```



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LINE  ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

KK  RWGC53    ROUTE
KM  Route diversion DWGC53 west to combination point CGC53
RS        4     FLOW
RC   0.035    0.015    0.035     1296   0.0012     0.00
RX     0.00     0.00     9.50    9.50    40.50    40.50    50.00    50.00
RY     3.00     0.60     0.50     0.00     0.00     0.50     0.60     3.00
*

KK  DRGC59RETRIEVE
KM  Retrieve divert DRGC59 from combination point CIS59 and divert south to
KM  combination point CGC59
DR  DSGC59
*

KK  RSGC59    ROUTE
KM  Route diversion retrieval DRGC59 south to combination point CGC59
RS        2     FLOW
RC   0.035    0.015    0.035     2502   0.0025     0.00
RX     0.00     0.00    57.50    57.50   291.50   291.50   349.00   349.00
RY     3.00     1.08     0.50     0.00     0.00     0.50     1.08     3.00
*

KK    GC59    BASIN
KM  Runoff hydrograph for subbasin GC59 northeast of the intersection of the
KM  Grand Canal and 59th Avenue
BA   0.410
LG    0.24     0.23     6.20     0.16       42
UC   1.005    0.720
UA       0      5.0     16.0     30.0     65.0     77.0     84.0     90.0     94.0     97.0
UA     100
*

KK  CGC55 COMBINE
KM  Combine route RSGC59 and subbasin GC59
HC        2     2.42
*

KK  DEGC53  DIVERT
KM  Divert portion of runoff hydrograph from combination point CGC55  to
KM  combination point CGC53 where it will be routed through the Maryvale Ball
KM  Park basin near the intersection of the Grand Canal and 53rd Avenue.  The
KM  remaining flow is diverted to combination point CPGC59. The diversion is
KM  based on topography
DT  DWGC59      0.0      0.0
DI      0.0    173.0    200.0    500.0   1000.0   2000.0   4000.0  10000.0  20000.0      0.0
DQ      0.0      0.0     14.0    167.0    422.0    932.0   1952.0   5012.0  10112.0      0.0
*

KK  PRML51RETRIEVE
KM  Retrieve full flow capacity of 136 cfs from 72-inch storm drain pipe at the
KM  intersection of Mitchell Drive and 51st Avenue
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```
4332          DR  DPML51
              *
1                                        HEC-1 INPUT                                    PAGE112

LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


4333          KK  RPML53   ROUTE
4334          KM   Route full flow capacity of 136 cfs through 72-inch storm drain pipe in
4335          KM   Mitchell Drive to the intersection of Mitchell Drive and 53rd Avenue
4336          RK    1084  0.0010   0.015              CIRC   6.000
              *

4337          KK   CGC53 COMBINE
4338          KM   Combine route RWGC53, route RPML53, and divert DGC53
4339          HC       3    2.27
              *

4340          KK  SRGC53 STORAGE
4341          KM   Storage route runoff hydrograph from combination point CPGC59 thru detention
4342          KM     basin at Grand Avenue near the intersection of Grand Avenue and 59th Avenue
4343          KM   Stage-storage data from Maryvale Baseball Park Grading and Drainage As-built
4344          KM     Record, 1997
4345          RS       1     STOR
4346          SV            1.90     5.90    10.00    15.20    22.20    31.70    44.60    59.50    75.60
4347          SV    93.0
4348          SQ     0.0     10.0     28.0     44.0     56.0     65.0     73.0     81.0     88.0       94
4349          SQ  1358.0
4350          SE  1094.0  1095.0   1096.0   1097.0   1098.0   1099.0   1100.0   1101.0   1102.0     1103
4351          SE  1104.0
              *

4352          KK   DGC53   DIVERT
4353          KM   Storm drain outflow from Maryvale Baseball Park basin. Divert calculated full
4354          KM   flow capapcity of 20 cfs into 36-inch storm drain pipe at the intersection of
4355          KM   the Grand Canal and 53rd Avenue
4356          DT  DPGC53      0.0     20.0
4357          DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
4358          DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

4359          KK  PR59ISRETRIEVE
4360          KM   Retrieve full flow capacity of 353 cfs from 81-inch storm drain pipe at the
4361          KM   intersection of Indian School Road and 59th Avenue
4362          DR  DP59IS
              *

4363          KK  RP59GC   ROUTE
4364          KM   Route full flow capacity of 353 cfs through 81-inch storm drain pipe in
4365          KM   59th Avenue to the intersection of the Grand Canal and 59th Avenue
4366          RK    1243  0.0037   0.015              CIRC   6.750
              *

4367          KK  DRGC59RETRIEVE
4368          KM   Retrieve divert DRGC59 from combination point CGC55 and divert to
4369          KM   combination point CPGC59
4370          DR  DWGC59
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


4371          KK  CPGC59 COMBINE
4372          KM   Combine pipe return PR59IS with the runoff hydrograph at combination point
4373          KM   CGC59 at the intersection of the Grand Canal and 59th Avenue
4374          HC       2    1.24
              *

4375          KK   D59GC  DIVERT
4376          KM   Divert calculated full flow capapcity of 258 cfs into 72-inch storm drain
4377          KM   pipe at the intersection of the Grand Canal and 59th Avenue
4378          DT  DP59GC      0.0    258.0
4379          DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
4380          DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

4381          KK   CGC59 COMBINE
4382          KM   Combine divert DGC53 and divert D59GC
4383          HC       2    3.50
              *

4384          KK  DWISGC  DIVERT
4385          KM    Divert ID D55 in Maryvale ADMS, Feb 1997 - comments from ADMS:
4386          KM    FLOW DIVERSION TO SOUTH
4387          KM    PRELIMINARY COMPUTATIONS BY WPA 6/96
4388          KM    CAPACITY OF SURFACE FLOW NORTH OF CANAL =  50 CFS
4389          KM    AN EXISTING STORM DRAIN SYSTEM CONVEYS FLOW TO THE WEST ONLY
4390          KM    DIVERSION OF FLOW OVER THE GRAND CANAL
4391          KM    STORM DRAIN CAPACITY WEST = 74 CFS PER CVL
4392          KM    TOP OF CANAL BANK ELEV = 1103
4393          KM   ========================================================================
4394          KM   REVISION TO MARYVALE ADMS MODEL BY KHA --> COMBINE DIVERTS AT 55TH & 59TH AVE
```



```
4395          KM                        SUBTRACTED OUT STORM DRAIN CAPACITY FROM SQ CARDS
4396          KM                        CONFIRMED CAPACITY OF SURFACE FLOW ON NORTH SIDE OF BANK
4397          KM
4398          KM   Divert remaining runoff hydrograph from combination point CPGC59 west to
4399          KM   combination point CISGC
4400          KM   ========================================================================
4401          DT  DSTM59      0.0      0.0
4402          DI      0.0     50.0    555.0   2689.0      0.0      0.0      0.0      0.0      0.0      0.0
4403          DQ      0.0      0.2    505.0   1030.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

4404          KK  RWISGC   ROUTE
4405          KM   Route diversion DWISGC west to combination point CISGC
4406          RS       2     FLOW
4407          RC   0.035    0.015    0.035     4300   0.0009     0.00
4408          RX    0.00     0.00     9.50     9.50    40.50    40.50    50.00    50.00
4409          RY    3.00     0.60     0.50     0.00     0.00     0.50     0.60     3.00
              *
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4410          KK  DRISGCRETRIEVE
4411          KM   Retrieve divert DRISGC from combination point CGC67 and divert south to
4412          KM   combination point CISGC
4413          DR  DSISGC
              *

4414          KK  RSISGC   ROUTE
4415          KM   Route diversion retrieval DRISGC south to combination point CISGC
4416          RS       1     FLOW
4417          RC   0.035    0.015    0.035     1231   0.0022     0.00
4418          RX    0.00     0.00    31.50    31.50   143.50   143.50   175.00   175.00
4419          RY    3.00     0.82     0.50     0.00     0.00     0.50     0.82     3.00
              *

4420          KK    ISGC   BASIN
4421          KM   Runoff hydrograph for subbasin ISGC southeast of the intersection of Indian
4422          KM   School Road and the Grand Canal
4423          BA   0.159
4424          LG    0.25     0.15     7.00     0.11       32
4425          UC   1.439    1.632
4426          UA       0      5.0     16.0     30.0     65.0     77.0     84.0     90.0     94.0     97.0
4427          UA     100
              *

4428          KK   CISGC COMBINE
4429          KM   Combine route RWISGC, route RSISGC, and subbasin ISGC
4430          HC       3    3.33
              *

4431          KK  PR59GCRETRIEVE
4432          KM   Retrieve full flow capacity of 258 cfs from 72-inch storm drain pipe at the
4433          KM   intersection of the Grand Canal and 59th Avenue
4434          DR  DP59GC
              *

4435          KK  CPISGC COMBINE
4436          KM   Combine pipe return PR59GC with the runoff hydrograph at combination point
4437          KM   CISGC at the intersection of Indian School Road and the Grand Canal
4438          HC       2
              *

4439          KK   DGC63  DIVERT
4440          KM   Divert calculated full flow capapcity of 258 cfs into 72-inch storm drain
4441          KM   pipe at the intersection of the Grand Canal and 63rd Avenue
4442          DT  DPGC63      0.0    258.0
4443          DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
4444          DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


4445          KK  SRISGC STORAGE
4446          KM   Storage route runoff hydrograph from combination point CPISGC through
4447          KM     regional detention basin located near the intersection of the Grand Canal
4448          KM     and Indian School Road (Sunset Basin).
4449          KM   Stage-storage data from Bethany Home Outfall Channel TDN for CLOMR, Jan 2003
4450          KM   Discharge data for 96-in outlet pipe under construction Dec 2009
4451          RS       1     STOR
4452          SV            1.52     4.61    12.85    22.46    33.32    45.48    48.72    52.06
4453          SQ            3.00    12.00    46.00    83.00    91.00   593.00  1600.00  3421.00
4454          SE   85.00    86.00    87.00    89.00    91.00    93.00    95.00    95.50    96.00
              *

4455          KK  DPGC67  DIVERT
4456          KM   Divert excess flow that overtops the subbasin to the south.  The calculated
4457          KM   full flow capapcity in the 96-inch storm drain pipe leaving the basin is
4458          KM   is diverted north to combination point CGC75
4459          DT  DSTM67      0.0      0.0
```

```
4460          DI     0.0     3.0    12.0    46.0    83.0    91.0   593.0  1600.0  3421.0     0.0
4461          DQ     0.0     0.0     0.0     0.0     0.0     0.0     0.0   983.0  2781.0     0.0
              *

4462          KK  DRGC75RETRIEVE
4463          KM   Retrieve divert DRGC75 from combination point CCB75 and divert south to
4464          KM   combination point CGC75
4465          DR  DSGC75
              *

4466          KK    GC75   BASIN
4467          KM   Runoff hydrograph for subbasin GC75 southeast of the intersection of the
4468          KM   Grand Canal and 75th Avenue
4469          BA   0.410
4470          LG    0.24    0.15    8.00    0.07      33
4471          UC   1.500   1.585
4472          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
4473          UA     100
              *

4474          KK   CGC75 COMBINE
4475          KM   Combine divert DWGC75, pipe diversion DPGC67, divert retrieval DRGC75, and
4476          KM   subbasin GC75
4477          HC       4    9.44
              *

4478          KK  SRGC75 STORAGE
4479          KM   Storage route runoff hydrograph from combination point CGC75 through regional
4480          KM     detention basin along the Grand Canal between 67th and 75th Avenues
4481          KM   Vol/Elev data taken from DMJM HEC-1 revision (model BHGC00C6, Nov 2004)
4482          KM     confirmd by comparing with Bethany Home Outfall Channel Reach B As-builts
4483          KM   Discharge data calculated from discharge channel in As-builts (Bethany Home
4484          KM     Outfall Channel Reach C - 83rd Ave to 73rd Ave, June 2007)
4485          KM     Rect concrete channel, width = 14 ft, slope = 0.000992 ft/ft
4486          RS       1     STOR
4487          SV            0.00    0.00    0.08    0.74    2.74    6.42   12.25   20.32   29.62
4488          SV  40.248  52.049  65.081  79.346  94.800  103.1   111.4
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

4489          SQ     0.0     0.0     0.0    36.0   120.0   230.0   356.0   493.0   639.0     790
4490          SQ   947.0  1107.0  1270.0  1436.0  1604.0  1689.0  1774.0
4491          SE  1074.7  1078.0  1081.0  1083.0  1084.0  1085.0  1086.0  1087.0  1088.0    1089
4492          SE  1090.0  1091.0  1092.0  1093.0  1094.0  1094.5  1095.0
              *

4493          KK  CICB75 COMBINE
4494          KM   Combine runoff hydrograph DWGC83 with runoff hydrograph from combination
4495          KM   point CGC75 at the intersection of Camelback Road and 75th Avenue
4496          HC       2   14.03
              *

4497          KK  RWGC83   ROUTE
4498          KM   Route hydrograph at combination point CICB75 at the intersection of Camelback
4499          KM   Road and 75th Avenue west to combination point CGC83
4500          RS       3    FLOW
4501          RC   0.035   0.015   0.035    6563  0.0010    0.00
4502          RX    0.00    3.00   13.00   13.00   31.00   31.00   41.00   44.00
4503          RY   10.00    9.00    9.00    0.00    0.00    9.00    9.00   10.00
              *

4504          KK  DRGC83RETRIEVE
4505          KM   Retrieve divert DRGC83 from combination point CBH83 and divert south to
4506          KM   combination point CGC83
4507          DR  DSGC83
              *

4508          KK    GC83   BASIN
4509          KM   Runoff hydrograph for subbasin GC83 southeast of the intersection of the
4510          KM   Grand Canal and 83rd Avenue
4511          BA   0.426
4512          LG    0.23    0.15    8.40    0.07      30
4513          UC   1.500   1.722
4514          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
4515          UA     100
              *

4516          KK  ERGC83  DIVERT
4517          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
4518          KM   retention developed after 1990 in subbasin GC83
4519          DT   XGC83    31.2     0.0
4520          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
4521          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

4522          KK   CGC83 COMBINE
4523          KM   Combine route RWGC83, divert retrieval DRGC83, and subbasin GC83
4524          HC       3   17.67
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10
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```
4525          KK  CIBH83 COMBINE
4526          KM   Combine runoff hydrograph DWBH91 with runoff hydrograph from combination
4527          KM   point CGC83 at the intersection of 83rd Avenue and Bethany Home Road
4528          HC       2   23.92
              *

4529          KK  RWBH91   ROUTE
4530          KM   Route hydrograph at combination point CIBH83 at the intersection of Bethany
4531          KM   Home Road and 91st Avenue west to combination point CBH91
4532          RS       3    FLOW
4533          RC   0.035   0.015   0.035    6508  0.0008    0.00
4534          RX    0.00    4.00   18.00   66.00  126.00  162.00  172.00  176.00
4535          RY   13.14   12.14   12.00    0.00    0.60    9.15    9.25   10.25
              *

4536          KK  DRBH91RETRIEVE
4537          KM   Retrieve divert DRBH91 from combination point CPGL91 and divert south to
4538          KM   combination point CBH91
4539          DR  DSBH91
              *

4540          KK  RSBH91   ROUTE
4541          KM   Route diversion retrieval DRBH91 south to combination point CBH91
4542          RS       4    FLOW
4543          RC   0.035   0.015   0.035    5280  0.0019    0.00
4544          RX    0.00    0.00   37.50   37.50  210.50  210.50  248.00  248.00
4545          RY    3.00    0.88    0.50    0.00    0.00    0.50    0.88    3.00
              *

4546          KK    BH91   BASIN
4547          KM   Runoff hydrograph for square mile subbasin BH91 northeast of the intersection
4548          KM   of Bethany Home Road and 91st Avenue
4549          BA   1.032
4550          LG    0.23    0.15    7.60    0.09      28
4551          UC   1.460   1.001
4552          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
4553          UA     100
              *

4554          KK  ERBH91  DIVERT
4555          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
4556          KM   retention developed after 1990 in subbasin BH91
4557          DT   XBH91    17.3     0.0
4558          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
4559          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

4560          KK   CBH91 COMBINE
4561          KM   Combine route RWBH91, route RSBH91, and subbasin BH91
4562          HC       3   30.54
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

4563          KK  RWBHLO   ROUTE
4564          KM   Route hydrograph at combination point CBH91 west to combination point CBHLO
4565          RS       1    FLOW
4566          RC   0.035   0.015   0.035    4110  0.0011    0.00
4567          RX    0.00    4.00   18.00   46.50  135.50  153.40  167.40  171.40
4568          RY    8.26    7.26    7.12    0.00    0.85    5.32    5.46    6.46
              *

4569          KK    BHLO   BASIN
4570          KM   Runoff hydrograph for subbasin BHLO northeast of the intersection of Bethany
4571          KM   Home Road and SR Loop 101
4572          BA   0.788
4573          LG    0.10    0.15    7.30    0.09      81
4574          UC   0.763   0.491
4575          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
4576          UA     100
              *

4577          KK  ERBHLO  DIVERT
4578          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
4579          KM   retention developed after 1990 in subbasin BHLO
4580          DT   XBHLO    41.5     0.0
4581          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
4582          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

4583          KK   CBHLO COMBINE
4584          KM   Combine route RWBHLO, route RSBHLO, and subbasin BHLO
4585          HC       3   46.47
              *

4586          KK  RWBH99   ROUTE
4587          KM   Route hydrograph at combination point CBHLO west to combination point CBH99
4588          RS       1    FLOW
4589          RC   0.035   0.015   0.035    1075  0.0011    0.00
```

```
4590          RX    0.00    4.00   18.00   46.50  135.50  153.40  167.40  171.40
4591          RY    8.26    7.26    7.12    0.00    0.85    5.32    5.46    6.46
              *

4592          KK    BH99    BASIN
4593          KM    Runoff hydrograph for subbasin BH99 northeast of the intersection of Bethany
4594          KM    Home Road and 99th Avenue
4595          BA    0.184
4596          LG    0.10    0.19    6.60    0.12      78
4597          UC   1.180   1.260
4598          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
4599          UA     100
              *

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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9.....10


4600          KK   CBH99 COMBINE
4601          KM   Combine route RWBH99 and subbasin BH99
4602          HC       2   46.65
              *

4603          KK  RWBHRI   ROUTE
4604          KM   Route hydrograph at combination point CBH99 west to combination point CGLNR
4605          RS       1    FLOW
4606          RC   0.035   0.015   0.035    2392  0.0010    0.00
4607          RX    0.00    4.00   18.00   46.50  135.50  153.40  167.40  171.40
4608          RY    8.26    7.26    7.12    0.00    0.85    5.32    5.46    6.46
              *

4609          KK    GLNR   BASIN
4610          KM   Runoff hydrograph for subbasin GLNR north of Glendale Avenue and east of New
4611          KM   River
4612          BA   0.483
4613          LG    0.10    0.21    6.40    0.13      76
4614          UC   1.352   1.286
4615          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
4616          UA     100
              *

4617          KK  ERGLNR  DIVERT
4618          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
4619          KM   retention developed after 1990 in subbasin GLNR
4620          DT   XGLNR    31.6     0.0
4621          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
4622          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

4623          KK  DSBHRI  DIVERT
4624          KM   Divert portion of runoff hydrograph from subbasin GLNR south to the
4625          KM   intersection of Bethany Home Road and the Roosevelt Irrigation District canal
4626          KM   and the remaining flow west to New River. The diversion is based on
4627          KM   topography
4628          KM   Divert remaining runoff hydrograph from subbasin GLNR south to combination
4629          KM   point CBHRI
4630          DT  DWNR04     0.0     0.0
4631          DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
4632          DQ     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
              *

4633          KK  RSBHRI   ROUTE
4634          KM   Route subbasin diversion DSBHRI south to combination point CBHRI
4635          RS       1    FLOW
4636          RC   0.035   0.015   0.035    5280  0.0015    0.00
4637          RX    0.00    0.00    7.00    7.00   43.00   43.00   50.00   50.00
4638          RY    3.00    0.57    0.50    0.00    0.00    0.50    0.57    3.00
              *

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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9.....10


4639          KK    BHRI   BASIN
4640          KM   Runoff hydrograph for subbasin BHRI north of Bethany Home Road and east of
4641          KM   the Roosevelt Irrigation District canal
4642          BA   0.512
4643          LG    0.10    0.24    6.20    0.14      77
4644          UC   1.255   0.907
4645          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
4646          UA     100
              *

4647          KK  ERBHRI  DIVERT
4648          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
4649          KM   retention developed after 1990 and NOAA14 rainfall for future retention in
4650          KM   subbasin BHRI
4651          DT   XBHRI    45.9     0.0
4652          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
4653          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

4654          KK   DBHNR  DIVERT
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4655          KM   Divert portion of runoff hydrograph from subbasin BHRI west to the
4656          KM   intersection of Bethany Home Road and New River and the remaining flow
4657          KM   west to New River. The diversion is based on topography
4658          DT  DWBHAF     0.0     0.0
4659          DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
4660          DQ     0.0    79.0   158.0   395.0   790.0  1580.0  3160.0  7900.0 15800.0 39500.0
              *

4661          KK   CBHRI COMBINE
4662          KM   Combine route RWBHRI, route RSBHRI, and and divert DBHNR
4663          HC       3   47.17
              *

4664          KK  RWBHNR   ROUTE
4665          KM   Route remaining hydrograph at combination point CBHRI west to combination
4666          KM   point CBHNR
4667          RS       1    FLOW
4668          RC   0.035   0.015   0.035    3231  0.0010    0.00
4669          RX    0.00    4.00   18.00   46.50  135.50  153.40  167.40  171.40
4670          RY    8.26    7.26    7.12    0.00    0.85    5.32    5.46    6.46
              *

4671          KK    BHNR   BASIN
4672          KM   Runoff hydrograph for subbasin BHNR north of Bethany Home Road and east of
4673          KM   New River
4674          BA   0.258
4675          LG    0.10    0.25    6.20    0.14      71
4676          UC   1.045   0.668
4677          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
4678          UA     100
              *

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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9.....10


4679          KK  ERBHNR  DIVERT
4680          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
4681          KM   retention developed after 1990 and NOAA14 rainfall for future retention in
4682          KM   subbasin BHNR
4683          DT   XBHNR    21.3     0.0
4684          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
4685          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

4686          KK   CBHNR COMBINE
4687          KM   Combine route RWBHNR and subbasin BHNR
4688          HC       2   47.42
              *

4689          KK    CB99   BASIN
4690          KM   Runoff hydrograph for subbasin CB99 northeast of the intersection of
4691          KM   Camelback Road and 99th Avenue
4692          BA   0.201
4693          LG    0.10    0.15    7.30    0.09      79
4694          UC   0.995   1.048
4695          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
4696          UA     100
              *

4697          KK  ERCB99  DIVERT
4698          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
4699          KM   retention developed after 1990 in subbasin CB99
4700          DT   XCB99    15.0     0.0
4701          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
4702          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

4703          KK  DWCBRI  DIVERT
4704          KM   Divert remaining runoff hydrograph from subbasin CB99 west to combination
4705          KM   point CCBRI
4706          DT  DSIS99     0.0     0.0
4707          DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
4708          DQ     0.0    49.0    98.0   245.0   490.0   980.0  1960.0  4900.0  9800.0 24500.0
              *

4709          KK  RWCBRI   ROUTE
4710          KM   Route diversion DWCBRI west to combination point CCBRI
4711          RS       8    FLOW
4712          RC   0.035   0.015   0.035    3883  0.0021    0.00
4713          RX    0.00    0.00   16.50   16.50  107.50  107.50  124.00  124.00
4714          RY    3.00    0.66    0.50    0.00    0.00    0.50    0.66    3.00
              *

4715          KK    CBRI   BASIN
4716          KM   Runoff hydrograph for subbasin CBRI north of Camelback Road and east of the
4717          KM   Roosevelt Irrigation District canal
4718          BA   0.698
4719          LG    0.24    0.15    7.00    0.10      36
4720          UC   1.500   1.250
              *

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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9.....10
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4721          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
4722          UA     100
              *

4723          KK  ERCBRI  DIVERT
4724          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
4725          KM   retention developed after 1990 in subbasin CBRI
4726          DT   XCBRI    64.0     0.0
4727          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
4728          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

4729          KK   CCBRI COMBINE
4730          KM   Combine route RWCBRI and subbasin CBRI
4731          HC       2    0.80
              *

4732          KK  DWCB07  DIVERT
4733          KM   Divert runoff hydrograph from combination point CCBRI west to combination
4734          KM   point CCB07
4735          DT  DSIS07     0.0     0.0
4736          DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
4737          DQ     0.0    69.0   138.0   345.0   690.0  1380.0  2760.0  6900.0 13800.0 34500.0
              *

4738          KK    CB07   BASIN
4739          KM   Runoff hydrograph for subbasin CB07 northeast of the intersection of
4740          KM   Camelback Road and 107th Avenue
4741          BA   0.317
4742          LG    0.29    0.26    6.00    0.21       6
4743          UC   1.500   1.108
4744          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
4745          UA     100
              *

4746          KK   CCB07 COMBINE
4747          KM   Combine divert DWCB07 and subbasin CB07
4748          HC       2    0.56
              *

4749          KK  DWCBNR  DIVERT
4750          KM   Divert runoff hydrograph from combination point CCB07 west to combination
4751          KM   point CCBNR
4752          DT   DIS07     0.0     0.0
4753          DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
4754          DQ     0.0    69.0   138.0   345.0   690.0  1380.0  2760.0  6900.0 13800.0 34500.0
              *

4755          KK  RWCBNR   ROUTE
4756          KM   Route diversion DWCBNR west to combination point CCBNR
4757          RS       8    FLOW
4758          RC   0.035   0.015   0.035    3883  0.0010     0.00
4759          RX    0.00    0.00   16.50   16.50  107.50  107.50  124.00  124.00
4760          RY    3.00    0.66    0.50    0.00    0.00    0.50    0.66    3.00
              *
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LINE          ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

4761          KK    CBNR   BASIN
4762          KM   Runoff hydrograph for subbasin CBNR north of Camelback Road and east of New
4763          KM   River
4764          BA   0.466
4765          LG    0.13    0.28    5.80    0.24       5
4766          UC   1.247   1.127
4767          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
4768          UA     100
              *

4769          KK  ERCBNR  DIVERT
4770          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
4771          KM   retention developed after 1990 and NOAA14 rainfall for future retention in
4772          KM   subbasin CBNR
4773          DT   XCBNR     3.7     0.0
4774          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
4775          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

4776          KK   CCBNR COMBINE
4777          KM   Combine route RWCBNR and subbasin CBNR
4778          HC       2    0.64
              *

4779          KK  DRIS99RETRIEVE
4780          KM   Retrieve divert DRIS99 from subbasin CB99 and divert south to
4781          KM   combination point CIS99
4782          DR  DSIS99
              *

4783          KK  RSIS99   ROUTE
4784          KM   Route diversion retrieval DRIS99 south to combination point CIS99
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4785          RS      10    FLOW
4786          RC   0.035   0.015   0.035    5280  0.0020     0.00
4787          RX    0.00    0.00   16.50   16.50  107.50  107.50  124.00  124.00
4788          RY    3.00    0.66    0.50    0.00    0.00    0.50    0.66    3.00
              *

4789          KK    IS99   BASIN
4790          KM   Runoff hydrograph for subbasin IS99 northeast of the intersection of Indian
4791          KM   School Road and 99th Avenue
4792          BA   0.323
4793          LG    0.10    0.15    9.70    0.04      80
4794          UC   0.667   0.520
4795          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
4796          UA     100
              *

4797          KK   CIS99 COMBINE
4798          KM   Combine route RSIS99 and subbasin IS99
4799          HC       2    0.42
              *
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LINE          ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

4800          KK  DWIS07  DIVERT
4801          KM   Divert runoff hydrograph from combination point CIS99 west to combination
4802          KM   point CIS07
4803          DT  DSTM99     0.0     0.0
4804          DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
4805          DQ     0.0    26.0    52.0   130.0   260.0   520.0  1040.0  2600.0  5200.0 13000.0
              *

4806          KK  RWIS07   ROUTE
4807          KM   Route diversion DWIS07 west to combination point CIS07
4808          RS       5    FLOW
4809          RC   0.035   0.015   0.035    5280  0.0022     0.00
4810          RX    0.00    0.00   35.50   35.50  188.50  188.50  224.00  224.00
4811          RY    3.00    0.86    0.50    0.00    0.00    0.50    0.86    3.00
              *

4812          KK  DI07ISRETRIEVE
4813          KM   Retrieve arterial street flow diverted to 107th Avenue at the intersection
4814          KM   of 107th Avenue and Camelback Road
4815          DR   DIS07
              *

4816          KK  DRIS07RETRIEVE
4817          KM   Retrieve divert DRIS07 from combination point CCBRI and divert south to
4818          KM   combination point CICB07
4819          DR  DSIS07
              *

4820          KK  CICB07 COMBINE
4821          KM   Combine arterial street flow from 107th Avenue DI07IS with runoff hydrograph
4822          KM   DSIS07 at the intersection of 107th Avenue and Camelback Road
4823          HC       2    0.94
              *

4824          KK  RSIS07   ROUTE
4825          KM   Route hydrograph at combination point CICB07 at the intersection of Camelback
4826          KM   Road and 107th Avenue south to combination point CIS07
4827          RS       7    FLOW
4828          RC   0.035   0.015   0.035    5280  0.0026     0.00
4829          RX    0.00    0.00   26.00   26.00  148.00  148.00  174.00  174.00
4830          RY    3.00    0.76    0.50    0.00    0.00    0.50    0.76    3.00
              *

4831          KK    IS07   BASIN
4832          KM   Runoff hydrograph for square mile subbasin IS07 northeast of the intersection
4833          KM   of Indian Schhol Road and 107th Avenue
4834          BA   1.021
4835          LG    0.21    0.15    8.00    0.08      32
4836          UC   1.411   0.944
4837          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
4838          UA     100
              *
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LINE          ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

4839          KK  ERIS07  DIVERT
4840          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
4841          KM   retention developed after 1990 in subbasin IS07
4842          DT   XIS07    17.4     0.0
4843          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
4844          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

4845          KK   CIS07 COMBINE
4846          KM   Combine route RWIS07, route RSIS07 and subbasin IS07
4847          HC       3    2.28
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                *
4848            KK  DWISAF  DIVERT
4849            KM   Divert runoff hydrograph from combination point CIS07 west to combination
4850            KM   point CISAF
4851            DT  DSRI07      0.0      0.0
4852            DI     0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0 10000.0 20000.0 50000.0
4853            DQ     0.0     25.0     50.0    125.0    250.0    500.0   1000.0  2500.0  5000.0 12500.0
                *
4854            KK  RWISAF   ROUTE
4855            KM   Route diversion DWISAF west to combination point CISAF
4856            RS       8     FLOW
4857            RC   0.035    0.015    0.035     6868   0.0013     0.00
4858            RX    0.00     0.00    67.00    67.00   332.00   332.00  399.00  399.00
4859            RY    3.00     1.17     0.50     0.00     0.00     0.50    1.17    3.00
                *
4860            KK   ISAF   BASIN
4861            KM   Runoff hydrograph for subbasin ISAF north of Indian School Road and east of
4862            KM   the Agua Fria River
4863            BA   0.989
4864            LG    0.22     0.25     4.80     0.25       47
4865            UC   1.500    1.137
4866            UA       0      5.0     16.0     30.0     65.0     77.0    84.0    90.0    94.0    97.0
4867            UA     100
                *
4868            KK   CISAF COMBINE
4869            KM   Combine route RWISAF and subbasin ISAF
4870            HC       2     2.69
                *
4871            KK  DRTM99RETRIEVE
4872            KM   Retrieve divert DRTM99 from combination point CIS99 and divert south to
4873            KM   combination point CTM99
4874            DR  DSTM99
                *
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LINE            ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

4875            KK  RSTM99   ROUTE
4876            KM   Route diversion retrieval DRTM99 south to combination point CTM99
4877            RS       7     FLOW
4878            RC   0.035    0.015    0.035     5280   0.0009     0.00
4879            RX    0.00     0.00    16.50    16.50   107.50   107.50  124.00  124.00
4880            RY    3.00     0.66     0.50     0.00     0.00     0.50    0.66    3.00
                *
4881            KK   TM99   BASIN
4882            KM   Runoff hydrograph for subbasin TM99 northeast of the intersection of Thomas
4883            KM   Road and 99th Avenue
4884            BA   0.505
4885            LG    0.10     0.15     8.80     0.05       80
4886            UC   0.821    0.607
4887            UA       0      5.0     16.0     30.0     65.0     77.0    84.0    90.0    94.0    97.0
4888            UA     100
                *
4889            KK   CTM99 COMBINE
4890            KM   Combine route RSTM99 and subbasin TM99
4891            HC       2     0.62
                *
4892            KK  DWRI07  DIVERT
4893            KM   Divert runoff hydrograph from combination point CTM99 west to combination
4894            KM   point CRI07
4895            DT  DSMD99      0.0      0.0
4896            DI     0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0 10000.0 20000.0 50000.0
4897            DQ     0.0     46.0     92.0    230.0    460.0    920.0   1840.0  4600.0  9200.0 23000.0
                *
4898            KK  RWRI07   ROUTE
4899            KM   Route diversion DWRI07 west to combination point CRI07
4900            RS       5     FLOW
4901            RC   0.035    0.015    0.035     5402   0.0013     0.00
4902            RX    0.00     0.00    16.50    16.50   107.50   107.50  124.00  124.00
4903            RY    3.00     0.66     0.50     0.00     0.00     0.50    0.66    3.00
                *
4904            KK  DRRI07RETRIEVE
4905            KM   Retrieve divert DRRI07 from combination point CIS07 and divert south to
4906            KM   combination point CRI07
4907            DR  DSRI07
                *
4908            KK  RSRI07   ROUTE
4909            KM   Route diversion retrieval DRRI07 south to combination point CRI07
4910            RS       5     FLOW
4911            RC   0.035    0.015    0.035     2640   0.0008     0.00
4912            RX    0.00     0.00    26.00    26.00   148.00   148.00  174.00  174.00
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4913            RY    3.00     0.76     0.50     0.00     0.00     0.50    0.76    3.00
                *
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LINE            ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

4914            KK   RI07   BASIN
4915            KM   Runoff hydrograph for subbasin RI07 northeast of the intersection of the
4916            KM   Roosevelt Irrigation District Canal and 107th Avenue
4917            BA   0.759
4918            LG    0.17     0.15     8.80     0.05       58
4919            UC   1.233    0.764
4920            UA       0      5.0     16.0     30.0     65.0     77.0    84.0    90.0    94.0    97.0
4921            UA     100
                *
4922            KK  ERRI07  DIVERT
4923            KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
4924            KM   retention developed after 1990 in subbasin RI07
4925            DT  XRI07     65.5      0.0
4926            DI     0.0 50000.0      0.0      0.0      0.0      0.0     0.0     0.0     0.0     0.0
4927            DQ     0.0 50000.0      0.0      0.0      0.0      0.0     0.0     0.0     0.0     0.0
                *
4928            KK   CRI07 COMBINE
4929            KM   Combine route RWRI07, route RSRI07 and subbasin RI07
4930            HC       3     1.67
                *
4931            KK   DRIAF  DIVERT
4932            KM   Divert portion of runoff hydrograph from combination point CRIAF south to the
4933            KM   intersection of Thomas Road and 107th Avenue and the remaining flow
4934            KM   west to the intersection of the Roosevelt Irrigation District canal and the
4935            KM   Agua Fria River. The diversion is based on topography
4936            DT  DTM07      0.0      0.0
4937            DI     0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0 10000.0 20000.0 50000.0
4938            DQ     0.0     49.0     98.0    245.0    490.0    980.0   1960.0  4900.0  9800.0 24500.0
                *
4939            KK  DWRIAF  DIVERT
4940            KM   Divert runoff hydrograph from combination point CRI07 west to combination
4941            KM   point CRIAF
4942            DT  DSTM07      0.0      0.0
4943            DI     0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0 10000.0 20000.0 50000.0
4944            DQ     0.0     62.0    124.0    310.0    620.0   1240.0   2480.0  6200.0 12400.0 31000.0
                *
4945            KK  RWRIAF   ROUTE
4946            KM   Route diversion DWRIAF west to combination point CRIAF
4947            RS      10     FLOW
4948            RC   0.035    0.015    0.035    10904   0.0007     0.00
4949            RX    0.00     0.00    22.00    22.00   103.00   103.00  125.00  125.00
4950            RY    3.00     0.72     0.50     0.00     0.00     0.50    0.72    3.00
                *
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LINE            ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

4951            KK   RIAF   BASIN
4952            KM   Runoff hydrograph for subbasin RIAF north of the Roosevelt Irrigation
4953            KM   District Canal and east of the Agua Fria River
4954            BA   0.659
4955            LG    0.22     0.18     6.60     0.13       41
4956            UC   1.500    1.317
4957            UA       0      5.0     16.0     30.0     65.0     77.0    84.0    90.0    94.0    97.0
4958            UA     100
                *
4959            KK   CRIAF COMBINE
4960            KM   Combine route RWRIAF and subbasin RIAF
4961            HC       2     0.98
                *
4962            KK  DRBHAFRETRIEVE
4963            DR  DWBHAF
                *
4964            KK  SRBHRI STORAGE
4965            KM   Storage route runoff hydrograph from combination point CRIAF through ponding
4966            KM     area at the Roosevelt Irrigation District Canal and the Agua Fria River
4967            KM   Stage-storage-discharge data from Maryvale ADMS, Feb 1997
4968            RS       1     STOR
4969            SV           15.00    34.70    63.80  107.60
4970            SQ            0.10     0.20 4536.0013441.00
4971            SE  1050.0 1052.00 1053.00 1054.00 1055.00
                *
4972            KK   CAF01 COMBINE
4973            KM   Combine combination point CCBNR, combination point CISAF, and combination
4974            KM   point CRIAF
4975            HC       5     4.31
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                     *
 4976                KK    CB83   BASIN
 4977                KM   Runoff hydrograph for subbasin CB83 northeast of the intersection of
 4978                KM   Camelback Road and 83rd Avenue
 4979                BA   0.554
 4980                LG    0.27     0.15     8.00     0.08       20
 4981                UC   0.955    0.500
 4982                UA       0      5.0     16.0     30.0     65.0     77.0     84.0     90.0     94.0     97.0
 4983                UA     100
                     *

 4984                KK  ERCB83  DIVERT
 4985                KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
 4986                KM   retention developed after 1990 in subbasin CB83
 4987                DT   XCB83     18.0      0.0
 4988                DI     0.0  50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
 4989                DQ     0.0  50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
                     *
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 LINE                ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 4990                KK   D83CB  DIVERT
 4991                KM   Divert calculated full flow capapcity of 10 cfs into 24-inch storm drain
 4992                KM   pipe at the intersection of Camelback Road and 83rd Avenue
 4993                DT  DP83CB      0.0     10.0
 4994                DI     0.0  50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
 4995                DQ     0.0  50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
                     *

 4996                KK  DWCB91  DIVERT
 4997                KM   Divert remaining runoff hydrograph from subbasin CB83 west to combination
 4998                KM   point CCB91
 4999                DT  DSIS83      0.0      0.0
 5000                DI     0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0  10000.0  20000.0  50000.0
 5001                DQ     0.0     44.0     88.0    220.0    440.0    880.0   1760.0   4400.0   8800.0  22000.0
                     *

 5002                KK  RWCB91   ROUTE
 5003                KM   Route diversion DWCB91 west to combination point CCB91
 5004                RS       6     FLOW
 5005                RC   0.035    0.015    0.035     5280   0.0036     0.00
 5006                RX    0.00     0.00    57.50    57.50   291.50   291.50   349.00   349.00
 5007                RY    3.00     1.08     0.50     0.00     0.00     0.50     1.08     3.00
                     *

 5008                KK    CB91   BASIN
 5009                KM   Runoff hydrograph for square mile subbasin CB91 northeast of the intersection
 5010                KM   of Camelback Road and 91st Avenue
 5011                BA   0.961
 5012                LG    0.25     0.15     8.80     0.06       28
 5013                UC   1.424    0.956
 5014                UA       0      5.0     16.0     30.0     65.0     77.0     84.0     90.0     94.0     97.0
 5015                UA     100
                     *

 5016                KK  ERCB91  DIVERT
 5017                KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
 5018                KM   retention developed after 1990 in subbasin CB91
 5019                DT   XCB91     66.1      0.0
 5020                DI     0.0  50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
 5021                DQ     0.0  50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
                     *

 5022                KK   CCB91 COMBINE
 5023                KM   Combine route RWCB91 and subbasin CB91
 5024                HC       2     1.32
                     *

 5025                KK  DWCBLO  DIVERT
 5026                KM   Divert remaining runoff hydrograph from combination point CCB91 west to
 5027                KM   combination point CCBLO
 5028                DT  DSIS91      0.0      0.0
 5029                DI     0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0  10000.0  20000.0  50000.0
 5030                DQ     0.0     47.0     94.0    235.0    470.0    940.0   1880.0   4700.0   9400.0  23500.0
                     *
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 LINE                ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 5031                KK  RWCBLO   ROUTE
 5032                KM   Route diversion DWCBLO west to combination point CCBLO
 5033                RS       5     FLOW
 5034                RC   0.035    0.015    0.035     4287   0.0028     0.00
 5035                RX    0.00     0.00    48.00    48.00   251.00   251.00   299.00   299.00
 5036                RY    3.00     0.98     0.50     0.00     0.00     0.50     0.98     3.00
                     *

 5037                KK    CBLO   BASIN
 5038                KM   Runoff hydrograph for subbasin CBLO northeast of the intersection of
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 5039                KM   Camelback Road and SR Loop 101
 5040                BA   0.818
 5041                LG    0.18     0.15     8.80     0.06       53
 5042                UC   1.134    0.770
 5043                UA       0      5.0     16.0     30.0     65.0     77.0     84.0     90.0     94.0     97.0
 5044                UA     100
                     *

 5045                KK  ERCBLO  DIVERT
 5046                KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
 5047                KM   retention developed after 1990 in subbasin CBLO
 5048                DT   XCBLO     55.1      0.0
 5049                DI     0.0  50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
 5050                DQ     0.0  50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
                     *

 5051                KK   CCBLO COMBINE
 5052                KM   Combine route RWCBLO and subbasin CBLO
 5053                HC       2     1.52
                     *

 5054                KK  RSISLO   ROUTE
 5055                KM   Route hydrograph at combination point CCBLO south to combination point CISLO
 5056                RS       5     FLOW
 5057                RC   0.035    0.015    0.035     5583   0.0010     0.00
 5058                RX    0.00     4.00    14.00    29.00    49.00    64.00    94.00    97.00
 5059                RY   11.20    10.20    10.00     0.00     0.40    10.40    11.84    12.84
                     *

 5060                KK    IS75   BASIN
 5061                KM   Runoff hydrograph for subbasin IS75 northeast of the intersection of Indian
 5062                KM   School Road and 75th Avenue
 5063                BA   0.615
 5064                LG    0.23     0.15     7.60     0.08       41
 5065                UC   1.060    0.639
 5066                UA       0      5.0     16.0     30.0     65.0     77.0     84.0     90.0     94.0     97.0
 5067                UA     100
                     *
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 LINE                ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 5068                KK  ERIS75  DIVERT
 5069                KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
 5070                KM   retention developed after 1990 in subbasin IS75
 5071                DT   XIS75      0.8      0.0
 5072                DI     0.0  50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
 5073                DQ     0.0  50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
                     *

 5074                KK   D75IS  DIVERT
 5075                KM   Divert calculated full flow capapcity of 123 cfs into 60-inch storm drain
 5076                KM   pipe at the intersection of Indian School Road and 75th Avenue
 5077                DT  DP75IS      0.0    123.0
 5078                DI     0.0  50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
 5079                DQ     0.0  50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
                     *

 5080                KK  DWIS83  DIVERT
 5081                KM   Divert remaining runoff hydrograph from combination point CPIS75 west to
 5082                KM   combination point CIS83
 5083                DT  DSTM75      0.0      0.0
 5084                DI     0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0  10000.0  20000.0  50000.0
 5085                DQ     0.0     35.0     70.0    175.0    350.0    700.0   1400.0   3500.0   7000.0  17500.0
                     *

 5086                KK  RWIS83   ROUTE
 5087                KM   Route diversion DWIS83 west to combination point CIS83
 5088                RS       5     FLOW
 5089                RC   0.035    0.015    0.035     5280   0.0028     0.00
 5090                RX    0.00     0.00    76.50    76.50   372.50   372.50   449.00   449.00
 5091                RY    3.00     1.27     0.50     0.00     0.00     0.50     1.27     3.00
                     *

 5092                KK  DRIS83RETRIEVE
 5093                KM   Retrieve divert DRIS83 from subbasin CB83 and divert south to combination
 5094                KM   point CIS83
 5095                DR  DSIS83
                     *

 5096                KK  RSIS83   ROUTE
 5097                KM   Route diversion retrieval DRIS83 south to combination point CIS83
 5098                RS       8     FLOW
 5099                RC   0.035    0.015    0.035     5280   0.0022     0.00
 5100                RX    0.00     0.00    57.50    57.50   291.50   291.50   349.00   349.00
 5101                RY    3.00     1.08     0.50     0.00     0.00     0.50     1.08     3.00
                     *

 5102                KK    IS83   BASIN
 5103                KM   Runoff hydrograph for square mile subbasin IS83 northeast of the intersection
 5104                KM   Indian School Road and 83rd Avenue
 5105                BA   0.991
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5106          LG    0.24    0.17    6.80    0.12      34
5107          UC   1.387   0.924
5108          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
5109          UA     100
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


5110          KK   CIS83 COMBINE
5111          KM   Combine route RWIS83, route RSIS83 and subbasin IS83
5112          HC       3    1.64
              *


5113          KK  PR83CBRETRIEVE
5114          KM   Retrieve full flow capacity of 10 cfs from 24-inch storm drain pipe at the
5115          KM   intersection of Camelback Road and 83rd Avenue
5116          DR  DP83CB
              *


5117          KK  RP83IS   ROUTE
5118          KM   Route full flow capacity of 10 cfs through 24-inch storm drain pipe in
5119          KM   83rd Avenue to the intersection of Indian School Road and 83rd Avenue
5120          RK    5208  0.0019   0.015            CIRC   2.000
              *


5121          KK  CPIS83 COMBINE
5122          KM   Combine pipe return PR83CB with the runoff hydrograph at combination point
5123          KM   CIS83 at the intersection of Indian School Road and 83rd Avenue
5124          HC       2
              *


5125          KK   D83IS  DIVERT
5126          KM   Divert calculated full flow capapcity of 187 cfs into 72-inch storm drain
5127          KM   pipe at the intersection of Indian School Road and 83rd Avenue
5128          DT  DP83IS      0.0   187.0
5129          DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
5130          DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *


5131          KK  DWIS91  DIVERT
5132          KM   Divert remaining runoff hydrograph from combination point CPIS83 west to
5133          KM   combination point CIS91
5134          DT  DSTM83      0.0      0.0
5135          DI      0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0 10000.0 20000.0 50000.0
5136          DQ      0.0     55.0    110.0    275.0    550.0   1100.0   2200.0   5500.0 11000.0 27500.0
              *


5137          KK  RWIS91   ROUTE
5138          KM   Route diversion DWIS91 west to combination point CIS91
5139          RS       3    FLOW
5140          RC   0.035    0.015    0.035     5280   0.0030     0.00
5141          RX    0.00     0.00    54.50    54.50   269.50   269.50   324.00   324.00
5142          RY    3.00     1.04     0.50     0.00     0.00     0.50     1.04     3.00
              *


5143          KK  DRIS91RETRIEVE
5144          KM   Retrieve divert DRIS91 from combination point CCB91 and divert south to
5145          KM   combination point CIS91
5146          DR  DSIS91
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


5147          KK  RSIS91   ROUTE
5148          KM   Route diversion retrieval DRIS91 south to combination point CIS91
5149          RS       8    FLOW
5150          RC   0.035    0.015    0.035     5280   0.0017     0.00
5151          RX    0.00     0.00    57.50    57.50   291.50   291.50   349.00   349.00
5152          RY    3.00     1.08     0.50     0.00     0.00     0.50     1.08     3.00
              *


5153          KK    IS91   BASIN
5154          KM   Runoff hydrograph for square mile subbasin IS91 northeast of the intersection
5155          KM   Indian School Road and 91st Avenue
5156          BA   0.999
5157          LG    0.25    0.15    9.70    0.04      37
5158          UC   1.416   0.948
5159          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
5160          UA     100
              *


5161          KK  ERIS91  DIVERT
5162          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
5163          KM   retention developed after 1990 in subbasin IS91
5164          DT  XIS91     24.6      0.0
5165          DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
5166          DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *
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5167          KK   CIS91 COMBINE
5168          KM   Combine route RWIS91, route RSIS91 and subbasin IS91
5169          HC       3    2.36
              *


5170          KK   D91IS  DIVERT
5171          KM   Divert calculated full flow capapcity of 190 cfs into 72-inch storm drain
5172          KM   pipe at the intersection of Indian School Road and 91st Avenue
5173          DT  DP91IS      0.0   190.0
5174          DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
5175          DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *


5176          KK  DWISLO  DIVERT
5177          KM   Divert remaining runoff hydrograph from combination point CIS91 west to
5178          KM   combination point CISLO
5179          DT  DSTM91      0.0      0.0
5180          DI      0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0 10000.0 20000.0 50000.0
5181          DQ      0.0     57.0    114.0    285.0    570.0   1140.0   2280.0   5700.0 11400.0 28500.0
              *


5182          KK  RWISLO   ROUTE
5183          KM   Route diversion DWISLO west to combination point CISLO
5184          RS       2    FLOW
5185          RC   0.035    0.015    0.035     2651   0.0039     0.00
5186          RX    0.00     0.00    35.50    35.50   188.50   188.50   224.00   224.00
5187          RY    3.00     0.86     0.50     0.00     0.00     0.50     0.86     3.00
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


5188          KK    ISLO   BASIN
5189          KM   Runoff hydrograph for subbasin ISLO northeast of the intersection of Indian
5190          KM   School Road and SR Loop 101
5191          BA   0.684
5192          LG    0.17    0.15    9.70    0.04      56
5193          UC   1.013   0.648
5194          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
5195          UA     100
              *


5196          KK  ERISLO  DIVERT
5197          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
5198          KM   retention developed after 1990 in subbasin ISLO
5199          DT  XISLO     58.0      0.0
5200          DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
5201          DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *


5202          KK   CISLO COMBINE
5203          KM   Combine route RWISLO, route RSISLO and subbasin ISLO
5204          HC       3    3.22
              *


5205          KK  RSTMLO   ROUTE
5206          KM   Route hydrograph at combination point CISLO south to combination point CTMLO
5207          RS       3    FLOW
5208          RC   0.035    0.015    0.035     5309   0.0010     0.00
5209          RX    0.00     4.00    14.00    29.00   44.00    59.00    73.00    76.00
5210          RY   11.20    10.20    10.00     0.00     0.30    10.30    10.58    11.58
              *


5211          KK  DRGCGRRETRIEVE
5212          KM   Retrieve divert DRGCGR from combination point CGR35 and divert south to
5213          KM   combination point CIGR35
5214          DR  DEGCGR
              *


5215          KK  DIGCGRRETRIEVE
5216          KM   Retrieve divert DIGCGR from combination point CPIS35 and divert south to
5217          KM   combination point CIGR35
5218          DR  DSGCGR
              *


5219          KK   CIGR35 COMBINE
5220          KM   Combine arterial street flow from Grand Avenue DEGCGR with runoff hydrograph
5221          KM   DGRGC at the intersection of 35th Avenue and Grand Avenue
5222          HC       2    3.97
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


5223          KK  RSGCGR   ROUTE
5224          KM   Route hydrograph at combination point CIGR35 at the intersection of Grand
5225          KM   Avenue and 35th Avenue south to combination point CGCGR
5226          RS       2    FLOW
5227          RC   0.035    0.015    0.035     3104   0.0029     0.00
5228          RX    0.00     0.00    48.00    48.00   251.00   251.00   299.00   299.00
5229          RY    3.00     0.98     0.50     0.00     0.00     0.50     0.98     3.00
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                *
5230            KK  DRGC27RETRIEVE
5231            KM   Retrieve divert DRGC27 from combination point CPIS27 and divert south to
5232            KM   combination point CGCGR
5233            DR  DSGC27
                *
5234            KK  RSGC27   ROUTE
5235            KM   Route diversion retrieval DRGC27 south to combination point CGC27
5236            RS      1    FLOW
5237            RC   0.035   0.015   0.035    1755  0.0028    0.00
5238            RX    0.00    0.00   16.50   16.50  107.50  107.50  124.00  124.00
5239            RY    3.00    0.66    0.50    0.00    0.00    0.50    0.66    3.00
                *
5240            KK    GCGR   BASIN
5241            KM   Runoff hydrograph for subbasin GCGR northeast of the intersection of Grand
5242            KM   Avenue and the Grand Canal
5243            BA   0.376
5244            LG    0.15    0.25    5.00    0.23      77
5245            UC   0.280   0.065
5246            UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
5247            UA     100
                *
5248            KK   CGCGR COMBINE
5249            KM   Combine route RSGCGR, route RSGC27, and subbasin GCGR
5250            HC       3    6.09
                *
5251            KK  PR31ISRETRIEVE
5252            KM   Retrieve full flow capacity of 268 cfs from 72-inch diameter pipe at the
5253            KM   intersection of Indian School Road and 31st Avenue
5254            DR  DP31IS
                *
5255            KK  RP31GC   ROUTE
5256            KM   Route full flow capacity of 268 cfs through 72-inch storm drain pipe
5257            KM   in 31st Avenue to the intersection of 31st Avenue and the Grand Canal
5258            RK    2506  0.0040   0.015            CIRC   6.000
                *
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LINE            ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

5259            KK  PR27ISRETRIEVE
5260            KM   Retrieve full flow capacity of 151 cfs from 60-inch diameter pipe at the
5261            KM   intersection of Indian School Road and 27th Avenue
5262            DR  DP27IS
                *
5263            KK  RP27GC   ROUTE
5264            KM   Route full flow capacity of 151 cfs through 60-inch storm drain pipe in
5265            KM   in 27th Avenue to the intersection of 27th Avenue and the Grand Canal
5266            RK    1763  0.0034   0.015            CIRC   5.000
                *
5267            KK  CPGCGR COMBINE
5268            KM   Combine pipe return PR27IS and pipe return PR35IS with the runoff hydrograph
5269            KM   at combination point CGCGR at the intersection of the Grand Canal and Grand
5270            KM   Avenue
5271            HC       3
                *
5272            KK   DGCGR  DIVERT
5273            KM   Capacity of storm drain in 27th Avenue and 29th Avenue diverted together.
5274            KM   Divert combined calculated full flow capacity of 257 cfs in the 72-inch storm
5275            KM   drain pipe in 27th Avenue and 165 cfs in the 60-inch storm drain pipe in
5276            KM   29th Avenue. The total calculated combined full flow capacity diverted at the
5277            KM   intersection of the Grand Canal and Grand Avenue is 422 cfs in an equivalent
5278            KM   diameter pipe of 87 inches
5279            DT  DPGCGR     0.0   422.0
5280            DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
5281            DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
                *
5282            KK  SRGCGR STORAGE
5283            KM   Storage route runoff hydrograph from divert DGCGR through ponding
5284            KM     area at the Grand Canal between I-17 and Grand Avenue
5285            KM   Storage routing ID RES26E in Maryvale ADMS, Feb 1997 - comments from ADMS:
5286            KM   PONDING AREA RESERVOIR ROUTE
5287            KM   PONDING AREA NORTHEAST OF GRAND AVENUE/RR EMBANKMENT
5288            KM   SUB-BASIN 26-22E
5289            RS      1     STOR      0.
5290            SV            0.10    13.20    45.92    91.09   149.48
5291            SQ          160.00   160.00   376.00  1056.00  6078.00
5292            SE  1095.0 1096.00 1097.00 1098.00 1099.00 1100.00
                *
5293            KK  RSGR27   ROUTE
5294            KM   Route diversion retrieval DRGR27 south to combination point CGR27
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5295            RS      3    FLOW
5296            RC   0.035   0.015   0.035    4632  0.0019    0.00
5297            RX    0.00    0.00   33.00   33.00  215.00  215.00  248.00  248.00
5298            RY    3.00    0.83    0.50    0.00    0.00    0.50    0.83    3.00
                *
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LINE            ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

5299            KK    GR27   BASIN
5300            KM   Runoff hydrograph for subbasin GR27 northwest of the intersection of Grand
5301            KM   Avenue and 27th Avenue
5302            BA   0.407
5303            LG    0.18    0.15    8.40    0.06      66
5304            UC   0.604   0.328
5305            UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
5306            UA     100
                *
5307            KK   CTM27 COMBINE
5308            KM   Combine route RSGR27 and subbasin GR27
5309            HC       2    6.50
                *
5310            KK   DTM27  DIVERT
5311            KM   Divert portion of runoff hydrograph from combination point CTM27  to storage
5312            KM   route SRTM27 where it will be routed through the Verde Basin near the
5313            KM   intersection of Thomas and 27th Avenue.  The remaining flow is diverted to
5314            KM   combination point CGR27. The diversion is based on topography
5315            DT   DGR27     0.0     0.0
5316            DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
5317            DQ     0.0    50.0   100.0   250.0   500.0  1000.0  2000.0  5000.0 10000.0 25000.0
                *
5318            KK  SRTM27 STORAGE
5319            KM   Storage route runoff hydrograph from storm drain route RP27TM thru regional
5320            KM     detention basin near the intersection of Thomas Road and 27th Avenue
5321            KM   Stage-storage-discharge data from 26th Avenue and Verde Lane Drainage
5322            KM     Improvement Project Phase II Plans, November 2005 (Verde Basin)
5323            RS      1     STOR
5324            SV            0.30    2.10    8.50   15.80   23.90   32.70   42.20   47.30   49.93
5325            SV    24.1
5326            SQ     0.0    49.0    20.0    25.0    29.0    33.0    36.0    39.0    42.0   521.0
5327            SQ  1395.0
5328            SE  1088.0  1089.0  1090.0  1091.0  1092.0  1093.0  1094.0  1095.0  1096.0  1096.5
5329            SE  1097.0
                *
5330            KK  PRGCGRRETRIEVE
5331            KM   Retrieve combined full flow capacity of 422 cfs from 87-inch equivalent
5332            KM   diameter pipe at the intersection of the Grand Canal and Grand Avenue
5333            DR  DPGCGR
                *
5334            KK   D31GR  DIVERT
5335            KM   Divert calculated full flow capapcity of 257 cfs into 72-inch storm drain
5336            KM   pipe at the intersection of Grand Avenue and 31st Avenue
5337            DT  DP31GR     0.0   257.0
5338            DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
5339            DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
                *
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LINE            ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

5340            KK  RP27TM   ROUTE
5341            KM   Route full flow capacity of 151 cfs through 60-inch storm drain pipe in
5342            KM   27th Avenue to the intersection of Thomas Road and 27th Avenue
5343            RK    3088  0.0034   0.015            CIRC   5.000
                *
5344            KK  CPGR27 COMBINE
5345            KM   Combine remainder of pipe return PRGCGR with the runoff hydrograph at
5346            KM   storage route SRTM27 at the intersection of Grand Avenue and 27th Avenue
5347            HC       2
                *
5348            KK   D27GR  DIVERT
5349            KM   Divert calculated full flow capapcity of 195 cfs into 66-inch storm drain
5350            KM   pipe at the intersection of Grand Avenue and 27th Avenue
5351            DT  DP27GR     0.0   195.0
5352            DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
5353            DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
                *
5354            KK  DRGR27RETRIEVE
5355            KM   Retrieve divert DRGR27 from combination point CRM27 and divert south to
5356            KM   combination point CGR27
5357            DR   DGR27
                *
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5358          KK  CGR27 COMBINE
5359          KM  Combine divert D27GR and divert retrieval DRGR27
5360          HC       2    6.50
              *

5361          KK  SRGR27 STORAGE
5362          KM  Storage route runoff hydrograph from divert D27GR through regional detention
5363          KM    basin near the intersection of Grand Avenue and 27th Avenue.
5364          KM  Stage-storage-discharge data from State Highway Wickenburg-Phoenix Highway
5365          KM    (US 60), 27th Avnue/Thomas Road As-builts, ADOT, August 2006
5366          RS       1    STOR
5367          SV            0.30    2.10    8.50   15.80   23.90   32.70   42.20   47.30   49.93
5368          SV    52.6    57.8
5369          SQ       0       2       7      14      19      22      25      28      29       3
5370          SQ     813    1469
5371          SE  1084.0  1085.0  1086.0  1088.0  1090.0  1092.0  1094.0  1096.0  1097.0    1097
5372          SE  1098.0  1098.5
              *

5373          KK  DWTM35  DIVERT
5374          KM  Divert remaining runoff hydrograph from combination point CPGR27 west to
5375          KM  combination point CTM35
5376          DT  DSMD27      0.0     0.0
5377          DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
5378          DQ     0.0    68.0   136.0   340.0   680.0  1360.0  2720.0  6800.0 13600.0 34000.0
              *
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5379          KK  RWTM35   ROUTE
5380          KM  Route diversion DWTM35 west to combination point CTM35
5381          RS       5    FLOW
5382          RC   0.035   0.015   0.035    5280  0.0008    0.00
5383          RX    0.00    0.00   16.50   16.50  107.50  107.50  124.00  124.00
5384          RY    3.00    0.66    0.50    0.00    0.00    0.50    0.66    3.00
              *

5385          KK  DRTM35RETRIEVE
5386          KM  Retrieve divert DRTM35 from combination point CGC35 and divert south to
5387          KM  combination point CTM35
5388          DR  DSTM35
              *

5389          KK  RSTM35   ROUTE
5390          KM  Route diversion retrieval DRTM35 south to combination point CTM35
5391          RS       1    FLOW
5392          RC   0.035   0.015   0.035    3050  0.0051    0.00
5393          RX    0.00    0.00   16.50   16.50  107.50  107.50  124.00  124.00
5394          RY    3.00    0.66    0.50    0.00    0.00    0.50    0.66    3.00
              *

5395          KK   TM35   BASIN
5396          KM  Runoff hydrograph for subbasin TM35 northeast of the intersection of Thomas
5397          KM  Road and 35th Avenue
5398          BA  0.393
5399          LG   0.14    0.15    7.60    0.08      80
5400          UC  0.548   0.315
5401          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
5402          UA     100
              *

5403          KK  CTM35 COMBINE
5404          KM  Combine route RWTM35, route RSTM35, and subbasin TM35
5405          HC       3    4.31
              *

5406          KK  PR31GRRETRIEVE
5407          KM  Retrieve full flow capacity of 257 cfs from 72-inch storm drain pipe at the
5408          KM  intersection of Grand Avenue and 31st Avenue
5409          DR  DP31GR
              *

5410          KK  RP31TM   ROUTE
5411          KM  Route full flow capacity of 257 cfs through 72-inch storm drain pipe in
5412          KM  31st Avenue to the intersection of Thomas Road and 31st Avenue
5413          RK    3862  0.0037   0.015            CIRC   6.000
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

5414          KK  PR35GCRETRIEVE
5415          KM  Retrieve full flow capacity of 40 cfs from 36-inch storm drain pipe at the
5416          KM  intersection of the Grand Canal and 35th Avenue
5417          DR  DP35GC
              *

5418          KK  RP35TM   ROUTE
5419          KM  Route full flow capacity of 40 cfs through 36-inch storm drain pipe in
5420          KM  35th Avenue to the intersection of Thomas Road and 35th Avenue
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5421          RK    3051  0.0035   0.015            CIRC   3.000
              *

5422          KK  CPTM35 COMBINE
5423          KM  Combine pipe returns PR31GR and PR35GC with the runoff hydrograph at
5424          KM  combination point CTM35 at the intersection of Thomas Road and 35th Avenue
5425          HC       3
              *

5426          KK   D35TM  DIVERT
5427          KM  Capacity of storm drain in 31st Avenue and 35th Avenue diverted together.
5428          KM  Divert combined calculated full flow capacity of 213 cfs in the 66-inch storm
5429          KM  drain pipe in 31st AVenue and 87 cfs in the 48-inch storm drain pipe in
5430          KM  35th Avenue. The total calculated combined full flow capacity diverted at the
5431          KM  intersection of 35th Avenue and Thomas Road is 300 cfs in an equivalent
5432          KM  diameter pipe of 77 inches
5433          DT  DP35TM      0.0   300.0
5434          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
5435          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

5436          KK  DWTM43  DIVERT
5437          KM  Divert remaining runoff hydrograph from combination point CPTM35 west to
5438          KM  combination point CTM43
5439          DT  DSMD35      0.0     0.0
5440          DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
5441          DQ     0.0    84.0   168.0   420.0   840.0  1680.0  3360.0  8400.0 16800.0 42000.0
              *

5442          KK  RWTM43   ROUTE
5443          KM  Route diversion DWTM43 west to combination point CTM43
5444          RS       9    FLOW
5445          RC   0.035   0.015   0.035    5280  0.0003    0.00
5446          RX    0.00    0.00   38.50   38.50  210.50  210.50  249.00  249.00
5447          RY    3.00    0.88    0.50    0.00    0.00    0.50    0.88    3.00
              *

5448          KK  DRTM43RETRIEVE
5449          KM  Retrieve divert DRTM43 from combination point CGC43 and divert south to
5450          KM  combination point CTM43
5451          DR  DSTM43
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

5452          KK  RSTM43   ROUTE
5453          KM  Route diversion retrieval DRTM43 south to combination point CTM43
5454          RS       1    FLOW
5455          RC   0.035   0.015   0.035    3050  0.0045    0.00
5456          RX    0.00    0.00   16.50   16.50  107.50  107.50  124.00  124.00
5457          RY    3.00    0.66    0.50    0.00    0.00    0.50    0.66    3.00
              *

5458          KK   TM43   BASIN
5459          KM  Runoff hydrograph for subbasin TM43 northeast of the intersection of Thomas
5460          KM  Road and 43rd Avenue
5461          BA  0.636
5462          LG   0.23    0.15    8.80    0.05      37
5463          UC  1.398   1.001
5464          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
5465          UA     100
              *

5466          KK  ERTM43  DIVERT
5467          KM  Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
5468          KM  retention developed after 1990 in subbasin TM43
5469          DT  XTM43       1.7     0.0
5470          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
5471          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

5472          KK   CTM43 COMBINE
5473          KM  Combine route RWTM43, route RSTM43, and subbasin TM43
5474          HC       3    3.16
              *

5475          KK  PR43GCRETRIEVE
5476          KM  Retrieve combined full flow capacity of 406 cfs from 87-inch equivalent
5477          KM  diameter pipe at the intersection of the Grand Canal and 43rd Avenue
5478          DR  DP43GC
              *

5479          KK  RP43TM   ROUTE
5480          KM  Route the combined full flow capacity of 406 cfs through an equivalent storm
5481          KM  drain pipe diameter of 87 inches in 43rd Avenue to the intersection of
5482          KM  43rd Avenue and Thomas Road
5483          RK    2924  0.0035   0.015            CIRC   7.250
              *

5484          KK  CPTM43 COMBINE
5485          KM  Combine pipe return PR43GC with the runoff hydrograph at combination point
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5486          KM   CTM43 at the intersection of the Grand Canal and 43rd Avenue
5487          HC       2
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


5488          KK   D43TM  DIVERT
5489          KM   Capacity of storm drain in 39th Avenue and 43rd Avenue diverted together.
5490          KM   Divert combined calculated full flow capacity of 404 cfs in the 84-inch storm
5491          KM   drain pipe in 39th AVenue and 225 cfs in the 69-inch storm drain pipe in
5492          KM   43rd Avenue. The total calculated combined full flow capacity diverted at the
5493          KM   intersection of 43rd Avenue and Thomas Road is 629 cfs in an equivalent
5494          KM   diameter pipe of 102 inches
5495          DT  DP43TM      0.0   629.0
5496          DI      0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
5497          DQ      0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

5498          KK  DWTM51  DIVERT
5499          KM   Divert remaining runoff hydrograph from combination point CTM43 west to
5500          KM   combination point CTM51
5501          DT  DSMD43      0.0     0.0
5502          DI      0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
5503          DQ      0.0    79.0   158.0   395.0   790.0  1580.0  3160.0  7900.0 15800.0 39500.0
              *

5504          KK  RWTM51   ROUTE
5505          KM   Route diversion DWTM51 west to combination point CTM51
5506          RS       9     FLOW
5507          RC   0.035   0.015   0.035    5280  0.0004     0.00
5508          RX    0.00    0.00   48.00   48.00  251.00  251.00  299.00  299.00
5509          RY    3.00    0.98    0.50    0.00    0.00    0.50    0.98    3.00
              *

5510          KK  DRTM51RETRIEVE
5511          KM   Retrieve divert DRTM51 from combination point CPGC51 and divert south to
5512          KM   combination point CTM51
5513          DR  DSTM51
              *

5514          KK  RSTM51   ROUTE
5515          KM   Route diversion retrieval DRTM51 south to combination point CTM51
5516          RS       2    FLOW
5517          RC   0.035   0.015   0.035    2916  0.0044     0.00
5518          RX    0.00    0.00   29.00   29.00  170.00  170.00  199.00  199.00
5519          RY    3.00    0.79    0.50    0.00    0.00    0.50    0.79    3.00
              *

5520          KK    TM51   BASIN
5521          KM   Runoff hydrograph for subbasin TM51 northeast of the intersection of Thomas
5522          KM   Road and 51st Avenue
5523          BA   0.545
5524          LG    0.24    0.19    6.60    0.13      33
5525          UC   1.449   1.121
5526          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
5527          UA     100
              *
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5528          KK   CTM51 COMBINE
5529          KM   Combine route RWTM51, route RSTM51, and subbasin TM51
5530          HC       3    2.15
              *

5531          KK  PR51GCRETRIEVE
5532          KM   Retrieve full flow capacity of 113 cfs from 54-inch storm drain pipe near the
5533          KM   intersection of the Grand Canal and 51st Avenue
5534          DR  DP51GC
              *

5535          KK  PRGC53RETRIEVE
5536          KM   Retrieve full flow capacity of 20 cfs from 36-inch storm drain pipe at the
5537          KM   intersection of the Grand Canal and 53rd Avenue
5538          DR  DPGC53
              *

5539          KK  RPGC51   ROUTE
5540          KM   Route full flow capacity of 20 cfs through 36-inch storm drain near the
5541          KM   Grand Canal to the intersection of the Grand Canal and 51st Avenue
5542          RK    1038  0.0009   0.015            CIRC   3.000
              *

5543          KK  CPGC51 COMBINE
5544          KM   Combine pipe return PR51GC with pipe route RPGC51 at the intersection of
5545          KM   the Grand Canal and 51st Avenue
5546          HC       2    2.15
              *
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5547          KK  RP51TM   ROUTE
5548          KM   Route combined full flow capacity of 133 cfs through a 72-inch storm drain
5549          KM   pipe in 51st Avenue to the intersection of Thomas Road and 51st Avenue
5550          RK    2803  0.0033   0.015            CIRC   6.000
              *

5551          KK  CPTM51 COMBINE
5552          KM   Combine the runoff hydrograph at combination point CTM51 with pipe route
5553          KM   RP51TM at the intersection of Thomas Road and 51st Avenue
5554          HC       2
              *

5555          KK   D51TM  DIVERT
5556          KM   Divert calculated full flow capapcity of 244 cfs into 72-inch storm drain
5557          KM   pipe at the intersection of Thomas Road and 51st Avenue
5558          DT  DP51TM      0.0   244.0
5559          DI      0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
5560          DQ      0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


5561          KK  DWTM59  DIVERT
5562          KM   Divert remaining runoff hydrograph from combination point CPTM51 west to
5563          KM   combination point CTM59
5564          DT  DSMD51      0.0     0.0
5565          DI      0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
5566          DQ      0.0    64.0   128.0   320.0   640.0  1280.0  2560.0  6400.0 12800.0 32000.0
              *

5567          KK  RWTM59   ROUTE
5568          KM   Route diversion DWTM59 west to combination point CTM59
5569          RS       6     FLOW
5570          RC   0.035   0.015   0.035    5280  0.0013     0.00
5571          RX    0.00    0.00   48.00   48.00  251.00  251.00  299.00  299.00
5572          RY    3.00    0.98    0.50    0.00    0.00    0.50    0.98    3.00
              *

5573          KK  DRTM59RETRIEVE
5574          KM   Retrieve divert DRTM59 from combination point CPGC59 and divert south to
5575          KM   combination point CTM59
5576          DR  DSTM59
              *

5577          KK  RSTM59   ROUTE
5578          KM   Route diversion retrieval DRTM59 south to combination point CTM59
5579          RS       1    FLOW
5580          RC   0.035   0.015   0.035    2752  0.0054     0.00
5581          RX    0.00    0.00   29.00   29.00  170.00  170.00  199.00  199.00
5582          RY    3.00    0.79    0.50    0.00    0.00    0.50    0.79    3.00
              *

5583          KK    TM59   BASIN
5584          KM   Runoff hydrograph for subbasin TM59 northeast of the intersection of Thomas
5585          KM   Road and 59th Avenue
5586          BA   0.599
5587          LG    0.24    0.19    6.60    0.14      31
5588          UC   1.220   0.868
5589          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
5590          UA     100
              *

5591          KK   CTM59 COMBINE
5592          KM   Combine route RWTM59, route RSTM59, and subbasin TM59
5593          HC       3    3.90
              *

5594          KK  PRGC63RETRIEVE
5595          KM   Retrieve full flow capacity of 258 cfs from 72-inch storm drain pipe at the
5596          KM   intersection of the Grand Canal and 63rd Avenue
5597          DR  DPGC63
              *
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5598          KK  RP59TM   ROUTE
5599          KM   Route full flow capacity of 258 cfs through 72-inch storm drain pipe in
5600          KM   59th Avenue to the intersection of Thomas Road and 59th Avenue
5601          RK    4111  0.0037   0.015            CIRC   6.000
              *

5602          KK  CPTM59 COMBINE
5603          KM   Combine pipe return PRGC63 with the runoff hydrograph at combination point
5604          KM   CTM59 at the intersection of Thomas Road and 59th Avenue
5605          HC       2
              *

5606          KK   D59TM  DIVERT
5607          KM   Divert calculated full flow capapcity of 389 cfs into 84-inch storm drain
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5608          KM   pipe at the intersection of Thomas Road and 59th Avenue
5609          DT  DP59TM      0.0   389.0
5610          DI      0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
5611          DQ      0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

5612          KK  DWTM67   DIVERT
5613          KM   Divert remaining runoff hydrograph from combination point CPTM59 west to
5614          KM   combination point CTM67
5615          DT  DSMD59      0.0     0.0
5616          DI      0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
5617          DQ      0.0    41.0    82.0   205.0   410.0   820.0  1640.0  4100.0  8200.0 20500.0
              *

5618          KK  RWTM67    ROUTE
5619          KM   Route diversion DWTM67 west to combination point CTM67
5620          RS       4     FLOW
5621          RC   0.035   0.015   0.035    5280  0.0015     0.00
5622          RX    0.00    0.00   95.50   95.50  453.50  453.50  549.00  549.00
5623          RY    3.00    1.46    0.50    0.00    0.00    0.50    1.46    3.00
              *

5624          KK  DRTM67RETRIEVE
5625          KM   Retrieve divert DRTM67 from combination point CPISGC and divert south to
5626          KM   combination point CTM67
5627          DR  DSTM67
              *

5628          KK  RSTM67    ROUTE
5629          KM   Route diversion DRTM67 south to combination point CTM67
5630          RS       4     FLOW
5631          RC   0.035   0.015   0.035    5280  0.0029     0.00
5632          RX    0.00    0.00    9.50    9.50   40.50   40.50   50.00   50.00
5633          RY    3.00    0.60    0.50    0.00    0.00    0.50    0.60    3.00
              *

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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

5634          KK    TM67    BASIN
5635          KM   Runoff hydrograph for subbasin TM67 northeast of the intersection of Thomas
5636          KM   Road and 67th Avenue
5637          BA   0.813
5638          LG    0.24    0.15    8.00    0.07      36
5639          UC   1.332   0.879
5640          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
5641          UA     100
              *

5642          KK  ERTM67   DIVERT
5643          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
5644          KM   retention developed after 1990 in subbasin TM67
5645          DT   XTM67      1.1     0.0
5646          DI      0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
5647          DQ      0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

5648          KK    CTM67 COMBINE
5649          KM   Combine route RWTM67, route RSTM67, and subbasin TM67
5650          HC        3    3.12
              *

5651          KK  PR67ISRETRIEVE
5652          KM   Retrieve full flow capacity of 175 cfs from 66-inch storm drain pipe at the
5653          KM   intersection of Indian School Road and 67th Avenue
5654          DR  DP67IS
              *

5655          KK  RP67TM    ROUTE
5656          KM   Route full flow capacity of 175 cfs through 66-inch storm drain pipe in
5657          KM   67th Avenue to the intersection of Thomas Road and 67th Avenue
5658          RK     5268  0.0027   0.015             CIRC   5.500
              *

5659          KK  CPTM67 COMBINE
5660          KM   Combine pipe flow at combination point CPIS67 with runoff hydrograph at
5661          KM   combination point CTM67 at the intersection of Thomas Road and 67th Avenue
5662          HC        2
              *

5663          KK    D67TM  DIVERT
5664          KM   Divert calculated full flow capapcity of 273 cfs into 78-inch storm drain
5665          KM   pipe at the intersection of Thomas Road and 67th Avenue
5666          DT  DP67TM      0.0   273.0
5667          DI      0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
5668          DQ      0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10
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5669          KK  DWTM75   DIVERT
5670          KM   Divert remaining runoff hydrograph from combination point CPTM67 west to
5671          KM   combination point CTM75
5672          DT  DSMD67      0.0     0.0
5673          DI      0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
5674          DQ      0.0    45.0    90.0   225.0   450.0   900.0  1800.0  4500.0  9000.0 22500.0
              *

5675          KK  RWTM75    ROUTE
5676          KM   Route diversion DWTM75 west to combination point CTM75
5677          RS       5     FLOW
5678          RC   0.035   0.015   0.035    5280  0.0023     0.00
5679          RX    0.00    0.00   76.50   76.50  372.50  372.50  449.00  449.00
5680          RY    3.00    1.27    0.50    0.00    0.00    0.50    1.27    3.00
              *

5681          KK  DRTM75RETRIEVE
5682          KM   Retrieve divert DRTM75 from combination point CPIS75 and divert south to
5683          KM   combination point CTM75
5684          DR  DSTM75
              *

5685          KK  RSTM75    ROUTE
5686          KM   Route diversion retrieval DRTM75 south to combination point CTM75
5687          RS       5     FLOW
5688          RC   0.035   0.015   0.035    5280  0.0027     0.00
5689          RX    0.00    0.00   38.50   38.50  210.50  210.50  249.00  249.00
5690          RY    3.00    0.88    0.50    0.00    0.00    0.50    0.88    3.00
              *

5691          KK    TM75    BASIN
5692          KM   Runoff hydrograph for square mile subbasin TM75 northeast of the intersection
5693          KM   of Thomas Road and 75th Avenue
5694          BA   0.997
5695          LG    0.22    0.15    9.70    0.04      41
5696          UC   1.289   0.855
5697          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
5698          UA     100
              *

5699          KK  ERTM75   DIVERT
5700          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
5701          KM   retention developed after 1990 in subbasin TM75
5702          DT   XTM75      2.0     0.0
5703          DI      0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
5704          DQ      0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

5705          KK    CTM75 COMBINE
5706          KM   Combine route RWTM75, route RSTM75, and subbasin TM75
5707          HC        3    2.92
              *

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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

5708          KK  PR75ISRETRIEVE
5709          KM   Retrieve full flow capacity of 123 cfs from 60-inch storm drain pipe at the
5710          KM   intersection of Indian School Road and 75th Avenue
5711          DR  DP75IS
              *

5712          KK  RP75TM    ROUTE
5713          KM   Route full flow capacity of 123 cfs through 60-inch storm drain pipe in
5714          KM   75th Avenue to the intersection of Thomas Road and 75th Avenue
5715          RK     5256  0.0022   0.015             CIRC   5.000
              *

5716          KK  CPTM75 COMBINE
5717          KM   Combine pipe return PR75IS with the runoff hydrograph at combination point
5718          KM   CTM75 at the intersection of Thomas Road and 75th Avenue
5719          HC        2
              *

5720          KK    D75TM  DIVERT
5721          KM   Divert calculated full flow capapcity of 303 cfs into 84-inch storm drain
5722          KM   pipe at the intersection of Thomas Road and 75th Avenue
5723          DT  DP75TM      0.0   303.0
5724          DI      0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
5725          DQ      0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

5726          KK  DWTM83   DIVERT
5727          KM   Divert remaining runoff hydrograph from combination point CPTM75 west to
5728          KM   combination point CTM83
5729          DT  DSMD75      0.0     0.0
5730          DI      0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
5731          DQ      0.0    48.0    96.0   240.0   480.0   960.0  1920.0  4800.0  9600.0 24000.0
              *

5732          KK  RWTM83    ROUTE
5733          KM   Route diversion DWTM83 west to combination point CTM83
```

```
5734          RS       4    FLOW
5735          RC   0.035   0.015   0.035    5280  0.0025     0.00
5736          RX    0.00    0.00   76.50   76.50  372.50  372.50  449.00  449.00
5737          RY    3.00    1.27    0.50    0.00    0.00    0.50    1.27    3.00
              *

5738          KK  DRTM83RETRIEVE
5739          KM   Retrieve divert DRTM83 from combination point CPIS83 and divert south to
5740          KM   combination point CTM83
5741          DR  DSTM83
              *

5742          KK  RSTM83    ROUTE
5743          KM   Route diversion retrieval DRTM83 south to combination point CTM83
5744          RS       3    FLOW
5745          RC   0.035   0.015   0.035    5280  0.0023     0.00
5746          RX    0.00    0.00   76.50   76.50  372.50  372.50  449.00  449.00
5747          RY    3.00    1.27    0.50    0.00    0.00    0.50    1.27    3.00
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


5748          KK    TM83   BASIN
5749          KM   Runoff hydrograph for square mile subbasin TM83 northeast of the intersection
5750          KM   of Thomas Road and 83rd Avenue
5751          BA   0.992
5752          LG    0.24    0.15    7.30    0.10      34
5753          UC   1.432   0.960
5754          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
5755          UA     100
              *

5756          KK   CTM83 COMBINE
5757          KM   Combine route RWTM83, route RSTM83, and subbasin TM83
5758          HC       3    3.41
              *

5759          KK  PR83ISRETRIEVE
5760          KM   Retrieve full flow capacity of 187 cfs from 72-inch storm drain pipe at the
5761          KM   intersection of Indian School Road and 83rd Avenue
5762          DR  DP83IS
              *

5763          KK  RP83TM    ROUTE
5764          KM   Route full flow capacity of 187 cfs through 72-inch storm drain pipe in
5765          KM   83rd Avenue to the intersection of Thomas Road and 83rd Avenue
5766          RK    5330  0.0019   0.015            CIRC   6.000
              *

5767          KK  CPTM83 COMBINE
5768          KM   Combine pipe return PR83IS with the runoff hydrograph at combination point
5769          KM   CTM83 at the intersection of Thomas Road and 83rd Avenue
5770          HC       2
              *

5771          KK   D83TM  DIVERT
5772          KM   Divert calculated full flow capapcity of 283 cfs into 84-inch storm drain
5773          KM   pipe at the intersection of Thomas Road and 83rd Avenue
5774          DT  DP83TM      0.0   283.0
5775          DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
5776          DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

5777          KK  DWTM91  DIVERT
5778          KM   Divert remaining runoff hydrograph from combination point CPTM83 west to
5779          KM   combination point CTM91
5780          DT  DSMD83      0.0      0.0
5781          DI      0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0  10000.0  20000.0  50000.0
5782          DQ      0.0     23.0     46.0    115.0    230.0    460.0    920.0   2300.0   4600.0  11500.0
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


5783          KK  RWTM91    ROUTE
5784          KM   Route diversion DWTM91 west to combination point CTM91
5785          RS       4    FLOW
5786          RC   0.035   0.015   0.035    5280  0.0028     0.00
5787          RX    0.00    0.00  114.50  114.50  534.50  534.50  649.00  649.00
5788          RY    3.00    1.64    0.50    0.00    0.00    0.50    1.64    3.00
              *

5789          KK  DRTM91RETRIEVE
5790          KM   Retrieve divert DRTM91 from combination point CIS91 and divert south to
5791          KM   combination point CTM91
5792          DR  DSTM91
              *

5793          KK  RSTM91    ROUTE
5794          KM   Route diversion retrieval DRTM91 south to combination point CTM91
```



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5795          RS       5    FLOW
5796          RC   0.035   0.015   0.035    5280  0.0021     0.00
5797          RX    0.00    0.00   67.00   67.00  332.00  332.00  399.00  399.00
5798          RY    3.00    1.17    0.50    0.00    0.00    0.50    1.17    3.00
              *

5799          KK    TM91   BASIN
5800          KM   Runoff hydrograph for square mile subbasin TM91 northeast of the intersection
5801          KM   of Thomas Road and 91st Avenue
5802          BA   1.003
5803          LG    0.24    0.15    7.30    0.09      36
5804          UC   1.443   0.966
5805          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
5806          UA     100
              *

5807          KK  ERTM91  DIVERT
5808          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
5809          KM   retention developed after 1990 in subbasin TM91
5810          DT  XTM91      14.8      0.0
5811          DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
5812          DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

5813          KK   CTM91 COMBINE
5814          KM   Combine route RWTM91, route RSTM91, and subbasin TM91
5815          HC       3    4.96
              *

5816          KK  PR91ISRETRIEVE
5817          KM   Retrieve full flow capacity of 190 cfs from 72-inch storm drain pipe at the
5818          KM   intersection of Indian School Road and 91st Avenue
5819          DR  DP91IS
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


5820          KK  RP91TM    ROUTE
5821          KM   Route full flow capacity of 190 cfs through 72-inch storm drain pipe in
5822          KM   91st Avenue to the intersection of Thomas Road and 91st Avenue
5823          RK    5130  0.0020   0.015            CIRC   6.000
              *

5824          KK  CPTM91 COMBINE
5825          KM   Combine pipe return PR91IS with the runoff hydrograph at combination point
5826          KM   CTM91 at the intersection of Thomas Road and 91st Avenue
5827          HC       2
              *

5828          KK   D91TM  DIVERT
5829          KM   Divert calculated full flow capapcity of 287 cfs into 84-inch storm drain
5830          KM   pipe at the intersection of Thomas Road and 91st Avenue
5831          DT  DP91TM      0.0   287.0
5832          DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
5833          DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

5834          KK  DWTMLO  DIVERT
5835          KM   Divert remaining runoff hydrograph from combination point CPTM91 west to
5836          KM   combination point CTMLO
5837          DT  DSMD91      0.0      0.0
5838          DI      0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0  10000.0  20000.0  50000.0
5839          DQ      0.0     77.0    154.0    385.0    770.0   1540.0   3080.0   7700.0  15400.0  38500.0
              *

5840          KK  RWTMLO    ROUTE
5841          KM   Route diversion DWTMLO west to combination point CTMLO
5842          RS       3    FLOW
5843          RC   0.035   0.015   0.035    2623  0.0015     0.00
5844          RX    0.00    0.00   16.50   16.50  107.50  107.50  124.00  124.00
5845          RY    3.00    0.66    0.50    0.00    0.00    0.50    0.66    3.00
              *

5846          KK    TMLO   BASIN
5847          KM   Runoff hydrograph for subbasin TMLO northeast of the intersection of Thomas
5848          KM   Road and SR Loop 101
5849          BA   0.496
5850          LG    0.11    0.15    8.80    0.05      75
5851          UC   0.785   0.583
5852          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
5853          UA     100
              *

5854          KK  ERTMLO  DIVERT
5855          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
5856          KM   retention developed after 1990 in subbasin TMLO
5857          DT  XTMLO     39.3      0.0
5858          DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
5859          DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

5860          KK   CTMLO COMBINE
5861          KM   Combine route RWTMLO, route RSTMLO, and subbasin TMLO
5862          HC       3    4.87
              *

5863          KK  RSMDLO    ROUTE
5864          KM   Route hydrograph at combination point CTMLO south to combination point CMDLO
5865          RS       2    FLOW
5866          RC  0.035   0.015   0.035    5729  0.0012    0.00
5867          RX   0.00    3.00    5.00   39.00   47.00   51.00   65.00   68.00
5868          RY  18.00   17.00   17.00    0.00    0.16   17.16   17.44   18.44
              *

5869          KK  DRMD27RETRIEVE
5870          KM   Retrieve divert DRMD27 from combination point CPGR27 and divert south to
5871          KM   combination point CMD27
5872          DR  DSMD27
              *

5873          KK  RSMD27   ROUTE
5874          KM   Route diversion retrieval DRMD27 south to combination point CMD27
5875          RS       2    FLOW
5876          RC  0.035   0.015   0.035    5280  0.0034    0.00
5877          RX   0.00    0.00   16.50   16.50  107.50  107.50  124.00  124.00
5878          RY   3.00    0.66    0.50    0.00    0.00    0.50    0.66    3.00
              *

5879          KK   MD27   BASIN
5880          KM   Runoff hydrograph for subbasin MD27 northeast of the intersection of McDowell
5881          KM   Road and 27th Avenue
5882          BA   0.241
5883          LG   0.15    0.15    8.00    0.07      80
5884          UC  0.502   0.378
5885          UA      0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
5886          UA    100
              *

5887          KK   CMD27 COMBINE
5888          KM   Combine route RSMD27 and subbasin MD27
5889          HC       2    4.65
              *

5890          KK  PR27GRRETRIEVE
5891          KM   Retrieve full flow capacity of 195 cfs from 66-inch storm drain pipe at the
5892          KM   intersection of Grand Avenue and 27th Avenue
5893          DR  DP27GR
              *

5894          KK  RP27MD   ROUTE
5895          KM   Route full flow capacity of 195 cfs through 66-inch storm drain pipe in
5896          KM   27th Avenue to the intersection of McDowell Road and 27th Avenue
5897          RK    5006  0.0034   0.015            CIRC   5.500
              *

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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

5898          KK  CPMD27 COMBINE
5899          KM   Combine pipe return PR27GR with the runoff hydrograph at combination point
5900          KM   CMD27 at the intersection of McDowell Road and 27th Avenue
5901          HC       2
              *

5902          KK   D27MD  DIVERT
5903          KM   Divert calculated full flow capapcity of 246 cfs into 72-inch storm drain
5904          KM   pipe at the intersection of McDowell Road and 27th Avenue
5905          DT  DP27MD     0.0   246.0
5906          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
5907          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

5908          KK  RWMD35   ROUTE
5909          KM   Route remainder of diversion D27MD west to combination point CMD35
5910          RS       5    FLOW
5911          RC  0.035   0.015   0.035    5280  0.0009    0.00
5912          RX   0.00    0.00   48.00   48.00  251.00  251.00  299.00  299.00
5913          RY   3.00    0.98    0.50    0.00    0.00    0.50    0.98    3.00
              *

5914          KK  DRMD35RETRIEVE
5915          KM   Retrieve divert DRMD35 from combination point CPTM35 and divert south to
5916          KM   combination point CMD35
5917          DR  DSMD35
              *

5918          KK  RSMD35   ROUTE
5919          KM   Route diversion retrieval DRMD35 south to combination point CMD35
5920          RS       2    FLOW
```



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5921          RC  0.035   0.015   0.035    5280  0.0036    0.00
5922          RX   0.00    0.00   67.00   67.00  332.00  332.00  399.00  399.00
5923          RY   3.00    1.17    0.50    0.00    0.00    0.50    1.17    3.00
              *

5924          KK   MD35   BASIN
5925          KM   Runoff hydrograph for square mile subbasin MD35 northeast of the intersection
5926          KM   of McDowell Road and 35th Avenue
5927          BA   0.999
5928          LG   0.19    0.13   10.10    0.03      59
5929          UC  1.236   0.806
5930          UA      0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
5931          UA    100
              *

5932          KK  ERMD35  DIVERT
5933          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
5934          KM   retention developed after 1990 and NOAA14 rainfall for future retention in
5935          KM   subbasin MD35
5936          DT   XMD35     1.5     0.0
5937          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
5938          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

5939          KK   CMD35 COMBINE
5940          KM   Combine route RWMD35, route RSMD35, and subbasin MD35
5941          HC       3    9.29
              *

5942          KK  PR35TMRETRIEVE
5943          KM   Retrieve combined full flow capacity of 300 cfs from 77-inch equivalent
5944          KM   diameter pipe at the intersection of Thomas Road and 35th Avenue
5945          DR  DP35TM
              *

5946          KK  RP35MD   ROUTE
5947          KM   Route the combined full flow capacity of 300 cfs through an equivalent storm
5948          KM   drain pipe diameter of 77 inches in 35th Avenue to the intersection of
5949          KM   McDowell Road and 35th Avenue
5950          RK    5093  0.0037   0.015            CIRC   6.417
              *

5951          KK  CPMD35 COMBINE
5952          KM   Combine pipe return PR35TM with the runoff hydrograph at combination point
5953          KM   CMD35 at the intersection of McDowell Road and 35th Avenue
5954          HC       2
              *

5955          KK   D35MD  DIVERT
5956          KM   Capacity of storm drain in 31st Avenue and 35th Avenue diverted together.
5957          KM   Divert combined calculated full flow capacity of 405 cfs in the 84-inch storm
5958          KM   drain pipe in 31st AVenue and 102 cfs in the 51-inch storm drain pipe in
5959          KM   35th Avenue. The total calculated combined full flow capacity diverted at the
5960          KM   intersection of 35th Avenue and McDowell Road is 507 cfs in an equivalent
5961          KM   diameter pipe of 93 inches
5962          DT  DP35MD     0.0   507.0
5963          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
5964          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

5965          KK  DWMD43  DIVERT
5966          KM   Divert remaining runoff hydrograph from combination point CPMD35 west to
5967          KM   combination point CMD43
5968          DT  DSIN35     0.0     0.0
5969          DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
5970          DQ     0.0    63.0   126.0   315.0   630.0  1260.0  2520.0  6300.0 12600.0 31500.0
              *

5971          KK  RWMD43   ROUTE
5972          KM   Route diversion DWMD43 west to combination point CMD43
5973          RS       7    FLOW
5974          RC  0.035   0.015   0.035    5280  0.0004    0.00
5975          RX   0.00    0.00   95.50   95.50  453.50  453.50  549.00  549.00
5976          RY   3.00    1.46    0.50    0.00    0.00    0.50    1.46    3.00
              *

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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

5977          KK  DRMD43RETRIEVE
5978          KM   Retrieve divert DRMD43 from combination point CTM43 and divert south to
5979          KM   combination point CMD43
5980          DR  DSMD43
              *

5981          KK  RSMD43   ROUTE
5982          KM   Route diversion retrieval DRMD43 south to combination point CMD43
5983          RS       3    FLOW
```

```
5984          RC   0.035   0.015   0.035    5280  0.0037    0.00
5985          RX    0.00    0.00   67.00   67.00  332.00  332.00  399.00  399.00
5986          RY    3.00    1.17    0.50    0.00    0.00    0.50    1.17    3.00
              *
5987          KK    MD43   BASIN
5988          KM   Runoff hydrograph for square mile subbasin MD43 northeast of the intersection
5989          KM   of McDowell Road and 43rd Avenue
5990          BA   0.999
5991          LG    0.22    0.15    9.70    0.04      41
5992          UC   0.920   0.337
5993          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
5994          UA     100
              *
5995          KK   CMD43 COMBINE
5996          KM   Combine route RWMD43, route RSMD43, and subbasin MD43
5997          HC       3    6.96
              *
5998          KK  PR43TMRETRIEVE
5999          KM   Retrieve combined full flow capacity of 629 cfs from 102-inch equivalent
6000          KM   diameter pipe at the intersection of Thomas Road and 43rd Avenue
6001          DR  DP43TM
              *
6002          KK  RP43MD   ROUTE
6003          KM   Route the combined full flow capacity of 629 cfs through an equivalent storm
6004          KM   drain pipe diameter of 102 inches in 43rd Avenue to the intersection of
6005          KM   43rd Avenue and McDowell Road
6006          RK    5212  0.0035   0.015            CIRC   8.500
              *
6007          KK  CPMD43 COMBINE
6008          KM   Combine pipe return PR43TM with the runoff hydrograph at combination point
6009          KM   CMD43 at the intersection of McDowell Road and 43rd Avenue
6010          HC       2
              *
6011          KK   D43MD  DIVERT
6012          KM   Capacity of storm drain in 39th Avenue and 43rd Avenue diverted together.
6013          KM   Divert combined calculated full flow capacity of 404 cfs in the 84-inch storm
6014          KM   drain pipe in 39th AVenue and 225 cfs in the 69-inch storm drain pipe in
6015          KM   43rd Avenue. The total calculated combined full flow capacity diverted at the
6016          KM   intersection of 35th Avenue and McDowell Road is 629 cfs in an equivalent
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10
6017          KM   diameter pipe of 102 inches
6018          DT  DP43MD     0.0   629.0
6019          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
6020          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *
6021          KK  DWMD51  DIVERT
6022          KM   Divert remaining runoff hydrograph from combination point CPMD43 west to
6023          KM   combination point CMD51
6024          DT  DSIN43     0.0     0.0
6025          DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
6026          DQ     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
              *
6027          KK  RWMD51   ROUTE
6028          KM   Route diversion DWMD51 west to combination point CMD51
6029          RS       1    FLOW
6030          RC   0.035   0.015   0.035    5280  0.0002    0.00
6031          RX    0.00    0.00   57.50   57.50  291.50  291.50  349.00  349.00
6032          RY    3.00    1.08    0.50    0.00    0.00    0.50    1.08    3.00
              *
6033          KK  DRMD51RETRIEVE
6034          KM   Retrieve divert DRMD51 from combination point CPTM51 and divert south to
6035          KM   combination point CMD51
6036          DR  DSMD51
              *
6037          KK  RSMD51   ROUTE
6038          KM   Route diversion retrieval DRMD51 south to combination point CMD51
6039          RS       4    FLOW
6040          RC   0.035   0.015   0.035    5280  0.0035    0.00
6041          RX    0.00    0.00   54.50   54.50  269.50  269.50  324.00  324.00
6042          RY    3.00    1.04    0.50    0.00    0.00    0.50    1.04    3.00
              *
6043          KK   MD51   BASIN
6044          KM   Runoff hydrograph for square mile subbasin MD51 northeast of the intersection
6045          KM   of McDowell Road and 51st Avenue
6046          BA   1.001
6047          LG    0.23    0.15    8.40    0.07      35
6048          UC   1.500   1.010
6049          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
6050          UA     100
```



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              *
6051          KK   CMD51 COMBINE
6052          KM   Combine route RWMD51, route RSMD51, and subbasin MD51
6053          HC       3    2.37
              *
1                                        HEC-1 INPUT                                    PAGE157
LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10
6054          KK  PR51TMRETRIEVE
6055          KM   Retrieve full flow capacity of 244 cfs from 72-inch storm drain pipe at the
6056          KM   intersection of Thomas Road and 51st Avenue
6057          DR  DP51TM
              *
6058          KK  RP51MD   ROUTE
6059          KM   Route full flow capacity of 244 cfs through 72-inch storm drain pipe in
6060          KM   51st Avenue to the intersection of McDowell Road and 51st Avenue
6061          RK    5322  0.0033   0.015            CIRC   6.000
              *
6062          KK  CPMD51 COMBINE
6063          KM   Combine pipe return PR51TM with the runoff hydrograph at combination point
6064          KM   CMD51 at the intersection of McDowell Road and 51st Avenue
6065          HC       2
              *
6066          KK   D51MD  DIVERT
6067          KM   Divert calculated full flow capapcity of 368 cfs into 84-inch storm drain
6068          KM   pipe at the intersection of McDowell Road and 51st Avenue
6069          DT  DP51MD     0.0   368.0
6070          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
6071          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *
6072          KK  DWMD59  DIVERT
6073          KM   Divert remaining runoff hydrograph from combination point CPMD43 west to
6074          KM   combination point CMD51
6075          DT  DSIN51     0.0     0.0
6076          DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
6077          DQ     0.0    39.0    78.0   195.0   390.0   780.0  1560.0  3900.0  7800.0 19500.0
              *
6078          KK  RWMD59   ROUTE
6079          KM   Route diversion DWMD59 west to combination point CMD59
6080          RS       7    FLOW
6081          RC   0.035   0.015   0.035    5280  0.0014    0.00
6082          RX    0.00    0.00   57.50   57.50  291.50  291.50  349.00  349.00
6083          RY    3.00    1.08    0.50    0.00    0.00    0.50    1.08    3.00
              *
6084          KK  DRMD59RETRIEVE
6085          KM   Retrieve divert DRMD59 from combination point CPTM59 and divert south to
6086          KM   combination point CMD59
6087          DR  DSMD59
              *
6088          KK  RSMD59   ROUTE
6089          KM   Route diversion retrieval DRMD59 south to combination point CMD59
6090          RS       3    FLOW
6091          RC   0.035   0.015   0.035    5280  0.0035    0.00
6092          RX    0.00    0.00   38.50   38.50  210.50  210.50  249.00  249.00
6093          RY    3.00    0.88    0.50    0.00    0.00    0.50    0.88    3.00
              *
1                                        HEC-1 INPUT                                    PAGE158
LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10
6094          KK   MD59   BASIN
6095          KM   Runoff hydrograph for square mile subbasin MD59 northeast of the intersection
6096          KM   of McDowell Road and 59th Avenue
6097          BA   1.005
6098          LG    0.25    0.15    7.60    0.08      33
6099          UC   1.481   0.993
6100          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
6101          UA     100
              *
6102          KK   CMD59 COMBINE
6103          KM   Combine route RWMD59, route RSMD59, and subbasin MD59
6104          HC       3    4.05
              *
6105          KK  PR59TMRETRIEVE
6106          KM   Retrieve full flow capacity of 389 cfs from 84-inch storm drain pipe at the
6107          KM   intersection of Thomas Road and 59th Avenue
6108          DR  DP59TM
              *
6109          KK  RP59MD   ROUTE
```

```
6110          KM   Route full flow capacity of 389 cfs through 84-inch storm drain pipe in
6111          KM   59th Avenue to the intersection of McDowell Road and 59th Avenue
6112          RK    5206  0.0037   0.015            CIRC   7.000
              *

6113          KK  CPMD59 COMBINE
6114          KM   Combine pipe return PR59TM with the runoff hydrograph at combination point
6115          KM   CMD59 at the intersection of McDowell Road and 59th Avenue
6116          HC       2
              *

6117          KK   D59MD  DIVERT
6118          KM   Divert calculated full flow capapcity of 468 cfs into 90-inch storm drain
6119          KM   pipe at the intersection of McDowell Road and 59th Avenue
6120          DT  DP59MD     0.0   468.0
6121          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
6122          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

6123          KK  DWMD67  DIVERT
6124          KM   Divert remaining runoff hydrograph from combination point CPMD59 west to
6125          KM   combination point CMD67
6126          DT  DSIN59     0.0     0.0
6127          DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
6128          DQ     0.0    50.0   100.0   250.0   500.0  1000.0  2000.0  5000.0 10000.0 25000.0
              *

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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

6129          KK  RWMD67   ROUTE
6130          KM   Route diversion DWMD67 west to combination point CMD67
6131          RS       5     FLOW
6132          RC   0.035   0.015   0.035    5280  0.0015    0.00
6133          RX    0.00    0.00   67.00   67.00  332.00  332.00  399.00  399.00
6134          RY    3.00    1.17    0.50    0.00    0.00    0.50    1.17    3.00
              *

6135          KK  DRMD67RETRIEVE
6136          KM   Retrieve divert DRMD67 from combination point CPTM67 and divert south to
6137          KM   combination point CMD67
6138          DR  DSMD67
              *

6139          KK  RSMD67   ROUTE
6140          KM   Route diversion retrieval DRMD67 south to combination point CMD67
6141          RS       4     FLOW
6142          RC   0.035   0.015   0.035    5280  0.0035    0.00
6143          RX    0.00    0.00   48.00   48.00  251.00  251.00  299.00  299.00
6144          RY    3.00    0.98    0.50    0.00    0.00    0.50    0.98    3.00
              *

6145          KK   MD67   BASIN
6146          KM   Runoff hydrograph for square mile subbasin MD67 northeast of the intersection
6147          KM   of McDowell Road and 67th Avenue
6148          BA   0.978
6149          LG    0.22    0.15    8.40    0.07      30
6150          UC   1.336   0.893
6151          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
6152          UA     100
              *

6153          KK  ERMD67  DIVERT
6154          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
6155          KM   retention developed after 1990 in subbasin MD67
6156          DT  XMD67     12.5      0.0
6157          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
6158          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

6159          KK   CMD67 COMBINE
6160          KM   Combine route RWMD67, route RSMD67, and subbasin MD67
6161          HC       3    4.41
              *

6162          KK  PR67TMRETRIEVE
6163          KM   Retrieve full flow capacity of 273 cfs from 78-inch storm drain pipe at the
6164          KM   intersection of Thomas Road and 67th Avenue
6165          DR  DP67TM
              *

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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

6166          KK  RP67MD   ROUTE
6167          KM   Route full flow capacity of 273 cfs through 78-inch storm drain pipe in
6168          KM   67th Avenue to the intersection of McDowell Road and 67th Avenue
6169          RK    5218  0.0027   0.015            CIRC   6.500
              *

6170          KK  CPMD67 COMBINE
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6171          KM   Combine pipe return PR67TM with the runoff hydrograph at combination point
6172          KM   CMD67 at the intersection of McDowell Road and 67th Avenue
6173          HC       2
              *

6174          KK   D67MD  DIVERT
6175          KM   Divert calculated full flow capapcity of 400 cfs into 90-inch storm drain
6176          KM   pipe at the intersection of McDowell Road and 67th Avenue
6177          DT  DP67MD     0.0   400.0
6178          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
6179          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

6180          KK  DWMD75  DIVERT
6181          KM   Divert remaining runoff hydrograph from combination point CPMD67 west to
6182          KM   combination point CMD75
6183          DT  DSIN67     0.0     0.0
6184          DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
6185          DQ     0.0    15.0    30.0    75.0   150.0   300.0   600.0  1500.0  3000.0  7500.0
              *

6186          KK  RWMD75   ROUTE
6187          KM   Route diversion DWMD75 west to combination point CMD75
6188          RS       4     FLOW
6189          RC   0.035   0.015   0.035    5280  0.0015    0.00
6190          RX    0.00    0.00   95.50   95.50  453.50  453.50  549.00  549.00
6191          RY    3.00    1.46    0.50    0.00    0.00    0.50    1.46    3.00
              *

6192          KK  DRMD75RETRIEVE
6193          KM   Retrieve divert DRMD75 from combination point CPTM75 and divert south to
6194          KM   combination point CMD75
6195          DR  DSMD75
              *

6196          KK  RSMD75   ROUTE
6197          KM   Route diversion retrieval DRMD75 south to combination point CMD75
6198          RS       3     FLOW
6199          RC   0.035   0.015   0.035    5280  0.0027    0.00
6200          RX    0.00    0.00   67.00   67.00  332.00  332.00  399.00  399.00
6201          RY    3.00    1.17    0.50    0.00    0.00    0.50    1.17    3.00
              *

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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

6202          KK   MD75   BASIN
6203          KM   Runoff hydrograph for square mile subbasin MD75 northeast of the intersection
6204          KM   of McDowell Road and 75th Avenue
6205          BA   1.002
6206          LG    0.22    0.15    7.60    0.08      40
6207          UC   1.378   0.915
6208          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
6209          UA     100
              *

6210          KK  ERMD75  DIVERT
6211          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
6212          KM   retention developed after 1990 in subbasin MD75
6213          DT  XMD75     9.4      0.0
6214          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
6215          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

6216          KK   CMD75 COMBINE
6217          KM   Combine route RWMD75, route RSMD75, and subbasin MD75
6218          HC       3    6.14
              *

6219          KK  PR75TMRETRIEVE
6220          KM   Retrieve full flow capacity of 303 cfs from 84-inch storm drain pipe at the
6221          KM   intersection of Thomas Road and 75th Avenue
6222          DR  DP75TM
              *

6223          KK  RP75MD   ROUTE
6224          KM   Route full flow capacity of 303 cfs through 84-inch storm drain pipe in
6225          KM   75th Avenue to the intersection of McDowell Road and 75th Avenue
6226          RK    5222  0.0022   0.015            CIRC   7.000
              *

6227          KK  CPMD75 COMBINE
6228          KM   Combine pipe return PR75TM with the runoff hydrograph at combination point
6229          KM   CMD75 at the intersection of McDowell Road and 75th Avenue
6230          HC       2
              *

6231          KK   D75MD  DIVERT
6232          KM   Divert calculated full flow capapcity of 364 cfs into 90-inch storm drain
6233          KM   pipe at the intersection of McDowell Road and 75th Avenue
6234          DT  DP75MD     0.0   364.0
6235          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
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6236          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *
1                                        HEC-1 INPUT                                                PAGE162

LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


6237          KK  DWMD83  DIVERT
6238          KM  Divert remaining runoff hydrograph from combination point CPMD75 west to
6239          KM  combination point CMD83
6240          DT  DSIN75      0.0      0.0
6241          DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
6242          DQ     0.0    35.0    70.0   175.0   350.0   700.0  1400.0  3500.0  7000.0 17500.0
              *

6243          KK  RWMD83   ROUTE
6244          KM  Route diversion DWMD83 west to combination point CMD83
6245          RS      3    FLOW
6246          RC  0.035   0.015   0.035    5280  0.0026    0.00
6247          RX    0.00    0.00   57.50   57.50  291.50  291.50  349.00  349.00
6248          RY    3.00    1.08    0.50    0.00    0.00    0.50    1.08    3.00
              *

6249          KK  DRMD83RETRIEVE
6250          KM  Retrieve divert DRMD83 from combination point CPTM83 and divert south to
6251          KM  combination point CMD83
6252          DR  DSMD83
              *

6253          KK  RSMD83   ROUTE
6254          KM  Route diversion retrieval DRMD83 south to combination point CMD83
6255          RS      4    FLOW
6256          RC  0.035   0.015   0.035    5280  0.0028    0.00
6257          RX    0.00    0.00   29.00   29.00  170.00  170.00  199.00  199.00
6258          RY    3.00    0.79    0.50    0.00    0.00    0.50    0.79    3.00
              *

6259          KK   MD83   BASIN
6260          KM  Runoff hydrograph for square mile subbasin MD83 northeast of the intersection
6261          KM  of McDowell Road and 83rd Avenue
6262          BA  0.992
6263          LG   0.12    0.15    8.80    0.05      76
6264          UC  0.860   0.550
6265          UA      0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
6266          UA    100
              *

6267          KK  ERMD83  DIVERT
6268          KM  Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
6269          KM  retention developed after 1990 in subbasin MD83
6270          DT  XMD83    55.2     0.0
6271          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
6272          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

6273          KK  CMD83 COMBINE
6274          KM  Combine route RWMD83, route RSMD83, and subbasin MD83
6275          HC      3    5.80
              *
1                                        HEC-1 INPUT                                                PAGE163

LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


6276          KK  PR83TMRETRIEVE
6277          KM  Retrieve full flow capacity of 283 cfs from 84-inch storm drain pipe at the
6278          KM  intersection of Thomas Road and 83rd Avenue
6279          DR  DP83TM
              *

6280          KK  RP83MD   ROUTE
6281          KM  Route full flow capacity of 283 cfs through 84-inch storm drain pipe in
6282          KM  83rd Avenue to the intersection of McDowell Road and 83rd Avenue
6283          RK    5059  0.0019   0.015            CIRC   7.000
              *

6284          KK  CPMD83 COMBINE
6285          KM  Combine pipe return PR83TM with the runoff hydrograph at combination point
6286          KM  CMD83 at the intersection of McDowell Road and 83rd Avenue
6287          HC      2
              *

6288          KK   D83MD  DIVERT
6289          KM  Divert calculated full flow capapcity of 340 cfs into 90-inch storm drain
6290          KM  pipe at the intersection of McDowell Road and 83rd Avenue
6291          DT  DP83MD     0.0   340.0
6292          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
6293          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

6294          KK  RWMD91   ROUTE
6295          KM  Route remainder of diversion D83MD west to combination point CMD91
6296          RS      3    FLOW
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6297          RC  0.035   0.015   0.035    5280  0.0021    0.00
6298          RX    0.00    0.00   57.50   57.50  291.50  291.50  349.00  349.00
6299          RY    3.00    1.08    0.50    0.00    0.00    0.50    1.08    3.00
              *

6300          KK  DRMD91RETRIEVE
6301          KM  Retrieve divert DRMD91 from combination point CPTM91 and divert south to
6302          KM  combination point CMD91
6303          DR  DSMD91
              *

6304          KK  RSMD91   ROUTE
6305          KM  Route diversion retrieval DRMD91 south to combination point CMD91
6306          RS      4    FLOW
6307          RC  0.035   0.015   0.035    5280  0.0021    0.00
6308          RX    0.00    0.00   57.50   57.50  291.50  291.50  349.00  349.00
6309          RY    3.00    1.08    0.50    0.00    0.00    0.50    1.08    3.00
              *

6310          KK   MD91   BASIN
6311          KM  Runoff hydrograph for square mile subbasin MD91 northeast of the intersection
6312          KM  of McDowell Road and 91st Avenue
6313          BA  1.007
6314          LG   0.22    0.15    8.80    0.05      43
6315          UC  1.382   0.919
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


6316          UA      0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
6317          UA    100
              *

6318          KK  ERMD91  DIVERT
6319          KM  Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
6320          KM  retention developed after 1990 in subbasin MD91
6321          DT  XMD91    25.7     0.0
6322          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
6323          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

6324          KK  CMD91 COMBINE
6325          KM  Combine route RWMD91, route RSMD91, and subbasin MD91
6326          HC      3   10.61
              *

6327          KK  PR91TMRETRIEVE
6328          KM  Retrieve full flow capacity of 287 cfs from 84-inch storm drain pipe at the
6329          KM  intersection of Thomas Road and 91st Avenue
6330          DR  DP91TM
              *

6331          KK  RP91MD   ROUTE
6332          KM  Route full flow capacity of 287 cfs through 84-inch storm drain pipe in
6333          KM  91st Avenue to the intersection of McDowell Road and 91st Avenue
6334          RK    5271  0.0020   0.015            CIRC   7.000
              *

6335          KK  CPMD91 COMBINE
6336          KM  Combine pipe return PR91TM with the runoff hydrograph at combination point
6337          KM  CMD91 at the intersection of McDowell Road and 91st Avenue
6338          HC      2
              *

6339          KK   D91MD  DIVERT
6340          KM  Divert calculated full flow capapcity of 345 cfs into 90-inch storm drain
6341          KM  pipe at the intersection of McDowell Road and 83rd Avenue
6342          DT  DP91MD     0.0   345.0
6343          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
6344          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

6345          KK  DWMDLO  DIVERT
6346          KM  Divert remaining runoff hydrograph from combination point CPMD91 west to
6347          KM  combination point CMDLO
6348          DT  DSIN91      0.0      0.0
6349          DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
6350          DQ     0.0    20.0    40.0   100.0   200.0   400.0   800.0  2000.0  4000.0 10000.0
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


6351          KK  RWMDLO   ROUTE
6352          KM  Route diversion DWMDLO west to combination point CMDLO
6353          RS      2    FLOW
6354          RC  0.035   0.015   0.035    4061  0.0010    0.00
6355          RX    0.00    0.00   45.00   45.00  229.00  229.00  274.00  274.00
6356          RY    3.00    0.95    0.50    0.00    0.00    0.50    0.95    3.00
              *

6357          KK   MDLO   BASIN
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6358          KM   Runoff hydrograph for subbasin MDLO northeast of the intersection of McDowell
6359          KM   Road and SR Loop 101
6360          BA   0.671
6361          LG    0.20    0.15    9.70    0.04      48
6362          UC   0.989   0.462
6363          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
6364          UA     100
              *

6365          KK  ERMDLO  DIVERT
6366          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
6367          KM   retention developed after 1990 in subbasin MDLO
6368          DT   XMDLO     60.9      0.0
6369          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
6370          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

6371          KK   CMDLO COMBINE
6372          KM   Combine route RWMDLO, route RSMDLO, and subbasin MDLO
6373          HC       3   14.07
              *

6374          KK  RSINLO   ROUTE
6375          KM   Route hydrograph at combination point CMDLO south to combination point CINLO
6376          RS       1    FLOW
6377          RC   0.035   0.015   0.035    1374  0.0019    0.00
6378          RX    0.00    3.00    5.00   39.00   47.00   51.00   65.00   68.00
6379          RY   18.00   17.00   17.00    0.00    0.16   17.16   17.44   18.44
              *

6380          KK  DSINLO  DIVERT
6381          KM   Divert route RSINLO to detention basin northeast of L101 and I-10 Freeways.
6382          KM   Only the flow greater than the channel capacity is diverted to the basin.
6383          DT  DEIN95      0.0      0.0
6384          DI     0.0 10390.0 11211.0 12070.0 13910.0      0.0      0.0      0.0      0.0      0.0
6385          DQ     0.0      0.0    286.0    810.0   2291.0      0.0      0.0      0.0      0.0      0.0
              *

6386          KK    IN27   BASIN
6387          KM   Runoff hydrograph for subbasin IN27 northeast of the intersection of
6388          KM   Interstate 10 and 27th Avenue
6389          BA   0.105
6390          LG    0.14    0.25    5.60    0.18      80
6391          UC   0.469   0.398
6392          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
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6393          UA     100
              *

6394          KK  PR27MDRETRIEVE
6395          KM   Retrieve full flow capacity of 246 cfs from 72-inch diameter pipe at the
6396          KM   intersection of McDowell Road and 27th Avenue
6397          DR  DP27MD
              *

6398          KK  RP27IN   ROUTE
6399          KM   Route full flow capacity of 246 cfs through 72-inch storm drain pipe in
6400          KM   in 27th Avenue to the intersection of 27th Avenue and Interstate 10
6401          RK     959  0.0034   0.015             CIRC   6.000
              *

6402          KK  CPIN27 COMBINE
6403          KM   Combine pipe return PR27MD with the runoff hydrograph at combination point
6404          KM   CIN27 at the intersection of Interstate 10 and 27th Avenue
6405          HC       2
              *

6406          KK  DWIN35  DIVERT
6407          KM   Divert remaining runoff hydrograph from combination point CPIN27 west to
6408          KM   combination point CIN35
6409          DT  DSVB27      0.0      0.0
6410          DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
6411          DQ     0.0    72.0   144.0   360.0   720.0  1440.0  2880.0  7200.0 14400.0 36000.0
              *

6412          KK  RWIN35   ROUTE
6413          KM   Route diversion DWIN35 west to combination point CIN35
6414          RS       7    FLOW
6415          RC   0.035   0.015   0.035    5280  0.0005    0.00
6416          RX    0.00    0.00    9.50    9.50   40.50   40.50   50.00   50.00
6417          RY    3.00    0.60    0.50    0.00    0.00    0.50    0.60    3.00
              *

6418          KK  DRIN35RETRIEVE
6419          KM   Retrieve divert DRIN35 from combination point CPMD35 and divert south to
6420          KM   combination point CIN35
6421          DR  DSIN35
              *

6422          KK  RSIN35   ROUTE
```



```
6423          KM   Route diversion retrieval DRIN35 south to combination point CIN35
6424          RS       1    FLOW
6425          RC   0.035   0.015   0.035    1116  0.0019    0.00
6426          RX    0.00    0.00   76.50   76.50  372.50  372.50  449.00  449.00
6427          RY    3.00    1.27    0.50    0.00    0.00    0.50    1.27    3.00
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9.....10

6428          KK    IN35   BASIN
6429          KM   Runoff hydrograph for subbasin IN35 northeast of the intersection of
6430          KM   Interstate 10 and 35th Avenue
6431          BA   0.242
6432          LG    0.17    0.13   10.10    0.03      64
6433          UC   0.359   0.073
6434          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
6435          UA     100
              *

6436          KK   CIN35 COMBINE
6437          KM   Combine route RWIN35, route RSIN35, and subbasin IN35
6438          HC       3    6.11
              *

6439          KK  PR35MDRETRIEVE
6440          KM   Retrieve combined full flow capacity of 507 cfs from 93-inch equivalent
6441          KM   diameter pipe at the intersection of McDowell Road and 35th Avenue
6442          DR  DP35MD
              *

6443          KK  RP35IN   ROUTE
6444          KM   Route the combined full flow capacity of 507 cfs through an equivalent storm
6445          KM   drain pipe diameter of 93 inches in 35th Avenue to the intersection of
6446          KM   35th Avenue and Interstate 10
6447          RK     937  0.0037    0.015             CIRC   7.750
              *

6448          KK  CPIN35 COMBINE
6449          KM   Combine pipe return PR35MD with the runoff hydrograph at combination point
6450          KM   CIN35 at the intersection of Interstate 10 and 35th Avenue
6451          HC       2
              *

6452          KK  DWIN43  DIVERT
6453          KM   Divert remaining runoff hydrograph from combination point CPIN35 west to
6454          KM   combination point CIN43
6455          DT  DSVB35      0.0      0.0
6456          DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
6457          DQ     0.0    87.0   174.0   435.0   870.0  1740.0  3480.0  8700.0 17400.0 43500.0
              *

6458          KK  RWIN43   ROUTE
6459          KM   Route diversion DWIN43 west to combination point CIN43
6460          RS       3    FLOW
6461          RC   0.035   0.015   0.035    5280  0.0008    0.00
6462          RX    0.00    0.00    9.50    9.50   40.50   40.50   50.00   50.00
6463          RY    3.00    0.60    0.50    0.00    0.00    0.50    0.60    3.00
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9.....10

6464          KK  DRIN43RETRIEVE
6465          KM   Retrieve divert DRIN43 from combination point CPMD43 and divert south to
6466          KM   combination point CIN43
6467          DR  DSIN43
              *

6468          KK  RSIN43   ROUTE
6469          KM   Route diversion retrieval DRIN43 south to combination point CIN43
6470          RS       1    FLOW
6471          RC   0.035   0.015   0.035     900  0.0042    0.00
6472          RX    0.00    0.00   57.50   57.50  291.50  291.50  349.00  349.00
6473          RY    3.00    1.08    0.50    0.00    0.00    0.50    1.08    3.00
              *

6474          KK    IN43   BASIN
6475          KM   Runoff hydrograph for subbasin IN43 northeast of the intersection of
6476          KM   Interstate 10 and 43rd Avenue
6477          BA   0.256
6478          LG    0.20    0.15    9.70    0.04      49
6479          UC   0.558   0.148
6480          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
6481          UA     100
              *

6482          KK   CIN43 COMBINE
6483          KM   Combine route RWIN43, route RSIN43, and subbasin IN43
6484          HC       3    7.99
              *
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```
6485          KK  PR43MDRETRIEVE
6486          KM   Retrieve combined full flow capacity of 629 cfs from 102-inch equivalent
6487          KM   diameter pipe at the intersection of McDowell Road and 43rd Avenue
6488          DR  DP43MD
              *

6489          KK  RP43IN   ROUTE
6490          KM   Route the combined full flow capacity of 629 cfs through an equivalent storm
6491          KM   drain pipe diameter of 102 inches in 43rd Avenue to the intersection of
6492          KM   35th Avenue and Interstate 10
6493          RK    1217  0.0035   0.015            CIRC   8.500
              *

6494          KK  CPIN43 COMBINE
6495          KM   Combine pipe return PR43MD with the runoff hydrograph at combination point
6496          KM   CIN43 at the intersection of Interstate 10 and 43rd Avenue
6497          HC       2
              *

6498          KK  DWIN51  DIVERT
6499          KM   Divert remaining runoff hydrograph from combination point CPIN43 west to
6500          KM   combination point CIN51
6501          DT  DSVB43      0.0      0.0
6502          DI      0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0 10000.0 20000.0 50000.0
6503          DQ      0.0     81.0    162.0    405.0    810.0   1620.0   3240.0  8100.0 16200.0 40500.0
              *

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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


6504          KK  RWIN51   ROUTE
6505          KM   Route diversion DWIN51 west to combination point CIN51
6506          RS       2    FLOW
6507          RC   0.035   0.015   0.035    5290  0.0027    0.00
6508          RX    0.00    0.10   18.00   36.00   66.00   84.00  102.00  102.10
6509          RY   18.00   17.05    9.00    0.00    0.00    9.00   17.05   18.00
              *

6510          KK  DRIN51RETRIEVE
6511          KM   Retrieve divert DRIN51 from combination point CPMD51 and divert south to
6512          KM   combination point CIN51
6513          DR  DSIN51
              *

6514          KK  RSIN51   ROUTE
6515          KM   Route diversion retrieval DRIN51 south to combination point CIN51
6516          RS       3    FLOW
6517          RC   0.035   0.015   0.035    1143  0.0007    0.00
6518          RX    0.00    0.00   54.50   54.50  269.50  269.50  324.00  324.00
6519          RY    3.00    1.04    0.50    0.00    0.00    0.50    1.04    3.00
              *

6520          KK    IN51   BASIN
6521          KM   Runoff hydrograph for subbasin IN51 northeast of the intersection of
6522          KM   Interstate 10 and 51st Avenue
6523          BA   0.232
6524          LG    0.12    0.15    9.70    0.04      80
6525          UC   0.595   0.561
6526          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
6527          UA     100
              *

6528          KK  ERIN51  DIVERT
6529          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
6530          KM   retention developed after 1990 and NOAA14 rainfall for future retention in
6531          KM   subbasin IN51
6532          DT   XIN51     1.5      0.0
6533          DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
6534          DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

6535          KK   CIN51 COMBINE
6536          KM   Combine route RWIN51, route RSIN51, and subbasin IN51
6537          HC       3    2.68
              *

6538          KK  PR51MDRETRIEVE
6539          KM   Retrieve full flow capacity of 368 cfs from 84-inch storm drain pipe at the
6540          KM   intersection of McDowell Road and 51st Avenue
6541          DR  DP51MD
              *

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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


6542          KK  RP51IN   ROUTE
6543          KM   Route full flow capacity of 368 cfs through 84-inch storm drain pipe in
6544          KM   51st Avenue to the intersection of Interstate 10 and 51st Avenue
6545          RK     731  0.0033   0.015            CIRC   7.000
              *
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6546          KK  CPIN51 COMBINE
6547          KM   Combine pipe return PR51MD with the runoff hydrograph at combination point
6548          KM   CIN51 at the intersection of Interstate 10 and 51st Avenue
6549          HC       2
              *

6550          KK  DWIN59  DIVERT
6551          KM   Divert remaining runoff hydrograph from combination point CPIN51 west to
6552          KM   combination point CIN59
6553          DT  DSVB51      0.0      0.0
6554          DI      0.0 26494.0 26494.1 50000.0      0.0      0.0      0.0      0.0      0.0      0.0
6555          DQ      0.0      0.0 26494.1 50000.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

6556          KK  RWIN59   ROUTE
6557          KM   Route diversion DWIN59 west to combination point CIN59
6558          RS       1    FLOW
6559          RC   0.035   0.015   0.035    5297  0.0017    0.00
6560          RX    0.00    0.10   18.00   36.00   66.00   84.00  102.00  102.10
6561          RY   18.00   17.05    9.00    0.00    0.00    9.00   17.05   18.00
              *

6562          KK  DRIN59RETRIEVE
6563          KM   Retrieve divert DRIN59 from combination point CPMD59 and divert south to
6564          KM   combination point CIN59
6565          DR  DSIN59
              *

6566          KK  RSIN59   ROUTE
6567          KM   Route diversion retrieval DRIN59 south to combination point CIN59
6568          RS       1    FLOW
6569          RC   0.035   0.015   0.035     730  0.0047    0.00
6570          RX    0.00    0.00   35.50   35.50  188.50  188.50  224.00  224.00
6571          RY    3.00    0.86    0.50    0.00    0.00    0.50    0.86    3.00
              *

6572          KK    IN59   BASIN
6573          KM   Runoff hydrograph for subbasin IN59 northeast of the intersection of
6574          KM   Interstate 10 and 59th Avenue
6575          BA   0.202
6576          LG    0.19    0.15    9.70    0.04      59
6577          UC   1.129   1.170
6578          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
6579          UA     100
              *

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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


6580          KK  ERIN59  DIVERT
6581          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
6582          KM   retention developed after 1990 and NOAA14 rainfall for future retention in
6583          KM   subbasin IN59
6584          DT   XIN59     1.9      0.0
6585          DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
6586          DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

6587          KK   CIN59 COMBINE
6588          KM   Combine route RWIN59, route RSIN59, and subbasin IN59
6589          HC       3    4.90
              *

6590          KK  PR59MDRETRIEVE
6591          KM   Retrieve full flow capacity of 468 cfs from 90-inch storm drain pipe at the
6592          KM   intersection of McDowell Road and 59th Avenue
6593          DR  DP59MD
              *

6594          KK  RP59IN   ROUTE
6595          KM   Route full flow capacity of 468 cfs through 90-inch storm drain pipe in
6596          KM   59th Avenue to the intersection of Interstate 10 and 59th Avenue
6597          RK     846  0.0037   0.015            CIRC   7.500
              *

6598          KK  CPIN59 COMBINE
6599          KM   Combine pipe return PR59MD with the runoff hydrograph at combination point
6600          KM   CIN59 at the intersection of Interstate 10 and 59th Avenue
6601          HC       2
              *

6602          KK  DWIN67  DIVERT
6603          KM   Divert remaining runoff hydrograph from combination point CPIN59 west to
6604          KM   combination point CIN67
6605          DT  DSVB59      0.0      0.0
6606          DI      0.0 21022.0 21022.1 50000.0      0.0      0.0      0.0      0.0      0.0      0.0
6607          DQ      0.0      0.0 21022.1 50000.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

6608          KK  RWIN67   ROUTE
6609          KM   Route diversion DWIN67 west to combination point CIN67
```

```
6610          RS       1    FLOW
6611          RC   0.035   0.015   0.035    5145  0.0012    0.00
6612          RX    0.00    0.10   18.00   36.00   66.00   84.00  102.00  102.10
6613          RY   18.00   17.05    9.00    0.00    0.00    9.00   17.05   18.00
              *

6614          KK  DRIN67RETRIEVE
6615          KM   Retrieve divert DRIN67 from combination point CPMD67 and divert south to
6616          KM   combination point CIN67
6617          DR  DSIN67
              *
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LINE          ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

6618          KK  RSIN67   ROUTE
6619          KM   Route diversion retrieval DRIN67 south to combination point CIN67
6620          RS       1    FLOW
6621          RC   0.035   0.015   0.035     741  0.0027    0.00
6622          RX    0.00    0.00   12.50   12.50   62.50   62.50   75.00   75.00
6623          RY    3.00    0.62    0.50    0.00    0.00    0.50    0.62    3.00
              *

6624          KK   IN67   BASIN
6625          KM   Runoff hydrograph for subbasin IN67 northeast of the intersection of
6626          KM   Interstate 10 and 67th Avenue
6627          BA   0.197
6628          LG    0.20    0.15    9.70    0.04      56
6629          UC   1.309   1.379
6630          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
6631          UA     100
              *

6632          KK  ERIN67  DIVERT
6633          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
6634          KM   retention developed after 1990 in subbasin IN67
6635          DT  XIN67     10.0      0.0
6636          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
6637          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

6638          KK   CIN67 COMBINE
6639          KM   Combine route RWIN67, route RSIN67, and subbasin IN67
6640          HC       3    5.78
              *

6641          KK  PR67MDRETRIEVE
6642          KM   Retrieve full flow capacity of 400 cfs from 90-inch storm drain pipe at the
6643          KM   intersection of McDowell Road and 67th Avenue
6644          DR  DP67MD
              *

6645          KK  RP67IN   ROUTE
6646          KM   Route full flow capacity of 400 cfs through 90-inch storm drain pipe in
6647          KM   67th Avenue to the intersection of Interstate 10 and 67th Avenue
6648          RK     824  0.0027    0.015             CIRC    7.500
              *

6649          KK  CPIN67 COMBINE
6650          KM   Combine pipe return PR67MD with the runoff hydrograph at combination point
6651          KM   CIN67 at the intersection of Interstate 10 and 67th Avenue
6652          HC       2
              *
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LINE          ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

6653          KK  DWIN75  DIVERT
6654          KM   Divert remaining runoff hydrograph from combination point CPIN67 west to
6655          KM   combination point CIN75
6656          DT  DSVB67      0.0      0.0
6657          DI     0.0 17662.0 17662.1 50000.0      0.0      0.0      0.0      0.0      0.0      0.0
6658          DQ     0.0      0.0 17662.1 50000.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

6659          KK  RWIN75   ROUTE
6660          KM   Route diversion DWIN75 west to combination point CIN75
6661          RS       1    FLOW
6662          RC   0.035   0.015   0.035    5237  0.0020    0.00
6663          RX    0.00    0.10   18.00   36.00   66.00   84.00  102.00  102.10
6664          RY   18.00   17.05    9.00    0.00    0.00    9.00   17.05   18.00
              *

6665          KK  DRIN75RETRIEVE
6666          KM   Retrieve divert DRIN75 from combination point CPMD75 and divert south to
6667          KM   combination point CIN75
6668          DR  DSIN75
              *

6669          KK  RSIN75   ROUTE
6670          KM   Route diversion retrieval DRIN75 south to combination point CIN75
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6671          RS       1    FLOW
6672          RC   0.035   0.015   0.035     731  0.0022    0.00
6673          RX    0.00    0.00   29.00   29.00  170.00  170.00  199.00  199.00
6674          RY    3.00    0.79    0.50    0.00    0.00    0.50    0.79    3.00
              *

6675          KK   IN75   BASIN
6676          KM   Runoff hydrograph for subbasin IN75 northeast of the intersection of
6677          KM   Interstate 10 and 75th Avenue
6678          BA   0.199
6679          LG    0.17    0.19    6.60    0.12      64
6680          UC   1.086   1.122
6681          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
6682          UA     100
              *

6683          KK  ERIN75  DIVERT
6684          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
6685          KM   retention developed after 1990 in subbasin IN75
6686          DT  XIN75     4.7      0.0
6687          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
6688          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

6689          KK   CIN75 COMBINE
6690          KM   Combine route RWIN75, route RSIN75, and subbasin IN75
6691          HC       3    8.11
              *
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LINE          ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

6692          KK  PR75MDRETRIEVE
6693          KM   Retrieve full flow capacity of 364 cfs from 90-inch storm drain pipe at the
6694          KM   intersection of McDowell Road and 75th Avenue
6695          DR  DP75MD
              *

6696          KK  RP75IN   ROUTE
6697          KM   Route full flow capacity of 364 cfs through 90-inch storm drain pipe in
6698          KM   75th Avenue to the intersection of Interstate 10 and 75th Avenue
6699          RK     811  0.0022    0.015             CIRC    7.500
              *

6700          KK  CPIN75 COMBINE
6701          KM   Combine pipe return PR75MD with the runoff hydrograph at combination point
6702          KM   CIN75 at the intersection of Interstate 10 and 75th Avenue
6703          HC       2
              *

6704          KK  DWIN83  DIVERT
6705          KM   Divert remaining runoff hydrograph from combination point CPIN75 west to
6706          KM   combination point CIN83
6707          DT  DSVB75      0.0      0.0
6708          DI     0.0 22802.0 22802.1 50000.0      0.0      0.0      0.0      0.0      0.0      0.0
6709          DQ     0.0      0.0 22802.1 50000.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

6710          KK  RWIN83   ROUTE
6711          KM   Route diversion DWIN83 west to combination point CIN83
6712          RS       1    FLOW
6713          RC   0.035   0.015   0.035    5396  0.0016    0.00
6714          RX    0.00    0.10   18.00   36.00   66.00   84.00  102.00  102.10
6715          RY   18.00   17.05    9.00    0.00    0.00    9.00   17.05   18.00
              *

6716          KK   IN83   BASIN
6717          KM   Runoff hydrograph for subbasin IN83 northeast of the intersection of
6718          KM   Interstate 10 and 83rd Avenue
6719          BA   0.196
6720          LG    0.18    0.15    7.00    0.10      64
6721          UC   1.032   1.092
6722          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
6723          UA     100
              *

6724          KK  ERIN83  DIVERT
6725          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
6726          KM   retention developed after 1990 in subbasin IN83
6727          DT  XIN83     12.2      0.0
6728          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
6729          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *
1                                        HEC-1 INPUT                                        PAGE175

LINE          ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

6730          KK   CIN83 COMBINE
6731          KM   Combine route RWIN83, route RSIN83, and subbasin IN83
6732          HC       2    8.31
              *
```

```
6733          KK  PR83MDRETRIEVE
6734          KM   Retrieve full flow capacity of 340 cfs from 90-inch storm drain pipe at the
6735          KM   intersection of McDowell Road and 83rd Avenue
6736          DR  DP83MD
              *
6737          KK  RP83IN   ROUTE
6738          KM   Route full flow capacity of 340 cfs through 90-inch storm drain pipe in
6739          KM   83rd Avenue to the intersection of Interstate 10 and 83rd Avenue
6740          RK     824  0.0019   0.015            CIRC   7.500
              *
6741          KK  CPIN83 COMBINE
6742          KM   Combine pipe return PR83MD with the runoff hydrograph at combination point
6743          KM   CIN83 at the intersection of Interstate 10 and 83rd Avenue
6744          HC       2
              *
6745          KK  DWIN91  DIVERT
6746          KM   Divert remaining runoff hydrograph from combination point CPIN83 west to
6747          KM   combination point CIN91
6748          DT  DSVB83      0.0      0.0
6749          DI      0.0 20395.0 20395.1 50000.0      0.0      0.0      0.0      0.0      0.0      0.0
6750          DQ      0.0      0.0 20395.1 50000.0      0.0      0.0      0.0      0.0      0.0      0.0
              *
6751          KK  RWIN91   ROUTE
6752          KM   Route diversion DWIN91 west to combination point CIN91
6753          RS       1    FLOW
6754          RC   0.035    0.015    0.035     5217  0.0016     0.00
6755          RX    0.00     0.10    18.00    36.00    66.00    84.00   102.00   102.10
6756          RY   18.00    17.05     9.00     0.00     0.00     9.00    17.05    18.00
              *
6757          KK  DRIN91RETRIEVE
6758          KM   Retrieve divert DRIN91 from combination point CPMD91 and divert south to
6759          KM   combination point CIN91
6760          DR  DSIN91
              *
6761          KK  RSIN91   ROUTE
6762          KM   Route diversion retrieval DRIN91 south to combination point CIN91
6763          RS       1    FLOW
6764          RC   0.035    0.015    0.035      535  0.0019     0.00
6765          RX    0.00     0.00     9.50     9.50    40.50    40.50    50.00    50.00
6766          RY    3.00     0.60     0.50     0.00     0.00     0.50     0.60     3.00
              *
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LINE          ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

6767          KK    IN91   BASIN
6768          KM   Runoff hydrograph for subbasin IN91 northeast of the intersection of
6769          KM   Interstate 10 and 91st Avenue
6770          BA   0.185
6771          LG    0.11     0.15     9.70     0.04       78
6772          UC   0.520    0.517
6773          UA       0      5.0     16.0     30.0     65.0     77.0     84.0     90.0     94.0     97.0
6774          UA     100
              *
6775          KK  ERIN91  DIVERT
6776          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
6777          KM   retention developed after 1990 and NOAA14 rainfall for future retention in
6778          KM   subbasin IN91
6779          DT  XIN91       3.2      0.0
6780          DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
6781          DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *
6782          KK   CIN91 COMBINE
6783          KM   Combine route RWIN91, route RSIN91, and subbasin IN91
6784          HC       3   10.57
              *
6785          KK  PR91MDRETRIEVE
6786          KM   Retrieve full flow capacity of 345 cfs from 90-inch storm drain pipe at the
6787          KM   intersection of McDowell Road and 91st Avenue
6788          DR  DP91MD
              *
6789          KK  RP91IN   ROUTE
6790          KM   Route full flow capacity of 345 cfs through 90-inch storm drain pipe in
6791          KM   91st Avenue to the intersection of Interstate 10 and 91st Avenue
6792          RK     729  0.0020   0.015            CIRC   7.500
              *
6793          KK  CPIN91 COMBINE
6794          KM   Combine pipe return PR91MD with the runoff hydrograph at combination point
6795          KM   CIN91 at the intersection of Interstate 10 and 91st Avenue
6796          HC       2
```



```
              *
6797          KK  DWINLO  DIVERT
6798          KM   Divert remaining runoff hydrograph from combination point CPIN91 west to
6799          KM   combination point CINLO
6800          DT  DSVB91      0.0      0.0
6801          DI      0.0 11110.0 11110.1 50000.0      0.0      0.0      0.0      0.0      0.0      0.0
6802          DQ      0.0      0.0 11110.1 50000.0      0.0      0.0      0.0      0.0      0.0      0.0
              *
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LINE          ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

6803          KK  RWINLO   ROUTE
6804          KM   Route diversion DWINLO west to combination point CINLO
6805          RS       1    FLOW
6806          RC   0.035    0.015    0.035     4153  0.0008     0.00
6807          RX    0.00     0.10    18.00    36.00    66.00    84.00   102.00   102.10
6808          RY   18.00    17.05     9.00     0.00     0.00     9.00    17.05    18.00
              *
6809          KK  DWIN07  DIVERT
6810          KM   Divert route RWINLO to detention basin northeast of L101 and I-10 Freeways.
6811          KM   Only the flow greater than the channel capacity is diverted to the basin.
6812          DT  DNINLO      0.0      0.0
6813          DI      0.0  9505.0 10216.0 10958.0 12536.0      0.0      0.0      0.0      0.0      0.0
6814          DQ      0.0      0.0   620.0  1755.0  4964.0      0.0      0.0      0.0      0.0      0.0
              *
6815          KK    INLO   BASIN
6816          KM   Runoff hydrograph for subbasin INLO northeast of the intersection of
6817          KM   Interstate 10 and SR Loop 101
6818          BA   0.147
6819          LG    0.10     0.15     9.70     0.04       78
6820          UC   0.451    0.415
6821          UA       0      5.0     16.0     30.0     65.0     77.0     84.0     90.0     94.0     97.0
6822          UA     100
              *
6823          KK  ERINLO  DIVERT
6824          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
6825          KM   retention developed after 1990 in subbasin INLO
6826          DT  XINLO       6.8      0.0
6827          DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
6828          DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *
6829          KK  DRINLORETRIEVE
6830          KM   Retrieve divert DRINLO from route RWINLO and route north to combination point
6831          KM   CIN95 to route thru the detention basin northeast of L101 and I-10 Freeways
6832          DR  DNINLO
              *
6833          KK  DRIN95RETRIEVE
6834          KM   Retrieve divert DRIN95 from route RSINLO and route east to combination point
6835          KM   CIN95 to route thru the detention basin northeast of L101 and I-10 Freeways
6836          DR  DEIN95
              *
6837          KK   CIN95 COMBINE
6838          KM   Combine retrieve DRINLO, retreive DRIN95, and subbasin INLO
6839          HC       3   24.79
              *
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LINE          ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

6840          KK  SRINLO STORAGE
6841          KM   Storage route runoff hydrograph from combination CIN95 through detention
6842          KM     basin northeast of L101 and I-10 freeways
6843          KM   Stage-storage-discharge data from Agua Fria Freeway (101L) RAM-600-0-526
6844          KM     As-built Records, ADOT, October 2001
6845          RS       1    STOR
6846          SV           15.50  206.50  210.50  220.50  251.20  293.90
6847          SQ           33.00  159.00  367.00 1534.00 8123.0022263.00
6848          SE  1002.3 1004.50 1015.80 1016.00 1016.50 1018.00 1020.00
              *
6849          KK   CINLO COMBINE
6850          KM   Combine route RSINLO, route RWINLO, and storage route SRINLO
6851          HC       3   24.79
              *
6852          KK  DWIN07  DIVERT
6853          KM   Divert remaining runoff hydrograph from combination point CINLO west to
6854          KM   combination point CIN07
6855          DT  DNINLO      0.0      0.0
6856          DI      0.0  9505.0 10216.0 10958.0 12536.0      0.0      0.0      0.0      0.0      0.0
6857          DQ      0.0      0.0   620.0  1755.0  4964.0      0.0      0.0      0.0      0.0      0.0
              *
```

```
6858          KK  RWIN07    ROUTE
6859          KM   Route diversion DWIN07 west to combination point CIN07
6860          RS      1     FLOW
6861          RC   0.035   0.015   0.035    6475  0.0017     0.00
6862          RX    0.00    0.10   18.00   36.00   66.00   84.00  102.00  102.10
6863          RY   18.00   17.05    9.00    0.00    0.00    9.00   17.05   18.00
              *

6864          KK  DITM07RETRIEVE
6865          KM   Retrieve divert DITM07 from combination point CRI07 and divert south to
6866          KM   combination point CTM07
6867          DR   DTM07
              *

6868          KK  SRRI03 STORAGE
6869          KM   Storage route runoff hydrograph from divert retrieval DITM07 through ponding
6870          KM     area at the Roosevelt Irrigation District Canal near the intersection of
6871          KM     canal and 103rd Avenue.
6872          KM   Stage-storage-discharge data from Maryvale ADMS, February 1997
6873          RS      1     STOR
6874          SV           16.40   50.70   71.40   77.20  109.70
6875          SQ            0.10    0.20    0.30   96.00 1160.00
6876          SE  1019.0 1020.00 1021.00 1021.40 1021.50 1022.00
              *

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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

6877          KK  RWTM07    ROUTE
6878          KM   Route diversion retrieval DRRIAF west to combination point CTM07
6879          RS      7     FLOW
6880          RC   0.035   0.015   0.035    2719  0.0029     0.00
6881          RX    0.00    0.00   16.50   16.50  107.50  107.50  124.00  124.00
6882          RY    3.00    0.66    0.50    0.00    0.00    0.50    0.66    3.00
              *

6883          KK  DRTM07RETRIEVE
6884          KM   Retrieve divert DRTM07 from combination point CRI07 and divert south to
6885          KM   combination point CTM07
6886          DR  DSTM07
              *

6887          KK  RSTM07    ROUTE
6888          KM   Route diversion retrieval DRTM07 south to combination point CTM07
6889          RS      2     FLOW
6890          RC   0.035   0.015   0.035    2640  0.0019     0.00
6891          RX    0.00    0.00   16.50   16.50  107.50  107.50  124.00  124.00
6892          RY    3.00    0.66    0.50    0.00    0.00    0.50    0.66    3.00
              *

6893          KK    TM07    BASIN
6894          KM   Runoff hydrograph for subbasin TM07 northeast of the intersection of Thomas
6895          KM   Road and 107th Avenue
6896          BA   0.265
6897          LG    0.29    0.15    9.70    0.05      15
6898          UC   1.411   1.128
6899          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
6900          UA     100
              *

6901          KK   CTM07 COMBINE
6902          KM   Combine route RWTM07, route RSTM07, and subbasin TM07
6903          HC       3    1.61
              *

6904          KK  DSMD07   DIVERT
6905          DT  DWTMAF      0.0      0.0
6906          DI      0.0   100.0    200.0    500.0   1000.0   2000.0   4000.0  10000.0  20000.0  50000.0
6907          DQ      0.0    65.0    130.0    325.0    650.0   1300.0   2600.0   6500.0  13000.0  32500.0
              *

6908          KK  RSMD07    ROUTE
6909          KM   Route diversion DSMD07 south to combination point CMD07
6910          RS      9     FLOW
6911          RC   0.035   0.015   0.035    5280  0.0006     0.00
6912          RX    0.00    0.00   26.00   26.00  148.00  148.00  174.00  174.00
6913          RY    3.00    0.76    0.50    0.00    0.00    0.50    0.76    3.00
              *

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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

6914          KK  DRMD99RETRIEVE
6915          KM   Retrieve divert DRMD99 from combination point CTM99 and divert south to
6916          KM   combination point CMD99
6917          DR  DSMD99
              *

6918          KK  RSMD99    ROUTE
6919          KM   Route diversion retrieval DRMD99 south to combination point CMD99
6920          RS      6     FLOW
```



```
6921          RC   0.035   0.015   0.035    5508  0.0010     0.00
6922          RX    0.00    0.00   16.50   16.50  107.50  107.50  124.00  124.00
6923          RY    3.00    0.66    0.50    0.00    0.00    0.50    0.66    3.00
              *

6924          KK    MD99    BASIN
6925          KM   Runoff hydrograph for subbasin MD99 northeast of the intersection of McDowell
6926          KM   Road and 99th Avenue
6927          BA   0.319
6928          LG    0.10    0.15    9.70    0.04      80
6929          UC   0.837   0.797
6930          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
6931          UA     100
              *

6932          KK   CMD99 COMBINE
6933          KM   Combine route RSMD99 and subbasin MD99
6934          HC       2    0.60
              *

6935          KK  DWTMRI   DIVERT
6936          KM   Divert portion of runoff hydrograph from combination point CMD99 west to the
6937          KM   intersection of Thomas Road and the Roosevelt Irrigation Distric canal and
6938          KM   the remaining flow west to the intersection of McDowell Road and 107th
6939          KM   Avenue. The diversion is based on topography
6940          DT   DMD99      0.0      0.0
6941          DI      0.0   100.0    200.0    500.0   1000.0   2000.0   4000.0  10000.0  20000.0  50000.0
6942          DQ      0.0    56.0    112.0    280.0    560.0   1120.0   2240.0   5600.0  11200.0  28000.0
              *

6943          KK  RWTMRI    ROUTE
6944          KM   Route diversion DWTMRI west to combination point CTMRI
6945          RS      1     FLOW
6946          RC   0.035   0.015   0.035    2601  0.0023     0.00
6947          RX    0.00    0.00    9.50    9.50   40.50   40.50   50.00   50.00
6948          RY    3.00    0.60    0.50    0.00    0.00    0.50    0.60    3.00
              *

6949          KK    TMRI    BASIN
6950          KM   Runoff hydrograph for subbasin TMRI southeast of the intersection of Thomas
6951          KM   Road and the Roosevelt Irrigation District canal
6952          BA   0.240
6953          LG    0.10    0.15    9.70    0.05      40
6954          UC   0.395   0.168
6955          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0

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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

6956          UA     100
              *

6957          KK  ERTMRI   DIVERT
6958          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
6959          KM   retention developed after 1990 and NOAA14 rainfall for future retention in
6960          KM   subbasin TMRI
6961          DT   XTMRI     11.3      0.0
6962          DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
6963          DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

6964          KK   CTMRI COMBINE
6965          KM   Combine route RWTMRI and subbasin TMRI
6966          HC       2    0.51
              *

6967          KK  SRTMRI STORAGE
6968          KM   Storage route runoff hydrograph from combination point CTMRI through ponding
6969          KM     area at the Roosevelt Irrigation District canal near the intersection of th
6970          KM     canal and Thomas Road.
6971          KM   Stage-storage-discharge data from Maryvale ADMS, February 1997
6972          RS      1     STOR
6973          SV           15.73   25.07   35.38   85.58
6974          SQ            0.10 1069.00 3077.0011170.00
6975          SE  1020.0 1021.00 1021.50 1022.00 1023.00
              *

6976          KK   RMD07    ROUTE
6977          KM   Route runoff hydrograph from combination point CTMRI south to combination
6978          KM   point CMD07
6979          RS      7     FLOW
6980          RC   0.035   0.015   0.035    6743  0.0013     0.00
6981          RX    0.00    0.00   12.50   12.50   62.50   62.50   75.00   75.00
6982          RY    3.00    0.62    0.50    0.00    0.00    0.50    0.62    3.00
              *

6983          KK  DIMD99RETRIEVE
6984          KM   Retrieve subbasin flow diverted at the intersection of McDowell Road and 99th
6985          KM   Avenue
6986          DR   DMD99
              *

6987          KK  DWMD07   DIVERT
```

```
6988          KM   Divert remaining runoff hydrograph from combination point CTMRI west to
6989          KM   combination point CMD07
6990          DT  DSIN99      0.0      0.0
6991          DI      0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0 10000.0 20000.0 50000.0
6992          DQ      0.0     50.0    100.0    250.0    500.0   1000.0   2000.0  5000.0 10000.0 25000.0
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


6993          KK  SRMD99 STORAGE
6994          KM   Storage route runoff hydrograph from divert DWMD07 through ponding area at
6995          KM     the Roosevelt Irrigation District canal near the intersection of the canal
6996          KM     and McDowell Road.
6997          KM   Stage-storage-discharge data from Maryvale ADMS, Feb 1997
6998          RS       1     STOR
6999          SV           11.90    27.50    38.50    54.00    98.80
7000          SQ                          1604.00 7290.0028409.00
7001          SE  1022.0 1023.00 1024.00 1024.50 1025.00 1026.00
              *


7002          KK  RWMD07    ROUTE
7003          KM   Route diversion retrieval DRMD07 west to combination point CMD07
7004          RS       1     FLOW
7005          RC   0.035    0.015    0.035     5792  0.0019     0.00
7006          RX    0.00     0.00    16.50    16.50  107.50   107.50   124.00   124.00
7007          RY    3.00     0.66     0.50     0.00    0.00     0.50     0.66     3.00
              *


7008          KK    MD07    BASIN
7009          KM   Runoff hydrograph for subbasin MD07 northeast of the intersection of McDowell
7010          KM   Road and 107th Avenue
7011          BA   0.783
7012          LG    0.22     0.15     8.80     0.05       41
7013          UC   1.433    0.900
7014          UA        0      5.0     16.0     30.0     65.0     77.0     84.0     90.0     94.0     97.0
7015          UA      100
              *


7016          KK  ERMD07   DIVERT
7017          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
7018          KM   retention developed after 1990 in subbasin MD07
7019          DT   XMD07     53.7      0.0
7020          DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
7021          DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *


7022          KK   CMD07 COMBINE
7023          KM   Combine route RWMD07, route RSMD07, route RMD07 and subbasin MD07
7024          HC        4     2.50
              *


7025          KK  DSIN07   DIVERT
7026          KM   Divert runoff hydrograph from combination point CMD07 sout to combination
7027          KM   point CIN07
7028          DT  DWMDAV      0.0      0.0
7029          DI      0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0 10000.0 20000.0 50000.0
7030          DQ      0.0     75.0    150.0    375.0    750.0   1500.0   3000.0  7500.0 15000.0 37500.0
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


7031          KK  RSIN07    ROUTE
7032          KM   Route diversion DSIN07 south to combination point CIN07
7033          RS       2     FLOW
7034          RC   0.035    0.015    0.035      844  0.0008     0.00
7035          RX    0.00     0.00    16.50    16.50  107.50   107.50   124.00   124.00
7036          RY    3.00     0.66     0.50     0.00    0.00     0.50     0.66     3.00
              *


7037          KK  DRIN99RETRIEVE
7038          KM   Retrieve divert DRIN99 from combination point CTMRI and divert south to
7039          KM   combination point CIN07
7040          DR  DSIN99
              *


7041          KK  RSIN99    ROUTE
7042          KM   Route divert retrieveal DRIN99 south to combination point CIN07
7043          RS       5     FLOW
7044          RC   0.035    0.015    0.035     6080  0.0019     0.00
7045          RX    0.00     0.00    16.50    16.50  107.50   107.50   124.00   124.00
7046          RY    3.00     0.66     0.50     0.00    0.00     0.50     0.66     3.00
              *


7047          KK    IN07    BASIN
7048          KM   Runoff hydrograph for subbasin IN07 northeast of the intersection of
7049          KM   Interstate 10 and 107th Avenue
7050          BA   0.256
7051          LG    0.10     0.15     8.40     0.06       83
7052          UC   0.558    0.510
```



```
7053          UA        0      5.0     16.0     30.0     65.0     77.0     84.0     90.0     94.0     97.0
7054          UA      100
              *


7055          KK  ERIN07   DIVERT
7056          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
7057          KM   retention developed after 1990 in subbasin IN07
7058          DT   XIN07     17.6      0.0
7059          DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
7060          DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *


7061          KK   CIN07 COMBINE
7062          KM   Combine route RWIN07, route RSIN99, route RSIN07, and subbasin IN07
7063          HC        4    27.09
              *


7064          KK  DWINAV   DIVERT
7065          KM   Divert remaining runoff hydrograph from combination point CIN07 west to
7066          KM   combination point CINAV
7067          DT  DSVB07      0.0      0.0
7068          DI      0.0 21022.0 21022.1 50000.0      0.0      0.0      0.0      0.0      0.0      0.0
7069          DQ      0.0      0.0 21022.1 50000.0      0.0      0.0      0.0      0.0      0.0      0.0
              *
1                                        HEC-1 INPUT                                                    PAGE184

LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


7070          KK  RWINAV    ROUTE
7071          KM   Route diversion DWINAV west to combination point CINAV
7072          RS       1     FLOW
7073          RC   0.035    0.015    0.035     5174  0.0019     0.00
7074          RX    0.00     0.10    18.00    36.00   66.00    84.00   102.00   102.10
7075          RY   18.00    17.05     9.00     0.00    0.00     9.00    17.05    18.00
              *


7076          KK  DRTMAFRETRIEVE
7077          KM   Retrieve divert DRTMAF from combination point CTM07 and divert south to
7078          KM   combination point CTMAF
7079          DR  DWTMAF
              *


7080          KK  RWTMAF    ROUTE
7081          KM   Route diversion retrieval DRTMAF west to combination point CTMAF
7082          RS       7     FLOW
7083          RC   0.035    0.015    0.035     8219  0.0020     0.00
7084          RX    0.00     0.00    26.00    26.00  148.00   148.00   174.00   174.00
7085          RY    3.00     0.76     0.50     0.00    0.00     0.50     0.76     3.00
              *


7086          KK    TMAF    BASIN
7087          KM   Runoff hydrograph for subbasin TMAF north of Thomas Road and east of the Agua
7088          KM   Fria River
7089          BA   0.762
7090          LG    0.22     0.16     6.80     0.11       38
7091          UC   1.500    1.208
7092          UA        0      5.0     16.0     30.0     65.0     77.0     84.0     90.0     94.0     97.0
7093          UA      100
              *


7094          KK   CTMAF COMBINE
7095          KM   Combine route RWTMAF and subbasin TMAF
7096          HC        2    1.33
              *


7097          KK  DSMDAV   DIVERT
7098          KM   Divert portion of runoff hydrograph from combination point CTMAF south to the
7099          KM   intersection of McDowell Road and Avondale Boulevard and the remaining flow
7100          KM   west to the Agua Fria River. The diversion is based on topography
7101          DT  DWAF02      0.0      0.0
7102          DI      0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0 10000.0 20000.0 50000.0
7103          DQ      0.0     89.0    178.0    445.0    890.0   1780.0   3560.0  8900.0 17800.0 44500.0
              *


7104          KK  RSMDAV    ROUTE
7105          KM   Route diversion DSMDAV south to combination point CMDAV
7106          RS       7     FLOW
7107          RC   0.035    0.015    0.035     5280  0.0017     0.00
7108          RX    0.00     0.00    38.50    38.50  210.50   210.50   249.00   249.00
7109          RY    3.00     0.88     0.50     0.00    0.00     0.50     0.88     3.00
              *
1                                        HEC-1 INPUT                                                    PAGE185

LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


7110          KK  DRMDAVRETRIEVE
7111          KM   Retrieve divert DRMDAV from combination point CMD07 and divert south to
7112          KM   combination point CMDAV
7113          DR  DWMDAV
              *
```

```
7114          KK  RWMDAV    ROUTE
7115          KM   Route diversion retrieval DRMDAV west to combination point CMDAV
7116          RS       5     FLOW
7117          RC   0.035   0.015   0.035    5280  0.0023    0.00
7118          RX    0.00    0.00   35.50   35.50  188.50  188.50  224.00  224.00
7119          RY    3.00    0.86    0.50    0.00    0.00    0.50    0.86    3.00
              *

7120          KK    MDAV    BASIN
7121          KM   Runoff hydrograph for square mile subbasin MDAV northeast of the intersection
7122          KM   McDowell Road and Avondale Boulevard
7123          BA   0.954
7124          LG    0.21    0.13    7.60    0.08      28
7125          UC   1.500   1.038
7126          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
7127          UA     100
              *

7128          KK  ERMDAV   DIVERT
7129          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
7130          KM   retention developed after 1990 in subbasin MDAV
7131          DT   XMDAV     80.8      0.0
7132          DI     0.0 50000.0       0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
7133          DQ     0.0 50000.0       0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

7134          KK   CMDAV COMBINE
7135          KM   Combine route RWMDAV, route RSMDAV, and subbasin MDAV
7136          HC       3    1.72
              *

7137          KK  DSINAV   DIVERT
7138          KM   Divert remaining runoff hydrograph from combination point CMDAV south to
7139          KM   combination point CINAV
7140          DT  DWMDAF      0.0       0.0
7141          DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
7142          DQ     0.0    73.0   146.0   365.0   730.0  1460.0  2920.0  7300.0 14600.0 36500.0
              *

7143          KK  RSINAV    ROUTE
7144          KM   Route diversion DSINAV south to combination point CINAV
7145          RS       2     FLOW
7146          RC   0.035   0.015   0.035    1317  0.0022    0.00
7147          RX    0.00    0.00   16.50   16.50  107.50  107.50  124.00  124.00
7148          RY    3.00    0.66    0.50    0.00    0.00    0.50    0.66    3.00
              *
```



```
LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


7149          KK    INAV    BASIN
7150          KM   Runoff hydrograph for subbasin INAV north of Interstate 10 and east of the
7151          KM   Agua Fria River
7152          BA   0.235
7153          LG    0.10    0.15    8.00    0.07      83
7154          UC   0.576   0.508
7155          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
7156          UA     100
              *

7157          KK  ERINAV   DIVERT
7158          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
7159          KM   retention developed after 1990 in subbasin INAV
7160          DT   XINAV     15.6      0.0
7161          DI     0.0 50000.0       0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
7162          DQ     0.0 50000.0       0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

7163          KK   CINAV COMBINE
7164          KM   Combine route RWINAV, route RSINAV, and subbasin INAV
7165          HC       3   28.58
              *

7166          KK  DWINAF   DIVERT
7167          KM   Divert remaining runoff hydrograph from combination point CINAV west to
7168          KM   combination point CINAF
7169          DT  DSVBAF      0.0       0.0
7170          DI     0.0 22225.0 22225.1 50000.0      0.0      0.0      0.0      0.0      0.0      0.0
7171          DQ     0.0     0.0 22225.1 50000.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

7172          KK  RWINAF    ROUTE
7173          KM   Route diversion DWINAF west to combination point CINAF
7174          RS       2     FLOW
7175          RC   0.035   0.015   0.035    7360  0.0009    0.00
7176          RX    0.00    0.10   18.00   36.00   66.00   84.00  102.00  102.10
7177          RY   18.00   17.05    9.00    0.00    0.00    9.00   17.05   18.00
              * Need to re-evaluate divert, flow is greater than channel capacity
              *

7178          KK  DRMDAFRETRIEVE
7179          KM   Retrieve divert DRMDAF from combination point CMDAV and divert south to
```



```
7180          KM   combination point CMDAF
7181          DR  DWMDAF
              *

7182          KK  RWMDAF    ROUTE
7183          KM   Route diversion retrieval DRMDAF west to combination point CMDAF
7184          RS       8     FLOW
7185          RC   0.035   0.015   0.035    6890  0.0027    0.00
7186          RX    0.00    0.00   48.00   48.00  251.00  251.00  299.00  299.00
7187          RY    3.00    0.98    0.50    0.00    0.00    0.50    0.98    3.00
              *
```



```
LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


7188          KK    MDAF    BASIN
7189          KM   Runoff hydrograph for subbasin MDAF north of McDowell Road and east of the
7190          KM   Interstate 10 and east of the Agua Fria River
7191          BA   0.834
7192          LG    0.21    0.26    5.20    0.22      36
7193          UC   1.500   1.253
7194          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
7195          UA     100
              *

7196          KK   CMDAF COMBINE
7197          KM   Combine route RWMDAF and subbasin MDAF
7198          HC       2    1.30
              *

7199          KK  DSINAF   DIVERT
7200          KM   Divert portion of runoff hydrograph from combination point CMDAF south to the
7201          KM   intersection of Interstate 10 and the Agua Fria River and the remaining flow
7202          KM   west to the Agua Fria River. The diversion is based on topography
7203          DT  DWAF03      0.0       0.0
7204          DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
7205          DQ     0.0    76.0   152.0   380.0   760.0  1520.0  3040.0  7600.0 15200.0 38000.0
              *

7206          KK  RSINAF    ROUTE
7207          KM   Route diversion DSINAF south to combination point CINAF
7208          RS       1     FLOW
7209          RC   0.035   0.015   0.035    1317  0.0022    0.00
7210          RX    0.00    0.00   22.00   22.00  103.00  103.00  125.00  125.00
7211          RY    3.00    0.72    0.50    0.00    0.00    0.50    0.72    3.00
              *

7212          KK    INAF    BASIN
7213          KM   Runoff hydrograph for subbasin INAF north of Interstate 10 and east of the
7214          KM   Agua Fria River
7215          BA   0.472
7216          LG    0.15    0.23    6.20    0.18      42
7217          UC   0.964   0.814
7218          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
7219          UA     100
              *

7220          KK  ERINAF   DIVERT
7221          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
7222          KM   retention developed after 1990 and NOAA14 rainfall for future retention in
7223          KM   subbasin INAF
7224          DT   XINAF     21.1      0.0
7225          DI     0.0 50000.0       0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
7226          DQ     0.0 50000.0       0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *
```



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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


7227          KK  ERINAF   DIVERT
7228          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
7229          KM   retention developed after 1990 in subbasin INAF
7230          DT   XINAF     21.1      0.0
7231          DI     0.0 50000.0       0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
7232          DQ     0.0 50000.0       0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

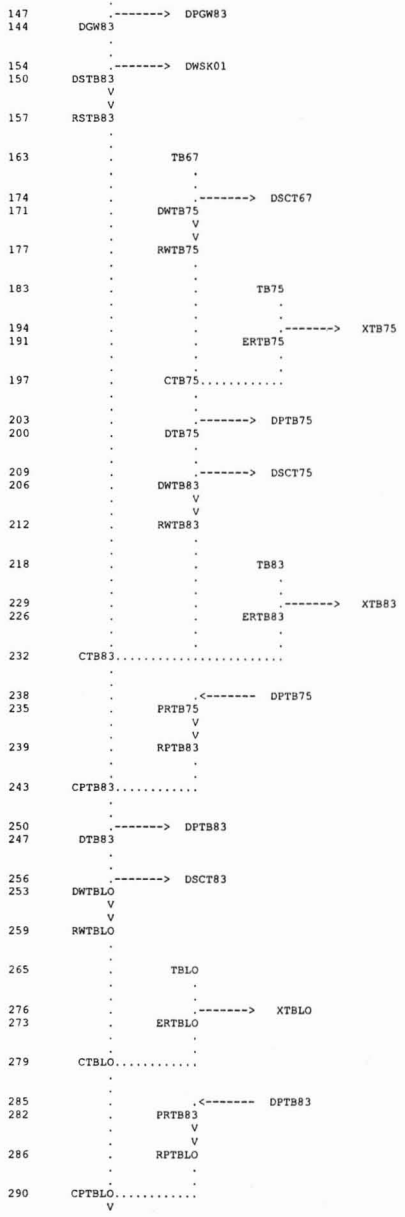
7233          KK   CINAF COMBINE
7234          KM   Combine route RWINAF, route RSINAF, and subbasin INAF
7235          HC       3   29.36
              *
7236          ZZ
```

1 SCHEMATIC DIAGRAM OF STREAM NETWORK

```
INPUT
 LINE     (V) ROUTING          (--->) DIVERSION OR PUMP FLOW

  NO.     (.) CONNECTOR        (<---) RETURN OF DIVERTED OR PUMPED FLOW

  136       GW83
```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203
200 DTB75
209
206 DWTB83
212 RWTB83
218 TB83
229
226 ERTB83
232 CTB83
238
235 PRTB75
239 RPTB83
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253 DWTBLO
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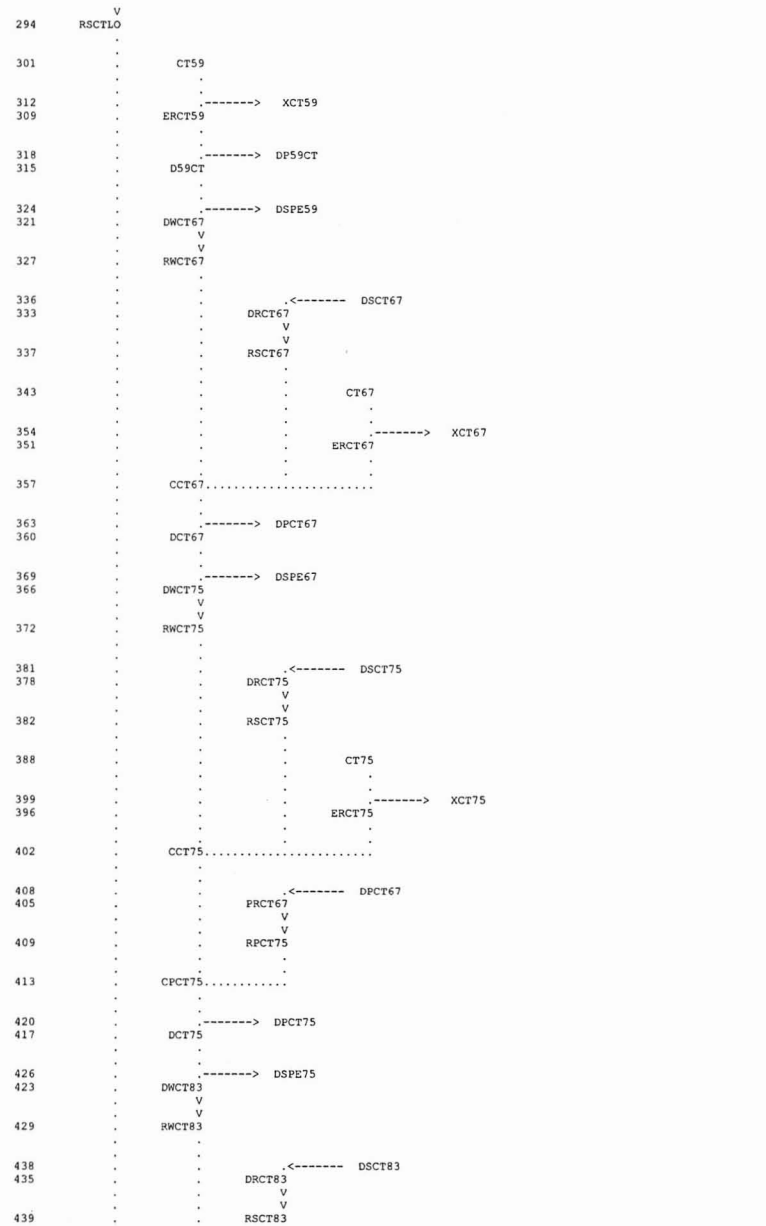
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366 DWCT75
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378 DRCT75
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388 CT75
399
396 ERCT75
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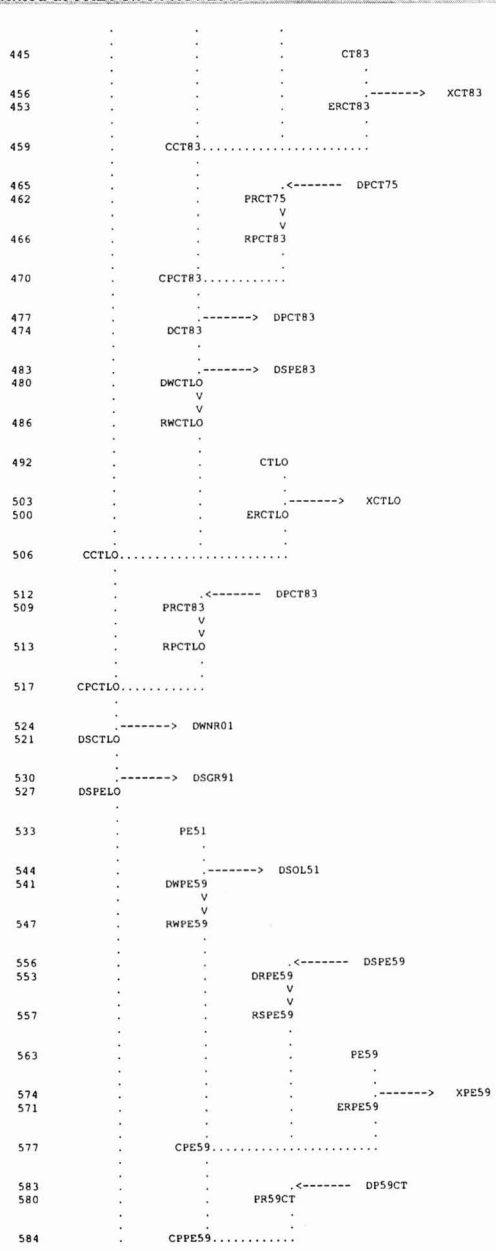
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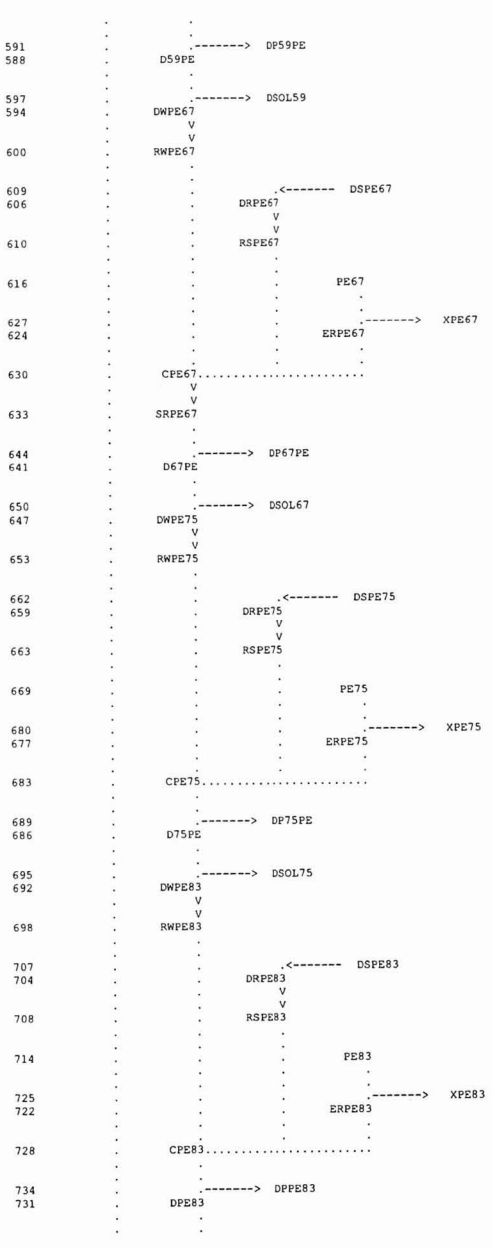
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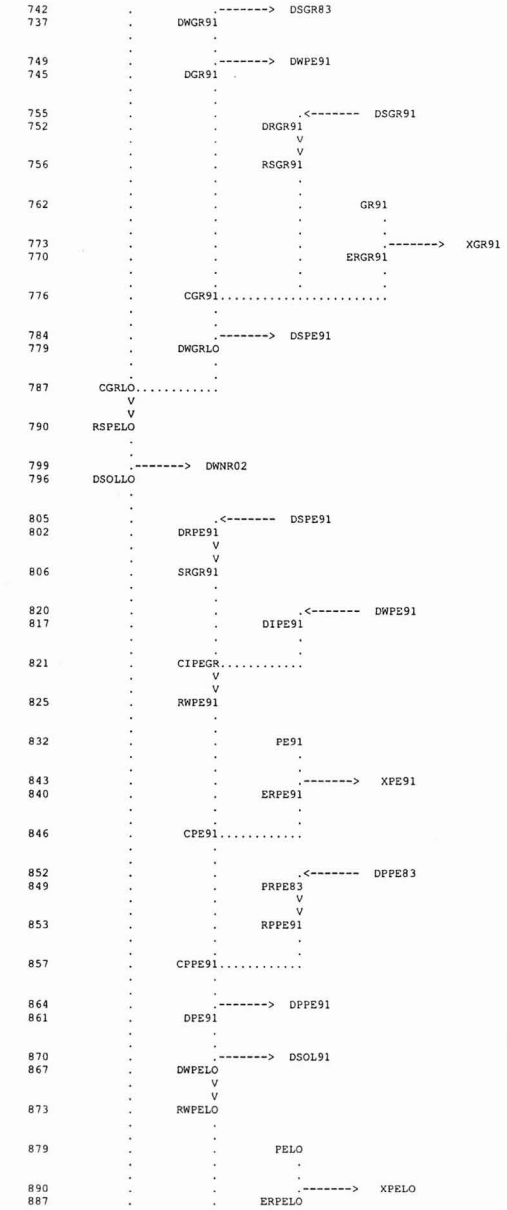
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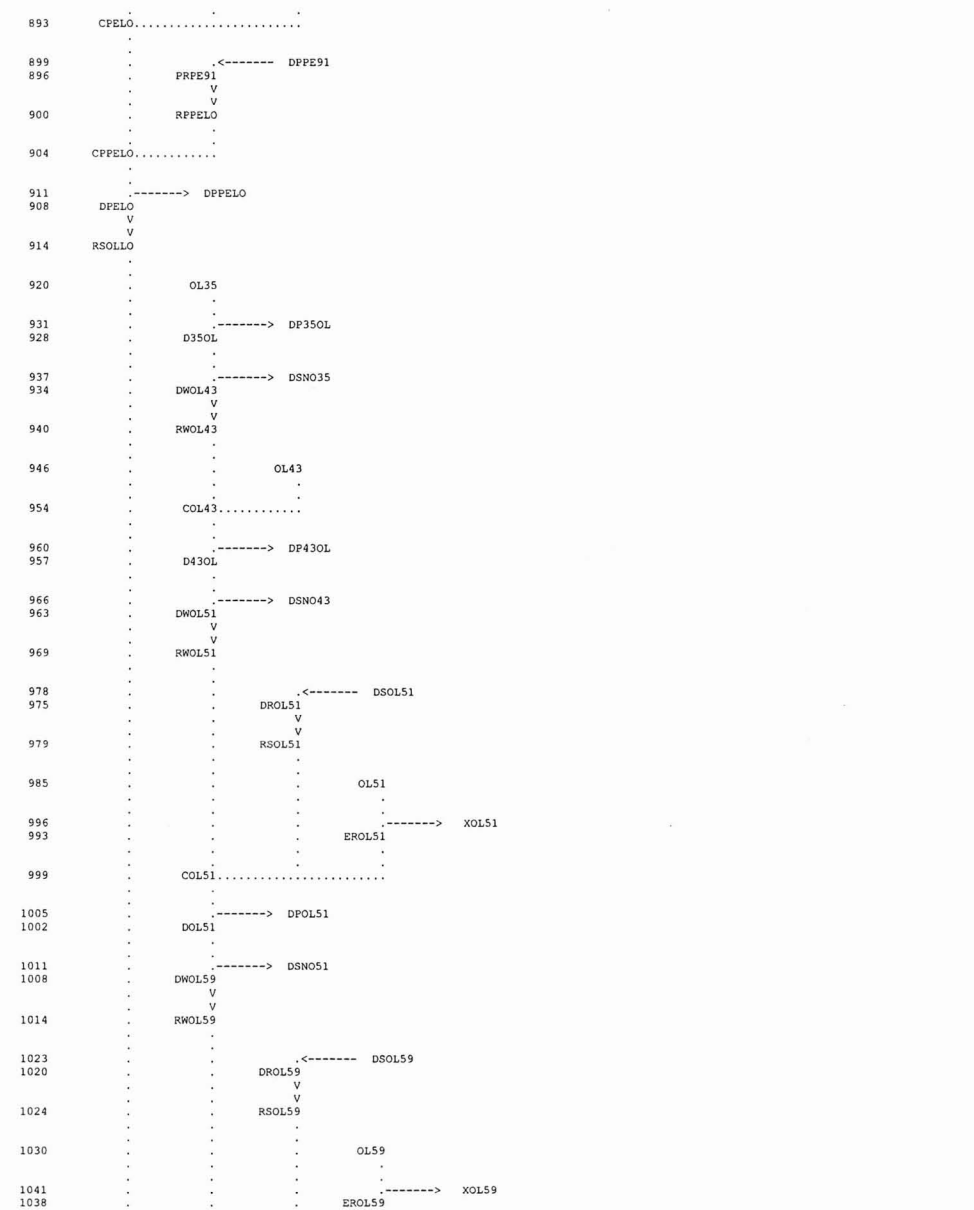
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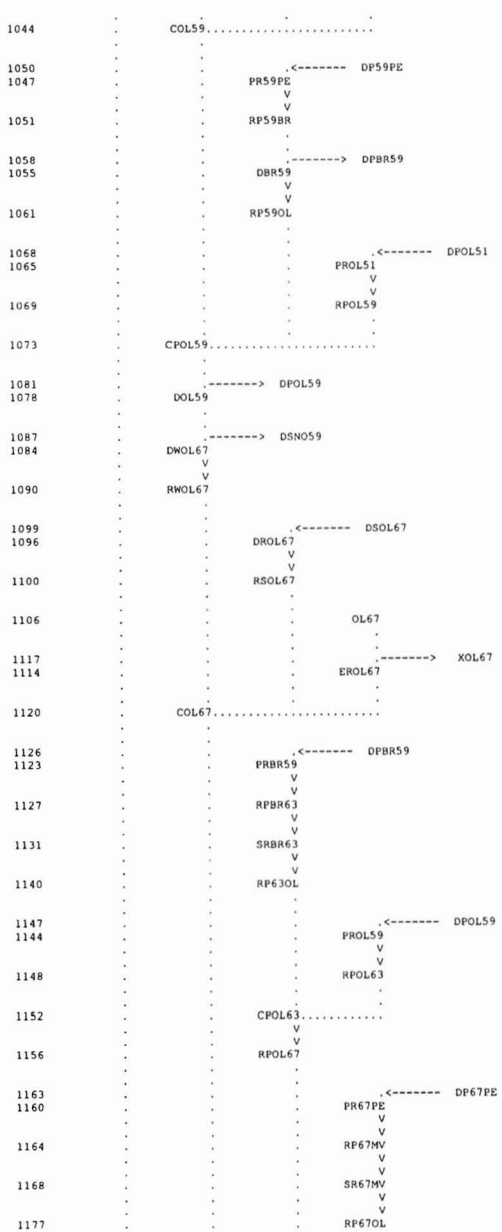
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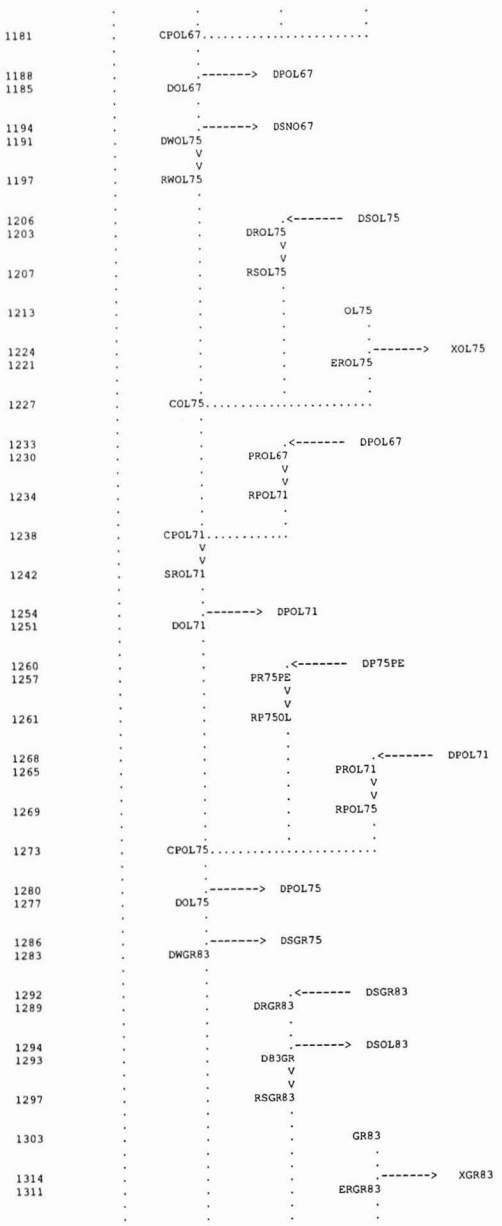
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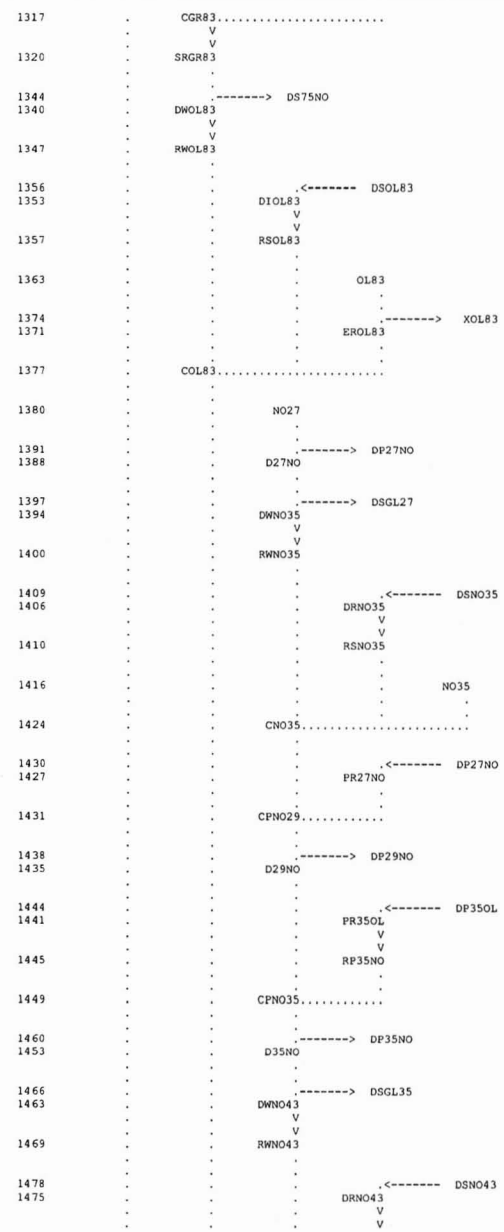
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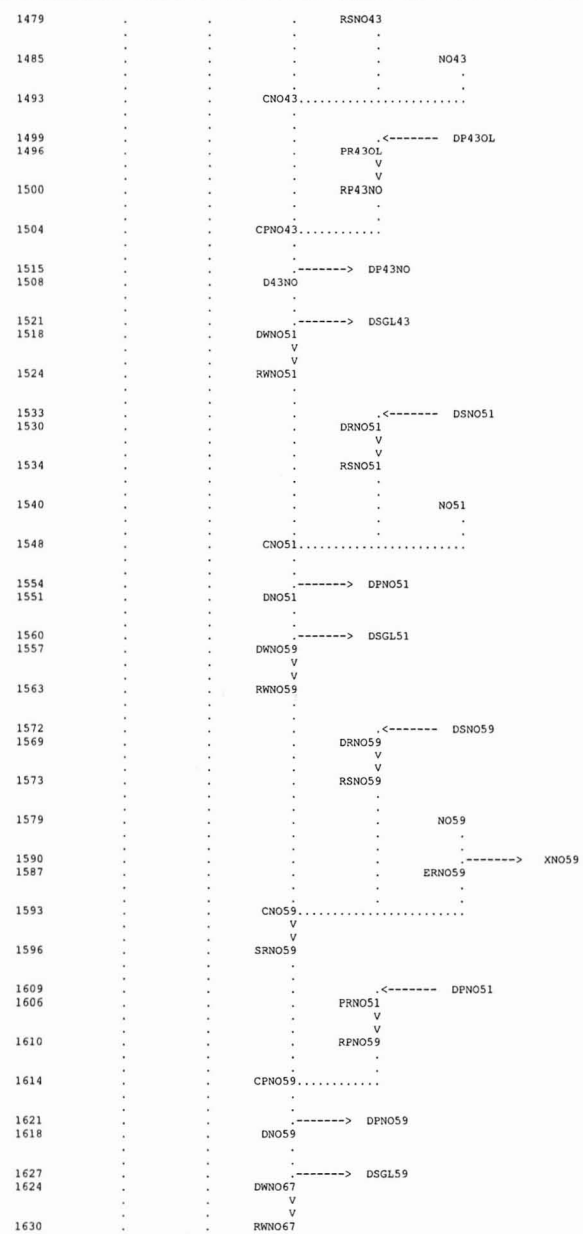
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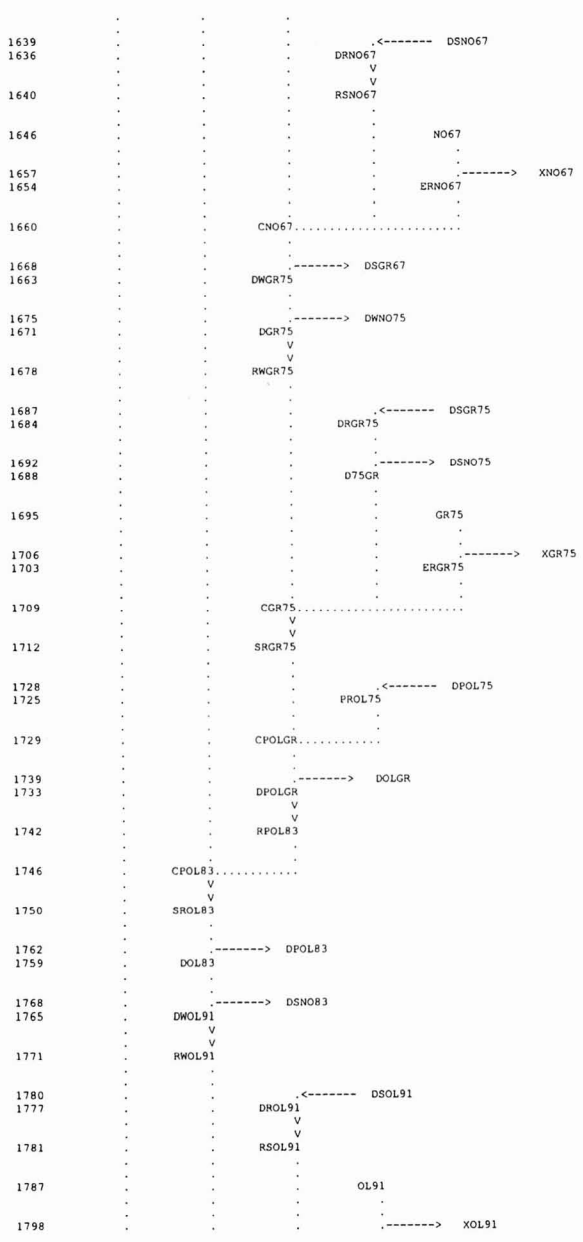
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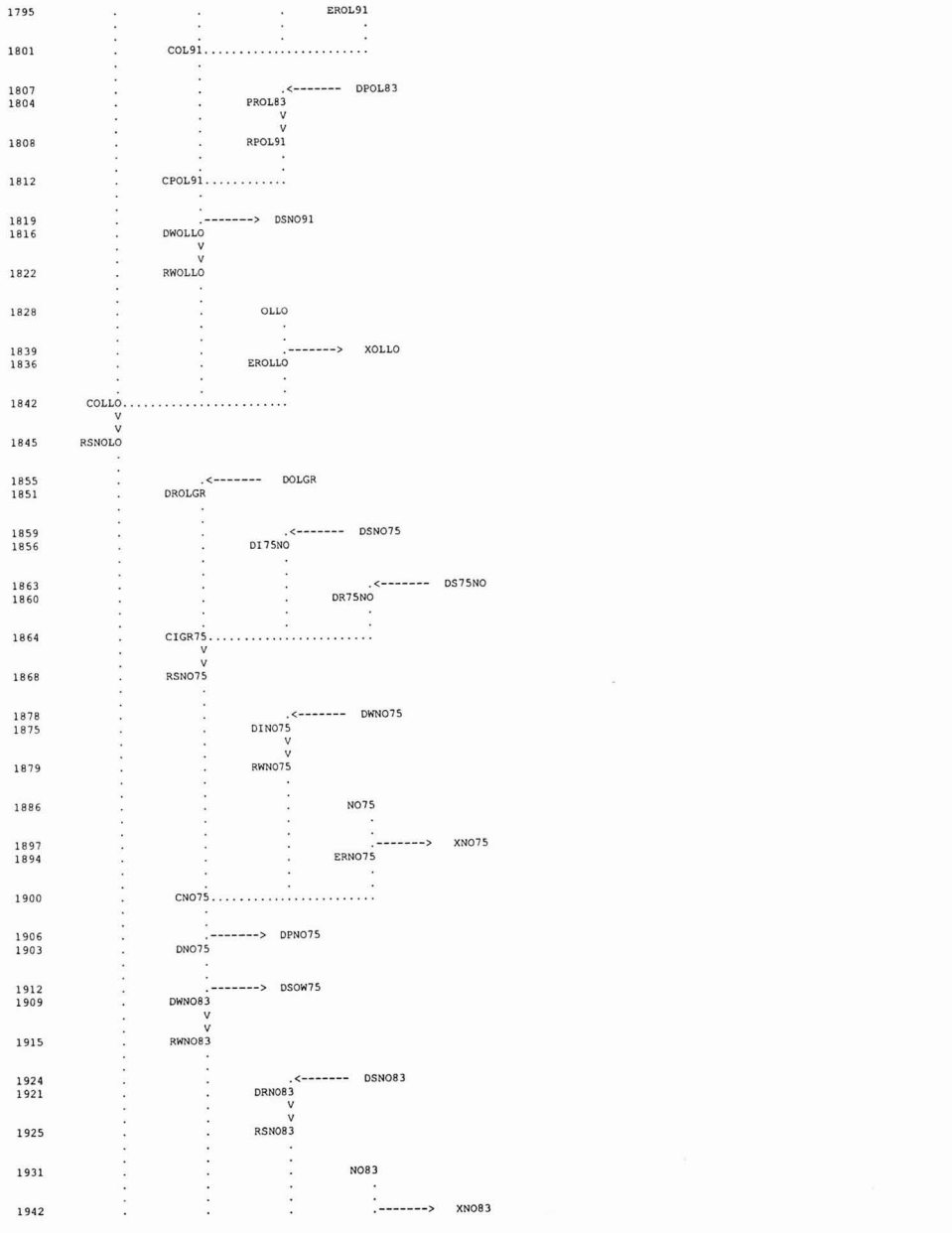
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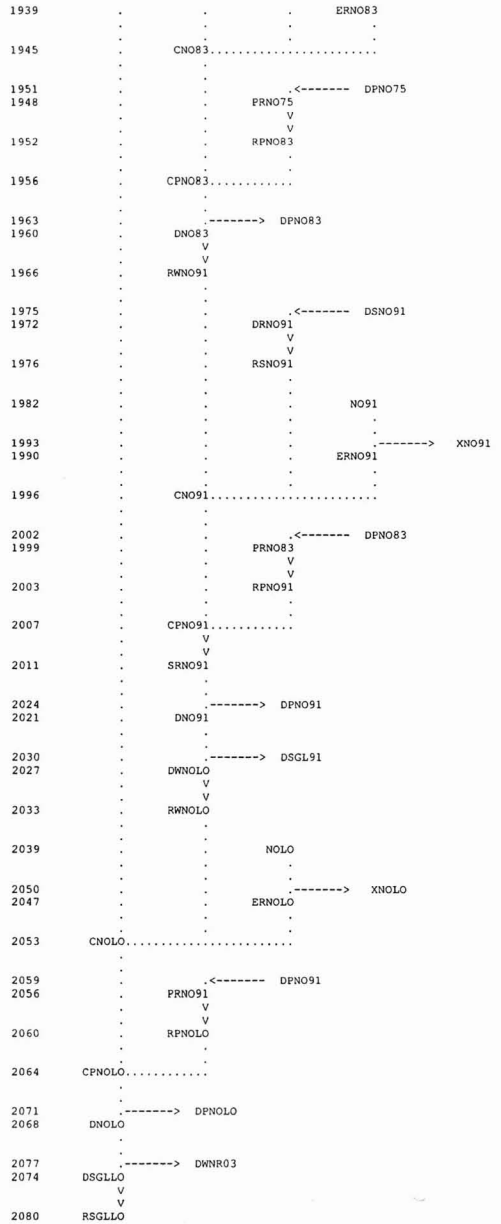
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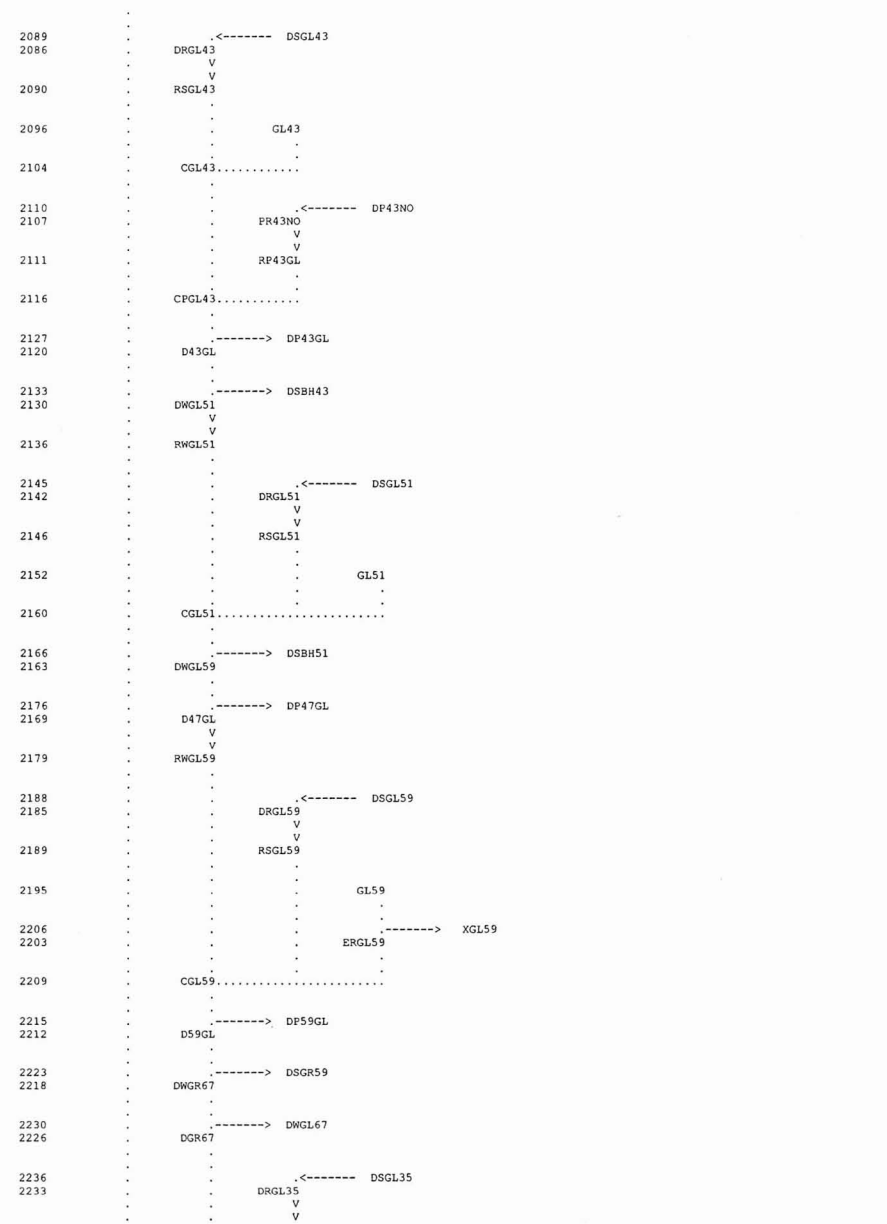
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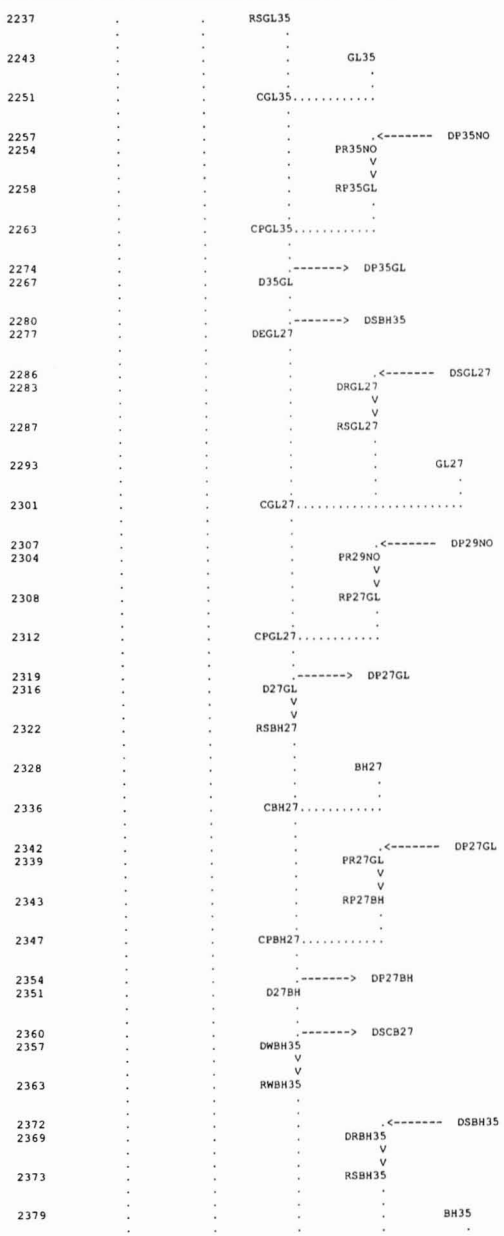
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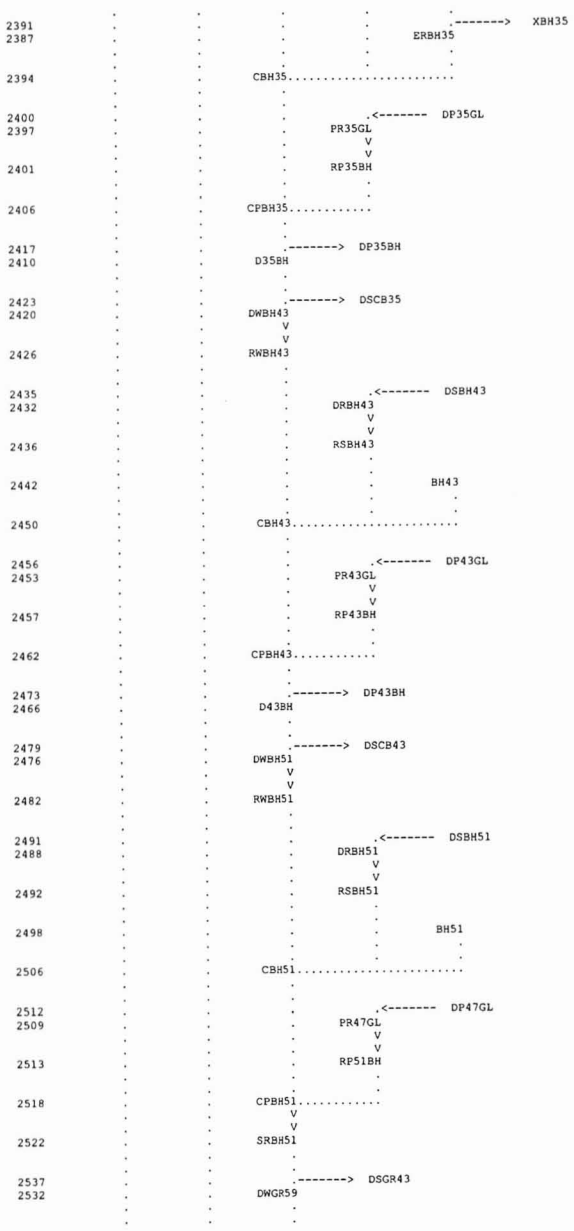
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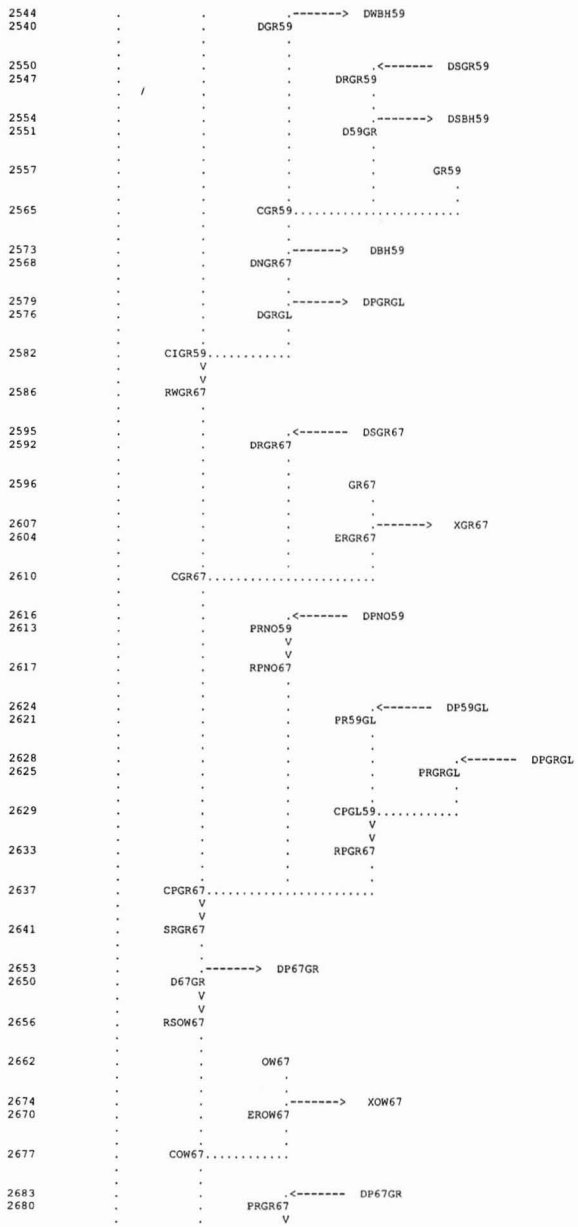
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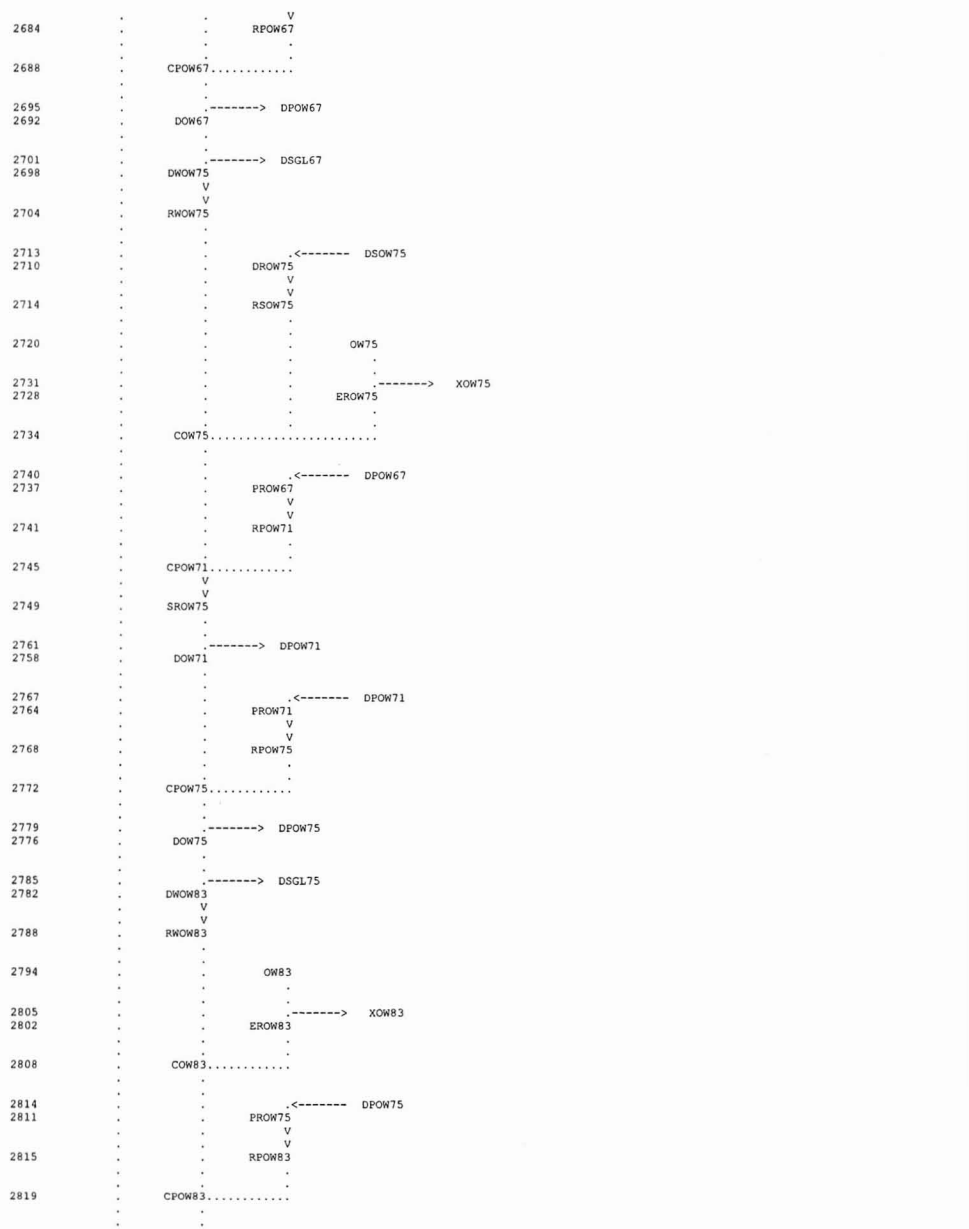
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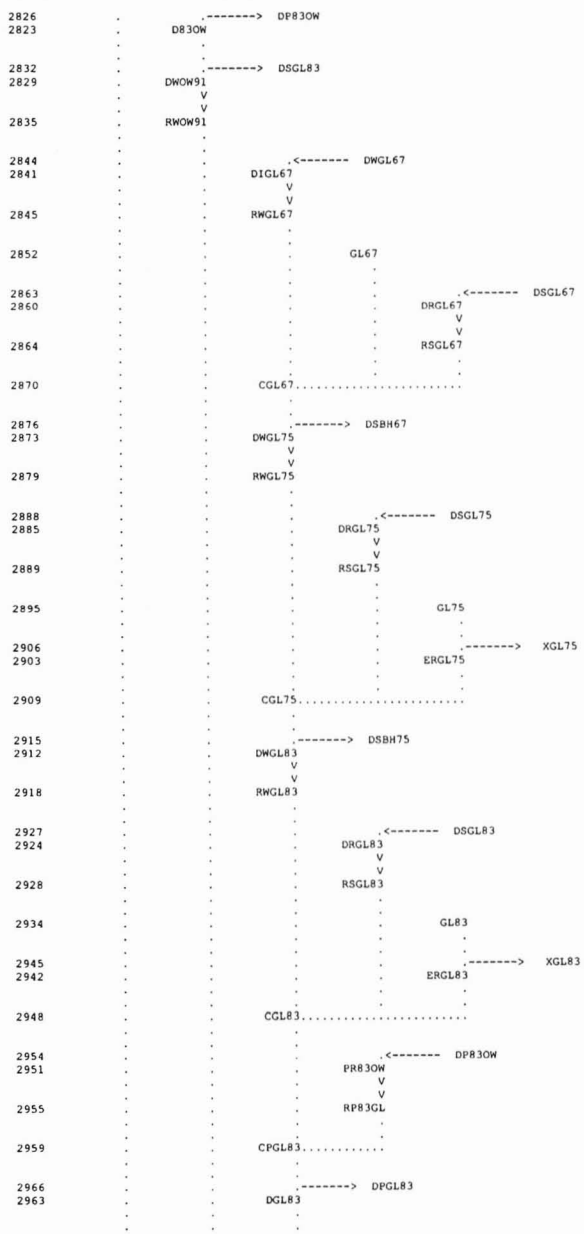
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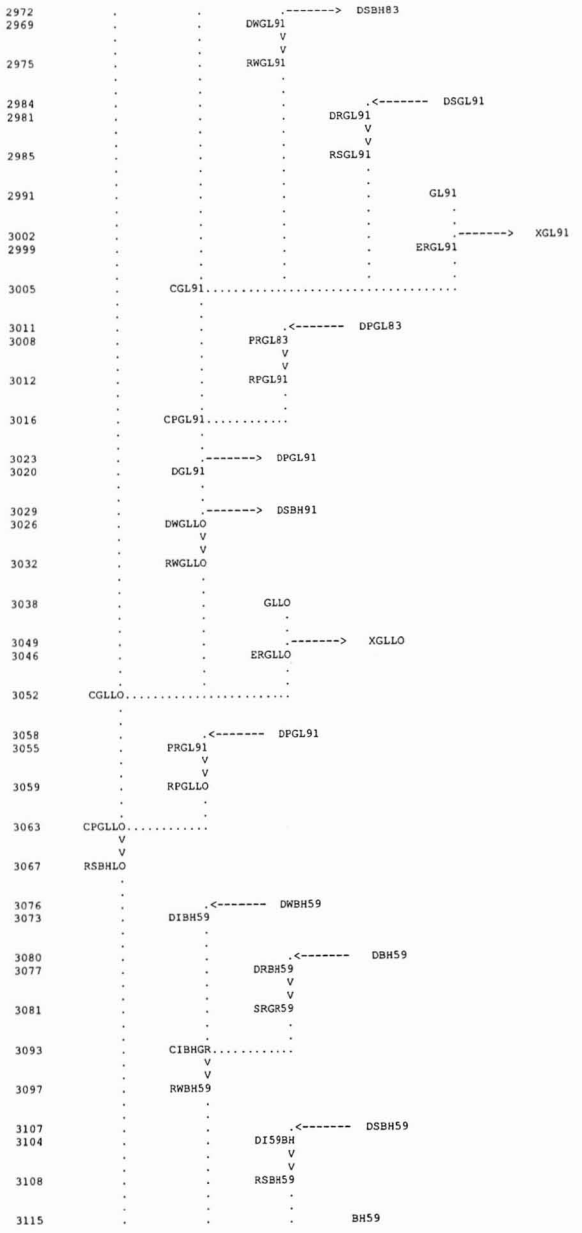
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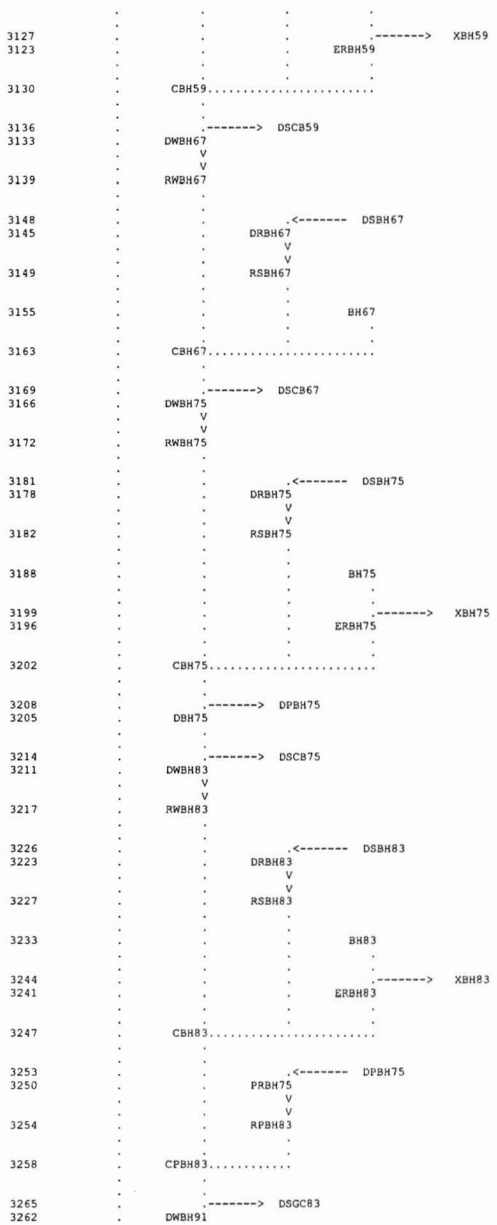
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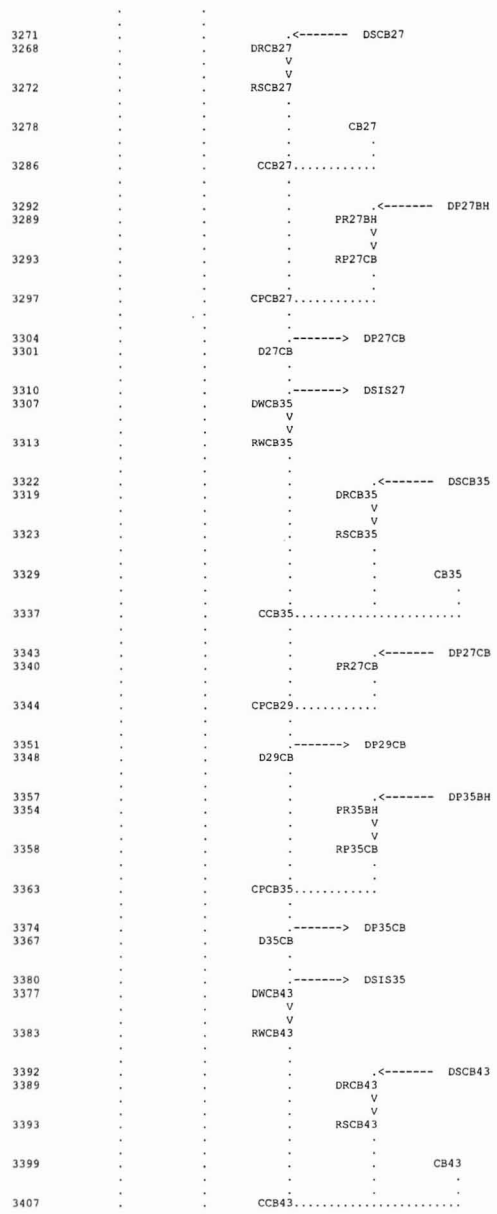
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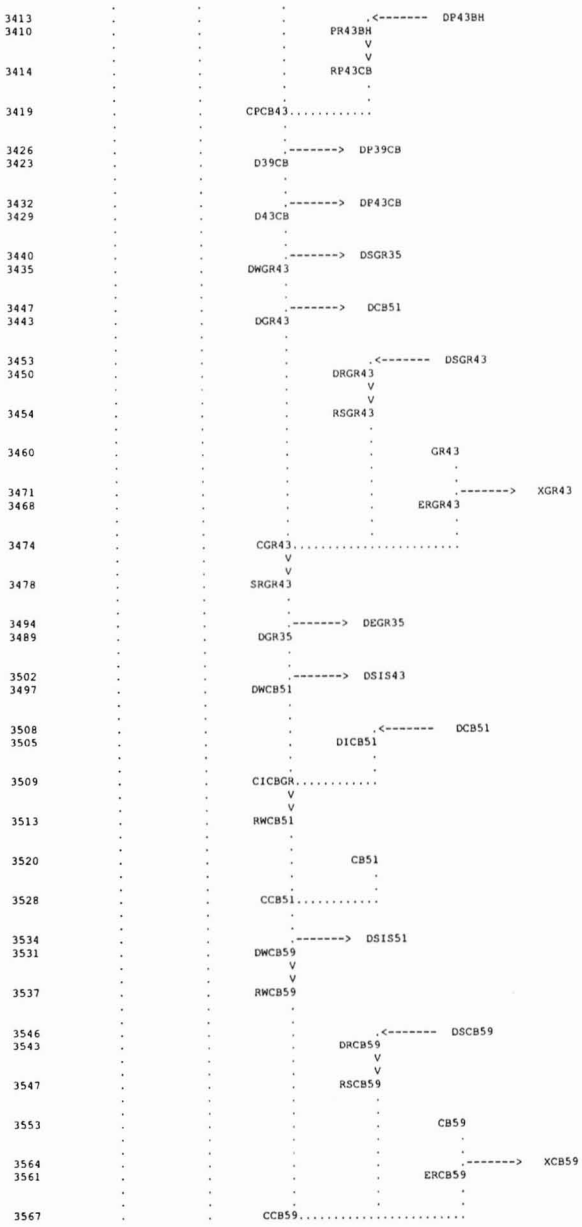
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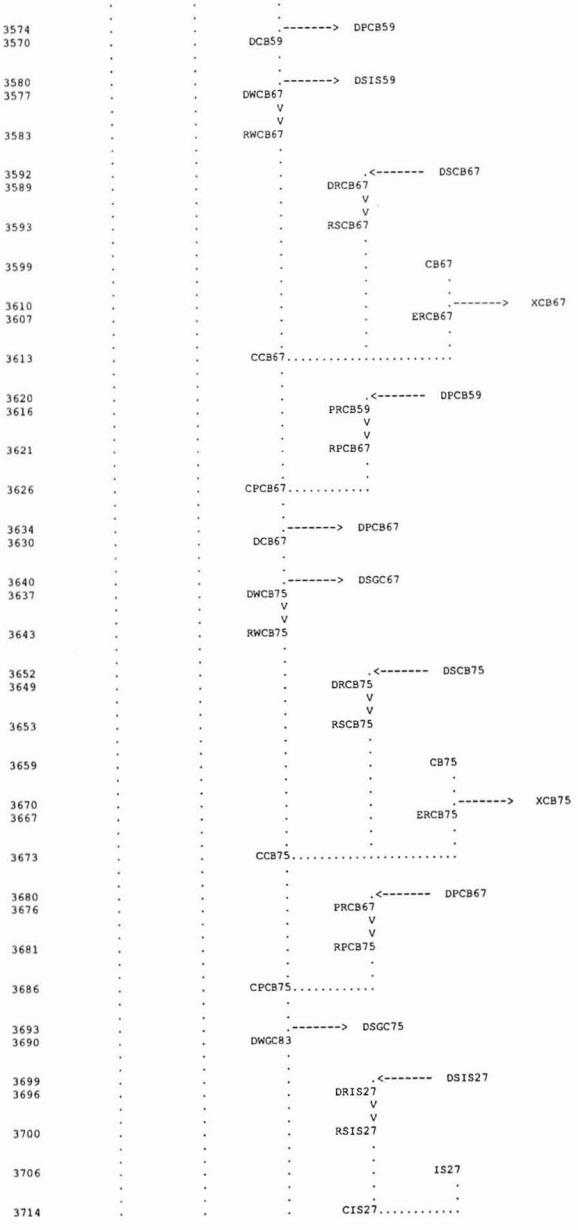
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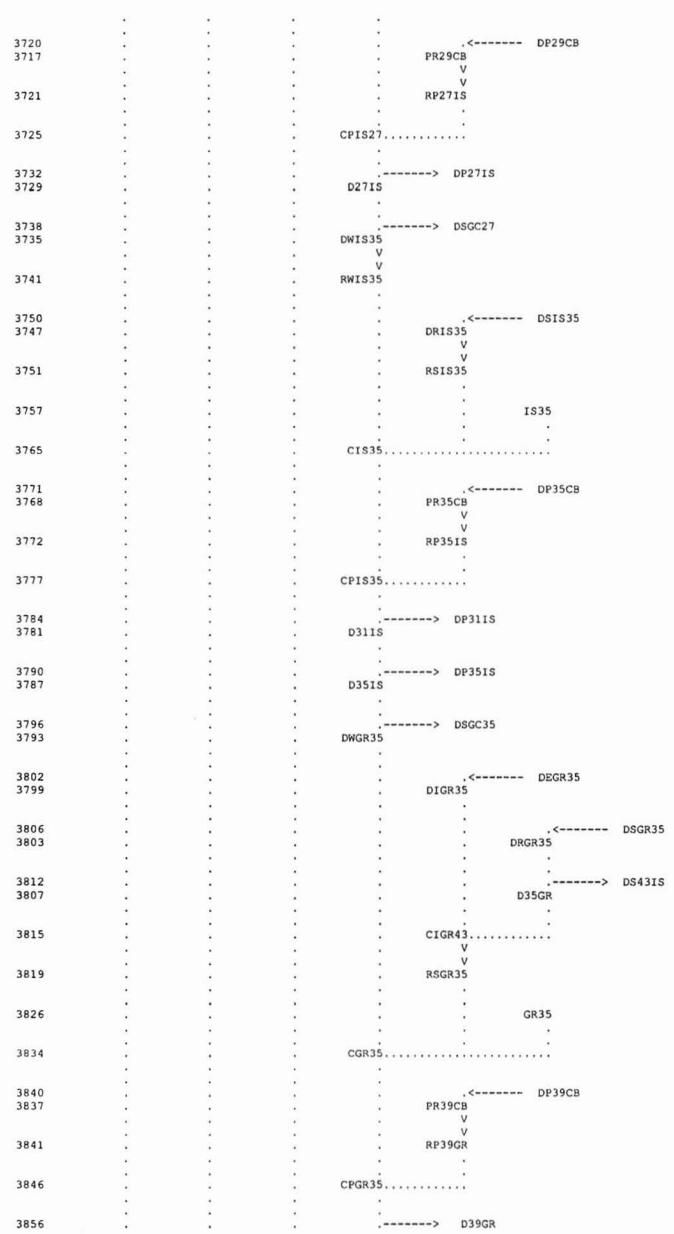
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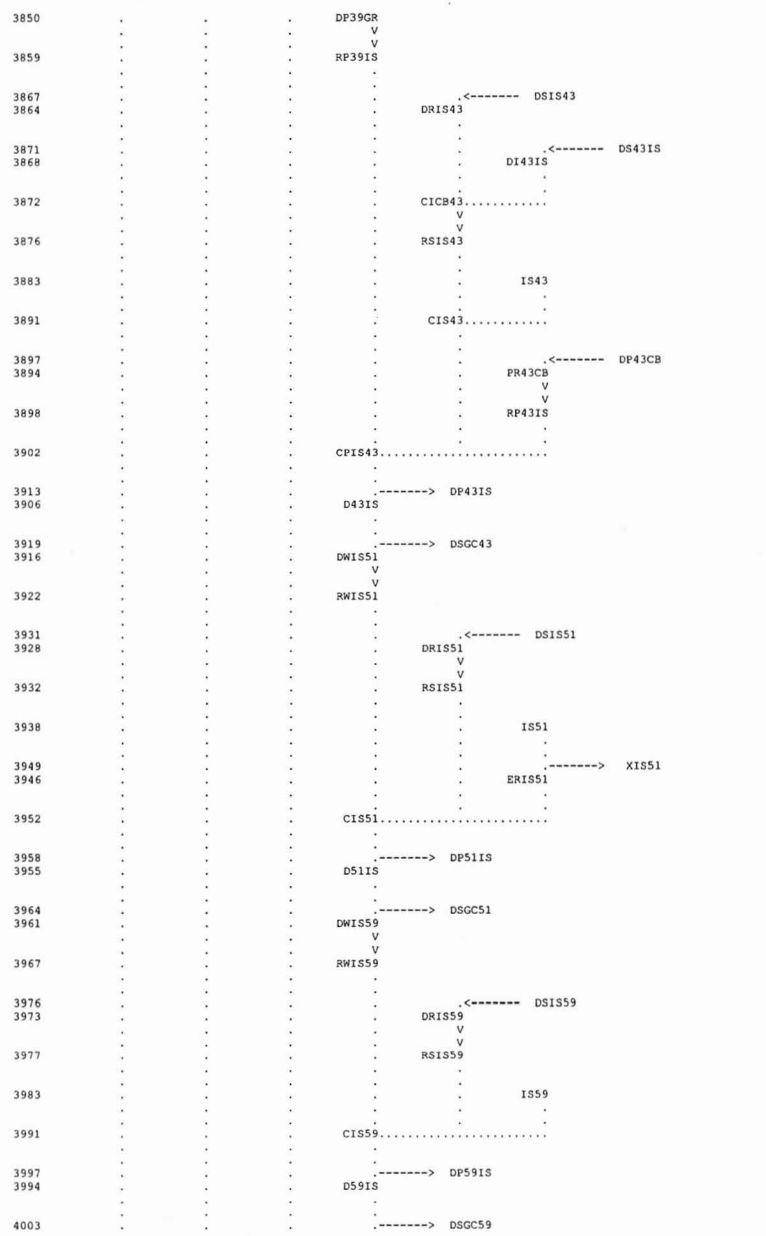
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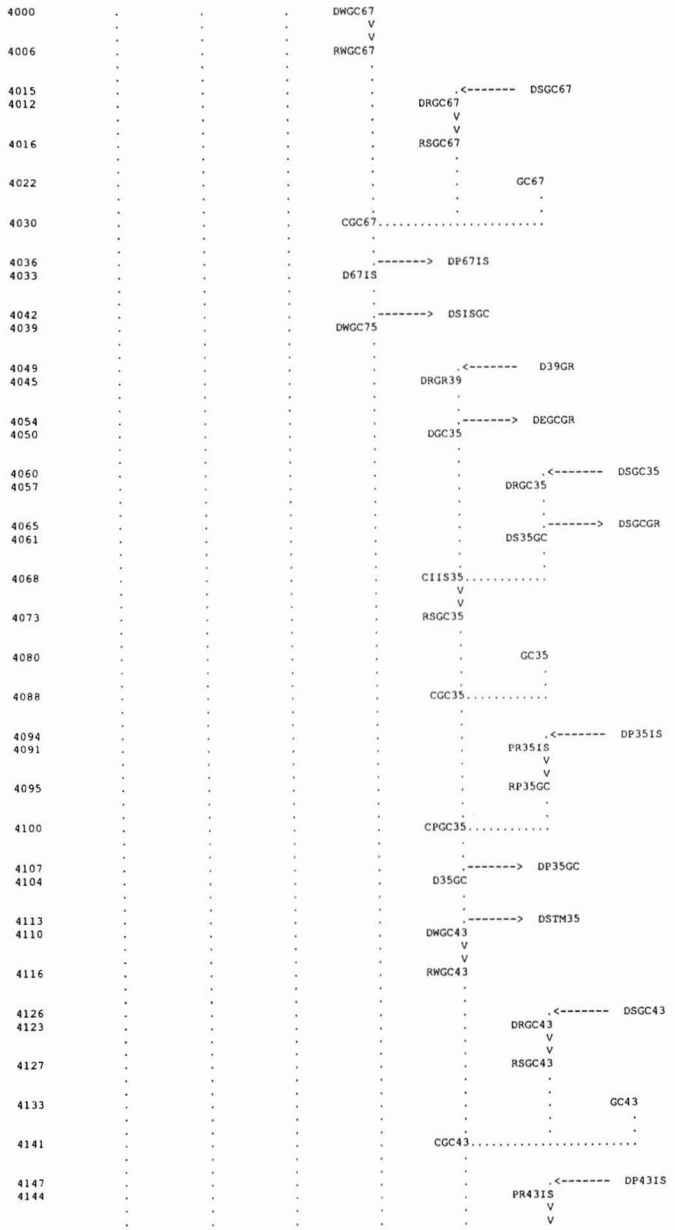
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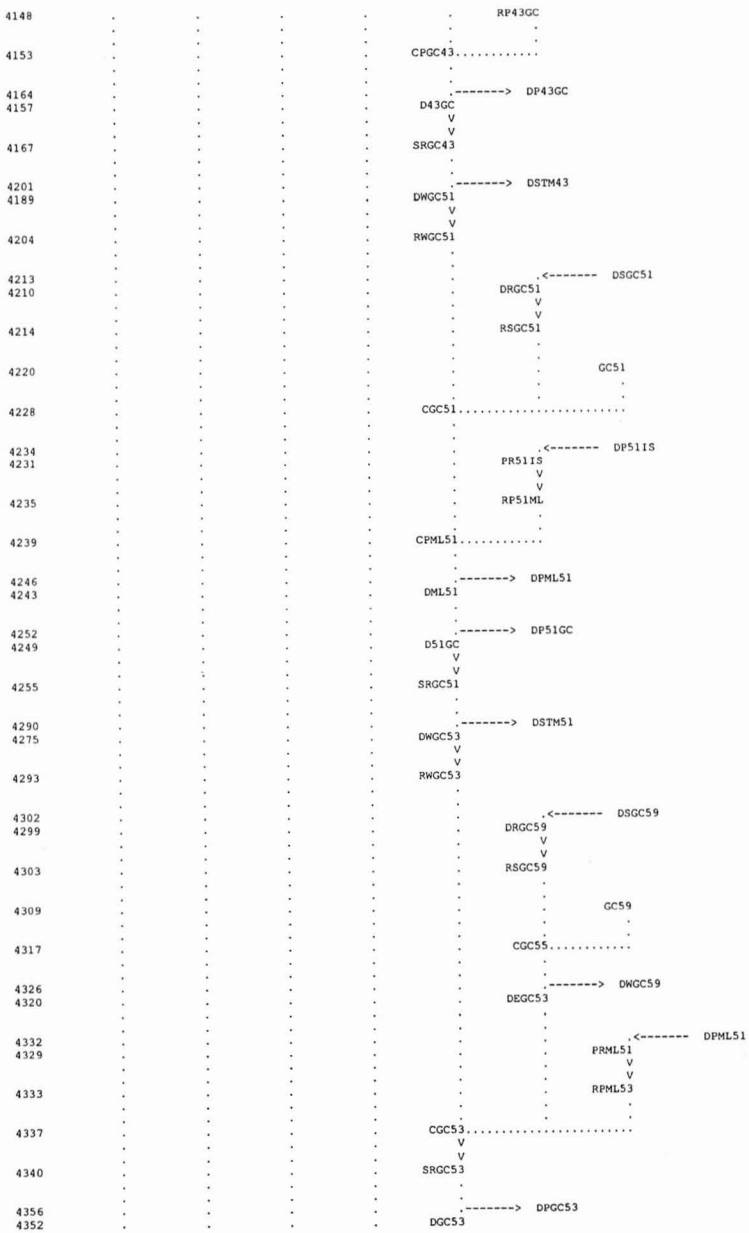
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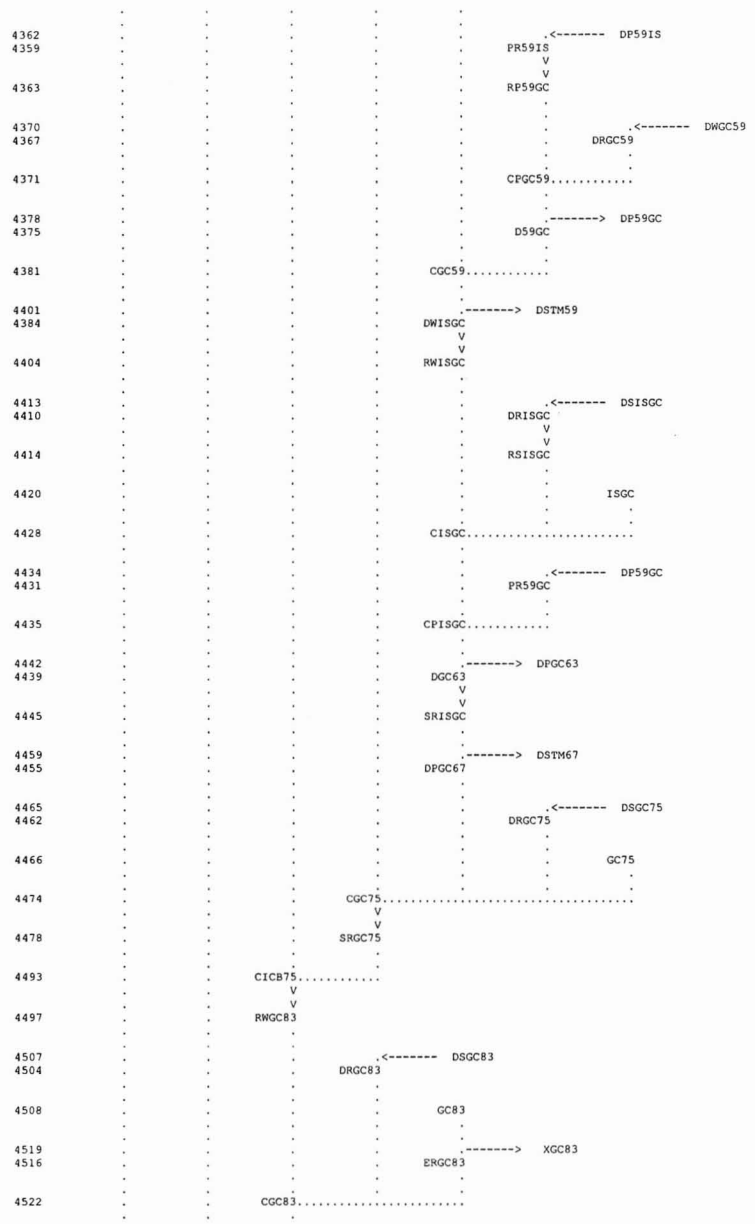
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4435 CPISGC
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4439 DGC63
4445 SRISGC
4459 DSTM67
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4478 SRGC75
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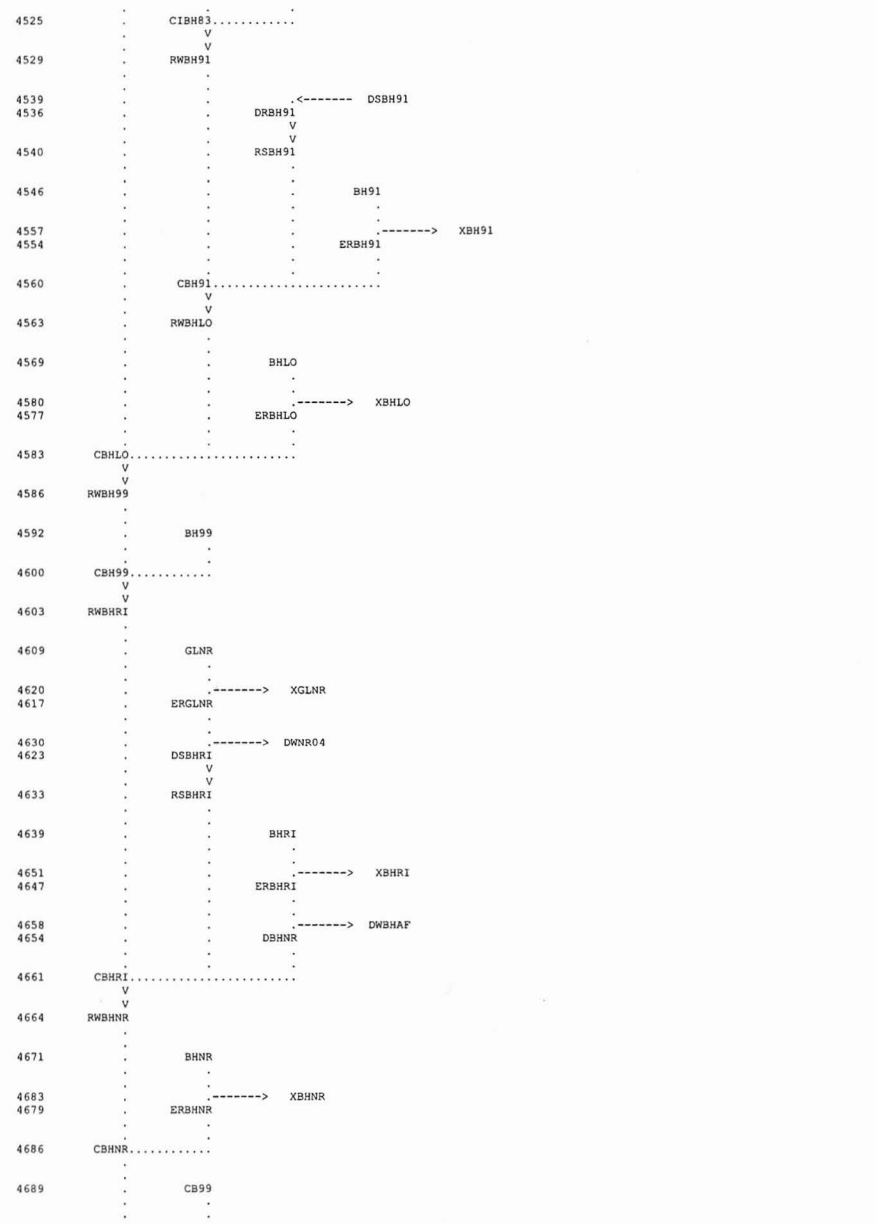
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4569 BHLO
4580 XBHLO
4577 ERBHLO
4583 CBHLO
4586 RWBH99
4592 BH99
4600 CBH99
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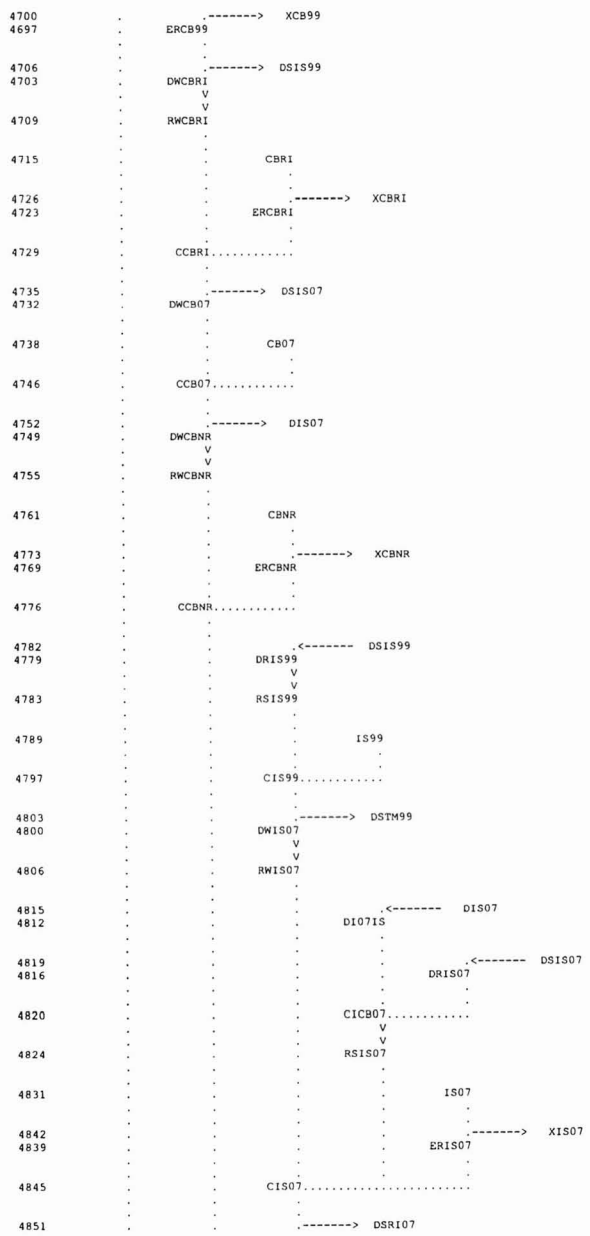
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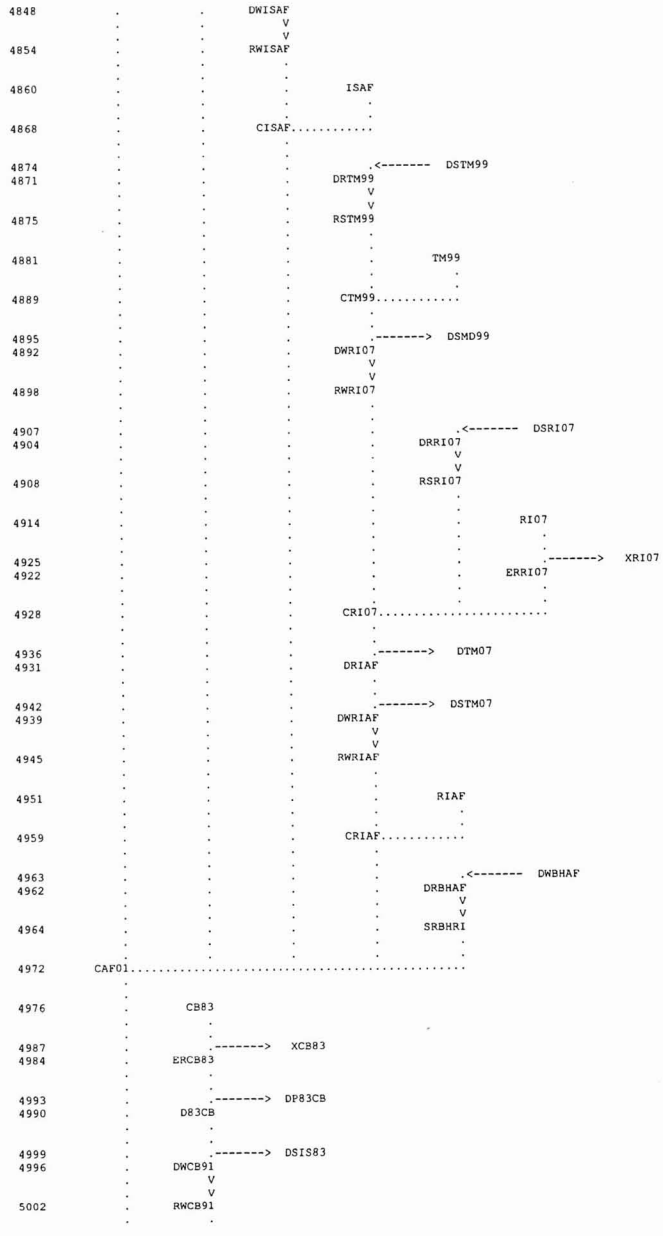
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ERRI07
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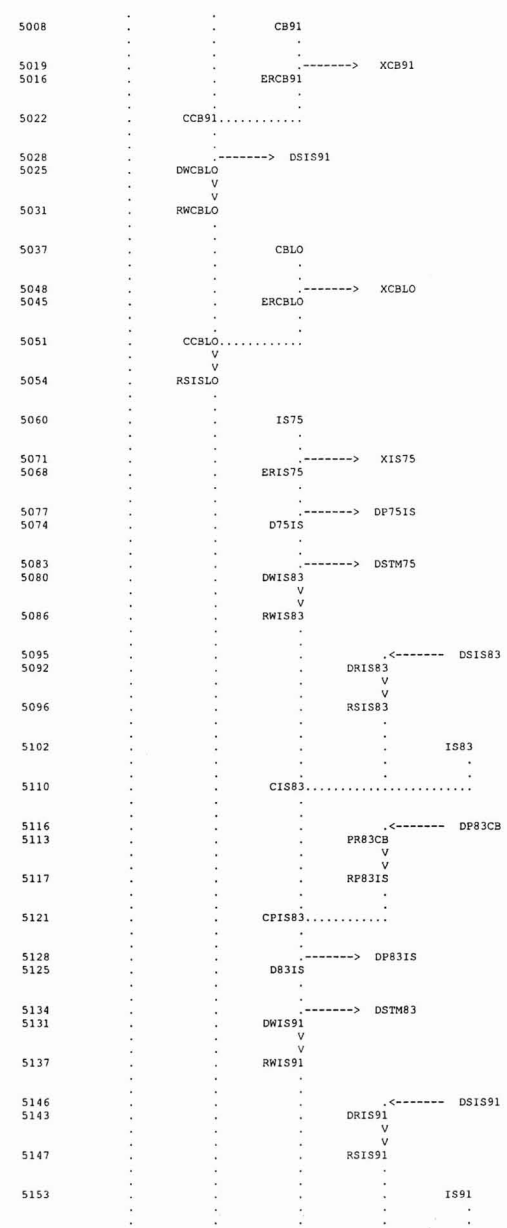
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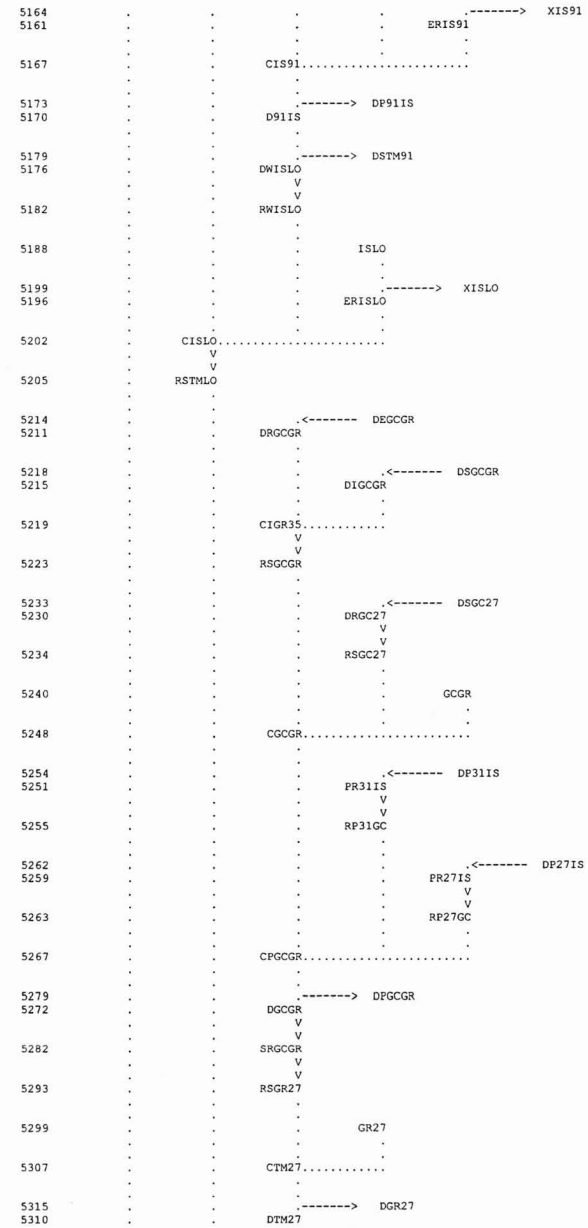
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CISLO
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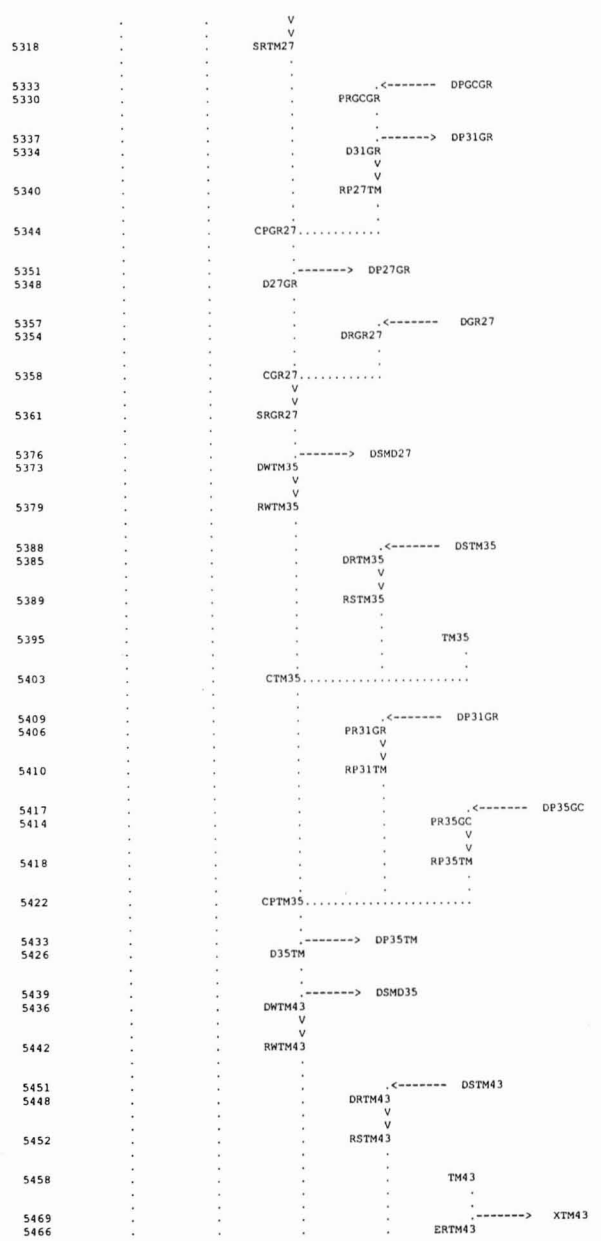
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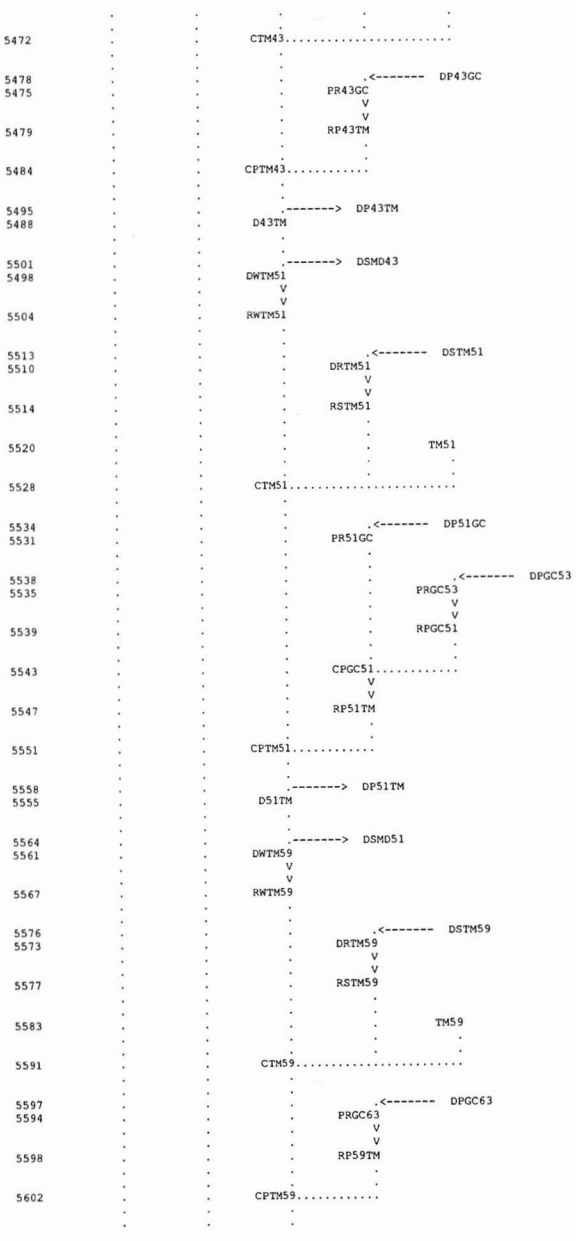
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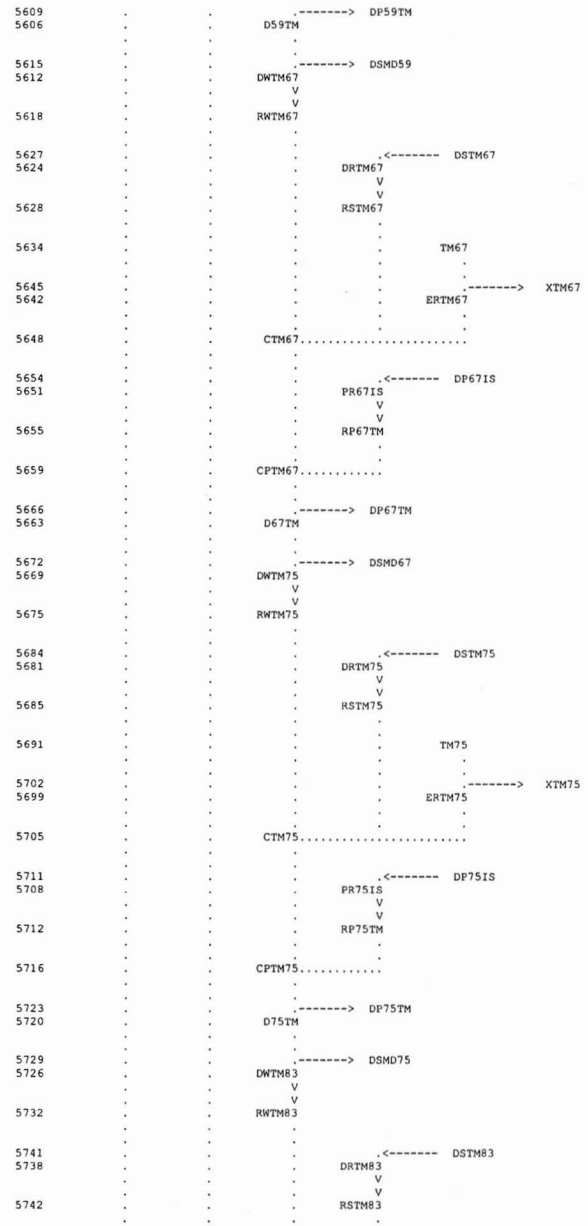
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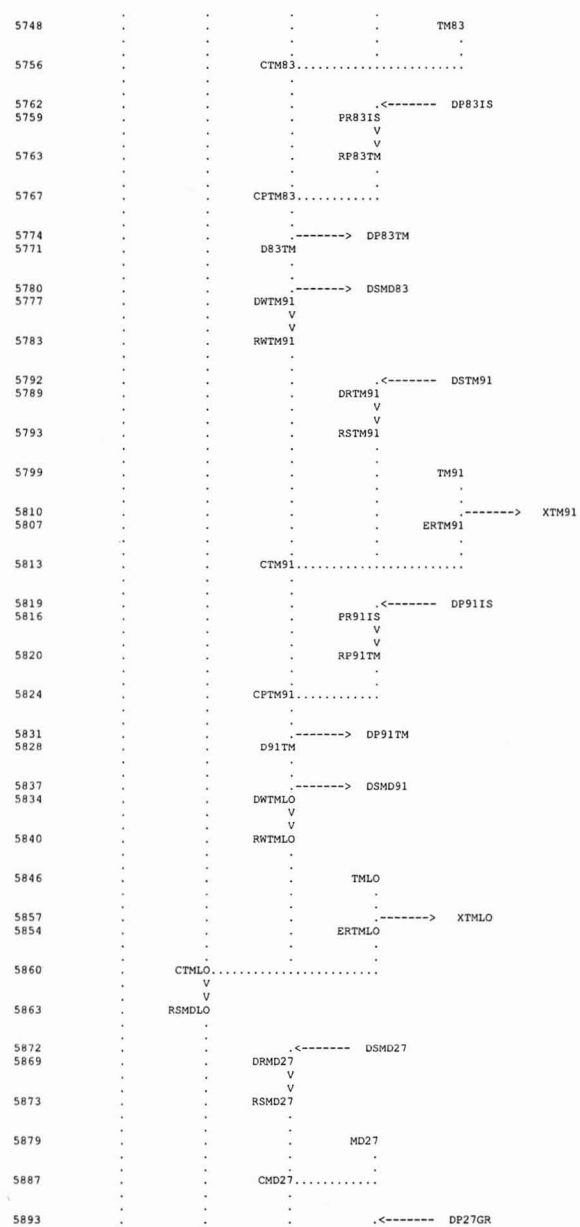
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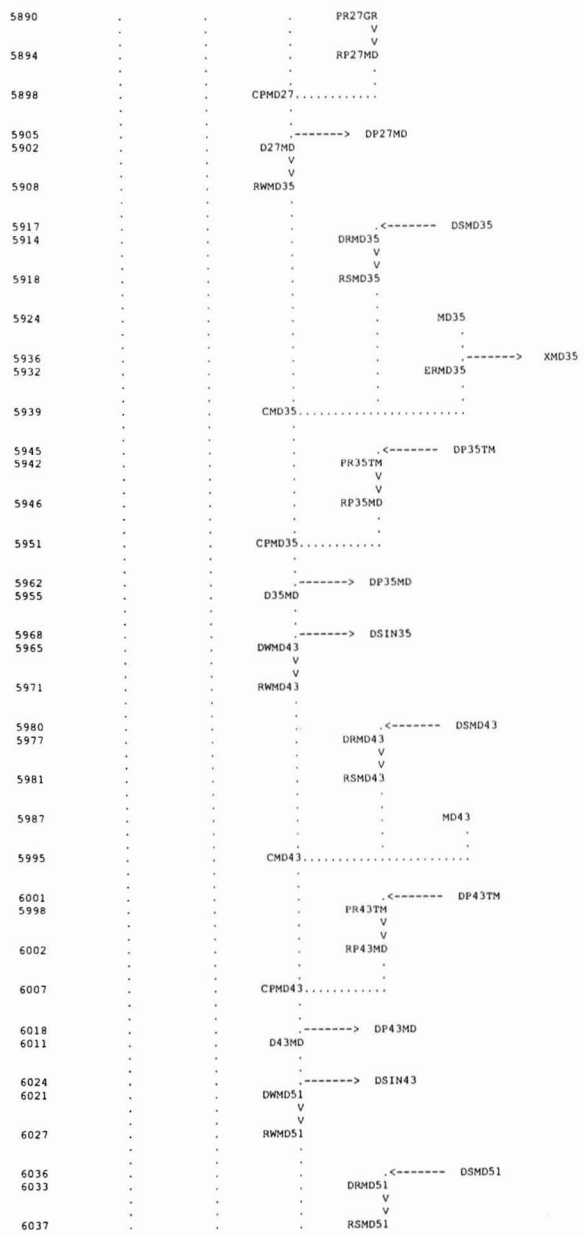
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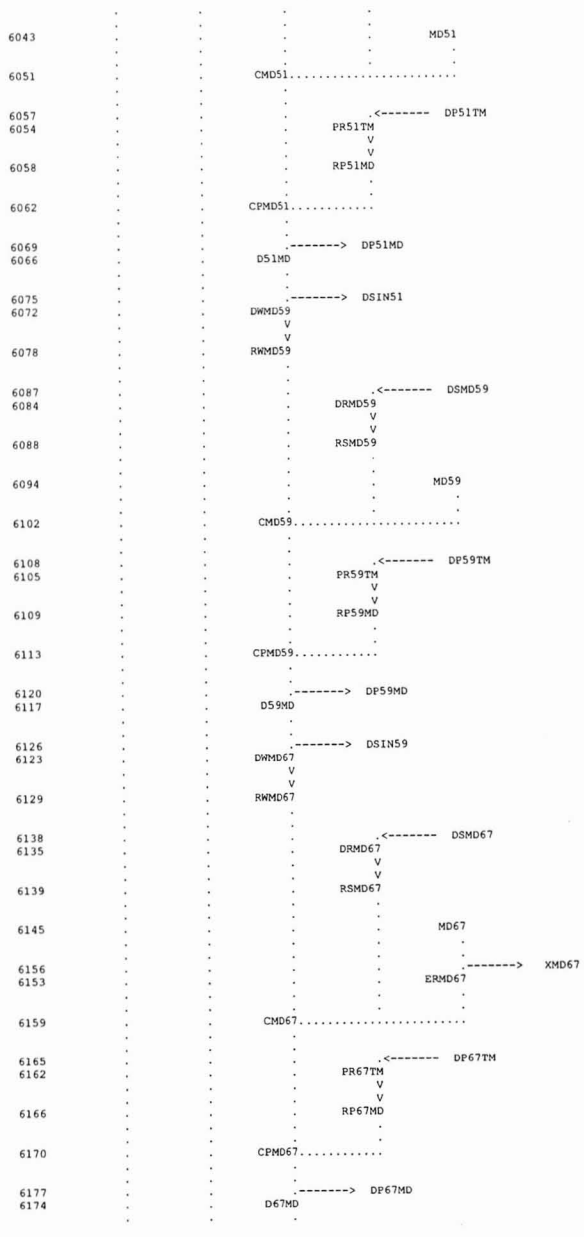
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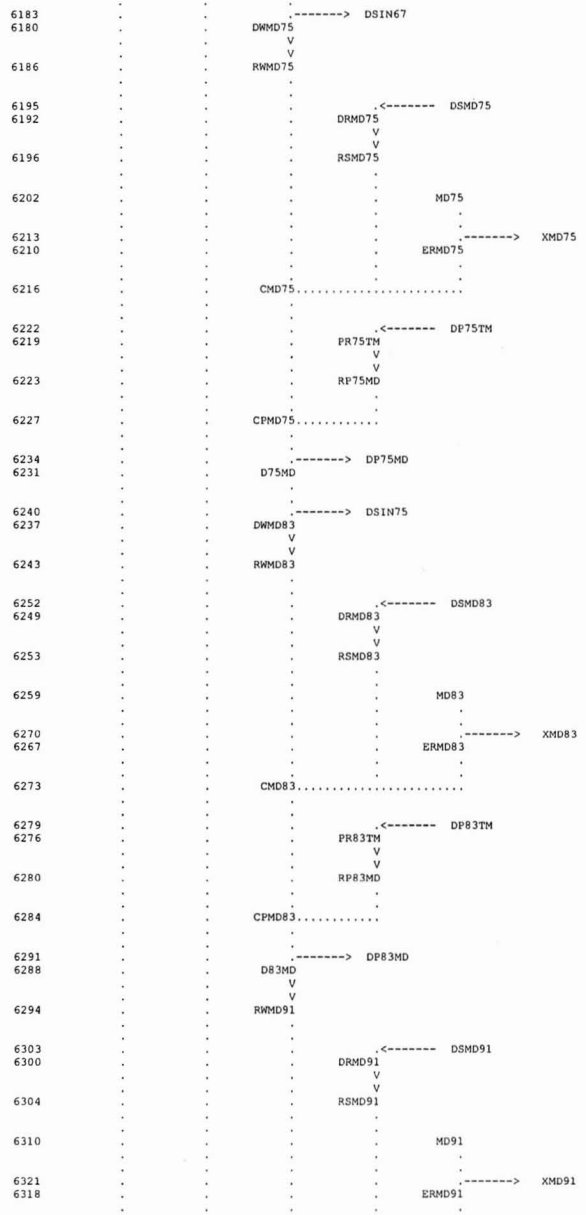
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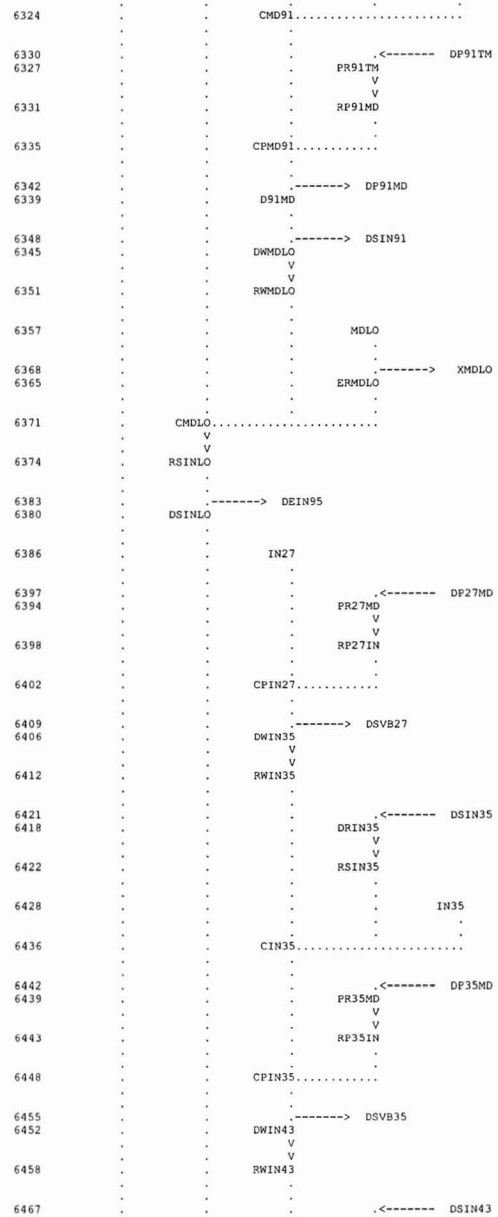
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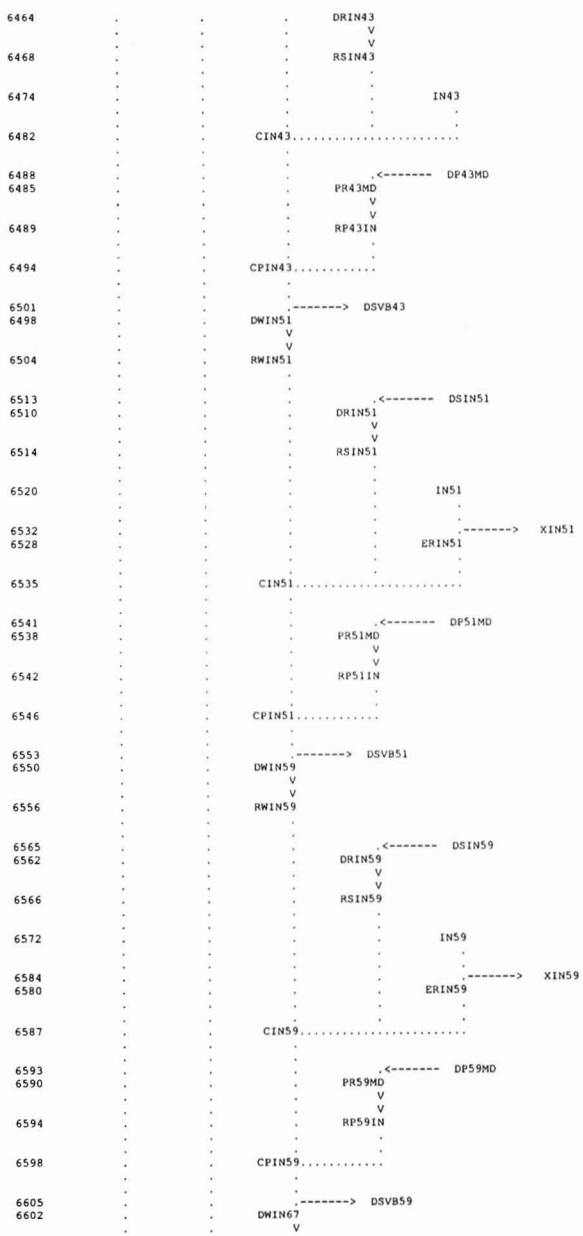
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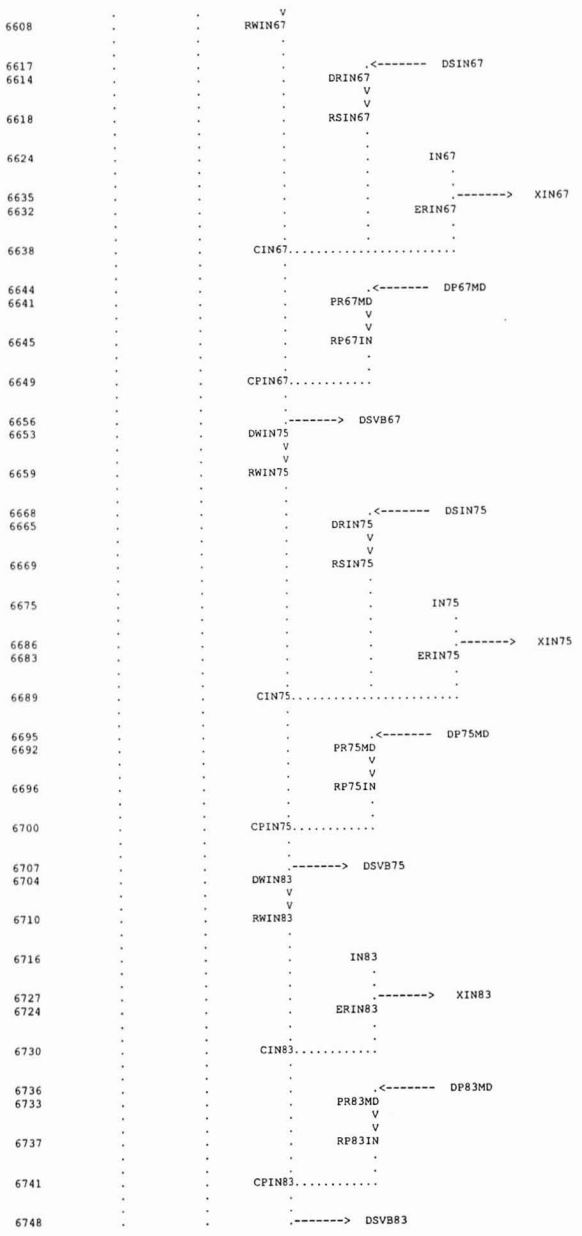
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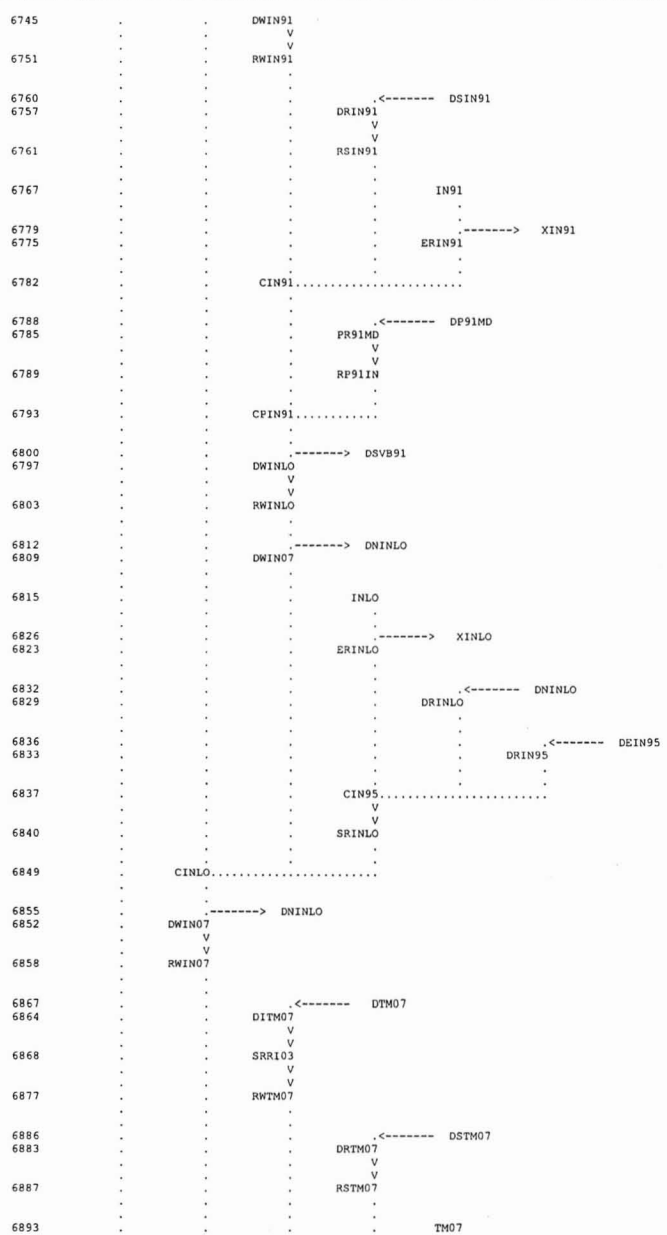
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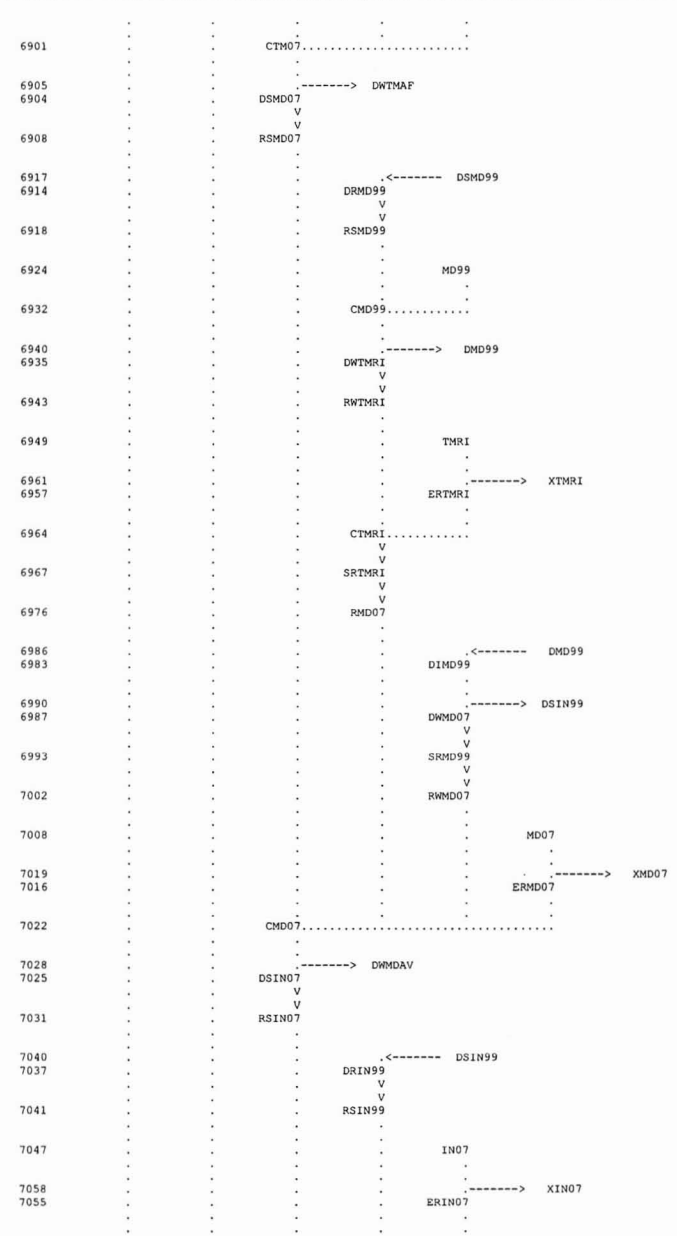
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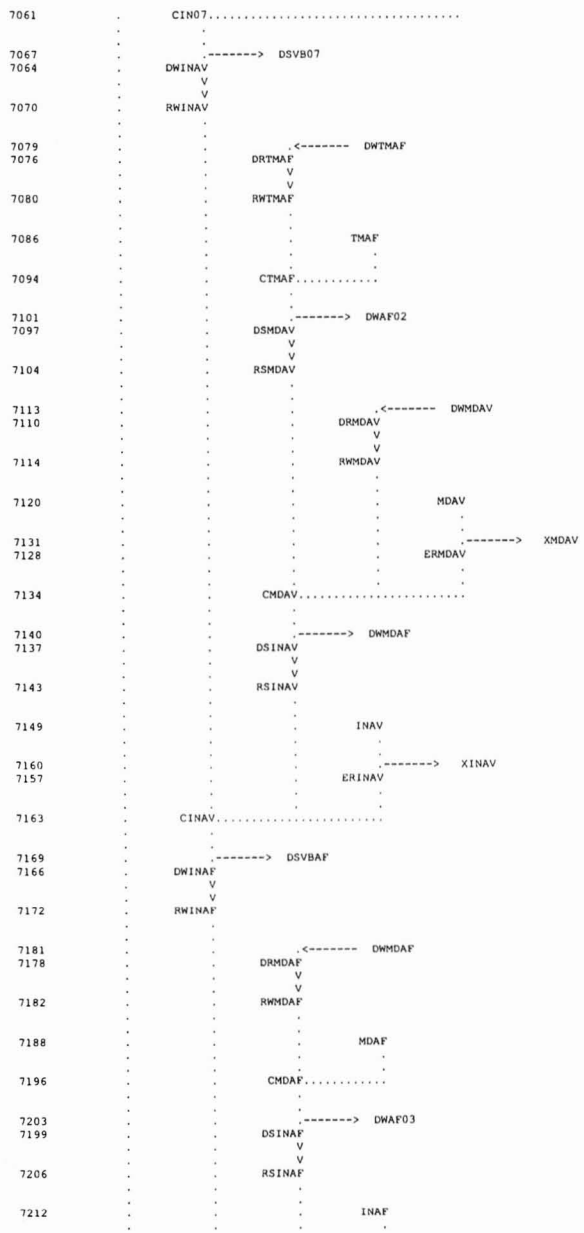

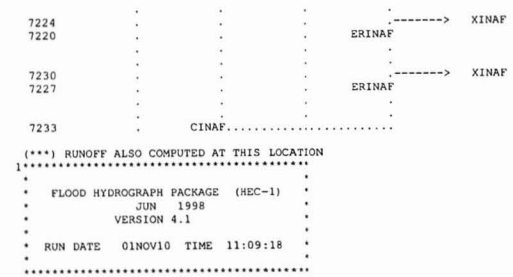

(***) RUNOFF ALSO COMPUTED AT THIS LOCATION

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*             JUN  1998              *
*           VERSION 4.1              *
*                                    *
*  RUN DATE   01NOV10  TIME  11:09:18*
*                                    *
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*                                  *
*    U.S. ARMY CORPS OF ENGINEERS  *
*    HYDROLOGIC ENGINEERING CENTER *
*         609 SECOND STREET        *
*       DAVIS, CALIFORNIA 95616    *
*           (916) 756-1104         *
*                                  *
************************************
```

GLENDALE STORMWATER MANAGEMENT PLAN
Model for Maryvale Watershed
Future Conditions

Prepared for the City of Glendale
In Association with the Flood Control District of Maricopa County
City Project Number 089017

Prepared by Kimley-Horn and Associates, Inc.
KHA Project Number 091910009
October 2010

MODELING PARAMETERS
- 100 Year 6 Hour Storm Event
- NOAA 14 Rainfall Data
- Clark Unit Hydrograph
- Green and Ampt Rainfall Loss Method

Topo data extracted from Flood Control District database July 24, 2009
Land use obtained from City of Glendale General Plan August 2009, City of Phoenix General Plan August 2009, and MAG General Plan Land Use 2007

Storage routing data obtained from As-built records where possible
When As-built data was not available data was obtained from HEC-1 models and checked for accuracy. HEC-1 models used include:
- Maryvale ADMS, February 1997
- Maryvale model modified by DMJM for improvements along the Bethany Home Outfall Channel, file BHGC00C6.dat, November 2004
- Update to ponding areas along Grand Canal in the City of Glendale for a CLOMR by PEC, February 2008

The source of data is identified on each individual storage routing card

****

MODELING NOMENCLATURE
SUBBASIN HYDROGRAPH:
Example: OL51 - the subbasin northeast of Olive and 51st Avenue

STORM DRAIN DIVERSION:
Example: DOL51 - flow from subbasin OL51 is diverted to a storm drain

SUBBASIN DIVERSION:
Example: DWOL59 - flow is diverted west towards Olive and 59th Avenue
Example: DSNO51 - flow is diverted south towards Northern and 51st Ave

ROUTE HYDROGRAPH:
Example: RWOL59 - flow is routed west towards Olive and 59th Avenue
Example: RSNO59 - flow is routed south towards Northern and 59th Ave

COMBINE HYDROGRAPH:
Example: COL59 - combine flow at Olive and 59th Avenue

NAME ABBREVIATIONS

Jomax Road	JM
Happy Valley Road	HV
Pinnacle Peak Road	PP
Deer Valley Road	DV
Loop 101	LO
Beardsley Road	BY
Union Hills Drive	UH
Bell Road	BL
Greenway Road	GW
Thunderbird Road	TB
Cactus Road	CT
Peoria Avenue	PE
Olive Avenue	OL
Northern Avenue	NO

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                          Glendale Avenue        GL
                          Bethany Home Road      BH
                          Camelback Road         CB
                          Indian School Road     IS
                          Thomas Road            TM
                          McDowell Road          MD
                          Interstate 10          IN
                          Van Buren Street       VB
                          Avondale Boulevard     AV
                          Grand Avenue           GR
                          Grand Canal            GC
                          Brown Street           BR
                          Mountain View Road     MV
                          Orangewood Avenue      OW
                          Mitchell Drive         ML
                          Agua Fria River        AF
                          New River              NR
                          Skunk Creek            SK
                          Roosevelt Irrigation   RI

                       PREFIXES FOR MODELING OPERATIONS
                          RW     Routing flow in the west direction
                          RS     Routing flow in the south direction
                          RP     Routing storm drain pipe flow
                          C      Combination point
                          CI     Combination point at an intersection
                          CP     Combination point for storm drain pipe flow
                          SR     Storage for detention/retention basins
                          DW     Divert flow to the west
                          DE     Divert flow to the east
                          DS     Divert flow to the south
                          DN     Divert flow to the north
                          ER     Divert flow for existing 100-yr 2-hr retention
                          X      Existing retention divertion does not return to model
                          DR     Divert retrieval from surface flow
                          DI     Divert retrieval from intersection flow
                          D      Divert surface flow (remains after storm drain divert)
                          DP     Divert flow to a storm drain pipe
                          PR     Divert retrieval from a storm drain pipe

                     **********************************************************************

111 IO          OUTPUT CONTROL VARIABLES
                      IPRNT          5  PRINT CONTROL
                      IPLOT          0  PLOT CONTROL
                      QSCAL          0.  HYDROGRAPH PLOT SCALE

    IT          HYDROGRAPH TIME DATA
                      NMIN           5  MINUTES IN COMPUTATION INTERVAL
                      IDATE      1   0  STARTING DATE
                      ITIME        0000  STARTING TIME
                         NQ        1000  NUMBER OF HYDROGRAPH ORDINATES
                      NDDATE     4   0  ENDING DATE
                      NDTIME       1115  ENDING TIME
                      ICENT          19  CENTURY MARK

                   COMPUTATION INTERVAL      .08 HOURS
                        TOTAL TIME BASE    83.25 HOURS

              ENGLISH UNITS
                   DRAINAGE AREA          SQUARE MILES
                   PRECIPITATION DEPTH    INCHES
                   LENGTH, ELEVATION      FEET
                   FLOW                   CUBIC FEET PER SECOND
                   STORAGE VOLUME         ACRE-FEET
                   SURFACE AREA           ACRES
                   TEMPERATURE            DEGREES FAHRENHEIT

112 JD          INDEX STORM NO. 1
                      STRM         2.64  PRECIPITATION DEPTH
                      TRDA          .00  TRANSPOSITION DRAINAGE AREA

113 PI            PRECIPITATION PATTERN
                     .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                     .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                     .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                     .00       .00       .00       .01       .01       .01       .01       .01       .01       .03
                     .03       .03       .05       .05       .05       .15       .15       .15       .03       .03
                     .03       .01       .01       .01       .01       .01       .01       .00       .00       .00
                     .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                     .00       .00

116 JD          INDEX STORM NO. 2
                      STRM         2.62  PRECIPITATION DEPTH
                      TRDA          .50  TRANSPOSITION DRAINAGE AREA

117 PI            PRECIPITATION PATTERN
                     .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                     .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                     .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                     .00       .00       .00       .01       .01       .01       .01       .01       .01       .03
                     .03       .03       .05       .05       .05       .15       .15       .15       .03       .03
                     .03       .01       .01       .01       .01       .01       .01       .00       .00       .00
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                     .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                     .00       .00

120 JD          INDEX STORM NO. 3
                      STRM         2.57  PRECIPITATION DEPTH
                      TRDA         2.80  TRANSPOSITION DRAINAGE AREA

121 PI            PRECIPITATION PATTERN
                     .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                     .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                     .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                     .00       .00       .00       .01       .01       .01       .01       .01       .01       .03
                     .03       .03       .07       .07       .07       .08       .08       .08       .05       .05
                     .05       .02       .02       .02       .01       .01       .01       .00       .00       .00
                     .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                     .00       .00

124 JD          INDEX STORM NO. 4
                      STRM         2.43  PRECIPITATION DEPTH
                      TRDA        16.00  TRANSPOSITION DRAINAGE AREA

125 PI            PRECIPITATION PATTERN
                     .01       .01       .00       .00       .00       .00       .00       .00       .00       .01
                     .01       .01       .00       .01       .00       .00       .00       .00       .00       .00
                     .00       .00       .01       .00       .00       .00       .00       .01       .01       .01
                     .01       .01       .01       .01       .01       .01       .02       .02       .02       .03
                     .03       .03       .06       .06       .06       .07       .07       .07       .04       .04
                     .04       .02       .02       .02       .01       .01       .01       .01       .01       .01
                     .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                     .00       .00

128 JD          INDEX STORM NO. 5
                      STRM         2.14  PRECIPITATION DEPTH
                      TRDA        90.00  TRANSPOSITION DRAINAGE AREA

129 PI            PRECIPITATION PATTERN
                     .01       .01       .01       .00       .00       .00       .01       .01       .01       .01
                     .01       .01       .01       .01       .01       .01       .01       .01       .01       .01
                     .01       .01       .01       .01       .01       .01       .01       .01       .01       .01
                     .01       .01       .01       .01       .01       .01       .02       .02       .02       .03
                     .03       .03       .05       .05       .05       .05       .05       .05       .04       .04
                     .04       .02       .02       .02       .02       .02       .02       .01       .01       .01
                     .01       .01       .01       .01       .01       .01       .01       .01       .01       .01
                     .01       .01

132 JD          INDEX STORM NO. 6
                      STRM         2.11  PRECIPITATION DEPTH
                      TRDA       100.00  TRANSPOSITION DRAINAGE AREA

133 PI            PRECIPITATION PATTERN
                     .01       .01       .01       .00       .01       .00       .01       .01       .01       .01
                     .01       .01       .01       .01       .01       .01       .01       .01       .01       .01
                     .01       .01       .01       .01       .01       .01       .01       .01       .01       .01
                     .01       .01       .01       .01       .01       .01       .02       .02       .02       .03
                     .03       .03       .04       .04       .04       .05       .05       .05       .04       .04
                     .04       .02       .02       .02       .02       .02       .02       .01       .01       .01
                     .01       .01       .01       .01       .01       .01       .01       .01       .01       .01
                     .01       .01

          *** FDKRUT WARNING TIME STEP CALCULATION FAILED TO CONVERGE. STABILITY PROBLEMS MAY RESULT

     ***  Multiple FDKRUT Warnings deleted from model for brevity and in consideration of the environment when printing ***

     ***  Warning from RWGC83:

WARNING --- ROUTED OUTFLOW (   1745.) IS GREATER THAN MAXIMUM OUTFLOW (   1682.) IN STORAGE-OUTFLOW TABLE

WARNING --- ROUTED OUTFLOW (   1852.) IS GREATER THAN MAXIMUM OUTFLOW (   1682.) IN STORAGE-OUTFLOW TABLE

WARNING --- ROUTED OUTFLOW (   1929.) IS GREATER THAN MAXIMUM OUTFLOW (   1682.) IN STORAGE-OUTFLOW TABLE

WARNING --- ROUTED OUTFLOW (   1979.) IS GREATER THAN MAXIMUM OUTFLOW (   1682.) IN STORAGE-OUTFLOW TABLE

WARNING --- ROUTED OUTFLOW (   2011.) IS GREATER THAN MAXIMUM OUTFLOW (   1682.) IN STORAGE-OUTFLOW TABLE

WARNING --- ROUTED OUTFLOW (   2030.) IS GREATER THAN MAXIMUM OUTFLOW (   1682.) IN STORAGE-OUTFLOW TABLE

WARNING --- ROUTED OUTFLOW (   2038.) IS GREATER THAN MAXIMUM OUTFLOW (   1682.) IN STORAGE-OUTFLOW TABLE

WARNING --- ROUTED OUTFLOW (   2038.) IS GREATER THAN MAXIMUM OUTFLOW (   1682.) IN STORAGE-OUTFLOW TABLE

WARNING --- ROUTED OUTFLOW (   2031.) IS GREATER THAN MAXIMUM OUTFLOW (   1682.) IN STORAGE-OUTFLOW TABLE

WARNING --- ROUTED OUTFLOW (   2019.) IS GREATER THAN MAXIMUM OUTFLOW (   1682.) IN STORAGE-OUTFLOW TABLE

WARNING --- ROUTED OUTFLOW (   2004.) IS GREATER THAN MAXIMUM OUTFLOW (   1682.) IN STORAGE-OUTFLOW TABLE

     ***  Several similar warnings for routed outflow greater than maximum outflow deleted (this route only) for brevity
          and in consideration of the environment when printing
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WARNING EXCESS AT PONDING LESS THAN ZERO FOR PERIOD. EXCESS SET TO ZERO
WARNING EXCESS AT PONDING LESS THAN ZERO FOR PERIOD. EXCESS SET TO ZERO

1

RUNOFF SUMMARY
FLOW IN CUBIC FEET PER SECOND
TIME IN HOURS, AREA IN SQUARE MILES

	OPERATION	STATION	PEAK FLOW	TIME OF PEAK	AVERAGE FLOW FOR MAXIMUM PERIOD 6-HOUR	24-HOUR	72-HOUR	BASIN AREA	MAXIMUM STAGE	TIME OF MAX STAGE
+	HYDROGRAPH AT	GW83	156.	4.58	49.	13.	4.	.29		
+	DIVERSION TO	DPGW83	45.	4.08	27.	7.	2.	.29		
+	HYDROGRAPH AT	DGW83	111.	4.58	22.	6.	2.	.29		
+	DIVERSION TO	DWSK01	63.	4.58	13.	3.	1.	.29		
+	HYDROGRAPH AT	DSTB83	48.	4.58	9.	2.	1.	.29		
+	ROUTED TO	RSTB83	39.	5.75	9.	2.	1.	.29		
+	HYDROGRAPH AT	TB67	343.	4.25	55.	14.	5.	.26		
+	DIVERSION TO	DSCT67	137.	4.25	22.	6.	2.	.26		
+	HYDROGRAPH AT	DWTB75	206.	4.25	33.	8.	3.	.26		
+	ROUTED TO	RWTB75	173.	4.75	33.	8.	3.	.26		
+	HYDROGRAPH AT	TB75	832.	4.50	204.	52.	17.	1.03		
+	DIVERSION TO	XTB75	204.	4.00	20.	5.	2.	1.03		
+	HYDROGRAPH AT	ERTB75	832.	4.50	187.	47.	16.	1.03		
+	2 COMBINED AT	CTB75	945.	4.67	218.	55.	18.	1.18		
+	DIVERSION TO	DPTB75	161.	4.08	76.	19.	6.	1.18		
+	HYDROGRAPH AT	DTB75	784.	4.67	142.	36.	12.	1.18		
+	DIVERSION TO	DSCT75	353.	4.67	64.	16.	5.	1.18		
+	HYDROGRAPH AT	DWTB83	431.	4.67	78.	20.	7.	1.18		
+	ROUTED TO	RWTB83	393.	5.00	78.	20.	7.	1.18		
+	HYDROGRAPH AT	TB83	570.	4.75	180.	46.	15.	.99		
+	DIVERSION TO	XTB83	476.	4.42	39.	10.	3.	.99		
+	HYDROGRAPH AT	ERTB83	570.	4.75	147.	37.	12.	.99		
+	3 COMBINED AT	CTB83	898.	4.92	225.	56.	19.	1.77		
+	HYDROGRAPH AT	PRTB75	161.	4.08	76.	19.	6.	1.18		
+	ROUTED TO	RPTB83	161.	4.25	76.	19.	6.	1.18		
+	2 COMBINED AT	CPTB83	1059.	4.92	301.	75.	25.	1.77		

+	DIVERSION TO	DPTB83	247.	4.50	133.	34.	11.	1.77
+	HYDROGRAPH AT	DTB83	812.	4.92	168.	42.	14.	1.77
+	DIVERSION TO	DSCT83	577.	4.92	119.	30.	10.	1.77
+	HYDROGRAPH AT	DWTBLO	236.	4.92	49.	12.	4.	1.77
+	ROUTED TO	RWTBLO	229.	5.08	49.	12.	4.	1.77
+	HYDROGRAPH AT	TBLO	89.	4.42	25.	6.	2.	.10
+	DIVERSION TO	XTBLO	89.	4.42	22.	5.	2.	.10
+	HYDROGRAPH AT	ERTBLO	22.	6.00	4.	1.	0.	.10
+	2 COMBINED AT	CTBLO	258.	5.00	57.	14.	5.	.62
+	HYDROGRAPH AT	PRTB83	247.	4.50	133.	34.	11.	1.77
+	ROUTED TO	RPTBLO	247.	4.58	133.	34.	11.	1.77
+	2 COMBINED AT	CPTBLO	505.	5.00	188.	47.	16.	.62
+	ROUTED TO	RSCTLO	499.	5.17	188.	47.	16.	.62
+	HYDROGRAPH AT	CT59	297.	4.42	62.	16.	5.	.30
+	DIVERSION TO	XCT59	297.	4.42	50.	12.	4.	.30
+	HYDROGRAPH AT	ERCT59	108.	5.25	13.	3.	1.	.30
+	DIVERSION TO	DP59CT	18.	5.17	5.	1.	0.	.30
+	HYDROGRAPH AT	D59CT	90.	5.25	7.	2.	1.	.30
+	DIVERSION TO	DSPE59	61.	5.25	5.	1.	0.	.30
+	HYDROGRAPH AT	DWCT67	29.	5.25	2.	1.	0.	.30
+	ROUTED TO	RWCT67	15.	6.17	2.	1.	0.	.30
+	HYDROGRAPH AT	DRCT67	137.	4.25	22.	6.	2.	.26
+	ROUTED TO	RSCT67	120.	4.67	22.	6.	2.	.26
+	HYDROGRAPH AT	CT67	726.	4.50	174.	44.	15.	.91
+	DIVERSION TO	XCT67	656.	4.33	54.	14.	5.	.91
+	HYDROGRAPH AT	ERCT67	719.	4.58	122.	31.	10.	.91
+	3 COMBINED AT	CCT67	801.	4.58	145.	36.	12.	1.11
+	DIVERSION TO	DPCT67	268.	4.50	88.	22.	7.	1.11
+	HYDROGRAPH AT	DCT67	533.	4.58	57.	14.	5.	1.11
+	DIVERSION TO	DSPE67	229.	4.58	25.	6.	2.	1.11
+	HYDROGRAPH AT	DWCT75	304.	4.58	32.	8.	3.	1.11

+	ROUTED TO	RWCT75	228.	5.17	32.	8.	3.	1.11
+	HYDROGRAPH AT	DRCT75	353.	4.67	64.	16.	5.	1.18
+	ROUTED TO	RSCT75	326.	4.92	64.	16.	5.	1.18
+	HYDROGRAPH AT	CT75	637.	4.67	199.	51.	17.	1.00
+	DIVERSION TO	XCT75	626.	4.58	59.	15.	5.	1.00
+	HYDROGRAPH AT	ERCT75	637.	4.75	145.	36.	12.	1.00
+	3 COMBINED AT	CCT75	1001.	5.17	231.	58.	19.	2.17
+	HYDROGRAPH AT	PRCT67	268.	4.50	88.	22.	7.	1.11
+	ROUTED TO	RPCT75	268.	4.67	88.	22.	7.	1.11
+	2 COMBINED AT	CPCT75	1269.	5.17	319.	80.	27.	2.17
+	DIVERSION TO	DPCT75	651.	4.75	234.	59.	20.	2.17
+	HYDROGRAPH AT	DCT75	618.	5.17	84.	21.	7.	2.17
+	DIVERSION TO	DSPE75	309.	5.17	42.	11.	4.	2.17
+	HYDROGRAPH AT	DWCT83	309.	5.17	42.	11.	4.	2.17
+	ROUTED TO	RWCT83	270.	5.50	42.	11.	4.	2.17
+	HYDROGRAPH AT	DRCT83	577.	4.92	119.	30.	10.	1.77
+	ROUTED TO	RSCT83	554.	5.25	119.	30.	10.	1.77
+	HYDROGRAPH AT	CT83	645.	4.75	204.	52.	17.	1.01
+	DIVERSION TO	XCT83	604.	4.50	58.	15.	5.	1.01
+	HYDROGRAPH AT	ERCT83	645.	4.75	151.	38.	13.	1.01
+	3 COMBINED AT	CCT83	1162.	5.33	293.	73.	24.	3.34
+	HYDROGRAPH AT	PRCT75	651.	4.75	234.	59.	20.	2.17
+	ROUTED TO	RPCT83	651.	4.92	234.	59.	20.	2.17
+	2 COMBINED AT	CPCT83	1813.	5.33	526.	132.	44.	3.34
+	DIVERSION TO	DPCT83	663.	4.75	298.	75.	25.	3.34
+	HYDROGRAPH AT	DCT83	1150.	5.33	228.	57.	19.	3.34
+	DIVERSION TO	DSPE83	471.	5.33	94.	23.	8.	3.34
+	HYDROGRAPH AT	DWCTLO	678.	5.33	135.	34.	11.	3.34
+	ROUTED TO	RWCTLO	655.	5.67	135.	34.	11.	3.34
+	HYDROGRAPH AT	CTLO	560.	4.67	185.	48.	16.	.87
+	DIVERSION TO	XCTLO	560.	4.67	93.	23.	8.	.87

+	HYDROGRAPH AT	ERCTLO	465.	5.17	100.	25.	8.	.87
+	3 COMBINED AT	CCTLO	1413.	5.50	408.	102.	34.	3.46
+	HYDROGRAPH AT	PRCT83	663.	4.75	298.	75.	25.	3.34
+	ROUTED TO	RPCTLO	663.	4.92	298.	75.	25.	3.34
+	2 COMBINED AT	CPCTLO	2076.	5.50	705.	177.	59.	3.46
+	DIVERSION TO	DWNR01	1915.	5.58	694.	174.	58.	3.46
+	HYDROGRAPH AT	DSCTLO	161.	5.50	10.	3.	1.	3.46
+	DIVERSION TO	DSGR91	0.	.00	0.	0.	0.	3.46
+	HYDROGRAPH AT	DSPELO	161.	5.50	10.	3.	1.	3.46
+	HYDROGRAPH AT	PE51	438.	4.42	92.	23.	8.	.42
+	DIVERSION TO	DSOL51	175.	4.42	37.	9.	3.	.42
+	HYDROGRAPH AT	DWPE59	263.	4.42	55.	14.	5.	.42
+	ROUTED TO	RWPE59	237.	4.83	55.	14.	5.	.42
+	HYDROGRAPH AT	DRPE59	61.	5.25	5.	1.	0.	.30
+	ROUTED TO	RSPE59	32.	6.25	5.	1.	0.	.30
+	HYDROGRAPH AT	PE59	708.	4.67	205.	52.	17.	.99
+	DIVERSION TO	XPE59	213.	4.00	17.	4.	1.	.99
+	HYDROGRAPH AT	ERPE59	708.	4.67	191.	48.	16.	.99
+	3 COMBINED AT	CPE59	875.	4.75	247.	62.	21.	1.44
+	HYDROGRAPH AT	PR59CT	18.	5.17	5.	1.	0.	.30
+	2 COMBINED AT	CPPE59	875.	4.75	252.	63.	21.	1.44
+	DIVERSION TO	DP59PE	235.	4.17	123.	31.	10.	1.44
+	HYDROGRAPH AT	D59PE	640.	4.75	128.	32.	11.	1.44
+	DIVERSION TO	DSOL59	365.	4.75	73.	18.	6.	1.44
+	HYDROGRAPH AT	DWPE67	275.	4.75	55.	14.	5.	1.44
+	ROUTED TO	RWPE67	258.	5.17	55.	14.	5.	1.44
+	HYDROGRAPH AT	DRPE67	229.	4.58	25.	6.	2.	1.11
+	ROUTED TO	RSPE67	167.	5.33	25.	6.	2.	1.11
+	HYDROGRAPH AT	PE67	654.	4.67	196.	50.	17.	.96
+	DIVERSION TO	XPE67	654.	4.67	113.	28.	9.	.96
+	HYDROGRAPH AT	ERPE67	481.	5.25	88.	22.	7.	.96

+	3 COMBINED AT	CPE67	862.	5.25	160.	40.	13.	2.06
+	ROUTED TO	SRPE67	821.	5.33	137.	34.	11.	2.06
+	DIVERSION TO	DP67PE	162.	5.33	62.	16.	5.	2.06
+	HYDROGRAPH AT	D67PE	659.	5.33	75.	19.	6.	2.06
+	DIVERSION TO	DSOL67	250.	5.33	28.	7.	2.	2.06
+	HYDROGRAPH AT	DWPE75	408.	5.33	46.	12.	4.	2.06
+	ROUTED TO	RWPE75	285.	5.92	46.	12.	4.	2.06
+	HYDROGRAPH AT	DRPE75	309.	5.17	42.	11.	4.	2.17
+	ROUTED TO	RSPE75	272.	5.50	42.	11.	4.	2.17
+	HYDROGRAPH AT	PE75	640.	4.75	204.	52.	17.	1.01
+	DIVERSION TO	XPE75	234.	4.08	19.	5.	2.	1.01
+	HYDROGRAPH AT	ERPE75	640.	4.75	191.	48.	16.	1.01
+	3 COMBINED AT	CPE75	709.	5.83	263.	66.	22.	3.36
+	DIVERSION TO	DP75PE	179.	4.17	108.	27.	9.	3.36
+	HYDROGRAPH AT	D75PE	530.	5.83	155.	39.	13.	3.36
+	DIVERSION TO	DSOL75	275.	5.83	81.	20.	7.	3.36
+	HYDROGRAPH AT	DWPE83	254.	5.83	75.	19.	6.	3.36
+	ROUTED TO	RWPE83	234.	6.08	75.	19.	6.	3.36
+	HYDROGRAPH AT	DRPE83	471.	5.33	94.	23.	8.	3.34
+	ROUTED TO	RSPE83	450.	5.67	94.	23.	8.	3.34
+	HYDROGRAPH AT	PE83	660.	4.75	218.	56.	19.	1.00
+	DIVERSION TO	XPE83	656.	4.67	74.	19.	6.	1.00
+	HYDROGRAPH AT	ERPE83	654.	4.83	150.	38.	13.	1.00
+	3 COMBINED AT	CPE83	1042.	5.58	305.	76.	25.	3.97
+	DIVERSION TO	DPPE83	112.	4.83	69.	17.	6.	3.97
+	HYDROGRAPH AT	DPE83	930.	5.58	236.	59.	20.	3.97
+	DIVERSION TO	DSGR83	446.	5.58	113.	28.	9.	3.97
+	HYDROGRAPH AT	DWGR91	484.	5.58	123.	31.	10.	3.97
+	DIVERSION TO	DWPE91	174.	5.58	44.	11.	4.	3.97
+	HYDROGRAPH AT	DGR91	310.	5.58	79.	20.	7.	3.97
+	HYDROGRAPH AT	DRGR91	0.	.00	0.	0.	0.	3.46

+	ROUTED TO	RSGR91	0.	.00	0.	0.	0.	3.46
+	HYDROGRAPH AT	GR91	592.	4.42	118.	30.	10.	.51
+	DIVERSION TO	XGR91	592.	4.42	58.	14.	5.	.51
+	HYDROGRAPH AT	ERGR91	529.	4.58	61.	15.	5.	.51
+	3 COMBINED AT	CGR91	536.	4.83	137.	34.	11.	3.58
+	DIVERSION TO	DSPE91	359.	4.83	92.	23.	8.	3.58
+	HYDROGRAPH AT	DWGRLO	177.	4.83	45.	11.	4.	3.58
+	2 COMBINED AT	CGRLO	331.	5.50	58.	14.	5.	2.91
+	ROUTED TO	RSPELO	314.	5.58	58.	14.	5.	2.91
+	DIVERSION TO	DWNR02	314.	5.58	58.	14.	5.	2.91
+	HYDROGRAPH AT	DSOLLO	0.	.00	0.	0.	0.	2.91
+	HYDROGRAPH AT	DRPE91	359.	4.83	92.	23.	8.	3.58
+	ROUTED TO	SRGR91	330.	5.08	81.	20.	7.	3.58
+	HYDROGRAPH AT	DIPE91	174.	5.58	44.	11.	4.	3.97
+	2 COMBINED AT	CIPEGR	486.	5.50	128.	32.	11.	3.14
+	ROUTED TO	RWPE91	475.	5.75	128.	32.	11.	3.14
+	HYDROGRAPH AT	PE91	627.	4.33	119.	30.	10.	.51
+	DIVERSION TO	XPE91	394.	4.08	26.	7.	2.	.51
+	HYDROGRAPH AT	ERPE91	627.	4.33	94.	23.	8.	.51
+	2 COMBINED AT	CPE91	552.	5.67	214.	54.	18.	3.65
+	HYDROGRAPH AT	PRPE83	112.	4.83	69.	17.	6.	3.97
+	ROUTED TO	RPPE91	112.	5.00	69.	17.	6.	3.97
+	2 COMBINED AT	CPPE91	664.	5.67	283.	71.	24.	3.65
+	DIVERSION TO	DPPE91	147.	4.17	109.	27.	9.	3.65
+	HYDROGRAPH AT	DPE91	517.	5.67	173.	43.	14.	3.65
+	DIVERSION TO	DSOL91	285.	5.67	95.	24.	8.	3.65
+	HYDROGRAPH AT	DWPELO	233.	5.67	78.	19.	6.	3.65
+	ROUTED TO	RWPELO	230.	5.75	78.	19.	6.	3.65
+	HYDROGRAPH AT	PELO	228.	4.42	59.	15.	5.	.27
+	DIVERSION TO	XPELO	219.	4.33	18.	5.	2.	.27
+	HYDROGRAPH AT	ERPELO	228.	4.50	42.	11.	4.	.27

+	3 COMBINED AT	CPELO	301.	4.58	112.	28.	9.	4.81
+	HYDROGRAPH AT	PRPE91	147.	4.17	109.	27.	9.	3.65
+	ROUTED TO	RPPELO	147.	4.25	109.	27.	9.	3.65
+	2 COMBINED AT	CPPELO	448.	4.58	221.	55.	19.	4.81
+	DIVERSION TO	DPPELO	255.	4.50	167.	42.	14.	4.81
+	HYDROGRAPH AT	DPELO	193.	4.58	54.	14.	5.	4.81
+	ROUTED TO	RSOLLO	175.	5.83	54.	14.	5.	4.81
+	HYDROGRAPH AT	OL35	199.	4.33	47.	12.	4.	.21
+	DIVERSION TO	DP35OL	61.	3.92	28.	7.	2.	.21
+	HYDROGRAPH AT	D35OL	138.	4.33	18.	5.	2.	.21
+	DIVERSION TO	DSNO35	97.	4.33	13.	3.	1.	.21
+	HYDROGRAPH AT	DWOL43	41.	4.33	6.	1.	0.	.21
+	ROUTED TO	RWOL43	28.	5.50	6.	1.	0.	.21
+	HYDROGRAPH AT	OL43	426.	4.58	114.	29.	10.	.63
+	2 COMBINED AT	COL43	422.	4.58	119.	30.	10.	.70
+	DIVERSION TO	DP43OL	85.	4.00	50.	13.	4.	.70
+	HYDROGRAPH AT	D43OL	337.	4.58	69.	17.	6.	.70
+	DIVERSION TO	DSNO43	199.	4.58	41.	10.	3.	.70
+	HYDROGRAPH AT	DWOL51	138.	4.58	28.	7.	2.	.70
+	ROUTED TO	RWOL51	129.	5.08	28.	7.	2.	.70
+	HYDROGRAPH AT	DROL51	175.	4.42	37.	9.	3.	.42
+	ROUTED TO	RSOL51	156.	4.92	37.	9.	3.	.42
+	HYDROGRAPH AT	OL51	665.	4.67	200.	51.	17.	.99
+	DIVERSION TO	XOL51	86.	3.83	12.	3.	1.	.99
+	HYDROGRAPH AT	EROL51	665.	4.67	193.	48.	16.	.99
+	3 COMBINED AT	COL51	843.	4.92	252.	63.	21.	1.45
+	DIVERSION TO	DPOL51	297.	4.17	152.	38.	13.	1.45
+	HYDROGRAPH AT	DOL51	546.	4.92	100.	25.	8.	1.45
+	DIVERSION TO	DSNO51	186.	4.92	34.	8.	3.	1.45
+	HYDROGRAPH AT	DWOL59	360.	4.92	66.	16.	5.	1.45
+	ROUTED TO	RWOL59	331.	5.25	66.	16.	5.	1.45

+	HYDROGRAPH AT	DROL59	365.	4.75	73.	18.	6.	1.44
+	ROUTED TO	RSOL59	337.	5.17	73.	18.	6.	1.44
+	HYDROGRAPH AT	OL59	675.	4.67	207.	53.	18.	.99
+	DIVERSION TO	XOL59	515.	4.33	44.	11.	4.	.99
+	HYDROGRAPH AT	EROL59	675.	4.67	168.	42.	14.	.99
+	3 COMBINED AT	COL59	1123.	5.17	293.	73.	24.	2.78
+	HYDROGRAPH AT	PR59PE	235.	4.17	123.	31.	10.	1.44
+	ROUTED TO	RP59BR	235.	4.25	124.	31.	10.	1.44
+	DIVERSION TO	DPBR59	161.	4.17	93.	23.	8.	1.44
+	HYDROGRAPH AT	DBR59	74.	4.25	31.	8.	3.	1.44
+	ROUTED TO	RP59OL	74.	4.33	31.	8.	3.	1.44
+	HYDROGRAPH AT	PROL51	297.	4.17	152.	38.	13.	1.45
+	ROUTED TO	RPOL59	297.	4.33	152.	38.	13.	1.45
+	3 COMBINED AT	CPOL59	1423.	5.25	464.	116.	39.	4.22
+	DIVERSION TO	DPOL59	475.	4.50	257.	65.	22.	4.22
+	HYDROGRAPH AT	DOL59	948.	5.25	207.	52.	17.	4.22
+	DIVERSION TO	DSNO59	578.	5.25	126.	32.	11.	4.22
+	HYDROGRAPH AT	DWOL67	370.	5.25	81.	20.	7.	4.22
+	ROUTED TO	RWOL67	349.	5.50	81.	20.	7.	4.22
+	HYDROGRAPH AT	DROL67	250.	5.33	28.	7.	2.	2.06
+	ROUTED TO	RSOL67	174.	6.00	28.	7.	2.	2.06
+	HYDROGRAPH AT	OL67	726.	4.58	199.	51.	17.	.96
+	DIVERSION TO	XOL67	726.	4.58	80.	20.	7.	.96
+	HYDROGRAPH AT	EROL67	684.	4.75	123.	31.	10.	.96
+	3 COMBINED AT	COL67	781.	5.25	229.	57.	19.	2.84
+	HYDROGRAPH AT	PRBR59	161.	4.17	93.	23.	8.	1.44
+	ROUTED TO	RPBR63	161.	4.25	93.	23.	8.	1.44
+	ROUTED TO	SRBR63	165.	4.83	89.	23.	8.	1.44
+	ROUTED TO	RP63OL	163.	4.92	89.	23.	8.	1.44
+	HYDROGRAPH AT	PROL59	475.	4.50	257.	65.	22.	4.22
+	ROUTED TO	RPOL63	475.	4.58	257.	65.	22.	4.22

+	2 COMBINED AT	CPOL63	637.	4.92	346.	88.	29.	2.84
+	ROUTED TO	RPOL67	636.	5.00	346.	88.	29.	2.84
+	HYDROGRAPH AT	PR67PE	162.	5.33	62.	16.	5.	2.06
+	ROUTED TO	RP67MV	162.	5.42	62.	16.	5.	2.06
+	ROUTED TO	SR67MV	162.	5.75	61.	16.	5.	2.06
+	ROUTED TO	RP67OL	162.	5.83	61.	16.	5.	2.06
+	3 COMBINED AT	CPOL67	1380.	5.92	609.	155.	52.	5.68
+	DIVERSION TO	DPOL67	662.	4.83	396.	102.	34.	5.68
+	HYDROGRAPH AT	DOL67	718.	5.92	213.	53.	18.	5.68
+	DIVERSION TO	DSNO67	316.	5.92	94.	23.	8.	5.68
+	HYDROGRAPH AT	DWOL75	402.	5.92	119.	30.	10.	5.68
+	ROUTED TO	RWOL75	385.	6.08	119.	30.	10.	5.68
+	HYDROGRAPH AT	DROL75	275.	5.83	81.	20.	7.	3.36
+	ROUTED TO	RSOL75	255.	6.08	81.	20.	7.	3.36
+	HYDROGRAPH AT	OL75	669.	4.67	205.	53.	18.	1.00
+	DIVERSION TO	XOL75	669.	4.67	82.	21.	7.	1.00
+	HYDROGRAPH AT	EROL75	631.	4.92	128.	32.	11.	1.00
+	3 COMBINED AT	COL75	959.	5.50	318.	79.	26.	4.34
+	HYDROGRAPH AT	PROL67	662.	4.83	396.	102.	34.	5.68
+	ROUTED TO	RPOL71	662.	4.92	396.	102.	34.	5.68
+	2 COMBINED AT	CPOL71	1621.	5.50	714.	181.	60.	4.34
+	ROUTED TO	SROL71	1583.	5.75	579.	181.	60.	4.34
+	DIVERSION TO	DPOL71	386.	5.67	278.	106.	35.	4.34
+	HYDROGRAPH AT	DOL71	1197.	5.75	301.	75.	25.	4.34
+	HYDROGRAPH AT	PR75PE	179.	4.17	108.	27.	9.	3.36
+	ROUTED TO	RP75OL	179.	4.33	108.	27.	9.	3.36
+	HYDROGRAPH AT	PROL71	386.	5.67	278.	106.	35.	4.34
+	ROUTED TO	RPOL75	386.	5.75	278.	106.	35.	4.34
+	3 COMBINED AT	CPOL75	1762.	5.75	673.	209.	70.	4.34
+	DIVERSION TO	DPOL75	239.	4.58	230.	98.	33.	4.34
+	HYDROGRAPH AT	DOL75	1523.	5.75	443.	111.	37.	4.34

+	DIVERSION TO	DSGR75	777.	5.75	226.	56.	19.	4.34
+	HYDROGRAPH AT	DWGR83	746.	5.75	217.	54.	18.	4.34
+	HYDROGRAPH AT	DRGR83	446.	5.58	113.	28.	9.	3.97
+	DIVERSION TO	DSOL83	125.	5.58	32.	8.	3.	3.97
+	HYDROGRAPH AT	D83GR	321.	5.58	82.	20.	7.	3.97
+	ROUTED TO	RSGR83	272.	6.75	80.	20.	7.	3.97
+	HYDROGRAPH AT	GR83	546.	4.33	115.	29.	10.	.47
+	DIVERSION TO	XGR83	546.	4.33	65.	16.	5.	.47
+	HYDROGRAPH AT	ERGR83	451.	4.67	51.	13.	4.	.47
+	3 COMBINED AT	CGR83	909.	6.50	343.	87.	29.	3.99
+	ROUTED TO	SRGR83	826.	6.83	228.	58.	19.	3.99
+	DIVERSION TO	DS75NO	826.	6.83	228.	58.	19.	3.99
+	HYDROGRAPH AT	DWOL83	0.	.00	0.	0.	0.	3.99
+	ROUTED TO	RWOL83	0.	.00	0.	0.	0.	3.99
+	HYDROGRAPH AT	DIOL83	125.	5.58	32.	8.	3.	3.97
+	ROUTED TO	RSOL83	117.	6.08	32.	8.	3.	3.97
+	HYDROGRAPH AT	OL83	602.	4.42	129.	33.	11.	.54
+	DIVERSION TO	XOL83	602.	4.42	74.	19.	6.	.54
+	HYDROGRAPH AT	EROL83	459.	4.75	57.	14.	5.	.54
+	3 COMBINED AT	COL83	416.	4.83	92.	23.	8.	1.06
+	HYDROGRAPH AT	NO27	104.	4.42	30.	8.	3.	.13
+	DIVERSION TO	DP27NO	104.	4.42	30.	8.	3.	.13
+	HYDROGRAPH AT	D27NO	0.	.00	0.	0.	0.	.13
+	DIVERSION TO	DSGL27	0.	.00	0.	0.	0.	.13
+	HYDROGRAPH AT	DWNO35	0.	.00	0.	0.	0.	.13
+	ROUTED TO	RWNO35	0.	.00	0.	0.	0.	.13
+	HYDROGRAPH AT	DRNO35	97.	4.33	13.	3.	1.	.21
+	ROUTED TO	RSNO35	72.	5.17	13.	3.	1.	.21
+	HYDROGRAPH AT	NO35	577.	4.75	183.	47.	16.	.99
+	3 COMBINED AT	CNO35	597.	4.83	193.	50.	17.	1.14
+	HYDROGRAPH AT	PR27NO	104.	4.42	30.	8.	3.	.13

+	2 COMBINED AT	CPNO29	680.	4.75	222.	57.	19.	1.14
+	DIVERSION TO	DP29NO	114.	3.92	80.	22.	7.	1.14
+	HYDROGRAPH AT	D29NO	566.	4.75	142.	35.	12.	1.14
+	HYDROGRAPH AT	PR35OL	61.	3.92	28.	7.	2.	.21
+	ROUTED TO	RP35NO	61.	4.08	28.	7.	2.	.21
+	2 COMBINED AT	CPNO35	627.	4.75	171.	43.	14.	1.14
+	DIVERSION TO	DP35NO	113.	4.00	55.	14.	5.	1.14
+	HYDROGRAPH AT	D35NO	514.	4.75	115.	29.	10.	1.14
+	DIVERSION TO	DSGL35	236.	4.75	53.	13.	4.	1.14
+	HYDROGRAPH AT	DWNO43	277.	4.75	62.	16.	5.	1.14
+	ROUTED TO	RWNO43	261.	5.33	62.	16.	5.	1.14
+	HYDROGRAPH AT	DRNO43	199.	4.58	41.	10.	3.	.70
+	ROUTED TO	RSNO43	186.	5.08	41.	10.	3.	.70
+	HYDROGRAPH AT	NO43	564.	4.75	183.	47.	16.	1.00
+	3 COMBINED AT	CNO43	849.	5.17	271.	69.	23.	2.02
+	HYDROGRAPH AT	PR43OL	85.	4.00	50.	13.	4.	.70
+	ROUTED TO	RP43NO	85.	4.17	50.	13.	4.	.70
+	2 COMBINED AT	CPNO43	934.	5.17	321.	82.	27.	2.02
+	DIVERSION TO	DP43NO	241.	4.08	155.	41.	14.	2.02
+	HYDROGRAPH AT	D43NO	693.	5.17	165.	41.	14.	2.02
+	DIVERSION TO	DSGL43	354.	5.17	84.	21.	7.	2.02
+	HYDROGRAPH AT	DWNO51	340.	5.17	81.	20.	7.	2.02
+	ROUTED TO	RWNO51	319.	5.58	81.	20.	7.	2.02
+	HYDROGRAPH AT	DRNO51	186.	4.92	34.	8.	3.	1.45
+	ROUTED TO	RSNO51	167.	5.42	34.	8.	3.	1.45
+	HYDROGRAPH AT	NO51	565.	4.75	182.	47.	16.	.99
+	3 COMBINED AT	CNO51	827.	5.42	283.	72.	24.	2.47
+	DIVERSION TO	DPNO51	168.	4.08	116.	31.	10.	2.47
+	HYDROGRAPH AT	DNO51	659.	5.42	167.	42.	14.	2.47
+	DIVERSION TO	DSGL51	290.	5.42	74.	18.	6.	2.47
+	HYDROGRAPH AT	DWNO59	369.	5.42	94.	23.	8.	2.47

+	ROUTED TO	RWNO59	350.	5.67	94.	23.	8.	2.47
+	HYDROGRAPH AT	DRNO59	578.	5.25	126.	32.	11.	4.22
+	ROUTED TO	RSNO59	542.	5.58	126.	32.	11.	4.22
+	HYDROGRAPH AT	NO59	646.	4.67	198.	51.	17.	.99
+	DIVERSION TO	XNO59	563.	4.42	45.	11.	4.	.99
+	HYDROGRAPH AT	ERNO59	646.	4.67	158.	39.	13.	.99
+	3 COMBINED AT	CNO59	1206.	5.50	359.	90.	30.	4.06
+	ROUTED TO	SRNO59	1204.	5.58	344.	86.	29.	4.06
+	HYDROGRAPH AT	PRNO51	168.	4.08	116.	31.	10.	2.47
+	ROUTED TO	RPNO59	168.	4.25	116.	31.	10.	2.47
+	2 COMBINED AT	CPNO59	1372.	5.58	459.	117.	39.	4.06
+	DIVERSION TO	DPNO59	134.	4.17	107.	29.	10.	4.06
+	HYDROGRAPH AT	DNO59	1238.	5.58	352.	88.	29.	4.06
+	DIVERSION TO	DSGL59	409.	5.58	116.	29.	10.	4.06
+	HYDROGRAPH AT	DWNO67	830.	5.58	236.	59.	20.	4.06
+	ROUTED TO	RWNO67	807.	5.83	236.	59.	20.	4.06
+	HYDROGRAPH AT	DRNO67	316.	5.92	94.	23.	8.	5.68
+	ROUTED TO	RSNO67	300.	6.17	94.	23.	8.	5.68
+	HYDROGRAPH AT	NO67	659.	4.67	210.	54.	18.	.96
+	DIVERSION TO	XNO67	659.	4.67	110.	27.	9.	.96
+	HYDROGRAPH AT	ERNO67	547.	5.17	107.	27.	9.	.96
+	3 COMBINED AT	CNO67	1383.	5.75	421.	105.	35.	4.93
+	DIVERSION TO	DSGR67	899.	5.75	274.	68.	23.	4.93
+	HYDROGRAPH AT	DWGR75	484.	5.75	147.	37.	12.	4.93
+	DIVERSION TO	DWNO75	160.	5.75	49.	12.	4.	4.93
+	HYDROGRAPH AT	DGR75	324.	5.75	99.	25.	8.	4.93
+	ROUTED TO	RWGR75	306.	6.50	98.	25.	8.	4.93
+	HYDROGRAPH AT	DRGR75	777.	5.75	226.	56.	19.	4.34
+	DIVERSION TO	DSNO75	280.	5.75	81.	20.	7.	4.34
+	HYDROGRAPH AT	D75GR	497.	5.75	144.	36.	12.	4.34
+	HYDROGRAPH AT	GR75	597.	4.33	117.	30.	10.	.50

+	DIVERSION TO HYDROGRAPH AT	XGR75	597.	4.33	63.	16.	5.	.50
+	3 COMBINED AT	ERGR75	514.	4.58	56.	14.	5.	.50
+	ROUTED TO HYDROGRAPH AT	CGR75	824.	6.33	302.	77.	26.	3.09
+	2 COMBINED AT	SRGR75	748.	6.67	172.	75.	26.	3.09
+	DIVERSION TO HYDROGRAPH AT	PROL75	239.	4.58	230.	98.	33.	4.34
+	ROUTED TO	CPOLGR	987.	6.67	394.	173.	58.	3.09
+	2 COMBINED AT	DOLGR	748.	6.67	155.	39.	13.	3.09
+	DIVERSION TO HYDROGRAPH AT	DPOLGR	239.	4.58	239.	134.	45.	3.09
+	ROUTED TO	RPOL83	239.	4.75	239.	134.	45.	3.09
+	2 COMBINED AT	CPOL83	599.	4.92	322.	154.	52.	4.15
+	ROUTED TO	SROL83	448.	5.42	297.	153.	52.	4.15
+	DIVERSION TO HYDROGRAPH AT	DPOL83	243.	5.33	241.	139.	47.	4.15
+	DIVERSION TO HYDROGRAPH AT	DOL83	205.	5.42	57.	14.	5.	4.15
+	HYDROGRAPH AT	DSNO83	80.	5.42	22.	6.	2.	4.15
+	ROUTED TO	DWOL91	125.	5.42	35.	9.	3.	4.15
+	HYDROGRAPH AT	RWOL91	111.	6.50	35.	9.	3.	4.15
+	ROUTED TO	DROL91	285.	5.67	95.	24.	8.	3.65
+	HYDROGRAPH AT	RSOL91	268.	6.08	95.	24.	8.	3.65
+	DIVERSION TO HYDROGRAPH AT	OL91	735.	4.67	224.	58.	19.	1.02
+	HYDROGRAPH AT	XOL91	735.	4.67	96.	24.	8.	1.02
+	3 COMBINED AT	EROL91	682.	4.92	134.	34.	11.	1.02
+	HYDROGRAPH AT	COL91	723.	5.00	257.	64.	21.	3.68
+	ROUTED TO	PROL83	243.	5.33	241.	139.	47.	4.15
+	2 COMBINED AT	RPOL91	243.	5.50	241.	139.	47.	4.15
+	DIVERSION TO HYDROGRAPH AT	CPOL91	852.	5.08	485.	203.	69.	3.68
+	HYDROGRAPH AT	DSNO91	571.	5.08	325.	136.	46.	3.68
+	ROUTED TO	DWOLLO	281.	5.08	160.	67.	23.	3.68
+	HYDROGRAPH AT	RWOLLO	279.	5.17	160.	67.	23.	3.68
+	DIVERSION TO HYDROGRAPH AT	OLLO	168.	4.33	42.	11.	4.	.16
+	HYDROGRAPH AT	XOLLO	168.	4.33	23.	6.	2.	.16
+		EROLLO	122.	4.75	20.	5.	2.	.16

+	3 COMBINED AT ROUTED TO	COLLO	497.	5.08	221.	83.	28.	6.18
+	HYDROGRAPH AT	RSNOLO	469.	5.33	219.	83.	28.	6.18
+	HYDROGRAPH AT	DROLGR	748.	6.67	155.	39.	13.	3.09
+	HYDROGRAPH AT	DI75NO	280.	5.75	81.	20.	7.	4.34
+	3 COMBINED AT	DR75NO	826.	6.83	228.	58.	19.	3.99
+	ROUTED TO	CIGR75	1420.	7.17	394.	100.	34.	7.85
+	HYDROGRAPH AT	RSNO75	1349.	7.33	392.	100.	34.	7.85
+	ROUTED TO	DINO75	160.	5.75	49.	12.	4.	4.93
+	HYDROGRAPH AT	RWNO75	156.	6.08	49.	12.	4.	4.93
+	DIVERSION TO HYDROGRAPH AT	NO75	676.	4.33	132.	33.	11.	.51
+	3 COMBINED AT	XNO75	462.	4.08	39.	10.	3.	.51
+	DIVERSION TO HYDROGRAPH AT	ERNO75	676.	4.33	94.	23.	8.	.51
+	ROUTED TO	CNO75	1399.	7.33	501.	130.	43.	8.93
+	HYDROGRAPH AT	DPNO75	161.	4.17	151.	42.	14.	8.93
+	DIVERSION TO HYDROGRAPH AT	DNO75	1238.	7.33	350.	88.	29.	8.93
+	HYDROGRAPH AT	DSOW75	594.	7.33	168.	42.	14.	8.93
+	ROUTED TO	DWNO83	644.	7.33	182.	46.	15.	8.93
+	HYDROGRAPH AT	RWNO83	617.	7.50	181.	46.	15.	8.93
+	ROUTED TO	DRNO83	80.	5.42	22.	6.	2.	4.15
+	HYDROGRAPH AT	RSNO83	71.	6.33	22.	6.	2.	4.15
+	DIVERSION TO HYDROGRAPH AT	NO83	780.	4.67	253.	66.	22.	1.00
+	HYDROGRAPH AT	XNO83	780.	4.67	151.	38.	13.	1.00
+	3 COMBINED AT	ERNO83	584.	5.25	111.	28.	9.	1.00
+	HYDROGRAPH AT	CNO83	783.	7.33	322.	81.	27.	6.05
+	ROUTED TO	PRNO75	161.	4.17	151.	42.	14.	8.93
+	2 COMBINED AT	RPNO83	161.	4.33	150.	42.	14.	8.93
+	DIVERSION TO HYDROGRAPH AT	CPNO83	944.	7.33	473.	123.	41.	6.05
+	ROUTED TO	DPNO83	233.	4.67	212.	58.	19.	6.05
+	HYDROGRAPH AT	DNO83	711.	7.33	261.	65.	22.	6.05
+		RWNO91	681.	7.67	260.	65.	22.	6.05
+		DRNO91	571.	5.08	325.	136.	46.	3.68

+	ROUTED TO	RSNO91	553.	5.67	317.	136.	46.	3.68
+	HYDROGRAPH AT	NO91	624.	4.75	201.	52.	17.	.99
+	DIVERSION TO	XNO91	624.	4.75	109.	27.	9.	.99
+	HYDROGRAPH AT	ERNO91	478.	5.33	98.	25.	8.	.99
+	3 COMBINED AT	CNO91	1109.	5.83	610.	209.	70.	9.52
+	HYDROGRAPH AT	PRNO83	233.	4.67	212.	58.	19.	6.05
+	ROUTED TO	RPNO91	233.	4.83	212.	58.	19.	6.05
+	2 COMBINED AT	CPNO91	1342.	5.83	805.	266.	90.	9.52
+	ROUTED TO	SRNO91	1328.	6.00	716.	238.	90.	9.52
+	DIVERSION TO	DPNO91	69.	5.92	69.	57.	30.	9.52
+	HYDROGRAPH AT	DNO91	1259.	6.00	648.	181.	60.	9.52
+	DIVERSION TO	DSGL91	667.	6.00	343.	96.	32.	9.52
+	HYDROGRAPH AT	DWNOLO	592.	6.00	304.	85.	28.	9.52
+	ROUTED TO	RWNOLO	552.	6.42	300.	85.	28.	9.52
+	HYDROGRAPH AT	NOLO	262.	4.42	72.	19.	6.	.28
+	DIVERSION TO	XNOLO	262.	4.42	40.	10.	3.	.28
+	HYDROGRAPH AT	ERNOLO	198.	4.83	34.	9.	3.	.28
+	3 COMBINED AT	CNOLO	985.	6.33	518.	170.	57.	10.91
+	HYDROGRAPH AT	PRNO91	69.	5.92	69.	57.	30.	9.52
+	ROUTED TO	RPNOLO	69.	6.08	69.	57.	30.	9.52
+	2 COMBINED AT	CPNOLO	1054.	6.33	580.	226.	86.	10.91
+	DIVERSION TO	DPNOLO	15.	4.83	15.	15.	11.	10.91
+	HYDROGRAPH AT	DNOLO	1039.	6.33	565.	211.	75.	10.91
+	DIVERSION TO	DWNR03	917.	6.25	553.	208.	74.	10.91
+	HYDROGRAPH AT	DSGLLO	122.	6.33	12.	3.	1.	10.91
+	ROUTED TO	RSGLLO	105.	6.42	12.	3.	1.	10.91
+	HYDROGRAPH AT	DRGL43	354.	5.17	84.	21.	7.	2.02
+	ROUTED TO	RSGL43	337.	5.50	84.	21.	7.	2.02
+	HYDROGRAPH AT	GL43	639.	4.67	202.	52.	17.	1.00
+	2 COMBINED AT	CGL43	797.	5.25	282.	72.	24.	2.03
+	HYDROGRAPH AT	PR43NO	241.	4.08	155.	41.	14.	2.02

+	ROUTED TO	RP43GL	241.	4.25	155.	41.	14.	2.02
+	2 COMBINED AT	CPGL43	1038.	5.25	437.	113.	38.	2.03
+	DIVERSION TO	DP43GL	385.	4.08	257.	68.	23.	2.03
+	HYDROGRAPH AT	D43GL	653.	5.25	180.	45.	15.	2.03
+	DIVERSION TO	DSBH43	385.	5.25	106.	27.	9.	2.03
+	HYDROGRAPH AT	DWGL51	268.	5.25	74.	18.	6.	2.03
+	ROUTED TO	RWGL51	254.	5.67	74.	18.	6.	2.03
+	HYDROGRAPH AT	DRGL51	290.	5.42	74.	18.	6.	2.47
+	ROUTED TO	RSGL51	274.	5.75	74.	18.	6.	2.47
+	HYDROGRAPH AT	GL51	548.	4.75	186.	48.	16.	1.00
+	3 COMBINED AT	CGL51	832.	5.58	317.	81.	27.	2.91
+	DIVERSION TO	DSBH51	391.	5.58	149.	38.	13.	2.91
+	HYDROGRAPH AT	DWGL59	441.	5.58	168.	43.	14.	2.91
+	DIVERSION TO	DP47GL	378.	5.58	162.	42.	14.	2.91
+	HYDROGRAPH AT	D47GL	63.	5.58	6.	1.	0.	2.91
+	ROUTED TO	RWGL59	33.	6.33	6.	1.	0.	2.91
+	HYDROGRAPH AT	DRGL59	409.	5.58	116.	29.	10.	4.06
+	ROUTED TO	RSGL59	394.	5.92	116.	29.	10.	4.06
+	HYDROGRAPH AT	GL59	634.	4.67	196.	51.	17.	1.01
+	DIVERSION TO	XGL59	493.	4.33	45.	11.	4.	1.01
+	HYDROGRAPH AT	ERGL59	634.	4.67	157.	39.	13.	1.01
+	3 COMBINED AT	CGL59	673.	5.67	265.	66.	22.	3.91
+	DIVERSION TO	DP59GL	217.	4.50	128.	32.	11.	3.91
+	HYDROGRAPH AT	D59GL	456.	5.67	136.	34.	11.	3.91
+	DIVERSION TO	DSGR59	210.	5.67	63.	16.	5.	3.91
+	HYDROGRAPH AT	DWGR67	246.	5.67	74.	18.	6.	3.91
+	DIVERSION TO	DWGL67	64.	5.67	19.	5.	2.	3.91
+	HYDROGRAPH AT	DGR67	182.	5.67	54.	14.	5.	3.91
+	HYDROGRAPH AT	DRGL35	236.	4.75	53.	13.	4.	1.14
+	ROUTED TO	RSGL35	227.	5.17	53.	13.	4.	1.14
+	HYDROGRAPH AT	GL35	546.	4.75	183.	47.	16.	1.00

+	2 COMBINED AT	CGL35	699.	5.08	230.	59.	20.	1.53
+	HYDROGRAPH AT	PR35NO	113.	4.00	55.	14.	5.	1.14
+	ROUTED TO	RP35GL	113.	4.17	56.	14.	5.	1.14
+	2 COMBINED AT	CPGL35	812.	5.08	285.	73.	24.	1.53
+	DIVERSION TO	DP35GL	226.	4.08	139.	37.	12.	1.53
+	HYDROGRAPH AT	D35GL	586.	5.08	146.	37.	12.	1.53
+	DIVERSION TO	DSBH35	358.	5.08	89.	22.	7.	1.53
+	HYDROGRAPH AT	DEGL27	229.	5.08	57.	14.	5.	1.53
+	HYDROGRAPH AT	DRGL27	0.	.00	0.	0.	0.	.13
+	ROUTED TO	RSGL27	0.	.00	0.	0.	0.	.13
+	HYDROGRAPH AT	GL27	223.	4.42	55.	14.	5.	.26
+	3 COMBINED AT	CGL27	393.	4.92	114.	29.	10.	.98
+	HYDROGRAPH AT	PR29NO	114.	3.92	80.	22.	7.	1.14
+	ROUTED TO	RP27GL	114.	4.08	80.	22.	7.	1.14
+	2 COMBINED AT	CPGL27	507.	4.92	194.	50.	17.	.98
+	DIVERSION TO	DP27GL	132.	3.92	94.	26.	9.	.98
+	HYDROGRAPH AT	D27GL	375.	4.92	99.	25.	8.	.98
+	ROUTED TO	RSBH27	363.	5.08	99.	25.	8.	.98
+	HYDROGRAPH AT	BH27	236.	4.33	55.	14.	5.	.26
+	2 COMBINED AT	CBH27	485.	4.83	149.	38.	13.	1.24
+	HYDROGRAPH AT	PR27GL	132.	3.92	94.	26.	9.	.98
+	ROUTED TO	RP27BH	132.	4.08	94.	26.	9.	.98
+	2 COMBINED AT	CPBH27	617.	4.83	243.	63.	21.	1.24
+	DIVERSION TO	DP27BH	132.	3.92	102.	28.	9.	1.24
+	HYDROGRAPH AT	D27BH	485.	4.83	141.	35.	12.	1.24
+	DIVERSION TO	DSCB27	485.	4.83	141.	35.	12.	1.24
+	HYDROGRAPH AT	DWBH35	0.	.00	0.	0.	0.	1.24
+	ROUTED TO	RWBH35	0.	.00	0.	0.	0.	1.24
+	HYDROGRAPH AT	DRBH35	358.	5.08	89.	22.	7.	1.53
+	ROUTED TO	RSBH35	344.	5.33	89.	22.	7.	1.53
+	HYDROGRAPH AT	BH35	1035.	4.33	183.	46.	15.	1.00

+	DIVERSION TO	XBH35	21.	2.50	6.	2.	1.	1.00
+	HYDROGRAPH AT	ERBH35	1035.	4.33	178.	44.	15.	1.00
+	3 COMBINED AT	CBH35	915.	4.42	258.	64.	21.	1.94
+	HYDROGRAPH AT	PR35GL	226.	4.08	139.	37.	12.	1.53
+	ROUTED TO	RP35BH	226.	4.25	139.	37.	12.	1.53
+	2 COMBINED AT	CPBH35	1141.	4.42	397.	101.	34.	1.94
+	DIVERSION TO	DP35BH	226.	3.83	162.	42.	14.	1.94
+	HYDROGRAPH AT	D35BH	915.	4.42	235.	59.	20.	1.94
+	DIVERSION TO	DSCB35	915.	4.42	235.	59.	20.	1.94
+	HYDROGRAPH AT	DWBH43	0.	.00	0.	0.	0.	1.94
+	ROUTED TO	RWBH43	0.	.00	0.	0.	0.	1.94
+	HYDROGRAPH AT	DRBH43	385.	5.25	106.	27.	9.	2.03
+	ROUTED TO	RSBH43	372.	5.50	106.	27.	9.	2.03
+	HYDROGRAPH AT	BH43	499.	4.75	166.	43.	14.	.99
+	3 COMBINED AT	CBH43	728.	5.25	262.	67.	22.	2.19
+	HYDROGRAPH AT	PR43GL	385.	4.08	257.	68.	23.	2.03
+	ROUTED TO	RP43BH	385.	4.25	257.	68.	23.	2.03
+	2 COMBINED AT	CPBH43	1113.	5.25	519.	135.	45.	2.19
+	DIVERSION TO	DP43BH	385.	4.08	281.	75.	25.	2.19
+	HYDROGRAPH AT	D43BH	728.	5.25	238.	60.	20.	2.19
+	DIVERSION TO	DSCB43	372.	5.25	121.	30.	10.	2.19
+	HYDROGRAPH AT	DWBH51	357.	5.25	117.	29.	10.	2.19
+	ROUTED TO	RWBH51	349.	5.67	117.	29.	10.	2.19
+	HYDROGRAPH AT	DRBH51	391.	5.58	149.	38.	13.	2.91
+	ROUTED TO	RSBH51	384.	5.92	149.	38.	13.	2.91
+	HYDROGRAPH AT	BH51	561.	4.75	192.	50.	17.	1.00
+	3 COMBINED AT	CBH51	1032.	5.50	435.	112.	37.	3.42
+	HYDROGRAPH AT	PR47GL	378.	5.58	162.	42.	14.	2.91
+	ROUTED TO	RP51BH	378.	5.58	162.	42.	14.	2.91
+	2 COMBINED AT	CPBH51	1403.	5.50	595.	153.	51.	3.42
+	ROUTED TO	SRBH51	1400.	5.58	582.	153.	51.	3.42

+	DIVERSION TO	DSGR43	448.	5.58	186.	49.	16.	3.42
+	HYDROGRAPH AT	DWGR59	952.	5.58	396.	104.	35.	3.42
+	DIVERSION TO	DWBH59	219.	5.58	91.	24.	8.	3.42
+	HYDROGRAPH AT	DGR59	733.	5.58	305.	80.	27.	3.42
+	HYDROGRAPH AT	DRGR59	210.	5.67	63.	16.	5.	3.91
+	DIVERSION TO	DSBH59	109.	5.67	33.	8.	3.	3.91
+	HYDROGRAPH AT	D59GR	101.	5.67	30.	8.	3.	3.91
+	HYDROGRAPH AT	GR59	754.	4.25	116.	29.	10.	.52
+	3 COMBINED AT	CGR59	898.	5.50	437.	116.	39.	3.18
+	DIVERSION TO	DBH59	449.	5.50	219.	58.	19.	3.18
+	HYDROGRAPH AT	DNGR67	449.	5.50	219.	58.	19.	3.18
+	DIVERSION TO	DPGRGL	234.	4.08	151.	41.	14.	3.18
+	HYDROGRAPH AT	DGRGL	215.	5.50	68.	17.	6.	3.18
+	2 COMBINED AT	CIGR59	403.	5.58	125.	31.	10.	3.15
+	ROUTED TO	RWGR67	386.	6.25	125.	31.	10.	3.15
+	HYDROGRAPH AT	DRGR67	899.	5.75	274.	68.	23.	4.93
+	HYDROGRAPH AT	GR67	631.	4.33	110.	28.	9.	.50
+	DIVERSION TO	XGR67	12.	1.83	2.	1.	0.	.50
+	HYDROGRAPH AT	ERGR67	631.	4.33	109.	27.	9.	.50
+	3 COMBINED AT	CGR67	1157.	5.83	452.	115.	38.	6.83
+	HYDROGRAPH AT	PRNO59	134.	4.17	107.	29.	10.	4.06
+	ROUTED TO	RPNO67	134.	4.33	107.	29.	10.	4.06
+	HYDROGRAPH AT	PR59GL	217.	4.50	128.	32.	11.	3.91
+	HYDROGRAPH AT	PRGRGL	234.	4.08	151.	41.	14.	3.18
+	2 COMBINED AT	CPGL59	451.	4.50	280.	74.	25.	1.42
+	ROUTED TO	RPGR67	451.	4.67	280.	74.	25.	1.42
+	3 COMBINED AT	CPGR67	1699.	5.92	816.	212.	71.	8.25
+	ROUTED TO	SRGR67	272.	8.42	259.	194.	71.	8.25
+	DIVERSION TO	DP67GR	272.	8.42	259.	194.	71.	8.25
+	HYDROGRAPH AT	D67GR	0.	.00	0.	0.	0.	8.25
+	ROUTED TO	RSOW67	0.	.00	0.	0.	0.	8.25

+	HYDROGRAPH AT	OW67	217.	4.17	31.	8.	3.	.12
+	DIVERSION TO	XOW67	48.	3.67	5.	1.	0.	.12
+	HYDROGRAPH AT	EROW67	217.	4.17	26.	7.	2.	.12
+	2 COMBINED AT	COW67	131.	4.17	24.	6.	2.	6.95
+	HYDROGRAPH AT	PRGR67	272.	8.42	259.	194.	71.	8.25
+	ROUTED TO	RPOW67	272.	8.42	259.	194.	71.	8.25
+	2 COMBINED AT	CPOW67	275.	8.42	262.	201.	74.	6.95
+	DIVERSION TO	DPOW67	181.	4.08	181.	169.	63.	6.95
+	HYDROGRAPH AT	DOW67	94.	8.42	81.	32.	11.	6.95
+	DIVERSION TO	DSGL67	48.	8.42	41.	16.	5.	6.95
+	HYDROGRAPH AT	DWOW75	46.	8.42	40.	16.	5.	6.95
+	ROUTED TO	RWOW75	46.	8.92	39.	16.	5.	6.95
+	HYDROGRAPH AT	DROW75	594.	7.33	168.	42.	14.	8.93
+	ROUTED TO	RSOW75	574.	7.42	168.	42.	14.	8.93
+	HYDROGRAPH AT	OW75	532.	4.33	120.	30.	10.	.50
+	DIVERSION TO	XOW75	532.	4.33	57.	14.	5.	.50
+	HYDROGRAPH AT	EROW75	481.	4.58	64.	16.	5.	.50
+	3 COMBINED AT	COW75	617.	7.42	250.	72.	24.	8.17
+	HYDROGRAPH AT	PROW67	181.	4.08	181.	169.	63.	6.95
+	ROUTED TO	RPOW71	181.	4.17	181.	169.	63.	6.95
+	2 COMBINED AT	CPOW71	798.	7.42	431.	240.	87.	8.17
+	ROUTED TO	SROW75	743.	7.67	397.	228.	83.	8.17
+	DIVERSION TO	DPOW71	44.	5.00	44.	44.	20.	8.17
+	HYDROGRAPH AT	DOW71	699.	7.67	353.	184.	63.	8.17
+	HYDROGRAPH AT	PROW71	44.	5.00	44.	44.	20.	8.17
+	ROUTED TO	RPOW75	44.	5.17	44.	44.	20.	8.17
+	2 COMBINED AT	CPOW75	743.	7.67	397.	228.	83.	8.17
+	DIVERSION TO	DPOW75	66.	5.08	66.	66.	28.	8.17
+	HYDROGRAPH AT	DOW75	677.	7.67	331.	162.	55.	8.17
+	DIVERSION TO	DSGL75	515.	7.67	252.	123.	42.	8.17
+	HYDROGRAPH AT	DWOW83	163.	7.67	80.	39.	13.	8.17

+	ROUTED TO	RWOW83	159.	7.92	79.	39.	13.	8.17
+	HYDROGRAPH AT	OW83	335.	4.58	102.	26.	9.	.50
+	DIVERSION TO	XOW83	335.	4.58	33.	8.	3.	.50
+	HYDROGRAPH AT	EROW83	329.	4.75	71.	18.	6.	.50
+	2 COMBINED AT	COW83	288.	4.83	154.	61.	21.	2.46
+	HYDROGRAPH AT	PROW75	66.	5.08	66.	66.	28.	8.17
+	ROUTED TO	RPOW83	66.	5.33	66.	66.	28.	8.17
+	2 COMBINED AT	CPOW83	316.	5.17	216.	126.	51.	2.46
+	DIVERSION TO	DP83OW	255.	4.75	207.	124.	50.	2.46
+	HYDROGRAPH AT	D83OW	61.	5.17	9.	2.	1.	2.46
+	DIVERSION TO	DSGL83	52.	5.17	8.	2.	1.	2.46
+	HYDROGRAPH AT	DWOW91	9.	5.17	1.	0.	0.	2.46
+	ROUTED TO	RWOW91	5.	5.92	1.	0.	0.	2.46
+	HYDROGRAPH AT	DIGL67	64.	5.67	19.	5.	2.	3.91
+	ROUTED TO	RWGL67	60.	6.08	19.	5.	2.	3.91
+	HYDROGRAPH AT	GL67	461.	4.25	82.	21.	7.	.36
+	HYDROGRAPH AT	DRGL67	48.	8.42	41.	16.	5.	6.95
+	ROUTED TO	RSGL67	48.	8.58	41.	16.	5.	6.95
+	3 COMBINED AT	CGL67	461.	4.33	157.	61.	20.	4.47
+	DIVERSION TO	DSBH67	161.	4.33	55.	21.	7.	4.47
+	HYDROGRAPH AT	DWGL75	167.	4.33	58.	21.	7.	4.47
+	ROUTED TO	RWGL75	155.	4.75	57.	21.	7.	4.47
+	HYDROGRAPH AT	DRGL75	515.	7.67	252.	123.	42.	8.17
+	ROUTED TO	RSGL75	507.	7.75	250.	123.	42.	8.17
+	HYDROGRAPH AT	GL75	364.	4.58	111.	29.	10.	.50
+	DIVERSION TO	XGL75	364.	4.58	85.	21.	7.	.50
+	HYDROGRAPH AT	ERGL75	162.	5.75	29.	7.	2.	.50
+	3 COMBINED AT	CGL75	555.	7.75	301.	143.	49.	8.97
+	DIVERSION TO	DSBH75	278.	7.75	150.	72.	25.	8.97
+	HYDROGRAPH AT	DWGL83	278.	7.75	150.	72.	25.	8.97
+	ROUTED TO	RWGL83	270.	8.08	150.	71.	25.	8.97

+	HYDROGRAPH AT	DRGL83	52.	5.17	8.	2.	1.	2.46
+	ROUTED TO	RSGL83	32.	5.50	8.	2.	1.	2.46
+	HYDROGRAPH AT	GL83	338.	4.58	98.	25.	8.	.50
+	DIVERSION TO	XGL83	338.	4.58	37.	9.	3.	.50
+	HYDROGRAPH AT	ERGL83	327.	4.75	64.	16.	5.	.50
+	3 COMBINED AT	CGL83	308.	8.00	206.	88.	30.	7.11
+	HYDROGRAPH AT	PR83OW	255.	4.75	207.	124.	50.	2.46
+	ROUTED TO	RP83GL	255.	4.83	206.	123.	50.	2.46
+	2 COMBINED AT	CPGL83	545.	8.00	398.	206.	77.	7.11
+	DIVERSION TO	DPGL83	374.	4.92	333.	190.	71.	7.11
+	HYDROGRAPH AT	DGL83	171.	8.00	66.	16.	5.	7.11
+	DIVERSION TO	DSBH83	108.	8.00	42.	10.	3.	7.11
+	HYDROGRAPH AT	DWGL91	63.	8.00	24.	6.	2.	7.11
+	ROUTED TO	RWGL91	49.	8.42	24.	6.	2.	7.11
+	HYDROGRAPH AT	DRGL91	667.	6.00	343.	96.	32.	9.52
+	ROUTED TO	RSGL91	604.	6.58	337.	96.	32.	9.52
+	HYDROGRAPH AT	GL91	566.	4.75	188.	48.	16.	.98
+	DIVERSION TO	XGL91	566.	4.75	131.	33.	11.	.98
+	HYDROGRAPH AT	ERGL91	294.	5.83	62.	16.	5.	.98
+	4 COMBINED AT	CGL91	789.	6.50	398.	112.	37.	9.02
+	HYDROGRAPH AT	PRGL83	374.	4.92	333.	190.	71.	7.11
+	ROUTED TO	RPGL91	374.	5.08	333.	190.	71.	7.11
+	2 COMBINED AT	CPGL91	1163.	6.50	720.	300.	108.	9.02
+	DIVERSION TO	DPGL91	449.	6.08	420.	225.	83.	9.02
+	HYDROGRAPH AT	DGL91	714.	6.50	300.	75.	25.	9.02
+	DIVERSION TO	DSBH91	443.	6.50	186.	47.	16.	9.02
+	HYDROGRAPH AT	DWGLLO	271.	6.50	114.	29.	10.	9.02
+	ROUTED TO	RWGLLO	262.	6.83	114.	29.	10.	9.02
+	HYDROGRAPH AT	GLLO	646.	4.67	209.	54.	18.	.85
+	DIVERSION TO	XGLLO	646.	4.67	152.	38.	13.	.85
+	HYDROGRAPH AT	ERGLLO	329.	5.67	65.	16.	5.	.85

+	3 COMBINED AT	CGLLO	388.	6.67	150.	37.	12.	15.23
+	HYDROGRAPH AT	PRGL91	449.	6.08	420.	225.	83.	9.02
+	ROUTED TO	RPGLLO	449.	6.17	420.	225.	83.	9.02
+	2 COMBINED AT	CPGLLO	837.	6.67	566.	258.	93.	15.23
+	ROUTED TO	RSBHLO	815.	6.92	562.	257.	93.	15.23
+	HYDROGRAPH AT	DIBH59	219.	5.58	91.	24.	8.	3.42
+	HYDROGRAPH AT	DRBH59	449.	5.50	219.	58.	19.	3.18
+	ROUTED TO	SRGR59	258.	6.67	122.	33.	11.	3.18
+	2 COMBINED AT	CIBHGR	447.	6.25	218.	59.	20.	2.13
+	ROUTED TO	RWBH59	443.	6.50	215.	59.	20.	2.13
+	HYDROGRAPH AT	DI59BH	109.	5.67	33.	8.	3.	3.91
+	ROUTED TO	RSBH59	104.	6.08	33.	8.	3.	3.91
+	HYDROGRAPH AT	BH59	687.	4.25	118.	30.	10.	.49
+	DIVERSION TO	XBH59	20.	1.75	6.	2.	1.	.49
+	HYDROGRAPH AT	ERBH59	687.	4.25	112.	28.	9.	.49
+	3 COMBINED AT	CBH59	523.	6.33	322.	90.	30.	3.58
+	DIVERSION TO	DSCB59	220.	6.33	135.	38.	13.	3.58
+	HYDROGRAPH AT	DWBH67	303.	6.33	187.	52.	18.	3.58
+	ROUTED TO	RWBH67	298.	6.67	184.	52.	18.	3.58
+	HYDROGRAPH AT	DRBH67	161.	4.33	55.	21.	7.	4.47
+	ROUTED TO	RSBH67	144.	5.00	54.	21.	7.	4.47
+	HYDROGRAPH AT	BH67	540.	4.75	179.	46.	15.	.97
+	3 COMBINED AT	CBH67	810.	4.83	379.	112.	37.	5.24
+	DIVERSION TO	DSCB67	357.	4.83	167.	49.	16.	5.24
+	HYDROGRAPH AT	DWBH75	454.	4.83	212.	63.	21.	5.24
+	ROUTED TO	RWBH75	442.	5.17	211.	63.	21.	5.24
+	HYDROGRAPH AT	DRBH75	278.	7.75	150.	72.	25.	8.97
+	ROUTED TO	RSBH75	269.	8.17	149.	71.	25.	8.97
+	HYDROGRAPH AT	BH75	663.	4.75	214.	55.	18.	1.00
+	DIVERSION TO	XBH75	663.	4.75	141.	35.	12.	1.00
+	HYDROGRAPH AT	ERBH75	406.	5.58	80.	20.	7.	1.00

+	3 COMBINED AT	CBH75	698.	5.83	400.	145.	50.	8.42
+	DIVERSION TO	DPBH75	560.	5.83	385.	141.	49.	8.42
+	HYDROGRAPH AT	DBH75	138.	5.83	15.	4.	1.	8.42
+	DIVERSION TO	DSCB75	73.	5.83	8.	2.	1.	8.42
+	HYDROGRAPH AT	DWBH83	65.	5.83	7.	2.	1.	8.42
+	ROUTED TO	RWBH83	37.	6.25	7.	2.	1.	8.42
+	HYDROGRAPH AT	DRBH83	108.	8.00	42.	10.	3.	7.11
+	ROUTED TO	RSBH83	81.	8.50	41.	10.	3.	7.11
+	HYDROGRAPH AT	BH83	657.	4.67	198.	51.	17.	1.00
+	DIVERSION TO	XBH83	657.	4.67	126.	31.	10.	1.00
+	HYDROGRAPH AT	ERBH83	421.	5.42	77.	19.	6.	1.00
+	3 COMBINED AT	CBH83	317.	5.75	95.	24.	8.	9.47
+	HYDROGRAPH AT	PRBH75	560.	5.83	385.	141.	49.	8.42
+	ROUTED TO	RPBH83	560.	6.00	385.	141.	49.	8.42
+	2 COMBINED AT	CPBH83	848.	5.92	474.	163.	56.	9.47
+	DIVERSION TO	DSGC83	288.	5.92	161.	56.	19.	9.47
+	HYDROGRAPH AT	DWBH91	560.	5.92	313.	108.	37.	9.47
+	HYDROGRAPH AT	DRCB27	485.	4.83	141.	35.	12.	1.24
+	ROUTED TO	RSCB27	479.	5.17	141.	35.	12.	1.24
+	HYDROGRAPH AT	CB27	235.	4.42	56.	14.	5.	.26
+	2 COMBINED AT	CCB27	596.	5.00	191.	48.	16.	1.50
+	HYDROGRAPH AT	PR27BH	132.	3.92	102.	28.	9.	1.24
+	ROUTED TO	RP27CB	132.	4.08	102.	28.	9.	1.24
+	2 COMBINED AT	CPCB27	728.	5.00	293.	77.	26.	1.50
+	DIVERSION TO	DP27CB	132.	3.83	109.	30.	10.	1.50
+	HYDROGRAPH AT	D27CB	596.	5.00	184.	46.	15.	1.50
+	DIVERSION TO	DS1S27	596.	5.00	184.	46.	15.	1.50
+	HYDROGRAPH AT	DWCB35	0.	.00	0.	0.	0.	1.50
+	ROUTED TO	RWCB35	0.	.00	0.	0.	0.	1.50
+	HYDROGRAPH AT	DRCB35	915.	4.42	235.	59.	20.	1.94
+	ROUTED TO	RSCB35	867.	4.67	235.	59.	20.	1.94

+	HYDROGRAPH AT	CB35	527.	4.75	176.	46.	15.	1.00
+	3 COMBINED AT	CCB35	1267.	4.75	390.	99.	33.	2.94
+	HYDROGRAPH AT	PR27CB	132.	3.83	109.	30.	10.	1.50
+	2 COMBINED AT	CPCB29	1399.	4.75	500.	130.	43.	2.94
+	DIVERSION TO	DP29CB	132.	3.67	120.	35.	12.	2.94
+	HYDROGRAPH AT	D29CB	1267.	4.75	380.	95.	32.	2.94
+	HYDROGRAPH AT	PR35BH	226.	3.83	162.	42.	14.	1.94
+	ROUTED TO	RP35CB	226.	4.00	162.	42.	14.	1.94
+	2 COMBINED AT	CPCB35	1493.	4.75	542.	138.	46.	2.94
+	DIVERSION TO	DP35CB	253.	3.83	189.	49.	16.	2.94
+	HYDROGRAPH AT	D35CB	1240.	4.75	353.	88.	29.	2.94
+	DIVERSION TO	DSIS35	1240.	4.75	353.	88.	29.	2.94
+	HYDROGRAPH AT	DWCB43	0.	.00	0.	0.	0.	2.94
+	ROUTED TO	RWCB43	0.	.00	0.	0.	0.	2.94
+	HYDROGRAPH AT	DRCB43	372.	5.25	121.	30.	10.	2.19
+	ROUTED TO	RSCB43	364.	5.58	121.	30.	10.	2.19
+	HYDROGRAPH AT	CB43	966.	4.33	175.	44.	15.	1.00
+	3 COMBINED AT	CCB43	845.	4.42	283.	72.	24.	2.12
+	HYDROGRAPH AT	PR43BH	385.	4.08	281.	75.	25.	2.19
+	ROUTED TO	RP43CB	385.	4.25	281.	75.	25.	2.19
+	2 COMBINED AT	CPCB43	1230.	4.42	563.	148.	49.	2.12
+	DIVERSION TO	DP39CB	268.	3.83	227.	64.	21.	2.12
+	HYDROGRAPH AT	D39CB	962.	4.42	336.	84.	28.	2.12
+	DIVERSION TO	DP43CB	155.	3.92	100.	25.	8.	2.12
+	HYDROGRAPH AT	D43CB	807.	4.42	236.	59.	20.	2.12
+	DIVERSION TO	DSGR35	460.	4.42	134.	34.	11.	2.12
+	HYDROGRAPH AT	DWGR43	347.	4.42	101.	25.	8.	2.12
+	DIVERSION TO	DCB51	87.	4.42	25.	6.	2.	2.12
+	HYDROGRAPH AT	DGR43	260.	4.42	76.	19.	6.	2.12
+	HYDROGRAPH AT	DRGR43	448.	5.58	186.	49.	16.	3.42
+	ROUTED TO	RSGR43	440.	6.17	184.	49.	16.	3.42

+	HYDROGRAPH AT	GR43	600.	4.33	107.	27.	9.	.51
+	DIVERSION TO	XGR43	128.	3.83	13.	3.	1.	.51
+	HYDROGRAPH AT	ERGR43	600.	4.33	95.	24.	8.	.51
+	3 COMBINED AT	CGR43	714.	4.42	350.	91.	30.	2.28
+	ROUTED TO	SRGR43	142.	7.92	57.	18.	6.	2.28
+	DIVERSION TO	DEGR35	50.	7.92	20.	6.	2.	2.28
+	HYDROGRAPH AT	DGR35	92.	7.92	37.	11.	4.	2.28
+	DIVERSION TO	DSIS43	60.	7.92	24.	7.	3.	2.28
+	HYDROGRAPH AT	DWCB51	32.	7.92	13.	4.	1.	2.28
+	HYDROGRAPH AT	DICB51	87.	4.42	25.	6.	2.	2.12
+	2 COMBINED AT	CICBGR	107.	4.33	44.	13.	4.	.74
+	ROUTED TO	RWCB51	89.	5.00	42.	13.	4.	.74
+	HYDROGRAPH AT	CB51	889.	4.17	121.	31.	10.	.48
+	2 COMBINED AT	CCB51	734.	4.17	143.	41.	14.	1.23
+	DIVERSION TO	DSIS51	374.	4.17	73.	21.	7.	1.23
+	HYDROGRAPH AT	DWCB59	360.	4.17	70.	20.	7.	1.23
+	ROUTED TO	RWCB59	306.	4.50	70.	20.	7.	1.23
+	HYDROGRAPH AT	DRCB59	220.	6.33	135.	38.	13.	3.58
+	ROUTED TO	RSCB59	216.	6.67	133.	38.	13.	3.58
+	HYDROGRAPH AT	CB59	876.	4.50	234.	60.	20.	1.01
+	DIVERSION TO	XCB59	275.	3.92	33.	8.	3.	1.01
+	HYDROGRAPH AT	ERCB59	876.	4.50	206.	52.	17.	1.01
+	3 COMBINED AT	CCB59	1206.	4.58	398.	107.	36.	3.11
+	DIVERSION TO	DPCB59	351.	4.00	244.	69.	23.	3.11
+	HYDROGRAPH AT	DCB59	855.	4.58	154.	38.	13.	3.11
+	DIVERSION TO	DSIS59	453.	4.58	82.	20.	7.	3.11
+	HYDROGRAPH AT	DWCB67	402.	4.58	72.	18.	6.	3.11
+	ROUTED TO	RWCB67	372.	4.92	72.	18.	6.	3.11
+	HYDROGRAPH AT	DRCB67	357.	4.83	167.	49.	16.	5.24
+	ROUTED TO	RSCB67	344.	5.17	165.	49.	16.	5.24
+	HYDROGRAPH AT	CB67	622.	4.67	198.	51.	17.	.97

+	DIVERSION TO	XCB67	23.	3.25	6.	2.	1.	.97
+	HYDROGRAPH AT	ERCB67	622.	4.67	197.	49.	16.	.97
+	3 COMBINED AT	CCB67	1190.	5.00	413.	113.	38.	4.73
+	HYDROGRAPH AT	PRCB59	351.	4.00	244.	69.	23.	3.11
+	ROUTED TO	RPCB67	351.	4.08	244.	69.	23.	3.11
+	2 COMBINED AT	CPCB67	1541.	5.00	653.	180.	60.	4.73
+	DIVERSION TO	DPCB67	504.	4.08	393.	116.	39.	4.73
+	HYDROGRAPH AT	DCB67	1037.	5.00	259.	65.	22.	4.73
+	DIVERSION TO	DSGC67	446.	5.00	111.	28.	9.	4.73
+	HYDROGRAPH AT	DWCB75	591.	5.00	148.	37.	12.	4.73
+	ROUTED TO	RWCB75	561.	5.33	148.	37.	12.	4.73
+	HYDROGRAPH AT	DRCB75	73.	5.83	8.	2.	1.	8.42
+	ROUTED TO	RSCB75	30.	6.67	8.	2.	1.	8.42
+	HYDROGRAPH AT	CB75	592.	4.75	196.	50.	17.	1.00
+	DIVERSION TO	XCB75	536.	4.50	51.	13.	4.	1.00
+	HYDROGRAPH AT	ERCB75	592.	4.75	151.	38.	13.	1.00
+	3 COMBINED AT	CCB75	932.	5.25	274.	69.	23.	8.14
+	HYDROGRAPH AT	PRCB67	504.	4.08	393.	116.	39.	4.73
+	ROUTED TO	RPCB75	504.	4.25	393.	116.	39.	4.73
+	2 COMBINED AT	CPCB75	1436.	5.25	663.	182.	61.	8.14
+	DIVERSION TO	DSGC75	632.	5.25	292.	80.	27.	8.14
+	HYDROGRAPH AT	DWGC83	804.	5.25	371.	102.	34.	8.14
+	HYDROGRAPH AT	DRIS27	596.	5.00	184.	46.	15.	1.50
+	ROUTED TO	RSIS27	586.	5.25	184.	46.	15.	1.50
+	HYDROGRAPH AT	IS27	189.	4.50	55.	14.	5.	.24
+	2 COMBINED AT	CIS27	700.	5.17	235.	59.	20.	1.74
+	HYDROGRAPH AT	PR29CB	132.	3.67	120.	35.	12.	2.94
+	ROUTED TO	RP27IS	132.	3.83	120.	35.	12.	2.94
+	2 COMBINED AT	CPIS27	832.	5.17	354.	94.	31.	1.74
+	DIVERSION TO	DP27IS	151.	3.75	137.	40.	13.	1.74
+	HYDROGRAPH AT	D27IS	681.	5.17	217.	54.	18.	1.74

+	DIVERSION TO	DSGC27	681.	5.17	217.	54.	18.	1.74
+	HYDROGRAPH AT	DWIS35	0.	.00	0.	0.	0.	1.74
+	ROUTED TO	RWIS35	0.	.00	0.	0.	0.	1.74
+	HYDROGRAPH AT	DRIS35	1240.	4.75	353.	88.	29.	2.94
+	ROUTED TO	RSIS35	1205.	5.00	353.	88.	29.	2.94
+	HYDROGRAPH AT	IS35	1162.	4.33	199.	50.	17.	.99
+	3 COMBINED AT	CIS35	1705.	4.83	522.	132.	44.	3.93
+	HYDROGRAPH AT	PR35CB	253.	3.83	189.	49.	16.	2.94
+	ROUTED TO	RP35IS	253.	3.92	189.	49.	16.	2.94
+	2 COMBINED AT	CPIS35	1958.	4.83	712.	182.	61.	3.93
+	DIVERSION TO	DP31IS	268.	3.67	217.	58.	19.	3.93
+	HYDROGRAPH AT	D31IS	1690.	4.83	495.	124.	41.	3.93
+	DIVERSION TO	DP35IS	40.	3.75	27.	7.	2.	3.93
+	HYDROGRAPH AT	D35IS	1650.	4.83	468.	117.	39.	3.93
+	DIVERSION TO	DSGC35	1650.	4.83	468.	117.	39.	3.93
+	HYDROGRAPH AT	DWGR35	0.	.00	0.	0.	0.	3.93
+	HYDROGRAPH AT	DIGR35	50.	7.92	20.	6.	2.	2.28
+	HYDROGRAPH AT	DRGR35	460.	4.42	134.	34.	11.	2.12
+	DIVERSION TO	DS43IS	166.	4.42	48.	12.	4.	2.12
+	HYDROGRAPH AT	D35GR	295.	4.42	86.	22.	7.	2.12
+	2 COMBINED AT	CIGR43	313.	4.42	107.	29.	10.	1.58
+	ROUTED TO	RSGR35	271.	5.00	104.	29.	10.	1.58
+	HYDROGRAPH AT	GR35	594.	4.33	110.	28.	9.	.53
+	3 COMBINED AT	CGR35	556.	4.75	190.	54.	18.	2.11
+	HYDROGRAPH AT	PR39CB	268.	3.83	227.	64.	21.	2.12
+	ROUTED TO	RP39GR	268.	3.92	227.	64.	21.	2.12
+	2 COMBINED AT	CPGR35	824.	4.75	416.	117.	39.	2.11
+	DIVERSION TO	D39GR	573.	4.75	188.	47.	16.	2.11
+	HYDROGRAPH AT	DP39GR	251.	3.75	227.	70.	24.	2.11
+	ROUTED TO	RP39IS	251.	3.83	227.	70.	24.	2.11
+	HYDROGRAPH AT	DRIS43	60.	7.92	24.	7.	3.	2.28

+	HYDROGRAPH AT	DI43IS	166.	4.42	48.	12.	4.	2.12
+	2 COMBINED AT	CICB43	180.	4.42	74.	21.	7.	1.40
+	ROUTED TO	RSIS43	166.	4.67	72.	21.	7.	1.40
+	HYDROGRAPH AT	IS43	859.	4.17	117.	29.	10.	.47
+	2 COMBINED AT	CIS43	645.	4.17	166.	49.	16.	1.87
+	HYDROGRAPH AT	PR43CB	155.	3.92	100.	25.	8.	2.12
+	ROUTED TO	RP43IS	155.	4.08	100.	25.	8.	2.12
+	3 COMBINED AT	CPIS43	958.	4.17	479.	139.	47.	3.98
+	DIVERSION TO	DP43IS	406.	3.67	351.	107.	36.	3.98
+	HYDROGRAPH AT	D43IS	552.	4.17	128.	32.	11.	3.98
+	DIVERSION TO	DSGC43	458.	4.17	106.	26.	9.	3.98
+	HYDROGRAPH AT	DWIS51	94.	4.17	22.	5.	2.	3.98
+	ROUTED TO	RWIS51	63.	5.50	21.	5.	2.	3.98
+	HYDROGRAPH AT	DRIS51	374.	4.17	73.	21.	7.	1.23
+	ROUTED TO	RSIS51	326.	4.42	73.	21.	7.	1.23
+	HYDROGRAPH AT	IS51	727.	4.58	210.	54.	18.	.99
+	DIVERSION TO	XIS51	727.	4.58	101.	25.	8.	.99
+	HYDROGRAPH AT	ERIS51	633.	4.92	115.	29.	10.	.99
+	3 COMBINED AT	CIS51	781.	4.92	202.	54.	18.	1.94
+	DIVERSION TO	DP51IS	244.	4.33	136.	37.	12.	1.94
+	HYDROGRAPH AT	D51IS	537.	4.92	66.	17.	6.	1.94
+	DIVERSION TO	DSGC51	333.	4.92	41.	10.	3.	1.94
+	HYDROGRAPH AT	DWIS59	204.	4.92	25.	6.	2.	1.94
+	ROUTED TO	RWIS59	135.	5.75	25.	6.	2.	1.94
+	HYDROGRAPH AT	DRIS59	453.	4.58	82.	20.	7.	3.11
+	ROUTED TO	RSIS59	420.	4.92	82.	20.	7.	3.11
+	HYDROGRAPH AT	IS59	584.	4.75	190.	49.	16.	1.01
+	3 COMBINED AT	CIS59	918.	4.92	279.	72.	24.	3.38
+	DIVERSION TO	DP59IS	353.	4.42	185.	48.	16.	3.38
+	HYDROGRAPH AT	D59IS	565.	4.92	94.	24.	8.	3.38
+	DIVERSION TO	DSGC59	339.	4.92	57.	14.	5.	3.38

+	HYDROGRAPH AT	DWGC67	226.	4.92	38.	9.	3.	3.38
+	ROUTED TO	RWGC67	201.	5.25	38.	9.	3.	3.38
+	HYDROGRAPH AT	DRGC67	446.	5.00	111.	28.	9.	4.73
+	ROUTED TO	RSGC67	420.	5.42	111.	28.	9.	4.73
+	HYDROGRAPH AT	GC67	658.	4.58	180.	46.	15.	.94
+	3 COMBINED AT	CGC67	1006.	5.25	314.	80.	27.	4.34
+	DIVERSION TO	DP67IS	175.	4.00	120.	31.	10.	4.34
+	HYDROGRAPH AT	D67IS	831.	5.25	193.	48.	16.	4.34
+	DIVERSION TO	DSISGC	424.	5.25	99.	25.	8.	4.34
+	HYDROGRAPH AT	DWGC75	407.	5.25	95.	24.	8.	4.34
+	HYDROGRAPH AT	DRGR39	573.	4.75	188.	47.	16.	2.11
+	DIVERSION TO	DEGCGR	275.	4.75	90.	23.	8.	2.11
+	HYDROGRAPH AT	DGC35	298.	4.75	98.	24.	8.	2.11
+	HYDROGRAPH AT	DRGC35	1650.	4.83	468.	117.	39.	3.93
+	DIVERSION TO	DSGCGR	413.	4.83	117.	29.	10.	3.93
+	HYDROGRAPH AT	DS35GC	1238.	4.83	351.	88.	29.	3.93
+	2 COMBINED AT	CIIS35	1641.	4.83	472.	118.	39.	2.06
+	ROUTED TO	RSGC35	1635.	4.83	472.	118.	39.	2.06
+	HYDROGRAPH AT	GC35	149.	4.08	19.	5.	2.	.08
+	2 COMBINED AT	CGC35	1653.	4.83	488.	122.	41.	2.14
+	HYDROGRAPH AT	PR35IS	40.	3.75	27.	7.	2.	3.93
+	ROUTED TO	RP35GC	40.	3.92	27.	7.	2.	3.93
+	2 COMBINED AT	CPGC35	1693.	4.83	514.	129.	43.	2.14
+	DIVERSION TO	DP35GC	40.	3.75	33.	9.	3.	2.14
+	HYDROGRAPH AT	D35GC	1653.	4.83	482.	120.	40.	2.14
+	DIVERSION TO	DSTM35	1405.	4.83	410.	102.	34.	2.14
+	HYDROGRAPH AT	DWGC43	248.	4.83	72.	18.	6.	2.14
+	ROUTED TO	RWGC43	230.	5.25	72.	18.	6.	2.14
+	HYDROGRAPH AT	DRGC43	458.	4.17	106.	26.	9.	3.98
+	ROUTED TO	RSGC43	437.	4.33	106.	26.	9.	3.98
+	HYDROGRAPH AT	GC43	357.	4.42	92.	24.	8.	.37

+	3 COMBINED AT	CGC43	782.	4.50	270.	69.	23.	2.23
+	HYDROGRAPH AT	PR43IS	406.	3.67	351.	107.	36.	3.98
+	ROUTED TO	RP43GC	406.	3.75	351.	107.	36.	3.98
+	2 COMBINED AT	CPGC43	1188.	4.50	624.	178.	60.	2.23
+	DIVERSION TO	DP43GC	406.	3.75	363.	113.	38.	2.23
+	HYDROGRAPH AT	D43GC	782.	4.50	261.	65.	22.	2.23
+	ROUTED TO	SRGC43	783.	4.50	261.	65.	22.	2.23
+	DIVERSION TO	DSTM43	583.	4.50	141.	35.	12.	2.23
+	HYDROGRAPH AT	DWGC51	200.	4.00	120.	30.	10.	2.23
+	ROUTED TO	RWGC51	200.	5.33	119.	30.	10.	2.23
+	HYDROGRAPH AT	DRGC51	333.	4.92	41.	10.	3.	1.94
+	ROUTED TO	RSGC51	280.	5.17	41.	10.	3.	1.94
+	HYDROGRAPH AT	GC51	221.	4.75	80.	21.	7.	.45
+	3 COMBINED AT	CGC51	657.	5.17	233.	59.	20.	2.04
+	HYDROGRAPH AT	PR51IS	244.	4.33	136.	37.	12.	1.94
+	ROUTED TO	RP51ML	244.	4.42	136.	37.	12.	1.94
+	2 COMBINED AT	CPML51	901.	5.17	368.	97.	32.	2.04
+	DIVERSION TO	DPML51	136.	4.08	116.	34.	11.	2.04
+	HYDROGRAPH AT	DML51	765.	5.17	252.	63.	21.	2.04
+	DIVERSION TO	DP51GC	113.	4.17	73.	18.	6.	2.04
+	HYDROGRAPH AT	D51GC	652.	5.17	179.	45.	15.	2.04
+	ROUTED TO	SRGC51	427.	5.83	173.	45.	15.	2.04
+	DIVERSION TO	DSTM51	127.	5.83	20.	5.	2.	2.04
+	HYDROGRAPH AT	DWGC53	300.	5.67	153.	40.	13.	2.04
+	ROUTED TO	RWGC53	302.	5.50	153.	40.	13.	2.04
+	HYDROGRAPH AT	DRGC59	339.	4.92	57.	14.	5.	3.38
+	ROUTED TO	RSGC59	321.	5.08	57.	14.	5.	3.38
+	HYDROGRAPH AT	GC59	332.	4.42	82.	21.	7.	.41
+	2 COMBINED AT	CGC55	559.	5.00	138.	35.	12.	2.42
+	DIVERSION TO	DWGC59	197.	5.00	29.	7.	2.	2.42
+	HYDROGRAPH AT	DEGC53	362.	5.00	108.	28.	9.	2.42

+	HYDROGRAPH AT	PRML51	136.	4.08	116.	34.	11.	2.04
+	ROUTED TO	RPML53	136.	4.17	116.	34.	11.	2.04
+	3 COMBINED AT	CGC53	719.	5.33	371.	101.	34.	2.27
+	ROUTED TO	SRGC53	553.	6.25	239.	100.	34.	2.27
+	DIVERSION TO	DPGC53	20.	3.75	20.	19.	7.	2.27
+	HYDROGRAPH AT	DGC53	533.	6.25	219.	81.	27.	2.27
+	HYDROGRAPH AT	PR59IS	353.	4.42	185.	48.	16.	3.38
+	ROUTED TO	RP59GC	353.	4.50	185.	48.	16.	3.38
+	HYDROGRAPH AT	DRGC59	197.	5.00	29.	7.	2.	2.42
+	2 COMBINED AT	CPGC59	584.	4.92	223.	57.	19.	1.24
+	DIVERSION TO	DP59GC	258.	4.17	154.	40.	13.	1.24
+	HYDROGRAPH AT	D59GC	326.	4.92	69.	17.	6.	1.24
+	2 COMBINED AT	CGC59	572.	6.25	265.	93.	31.	3.50
+	DIVERSION TO	DSTM59	488.	6.33	213.	57.	19.	3.50
+	HYDROGRAPH AT	DWISGC	90.	6.17	51.	36.	12.	3.50
+	ROUTED TO	RWISGC	64.	6.42	51.	36.	12.	3.50
+	HYDROGRAPH AT	DRISGC	424.	5.25	99.	25.	8.	4.34
+	ROUTED TO	RSISGC	417.	5.33	99.	25.	8.	4.34
+	HYDROGRAPH AT	ISGC	73.	4.83	30.	8.	3.	.16
+	3 COMBINED AT	CISGC	548.	5.33	178.	69.	23.	3.33
+	HYDROGRAPH AT	PR59GC	258.	4.17	154.	40.	13.	1.24
+	2 COMBINED AT	CPISGC	806.	5.33	324.	109.	36.	3.33
+	DIVERSION TO	DPGC63	258.	4.25	182.	74.	25.	3.33
+	HYDROGRAPH AT	DGC63	548.	5.33	141.	35.	12.	3.33
+	ROUTED TO	SRISGC	329.	6.00	117.	35.	12.	3.33
+	DIVERSION TO	DSTM67	0.	.00	0.	0.	0.	3.33
+	HYDROGRAPH AT	DPGC67	329.	6.00	117.	35.	12.	3.33
+	HYDROGRAPH AT	DRGC75	632.	5.25	292.	80.	27.	8.14
+	HYDROGRAPH AT	GC75	196.	4.83	82.	22.	7.	.41
+	4 COMBINED AT	CGC75	1187.	5.33	527.	148.	49.	9.44
+	ROUTED TO	SRGC75	948.	6.08	526.	148.	49.	9.44

+	2 COMBINED AT	CICB75	1571.	5.58	852.	238.	80.	14.03
+	ROUTED TO	RWGC83	1557.	5.83	851.	238.	80.	14.03
+	HYDROGRAPH AT	DRGC83	288.	5.92	161.	56.	19.	9.47
+	HYDROGRAPH AT	GC83	191.	4.83	83.	22.	7.	.43
+	DIVERSION TO	XGC83	191.	4.83	63.	16.	5.	.43
+	HYDROGRAPH AT	ERGC83	90.	6.58	26.	7.	2.	.43
+	3 COMBINED AT	CGC83	1785.	5.92	972.	283.	95.	17.67
+	2 COMBINED AT	CIBH83	2143.	5.92	1160.	355.	119.	23.92
+	ROUTED TO	RWBH91	2113.	6.17	1157.	354.	119.	23.92
+	HYDROGRAPH AT	DRBH91	443.	6.50	186.	47.	16.	9.02
+	ROUTED TO	RSBH91	422.	6.92	186.	47.	16.	9.02
+	HYDROGRAPH AT	BH91	607.	4.75	200.	51.	17.	1.03
+	DIVERSION TO	XBH91	416.	4.33	35.	9.	3.	1.03
+	HYDROGRAPH AT	ERBH91	607.	4.75	170.	43.	14.	1.03
+	3 COMBINED AT	CBH91	2190.	6.08	1323.	393.	132.	30.54
+	ROUTED TO	RWBHLO	2168.	6.25	1317.	393.	132.	30.54
+	HYDROGRAPH AT	BHLO	918.	4.33	202.	51.	17.	.79
+	DIVERSION TO	XBHLO	888.	4.25	84.	21.	7.	.79
+	HYDROGRAPH AT	ERBHLO	896.	4.42	121.	30.	10.	.79
+	3 COMBINED AT	CBHLO	2464.	6.17	1655.	580.	200.	46.47
+	ROUTED TO	RWBH99	2462.	6.17	1654.	580.	200.	46.47
+	HYDROGRAPH AT	BH99	120.	4.67	44.	12.	4.	.18
+	2 COMBINED AT	CBH99	2504.	6.17	1679.	588.	203.	46.65
+	ROUTED TO	RWBHRI	2500.	6.25	1676.	587.	203.	46.65
+	HYDROGRAPH AT	GLNR	299.	4.75	114.	31.	10.	.48
+	DIVERSION TO	XGLNR	299.	4.75	64.	16.	5.	.48
+	HYDROGRAPH AT	ERGLNR	231.	5.42	58.	15.	5.	.48
+	DIVERSION TO	DWNR04	231.	5.42	58.	15.	5.	.48
+	HYDROGRAPH AT	DSBHRI	0.	.00	0.	0.	0.	.48
+	ROUTED TO	RSBHRI	0.	.00	0.	0.	0.	.48
+	HYDROGRAPH AT	BHRI	395.	4.58	124.	32.	11.	.51

+	DIVERSION TO	XBHRI	395.	4.58	93.	23.	8.	.51
+	HYDROGRAPH AT	ERBHRI	205.	5.58	37.	9.	3.	.51
+	DIVERSION TO	DWBHAF	162.	5.58	29.	7.	2.	.51
+	HYDROGRAPH AT	DBHNR	43.	5.58	8.	2.	1.	.51
+	3 COMBINED AT	CBHRI	2505.	6.25	1677.	588.	203.	47.17
+	ROUTED TO	RWBHNR	2492.	6.33	1668.	586.	202.	47.17
+	HYDROGRAPH AT	BHNR	242.	4.42	62.	16.	5.	.26
+	DIVERSION TO	XBHNR	242.	4.42	43.	11.	4.	.26
+	HYDROGRAPH AT	ERBHNR	137.	5.17	20.	5.	2.	.26
+	2 COMBINED AT	CBHNR	2522.	6.33	1673.	587.	203.	47.42
+	HYDROGRAPH AT	CB99	154.	4.50	50.	13.	4.	.20
+	DIVERSION TO	XCB99	154.	4.50	30.	8.	3.	.20
+	HYDROGRAPH AT	ERCB99	110.	5.17	22.	6.	2.	.20
+	DIVERSION TO	DSIS99	54.	5.17	11.	3.	1.	.20
+	HYDROGRAPH AT	DWCBRI	56.	5.17	11.	3.	1.	.20
+	ROUTED TO	RWCBRI	43.	5.83	11.	3.	1.	.20
+	HYDROGRAPH AT	CBRI	375.	4.75	139.	36.	12.	.70
+	DIVERSION TO	XCBRI	375.	4.75	128.	32.	11.	.70
+	HYDROGRAPH AT	ERCBRI	67.	7.17	17.	4.	1.	.70
+	2 COMBINED AT	CCBRI	79.	7.17	27.	7.	2.	.80
+	DIVERSION TO	DSIS07	55.	7.17	19.	5.	2.	.80
+	HYDROGRAPH AT	DWCB07	24.	7.17	8.	2.	1.	.80
+	HYDROGRAPH AT	CB07	136.	4.75	44.	11.	4.	.32
+	2 COMBINED AT	CCB07	134.	4.75	52.	13.	4.	.56
+	DIVERSION TO	DIS07	93.	4.75	36.	9.	3.	.56
+	HYDROGRAPH AT	DWCBNR	42.	4.75	16.	4.	1.	.56
+	ROUTED TO	RWCBNR	39.	5.42	16.	4.	1.	.56
+	HYDROGRAPH AT	CBNR	208.	4.67	64.	16.	5.	.47
+	DIVERSION TO	XCBNR	158.	4.33	7.	2.	1.	.47
+	HYDROGRAPH AT	ERCBNR	208.	4.67	58.	14.	5.	.47
+	2 COMBINED AT	CCBNR	203.	4.67	71.	18.	6.	.64

+	HYDROGRAPH AT	DRIS99	54.	5.17	11.	3.	1.	.20
+	ROUTED TO	RSIS99	38.	6.08	11.	3.	1.	.20
+	HYDROGRAPH AT	IS99	399.	4.25	84.	21.	7.	.32
+	2 COMBINED AT	CIS99	399.	4.25	91.	24.	8.	.42
+	DIVERSION TO	DSTM99	104.	4.25	24.	6.	2.	.42
+	HYDROGRAPH AT	DWIS07	295.	4.25	67.	18.	6.	.42
+	ROUTED TO	RWIS07	274.	4.67	67.	18.	6.	.42
+	HYDROGRAPH AT	DI07IS	93.	4.75	36.	9.	3.	.56
+	HYDROGRAPH AT	DRIS07	55.	7.17	19.	5.	2.	.80
+	2 COMBINED AT	CICB07	86.	4.75	51.	13.	4.	.94
+	ROUTED TO	RSIS07	83.	5.25	50.	13.	4.	.94
+	HYDROGRAPH AT	IS07	642.	4.75	205.	53.	18.	1.02
+	DIVERSION TO	XIS07	460.	4.33	35.	9.	3.	1.02
+	HYDROGRAPH AT	ERIS07	642.	4.75	175.	44.	15.	1.02
+	3 COMBINED AT	CIS07	837.	4.75	276.	71.	24.	2.28
+	DIVERSION TO	DSRI07	209.	4.75	69.	18.	6.	2.28
+	HYDROGRAPH AT	DWISAF	628.	4.75	207.	53.	18.	2.28
+	ROUTED TO	RWISAF	611.	5.33	203.	53.	18.	2.28
+	HYDROGRAPH AT	ISAF	508.	4.75	186.	49.	16.	.99
+	2 COMBINED AT	CISAF	1008.	5.25	368.	99.	33.	2.69
+	HYDROGRAPH AT	DRTM99	104.	4.25	24.	6.	2.	.42
+	ROUTED TO	RSTM99	89.	4.92	23.	6.	2.	.42
+	HYDROGRAPH AT	TM99	556.	4.33	131.	33.	11.	.50
+	2 COMBINED AT	CTM99	551.	4.42	151.	39.	13.	.62
+	DIVERSION TO	DSMD99	254.	4.42	69.	18.	6.	.62
+	HYDROGRAPH AT	DWRI07	298.	4.42	82.	21.	7.	.62
+	ROUTED TO	RWRI07	286.	4.83	81.	21.	7.	.62
+	HYDROGRAPH AT	DRRI07	209.	4.75	69.	18.	6.	2.28
+	ROUTED TO	RSRI07	207.	5.08	69.	18.	6.	2.28
+	HYDROGRAPH AT	RI07	621.	4.58	178.	46.	15.	.76
+	DIVERSION TO	XRI07	621.	4.58	132.	33.	11.	.76

+	HYDROGRAPH AT	ERRI07	285.	5.58	51.	13.	4.	.76
+	3 COMBINED AT	CRI07	637.	5.58	196.	51.	17.	1.67
+	DIVERSION TO	DTM07	312.	5.58	96.	25.	8.	1.67
+	HYDROGRAPH AT	DRIAF	325.	5.58	100.	26.	9.	1.67
+	DIVERSION TO	DSTM07	202.	5.58	62.	16.	5.	1.67
+	HYDROGRAPH AT	DWRIAF	124.	5.58	38.	10.	3.	1.67
+	ROUTED TO	RWRIAF	94.	6.75	36.	10.	3.	1.67
+	HYDROGRAPH AT	RIAF	339.	4.83	130.	34.	11.	.66
+	2 COMBINED AT	CRIAF	329.	4.83	161.	44.	15.	.98
+	HYDROGRAPH AT	DRBHAF	162.	5.58	29.	7.	2.	.51
+	ROUTED TO	SRBHRI	0.	9.42	0.	0.	0.	.51
+	5 COMBINED AT	CAF01	4870.	6.67	3126.	1017.	356.	4.31
+	HYDROGRAPH AT	CB83	560.	4.42	107.	27.	9.	.55
+	DIVERSION TO	XCB83	548.	4.33	36.	9.	3.	.55
+	HYDROGRAPH AT	ERCB83	542.	4.50	71.	18.	6.	.55
+	DIVERSION TO	DP83CB	10.	4.42	4.	1.	0.	.55
+	HYDROGRAPH AT	D83CB	532.	4.50	67.	17.	6.	.55
+	DIVERSION TO	DSIS83	234.	4.50	29.	7.	2.	.55
+	HYDROGRAPH AT	DWCB91	298.	4.50	37.	9.	3.	.55
+	ROUTED TO	RWCB91	231.	5.00	37.	9.	3.	.55
+	HYDROGRAPH AT	CB91	602.	4.75	192.	49.	16.	.96
+	DIVERSION TO	XCB91	602.	4.75	133.	33.	11.	.96
+	HYDROGRAPH AT	ERCB91	315.	5.75	63.	16.	5.	.96
+	2 COMBINED AT	CCB91	402.	5.75	97.	24.	8.	1.32
+	DIVERSION TO	DSIS91	189.	5.75	46.	11.	4.	1.32
+	HYDROGRAPH AT	DWCBLO	213.	5.75	52.	13.	4.	1.32
+	ROUTED TO	RWCBLO	179.	6.08	51.	13.	4.	1.32
+	HYDROGRAPH AT	CBLO	662.	4.58	186.	48.	16.	.82
+	DIVERSION TO	XCBLO	662.	4.58	111.	28.	9.	.82
+	HYDROGRAPH AT	ERCBLO	454.	5.17	80.	20.	7.	.82
+	2 COMBINED AT	CCBLO	460.	5.17	128.	32.	11.	1.52

+	ROUTED TO	RSISLO	419.	5.50	128.	32.	11.	1.52
+	HYDROGRAPH AT	IS75	553.	4.50	132.	34.	11.	.62
+	DIVERSION TO	XIS75	12.	1.58	2.	0.	0.	.62
+	HYDROGRAPH AT	ERIS75	553.	4.50	132.	33.	11.	.62
+	DIVERSION TO	DP75IS	123.	3.92	62.	16.	5.	.62
+	HYDROGRAPH AT	D75IS	430.	4.50	70.	18.	6.	.62
+	DIVERSION TO	DSTM75	150.	4.50	25.	6.	2.	.62
+	HYDROGRAPH AT	DWIS83	279.	4.50	46.	11.	4.	.62
+	ROUTED TO	RWIS83	246.	4.92	46.	11.	4.	.62
+	HYDROGRAPH AT	DRIS83	234.	4.50	29.	7.	2.	.55
+	ROUTED TO	RSIS83	168.	5.17	29.	7.	2.	.55
+	HYDROGRAPH AT	IS83	609.	4.67	191.	49.	16.	.99
+	3 COMBINED AT	CIS83	844.	5.17	257.	66.	22.	1.64
+	HYDROGRAPH AT	PR83CB	10.	4.42	4.	1.	0.	.55
+	ROUTED TO	RP83IS	10.	4.83	5.	1.	0.	.55
+	2 COMBINED AT	CPIS83	854.	5.17	262.	67.	22.	1.64
+	DIVERSION TO	DP83IS	187.	4.08	116.	30.	10.	1.64
+	HYDROGRAPH AT	D83IS	667.	5.17	146.	36.	12.	1.64
+	DIVERSION TO	DSTM83	367.	5.17	80.	20.	7.	1.64
+	HYDROGRAPH AT	DWIS91	300.	5.17	66.	16.	5.	1.64
+	ROUTED TO	RWIS91	282.	5.42	66.	16.	5.	1.64
+	HYDROGRAPH AT	DRIS91	189.	5.75	46.	11.	4.	1.32
+	ROUTED TO	RSIS91	150.	6.33	46.	11.	4.	1.32
+	HYDROGRAPH AT	IS91	657.	4.75	213.	55.	18.	1.00
+	DIVERSION TO	XIS91	552.	4.42	50.	12.	4.	1.00
+	HYDROGRAPH AT	ERIS91	657.	4.75	170.	42.	14.	1.00
+	3 COMBINED AT	CIS91	784.	5.17	272.	68.	23.	2.36
+	DIVERSION TO	DP91IS	190.	4.58	117.	29.	10.	2.36
+	HYDROGRAPH AT	D91IS	594.	5.17	155.	39.	13.	2.36
+	DIVERSION TO	DSTM91	339.	5.17	88.	22.	7.	2.36
+	HYDROGRAPH AT	DWISLO	255.	5.17	67.	17.	6.	2.36

+	ROUTED TO	RWISLO	252.	5.33	67.	17.	6.	2.36
+	HYDROGRAPH AT	ISLO	648.	4.42	162.	41.	14.	.68
+	DIVERSION TO	XISLO	648.	4.42	117.	29.	10.	.68
+	HYDROGRAPH AT	ERISLO	310.	5.25	48.	12.	4.	.68
+	3 COMBINED AT	CISLO	864.	5.50	227.	57.	19.	3.22
+	ROUTED TO	RSTMLO	823.	5.67	226.	57.	19.	3.22
+	HYDROGRAPH AT	DRGCGR	275.	4.75	90.	23.	8.	2.11
+	HYDROGRAPH AT	DIGCGR	413.	4.83	117.	29.	10.	3.93
+	2 COMBINED AT	CIGR35	663.	4.83	201.	50.	17.	3.97
+	ROUTED TO	RSGCGR	644.	5.00	201.	50.	17.	3.97
+	HYDROGRAPH AT	DRGC27	681.	5.17	217.	54.	18.	1.74
+	ROUTED TO	RSGC27	678.	5.25	217.	54.	18.	1.74
+	HYDROGRAPH AT	GCGR	980.	4.00	94.	23.	8.	.38
+	3 COMBINED AT	CGCGR	1195.	5.08	462.	118.	39.	6.09
+	HYDROGRAPH AT	PR31IS	268.	3.67	217.	58.	19.	3.93
+	ROUTED TO	RP31GC	268.	3.75	217.	58.	19.	3.93
+	HYDROGRAPH AT	PR27IS	151.	3.75	137.	40.	13.	1.74
+	ROUTED TO	RP27GC	151.	3.83	137.	40.	13.	1.74
+	3 COMBINED AT	CPGCGR	1614.	5.08	820.	218.	73.	6.09
+	DIVERSION TO	DPGCGR	422.	3.58	378.	107.	36.	6.09
+	HYDROGRAPH AT	DGCGR	1192.	5.08	442.	111.	37.	6.09
+	ROUTED TO	SRGCGR	841.	5.83	426.	111.	37.	6.09
+	ROUTED TO	RSGR27	833.	6.08	425.	111.	37.	6.09
+	HYDROGRAPH AT	GR27	626.	4.25	100.	25.	8.	.41
+	2 COMBINED AT	CTM27	852.	6.08	491.	133.	44.	6.50
+	DIVERSION TO	DGR27	426.	6.08	245.	67.	22.	6.50
+	HYDROGRAPH AT	DTM27	426.	6.08	245.	67.	22.	6.50
+	ROUTED TO	SRTM27	404.	6.42	159.	63.	22.	6.50
+	HYDROGRAPH AT	PRGCGR	422.	3.58	378.	107.	36.	6.09
+	DIVERSION TO	DP31GR	257.	3.33	248.	75.	25.	6.09
+	HYDROGRAPH AT	D31GR	165.	3.58	129.	32.	11.	6.09

+	ROUTED TO RP27TM	165.	3.67	129.	32.	11.	6.09
+	2 COMBINED AT CPGR27	532.	6.50	258.	91.	32.	12.59
+	DIVERSION TO DP27GR	195.	3.67	179.	71.	25.	12.59
+	HYDROGRAPH AT D27GR	337.	6.50	79.	20.	7.	12.59
+	HYDROGRAPH AT DRGR27	426.	6.08	245.	67.	22.	6.50
+	2 COMBINED AT CGR27	777.	6.42	342.	91.	30.	6.50
+	ROUTED TO SRGR27	780.	6.42	256.	80.	30.	6.50
+	DIVERSION TO DSMD27	530.	6.42	174.	54.	21.	6.50
+	HYDROGRAPH AT DWTM35	250.	6.42	82.	26.	10.	6.50
+	ROUTED TO RWTM35	224.	7.08	81.	26.	10.	6.50
+	HYDROGRAPH AT DRTM35	1405.	4.83	410.	102.	34.	2.14
+	ROUTED TO RSTM35	1385.	4.92	410.	102.	34.	2.14
+	HYDROGRAPH AT TM35	630.	4.25	102.	26.	9.	.39
+	3 COMBINED AT CTM35	1446.	4.92	547.	146.	50.	4.31
+	HYDROGRAPH AT PR31GR	257.	3.33	248.	75.	25.	6.09
+	ROUTED TO RP31TM	257.	3.42	248.	75.	25.	6.09
+	HYDROGRAPH AT PR35GC	40.	3.75	33.	9.	3.	2.14
+	ROUTED TO RP35TM	40.	3.92	33.	9.	3.	2.14
+	3 COMBINED AT CPTM35	1743.	4.92	824.	228.	78.	4.31
+	DIVERSION TO DP35TM	300.	3.33	293.	95.	34.	4.31
+	HYDROGRAPH AT D35TM	1443.	4.92	531.	133.	44.	4.31
+	DIVERSION TO DSMD35	1212.	4.92	446.	112.	37.	4.31
+	HYDROGRAPH AT DWTM43	231.	4.92	85.	21.	7.	4.31
+	ROUTED TO RWTM43	211.	5.67	83.	21.	7.	4.31
+	HYDROGRAPH AT DRTM43	583.	4.50	141.	35.	12.	2.23
+	ROUTED TO RSTM43	571.	4.58	141.	35.	12.	2.23
+	HYDROGRAPH AT TM43	420.	4.67	136.	35.	12.	.64
+	DIVERSION TO XTM43	13.	2.92	3.	1.	0.	.64
+	HYDROGRAPH AT ERTM43	420.	4.67	136.	34.	11.	.64
+	3 COMBINED AT CTM43	939.	5.08	348.	89.	30.	3.16
+	HYDROGRAPH AT PR43GC	406.	3.75	363.	113.	38.	2.23

+	ROUTED TO RP43TM	406.	3.83	363.	113.	38.	2.23
+	2 COMBINED AT CPTM43	1345.	5.08	707.	201.	67.	3.16
+	DIVERSION TO DP43TM	629.	4.17	513.	152.	51.	3.16
+	HYDROGRAPH AT D43TM	716.	5.08	194.	48.	16.	3.16
+	DIVERSION TO DSMD43	566.	5.08	153.	38.	13.	3.16
+	HYDROGRAPH AT DWTM51	150.	5.08	41.	10.	3.	3.16
+	ROUTED TO RWTM51	141.	5.75	41.	10.	3.	3.16
+	HYDROGRAPH AT DRTM51	127.	5.83	20.	5.	2.	2.04
+	ROUTED TO RSTM51	117.	6.08	20.	5.	2.	2.04
+	HYDROGRAPH AT TM51	306.	4.75	104.	27.	9.	.55
+	3 COMBINED AT CTM51	396.	5.92	159.	41.	14.	2.15
+	HYDROGRAPH AT PR51GC	113.	4.17	73.	18.	6.	2.04
+	HYDROGRAPH AT PRGC53	20.	3.75	20.	19.	7.	2.27
+	ROUTED TO RPGC51	20.	3.83	20.	19.	7.	2.27
+	2 COMBINED AT CPGC51	133.	4.17	93.	37.	13.	2.15
+	ROUTED TO RP51TM	133.	4.25	93.	37.	13.	2.15
+	2 COMBINED AT CPTM51	474.	5.92	235.	74.	25.	4.30
+	DIVERSION TO DP51TM	244.	4.33	169.	57.	19.	4.30
+	HYDROGRAPH AT D51TM	230.	5.92	67.	17.	6.	4.30
+	DIVERSION TO DSMD51	147.	5.92	43.	11.	4.	4.30
+	HYDROGRAPH AT DWTM59	83.	5.92	24.	6.	2.	4.30
+	ROUTED TO RWTM59	75.	6.58	24.	6.	2.	4.30
+	HYDROGRAPH AT DRTM59	488.	6.33	213.	57.	19.	3.50
+	ROUTED TO RSTM59	479.	6.42	212.	57.	19.	3.50
+	HYDROGRAPH AT TM59	400.	4.58	113.	29.	10.	.60
+	3 COMBINED AT CTM59	621.	6.42	330.	89.	30.	3.90
+	HYDROGRAPH AT PRGC63	258.	4.25	182.	74.	25.	3.33
+	ROUTED TO RP59TM	258.	4.33	182.	74.	25.	3.33
+	2 COMBINED AT CPTM59	879.	6.42	512.	162.	54.	3.90
+	DIVERSION TO DP59TM	389.	4.25	321.	114.	38.	3.90
+	HYDROGRAPH AT D59TM	490.	6.42	191.	48.	16.	3.90

+	DIVERSION TO	DSMD59	201.	6.42	78.	20.	7.	3.90
+	HYDROGRAPH AT	DWTM67	289.	6.42	113.	28.	9.	3.90
+	ROUTED TO	RWTM67	265.	6.83	113.	28.	9.	3.90
+	HYDROGRAPH AT	DRTM67	0.	.00	0.	0.	0.	3.33
+	ROUTED TO	RSTM67	0.	.00	0.	0.	0.	3.33
+	HYDROGRAPH AT	TM67	560.	4.67	169.	43.	14.	.81
+	DIVERSION TO	XTM67	13.	2.00	2.	1.	0.	.81
+	HYDROGRAPH AT	ERTM67	560.	4.67	169.	43.	14.	.81
+	3 COMBINED AT	CTM67	555.	5.33	278.	71.	24.	3.12
+	HYDROGRAPH AT	PR67IS	175.	4.00	120.	31.	10.	4.34
+	ROUTED TO	RP67TM	175.	4.17	120.	31.	10.	4.34
+	2 COMBINED AT	CPTM67	730.	5.33	399.	103.	34.	3.12
+	DIVERSION TO	DP67TM	273.	4.00	217.	57.	19.	3.12
+	HYDROGRAPH AT	D67TM	457.	5.33	183.	46.	15.	3.12
+	DIVERSION TO	DSMD67	206.	5.33	82.	21.	7.	3.12
+	HYDROGRAPH AT	DWTM75	252.	5.33	100.	25.	8.	3.12
+	ROUTED TO	RWTM75	246.	5.67	100.	25.	8.	3.12
+	HYDROGRAPH AT	DRTM75	150.	4.50	25.	6.	2.	.62
+	ROUTED TO	RSTM75	130.	5.00	25.	6.	2.	.62
+	HYDROGRAPH AT	TM75	719.	4.67	218.	56.	19.	1.00
+	DIVERSION TO	XTM75	20.	2.25	4.	1.	0.	1.00
+	HYDROGRAPH AT	ERTM75	719.	4.67	218.	55.	18.	1.00
+	3 COMBINED AT	CTM75	886.	5.08	334.	84.	28.	2.92
+	HYDROGRAPH AT	PR75IS	123.	3.92	62.	16.	5.	.62
+	ROUTED TO	RP75TM	123.	4.08	62.	16.	5.	.62
+	2 COMBINED AT	CPTM75	1009.	5.08	397.	101.	34.	2.92
+	DIVERSION TO	DP75TM	303.	4.00	213.	55.	18.	2.92
+	HYDROGRAPH AT	D75TM	706.	5.08	183.	46.	15.	2.92
+	DIVERSION TO	DSMD75	339.	5.08	88.	22.	7.	2.92
+	HYDROGRAPH AT	DWTM83	367.	5.08	95.	24.	8.	2.92
+	ROUTED TO	RWTM83	352.	5.42	95.	24.	8.	2.92

+	HYDROGRAPH AT	DRTM83	367.	5.17	80.	20.	7.	1.64
+	ROUTED TO	RSTM83	338.	5.42	80.	20.	7.	1.64
+	HYDROGRAPH AT	TM83	607.	4.75	196.	50.	17.	.99
+	3 COMBINED AT	CTM83	1076.	5.33	353.	90.	30.	3.41
+	HYDROGRAPH AT	PR83IS	187.	4.08	116.	30.	10.	1.64
+	ROUTED TO	RP83TM	187.	4.25	116.	30.	10.	1.64
+	2 COMBINED AT	CPTM83	1263.	5.33	470.	121.	40.	3.41
+	DIVERSION TO	DP83TM	283.	4.08	201.	53.	18.	3.41
+	HYDROGRAPH AT	D83TM	980.	5.33	269.	67.	22.	3.41
+	DIVERSION TO	DSMD83	225.	5.33	62.	15.	5.	3.41
+	HYDROGRAPH AT	DWTM91	754.	5.33	207.	52.	17.	3.41
+	ROUTED TO	RWTM91	734.	5.58	207.	52.	17.	3.41
+	HYDROGRAPH AT	DRTM91	339.	5.17	88.	22.	7.	2.36
+	ROUTED TO	RSTM91	325.	5.58	88.	22.	7.	2.36
+	HYDROGRAPH AT	TM91	620.	4.75	202.	52.	17.	1.00
+	DIVERSION TO	XTM91	357.	4.25	30.	7.	2.	1.00
+	HYDROGRAPH AT	ERTM91	620.	4.75	179.	45.	15.	1.00
+	3 COMBINED AT	CTM91	1356.	5.50	440.	110.	37.	4.96
+	HYDROGRAPH AT	PR91IS	190.	4.58	117.	29.	10.	2.36
+	ROUTED TO	RP91TM	190.	4.75	117.	29.	10.	2.36
+	2 COMBINED AT	CPTM91	1546.	5.50	556.	139.	46.	4.96
+	DIVERSION TO	DP91TM	287.	4.42	203.	51.	17.	4.96
+	HYDROGRAPH AT	D91TM	1259.	5.50	353.	88.	29.	4.96
+	DIVERSION TO	DSMD91	970.	5.50	272.	68.	23.	4.96
+	HYDROGRAPH AT	DWTMLO	290.	5.50	81.	20.	7.	4.96
+	ROUTED TO	RWTMLO	285.	5.67	81.	20.	7.	4.96
+	HYDROGRAPH AT	TMLO	560.	4.33	126.	32.	11.	.50
+	DIVERSION TO	XTMLO	560.	4.33	79.	20.	7.	.50
+	HYDROGRAPH AT	ERTMLO	366.	4.83	49.	12.	4.	.50
+	3 COMBINED AT	CTMLO	1143.	5.75	336.	85.	28.	4.87
+	ROUTED TO	RSMDLO	1107.	5.92	335.	85.	28.	4.87

+	HYDROGRAPH AT	DRMD27	530.	6.42	174.	54.	21.	6.50
+	ROUTED TO	RSMD27	498.	6.75	173.	54.	21.	6.50
+	HYDROGRAPH AT	MD27	362.	4.17	63.	16.	5.	.24
+	2 COMBINED AT	CMD27	534.	6.67	225.	70.	27.	4.65
+	HYDROGRAPH AT	PR27GR	195.	3.67	179.	71.	25.	12.59
+	ROUTED TO	RP27MD	195.	3.83	178.	71.	25.	12.59
+	2 COMBINED AT	CPMD27	729.	6.67	404.	142.	52.	4.65
+	DIVERSION TO	DP27MD	246.	3.67	238.	100.	38.	4.65
+	HYDROGRAPH AT	D27MD	483.	6.67	166.	42.	14.	4.65
+	ROUTED TO	RWMD35	447.	7.25	164.	42.	14.	4.65
+	HYDROGRAPH AT	DRMD35	1212.	4.92	446.	112.	37.	4.31
+	ROUTED TO	RSMD35	1170.	5.08	444.	112.	37.	4.31
+	HYDROGRAPH AT	MD35	787.	4.58	239.	61.	20.	1.00
+	DIVERSION TO	XMD35	24.	1.58	3.	1.	0.	1.00
+	HYDROGRAPH AT	ERMD35	787.	4.58	239.	61.	20.	1.00
+	3 COMBINED AT	CMD35	1752.	5.00	747.	192.	64.	9.29
+	HYDROGRAPH AT	PR35TM	300.	3.33	293.	95.	34.	4.31
+	ROUTED TO	RP35MD	300.	3.50	292.	95.	34.	4.31
+	2 COMBINED AT	CPMD35	2052.	5.00	1037.	290.	98.	9.29
+	DIVERSION TO	DP35MD	507.	3.83	483.	152.	52.	9.29
+	HYDROGRAPH AT	D35MD	1545.	5.00	554.	139.	46.	9.29
+	DIVERSION TO	DSIN35	973.	5.00	349.	87.	29.	9.29
+	HYDROGRAPH AT	DWMD43	572.	5.00	205.	51.	17.	9.29
+	ROUTED TO	RWMD43	538.	5.58	201.	51.	17.	9.29
+	HYDROGRAPH AT	DRMD43	566.	5.08	153.	38.	13.	3.16
+	ROUTED TO	RSMD43	556.	5.25	153.	38.	13.	3.16
+	HYDROGRAPH AT	MD43	1207.	4.33	223.	56.	19.	1.00
+	3 COMBINED AT	CMD43	1251.	5.33	530.	139.	46.	6.96
+	HYDROGRAPH AT	PR43TM	629.	4.17	513.	152.	51.	3.16
+	ROUTED TO	RP43MD	629.	4.33	513.	152.	51.	3.16
+	2 COMBINED AT	CPMD43	1880.	5.33	1033.	287.	96.	6.96

+	DIVERSION TO	DP43MD	629.	3.75	570.	172.	57.	6.96
+	HYDROGRAPH AT	D43MD	1251.	5.33	464.	116.	39.	6.96
+	DIVERSION TO	DSIN43	1251.	5.33	464.	116.	39.	6.96
+	HYDROGRAPH AT	DWMD51	0.	.00	0.	0.	0.	6.96
+	ROUTED TO	RWMD51	0.	.00	0.	0.	0.	6.96
+	HYDROGRAPH AT	DRMD51	147.	5.92	43.	11.	4.	4.30
+	ROUTED TO	RSMD51	138.	6.33	43.	11.	4.	4.30
+	HYDROGRAPH AT	MD51	606.	4.75	204.	53.	18.	1.00
+	3 COMBINED AT	CMD51	592.	5.00	250.	64.	21.	2.37
+	HYDROGRAPH AT	PR51TM	244.	4.33	169.	57.	19.	4.30
+	ROUTED TO	RP51MD	244.	4.50	169.	57.	20.	4.30
+	2 COMBINED AT	CPMD51	836.	5.00	420.	121.	41.	2.37
+	DIVERSION TO	DP51MD	368.	4.17	267.	83.	28.	2.37
+	HYDROGRAPH AT	D51MD	468.	5.00	152.	38.	13.	2.37
+	DIVERSION TO	DSIN51	182.	5.00	59.	15.	5.	2.37
+	HYDROGRAPH AT	DWMD59	285.	5.00	93.	23.	8.	2.37
+	ROUTED TO	RWMD59	282.	5.42	93.	23.	8.	2.37
+	HYDROGRAPH AT	DRMD59	201.	6.42	78.	20.	7.	3.90
+	ROUTED TO	RSMD59	189.	6.67	78.	20.	7.	3.90
+	HYDROGRAPH AT	MD59	606.	4.75	201.	52.	17.	1.00
+	3 COMBINED AT	CMD59	877.	5.25	352.	90.	30.	4.05
+	HYDROGRAPH AT	PR59TM	389.	4.25	321.	114.	38.	3.90
+	ROUTED TO	RP59MD	389.	4.33	321.	114.	38.	3.90
+	2 COMBINED AT	CPMD59	1266.	5.25	671.	204.	68.	4.05
+	DIVERSION TO	DP59MD	468.	4.17	395.	135.	45.	4.05
+	HYDROGRAPH AT	D59MD	798.	5.25	276.	69.	23.	4.05
+	DIVERSION TO	DSIN59	399.	5.25	138.	35.	12.	4.05
+	HYDROGRAPH AT	DWMD67	399.	5.25	138.	35.	12.	4.05
+	ROUTED TO	RWMD67	380.	5.67	138.	35.	12.	4.05
+	HYDROGRAPH AT	DRMD67	206.	5.33	82.	21.	7.	3.12
+	ROUTED TO	RSMD67	202.	5.58	82.	21.	7.	3.12

+	HYDROGRAPH AT	MD67	647.	4.67	197.	50.	17.	.98
+	DIVERSION TO	XMD67	323.	4.17	25.	6.	2.	.98
+	HYDROGRAPH AT	ERMD67	647.	4.67	176.	44.	15.	.98
+	3 COMBINED AT	CMD67	929.	5.42	376.	94.	31.	4.41
+	HYDROGRAPH AT	PR67TM	273.	4.00	217.	57.	19.	3.12
+	ROUTED TO	RP67MD	273.	4.17	217.	57.	19.	3.12
+	2 COMBINED AT	CPMD67	1202.	5.42	590.	151.	50.	4.41
+	DIVERSION TO	DP67MD	400.	4.25	314.	82.	27.	4.41
+	HYDROGRAPH AT	D67MD	802.	5.42	276.	69.	23.	4.41
+	DIVERSION TO	DSIN67	120.	5.42	41.	10.	3.	4.41
+	HYDROGRAPH AT	DWMD75	682.	5.42	235.	59.	20.	4.41
+	ROUTED TO	RWMD75	667.	5.75	234.	59.	20.	4.41
+	HYDROGRAPH AT	DRMD75	339.	5.08	88.	22.	7.	2.92
+	ROUTED TO	RSMD75	321.	5.42	88.	22.	7.	2.92
+	HYDROGRAPH AT	MD75	661.	4.67	209.	54.	18.	1.00
+	DIVERSION TO	XMD75	189.	4.00	19.	5.	2.	1.00
+	HYDROGRAPH AT	ERMD75	661.	4.67	196.	49.	16.	1.00
+	3 COMBINED AT	CMD75	1276.	5.50	480.	120.	40.	6.14
+	HYDROGRAPH AT	PR75TM	303.	4.00	213.	55.	18.	2.92
+	ROUTED TO	RP75MD	303.	4.17	213.	55.	18.	2.92
+	2 COMBINED AT	CPMD75	1579.	5.50	683.	174.	58.	6.14
+	DIVERSION TO	DP75MD	364.	4.08	283.	74.	25.	6.14
+	HYDROGRAPH AT	D75MD	1215.	5.50	400.	100.	33.	6.14
+	DIVERSION TO	DSIN75	425.	5.50	140.	35.	12.	6.14
+	HYDROGRAPH AT	DWMD83	790.	5.50	260.	65.	22.	6.14
+	ROUTED TO	RWMD83	775.	5.75	260.	65.	22.	6.14
+	HYDROGRAPH AT	DRMD83	225.	5.33	62.	15.	5.	3.41
+	ROUTED TO	RSMD83	218.	5.58	62.	15.	5.	3.41
+	HYDROGRAPH AT	MD83	1035.	4.42	251.	64.	21.	.99
+	DIVERSION TO	XMD83	1031.	4.33	111.	28.	9.	.99
+	HYDROGRAPH AT	ERMD83	965.	4.58	144.	36.	12.	.99

+	3 COMBINED AT	CMD83	1243.	5.50	453.	113.	38.	5.80
+	HYDROGRAPH AT	PR83TM	283.	4.08	201.	53.	18.	3.41
+	ROUTED TO	RP83MD	283.	4.25	201.	53.	18.	3.41
+	2 COMBINED AT	CPMD83	1526.	5.50	652.	167.	56.	5.80
+	DIVERSION TO	DP83MD	340.	4.50	249.	66.	22.	5.80
+	HYDROGRAPH AT	D83MD	1186.	5.50	403.	101.	34.	5.80
+	ROUTED TO	RWMD91	1166.	5.75	403.	101.	34.	5.80
+	HYDROGRAPH AT	DRMD91	970.	5.50	272.	68.	23.	4.96
+	ROUTED TO	RSMD91	944.	5.83	272.	68.	23.	4.96
+	HYDROGRAPH AT	MD91	683.	4.67	219.	56.	19.	1.01
+	DIVERSION TO	XMD91	587.	4.42	52.	13.	4.	1.01
+	HYDROGRAPH AT	ERMD91	683.	4.67	174.	43.	14.	1.01
+	3 COMBINED AT	CMD91	2215.	5.75	761.	190.	63.	10.61
+	HYDROGRAPH AT	PR91TM	287.	4.42	203.	51.	17.	4.96
+	ROUTED TO	RP91MD	287.	4.58	202.	51.	17.	4.96
+	2 COMBINED AT	CPMD91	2502.	5.75	963.	241.	80.	10.61
+	DIVERSION TO	DP91MD	345.	4.50	255.	64.	21.	10.61
+	HYDROGRAPH AT	D91MD	2157.	5.75	707.	177.	59.	10.61
+	DIVERSION TO	DSIN91	431.	5.75	141.	35.	12.	10.61
+	HYDROGRAPH AT	DWMDLO	1726.	5.75	566.	141.	47.	10.61
+	ROUTED TO	RWMDLO	1698.	5.92	565.	141.	47.	10.61
+	HYDROGRAPH AT	MDLO	749.	4.42	155.	39.	13.	.67
+	DIVERSION TO	XMDLO	749.	4.42	123.	31.	10.	.67
+	HYDROGRAPH AT	ERMDLO	284.	5.08	34.	8.	3.	.67
+	3 COMBINED AT	CMDLO	2646.	6.00	839.	211.	70.	14.07
+	ROUTED TO	RSINLO	2646.	6.00	838.	211.	70.	14.07
+	DIVERSION TO	DEIN95	0.	.00	0.	0.	0.	14.07
+	HYDROGRAPH AT	DSINLO	2646.	6.00	838.	211.	70.	14.07
+	HYDROGRAPH AT	IN27	152.	4.17	27.	7.	2.	.10
+	HYDROGRAPH AT	PR27MD	246.	3.67	238.	100.	38.	4.65
+	ROUTED TO	RP27IN	246.	3.75	238.	100.	38.	4.65

+	2 COMBINED AT	CPIN27	398.	4.17	257.	101.	38.	.10
+	DIVERSION TO	DSVB27	287.	4.17	185.	72.	27.	.10
+	HYDROGRAPH AT	DWIN35	112.	4.17	72.	28.	11.	.10
+	ROUTED TO	RWIN35	104.	4.75	71.	28.	11.	.10
+	HYDROGRAPH AT	DRIN35	973.	5.00	349.	87.	29.	9.29
+	ROUTED TO	RSIN35	969.	5.08	349.	87.	29.	9.29
+	HYDROGRAPH AT	IN35	630.	4.08	61.	15.	5.	.24
+	3 COMBINED AT	CIN35	1162.	5.00	494.	137.	47.	6.11
+	HYDROGRAPH AT	PR35MD	507.	3.83	483.	152.	52.	9.29
+	ROUTED TO	RP35IN	507.	3.92	483.	152.	52.	9.29
+	2 COMBINED AT	CPIN35	1669.	5.00	975.	287.	99.	6.11
+	DIVERSION TO	DSVB35	1452.	5.00	849.	250.	86.	6.11
+	HYDROGRAPH AT	DWIN43	217.	5.00	127.	37.	13.	6.11
+	ROUTED TO	RWIN43	212.	5.33	126.	37.	13.	6.11
+	HYDROGRAPH AT	DRIN43	1251.	5.33	464.	116.	39.	6.96
+	ROUTED TO	RSIN43	1247.	5.33	464.	116.	39.	6.96
+	HYDROGRAPH AT	IN43	522.	4.17	60.	15.	5.	.26
+	3 COMBINED AT	CIN43	1452.	5.33	626.	164.	55.	7.99
+	HYDROGRAPH AT	PR43MD	629.	3.75	570.	172.	57.	6.96
+	ROUTED TO	RP43IN	629.	3.83	570.	172.	57.	6.96
+	2 COMBINED AT	CPIN43	2081.	5.33	1194.	335.	112.	7.99
+	DIVERSION TO	DSVB43	1686.	5.33	967.	271.	91.	7.99
+	HYDROGRAPH AT	DWIN51	395.	5.33	227.	64.	21.	7.99
+	ROUTED TO	RWIN51	392.	5.50	226.	64.	21.	7.99
+	HYDROGRAPH AT	DRIN51	182.	5.00	59.	15.	5.	2.37
+	ROUTED TO	RSIN51	182.	5.17	59.	15.	5.	2.37
+	HYDROGRAPH AT	IN51	283.	4.25	60.	15.	5.	.23
+	DIVERSION TO	XIN51	10.	2.42	3.	1.	0.	.23
+	HYDROGRAPH AT	ERIN51	283.	4.25	58.	15.	5.	.23
+	3 COMBINED AT	CIN51	728.	4.83	360.	98.	33.	2.68
+	HYDROGRAPH AT	PR51MD	368.	4.17	267.	83.	28.	2.37

+	ROUTED TO	RP51IN	368.	4.25	267.	83.	28.	2.37
+	2 COMBINED AT	CPIN51	1096.	4.83	626.	181.	61.	2.68
+	DIVERSION TO	DSVB51	0.	.00	0.	0.	0.	2.68
+	HYDROGRAPH AT	DWIN59	1096.	4.83	626.	181.	61.	2.68
+	ROUTED TO	RWIN59	1087.	4.92	625.	181.	61.	2.68
+	HYDROGRAPH AT	DRIN59	399.	5.25	138.	35.	12.	4.05
+	ROUTED TO	RSIN59	397.	5.33	138.	35.	12.	4.05
+	HYDROGRAPH AT	IN59	137.	4.58	47.	12.	4.	.20
+	DIVERSION TO	XIN59	27.	3.92	4.	1.	0.	.20
+	HYDROGRAPH AT	ERIN59	137.	4.58	45.	11.	4.	.20
+	3 COMBINED AT	CIN59	1510.	5.25	780.	220.	74.	4.90
+	HYDROGRAPH AT	PR59MD	468.	4.17	395.	135.	45.	4.05
+	ROUTED TO	RP59IN	468.	4.25	395.	135.	45.	4.05
+	2 COMBINED AT	CPIN59	1978.	5.25	1174.	355.	119.	4.90
+	DIVERSION TO	DSVB59	0.	.00	0.	0.	0.	4.90
+	HYDROGRAPH AT	DWIN67	1978.	5.25	1174.	355.	119.	4.90
+	ROUTED TO	RWIN67	1968.	5.33	1172.	355.	119.	4.90
+	HYDROGRAPH AT	DRIN67	120.	5.42	41.	10.	3.	4.41
+	ROUTED TO	RSIN67	120.	5.50	41.	10.	3.	4.41
+	HYDROGRAPH AT	IN67	116.	4.75	45.	12.	4.	.20
+	DIVERSION TO	XIN67	116.	4.75	20.	5.	2.	.20
+	HYDROGRAPH AT	ERIN67	103.	5.17	27.	7.	2.	.20
+	3 COMBINED AT	CIN67	2145.	5.33	1224.	368.	124.	5.78
+	HYDROGRAPH AT	PR67MD	400.	4.25	314.	82.	27.	4.41
+	ROUTED TO	RP67IN	400.	4.33	314.	82.	27.	4.41
+	2 COMBINED AT	CPIN67	2545.	5.33	1536.	450.	151.	5.78
+	DIVERSION TO	DSVB67	0.	.00	0.	0.	0.	5.78
+	HYDROGRAPH AT	DWIN75	2545.	5.33	1536.	450.	151.	5.78
+	ROUTED TO	RWIN75	2531.	5.50	1534.	449.	151.	5.78
+	HYDROGRAPH AT	DRIN75	425.	5.50	140.	35.	12.	6.14
+	ROUTED TO	RSIN75	425.	5.50	140.	35.	12.	6.14

+	HYDROGRAPH AT	IN75	136.	4.58	45.	12.	4.	.20
+	DIVERSION TO	XIN75	100.	4.25	9.	2.	1.	.20
+	HYDROGRAPH AT	ERIN75	136.	4.58	38.	10.	3.	.20
+	3 COMBINED AT	CIN75	2959.	5.50	1673.	485.	162.	8.11
+	HYDROGRAPH AT	PR75MD	364.	4.08	283.	74.	25.	6.14
+	ROUTED TO	RP75IN	364.	4.17	283.	74.	25.	6.14
+	2 COMBINED AT	CPIN75	3323.	5.50	1952.	558.	187.	8.11
+	DIVERSION TO	DSVB75	0.	.00	0.	0.	0.	8.11
+	HYDROGRAPH AT	DWIN83	3323.	5.50	1952.	558.	187.	8.11
+	ROUTED TO	RWIN83	3308.	5.58	1950.	558.	187.	8.11
+	HYDROGRAPH AT	IN83	139.	4.58	45.	12.	4.	.20
+	DIVERSION TO	XIN83	139.	4.58	25.	6.	2.	.20
+	HYDROGRAPH AT	ERIN83	110.	5.08	23.	6.	2.	.20
+	2 COMBINED AT	CIN83	3372.	5.58	1966.	562.	188.	8.31
+	HYDROGRAPH AT	PR83MD	340.	4.50	249.	66.	22.	5.80
+	ROUTED TO	RP83IN	340.	4.58	250.	66.	22.	5.80
+	2 COMBINED AT	CPIN83	3712.	5.58	2210.	627.	210.	8.31
+	DIVERSION TO	DSVB83	0.	.00	0.	0.	0.	8.31
+	HYDROGRAPH AT	DWIN91	3712.	5.58	2210.	627.	210.	8.31
+	ROUTED TO	RWIN91	3701.	5.67	2208.	627.	210.	8.31
+	HYDROGRAPH AT	DRIN91	431.	5.75	141.	35.	12.	10.61
+	ROUTED TO	RSIN91	431.	5.75	141.	35.	12.	10.61
+	HYDROGRAPH AT	IN91	240.	4.25	48.	12.	4.	.19
+	DIVERSION TO	XIN91	51.	3.75	6.	2.	1.	.19
+	HYDROGRAPH AT	ERIN91	240.	4.25	42.	11.	4.	.19
+	3 COMBINED AT	CIN91	4108.	5.67	2356.	665.	223.	10.57
+	HYDROGRAPH AT	PR91MD	345.	4.50	255.	64.	21.	10.61
+	ROUTED TO	RP91IN	345.	4.58	255.	64.	21.	10.61
+	2 COMBINED AT	CPIN91	4453.	5.67	2609.	729.	244.	10.57
+	DIVERSION TO	DSVB91	0.	.00	0.	0.	0.	10.57
+	HYDROGRAPH AT	DWINLO	4453.	5.67	2609.	729.	244.	10.57

+	ROUTED TO	RWINLO	4443.	5.75	2607.	729.	244.	10.57
+	DIVERSION TO	DNINLO	0.	.00	0.	0.	0.	10.57
+	HYDROGRAPH AT	DWIN07	4443.	5.75	2607.	729.	244.	10.57
+	HYDROGRAPH AT	INLO	217.	4.17	38.	10.	3.	.15
+	DIVERSION TO	XINLO	197.	4.08	14.	3.	1.	.15
+	HYDROGRAPH AT	ERINLO	212.	4.25	25.	6.	2.	.15
+	HYDROGRAPH AT	DRINLO	0.	.00	0.	0.	0.	10.57
+	HYDROGRAPH AT	DRIN95	0.	.00	0.	0.	0.	14.07
+	3 COMBINED AT	CIN95	351.	4.17	34.	8.	3.	24.79
+	ROUTED TO	SRINLO	16.	6.00	13.	5.	2.	24.79
+	3 COMBINED AT	CINLO	6343.	6.00	3160.	871.	292.	24.79
+	DIVERSION TO	DNINLO	0.	.00	0.	0.	0.	24.79
+	HYDROGRAPH AT	DWIN07	6343.	6.00	3160.	871.	292.	24.79
+	ROUTED TO	RWIN07	6310.	6.08	3157.	871.	292.	24.79
+	HYDROGRAPH AT	DITM07	312.	5.58	96.	25.	8.	1.67
+	ROUTED TO	SRRI03	0.	11.25	0.	0.	0.	1.67
+	ROUTED TO	RWTM07	0.	13.17	0.	0.	0.	1.67
+	HYDROGRAPH AT	DRTM07	202.	5.58	62.	16.	5.	1.67
+	ROUTED TO	RSTM07	183.	5.75	62.	16.	5.	1.67
+	HYDROGRAPH AT	TM07	154.	4.75	51.	13.	4.	.26
+	3 COMBINED AT	CTM07	273.	5.08	110.	29.	10.	1.61
+	DIVERSION TO	DWTMAF	178.	5.08	72.	19.	6.	1.61
+	HYDROGRAPH AT	DSMD07	96.	5.08	39.	10.	3.	1.61
+	ROUTED TO	RSMD07	91.	6.08	38.	10.	3.	1.61
+	HYDROGRAPH AT	DRMD99	254.	4.42	69.	18.	6.	.62
+	ROUTED TO	RSMD99	243.	4.92	69.	18.	6.	.62
+	HYDROGRAPH AT	MD99	301.	4.42	82.	21.	7.	.32
+	2 COMBINED AT	CMD99	481.	4.75	149.	39.	13.	.60
+	DIVERSION TO	DMD99	269.	4.75	84.	22.	7.	.60
+	HYDROGRAPH AT	DWTMRI	211.	4.75	66.	17.	6.	.60
+	ROUTED TO	RWTMRI	206.	4.83	66.	17.	6.	.60

+	HYDROGRAPH AT	TMRI	500.	4.08	55.	14.	5.	.24
+	DIVERSION TO	XTMRI	419.	4.00	23.	6.	2.	.24
+	HYDROGRAPH AT	ERTMRI	479.	4.17	32.	8.	3.	.24
+	2 COMBINED AT	CTMRI	552.	4.17	98.	25.	8.	.51
+	ROUTED TO	SRTMRI	264.	4.67	68.	17.	6.	.51
+	ROUTED TO	RMD07	240.	5.25	67.	17.	6.	.51
+	HYDROGRAPH AT	DIMD99	269.	4.75	84.	22.	7.	.60
+	DIVERSION TO	DSIN99	135.	4.75	42.	11.	4.	.60
+	HYDROGRAPH AT	DWMD07	135.	4.75	42.	11.	4.	.60
+	ROUTED TO	SRMD99	0.	.00	0.	0.	0.	.60
+	ROUTED TO	RWMD07	0.	.00	0.	0.	0.	.60
+	HYDROGRAPH AT	MD07	542.	4.67	170.	44.	15.	.78
+	DIVERSION TO	XMD07	542.	4.67	108.	27.	9.	.78
+	HYDROGRAPH AT	ERMD07	345.	5.50	67.	17.	6.	.78
+	4 COMBINED AT	CMD07	634.	5.50	163.	42.	14.	2.50
+	DIVERSION TO	DWMDAV	475.	5.50	122.	31.	11.	2.50
+	HYDROGRAPH AT	DSIN07	158.	5.50	41.	10.	4.	2.50
+	ROUTED TO	RSIN07	152.	5.67	41.	10.	4.	2.50
+	HYDROGRAPH AT	DRIN99	135.	4.75	42.	11.	4.	.60
+	ROUTED TO	RSIN99	128.	5.17	42.	11.	4.	.60
+	HYDROGRAPH AT	IN07	333.	4.25	67.	17.	6.	.26
+	DIVERSION TO	XIN07	333.	4.25	35.	9.	3.	.26
+	HYDROGRAPH AT	ERIN07	274.	4.50	32.	8.	3.	.26
+	4 COMBINED AT	CIN07	6389.	6.00	3202.	883.	296.	27.09
+	DIVERSION TO	DSVB07	0.	.00	0.	0.	0.	27.09
+	HYDROGRAPH AT	DWINAV	6389.	6.00	3202.	883.	296.	27.09
+	ROUTED TO	RWINAV	6374.	6.08	3200.	883.	296.	27.09
+	HYDROGRAPH AT	DRTMAF	178.	5.08	72.	19.	6.	1.61
+	ROUTED TO	RWTMAF	170.	6.00	71.	19.	6.	1.61
+	HYDROGRAPH AT	TMAF	414.	4.75	152.	40.	13.	.76
+	2 COMBINED AT	CTMAF	474.	5.42	217.	58.	19.	1.33

+	DIVERSION TO	DWAF02	422.	5.42	193.	52.	17.	1.33
+	HYDROGRAPH AT	DSMDAV	52.	5.42	24.	6.	2.	1.33
+	ROUTED TO	RSMDAV	50.	6.00	24.	6.	2.	1.33
+	HYDROGRAPH AT	DRMDAV	475.	5.50	122.	31.	11.	2.50
+	ROUTED TO	RWMDAV	421.	5.92	121.	31.	11.	2.50
+	HYDROGRAPH AT	MDAV	565.	4.75	190.	49.	16.	.95
+	DIVERSION TO	XMDAV	565.	4.75	163.	41.	14.	.95
+	HYDROGRAPH AT	ERMDAV	144.	6.67	33.	8.	3.	.95
+	3 COMBINED AT	CMDAV	476.	5.92	175.	46.	15.	1.72
+	DIVERSION TO	DWMDAF	348.	5.92	128.	33.	11.	1.72
+	HYDROGRAPH AT	DSINAV	129.	5.92	47.	12.	4.	1.72
+	ROUTED TO	RSINAV	127.	6.00	47.	12.	4.	1.72
+	HYDROGRAPH AT	INAV	304.	4.25	61.	16.	5.	.23
+	DIVERSION TO	XINAV	304.	4.25	31.	8.	3.	.23
+	HYDROGRAPH AT	ERINAV	253.	4.50	31.	8.	3.	.23
+	3 COMBINED AT	CINAV	6399.	6.08	3224.	890.	298.	28.58
+	DIVERSION TO	DSVBAF	0.	.00	0.	0.	0.	28.58
+	HYDROGRAPH AT	DWINAF	6399.	6.08	3224.	890.	298.	28.58
+	ROUTED TO	RWINAF	6373.	6.25	3220.	890.	298.	28.58
+	HYDROGRAPH AT	DRMDAF	348.	5.92	128.	33.	11.	1.72
+	ROUTED TO	RWMDAF	329.	6.42	127.	33.	11.	1.72
+	HYDROGRAPH AT	MDAF	390.	4.75	146.	38.	13.	.83
+	2 COMBINED AT	CMDAF	490.	6.33	259.	71.	24.	1.30
+	DIVERSION TO	DWAF03	372.	6.33	197.	54.	18.	1.30
+	HYDROGRAPH AT	DSINAF	118.	6.33	62.	17.	6.	1.30
+	ROUTED TO	RSINAF	115.	6.50	62.	17.	6.	1.30
+	HYDROGRAPH AT	INAF	358.	4.50	94.	24.	8.	.47
+	DIVERSION TO	XINAF	358.	4.50	43.	11.	4.	.47
+	HYDROGRAPH AT	ERINAF	320.	4.75	54.	13.	4.	.47
+	DIVERSION TO	XINAF	320.	4.75	43.	11.	4.	.47
+	HYDROGRAPH AT	ERINAF	72.	6.17	11.	3.	1.	.47

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        3 COMBINED AT
+                       CINAF      6375.     6.25        3246.        898.        301.      29.36
1
                                        SUMMARY OF KINEMATIC WAVE - MUSKINGUM-CUNGE ROUTING
                                           (FLOW IS DIRECT RUNOFF WITHOUT BASE FLOW)
                                                                                 INTERPOLATED TO
                                                                                COMPUTATION INTERVAL
            ISTAQ     ELEMENT       DT        PEAK     TIME TO      VOLUME       DT        PEAK     TIME TO      VOLUME
                                                          PEAK                                        PEAK

                                    (MIN)       (CFS)      (MIN)       (IN)      (MIN)       (CFS)      (MIN)       (IN)

          FOR STORM = 1  STORM AREA (SQ MI) =         .00
            RPTB83  MANE          1.67     161.00    253.45        .59       5.00     161.00    255.00          .58

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3677E+02 EXCESS= .0000E+00 OUTFLOW= .3686E+02 BASIN STORAGE= .1186E-09 PERCENT ERROR=   -.2

          FOR STORM = 2  STORM AREA (SQ MI) =         .50
            RPTB83  MANE          1.71     161.00    254.22        .58       5.00     161.00    255.00          .58

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3663E+02 EXCESS= .0000E+00 OUTFLOW= .3668E+02 BASIN STORAGE= .1139E-09 PERCENT ERROR=   -.1

          FOR STORM = 3  STORM AREA (SQ MI) =        2.80
            RPTB83  MANE           .87     161.00    251.40        .62       5.00     161.00    255.00          .62

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3876E+02 EXCESS= .0000E+00 OUTFLOW= .3886E+02 BASIN STORAGE= .6610E-10 PERCENT ERROR=   -.3

          FOR STORM = 4  STORM AREA (SQ MI) =       16.00
            RPTB83  MANE          1.58     161.00    248.31        .63       5.00     161.00    250.00          .63

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3982E+02 EXCESS= .0000E+00 OUTFLOW= .3983E+02 BASIN STORAGE= .1170E-09 PERCENT ERROR=    .0

          FOR STORM = 5  STORM AREA (SQ MI) =       90.00
            RPTB83  MANE          1.56     161.00    246.56        .63       5.00     161.00    250.00          .63

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3943E+02 EXCESS= .0000E+00 OUTFLOW= .3942E+02 BASIN STORAGE= .1130E-09 PERCENT ERROR=    .0

          FOR STORM = 6  STORM AREA (SQ MI) =      100.00
            RPTB83  MANE          1.56     161.00    246.61        .62       5.00     161.00    250.00          .62

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3930E+02 EXCESS= .0000E+00 OUTFLOW= .3930E+02 BASIN STORAGE= .1203E-09 PERCENT ERROR=    .0

          FOR STORM = 1  STORM AREA (SQ MI) =         .00
            RPTBLO  MANE           .81     247.00    271.94        .69       5.00     247.00    275.00          .69

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6549E+02 EXCESS= .0000E+00 OUTFLOW= .6549E+02 BASIN STORAGE= .1067E-09 PERCENT ERROR=    .0

          FOR STORM = 2  STORM AREA (SQ MI) =         .50
            RPTBLO  MANE           .78     247.00    271.99        .69       5.00     247.00    275.00          .69

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6534E+02 EXCESS= .0000E+00 OUTFLOW= .6535E+02 BASIN STORAGE= .1027E-09 PERCENT ERROR=    .0

          FOR STORM = 3  STORM AREA (SQ MI) =        2.80
            RPTBLO  MANE           .86     247.00    272.24        .71       5.00     247.00    275.00          .71

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6696E+02 EXCESS= .0000E+00 OUTFLOW= .6696E+02 BASIN STORAGE= .7341E-10 PERCENT ERROR=    .0

          FOR STORM = 4  STORM AREA (SQ MI) =       16.00
            RPTBLO  MANE           .84     247.00    276.85        .71       5.00     247.00    280.00          .71

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6663E+02 EXCESS= .0000E+00 OUTFLOW= .6663E+02 BASIN STORAGE= .1056E-09 PERCENT ERROR=    .0

          FOR STORM = 5  STORM AREA (SQ MI) =       90.00
            RPTBLO  MANE           .72     247.00    390.27        .67       5.00     247.00    390.00          .67

 *** The remainder of the continuity summary has been deleted for brevity, but the entire output is included on the CD ***

*** NORMAL END OF HEC-1 ***
```

```
1*************************************
*                                   *
*   FLOOD HYDROGRAPH PACKAGE  (HEC-1)   *
*             JUN  1998             *
*           VERSION 4.1             *
*                                   *
*  RUN DATE   01NOV10  TIME  14:01:21   *
*                                   *
*************************************
```

```
*************************************
*                                   *
*    U.S. ARMY CORPS OF ENGINEERS   *
*    HYDROLOGIC ENGINEERING CENTER  *
*         609 SECOND STREET         *
*       DAVIS, CALIFORNIA 95616     *
*           (916) 756-1104          *
*                                   *
*************************************
```

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X     X  XXXXXXX   XXXXX          X
X     X  X        X     X        XX
X     X  X        X              X
XXXXXXX  XXXX     X        XXXXX  X
X     X  X        X              X
X     X  X        X     X        X
X     X  XXXXXXX   XXXXX         XXX
```

THIS PROGRAM REPLACES ALL PREVIOUS VERSIONS OF HEC-1 KNOWN AS HEC1 (JAN 73), HEC1GS, HEC1DB, AND HEC1KW.

THE DEFINITIONS OF VARIABLES -RTIMP- AND -RTIOR- HAVE CHANGED FROM THOSE USED WITH THE 1973-STYLE INPUT STRUCTURE.
THE DEFINITION OF -AMSKK- ON RM-CARD WAS CHANGED WITH REVISIONS DATED 28 SEP 81. THIS IS THE FORTRAN77 VERSION
NEW OPTIONS: DAMBREAK OUTFLOW SUBMERGENCE , SINGLE EVENT DAMAGE CALCULATION, DSS:WRITE STAGE FREQUENCY,
DSS:READ TIME SERIES AT DESIRED CALCULATION INTERVAL LOSS RATE:GREEN AND AMPT INFILTRATION
KINEMATIC WAVE: NEW FINITE DIFFERENCE ALGORITHM

1 HEC-1 INPUT PAGE 1

```
LINE          ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10
    1         ID      GLENDALE STORMWATER MANAGEMENT PLAN
    2         ID      Model for Glendale/Peoria Watershed
    3         ID      Future Conditions
    4         ID
    5         ID      Prepared for the City of Glendale
    6         ID      In Association with the Flood Control District of Maricopa County
    7         ID      City Project Number 089017
    8         ID
    9         ID      Prepared by Kimley-Horn and Associates, Inc.
   10         ID      KHA Project Number 091910009
   11         ID      October 2010
   12         ID
   13         ID      MODELING PARAMETERS
   14         ID      - 100 Year 6 Hour Storm Event
   15         ID      - NOAA 14 Rainfall Data
   16         ID      - Clark Unit Hydrograph
   17         ID      - Green and Ampt Rainfall Loss Method
   18         ID
   19         ID      Topo data extracted from Flood Control District database July 24, 2009
   20         ID      Land use obtained from City of Glendale General Plan August 2009, City of
   21         ID           Phoenix General Plan August 2009, and MAG General Plan Land Use 2007
   22         ID
   23         ID      Storage routing data obtained from As-built Records or Final Drainage
   24         ID           Reports where possible
   25         ID      When As-built data/Drainage reports were not available data was obtained
   26         ID           from HEC-1 models and checked for accuracy.
   27         ID      Storage routing data obtained from the following HEC-1 models:
   28         ID           - Glendale/Peoria ADMPU, May 2001
   29         ID           - Glendale/Peoria ADMP Northwest Region Update, May 2007
   30         ID      The source of data is identified on each individual storage routing card
   31         ID
   32         ID      ********************************************************************
   33         ID
   34         ID      MODELING NOMENCLATURE
   35         ID      SUBBASIN HYDROGRAPH:
   36         ID         Example: JMRS   - the subbasin upstream of Jomax and Rock Springs Wash
   37         ID
   38         ID      STORM DRAIN DIVERSION:
   39         ID         Example: DBL59  - flow from subbasin BL59 is diverted to a storm drain
   40         ID
   41         ID      SUBBASIN DIVERSION:
   42         ID         Example: DWBL59 - flow is diverted west towards Bell and 59th Avenue
   43         ID         Example: DSGW51 - flow is diverted south towards Greenway and 51st Ave
   44         ID
   45         ID      ROUTE HYDROGRAPH:
   46         ID         Example: RWBL51 - flow is routed west towards Bell and 51st Avenue
   47         ID         Example: RSGW59 - flow is routed south towards Greenway and 59th Ave
   48         ID
   49         ID      COMBINE HYDROGRAPH:
   50         ID         Example: CJMRS  - combine flow at Jomax and Rock Springs Wash
   51         ID
   52         ID      STREET NAME ABBREVIATIONS
   53         ID         Jomax Road              JM
   54         ID         Happy Valley Road       HV
   55         ID         Pinnacle Peak Road      PP
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1 HEC-1 INPUT PAGE 2

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LINE          ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10
   56         ID      Deer Valley Road        DV
   57         ID      SR Loop 101             LO
   58         ID      Beardsley Road          BY
   59         ID      Union Hills Drive       UH
   60         ID      Bell Road               BL
   61         ID      Greenway Road           GW
   62         ID      Thunderbird Road        TB
   63         ID      Cactus Road             CT
   64         ID      Peoria Avenue           PE
   65         ID      Olive Avenue            OL
   66         ID      Northern Avenue         NO
   67         ID      Glendale Avenue         GL
   68         ID      Bethany Home Road       BH
   69         ID      Camelback Road          CB
   70         ID      Indian School Road      IS
   71         ID      Thomas Road             TM
   72         ID      McDowell Road           MD
   73         ID      Interstate 10           IN
   74         ID      Grand Avenue            GR
   75         ID      Mountain View Road      MV
   76         ID      Pinnacle Hill Road      PH
   77         ID      Greenbriar Drive        GB
   78         ID      Utopia Road             UT
   79         ID      Pyramid Peak Boulevard  PY
   80         ID      Bent Tree Drive         BT
   81         ID      Glen Harbor Boulevard   GH
   82         ID      Black Rock Boulevard    BR
   83         ID      Rose Garden Lane        RG
   84         ID      Calle Lejos             CL
   85         ID      Rock Springs Wash       RS
   86         ID      Williams Road           WL
   87         ID      Del Webb Boulevard      DW
   88         ID      Westwing Parkway        WW
   89         ID      Lake Pleasant Parkway   LP
   90         ID      Thunderbird Park Road   TP
   91         ID      Talisman Road           TL
   92         ID      Royal Oak Road          RO
   93         ID      Yearling Road           YL
   94         ID      Meade Drive             ME
   95         ID      Acoma Drive             AM
   96         ID      Athens Street           AT
   97         ID
   98         ID
   99         ID    PREFIXES FOR MODELING OPERATIONS
  100         ID       RW     Routing flow in the west direction
  101         ID       RS     Routing flow in the south direction
  102         ID       RP     Routing storm drain pipe flow
  103         ID       C      Combination point
  104         ID       CI     Combination point at an intersection
  105         ID       CP     Combination point for storm drain pipe flow
  106         ID       SR     Storage for detention/retention basins
  107         ID       DW     Divert flow to the west
  108         ID       DE     Divert flow to the east
  109         ID       DS     Divert flow to the south
  110         ID       DN     Divert flow to the north
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1 HEC-1 INPUT PAGE 3

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LINE          ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10
  111         ID       ER     Divert flow for existing 100-yr 2-hr retention
  112         ID       X      Existing retention diversion does not return to model
  113         ID       DR     Divert retrieval from surface flow
  114         ID       DI     Divert retrieval from intersection flow
  115         ID       D      Divert surface flow (remains after storm drain divert)
  116         ID       DP     Divert flow to a storm drain pipe
  117         ID       PR     Divert retrieval from a storm drain pipe
  118         ID
  119         ID    ************************************************************************
  120         IT     5       0       0    1000
  121         IN    15
  122         IO     5
              *DIAGRAM
              *
  123         JD  2.692  0.0001
  124         PC  0.000  0.008  0.016  0.025  0.033  0.041  0.050  0.058  0.066  0.074
  125         PC  0.087  0.099  0.118  0.138  0.216  0.377  0.834  0.911  0.931  0.950
  126         PC  0.962  0.972  0.983  0.991  1.000
  127         JD  2.676  0.5000
  128         PC  0.000  0.008  0.016  0.025  0.033  0.041  0.050  0.058  0.066  0.074
  129         PC  0.087  0.099  0.118  0.138  0.216  0.377  0.834  0.911  0.931  0.950
  130         PC  0.962  0.972  0.983  0.991  1.000
  131         JD  2.625    2.8
  132         PC  0.000  0.009  0.016  0.025  0.034  0.042  0.051  0.059  0.068  0.077
  133         PC  0.088  0.101  0.121  0.164  0.253  0.451  0.694  0.836  0.900  0.938
  134         PC  0.950  0.963  0.975  0.988  1.000
  135         JD  2.482   16.0
  136         PC  0.000  0.015  0.020  0.030  0.048  0.063  0.076  0.090  0.105  0.119
  137         PC  0.135  0.152  0.175  0.222  0.304  0.472  0.670  0.796  0.868  0.912
  138         PC  0.946  0.960  0.973  0.987  1.000
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 139          JD   2.181    90.0
 140          PC   0.000   0.021   0.035   0.051   0.071   0.087   0.105   0.125   0.143   0.160
 141          PC   0.179   0.201   0.232   0.281   0.364   0.500   0.658   0.773   0.841   0.888
 142          PC   0.927   0.945   0.964   0.982   1.000
 143          JD   2.154   100.0
 144          PC   0.000   0.021   0.036   0.052   0.072   0.088   0.106   0.126   0.145   0.162
 145          PC   0.182   0.204   0.235   0.284   0.368   0.501   0.656   0.770   0.839   0.886
 146          PC   0.925   0.944   0.963   0.982   1.000
              *
 147          KK    UH35   BASIN
 148          KM   Runoff hydrograph for subbasin UH35 northeast of the intersection of Union
 149          KM   Hills Drive and 35th Avenue
 150          BA   1.136
 151          LG    0.20    0.13   10.10    0.03      51
 152          UC   1.034   0.647
 153          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
 154          UA     100
              *
1                                        HEC-1 INPUT                                        PAGE  4

     LINE     ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

 155          KK  ERUH35  DIVERT
 156          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
 157          KM   retention developed after 1990 in subbasin UH35
 158          DT   XUH35    47.3     0.0
 159          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
 160          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *
 161          KK   DUH35  DIVERT
 162          KM   Divert calculated full flow capacity of 875 cfs into a 114-inch storm drain
 163          KM   pipe at the intersection of Union Hills Drive and 35th Avenue
 164          DT   DPUH35     0.0   875.0
 165          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
 166          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *
 167          KK  DSBL35  DIVERT
 168          KM   Divert remaining runoff hydrograph from subbasin UH35 south to combination
 169          KM   point CBL35
 170          DT   DWUH43     0.0     0.0
 171          DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
 172          DQ     0.0    51.0   102.0   255.0   510.0  1020.0  2040.0  5100.0 10200.0 25500.0
              *
 173          KK  RSBL35   ROUTE
 174          KM   Route diversion DSBL35 south to combination point CBL35
 175          RS       6    FLOW
 176          RC   0.035   0.015   0.035    5280  0.0030     0.00
 177          RX    0.00    0.00   76.50   76.50  372.50  372.50  449.00  449.00
 178          RY    3.00    1.27    0.50    0.00    0.00    0.50    1.27    3.00
              *
 179          KK    BL35   BASIN
 180          KM   Runoff hydrograph for subbasin BL35 northeast of the intersection of Bell
 181          KM   Road and 35th Avenue
 182          BA   1.139
 183          LG    0.22    0.15    7.30    0.09      42
 184          UC   1.212   0.767
 185          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
 186          UA     100
              *
 187          KK  ERBL35  DIVERT
 188          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
 189          KM   retention developed after 1990 in subbasin BL35
 190          DT   XBL35     8.0     0.0
 191          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
 192          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *
1                                        HEC-1 INPUT                                        PAGE  5

     LINE     ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

 193          KK   CBL35 COMBINE
 194          KM   Combine route RSBL35 and subbasin BL35
 195          HC       2    1.70
              *
 196          KK   D35BL  DIVERT
 197          KM   Divert calculated full flow capacity of 158 cfs into a 60-inch storm drain
 198          KM   pipe at the intersection of Bell Road and 35th Avenue
 199          DT   DP35BL     0.0   158.0
 200          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
 201          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *
 202          KK  DSGW35  DIVERT
 203          KM   Divert remaining runoff hydrograph from combination point CBL35 south to
```



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 204          KM   combination point CGW35
 205          DT   DWBL43     0.0     0.0
 206          DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
 207          DQ     0.0    66.0   132.0   330.0   660.0  1320.0  2640.0  6600.0 13200.0 33000.0
              *
 208          KK  RSGW35   ROUTE
 209          KM   Route diversion DSGW35 south to combination point CGW35
 210          RS       3    FLOW
 211          RC   0.035   0.015   0.035    5280  0.0041     0.00
 212          RX    0.00    0.00   45.00   45.00  229.00  229.00  274.00  274.00
 213          RY    3.00    0.95    0.50    0.00    0.00    0.50    0.95    3.00
              *
 214          KK    GW35   BASIN
 215          KM   Runoff hydrograph for subbasin GW35 northeast of the intersection of Greenway
 216          KM   Road and 35th Avenue
 217          BA   1.008
 218          LG    0.21    0.17    6.80    0.12      45
 219          UC   1.356   0.892
 220          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
 221          UA     100
              *
 222          KK   CGW35 COMBINE
 223          KM   Combine route RSGW35 and subbasin GW35
 224          HC       2    1.58
              *
 225          KK  PR35BLRETRIEVE
 226          KM   Retrieve full flow capacity of 158 cfs from 60-inch storm drain pipe at the
 227          KM   intersection of Bell Road and 35th Avenue
 228          DR  DP35BL
              *
1                                        HEC-1 INPUT                                        PAGE  6

     LINE     ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

 229          KK  RP35GW   ROUTE
 230          KM   Route full flow capacity of 158 cfs through 60-inch storm drain pipe in
 231          KM   35th Avenue to the intersection of Greenway Road and 35th Avenue
 232          RK    5260  0.0037   0.015             CIRC    5.000
              *
 233          KK  CPGW35 COMBINE
 234          KM   Combine pipe return PR35BL with the runoff hydrograph at combination point
 235          KM   CGW35 at the intersection of Greenway Road and 35th Avenue
 236          HC       2
              *
 237          KK   D35GW  DIVERT
 238          KM   Divert calculated full flow capacity of 318 cfs into a 78-inch storm drain
 239          KM   pipe at the intersection of Greenway Road and 35th Avenue
 240          DT   DP35GW     0.0   318.0
 241          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
 242          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *
 243          KK  DSTB35  DIVERT
 244          KM   Divert remaining runoff hydrograph from combination point CGW35 south to
 245          KM   combination point CTB35
 246          DT   DWGW43     0.0     0.0
 247          DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
 248          DQ     0.0    58.0   116.0   290.0   580.0  1160.0  2320.0  5800.0 11600.0 29000.0
              *
 249          KK  RSTB35   ROUTE
 250          KM   Route diversion DSTB35 south to combination point CTB35
 251          RS       4    FLOW
 252          RC   0.035   0.015   0.035    5280  0.0035     0.00
 253          RX    0.00    0.00   54.50   54.50  269.50  269.50  324.00  324.00
 254          RY    3.00    1.04    0.50    0.00    0.00    0.50    1.04    3.00
              *
 255          KK    TB35   BASIN
 256          KM   Runoff hydrograph for subbasin TB35 northeast of the intersection of
 257          KM   Thunderbird Road and 35th Avenue
 258          BA   0.976
 259          LG    0.23    0.15    7.60    0.08      36
 260          UC   1.465   0.986
 261          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
 262          UA     100
              *
 263          KK   CTB35 COMBINE
 264          KM   Combine route RSTB35 and subbasin TB35
 265          HC       2    1.65
              *
1                                        HEC-1 INPUT                                        PAGE  7

     LINE     ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10
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266          KK  PR35GWRETRIEVE
267          KM   Retrieve full flow capacity of 318 cfs from 78-inch storm drain pipe at the
268          KM   intersection of Greenway Road and 35th Avenue
269          DR  DP35GW
             *
270          KK  RP35TB   ROUTE
271          KM   Route full flow capacity of 318 cfs through 78-inch storm drain pipe in
272          KM   35th Avenue to the intersection of Thunderbird Road and 35th Avenue
273          RK    5252  0.0037   0.015            CIRC   6.500
             *
274          KK  CPTB35 COMBINE
275          KM   Combine pipe return PR35GW with the runoff hydrograph at combination point
276          KM   CTB35 at the intersection of Thundebird Road and 35th Avenue
277          HC       2
             *
278          KK   D35TB  DIVERT
279          KM   Divert calculated full flow capacity of 554 cfs into a 96-inch storm drain
280          KM   pipe at the intersection of Thunderbird Road and 35th Avenue
281          DT  DP35TB      0.0    554.0
282          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
283          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
             *
284          KK  DSCT35  DIVERT
285          KM   Divert remaining runoff hydrograph from combination point CTB35 south to
286          KM   combination point CCT35
287          DT  DWTB43      0.0      0.0
288          DI     0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0  10000.0  20000.0  50000.0
289          DQ     0.0     52.0    104.0    260.0    520.0   1040.0   2080.0   5200.0  10400.0  26000.0
             *
290          KK  RSCT35   ROUTE
291          KM   Route diversion DSCT35 south to combination point CCT35
292          RS       4    FLOW
293          RC   0.035    0.015    0.035     5280   0.0036     0.00
294          RX    0.00     0.00    86.00    86.00   413.00   413.00   499.00   499.00
295          RY    3.00     1.36     0.50     0.00     0.00     0.50     1.36     3.00
             *
296          KK    CT35   BASIN
297          KM   Runoff hydrograph for subbasin CT35 northeast of the intersection of Cactus
298          KM   Road and 35th Avenue
299          BA   0.976
300          LG    0.21     0.25     5.20     0.21       48
301          UC   1.352    0.902
302          UA       0      5.0     16.0     30.0     65.0     77.0     84.0     90.0     94.0     97.0
303          UA     100
             *
```



```
LINE         ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10
304          KK   CCT35 COMBINE
305          KM   Combine route RSCT35 and subbasin CT35
306          HC       2    1.76
             *
307          KK  PR35TBRETRIEVE
308          KM   Retrieve full flow capacity of 554 cfs from 96-inch storm drain pipe at the
309          KM   intersection of Thunderbird Road and 35th Avenue
310          DR  DP35TB
             *
311          KK  RP35CT   ROUTE
312          KM   Route full flow capacity of 554 cfs through 96-inch storm drain pipe in
313          KM   35th Avenue to the intersection of Cactus Road and 35th Avenue
314          RK    5200  0.0037   0.015            CIRC   8.000
             *
315          KK  CPCT35 COMBINE
316          KM   Combine pipe return PR35TB with the runoff hydrograph at combination point
317          KM   CCT35 at the intersection of Cactus Road and 35th Avenue
318          HC       2
             *
319          KK   D35CT  DIVERT
320          KM   Divert calculated full flow capacity of 554 cfs into a 96-inch storm drain
321          KM   pipe at the intersection of Cactus Road and 35th Avenue
322          DT  DP35CT      0.0    554.0
323          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
324          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
             *
325          KK  DSPE35  DIVERT
326          KM   Divert remaining runoff hydrograph from combination point CCT35 south to
327          KM   combination point CPE35
328          DT  DWCT43      0.0      0.0
329          DI     0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0  10000.0  20000.0  50000.0
```



```
330          DQ     0.0     58.0    116.0    290.0    580.0   1160.0   2320.0   5800.0  11600.0  29000.0
             *
331          KK  RSPE35   ROUTE
332          KM   Route diversion DSPE35 south to combination point CPE35
333          RS       4    FLOW
334          RC   0.035    0.015    0.035     5280   0.0023     0.00
335          RX    0.00     0.00    67.00    67.00   332.00   332.00   399.00   399.00
336          RY    3.00     1.17     0.50     0.00     0.00     0.50     1.17     3.00
             *
337          KK    PE35   BASIN
338          KM   Runoff hydrograph for subbasin PE35 northeast of the intersection of Peoria
339          KM   Avenue and 35th Avenue
340          BA   0.977
341          LG    0.23     0.24     4.70     0.27       40
342          UC   1.500    1.016
343          UA       0      5.0     16.0     30.0     65.0     77.0     84.0     90.0     94.0     97.0
```



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LINE         ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10
344          UA     100
             *
345          KK   CPE35 COMBINE
346          KM   Combine route RSPE35 and subbasin PE35
347          HC       2    1.71
             *
348          KK  PR35CTRETRIEVE
349          KM   Retrieve full flow capacity of 554 cfs from 96-inch storm drain pipe at the
350          KM   intersection of Cactus Road and 35th Avenue
351          DR  DP35CT
             *
352          KK  RP35PE   ROUTE
353          KM   Route full flow capacity of 554 cfs through 96-inch storm drain pipe in
354          KM   35th Avenue to the intersection of Peoria Avenue and 35th Avenue
355          RK    5256  0.0037   0.015            CIRC   8.000
             *
356          KK  CPPE35 COMBINE
357          KM   Combine pipe return PR35CT with the runoff hydrograph at combination point
358          KM   CPE35 at the intersection of Peoria Avenue and 35th Avenue
359          HC       2
             *
360          KK   D35PE  DIVERT
361          KM   Divert calculated full flow capacity of 466 cfs into a 90-inch storm drain
362          KM   pipe at the intersection of Peoria Avenue and 35th Avenue
363          DT  DP35PE      0.0    466.0
364          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
365          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
             *
366          KK  DSAC35  DIVERT
367          KM   Divert remaining runoff hydrograph from combination point CPE35 south to
368          KM   combination pointCAC01
369          DT  DWPE43      0.0      0.0
370          DI     0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0  10000.0  20000.0  50000.0
371          DQ     0.0     70.0    140.0    350.0    700.0   1400.0   2800.0   7000.0  14000.0  35000.0
             *
372          KK  RSAC35   ROUTE
373          KM   Route diversion DSAC35 south to combination pointCAC01
374          RS       2    FLOW
375          RC   0.035    0.015    0.035     3447   0.0041     0.00
376          RX    0.00     0.00    41.00    41.00   184.00   184.00   225.00   225.00
377          RY    3.00     0.91     0.50     0.00     0.00     0.50     0.91     3.00
             *
```



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LINE         ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10
378          KK    AC35   BASIN
379          KM   Runoff hydrograph for subbasin AC35 northeast of the intersection of the ACDC
380          KM   Canal and 35th Avenue
381          BA   0.755
382          LG    0.15     0.25     5.30     0.20       67
383          UC   0.882    0.583
384          UA       0      5.0     16.0     30.0     65.0     77.0     84.0     90.0     94.0     97.0
385          UA     100
             *
386          KK   CAC01 COMBINE
387          KM   Combine route RSAC35 and subbasin AC35
388          HC       2    1.27
             *
389          KK  PR35PERETRIEVE
390          KM   Retrieve full flow capacity of 446 cfs from 90-inch storm drain pipe at the
```

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391          KM   intersection of Peoria Avenue and 35th Avenue
392          DR  DP35PE
             *
393          KK  RP35AC   ROUTE
394          KM   Route full flow capacity of 446 cfs through 90-inch storm drain pipe in
395          KM   35th Avenue to the intersection of ACDC and 35th Avenue
396          RK    3523  0.0037   0.015            CIRC   7.500
             *
397          KK  CPAC01 COMBINE
398          KM   Combine pipe return PR35PE with the runoff hydrograph at combination point
399          KM   CAC01 at the intersection of ACDC and 35th Avenue
400          HC       2
             *
401          KK  DRUH43RETRIEVE
402          KM   Retrieve divert DRUH43 from combination point CUH35 and divert west to
403          KM   combination point CUH43
404          DR  DWUH43
             *
405          KK  RWUH43   ROUTE
406          KM   Route diversion retrieval DRUH43 west to combination point CUH43
407          RS       5    FLOW
408          RC   0.035   0.015   0.035    5280  0.0041     0.00
409          RX    0.00    0.00   67.00   67.00  332.00  332.00  399.00  399.00
410          RY    3.00    1.17    0.50    0.00    0.00    0.50    1.17    3.00
             *
411          KK    UH43   BASIN
412          KM   Runoff hydrograph for subbasin UH43 northeast of the intersection of Unioin
413          KM   Hills Drive and 43rd Avenue
414          BA   1.025
415          LG    0.26    0.17    7.30    0.11      18
416          UC   1.307   0.855
417          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
```



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LINE         ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10
418          UA     100
             *
419          KK  ERUH43  DIVERT
420          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
421          KM   retention developed after 1990 in subbasin UH43
422          DT   XUH43      26.8       0.0
423          DI     0.0 50000.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0
424          DQ     0.0 50000.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0
             *
425          KK   CUH43 COMBINE
426          KM   Combine route RSUH43 and subbasin UH43
427          HC       2    1.60
             *
428          KK  PRUH35RETRIEVE
429          KM   Retrieve full flow capacity of 875 cfs from 114-inch storm drain pipe at the
430          KM   intersection of Union Hills Drive and 35th Avenue
431          DR  DPUH35
             *
432          KK  RPUH43   ROUTE
433          KM   Route full flow capacity of 875 cfs through 114-inch storm drain pipe in
434          KM   Union Hills Drive to the intersection of Union Hills Drive and 43rd Avenue
435          RK    5324  0.0037   0.015            CIRC   9.500
             *
436          KK  CPUH43 COMBINE
437          KM   Combine pipe return PRUH35 with the runoff hydrograph at combination point
438          KM   CUH43 at the intersection of Union Hills Drive and 43rd Avenue
439          HC       2
             *
440          KK   DUH43  DIVERT
441          KM   Divert calculated full flow capacity of 1268 cfs into a 132-inch storm drain
442          KM   pipe at the intersection of Union Hills Drive and 43rd Avenue
443          DT  DPUH43       0.0  1268.0
444          DI     0.0 50000.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0
445          DQ     0.0 50000.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0
             *
446          KK  DSBL43  DIVERT
447          KM   Divert remaining runoff hydrograph from combination point CUH43 south to
448          KM   combination point CBL43
449          DT  DWUH51       0.0       0.0
450          DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
451          DQ     0.0    42.0    84.0   210.0   420.0   840.0  1680.0  4200.0  8400.0 21000.0
             *
```



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LINE         ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10
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452          KK  RSBL43   ROUTE
453          KM   Route diversion DSBL43 south to combination point CBL43
454          RS       3    FLOW
455          RC   0.035   0.015   0.035    5280  0.0037     0.00
456          RX    0.00    0.00   48.00   48.00  251.00  251.00  299.00  299.00
457          RY    3.00    0.98    0.50    0.00    0.00    0.50    0.98    3.00
             *
458          KK  DRBL43RETRIEVE
459          KM   Retrieve divert DRBL43 from combination point CBL35 and divert west to
460          KM   combination point CBL43
461          DR  DWBL43
             *
462          KK  RWBL43   ROUTE
463          KM   Route diversion retrieval DRBL43 west to combination point CBL43
464          RS       3    FLOW
465          RC   0.035   0.015   0.035    5280  0.0047     0.00
466          RX    0.00    0.00   86.00   86.00  413.00  413.00  499.00  499.00
467          RY    3.00    1.36    0.50    0.00    0.00    0.50    1.36    3.00
             *
468          KK    BL43   BASIN
469          KM   Runoff hydrograph for subbasin BL43 northeast of the intersection of Bell
470          KM   Road and 43rd Avenue
471          BA   1.049
472          LG    0.24    0.15    8.00    0.07      33
473          UC   1.306   0.857
474          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
475          UA     100
             *
476          KK   CBL43 COMBINE
477          KM   Combine route RSBL43, route RWBL43, and subbasin BL43
478          HC       3    3.10
             *
479          KK   D43BL  DIVERT
480          KM   Divert calculated full flow capacity of 117 cfs into a 54-inch storm drain
481          KM   pipe at the intersection of Bell Road and 43rd Avenue
482          DT  DP43BL       0.0   117.0
483          DI     0.0 50000.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0
484          DQ     0.0 50000.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0
             *
485          KK  DSGW43  DIVERT
486          KM   Divert remaining runoff hydrograph from combination point CBL43 south to
487          KM   combination point CGW43
488          DT  DWBL51       0.0       0.0
489          DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
490          DQ     0.0    46.0    92.0   230.0   460.0   920.0  1840.0  4600.0  9200.0 23000.0
             *
```



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LINE         ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10
491          KK  RSGW43   ROUTE
492          KM   Route diversion DSGW43 south to combination point CGW43
493          RS       3    FLOW
494          RC   0.035   0.015   0.035    5280  0.0028     0.00
495          RX    0.00    0.00   57.50   57.50  291.50  291.50  349.00  349.00
496          RY    3.00    1.08    0.50    0.00    0.00    0.50    1.08    3.00
             *
497          KK  DRGW43RETRIEVE
498          KM   Retrieve divert DRGW43 from combination point CGW35 and divert west to
499          KM   combination point CGW43
500          DR  DWGW43
             *
501          KK  RWGW43   ROUTE
502          KM   Route diversion retrieval DRGW43 west to combination point CGW43
503          RS       4    FLOW
504          RC   0.035   0.015   0.035    5280  0.0034     0.00
505          RX    0.00    0.00   76.50   76.50  372.50  372.50  449.00  449.00
506          RY    3.00    1.27    0.50    0.00    0.00    0.50    1.27    3.00
             *
507          KK    GW43   BASIN
508          KM   Runoff hydrograph for subbasin GW43 northeast of the intersection of Greenway
509          KM   Road and 43rd Avenue
510          BA   0.987
511          LG    0.24    0.19    6.60    0.13      37
512          UC   1.235   0.820
513          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
514          UA     100
             *
515          KK  ERGW43  DIVERT
516          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
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517          KM   retention developed after 1990 in subbasin GW43
518          DT   XGW43      6.2      0.0
519          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
520          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
             *
521          KK   CGW43 COMBINE
522          KM   Combine route RSGW43, route RWGW43, and subbasin GW43
523          HC        3    3.57
             *
524          KK  PR43BLRETRIEVE
525          KM   Retrieve full flow capacity of 117 cfs from 54-inch storm drain pipe at the
526          KM   intersection of Bell Road and 43rd Avenue
527          DR  DP43BL
             *
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LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9.....10

528          KK  RP43GW    ROUTE
529          KM   Route full flow capacity of 117 cfs through 54-inch storm drain pipe in
530          KM   43rd Avenue to the intersection of Greenway Road and 43rd Avenue
531          RK    5150  0.0035    0.015             CIRC    4.500
             *
532          KK  CPGW43 COMBINE
533          KM   Combine pipe return PR43BL with the runoff hydrograph at combination point
534          KM   CGW43 at the intersection of Greenway Road and 43rd Avenue
535          HC        2
             *
536          KK   D43GW  DIVERT
537          KM   Divert calculated full flow capacity of 155 cfs into a 60-inch storm drain
538          KM   pipe at the intersection of Greenway Road and 43rd Avenue
539          DT  DP43GW       0.0    155.0
540          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
541          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
             *
542          KK  DSTB43  DIVERT
543          KM   Divert remaining runoff hydrograph from combination point CGW43 south to
544          KM   combination point CTB43
545          DT  DWGW51       0.0      0.0
546          DI     0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0  10000.0  20000.0  50000.0
547          DQ     0.0     53.0    106.0    265.0    530.0   1060.0   2120.0   5300.0  10600.0  26500.0
             *
548          KK  RSTB43   ROUTE
549          KM   Route diversion DSTB43 south to combination point CTB43
550          RS        2    FLOW
551          RC   0.035    0.015    0.035     5280   0.0038     0.00
552          RX    0.00     0.00    67.00    67.00   332.00   332.00   399.00   399.00
553          RY    3.00     1.17     0.50     0.00     0.00     0.50     1.17     3.00
             *
554          KK  DRTB43RETRIEVE
555          KM   Retrieve divert DRTB43 from combination point CTB35 and divert west to
556          KM   combination point CTB43
557          DR  DWTB43
             *
558          KK  RWTB43   ROUTE
559          KM   Route diversion retrieval DRTB43 west to combination point CTB43
560          RS        3    FLOW
561          RC   0.035    0.015    0.035     5280   0.0037     0.00
562          RX    0.00     0.00    95.50    95.50   453.50   453.50   549.00   549.00
563          RY    3.00     1.46     0.50     0.00     0.00     0.50     1.46     3.00
             *
1                                        HEC-1 INPUT                                        PAGE 15

LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9.....10

564          KK    TB43   BASIN
565          KM   Runoff hydrograph for subbasin TB43 northeast of the intersection of
566          KM   Thunderbird Road and 43rd Avenue
567          BA   0.995
568          LG    0.26     0.15     7.30     0.10       25
569          UC   1.352    0.903
570          UA       0      5.0     16.0     30.0     65.0     77.0     84.0     90.0     94.0     97.0
571          UA     100
             *
572          KK   CTB43 COMBINE
573          KM   Combine route RSTB43, route RWTB43, and subbasin TB43
574          HC        3    3.55
             *
575          KK  PR43GWRETRIEVE
576          KM   Retrieve full flow capacity of 155 cfs from 60-inch storm drain pipe at the
577          KM   intersection of Greenway Road and 43rd Avenue
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578          DR  DP43GW
             *
579          KK  RP43TB   ROUTE
580          KM   Route full flow capacity of 155 cfs through 60-inch storm drain pipe in
581          KM   43rd Avenue to the intersection of Thunderbird Road and 43rd Avenue
582          RK    5245  0.0035    0.015             CIRC    5.000
             *
583          KK  CPTB43 COMBINE
584          KM   Combine pipe return PR43GW with the runoff hydrograph at combination point
585          KM   CTB43 at the intersection of Thunderbird Road and 43rd Avenue
586          HC        2
             *
587          KK   D43TB  DIVERT
588          KM   Divert calculated full flow capacity of 312 cfs into a 78-inch storm drain
589          KM   pipe at the intersection of Tunderbird Road and 43rd Avenue
590          DT  DP43TB       0.0    312.0
591          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
592          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
             *
593          KK  DSCT43  DIVERT
594          KM   Divert remaining runoff hydrograph from combination point CTB43 south to
595          KM   combination point CCT43
596          DT  DWTB51       0.0      0.0
597          DI     0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0  10000.0  20000.0  50000.0
598          DQ     0.0     63.0    126.0    315.0    630.0   1260.0   2520.0   6300.0  12600.0  31500.0
             *
1                                        HEC-1 INPUT                                        PAGE 16

LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9.....10

599          KK  RSCT43   ROUTE
600          KM   Route diversion DSCT43 south to combination point CCT43
601          RS        3    FLOW
602          RC   0.035    0.015    0.035     5280   0.0030     0.00
603          RX    0.00     0.00    48.00    48.00   251.00   251.00   299.00   299.00
604          RY    3.00     0.98     0.50     0.00     0.00     0.50     0.98     3.00
             *
605          KK  DRCT43RETRIEVE
606          KM   Retrieve divert DRCT43 from combination point CCT35 and divert west to
607          KM   combination point CCT43
608          DR  DWCT43
             *
609          KK  RWCT43   ROUTE
610          KM   Route diversion retrieval DRCT43 west to combination point CCT43
611          RS        3    FLOW
612          RC   0.035    0.015    0.035     5280   0.0029     0.00
613          RX    0.00     0.00    86.00    86.00   413.00   413.00   499.00   499.00
614          RY    3.00     1.36     0.50     0.00     0.00     0.50     1.36     3.00
             *
615          KK    CT43   BASIN
616          KM   Runoff hydrograph for subbasin CT43 northeast of the intersection of Cactus
617          KM   Road and 43rd Avenue
618          BA   0.996
619          LG    0.23     0.15     8.00     0.07       37
620          UC   1.292    0.858
621          UA       0      5.0     16.0     30.0     65.0     77.0     84.0     90.0     94.0     97.0
622          UA     100
             *
623          KK  ERCT43  DIVERT
624          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
625          KM   retention developed after 1990 in subbasin CT43
626          DT   XCT43     41.4      0.0
627          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
628          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
             *
629          KK   CCT43 COMBINE
630          KM   Combine route RSCT43, route RWCT43, and subbasin CT43
631          HC        3    3.35
             *
632          KK  PR43TBRETRIEVE
633          KM   Retrieve full flow capacity of 312 cfs from 78-inch storm drain pipe at the
634          KM   intersection of Thunderbird Road and 43rd Avenue
635          DR  DP43TB
             *
1                                        HEC-1 INPUT                                        PAGE 17

LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9.....10

636          KK  RP43CT   ROUTE
637          KM   Route full flow capacity of 312 cfs through 78-inch storm drain pipe in
638          KM   43rd Avenue to the intersection of Cactus Road and 43rd Avenue
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639          RK    5194  0.0035   0.015            CIRC   6.500
             *

640          KK  CPCT43 COMBINE
641          KM   Combine pipe return PR43TB with the runoff hydrograph at combination point
642          KM   CCT43 at the intersection of Cactus Road and 43rd Avenue
643          HC       2
             *

644          KK   D43CT  DIVERT
645          KM   Divert calculated full flow capacity of 380 cfs into an 84-inch storm drain
646          KM   pipe at the intersection of Cactus Road and 43rd Avenue
647          DT  DP43CT      0.0   380.0
648          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
649          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
             *

650          KK  DSPE43  DIVERT
651          KM   Divert remaining runoff hydrograph from combination point CCT43 south to
652          KM   combination point CPE43
653          DT  DWCT51      0.0     0.0
654          DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
655          DQ     0.0    63.0   126.0   315.0   630.0  1260.0  2520.0  6300.0 12600.0 31500.0
             *

656          KK  RSPE43   ROUTE
657          KM   Route diversion DSPE43 south to combination point CPE43
658          RS       3    FLOW
659          RC   0.035   0.015   0.035    5280  0.0024    0.00
660          RX    0.00    0.00   48.00   48.00  251.00  251.00  299.00  299.00
661          RY    3.00    0.98    0.50    0.00    0.00    0.50    0.98    3.00
             *

662          KK  DRPE43RETRIEVE
663          KM   Retrieve divert DRPE43 from combination point CPE35 and divert west to
664          KM   combination point CPE43
665          DR  DWPE43
             *

666          KK  RWPE43   ROUTE
667          KM   Route diversion retrieval DRPE43 west to combination point CPE43
668          RS       4    FLOW
669          RC   0.035   0.015   0.035    5280  0.0030    0.00
670          RX    0.00    0.00  105.00  105.00  494.00  494.00  599.00  599.00
671          RY    3.00    1.55    0.50    0.00    0.00    0.50    1.55    3.00
             *
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LINE         ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

672          KK    PE43   BASIN
673          KM   Runoff hydrograph for subbasin PE43 northeast of the intersection of Peoria
674          KM   Avenue and 43rd Avenue
675          BA   0.997
676          LG    0.24    0.25    5.70    0.19      32
677          UC   1.452   0.976
678          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
679          UA     100
             *

680          KK   CPE43 COMBINE
681          KM   Combine route RSPE43, route RWPE43, and subbasin PE43
682          HC       3    3.42
             *

683          KK  PR43CTRETRIEVE
684          KM   Retrieve full flow capacity of 380 cfs from 84-inch storm drain pipe at the
685          KM   intersection of Cactus Road and 43rd Avenue
686          DR  DP43CT
             *

687          KK  RP43PE   ROUTE
688          KM   Route full flow capacity of 380 cfs through 84-inch storm drain pipe in
689          KM   43rd Avenue to the intersection of Peoria Avenue and 43rd Avenue
690          RK    4928  0.0035   0.015            CIRC   7.000
             *

691          KK  CPPE43 COMBINE
692          KM   Combine pipe return PR43CT with the runoff hydrograph at combination point
693          KM   CPE43 at the intersection of Peoria Avenue and 43rd Avenue
694          HC       2
             *

695          KK   D43PE  DIVERT
696          KM   Capacity of storm drain in Peoria Avenue and 43rd Avenue diverted together.
697          KM   Divert combined calculated full flow capacity of 456 cfs in the 90-inch storm
698          KM   drain pipe in Peoria Avenue and 64 cfs in the 42-inch storm drain pipe in
699          KM   43rd Avenue. The total calculated combined full flow capacity diverted at the
700          KM   intersection of Peoria Avenue and 43rd Avenue is 520 cfs in an equivalent
701          KM   diameter pipe of 96 inches
702          DT  DP43PE      0.0   520.0
703          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
```



```
704          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
             *

705          KK  DSAC43  DIVERT
706          KM   Divert remaining runoff hydrograph from combination point CPE43 south to
707          KM   combination point CAC02
708          DT  DWAC51      0.0     0.0
709          DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
710          DQ     0.0    38.0    76.0   190.0   380.0   760.0  1520.0  3800.0  7600.0 19000.0
             *
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LINE         ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

711          KK    AC43   BASIN
712          KM   Runoff hydrograph for subbasin AC43 northeast of the intersection of the ACDC
713          KM   Canal and 43rd Avenue
714          BA   0.362
715          LG    0.23    0.25    4.35    0.35      37
716          UC   1.246   1.349
717          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
718          UA     100
             *

719          KK   CAC02 COMBINE
720          KM   Combine divert DSAC43, subbasin AC43, and combination point CPAC01
721          HC       3    3.75
             *

722          KK  PR43PERETRIEVE
723          KM   Retrieve combined full flow capacity of 520 cfs from 96-inch equivalent
724          KM   diameter pipe at the intersection of Peoria Avenue and 43rd Avenue
725          DR  DP43PE
             *

726          KK  CPAC02 COMBINE
727          KM   Combine pipe return PR43PE with the runoff hydrograph at combination point
728          KM   CAC02 at the intersection of ACDC and 43rd Avenue
729          HC       2
             *

730          KK  DRUH51RETRIEVE
731          KM   Retrieve divert DRUH51 from combination point CUH43 and divert west to
732          KM   combination point CUH51
733          DR  DWUH51
             *

734          KK  RWUH51   ROUTE
735          KM   Route diversion retrieval DRUH51 west to combination point CUH51
736          RS       4    FLOW
737          RC   0.035   0.015   0.035    5280  0.0037    0.00
738          RX    0.00    0.00   76.50   76.50  372.50  372.50  449.00  449.00
739          RY    3.00    1.27    0.50    0.00    0.00    0.50    1.27    3.00
             *

740          KK    UH51   BASIN
741          KM   Runoff hydrograph for subbasin UH51 northeast of the intersection of Union
742          KM   Hills Drive and 51st Avenue
743          BA   0.990
744          LG    0.23    0.26    4.60    0.29      37
745          UC   1.442   0.965
746          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
747          UA     100
             *
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LINE         ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

748          KK  ERUH51  DIVERT
749          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
750          KM   retention developed after 1990 in subbasin UH51
751          DT   XUH51     48.6     0.0
752          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
753          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
             *

754          KK   CUH51 COMBINE
755          KM   Combine route RWUH51 and subbasin UH51
756          HC       2    1.66
             *

757          KK  DSBL51  DIVERT
758          KM   Divert remaining runoff hydrograph from combination point CUH51 south to
759          KM   combination point CBL51
760          DT  DWUHSK      0.0     0.0
761          DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
762          DQ     0.0    61.0   122.0   305.0   610.0  1220.0  2440.0  6100.0 12200.0 30500.0
             *

763          KK  PRUH43RETRIEVE
764          KM   Retrieve full flow capacity of 1268 cfs from 132-inch storm drain pipe at the
```

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765          KM   intersection of Union Hills Drive and 43rd Avenue
766          DR  DPUH43
                 *

767          KK  RPUH51    ROUTE
768          KM   Route full flow capacity of 1268 cfs through 132-inch storm drain pipe in
769          KM   Union Hills Drive to the intersection of Union Hills Drive and 51st Avenue
770          RK    5152  0.0035   0.015            CIRC  11.000
                 *

771          KK  CPUH51 COMBINE
772          KM   Combine pipe return PRUH43 with diversion DSBL51 at the intersection of Union
773          KM   Hills Drive and 51st Avenue
774          HC       2
                 *

775          KK   DUH51  DIVERT
776          KM   Divert calculated full flow capacity of 1548 cfs into a 144-inch storm drain
777          KM   pipe at the intersection of Union Hills Drive and 51st Avenue.
778          KM   Storm drain flow discharges to Skunk Creek and is not returned to the model.
779          DT  DPUH51      0.0  1548.0
780          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
781          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
                 *

782          KK  RSBL51    ROUTE
783          KM   Route diversion DSBL51 south to combination point CBL51
784          RS       5     FLOW
785          RC   0.035    0.015    0.035     5280  0.0040     0.00
786          RX    0.00     0.00    48.00    48.00  251.00  251.00  299.00  299.00
787          RY    3.00     0.98     0.50     0.00    0.00    0.50    0.98    3.00
                 *
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LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

788          KK  DRBL51RETRIEVE
789          KM   Retrieve divert DRBL51 from combination point CBL43 and divert west to
790          KM   combination point CBL51
791          DR  DWBL51
                 *

792          KK  RWBL51    ROUTE
793          KM   Route diversion retrieval DRBL51 west to combination point CBL51
794          RS       3     FLOW
795          RC   0.035    0.015    0.035     5280  0.0040     0.00
796          RX    0.00     0.00    38.50    38.50  210.50  210.50  249.00  249.00
797          RY    3.00     0.88     0.50     0.00    0.00    0.50    0.88    3.00
                 *

798          KK   BL51   BASIN
799          KM   Runoff hydrograph for subbasin BL51 northeast of the intersection of Bell
800          KM   Road and 51st Avenue
801          BA   1.045
802          LG    0.22     0.19     6.60     0.14       31
803          UC   1.267    0.834
804          UA       0      5.0     16.0     30.0     65.0     77.0     84.0     90.0     94.0     97.0
805          UA     100
                 *

806          KK  ERBL51  DIVERT
807          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
808          KM   retention developed after 1990 in subbasin BL51
809          DT  XBL51     23.0      0.0
810          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
811          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
                 *

812          KK   CBL51 COMBINE
813          KM   Combine route RSBL51, route RWBL51, and subbasin BL51
814          HC       3     3.12
                 *

815          KK   D51BL  DIVERT
816          KM   Divert calculated full flow capacity of 38 cfs into a 36-inch storm drain
817          KM   pipe at the intersection of Bell Road and 51st Avenue
818          DT  DP51BL      0.0      38.0
819          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
820          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
                 *

821          KK  DSGW51  DIVERT
822          KM   Divert remaining runoff hydrograph from combination point CBL51 south to
823          KM   combination point CGW51
824          DT  DWBL59      0.0      0.0
825          DI     0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0  10000.0  20000.0  50000.0
826          DQ     0.0     52.0    104.0    260.0    520.0   1040.0   2080.0   5200.0  10400.0  26000.0
                 *
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LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10
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827          KK  RSGW51    ROUTE
828          KM   Route diversion DSGW51 south to combination point CGW51
829          RS       1     FLOW
830          RC   0.035    0.015    0.035     5280  0.0035     0.00
831          RX    0.00     0.00    48.00    48.00  251.00  251.00  299.00  299.00
832          RY    3.00     0.98     0.50     0.00    0.00    0.50    0.98    3.00
                 *

833          KK  DRGW51RETRIEVE
834          KM   Retrieve divert DRGW51 from combination point CGW43 and divert west to
835          KM   combination point CGW51
836          DR  DWGW51
                 *

837          KK  RWGW51    ROUTE
838          KM   Route diversion retrieval DRGW51 west to combination point CGW51
839          RS       2     FLOW
840          RC   0.035    0.015    0.035     5280  0.0047     0.00
841          RX    0.00     0.00    67.00    67.00  332.00  332.00  399.00  399.00
842          RY    3.00     1.17     0.50     0.00    0.00    0.50    1.17    3.00
                 *

843          KK   GW51   BASIN
844          KM   Runoff hydrograph for subbasin GW51 northeast of the intersection of Greenway
845          KM   Road and 51st Avenue
846          BA   0.962
847          LG    0.26     0.21     6.40     0.17       21
848          UC   1.336    0.898
849          UA       0      5.0     16.0     30.0     65.0     77.0     84.0     90.0     94.0     97.0
850          UA     100
                 *

851          KK  ERGW51  DIVERT
852          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
853          KM   retention developed after 1990 in subbasin GW51
854          DT  XGW51      1.3      0.0
855          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
856          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
                 *

857          KK   CGW51 COMBINE
858          KM   Combine route RSGW51, route RWGW51, and subbasin GW51
859          HC       3     4.34
                 *

860          KK  PR51BLRETRIEVE
861          KM   Retrieve full flow capacity of 38 cfs from 36-inch storm drain pipe at the
862          KM   intersection of Bell Road and 51st Avenue
863          DR  DP51BL
                 *
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LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

864          KK  RP51GW    ROUTE
865          KM   Route full flow capacity of 38 cfs through 36-inch storm drain pipe in
866          KM   51st Avenue to the intersection of Greenway Road and 51st Avenue
867          RK    4986  0.0033   0.015            CIRC   3.000
                 *

868          KK  CPGW51 COMBINE
869          KM   Combine pipe return PR51BL with the runoff hydrograph at combination point
870          KM   CGW51 at the intersection of Greenway Road and 51st Avenue
871          HC       2
                 *

872          KK   D51GW  DIVERT
873          KM   Divert calculated full flow capacity of 150 cfs into a 60-inch storm drain
874          KM   pipe at the intersection of Greenway Road and 51st Avenue
875          DT  DP51GW      0.0     150.0
876          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
877          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
                 *

878          KK  DSTB51  DIVERT
879          KM   Divert remaining runoff hydrograph from combination point CGW51 south to
880          KM   combination point CTB51
881          DT  DWGW59      0.0      0.0
882          DI     0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0  10000.0  20000.0  50000.0
883          DQ     0.0     65.0    130.0    325.0    650.0   1300.0   2600.0   6500.0  13000.0  32500.0
                 *

884          KK  RSTB51    ROUTE
885          KM   Route diversion DSTB51 south to combination point CTB51
886          RS       3     FLOW
887          RC   0.035    0.015    0.035     5280  0.0027     0.00
888          RX    0.00     0.00    38.50    38.50  210.50  210.50  249.00  249.00
889          RY    3.00     0.88     0.50     0.00    0.00    0.50    0.88    3.00
                 *

890          KK  DRTB51RETRIEVE
```

```
          KM   Retrieve divert DRTB51 from combination point CTB43 and divert west to
          KM   combination point CTB51
          DR  DWTB51
               *

          KK  RWTB51    ROUTE
          KM   Route diversion retrieval DRTB51 west to combination point CTB51
          RS       3    FLOW
          RC   0.035   0.015   0.035    5280  0.0037    0.00
          RX    0.00    0.00   76.50   76.50  372.50  372.50  449.00  449.00
          RY    3.00    1.27    0.50    0.00    0.00    0.50    1.27    3.00
               *
1                                        HEC-1 INPUT                                    PAGE 24

        LINE      ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

          KK    TB51   BASIN
          KM   Runoff hydrograph for subbasin TB51 northeast of the intersection of
          KM   Thunderbird Road and 51st Avenue
          BA   0.990
          LG    0.27    0.19    6.60    0.15      21
          UC   1.352   0.902
          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
          UA     100
               *

          KK   CTB51 COMBINE
          KM   Combine route RSTB51, route RWTB51, and subbasin TB51
          HC       3    4.70
               *

          KK  PR51GWRETRIEVE
          KM   Retrieve full flow capacity of 150 cfs from 60-inch storm drain pipe at the
          KM   intersection of Greenway Road and 51st Avenue
          DR  DP51GW
               *

          KK  RP51TB   ROUTE
          KM   Route full flow capacity of 150 cfs through 60-inch storm drain pipe in
          KM   51st Avenue to the intersection of Thunderbird Road and 51st Avenue
          RK    5283  0.0033   0.015            CIRC   5.000
               *

          KK  CPTB51 COMBINE
          KM   Combine pipe return PR51GW with the runoff hydrograph at combination point
          KM   CTB51 at the intersection of Thunderbird Road and 51st Avenue
          HC       2
               *

          KK   D51TB  DIVERT
          KM   Divert calculated full flow capacity of 244 cfs into a 72-inch storm drain
          KM   pipe at the intersection of Thunderbird Road and 51st Avenue
          DT  DP51TB      0.0   244.0
          DI      0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
          DQ      0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
               *

          KK  DSCT51  DIVERT
          KM   Divert remaining runoff hydrograph from combination point CTB51 south to
          KM   combination point CCT51
          DT  DWTB59      0.0     0.0
          DI      0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
          DQ      0.0    61.0   122.0   305.0   610.0  1220.0  2440.0  6100.0 12200.0 30500.0
               *
1                                        HEC-1 INPUT                                    PAGE 25

        LINE      ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

          KK  RSCT51   ROUTE
          KM   Route diversion DSCT51 south to combination point CCT51
          RS       3    FLOW
          RC   0.035   0.015   0.035    5280  0.0026    0.00
          RX    0.00    0.00   26.00   26.00  148.00  148.00  174.00  174.00
          RY    3.00    0.76    0.50    0.00    0.00    0.50    0.76    3.00
               *

          KK  DRCT51RETRIEVE
          KM   Retrieve divert DRCT51 from combination point CCT43 and divert west to
          KM   combination point CCT51
          DR  DWCT51
               *

          KK  RWCT51   ROUTE
          KM   Route diversion retrieval DRCT51 west to combination point CCT51
          RS       2    FLOW
          RC   0.035   0.015   0.035    5280  0.0032    0.00
          RX    0.00    0.00   76.50   76.50  372.50  372.50  449.00  449.00
          RY    3.00    1.27    0.50    0.00    0.00    0.50    1.27    3.00
               *

          KK    CT51   BASIN
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```
          KM   Runoff hydrograph for subbasin CT51 northeast of the intersection of Cactus
          KM   Road and 51st Avenue
          BA   0.988
          LG    0.18    0.21    6.40    0.13      56
          UC   1.089   0.710
          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
          UA     100
               *

          KK  ERCT51  DIVERT
          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
          KM   retention developed after 1990 in subbasin CT51
          DT   XCT51    57.8     0.0
          DI      0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
          DQ      0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
               *

          KK   CCT51 COMBINE
          KM   Combine route RSCT51, route RWCT51, and subbasin CT51
          HC       3    4.94
               *

          KK  PR51TBRETRIEVE
          KM   Retrieve full flow capacity of 244 cfs from 72-inch storm drain pipe at the
          KM   intersection of Thunderbird Road and 51st Avenue
          DR  DP51TB
               *
1                                        HEC-1 INPUT                                    PAGE 26

        LINE      ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

          KK  RP51CT   ROUTE
          KM   Route full flow capacity of 244 cfs through 72-inch storm drain pipe in
          KM   51st Avenue to the intersection of Cactus Road and 51st Avenue
          RK    5189  0.0033   0.015            CIRC   6.000
               *

          KK  CPCT51 COMBINE
          KM   Combine pipe return PR51TB with the runoff hydrograph at combination point
          KM   CCT51 at the intersection of Cactus Road and 51st Avenue
          HC       2
               *

          KK   D51CT  DIVERT
          KM   Divert calculated full flow capacity of 244 cfs into a 72-inch storm drain
          KM   pipe at the intersection of Cactus Road and 51st Avenue
          DT  DP51CT      0.0   244.0
          DI      0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
          DQ      0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
               *

          KK  DSAC51  DIVERT
          KM   Divert remaining runoff hydrograph from combination point CCT51 south to
          KM   combination point CAC03
          DT  DWAC59      0.0     0.0
          DI      0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
          DQ      0.0    33.0    66.0   165.0   330.0   660.0  1320.0  3300.0  6600.0 16500.0
               *

          KK  DRAC51RETRIEVE
          KM   Retrieve divert DRAC51 from combination point CPE43 and divert west to
          KM   combination point CAC03
          DR  DWAC51
               *

          KK    AC51   BASIN
          KM   Runoff hydrograph for subbasin AC51 northeast of the intersection of the ACDC
          KM   Canal and 51st Avenue
          BA   0.576
          LG    0.24    0.15    8.00    0.07      35
          UC   1.461   1.576
          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
          UA     100
               *

          KK  ERAC51  DIVERT
          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
          KM   retention developed after 1990 in subbasin AC51
          DT   XAC51     0.6     0.0
          DI      0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
          DQ      0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
               *
1                                        HEC-1 INPUT                                    PAGE 27

        LINE      ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

          KK   CAC03 COMBINE
          KM   Combine divert DSAC51, subbasin AC51, divert retrieval DRAC51, and
          KM   combination point CPAC02
          HC       4    8.95
               *
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1014          KK  PR51CTRETRIEVE
1015          KM   Retrieve full flow capacity of 244 cfs from 72-inch storm drain pipe at the
1016          KM   intersection of Cactus Road and 51st Avenue
1017          DR  DP51CT
              *
1018          KK  CPAC03 COMBINE
1019          KM   Combine pipe return PR51CT with the runoff hydrograph at combination point
1020          KM   CAC03 at the intersection of ACDC and 51st Avenue
1021          HC       2
              *
1022          KK  DRBL59RETRIEVE
1023          KM   Retrieve divert DRBL59 from combination point CBL51 and divert west to
1024          KM   combination point CBL59
1025          DR  DWBL59
              *
1026          KK  RWBL59    ROUTE
1027          KM   Route diversion retrieval DRBL59 west to combination point CBL59
1028          RS       1     FLOW
1029          RC   0.035   0.015   0.035    5280  0.0031     0.00
1030          RX    0.00    0.00   51.50   51.50  296.50  296.50  348.00  348.00
1031          RY    3.00    1.02    0.50    0.00    0.00    0.50    1.02    3.00
              *
1032          KK     BL59    BASIN
1033          KM   Runoff hydrograph for subbasin BL59 northeast of the intersection of Bell
1034          KM   Road and 59th Avenue
1035          BA   1.075
1036          LG    0.23    0.17    6.80    0.12      40
1037          UC   1.215   0.789
1038          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
1039          UA     100
              *
1040          KK  ERBL59  DIVERT
1041          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
1042          KM   retention developed after 1990 in subbasin BL59
1043          DT   XBL59     75.9      0.0
1044          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
1045          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *
1                                      HEC-1 INPUT                                                    PAGE 28
LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10
1046          KK   CBL59 COMBINE
1047          KM   Combine route RWBL59 and subbasin BL59
1048          HC       2    2.71
              *
1049          KK   D59BL  DIVERT
1050          KM   Divert calculated full flow capacity of 108 cfs into 54-inch storm drain
1051          KM   pipe at the intersection of Bell Road and 59th Avenue
1052          DT  DP59BL      0.0    108.0
1053          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
1054          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *
1055          KK  DSGW59  DIVERT
1056          KM   Divert remaining runoff hydrograph from combination point CBL59 south to
1057          KM   combination point CGW59
1058          DT  DWBL67      0.0      0.0
1059          DI     0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0 10000.0 20000.0 50000.0
1060          DQ     0.0     31.0     62.0    155.0    310.0    620.0   1240.0   3100.0   6200.0 15500.0
              *
1061          KK  RSGW59    ROUTE
1062          KM   Route diversion DSGW59 south to combination point CGW59
1063          RS       4     FLOW
1064          RC   0.035   0.015   0.035    5280  0.0038     0.00
1065          RX    0.00    0.00   38.50   38.50  241.50  241.50  280.00  280.00
1066          RY    3.00    0.88    0.50    0.00    0.00    0.50    0.88    3.00
              *
1067          KK  DRGW59RETRIEVE
1068          KM   Retrieve divert DRGW59 from combination point CGW51 and divert west to
1069          KM   combination point CGW59
1070          DR  DWGW59
              *
1071          KK  RWGW59    ROUTE
1072          KM   Route diversion retrieval DRGW59 west to combination point CGW59
1073          RS       3     FLOW
1074          RC   0.035   0.015   0.035    5280  0.0033     0.00
1075          RX    0.00    0.00   68.50   68.50  359.50  359.50  428.00  428.00
1076          RY    3.00    1.18    0.50    0.00    0.00    0.50    1.18    3.00
              *
1077          KK     GW59    BASIN
```



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1078          KM   Runoff hydrograph for subbasin GW59 northeast of the intersection of Greenway
1079          KM   Road and 59th Avenue
1080          BA   0.944
1081          LG    0.21    0.15    7.30    0.10      43
1082          UC   1.272   0.855
1083          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
1084          UA     100
              *
1                                      HEC-1 INPUT                                                    PAGE 29
LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10
1085          KK  ERGW59  DIVERT
1086          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
1087          KM   retention developed after 1990 in subbasin GW59
1088          DT   XGW59     35.9      0.0
1089          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
1090          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *
1091          KK   CGW59 COMBINE
1092          KM   Combine route RSGW59, route RWGW59, and subbasin GW59
1093          HC       3    5.64
              *
1094          KK  PR59BLRETRIEVE
1095          KM   Retrieve full flow capacity of 108 cfs from 54-inch storm drain pipe at the
1096          KM   intersection of Bell Road and 59th Avenue
1097          DR  DP59BL
              *
1098          KK  RP59GW    ROUTE
1099          KM   Route full flow capacity of 108 cfs through 54-inch storm drain pipe in
1100          KM   59th Avenue to the intersection of Greenway Road and 59th Avenue
1101          RK    4995  0.0030   0.015              CIRC   4.500
              *
1102          KK  CPGW59 COMBINE
1103          KM   Combine pipe return PR59BL with the runoff hydrograph at combination point
1104          KM   CGW59 at the intersection of Greenway Road and 59th Avenue
1105          HC       2
              *
1106          KK   D59GW  DIVERT
1107          KM   Divert calculated full flow capacity of 273 cfs into 78-inch storm drain
1108          KM   pipe at the intersection of Greenway Road and 59th Avenue
1109          DT  DP59GW      0.0    273.0
1110          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
1111          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *
1112          KK  DSTB59  DIVERT
1113          KM   Divert remaining runoff hydrograph from combination point CPGW59 south to
1114          KM   combination point CTB59
1115          DT  DWGW67      0.0      0.0
1116          DI     0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0 10000.0 20000.0 50000.0
1117          DQ     0.0     45.0     90.0    225.0    450.0    900.0   1800.0   4500.0   9000.0 22500.0
              *
1118          KK  RSTB59    ROUTE
1119          KM   Route diversion DSTB59 south to combination point CTB59
1120          RS       4     FLOW
1121          RC   0.035   0.015   0.035    5280  0.0026     0.00
1122          RX    0.00    0.00   65.50   65.50  382.50  382.50  448.00  448.00
1123          RY    3.00    1.16    0.50    0.00    0.00    0.50    1.16    3.00
              *
1                                      HEC-1 INPUT                                                    PAGE 30
LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10
1124          KK  DRTB59RETRIEVE
1125          KM   Retrieve divert DRTB59 from combination point CTB51 and divert west to
1126          KM   combination point CTB59
1127          DR  DWTB59
              *
1128          KK  RWTB59    ROUTE
1129          KM   Route diversion retrieval DRTB59 west to combination point CTB59
1130          RS       3     FLOW
1131          RC   0.035   0.015   0.035    5280  0.0032     0.00
1132          RX    0.00    0.00   37.50   37.50  210.50  210.50  248.00  248.00
1133          RY    3.00    0.88    0.50    0.00    0.00    0.50    0.88    3.00
              *
1134          KK     TB59    BASIN
1135          KM   Runoff hydrograph for subbasin TB59 northeast of the intersection of
1136          KM   Thunderbird Road and 59th Avenue
1137          BA   0.995
1138          LG    0.22    0.23    6.20    0.15      43
1139          UC   1.315   0.876
1140          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
```

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1141          UA     100
              *
1142          KK   CTB59 COMBINE
1143          KM   Combine route RSTB59, route RWTB59, and subbasin TB59
1144          HC       3    6.96
              *
1145          KK  PR59GWRETRIEVE
1146          KM   Retrieve full flow capacity of 273 cfs from 78-inch storm drain pipe at the
1147          KM   intersection of Greenway Road and 59th Avenue
1148          DR  DP59GW
              *
1149          KK  RP59AM   ROUTE
1150          KM   Route full flow capacity of 273 cfs through 78-inch storm drain pipe in
1151          KM   59th Avenue to the intersection of Acoma Drive and 59th Avenue
1152          RK    2519  0.0027   0.015            CIRC   6.500
              *
1153          KK  SRAM59 STORAGE
1154          KM   Storage route pipe flow PR59GW through the regional retention basin located
1155          KM     in subbasin TB59 near the intersection of Acoma Drive and 59th Avenue
1156          KM   Stage-storage data from 59th Avenue Detention Basin As-built records, 1990
1157          RS       1    STOR
1158          SV            0.20    2.80   10.90   11.80   12.70   14.90
1159          SQ            3.00  118.00  206.00  478.00  970.00 2354.00
1160          SE  1214.5 1215.00 1218.00 1224.00 1224.50 1225.00 1226.00
              *
1                                        HEC-1 INPUT                                    PAGE 31

LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1161          KK  RP59TB   ROUTE
1162          KM   Route full flow capacity of 135 cfs through 60-inch storm drain pipe in
1163          KM   59th Avenue to the intersection of Thunderbird Road and 59th Avenue
1164          RK    2759  0.0027   0.015            CIRC   5.000
              *
1165          KK  CPTB59 COMBINE
1166          KM   Combine pipe return PR59GW with the runoff hydrograph at combination point
1167          KM   CTB59 at the intersection of Thunderbird Road and 59th Avenue
1168          HC       2
              *
1169          KK   DTB59  DIVERT
1170          KM   Divert calculated full flow capacity of 578 cfs into 96-inch storm drain
1171          KM   pipe at the intersection of Olive Avenue and 43rd Avenue
1172          DT  DPTB59      0.0   578.0
1173          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
1174          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *
1175          KK  DSAC59  DIVERT
1176          KM   Divert remaining runoff hydrograph from combination point CPTB59 south to
1177          KM   combination point CAC04
1178          DT  DWAC67      0.0     0.0
1179          DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
1180          DQ     0.0    41.0    82.0   205.0   410.0   820.0  1640.0  4100.0  8200.0 20500.0
              *
1181          KK  DRAC59RETRIEVE
1182          KM   Retrieve divert DRAC59 from combination point CCT51 and divert west to
1183          KM   combination point CAC04
1184          DR  DWAC59
              *
1185          KK    AC59   BASIN
1186          KM   Runoff hydrograph for subbasin AC59 northeast of the intersection of the ACDC
1187          KM   Canal and 59th Avenue
1188          BA   0.742
1189          LG    0.18    0.15    8.00    0.08      39
1190          UC   1.410   1.362
1191          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
1192          UA     100
              *
1193          KK  ERAC59  DIVERT
1194          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
1195          KM   retention developed after 1990 in subbasin AC59
1196          DT  XAC59     56.9     0.0
1197          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
1198          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *
1                                        HEC-1 INPUT                                    PAGE 32

LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1199          KK   CAC04 COMBINE
1200          KM   Combine divert DSAC59 and subbasin AC59
1201          HC       4   15.39
```



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              *
1202          KK  PRTB59RETRIEVE
1203          KM   Retrieve full flow capacity of 578 cfs from 96-inch storm drain pipe at the
1204          KM   intersection of Thunderbird Road and 59th Avenue
1205          DR  DPTB59
              *
1206          KK  CPAC04 COMBINE
1207          KM   Combine pipe return PRTB59 with the runoff hydrograph at combination point
1208          KM   CAC04 at the intersection of the ACDC canal and 59th Avenue
1209          HC       2
              *
1210          KK  DRBL67RETRIEVE
1211          KM   Retrieve divert DRBL67 from combination point CBL59 and divert west to
1212          KM   combination point CBL67
1213          DR  DWBL67
              *
1214          KK   DBL67  DIVERT
1215          KM   Divert portion of diversion retrieval DRBL67 west to subbasin SK67 and the
1216          KM   remaining flow follow to subbasin BL67 at combination point CBL67
1217          DT  DWSK67      0.0     0.0
1218          DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
1219          DQ     0.0    74.0   148.0   370.0   740.0  1480.0  2960.0  7400.0 14800.0 37000.0
              *
1220          KK  RWBL67   ROUTE
1221          KM   Route diversion retrieval DRBL67 west to combination point CBL67
1222          RS       6    FLOW
1223          RC   0.035   0.015   0.035    5280  0.0037     0.00
1224          RX    0.00    0.00   17.50   17.50  112.50  112.50  130.00  130.00
1225          RY    3.00    0.68    0.50    0.00    0.00    0.50    0.68    3.00
              *
1226          KK    BL67   BASIN
1227          KM   Runoff hydrograph for subbasin BL67 northeast of the intersection of Bell
1228          KM   Road and 67th Avenue
1229          BA   0.233
1230          LG    0.18    0.23    6.20    0.16      52
1231          UC   0.904   0.878
1232          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
1233          UA     100
              *
1                                        HEC-1 INPUT                                    PAGE 33

LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1234          KK  ERBL67  DIVERT
1235          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
1236          KM   retention developed after 1990 in subbasin BL67
1237          DT  XBL67     15.7     0.0
1238          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
1239          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *
1240          KK   CBL67 COMBINE
1241          KM   Combine route RWBL67 and subbasin BL67
1242          HC       2    0.46
              *
1243          KK   D67BL  DIVERT
1244          KM   Divert calculated full flow capacity of 32 cfs into 36-inch storm drain
1245          KM   pipe at the intersection of Bell Road and 67th Avenue
1246          DT  DP67BL      0.0    32.0
1247          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
1248          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *
1249          KK  DSGW67  DIVERT
1250          KM   Divert remaining runoff hydrograph from combination point CBL67 south to
1251          KM   combination point CGW67
1252          DT  DWBL75      0.0     0.0
1253          DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
1254          DQ     0.0    61.0   122.0   305.0   610.0  1220.0  2440.0  6100.0 12200.0 30500.0
              *
1255          KK  RSGW67   ROUTE
1256          KM   Route diversion DSGW67 south to combination point CGW67
1257          RS      10    FLOW
1258          RC   0.035   0.015   0.035    5280  0.0025     0.00
1259          RX    0.00    0.00   44.50   44.50  253.50  253.50  298.00  298.00
1260          RY    3.00    0.94    0.50    0.00    0.00    0.50    0.94    3.00
              *
1261          KK  DRGW67RETRIEVE
1262          KM   Retrieve divert DRGW67 from combination point CGW59 and divert west to
1263          KM   combination point CGW67
1264          DR  DWGW67
              *
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1265          KK  RWGW67    ROUTE
1266          KM   Route diversion retrieval DRGW67 west to combination point CGW67
1267          RS       4     FLOW
1268          RC   0.035   0.015   0.035    5280  0.0025    0.00
1269          RX    0.00    0.00   61.50   61.50  316.50  316.50  378.00  378.00
1270          RY    3.00    1.12    0.50    0.00    0.00    0.50    1.12    3.00
              *
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LINE          ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10


1271          KK    GW67    BASIN
1272          KM   Runoff hydrograph for subbasin GW67 northeast of the intersection of Greenway
1273          KM   Road and 67th Avenue
1274          BA   0.892
1275          LG    0.23    0.15    8.40    0.06      39
1276          UC   1.230   0.830
1277          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
1278          UA     100
              *

1279          KK  ERGW67   DIVERT
1280          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
1281          KM   retention developed after 1990 in subbasin GW67
1282          DT   XGW67     50.2      0.0
1283          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
1284          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

1285          KK   CGW67 COMBINE
1286          KM   Combine route RSGW67, route RWGW67, and subbasin GW67
1287          HC       3     3.64
              *

1288          KK  PR67BLRETRIEVE
1289          KM   Retrieve full flow capacity of 32 cfs from 36-inch storm drain pipe at the
1290          KM   intersection of Bell Road and 67th Avenue
1291          DR  DP67BL
              *

1292          KK  RP67GW    ROUTE
1293          KM   Route full flow capacity of 32 cfs through 36-inch storm drain pipe in
1294          KM   67th Avenue to the intersection of Greenway Road and 67th Avenue
1295          RK    5072  0.0023   0.015            CIRC   3.000
              *

1296          KK  CPGW67 COMBINE
1297          KM   Combine pipe return PR67BL with the runoff hydrograph at combination point
1298          KM   CGW67 at the intersection of Greenway Road and 67th Avenue
1299          HC       2
              *

1300          KK   D67GW  DIVERT
1301          KM   Divert calculated full flow capacity of 608 cfs into 84-inch storm drain
1302          KM   pipe at the intersection of Greenway Road and 67th Avenue
1303          DT  DP67GW      0.0    608.0
1304          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
1305          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *
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LINE          ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10


1306          KK  DSAC67  DIVERT
1307          KM   Divert remaining runoff hydrograph from combination point CPGW67 south to
1308          KM   combination point CAC05
1309          DT  DWAC75      0.0      0.0
1310          DI     0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0  10000.0  20000.0  50000.0
1311          DQ     0.0     84.0    168.0    420.0    840.0   1680.0   3360.0   8400.0  16800.0  42000.0
              *

1312          KK  RSAC67    ROUTE
1313          KM   Route diversion DSAC67 south to combination point CAC05
1314          RS       2     FLOW
1315          RC   0.035   0.015   0.035    1216  0.0020    0.00
1316          RX    0.00    0.00   34.00   34.00  184.00  184.00  218.00  218.00
1317          RY    3.00    0.84    0.50    0.00    0.00    0.50    0.84    3.00
              *

1318          KK  DRAC67RETRIEVE
1319          KM   Retrieve divert DRAC67 from combination point CPTB59 and divert west to
1320          KM   combination point CAC05
1321          DR  DWAC67
              *

1322          KK  RWAC67    ROUTE
1323          KM   Route diversion retrieval DRAC67 west to combination point CAC05
1324          RS       1     FLOW
1325          RC   0.035   0.015   0.035    1071  0.0029    0.00
1326          RX    0.00    0.00   28.00   28.00  172.00  172.00  200.00  200.00
1327          RY    3.00    0.78    0.50    0.00    0.00    0.50    0.78    3.00
```



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              *

1328          KK    AC67    BASIN
1329          KM   Runoff hydrograph for subbasin AC67 northeast of the intersection of the ACDC
1330          KM   Canal and 67th Avenue
1331          BA   0.698
1332          LG    0.22    0.15    8.40    0.07      29
1333          UC   1.358   1.246
1334          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
1335          UA     100
              *

1336          KK   CAC05 COMBINE
1337          KM   Combine route RSAC67, and subbasin AC67
1338          HC       4   19.62
              *

1339          KK  PR67GWRETRIEVE
1340          KM   Retrieve full flow capacity of 608 cfs from 84-inch storm drain pipe at the
1341          KM   intersection of Greenway Road and 67th Avenue
1342          DR  DP67GW
              *
1                                        HEC-1 INPUT                                        PAGE 36

LINE          ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10


1343          KK  RP67AC    ROUTE
1344          KM   Route full flow capacity of 608 cfs through 84-inch storm drain pipe in
1345          KM   67th Avenue to the intersection of the ACDC canal and 67th Avenue
1346          RK    1168  0.0090   0.015            CIRC   7.000
              *

1347          KK  CPAC05 COMBINE
1348          KM   Combine pipe return PR67GW with the runoff hydrograph at combination point
1349          KM   CAC05 at the intersection of the ACDC canal and 67th Avenue
1350          HC       2   19.55
              *

1351          KK  DRAC75RETRIEVE
1352          KM   Retrieve divert DRAC75 from combination point CPGW67 and divert west to
1353          KM   combination point CAC06
1354          DR  DWAC75
              *

1355          KK    AC75    BASIN
1356          KM   Runoff hydrograph for subbasin AC75 near the intersection of the ACDC Canal
1357          KM   75th Avenue
1358          BA   0.842
1359          LG    0.20    0.25    5.80    0.18      34
1360          UC   1.324   1.089
1361          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
1362          UA     100
              *

1363          KK  ERAC75  DIVERT
1364          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
1365          KM   retention developed after 1990 in subbasin AC75
1366          DT   XAC75     17.3      0.0
1367          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
1368          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

1369          KK   CAC06 COMBINE
1370          KM   Combine route RAC75 and subbasin AC75
1371          HC       3   23.44
              *

1372          KK    HV55    BASIN
1373          KM   Runoff hydrograph for subbasin HV55 near the intersection of Happy Valley
1374          KM   Road and 55th Avenue
1375          BA   2.054
1376          LG    0.21    0.28    4.40    0.35      34
1377          UC   1.117   0.600
1378          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
1379          UA     100
              *
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LINE          ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10


1380          KK  ERHV55  DIVERT
1381          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
1382          KM   retention developed after 1990 in subbasin HV55
1383          DT   XHV55    110.2      0.0
1384          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
1385          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

1386          KK   RCL57    ROUTE
1387          KM   Route runoff hydrograph at subbasin HV55 to combination point CCL57
1388          RS       3     FLOW
```

```
1389          RC   0.045   0.035   0.045    5676  0.0078    0.00
1390          RX    0.00    0.00   40.00   50.00   60.00   70.00  110.00  110.00
1391          RY    6.20    5.20    5.00    0.00    0.00    5.00    5.20    6.20
              *
1392          KK    CL57   BASIN
1393          KM   Runoff hydrograph for subbasin CL57 near the intersection of Pinnacle Hill
1394          KM   Road and 57th Avenue
1395          BA   0.746
1396          LG    0.23    0.27    4.55    0.33      31
1397          UC   0.878   0.464
1398          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
1399          UA     100
              *
1400          KK  ERCL57  DIVERT
1401          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
1402          KM   retention developed after 1990 in subbasin CL57
1403          DT   XCL57    43.7     0.0
1404          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
1405          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *
1406          KK   CCL57 COMBINE
1407          KM   Combine route RCL57 and subbasin CL57
1408          HC       2    2.80
              *
1409          KK    RWL59   ROUTE
1410          KM   Route runoff hydrograph at combination point CCL57 to combination point CWL59
1411          RS       4    FLOW
1412          RC   0.045   0.035   0.045    8099  0.0061    0.00
1413          RX    0.00    0.00   40.00   50.00   60.00   70.00  110.00  110.00
1414          RY    6.20    5.20    5.00    0.00    0.00    5.00    5.20    6.20
              *
1415          KK    WL59   BASIN
1416          KM   Runoff hydrograph for subbasin WL59 near the intersection of Williams Road
1417          KM   and 59th Avenue
1418          BA   0.562
1419          LG    0.17    0.32    4.70    0.29      22
1420          UC   1.111   0.858
1421          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
```



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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9.....10

1422          UA     100
              *
1423          KK  ERWL59  DIVERT
1424          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
1425          KM   retention developed after 1990 in subbasin WL59
1426          DT   XWL59    11.1     0.0
1427          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
1428          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *
1429          KK   CWL59 COMBINE
1430          KM   Combine route RWL59 and subbasin WL59
1431          HC       2    3.36
              *
1432          KK    DV56   BASIN
1433          KM   Runoff hydrograph for subbasin DV56 near the intersection of Deer Valley Road
1434          KM   and 56th Avenue
1435          BA   0.287
1436          LG    0.10    0.33    4.65    0.27      38
1437          UC   0.571   0.314
1438          UA       0      3.0     5.0     8.0    12.0    20.0    43.0    75.0    90.0    96.0
1439          UA     100
              *
1440          KK   CDV56 COMBINE
1441          KM   Combine route RDV56 and subbasin DV56
1442          HC       2    3.65
              *
1443          KK  SRDV56 STORAGE
1444          KM   Storage route runoff hydrograph from combination point CDV56 through
1445          KM     regional detention basin located in subbasin DV56 (Arrowhead Lake 1)
1446          KM   Stage-storage-discharge data from Glendale/Peoria ADMPU Arrowhead Lakes
1447          KM     Hydrology Report (Volume AL), 2001
1448          RS       1    STOR
1449          SV            8.50   17.19   26.06   35.12   44.34   53.71   63.24   72.91
1450          SQ          139.00  399.00  732.00 1146.00 1639.00 2202.00 2814.00 3516.00
1451          SE            0.50    1.00    1.50    2.00    2.50    3.00    3.50    4.00
              *
1452          KK    LO51   BASIN
1453          KM   Runoff hydrograph for subbasin LO51 near the intersection of SR Loop 101
1454          KM   51st Avenue
1455          BA   1.130
```



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1456          LG    0.16    0.23    4.25    0.35      47
1457          UC   1.317   0.750
1458          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
1459          UA     100
              *
```



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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9.....10

1460          KK   CLO51 COMBINE
1461          KM   Combine route RLO51 and subbasin LO51
1462          HC       2    4.78
              *
1463          KK    D51LO  DIVERT
1464          KM   Divert calculated full flow capacity of 38 cfs into a 36-inch storm drain
1465          KM   pipe at the intersection of SR Loop 101 and 51st Avenue.
1466          KM   Storm drain flow discharges to Skunk Creek and is not returned to the model.
1467          DT  DP51LO     0.0    38.0
1468          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
1469          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *
1470          KK  SRLO51 STORAGE
1471          KM   Storage route runoff hydrograph from combination point CLO51 through
1472          KM     regional detention basin located in subbasin LO51 (Arrowhead Lakes 2-5)
1473          KM   Stage-storage-discharge data from Glendale/Peoria ADMPU Arrowhead Lakes
1474          KM     Hydrology Report (Volume AL), 2001
1475          RS       1    STOR
1476          SV           62.29  129.43  199.09  270.01  340.91  411.82  482.73  582.60
1477          SQ          120.00  346.00  634.00  993.00 1421.00 1908.00 2439.00 3047.00
1478          SE            0.50    1.00    1.50    2.00    2.50    3.00    3.50    4.00
              *
1479          KK  RUHSKA   ROUTE
1480          KM   Route runoff hydrograph at combination point CLO51 to combination point CSK01
1481          RS       4    FLOW
1482          RC   0.045   0.035   0.045    4440  0.0034    0.00
1483          RX    0.00    0.00   55.00   75.00  100.00  120.00  175.00  175.00
1484          RY   11.20   10.20   10.00    0.00    0.00   10.00   10.20   11.20
              *
1485          KK  DRUHSKRETRIEVE
1486          KM   Retrieve divert DRUHSK from combination point CUH51 and divert west to
1487          KM   combination point CUHSK
1488          DR  DWUHSK
              *
1489          KK    D51SK  DIVERT
1490          KM   Divert calculated full flow capacity of 24 cfs into a 30-inch storm drain
1491          KM   pipe near the intersection of Skunk Creek and 51st Avenue
1492          KM   Storm drain flow discharges to Skunk Creek and is not returned to the model.
1493          DT  DP51SK     0.0    24.0
1494          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
1495          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *
1496          KK  RUHSKB   ROUTE
1497          KM   Route diversion D51SK to combination point CSK01
1498          RS       5    FLOW
1499          RC   0.035   0.015   0.035    6960  0.0034    0.00
1500          RX    0.00    0.00   17.50   17.50  112.50  112.50  130.00  130.00
1501          RY    3.00    0.68    0.50    0.00    0.00    0.50    0.68    3.00
              *
```



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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9.....10

1502          KK    UHSK   BASIN
1503          KM   Runoff hydrograph for subbasin UHSK northeast of the intersection of Union
1504          KM   Hills Drive and 59th Avenue
1505          BA   0.933
1506          LG    0.22    0.27    5.00    0.25      31
1507          UC   1.067   0.689
1508          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
1509          UA     100
              *
1510          KK  ERUHSK  DIVERT
1511          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
1512          KM   retention developed after 1990 in subbasin UHSK
1513          DT   XUHSK    19.7     0.0
1514          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
1515          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *
1516          KK   CSK01 COMBINE
1517          KM   Combine route RUHSKA, route RUHSKB, and subbasin UHSK
1518          HC       3    6.73
              *
```

```
1519          KK   DUHSK  DIVERT
1520          KM   Divert calculated full flow capacity of 10 cfs into 24-inch storm drain
1521          KM   pipe at the intersection of Union Hills Drive and 59th Avenue
1522          DT DPUHSK     0.0    10.0
1523          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
1524          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

1525          KK  DRSK67RETRIEVE
1526          KM   Retrieve divert DRSK67 from combination point CBL59 and divert west to
1527          KM   combination point CSK67
1528          DR  DWSK67
              *

1529          KK   RSK67   ROUTE
1530          KM   Route diversion retrieval DRSK67 to combination point CSK67
1531          RS       6    FLOW
1532          RC   0.035   0.015   0.035    5113  0.0037    0.00
1533          RX    0.00    0.00   68.50   68.50  359.50  359.50  428.00  428.00
1534          RY    3.00    1.18    0.50    0.00    0.00    0.50    1.18    3.00
              *

1535          KK    SK67   BASIN
1536          KM   Runoff hydrograph for subbasin SK67 northeast of the intersection of
1537          KM   Greenbriar Drive and 67th Avenue
1538          BA   0.942
1539          LG    0.25    0.26    5.20    0.24      30
1540          UC   1.096   0.586
1541          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
1542          UA     100
              *
```

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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1543          KK  ERSK67  DIVERT
1544          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
1545          KM   retention developed after 1990 in subbasin SK67
1546          DT   XSK67     28.3      0.0
1547          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
1548          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

1549          KK   CSK02 COMBINE
1550          KM   Combine route RSK67 and subbasin SK67
1551          HC       3    8.30
              *

1552          KK  PRUHSKRETRIEVE
1553          KM   Retrieve full flow capacity of 10 cfs from 24-inch storm drain pipe at the
1554          KM   intersection of Union Hills Drive and 59th Avenue
1555          DR  DPUHSK
              *

1556          KK  RPSK67   ROUTE
1557          KM   Route full flow capacity of 10 cfs through 24-inch storm drain pipe in
1558          KM   67th Avenue to the intersection of Greenbriar Drive and 67th Avenue
1559          RK    6044  0.0020   0.015            CIRC   2.000
              *

1560          KK  CPSK02 COMBINE
1561          KM   Combine pipe return PRUHSK with the runoff hydrograph at combination point
1562          KM   CSK67 at the intersection of Greenbriar Drive and 67th Avenue
1563          HC       2
              *

1564          KK    UH67   BASIN
1565          KM   Runoff hydrograph for subbasin UH67 near the intersection of Utopia Road
1566          KM   67th Avenue
1567          BA   0.784
1568          LG    0.23    0.25    5.80    0.17      44
1569          UC   1.035   0.726
1570          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
1571          UA     100
              *

1572          KK  ERUH67  DIVERT
1573          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
1574          KM   retention developed after 1990 in subbasin UH67
1575          DT   XUH67     66.8      0.0
1576          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
1577          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *
```

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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1578          KK   RUH75   ROUTE
1579          KM   Route runoff hydrograph at subbasin UH67 to combination point CUH75
1580          RS      10    FLOW
1581          RC   0.045   0.035   0.045    7047  0.0021    0.00
```



```
1582          RX    0.00    0.00   19.00   25.00   30.00   36.00   55.00   55.00
1583          RY    4.10    3.10    3.00    0.00    0.00    3.00    3.10    4.10
              *

1584          KK    UH75   BASIN
1585          KM   Runoff hydrograph for subbasin UH75 near the intersection of Union Hills
1586          KM   Road and 75th Avenue
1587          BA   0.814
1588          LG    0.22    0.15    7.30    0.11      29
1589          UC   1.500   1.021
1590          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
1591          UA     100
              *

1592          KK  ERUH75  DIVERT
1593          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
1594          KM   retention developed after 1990 in subbasin UH75
1595          DT   XUH75     65.2      0.0
1596          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
1597          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

1598          KK   CUH75 COMBINE
1599          KM   Combine route RUH75 and subbasin UH75
1600          HC       2    1.60
              *

1601          KK  RBL75A   ROUTE
1602          KM   Route runoff hydrograph at combination point CUH75 to combination point CSK03
1603          RS       5    FLOW
1604          RC   0.045   0.035   0.045    4730  0.0037    0.00
1605          RX    0.00    0.00   19.00   25.00   30.00   36.00   55.00   55.00
1606          RY    4.10    3.10    3.00    0.00    0.00    3.00    3.10    4.10
              *

1607          KK  DRBL75RETRIEVE
1608          KM   Retrieve divert DRBL75 from combination point CBL67 and divert west to
1609          KM   combination point CSK03
1610          DR  DWBL75
              *

1611          KK  RBL75B   ROUTE
1612          KM   Route diversion retrieval DRBL75 to combination point CSK03
1613          RS       2    FLOW
1614          RC   0.035   0.015   0.035    2940  0.0048    0.00
1615          RX    0.00    0.00   17.50   17.50  112.50  112.50  130.00  130.00
1616          RY    3.00    0.68    0.50    0.00    0.00    0.50    0.68    3.00
              *
```

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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1617          KK    BL75   BASIN
1618          KM   Runoff hydrograph for subbasin BL75 near the intersection of Bell Road
1619          KM   75th Avenue
1620          BA   1.063
1621          LG    0.24    0.26    5.20    0.24      30
1622          UC   1.226   0.783
1623          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
1624          UA     100
              *

1625          KK  ERBL75  DIVERT
1626          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
1627          KM   retention developed after 1990 in subbasin BL75
1628          DT   XBL75     13.2      0.0
1629          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
1630          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

1631          KK   CSK03 COMBINE
1632          KM   Combine route RBL75A, route RBL75B and subbasin BL75
1633          HC       4   11.22
              *

1634          KK    UHLO   BASIN
1635          KM   Runoff hydrograph for subbasin UHLO near the intersection of SR Loop 101 and
1636          KM   Union Hills Drive
1637          BA   0.822
1638          LG    0.21    0.25    5.80    0.19      31
1639          UC   0.976   0.472
1640          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
1641          UA     100
              *

1642          KK  ERUHLO  DIVERT
1643          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
1644          KM   retention developed after 1990 in subbasin UHLO
1645          DT   XUHLO     66.5      0.0
1646          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
1647          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *
```

```
1648          KK   RBLLO    ROUTE
1649          KM   Route runoff hydrograph at subbasin UHLO to combination point CBLLO
1650          RS       9     FLOW
1651          RC   0.035   0.015   0.035    9255  0.0033    0.00
1652          RX    0.00    0.00   17.50   17.50  112.50  112.50  130.00  130.00
1653          RY    3.00    0.68    0.50    0.00    0.00    0.50    0.68    3.00
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1654          KK    BLLO    BASIN
1655          KM   Runoff hydrograph for subbasin BLLO near the intersection of Bell Road and
1656          KM   SR Loop 101
1657          BA   0.765
1658          LG    0.18    0.25    4.35    0.34      55
1659          UC   1.076   0.732
1660          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
1661          UA     100
              *
1662          KK  ERBLLO  DIVERT
1663          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
1664          KM   retention developed after 1990 in subbasin BLLO
1665          DT   XBLLO    70.9     0.0
1666          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
1667          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *
1668          KK   CBLLO COMBINE
1669          KM   Combine route RBLLO and subbasin BLLO
1670          HC       2    1.59
              *
1671          KK   DBLLO  DIVERT
1672          KM   Divert calculated full flow capacity of 169 cfs into 84-inch storm drain
1673          KM   pipe at the intersection of Bell Road and SR Loop 101
1674          DT  DPBLLO     0.0   169.0
1675          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
1676          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *
1677          KK   RGWLO    ROUTE
1678          KM   Route diversion DBLLO to combination point CSK04
1679          RS       6     FLOW
1680          RC   0.035   0.015   0.035    6833  0.0066    0.00
1681          RX    0.00    0.00   16.50   16.50  107.50  107.50  124.00  124.00
1682          RY    3.00    0.66    0.50    0.00    0.00    0.50    0.66    3.00
              *
1683          KK    GWLO    BASIN
1684          KM   Runoff hydrograph for subbasin GWLO near the intersection of Greenway Road
1685          KM   and SR Loop 101
1686          BA   0.814
1687          LG    0.10    0.25    4.20    0.43      60
1688          UC   0.614   0.375
1689          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
1690          UA     100
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1691          KK  ERGWLO  DIVERT
1692          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
1693          KM   retention developed after 1990 in subbasin GWLO
1694          DT   XGWLO    54.1     0.0
1695          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
1696          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *
1697          KK   CSK04 COMBINE
1698          KM   Combine route RGWLO and subbasin GWLO
1699          HC       4   37.07
              *
1700          KK  PRBLLORETRIEVE
1701          KM   Retrieve full flow capacity of 169 cfs from 84-inch storm drain pipe at the
1702          KM   intersection of Bell Road and SR Loop 101
1703          DR  DPBLLO
              *
1704          KK  RPGWLO   ROUTE
1705          KM   Route full flow capacity of 169 cfs through 84-inch storm drain pipe in
1706          KM   Greenway Road to the intersection of Greenway Road and SR Loop 101
1707          RK    2236  0.0007   0.015           CIRC   7.000
              *
1708          KK  CPSK04 COMBINE
1709          KM   Combine pipe return PRBLLO with the runoff hydrograph at combination point
```



```
1710          KM   CSK04 at the intersection of Greenway Road and SR Loop 101
1711          HC       2
              *
1712          KK    JM63   BASIN
1713          KM   Runoff hydrograph for subbasin JM63 near the intersection of Pyramid Peak
1714          KM   Boulevard and Bent Tree Drive
1715          BA   0.840
1716          LG    0.20    0.28    5.10    0.24      24
1717          UC   0.828   0.429
1718          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
1719          UA     100
              *
1720          KK  ERJM63  DIVERT
1721          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
1722          KM   retention developed after 1990 in subbasin JM63
1723          DT   XJM63    50.3     0.0
1724          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
1725          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *
1                                        HEC-1 INPUT                                    PAGE 46

LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1726          KK   RJM67    ROUTE
1727          KM   Route runoff hydrograph at subbasin JM63 to combination point CJM67
1728          RS       2     FLOW
1729          RC   0.045   0.020   0.045    4129  0.0076    0.00
1730          RX    0.00    0.00   19.00   25.00   30.00   36.00   55.00   55.00
1731          RY    4.10    3.10    3.00    0.00    0.00    3.00    3.10    4.10
              *
1732          KK    JM67    BASIN
1733          KM   Runoff hydrograph for subbasin JM67 near the intersection of Pyramid Peak
1734          KM   Boulevard and and 67th Avenue
1735          BA   0.381
1736          LG    0.23    0.27    4.35    0.36      36
1737          UC   0.775   0.526
1738          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
1739          UA     100
              *
1740          KK  ERJM67  DIVERT
1741          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
1742          KM   retention developed after 1990 in subbasin JM67
1743          DT   XJM67    23.6     0.0
1744          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
1745          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *
1746          KK   CJM67 COMBINE
1747          KM   Combine route RJM67 and subbasin JM67
1748          HC       2    1.22
              *
1749          KK   RHV75    ROUTE
1750          KM   Route runoff hydrograph at combination point CJM67 to combination point CHV75
1751          RS       3     FLOW
1752          RC   0.045   0.020   0.045    7197  0.0099    0.00
1753          RX    0.00    0.00   40.00   50.00   60.00   70.00  110.00  110.00
1754          RY    6.20    5.20    5.00    0.00    0.00    5.00    5.20    6.20
              *
1755          KK    HV75    BASIN
1756          KM   Runoff hydrograph for subbasin HV75 near the intersection of Happy Valley
1757          KM   Road and 75th Avenue
1758          BA   0.958
1759          LG    0.24    0.26    4.10    0.41      28
1760          UC   1.022   0.571
1761          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
1762          UA     100
              *
1                                        HEC-1 INPUT                                    PAGE 47

LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1763          KK  ERHV75  DIVERT
1764          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
1765          KM   retention developed after 1990 in subbasin HV75
1766          DT   XHV75    70.2     0.0
1767          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
1768          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *
1769          KK   CHV75 COMBINE
1770          KM   Combine route RHV75 and subbasin HV75
1771          HC       2    2.18
              *
1772          KK    JM80    BASIN
```

```
1773          KM   Runoff hydrograph for subbasin JM80 near the intersection of Jomax Road
1774          KM   and 80th Avenue
1775          BA   0.164
1776          LG    0.24    0.25    3.88    0.42      34
1777          UC   0.645   0.468
1778          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
1779          UA     100
              *

1780          KK    JM76   BASIN
1781          KM   Runoff hydrograph for subbasin JM76 near the intersection of Jomax Road
1782          KM   and 76th Avenue
1783          BA   0.169
1784          LG    0.21    0.28    3.92    0.41      22
1785          UC   0.829   0.706
1786          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
1787          UA     100
              *

1788          KK  ERJM76  DIVERT
1789          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
1790          KM   retention developed after 1990 in subbasin JM76
1791          DT   XJM76     6.5     0.0
1792          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
1793          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

1794          KK    JMNR   BASIN
1795          KM   Runoff hydrograph for subbasin JMNR near the intersection of Jomax Road
1796          KM   and New River
1797          BA   0.149
1798          LG    0.17    0.31    3.29    0.63      13
1799          UC   1.071   1.182
1800          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
1801          UA     100
              *
```



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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1802          KK   CNR01 COMBINE
1803          KM   Combine route subbasin JM76, and subbasin JMNR
1804          HC         3    0.48
              *

1805          KK    JM75   BASIN
1806          KM   Runoff hydrograph for subbasin JM75 near the intersection of Jomax Road
1807          KM   and 75th Avenue
1808          BA   1.112
1809          LG    0.18    0.30    4.30    0.34      26
1810          UC   0.686   0.305
1811          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
1812          UA     100
              *

1813          KK  ERJM75  DIVERT
1814          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
1815          KM   retention developed after 1990 in subbasin JM75
1816          DT   XJM75    43.3     0.0
1817          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
1818          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

1819          KK    HVNR   BASIN
1820          KM   Runoff hydrograph for subbasin HVNR near the intersection of Happy Valley
1821          KM   Road and New River
1822          BA   0.202
1823          LG    0.10    0.35    3.48    0.55       0
1824          UC   1.157   1.210
1825          UA       0     3.0     5.0     8.0    12.0    20.0    43.0    75.0    90.0    96.0
1826          UA     100
              *

1827          KK   CNR02 COMBINE
1828          KM   Combine subbasin HVNR
1829          HC         4    3.98
              *

1830          KK    HV67   BASIN
1831          KM   Runoff hydrograph for subbasin HV67 near the intersection of Happy Valley
1832          KM   Road and 67th Avenue
1833          BA   0.544
1834          LG    0.22    0.27    4.20    0.41      59
1835          UC   0.597   0.351
1836          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
1837          UA     100
              *

1838          KK  ERHV67  DIVERT
1839          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
1840          KM   retention developed after 1990 in subbasin HV67
1841          DT   XHV67    31.6     0.0
```



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1842          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
1843          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *
```



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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1844          KK   RCL67   ROUTE
1845          KM   Route runoff hydrograph at subbasin HV67 to combination point CCL67
1846          RS       3    FLOW
1847          RC   0.045   0.035   0.045    3990  0.0076    0.00
1848          RX    0.00    0.00   40.00   50.00   60.00   70.00  110.00  110.00
1849          RY    6.20    5.20    5.00    0.00    0.00    5.00    5.20    6.20
              *

1850          KK    CL67   BASIN
1851          KM   Runoff hydrograph for subbasin CL67 near the intersection of Calle Lejos Road
1852          KM   67th Avenue
1853          BA   0.275
1854          LG    0.22    0.27    4.40    0.38      24
1855          UC   0.928   0.872
1856          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
1857          UA     100
              *

1858          KK  ERCL67  DIVERT
1859          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
1860          KM   retention developed after 1990 in subbasin CL67
1861          DT   XCL67    16.7     0.0
1862          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
1863          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

1864          KK   CCL67 COMBINE
1865          KM   Combine route RCL67 and subbasin CL67
1866          HC         2    0.82
              *

1867          KK  RPP73A   ROUTE
1868          KM   Route runoff hydrograph at combination point CCL67 to combination point CPP73
1869          RS       4    FLOW
1870          RC   0.045   0.035   0.045    5599  0.0045    0.00
1871          RX    0.00    0.00   40.00   50.00   60.00   70.00  110.00  110.00
1872          RY    6.20    5.20    5.00    0.00    0.00    5.00    5.20    6.20
              *

1873          KK    PP67   BASIN
1874          KM   Runoff hydrograph for subbasin PP67 near the intersection of Pinnacle Peak
1875          KM   Road and 67th Avenue
1876          BA   0.096
1877          LG    0.30    0.25    4.55    0.41       6
1878          UC   0.912   0.988
1879          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
1880          UA     100
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1881          KK  ERPP67  DIVERT
1882          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
1883          KM   retention developed after 1990 in subbasin PP67
1884          DT   XPP67     5.8     0.0
1885          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
1886          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

1887          KK  DWPP73  DIVERT
1888          KM   Divert remaining runoff hydrograph at subbasin PP67 west to combination point
1889          KM   CPP73
1890          DT  DSWL67     0.0     0.0
1891          DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
1892          DQ     0.0    32.0    64.0   160.0   320.0   640.0  1280.0  3200.0  6400.0 16000.0
              *

1893          KK  RPP73B   ROUTE
1894          KM   Route diversion DWPP73 west to combination point CPP73
1895          RS       4    FLOW
1896          RC   0.035   0.015   0.035    3886  0.0064    0.00
1897          RX    0.00    0.00   16.50   16.50  107.50  107.50  124.00  124.00
1898          RY    3.00    0.66    0.50    0.00    0.00    0.50    0.66    3.00
              *

1899          KK    PP73   BASIN
1900          KM   Runoff hydrograph for subbasin PP73 near the intersection of Pinnacle Peak
1901          KM   Road and 73rd Avenue
1902          BA   0.545
1903          LG    0.29    0.25    4.70    0.31      18
1904          UC   0.964   0.604
1905          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
1906          UA     100
```

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                *
1907            KK  ERPP73  DIVERT
1908            KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
1909            KM   retention developed after 1990 in subbasin PP73
1910            DT   XPP73     10.3      0.0
1911            DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
1912            DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
                *

1913            KK   CPP73 COMBINE
1914            KM   Combine route RPP73A, route RPP73B, and subbasin PP73
1915            HC        3    1.43
                *

1916            KK  DWPP75  DIVERT
1917            KM   Divert remaining runoff hydrograph at combination point CPP73 west to
1918            KM   combination point CPP75
1919            DT  DSWL75       0.0      0.0
1920            DI     0.0   100.0    200.0    500.0   1000.0   2000.0   4000.0  10000.0  20000.0  50000.0
1921            DQ     0.0    41.0     82.0    205.0    410.0    820.0   1640.0   4100.0   8200.0  20500.0
                *
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LINE            ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1922            KK   RPPNR    ROUTE
1923            KM   Route diversion DWPP75 west to combination point CNR03
1924            RS        1     FLOW
1925            RC   0.045    0.020    0.045     1225   0.0052     0.00
1926            RX    0.00     0.00    40.00    50.00    60.00    70.00   110.00   110.00
1927            RY    6.20     5.20     5.00     0.00     0.00     5.00     5.20     6.20
                *

1928            KK    PP75    BASIN
1929            KM   Runoff hydrograph for subbasin PP75 near the intersection of Pinnacle Peak
1930            KM   Road and 75th Avenue
1931            BA   0.420
1932            LG    0.26     0.26     4.25     0.42       30
1933            UC   0.807    0.557
1934            UA       0      5.0     16.0     30.0     65.0     77.0     84.0     90.0     94.0     97.0
1935            UA     100
                *

1936            KK  ERPP75  DIVERT
1937            KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
1938            KM   retention developed after 1990 in subbasin PP75
1939            DT   XPP75     20.3      0.0
1940            DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
1941            DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
                *

1942            KK    PPNR    BASIN
1943            KM   Runoff hydrograph for subbasin PPNR near the intersection of Pinnacle Peak
1944            KM   Road and New River
1945            BA   0.237
1946            LG    0.18     0.31     3.53     0.53        6
1947            UC   1.173    1.099
1948            UA       0      5.0     16.0     30.0     65.0     77.0     84.0     90.0     94.0     97.0
1949            UA     100
                *

1950            KK  ERPPNR  DIVERT
1951            KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
1952            KM   retention developed after 1990 in subbasin PPNR
1953            DT   XPPNR     5.1      0.0
1954            DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
1955            DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
                *

1956            KK   CNR03 COMBINE
1957            KM   Combine route RPPNR and subbasin PPNR
1958            HC        4    5.47
                *
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LINE            ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1959            KK  DRWL75RETRIEVE
1960            KM   Retrieve divert DRWL75 from combination point CPP73 and divert to
1961            KM   combination point CWL75
1962            DR  DSWL75
                *

1963            KK  RWL75B   ROUTE
1964            KM   Route diversion retrieval DRWL75 to combination point CWL75
1965            RS        1     FLOW
1966            RC   0.035    0.015    0.035     2577   0.0049     0.00
1967            RX    0.00     0.00     7.00     7.00    43.00    43.00    50.00    50.00
1968            RY    3.00     0.57     0.50     0.00     0.00     0.50     0.57     3.00
                *
```



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1969            KK  DRWL67RETRIEVE
1970            KM   Retrieve divert DRWL67 from subbasin PP67 and divert to combination point
1971            KM   CPB67
1972            DR  DSWL67
                *

1973            KK   RWL67    ROUTE
1974            KM   Route diversion retrieval DRWL67 to combination point CWL67
1975            RS        1     FLOW
1976            RC   0.035    0.015    0.035     1195   0.0014     0.00
1977            RX    0.00     0.00    20.50    20.50    89.50    89.50   110.00   110.00
1978            RY    3.00     0.70     0.50     0.00     0.00     0.50     0.70     3.00
                *

1979            KK    WL67    BASIN
1980            KM   Runoff hydrograph for subbasin WL67 near the intersection of Thunderbird Park
1981            KM   Road and 67th Avenue
1982            BA   0.103
1983            LG    0.24     0.28     4.70     0.34        6
1984            UC   0.943    1.006
1985            UA       0      5.0     16.0     30.0     65.0     77.0     84.0     90.0     94.0     97.0
1986            UA     100
                *

1987            KK  ERWL67  DIVERT
1988            KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
1989            KM   retention developed after 1990 in subbasin WL67
1990            DT   XWL67      4.3      0.0
1991            DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
1992            DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
                *

1993            KK   CWL67 COMBINE
1994            KM   Combine route RWL67 and subbasin WL67
1995            HC        2    0.13
                *
1                                       HEC-1 INPUT                                                    PAGE 53

LINE            ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1996            KK  RWL75A   ROUTE
1997            KM   Route runoff hydrograph at combination point CWL67 to combination point CWL75
1998            RS        7     FLOW
1999            RC   0.035    0.015    0.035     5062   0.0072     0.00
2000            RX    0.00     0.00     7.00     7.00    43.00    43.00    50.00    50.00
2001            RY    3.00     0.57     0.50     0.00     0.00     0.50     0.57     3.00
                *

2002            KK    WL75    BASIN
2003            KM   Runoff hydrograph for subbasin WL75 near the intersection of Williams Road
2004            KM   Road and 75th Avenue
2005            BA   0.475
2006            LG    0.29     0.25     4.70     0.31       25
2007            UC   0.903    0.577
2008            UA       0      5.0     16.0     30.0     65.0     77.0     84.0     90.0     94.0     97.0
2009            UA     100
                *

2010            KK  ERWL75  DIVERT
2011            KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
2012            KM   retention developed after 1990 in subbasin WL75
2013            DT   XWL75     18.0      0.0
2014            DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
2015            DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
                *

2016            KK   CWL75 COMBINE
2017            KM   Combine route RWL75A, route RWL75B, and subbasin WL75
2018            HC        3    1.20
                *

2019            KK    WWBR    BASIN
2020            KM   Runoff hydrograph for subbasin WWBR near the intersection of Westwing Parkway
2021            KM   and Black Rock Boulevard
2022            BA   0.184
2023            LG    0.22     0.19     7.00     0.10       26
2024            UC   0.378    0.231
2025            UA       0      5.0     16.0     30.0     65.0     77.0     84.0     90.0     94.0     97.0
2026            UA     100
                *

2027            KK  ERWWBR  DIVERT
2028            KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
2029            KM   retention developed after 1990 in subbasin WWBR
2030            DT   XWWBR     12.2      0.0
2031            DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
2032            DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
                *
1                                       HEC-1 INPUT                                                    PAGE 54

LINE            ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10
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2033          KK   RWWRS    ROUTE
2034          KM   Route runoff hydrograph at subbasin WWBR to combination point CWWRS
2035          RS       2     FLOW
2036          RC   0.045    0.035    0.045     2599  0.0063     0.00
2037          RX    0.00     0.00    19.00    25.00   30.00    36.00   55.00   55.00
2038          RY    4.10     3.10     3.00     0.00    0.00     3.00    3.10    4.10
              *
2039          KK    WWRS    BASIN
2040          KM   Runoff hydrograph for subbasin WWRS near the intersection of Westwing Parkway
2041          KM   and Rock Springs wash
2042          BA   0.144
2043          LG    0.20     0.26     4.30     0.44       32
2044          UC   0.564    0.474
2045          UA        0      5.0     16.0     30.0     65.0     77.0    84.0    90.0    94.0    97.0
2046          UA      100
              *
2047          KK  ERWWRS  DIVERT
2048          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
2049          KM   retention developed after 1990 in subbasin WWRS
2050          DT   XWWRS      7.1      0.0
2051          DI       0.0 50000.0      0.0      0.0      0.0      0.0     0.0     0.0     0.0     0.0
2052          DQ       0.0 50000.0      0.0      0.0      0.0      0.0     0.0     0.0     0.0     0.0
              *
2053          KK   CWWRS COMBINE
2054          KM   Combine route RWWRS and subbasin WWRS
2055          HC       2     0.33
              *
2056          KK   RJMRS    ROUTE
2057          KM   Route runoff hydrograph at combination point CWWRS to combination point CJMRS
2058          RS       2     FLOW
2059          RC   0.045    0.035    0.045     4005  0.0060     0.00
2060          RX    0.00     0.00    40.00    50.00   60.00    70.00  110.00  110.00
2061          RY    6.20     5.20     5.00     0.00    0.00     5.00    5.20    6.20
              *
2062          KK    JMRS    BASIN
2063          KM   Runoff hydrograph for subbasin JMRS near the intersection of Jomax Road and
2064          KM   Rock Springs wash
2065          BA   0.567
2066          LG    0.23     0.27     5.30     0.21       29
2067          UC   0.826    0.541
2068          UA        0      5.0     16.0     30.0     65.0     77.0    84.0    90.0    94.0    97.0
2069          UA      100
              *
```



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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9.....10

2070          KK  ERJMRS  DIVERT
2071          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
2072          KM   retention developed after 1990 in subbasin JMRS
2073          DT   XJMRS     37.8      0.0
2074          DI       0.0 50000.0      0.0      0.0      0.0      0.0     0.0     0.0     0.0     0.0
2075          DQ       0.0 50000.0      0.0      0.0      0.0      0.0     0.0     0.0     0.0     0.0
              *
2076          KK   CJMRS COMBINE
2077          KM   Combine route RJMRS and subbasin JMRS
2078          HC       2     0.90
              *
2079          KK   RHVRSB    ROUTE
2080          KM   Route runoff hydrograph at combination point CJMRS to combination point CHVRS
2081          RS       6     FLOW
2082          RC   0.045    0.035    0.045     5791  0.0051     0.00
2083          RX    0.00     0.00    19.00    25.00   30.00    36.00   55.00   55.00
2084          RY    4.10     3.10     3.00     0.00    0.00     3.00    3.10    4.10
              *
2085          KK    83RS    BASIN
2086          KM   Runoff hydrograph for subbasin 83RS near the intersection of 83rd Avenue and
2087          KM   Rock Springs wash
2088          BA   0.638
2089          LG    0.22     0.27     4.50     0.31       47
2090          UC   0.511    0.211
2091          UA        0      5.0     16.0     30.0     65.0     77.0    84.0    90.0    94.0    97.0
2092          UA      100
              *
2093          KK  ER83RS  DIVERT
2094          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
2095          KM   retention developed after 1990 in subbasin 83RS
2096          DT   X83RS     41.0      0.0
2097          DI       0.0 50000.0      0.0      0.0      0.0      0.0     0.0     0.0     0.0     0.0
2098          DQ       0.0 50000.0      0.0      0.0      0.0      0.0     0.0     0.0     0.0     0.0
              *
```



```
2099          KK  RHVRSA    ROUTE
2100          KM   Route runoff hydrograph at subbasin 83RS to combination point CHVRS
2101          RS       4     FLOW
2102          RC   0.045    0.035    0.045     6390  0.0071     0.00
2103          RX    0.00     0.00    40.00    50.00   60.00    70.00  110.00  110.00
2104          RY    6.20     5.20     5.00     0.00    0.00     5.00    5.20    6.20
              *
2105          KK    HVRS    BASIN
2106          KM   Runoff hydrograph for subbasin HVRS near the intersection of Happy Valley
2107          KM   Road and Rock Springs wash
2108          BA   0.630
2109          LG    0.23     0.27     4.10     0.40       25
2110          UC   1.062    0.693
2111          UA        0      5.0     16.0     30.0     65.0     77.0    84.0    90.0    94.0    97.0
```



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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9.....10

2112          UA      100
              *
2113          KK  ERHVRS  DIVERT
2114          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
2115          KM   retention developed after 1990 in subbasin HVRS
2116          DT   XHVRS     38.8      0.0
2117          DI       0.0 50000.0      0.0      0.0      0.0      0.0     0.0     0.0     0.0     0.0
2118          DQ       0.0 50000.0      0.0      0.0      0.0      0.0     0.0     0.0     0.0     0.0
              *
2119          KK   CHVRS COMBINE
2120          KM   Combine route RHVRSA, route RHVRSB, and subbasin HVRS
2121          HC       3     2.16
              *
2122          KK  RCL77B    ROUTE
2123          KM   Route runoff hydrograph at combination point CHVRS to combination point CCL77
2124          RS       5     FLOW
2125          RC   0.045    0.035    0.045     2864  0.0057     0.00
2126          RX    0.00   480.00   500.00   518.00  544.00   609.00  900.00 1121.00
2127          RY   11.00    10.00     0.00     0.20   10.00    11.00   12.00   13.00
              *
2128          KK    HV83    BASIN
2129          KM   Runoff hydrograph for subbasin HV83 near the intersection of Happy Valley
2130          KM   Road and 83rd Avenue
2131          BA   0.035
2132          LG    0.27     0.25     4.15     0.41       42
2133          UC   0.323    0.329
2134          UA        0      5.0     16.0     30.0     65.0     77.0    84.0    90.0    94.0    97.0
2135          UA      100
              *
2136          KK  ERHV83  DIVERT
2137          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
2138          KM   retention developed after 1990 in subbasin HV83
2139          DT   XHV83      2.3      0.0
2140          DI       0.0 50000.0      0.0      0.0      0.0      0.0     0.0     0.0     0.0     0.0
2141          DQ       0.0 50000.0      0.0      0.0      0.0      0.0     0.0     0.0     0.0     0.0
              *
2142          KK  RCL77A    ROUTE
2143          KM   Route runoff hydrograph at subbasin HV83 to combination point CCL77
2144          RS       2     FLOW
2145          RC   0.045    0.035    0.045     3884  0.0111     0.00
2146          RX    0.00     0.00    19.00    25.00   30.00    36.00   55.00   55.00
2147          RY    4.10     3.10     3.00     0.00    0.00     3.00    3.10    4.10
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9.....10

2148          KK    CL77    BASIN
2149          KM   Runoff hydrograph for subbasin CL77 near the intersection of Calle Lejos Road
2150          KM   and 77th Avenue
2151          BA   0.316
2152          LG    0.28     0.26     4.40     0.38       14
2153          UC   0.697    0.436
2154          UA        0      5.0     16.0     30.0     65.0     77.0    84.0    90.0    94.0    97.0
2155          UA      100
              *
2156          KK  ERCL77  DIVERT
2157          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
2158          KM   retention developed after 1990 in subbasin CL77
2159          DT   XCL77     19.1      0.0
2160          DI       0.0 50000.0      0.0      0.0      0.0      0.0     0.0     0.0     0.0     0.0
2161          DQ       0.0 50000.0      0.0      0.0      0.0      0.0     0.0     0.0     0.0     0.0
              *
2162          KK   CCL77 COMBINE
```

```
2163          KM   Combine route RCL77A, route RCL77B, and subbasin CL77
2164          HC       3    2.51
              *

2165          KK   RPP77   ROUTE
2166          KM   Route runoff hydrograph at combination point CCL77 to combination point CPP77
2167          RS       2    FLOW
2168          RC   0.045   0.035   0.045    2947  0.0041    0.00
2169          RX    0.00  480.00  500.00  518.00  544.00  609.00  900.00 1121.00
2170          RY   11.00   10.00    0.00    0.20   10.00   11.00   12.00   13.00
              *

2171          KK    PP77   BASIN
2172          KM   Runoff hydrograph for subbasin PP77 near the intersection of Pinnacle Peak
2173          KM   Road and 77th Avenue
2174          BA   0.270
2175          LG    0.30    0.25    4.20    0.45      14
2176          UC   1.119   1.003
2177          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
2178          UA     100
              *

2179          KK  ERPP77  DIVERT
2180          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
2181          KM   retention developed after 1990 in subbasin PP77
2182          DT   XPP77     8.9     0.0
2183          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
2184          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

2185          KK   CPP77 COMBINE
2186          KM   Combine route RPP77 and subbasin PP77
2187          HC       2    2.78
              *

2188          KK   RWLNR   ROUTE
2189          KM   Route runoff hydrograph at combination point CPP77 to combination point CNR04
2190          RS       2    FLOW
2191          RC   0.045   0.035   0.045    3822  0.0048    0.00
2192          RX    0.00  256.00  372.00  397.00  407.00  419.00  464.00  800.00
2193          RY   12.00   10.00    8.00    0.00    0.00    6.00    8.00   12.00
              *

2194          KK    WLNR   BASIN
2195          KM   Runoff hydrograph for subbasin WLNR near the intersection of Williams Road
2196          KM   New River
2197          BA   0.390
2198          LG    0.24    0.26    4.70    0.29      33
2199          UC   0.899   0.576
2200          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
2201          UA     100
              *

2202          KK   CNR04 COMBINE
2203          KM   Combine route RWLNR and subbasin WLNR
2204          HC       4    9.84
              *

2205          KK    DV75   BASIN
2206          KM   Runoff hydrograph for subbasin DV75 near the intersection of Deer Valley Road
2207          KM   and 75th Avenue
2208          BA   0.501
2209          LG    0.24    0.25    4.90    0.26      34
2210          UC   1.077   0.815
2211          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
2212          UA     100
              *

2213          KK  ERDV75  DIVERT
2214          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
2215          KM   retention developed after 1990 in subbasin DV75
2216          DT   XDV75    22.6     0.0
2217          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
2218          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

2219          KK  DWDVNR  DIVERT
2220          KM   Divert remaining runoff hydrograph at subbasin DV75 west to combination point
2221          KM   CNR05
2222          DT  DSLO75     0.0     0.0
2223          DI     0.0     1.0    92.0   274.0   365.0   456.0   546.0   700.0   800.0  1000.0
2224          DQ     0.0     0.0    26.0    70.0    87.0   109.0   131.0   167.0   191.0   239.0
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

2225          KK   RDVNR   ROUTE
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2226          KM   Route diversion DWDVNR west to combination point CNR05
2227          RS       2    FLOW
2228          RC   0.045   0.015   0.045    2707  0.0015    0.00
2229          RX    0.00    0.00   19.00   25.00   30.00   36.00   55.00   55.00
2230          RY    4.10    3.10    3.00    0.00    0.00    3.00    3.10    4.10
              *

2231          KK    DVNR   BASIN
2232          KM   Runoff hydrograph for subbasin DVNR near the intersection of Deer Valley Road
2233          KM   and New River
2234          BA   0.401
2235          LG    0.23    0.26    4.35    0.34      33
2236          UC   1.095   0.749
2237          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
2238          UA     100
              *

2239          KK   CNR05 COMBINE
2240          KM   Combine route RDVNR and subbasin DVNR
2241          HC       3   10.50
              *

2242          KK    DV67   BASIN
2243          KM   Runoff hydrograph for subbasin DV67 near the intersection of Deer Valley Road
2244          KM   and 67th Avenue
2245          BA   0.503
2246          LG    0.18    0.29    4.55    0.32      38
2247          UC   0.415   0.160
2248          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
2249          UA     100
              *

2250          KK  SRDV67 STORAGE
2251          KM   Storage route runoff hydrograph from combination point CDV67 thru regional
2252          KM     detention basin located in subbasin DV67 (Arrowhead Lakes 6, 7, and 11-13)
2253          KM   Stage-storage-discharge data from Glendale/Peoria ADMPU Arrowhead Lakes
2254          KM     Hydrology Report (Volume AL), 2001
2255          RS       1    STOR
2256          SV            4.49    9.21   14.15   19.27   24.51   29.86   35.24   40.67
2257          SQ           91.00  285.00  566.00  886.00 1243.00 1638.00 2064.00 2523.00
2258          SE            0.50    1.00    1.50    2.00    2.50    3.00    3.50    4.00
              *

2259          KK    LO67   BASIN
2260          KM   Runoff hydrograph for subbasin LO67 near the intersection of SR Loop 101 and
2261          KM   67th Avenue
2262          BA   1.217
2263          LG    0.20    0.25    5.70    0.20      33
2264          UC   1.051   0.489
2265          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
2266          UA     100
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

2267          KK   CLO67 COMBINE
2268          KM   Combine route RLO67 and subbasin LO67
2269          HC       2    1.72
              *

2270          KK  SRLO67 STORAGE
2271          KM   Storage route runoff hydrograph from combination point CLO67 thru regional
2272          KM     detention basin located in subbasin LO67 (Arrowhead Lakes 8-10 and 14-20)
2273          KM   Stage-storage-discharge data from Glendale/Peoria ADMPU Arrowhead Lakes
2274          KM     Hydrology Report (Volume AL), 2001
2275          RS       1    STOR
2276          SV           12.86   26.19   39.86   53.86   69.64   84.08  100.17  114.88  149.69
2277          SV  188.50
2278          SQ        9      41     100     175     245     326     396     502     657     703
2279          SQ      749
2280          SE     0.00    0.50    1.00    1.50    2.00    2.50    3.00    3.50    4.00    4.50
2281          SE     5.00
              *

2282          KK    LO75   BASIN
2283          KM   Runoff hydrograph for subbasin LO75 near the intersection of SR Loop 101 and
2284          KM   75th Avenue
2285          BA   0.970
2286          LG    0.24    0.25    6.00    0.16      34
2287          UC   1.059   0.531
2288          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
2289          UA     100
              *

2290          KK  ERLO75  DIVERT
2291          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
2292          KM   retention developed after 1990 in subbasin LO75
2293          DT   XLO75    34.3     0.0
2294          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
2295          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *
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2296          KK  CLO75 COMBINE
2297          KM  Combine storage route SRLO67 and subbasin LO75
2298          HC       2    2.69
              *

2299          KK  SRLO75 STORAGE
2300          KM  Storage route runoff hydrograph from combination point CLO75 thru regional
2301          KM    detention basin located in subbasin LO75 (Arrowhead Lakes L21AP1 to L21AP5)
2302          KM  Stage-storage-discharge data from Glendale/Peoria ADMPU Arrowhead Lakes
2303          KM    Hydrology Report (Volume AL), 2001
2304          RS       1    STOR
2305          SV           12.58   31.24   52.02
2306          SQ           46.00  418.00  768.00
2307          SE            0.50    1.00    1.50
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

2308          KK  DRLO75RETRIEVE
2309          KM  Retrieve divert DROL75 from subbasin DV75 and divert to combination point
2310          KM  CLO75
2311          DR  DSLO75
              *

2312          KK  RLO75   ROUTE
2313          KM  Route diversion DRLO75 to combination point CLO75
2314          RS       7    FLOW
2315          RC   0.035   0.015   0.035    7499  0.0047    0.00
2316          RX    0.00    0.00   13.00   13.00   55.00   55.00   68.00   68.00
2317          RY    3.00    0.63    0.50    0.00    0.00    0.50    0.63    3.00
              *

2318          KK  CILO75 COMBINE
2319          KM  Combine route RLO75A and storage route SRLO75
2320          HC       2    2.94
              *

2321          KK  RBYNRB   ROUTE
2322          KM  Route runoff hydrograph at combination point CLO75 to combination point CBYNR
2323          RS       1    FLOW
2324          RC   0.045   0.015   0.045    3176  0.0058    0.00
2325          RX    0.00    3.00    5.00   29.00   41.00   65.00   67.00   70.00
2326          RY   13.00   12.00   12.00    0.00    0.00   12.00   12.00   13.00
              *

2327          KK   PP81   BASIN
2328          KM  Runoff hydrograph for subbasin PP81 near the intersection of Pinnacle Peak
2329          KM  Road and 81st Avenue
2330          BA   0.197
2331          LG    0.30    0.25    6.00    0.18      15
2332          UC   0.684   0.391
2333          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
2334          UA     100
              *

2335          KK  ERPP81  DIVERT
2336          KM  Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
2337          KM  retention developed after 1990 in subbasin PP81
2338          DT  XPP81    12.8     0.0
2339          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
2340          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

2341          KK   RWL83   ROUTE
2342          KM  Route runoff hydrograph at subbasin PP81 to combination point CWL83
2343          RS       4    FLOW
2344          RC   0.045   0.035   0.045    3222  0.0050    0.00
2345          RX    0.00    0.00   19.00   25.00   30.00   36.00   55.00   55.00
2346          RY    4.10    3.10    3.00    0.00    0.00    3.00    3.10    4.10
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

2347          KK    WL83   BASIN
2348          KM  Runoff hydrograph for subbasin WL83 near the intersection of Williams Road
2349          KM  and 83rd Avenue
2350          BA   0.125
2351          LG    0.30    0.10   11.20    0.02      15
2352          UC   0.852   0.797
2353          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
2354          UA     100
              *

2355          KK  ERWL83  DIVERT
2356          KM  Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
2357          KM  retention developed after 1990 in subbasin WL83
2358          DT  XWL83    4.3     0.0
2359          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
```



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2360          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

2361          KK  CWL83 COMBINE
2362          KM  Combine route RW183 and subbasin WL83
2363          HC       2    0.32
              *

2364          KK   HV87   BASIN
2365          KM  Runoff hydrograph for subbasin HV87 near the intersection of Happy Valley
2366          KM  Road and 87th Avenue
2367          BA   0.285
2368          LG    0.13    0.34    4.00    0.39      37
2369          UC   0.338   0.134
2370          UA       0     3.0     5.0     8.0    12.0    20.0    43.0    75.0    90.0    96.0
2371          UA     100
              *

2372          KK   RPP87   ROUTE
2373          KM  Route runoff hydrograph at subbasin HV87 to combination point CPP87
2374          RS       1    FLOW
2375          RC   0.045   0.020   0.045    5446  0.0172    0.00
2376          RX    0.00    0.00   40.00   50.00   60.00   70.00  110.00  110.00
2377          RY    6.20    5.20    5.00    0.00    0.00    5.00    5.20    6.20
              *

2378          KK   PP87   BASIN
2379          KM  Runoff hydrograph for subbasin PP87 near the intersection of Pinnacle Peak
2380          KM  Road and 87th Avenue
2381          BA   0.981
2382          LG    0.30    0.25    4.45    0.38      15
2383          UC   0.694   0.255
2384          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
2385          UA     100
              *
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2386          KK  ERPP87  DIVERT
2387          KM  Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
2388          KM  retention developed after 1990 in subbasin PP87
2389          DT  XPP87    42.5     0.0
2390          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
2391          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

2392          KK  CPP87 COMBINE
2393          KM  Combine route RPP87 and subbasin PP87
2394          HC       2    1.27
              *

2395          KK  SRPP87 STORAGE
2396          KM  Storage route runoff hydrograph from combination point CPP87 through the
2397          KM    regional detention basin located near the intersection of Pinnacle Peak Rd
2398          KM    and 87th Avenue
2399          KM  Stage-storage-discharge data from 83rd Avenue/Pinnacle Peak Road Drainage
2400          KM    Improvements Final Drainage Report, 2006
2401          RS       1    STOR
2402          SV            0.81    3.43    7.18   11.20   15.45   19.87   24.47   29.24   32.60
2403          SV   34.10   36.28   38.47
2404          SQ                   34.13   53.39   68.62   81.63   93.17  103.66  113.33  120.0
2405          SQ   208.0   499.0   814.0
2406          SE  1313.0 1314.00 1315.00 1316.00 1317.00 1318.00 1319.00 1320.00 1321.00  1321.7
2407          SE  1322.0  1322.5  1322.9
              *

2408          KK   DPP87  DIVERT
2409          KM  Divert calculated full flow capacity of 128 cfs into 48-inch storm drain
2410          KM  pipe at the intersection of Pinnacle Peak Road and 87th Avenue
2411          DT  DPPP87      0.0   128.0
2412          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
2413          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

2414          KK  PRPP87RETRIEVE
2415          KM  Retrieve full flow capacity of 128 cfs from 48-inch storm drain pipe at the
2416          KM  intersection of Pinnacle Peak Road and 87th Avenue
2417          DR  DPPP87
              *

2418          KK  RP87PP   ROUTE
2419          KM  Route full flow capacity of 128 cfs through 48-inch storm drain pipe in
2420          KM  87th Avenue to the intersection of Pinnacle Peak Road and 87th Avenue
2421          RK    1251  0.0079   0.015            CIRC   4.000
              *

2422          KK   PP91   BASIN
2423          KM  Runoff hydrograph for subbasin PP91 near the intersection of Pinnacle Peak
2424          KM  Road and 91st Avenue
2425          BA   0.161
2426          LG    0.30    0.25    4.20    0.44      15
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 2427          UC   0.942   0.779
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 2428          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
 2429          UA     100
               *

 2430          KK  ERPP91  DIVERT
 2431          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
 2432          KM   retention developed after 1990 in subbasin PP91
 2433          DT   XPP91      7.7      0.0
 2434          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
 2435          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
               *

 2436          KK  DPPP91  DIVERT
 2437          KM   Divert calculated full flow capacity of 88 cfs into 54-inch storm drain
 2438          KM   pipe at the intersection of Pinnacle Peak Road and 91st Avenue
 2439          DT   DPP91      0.0      0.0
 2440          DI     0.0     88.0     88.1 50000.0      0.0      0.0      0.0      0.0      0.0      0.0
 2441          DQ     0.0      0.0      0.1 49912.0      0.0      0.0      0.0      0.0      0.0      0.0
               *
               * KKRPPP87   ROUTE
               * KM Route full flow capacity of 88 cfs through 54-inch storm drain pipe in
               * KM Pinnacle Peak Road to the intersection of Pinnacle Peak Road and 87th Avenu
               * RK  2635  0.0020   0.015             CIRC   4.500
               *

 2442          KK  CPPP87 COMBINE
 2443          KM   Combine pipe flow DPPP91 with pipe return flow PRPP87 at the intersection of
 2444          KM   Pinnacle Peak Road and 87th Avenue
 2445          HC       2
               *

 2446          KK  RPPP83   ROUTE
 2447          KM   Route full flow capacity of 127 cfs through 72-inch storm drain pipe in
 2448          KM   Pinnacle Peak Road to the intersection of Pinnacle Peak Road and 83rd Avenue
 2449          RK    1891  0.0009   0.015             CIRC   6.000
               *

 2450          KK  CPPP83 COMBINE
 2451          KM   Combine pipe flow from combination point CPPP87 with the runoff hydrograph at
 2452          KM   combination point CPP87 at the intersection of Pinnacle Peak Road and 83rd
 2453          KM   Avenue
 2454          HC       2
               *

 2455          KK  SRPP83 STORAGE
 2456          KM   Storage route runoff hydrograph from combination point CPPP83 through the
 2457          KM     regional detention basin located near the intersection of Pinnacle Peak Rd
 2458          KM     and 83rd Avenue
 2459          KM   Stage-storage-discharge data from 83rd Avenue/Pinnacle Peak Road Drainage
 2460          KM     Improvements Final Drainage Report, 2006
 2461          RS       1    STOR
 2462          SV    0.41    1.96    4.32    6.86    9.60   12.51   15.62   18.93   22.43   26.13
 2463          SV   30.04   34.15   38.47   43.00   47.74   52.69
 2464          SQ                                    1.03    2.10   11.31   13.59   15.65   17.54
 2465          SQ   19.29   20.95   22.51   24.00   25.43   26.79
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 2466          SE  1298.0  1299.0  1300.0  1301.0  1302.0  1303.0  1304.0  1305.0  1306.0  1307.0
 2467          SE  1308.0  1309.0  1310.0  1311.0  1312.0  1313.0
               *

 2468          KK  DP83PP  DIVERT
 2469          KM   Divert calculated full flow capacity of 31 cfs into 36-inch storm drain
 2470          KM   pipe at the intersection of Pinnacle Peak Road and 83rd Avenue
 2471          DT   D83PP      0.0      0.0
 2472          DI     0.0     31.0     31.1 50000.0      0.0      0.0      0.0      0.0      0.0      0.0
 2473          DQ     0.0      0.0      0.1 49969.0      0.0      0.0      0.0      0.0      0.0      0.0
               *

 2474          KK  RP83WL   ROUTE
 2475          KM   Route full flow capacity of 31 cfs through 36-inch storm drain pipe in
 2476          KM   83rd Avenue to the intersection of Williams Road and 83rd Avenue
 2477          RK    2980  0.0022   0.015             CIRC   3.000
               *

 2478          KK  CPWL83 COMBINE
 2479          KM   Combine pipe flow DP83PP with the runoff hydrograph at combination point
 2480          KM   CWL83 at the intersection of Williams Road and 83rd Avenue
 2481          HC       2
               *

 2482          KK   RDV83   ROUTE
 2483          KM   Route runoff hydrograph at combination point CPWL83 to combination point
 2484          KM   CDV83
 2485          RS       4    FLOW
 2486          RC   0.045   0.015   0.045    2933  0.0051    0.00
```



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 2487          RX    0.00    0.00   40.00   50.00   60.00   70.00  110.00  110.00
 2488          RY    6.20    5.20    5.00    0.00    0.00    5.00    5.20    6.20
               *

 2489          KK    DV83   BASIN
 2490          KM   Runoff hydrograph for subbasin DV83 near the intersection of Deer Valley
 2491          KM   Road and 83rd Avenue
 2492          BA   0.107
 2493          LG    0.25    0.10   11.20    0.02      30
 2494          UC   0.956   1.052
 2495          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
 2496          UA     100
               *

 2497          KK  ERDV83  DIVERT
 2498          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
 2499          KM   retention developed after 1990 in subbasin DV83
 2500          DT   XDV83      1.7      0.0
 2501          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
 2502          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
               *
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 LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 2503          KK   CDV83 COMBINE
 2504          KM   Combine route RDV83 and subbasin DV83
 2505          HC       2    0.43
               *

 2506          KK  RBYNRA   ROUTE
 2507          KM   Route runoff hydrograph at combination point CDV83 to combination point CBYNR
 2508          RS       6    FLOW
 2509          RC   0.045   0.035   0.045    6713  0.0060    0.00
 2510          RX    0.00    0.00   19.00   25.00   30.00   36.00   55.00   55.00
 2511          RY    4.10    3.10    3.00    0.00    0.00    3.00    3.10    4.10
               *

 2512          KK    BYNR   BASIN
 2513          KM   Runoff hydrograph for subbasin BYNR near the intersection of Beardsley Road
 2514          KM   Road and New River
 2515          BA   1.034
 2516          LG    0.22    0.26    5.80    0.17      31
 2517          UC   1.103   0.584
 2518          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
 2519          UA     100
               *

 2520          KK  ERBYNR  DIVERT
 2521          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
 2522          KM   retention developed after 1990 in subbasin BYNR
 2523          DT   XBYNR      9.3      0.0
 2524          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
 2525          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
               *

 2526          KK   CNR06 COMBINE
 2527          KM   Combine route RBYNRA, route RBYNRB, and subbasin BYNR
 2528          HC       4   14.90
               *

 2529          KK  DR83PPRETRIEVE
 2530          KM   Retrieve divert DR83PP from combination point CPPP83 and divert to
 2531          KM   combination point CDV87
 2532          DR   D83PP
               *

 2533          KK   RDV87   ROUTE
 2534          KM   Route diversion retrieval DR83PP to combination point CDV87
 2535          RS       1    FLOW
 2536          RC   0.035   0.015   0.035    5316  0.0063    0.00
 2537          RX    0.00    0.00   12.50   12.50   62.50   62.50   75.00   75.00
 2538          RY    3.00    0.62    0.50    0.00    0.00    0.50    0.62    3.00
               *
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 LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 2539          KK    DV87   BASIN
 2540          KM   Runoff hydrograph for subbasin DV87 near the intersection of Deer Valley Road
 2541          KM   and 87th Avenue
 2542          BA   1.004
 2543          LG    0.30    0.17    6.80    0.13      15
 2544          UC   0.841   0.307
 2545          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
 2546          UA     100
               *

 2547          KK  ERDV87  DIVERT
 2548          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
 2549          KM   retention developed after 1990 in subbasin DV87
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2550          DT   XDV87      5.3      0.0
2551          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
2552          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

2553          KK   CDV87 COMBINE
2554          KM   Combine route RDV87 and subbasin DV87
2555          HC        2    2.27
              *

2556          KK   RBY87   ROUTE
2557          KM   Route runoff hydrograph at combination point CDV87 to combination point CBY87
2558          RS        2     FLOW
2559          RC   0.045   0.035   0.045    6699  0.0045    0.00
2560          RX    0.00    0.00   55.00   75.00  100.00  120.00  175.00  175.00
2561          RY   11.20   10.20   10.00    0.00    0.00   10.00   10.20   11.20
              *

2562          KK    BY87   BASIN
2563          KM   Runoff hydrograph for subbasin BY87 near the intersection of Beardsley Road
2564          KM   and 87th Avenue
2565          BA   0.959
2566          LG    0.24    0.15    8.00    0.08      33
2567          UC   1.013   0.500
2568          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
2569          UA     100
              *

2570          KK  ERBY87  DIVERT
2571          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
2572          KM   retention developed after 1990 in subbasin BY87
2573          DT   XBY87     76.7      0.0
2574          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
2575          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *
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LINE          ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

2576          KK   CBY87 COMBINE
2577          KM   Combine route RBY87 and subbasin BY87
2578          HC        2    3.23
              *

2579          KK   RUH87   ROUTE
2580          KM   Route runoff hydrograph at combination point CBY87 to combination point CUH87
2581          RS        2     FLOW
2582          RC   0.045   0.035   0.045    6701  0.0037    0.00
2583          RX    0.00    0.00   40.00   50.00   60.00   70.00  110.00  110.00
2584          RY    6.20    5.20    5.00    0.00    0.00    5.00    5.20    6.20
              *

2585          KK    UH87   BASIN
2586          KM   Runoff hydrograph for subbasin UH87 near the intersection of Union Hills
2587          KM   Drive and 87th Avenue
2588          BA   0.998
2589          LG    0.21    0.15    7.60    0.10      26
2590          UC   0.925   0.435
2591          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
2592          UA     100
              *

2593          KK  ERUH87  DIVERT
2594          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
2595          KM   retention developed after 1990 in subbasin UH87
2596          DT   XUH87     71.9      0.0
2597          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
2598          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

2599          KK   CUH87 COMBINE
2600          KM   Combine route RUH87 and subbasin UH87
2601          HC        2    4.23
              *

2602          KK  DSBLNR  DIVERT
2603          KM   Divert remaining runoff hydrograph from combination point CUH87 south to
2604          KM   combination point CBLNR
2605          DT  DSBL91      0.0      0.0
2606          DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
2607          DQ     0.0    59.0   118.0   295.0   590.0  1180.0  2360.0  5900.0 11800.0 29500.0
              *

2608          KK  DPUHNR  DIVERT
2609          KM   Divert calculated full flow capacity of 50 cfs into 42-inch storm drain
2610          KM   pipe at the intersection of Union Hills Drive and 87th Avenue
2611          DT   DUHNR      0.0      0.0
2612          DI     0.0     50.0     50.1 50000.0      0.0      0.0      0.0      0.0      0.0      0.0
2613          DQ     0.0      0.0      0.1 49950.0      0.0      0.0      0.0      0.0      0.0      0.0
              *
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LINE          ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

2614          KK  RPUHNR   ROUTE
2615          KM   Route full flow capacity of 50 cfs through 42-inch storm drain pipe in
2616          KM   Union Hills Drive to the intersection of Union Hills Drive and New River
2617          RK    1703  0.0025   0.015            CIRC   3.500
              *

2618          KK    UHNR   BASIN
2619          KM   Runoff hydrograph for subbasin UHNR near the intersection of Union Hills
2620          KM   Drive and New River
2621          BA   0.386
2622          LG    0.16    0.28    4.60    0.28      42
2623          UC   0.936   0.698
2624          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
2625          UA     100
              *

2626          KK  ERUHNR  DIVERT
2627          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
2628          KM   retention developed after 1990 in subbasin UHNR
2629          DT   XUHNR      2.9      0.0
2630          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
2631          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

2632          KK   CNR07 COMBINE
2633          KM   Combine route RPUHNR, and subbasin UHNR
2634          HC        3   15.29
              *

2635          KK  DRUHNRRETRIEVE
2636          KM   Retrieve divert DRUHNR from combination point CUH87 and divert to
2637          KM   combination point CNR08
2638          DR   DUHNR
              *

2639          KK   RBLNR   ROUTE
2640          KM   Route diversion retrieval DRUHNR to combination point CNR08
2641          RS        1     FLOW
2642          RC   0.035   0.015   0.035    2700  0.0028    0.00
2643          RX    0.00    0.00    7.00    7.00   43.00   43.00   50.00   50.00
2644          RY    3.00    0.57    0.50    0.00    0.00    0.50    0.57    3.00
              *

2645          KK    BLNR   BASIN
2646          KM   Runoff hydrograph for subbasin BLNR near the intersection of Bell Road and
2647          KM   New River
2648          BA   0.603
2649          LG    0.18    0.26    5.20    0.21      50
2650          UC   0.926   0.610
2651          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
2652          UA     100
              *
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LINE          ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

2653          KK  ERBLNR  DIVERT
2654          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
2655          KM   retention developed after 1990 in subbasin BLNR
2656          DT   XBLNR      9.3      0.0
2657          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
2658          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

2659          KK   CNR08 COMBINE
2660          KM   Combine route RBLNR and subbasin BLNR
2661          HC        3   17.63
              *

2662          KK    RG93   BASIN
2663          KM   Runoff hydrograph for subbasin RG93 near the intersection of Rose Garden Lane
2664          KM   93rd Avenue
2665          BA   0.248
2666          LG    0.25    0.25    4.60    0.30      30
2667          UC   0.995   0.702
2668          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
2669          UA     100
              *

2670          KK  ERRG93  DIVERT
2671          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
2672          KM   retention developed after 1990 in subbasin RG93
2673          DT   XRG93      20.3      0.0
2674          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
2675          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

2676          KK  DSBY91  DIVERT
2677          KM   Divert remaining runoff hydrograph from combination point CRG93 south to
```

```
KM   combination point CBY91
DT  DWRGLP      0.0      0.0
DI      0.0      5.0      9.0     50.0     84.0    113.0    140.0    205.0      0.0      0.0
DQ      0.0      0.0      0.0     35.0     66.0     93.0    118.0    182.0      0.0      0.0
*


KK   RBY91    ROUTE
KM   Route diversion DSBY91 south to combination point CBY91
RS        6     FLOW
RC   0.045    0.035    0.045     2901   0.0041     0.00
RX    0.00     0.00    19.00    25.00    30.00    36.00    55.00    55.00
RY    4.10     3.10     3.00     0.00     0.00     3.00     3.10     4.10
*


KK    BY91    BASIN
KM   Runoff hydrograph for subbasin BY91 near the intersection of Beardsley Road
KM   91st Avenue
BA   0.501
LG    0.23     0.25     4.50     0.34       27
UC   0.747    0.335
UA        0      5.0     16.0     30.0     65.0     77.0     84.0     90.0     94.0     97.0
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LINE      ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

UA      100
*


KK  ERBY91  DIVERT
KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
KM   retention developed after 1990 in subbasin BY91
DT   XBY91     38.6      0.0
DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
*


KK   CBY91 COMBINE
KM   Combine route RBY91 and subbasin BY91
HC        2     0.63
*


KK   RUH91    ROUTE
KM   Route runoff hydrograph at combination point CBY91 to combination point CUH91
RS       10     FLOW
RC   0.045    0.035    0.045     9978   0.0027     0.00
RX    0.00     0.00    19.00    25.00    30.00    36.00    55.00    55.00
RY    4.10     3.10     3.00     0.00     0.00     3.00     3.10     4.10
*


KK    UH91    BASIN
KM   Runoff hydrograph for subbasin UH91 near the intersection of Union Hills
KM   Drive and 91st Avenue
BA   0.929
LG    0.21     0.25     4.80     0.31       27
UC   1.491    1.059
UA        0      5.0     16.0     30.0     65.0     77.0     84.0     90.0     94.0     97.0
UA      100
*


KK  ERUH91  DIVERT
KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
KM   retention developed after 1990 in subbasin UH91
DT   XUH91      4.0      0.0
DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
*


KK   CUH91 COMBINE
KM   Combine route RUH91 and subbasin UH91
HC        2     1.55
*


KK  DRBL91RETRIEVE
KM   Retrieve divert DRBL91 from combination point CBL59 and divert to
KM   combination point CIUH91
DR  DSBL91
*
```



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LINE      ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


KK   DUH91  DIVERT
KM   Capacity of storm drain in 89th Avenue and 91st Avenue diverted together.
KM   Divert combined calculated full flow capacity of 454 cfs in the 78-inch storm
KM   drain pipe in 89th Avenue and 129 cfs in the 54-inch storm drain pipe in
KM   91st Avenue. The total calculated combined full flow capacity diverted at the
KM   intersection of 91st Avenue and Union Hills Drive is 583 cfs in an equivalent
KM   diameter pipe of 96 inches
DT  DPUH91      0.0    583.0
DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
*
```



```
KK  CIUH91 COMBINE
KM   Combine diversion DUH91 with runoff hydrograph at combination point CUH91
KM   at the intersection of 91st Avenue and Union Hills Drive
HC        2     4.04
*


KK   RBL91    ROUTE
KM   Route runoff hydrograph at combination point CIUH91 to combination point CBL9
RS        2     FLOW
RC   0.035    0.015    0.035     5280   0.0045     0.00
RX    0.00     0.00    38.50    38.50   210.50   210.50   249.00   249.00
RY    3.00     0.88     0.50     0.00     0.00     0.50     0.88     3.00
*


KK    BL91    BASIN
KM   Runoff hydrograph for subbasin BL91 near the intersection of Bell Road and
KM   91st Avenue
BA   0.901
LG    0.19     0.15     7.00     0.10       54
UC   0.967    0.489
UA        0      5.0     16.0     30.0     65.0     77.0     84.0     90.0     94.0     97.0
UA      100
*


KK  ERBL91  DIVERT
KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
KM   retention developed after 1990 in subbasin BL91
DT   XBL91     79.1      0.0
DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
*


KK   CBL91 COMBINE
KM   Combine route RBL91 and subbasin BL91
HC        2     4.94
*
```



```
LINE      ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


KK  PRUH91RETRIEVE
KM   Retrieve combined full flow capacity of 583 cfs from 96-inch equivalent
KM   diameter pipe at the intersection of Union Hills Drive and 91st Avenue
DR  DPUH91
*


KK  RP91AT    ROUTE
KM   Route the combined full flow capacity of 583 cfs through an equivalent storm
KM   drain pipe diameter of 96 inches in 91st Avenue to the intersection of
KM   91st Avenue and Athens Street
RK    1467  0.0043    0.015             CIRC    8.000
*


KK  SRAT91 STORAGE
KM   Storage route pipe flow PRUH91 through the regional detention basin located
KM     in subbasin BL91 near the intersection of Athens Street and 91st Avenue
KM   Storage routing ID S-DET in Glendale/Peoria ADMPU, May 2001
KM   Comments from ADMPU:
KM   * PROPOSED DESERT AMETHYST DETENTION BASIN
KM   * **** LTM: Use design-level storage volume/elevation data provided by Wood
KM   *       Patel. Basin size reduced to accommodate potential landscaping req'mts
RS       1     STOR
SV       0     0.00     0.04     0.38     1.53     3.87     7.06    10.53    14.03    17.61
SV   21.25   24.973   28.766   32.634   36.576   40.594   44.688   44.689     44.8     44.9
SQ       0       60       68       80       96      117      148      188      237      288
SQ     329      333      337      341      345      348      357      500     1000     1500
SE  1201.6   1203.0   1203.5   1204.0   1204.5   1205.0   1205.5   1206.0   1206.5   1207.0
SE  1207.5   1208.0   1208.5   1209.0   1209.5   1210.0   1210.5   1210.6   1211.0   1211.3
*


KK  RP91BL    ROUTE
KM   Route full flow capacity of 311 cfs through 78-inch storm drain pipe in
KM   91st Avenue to the intersection of Bell Road and 91st Avenue
RK    3333  0.0035    0.015             CIRC    6.500
*


KK  CPBL91 COMBINE
KM   Combine pipe return PRUH91 with the runoff hydrograph at combination point
KM   CBL91 at the intersection of Bell Road and 87th Avenue
HC        2
*


KK  DSGWNR  DIVERT
KM   Divert remaining runoff hydrograph from combination point CPBL91 south to
KM   combination point CNR09
DT  DSGW91      0.0      0.0
DI      0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0  10000.0  20000.0  50000.0
DQ      0.0     58.0    116.0    290.0    580.0   1160.0   2320.0   5800.0  11600.0  29000.0
*
```

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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

2807          KK  DPBLNR  DIVERT
2808          KM   Divert calculated full flow capacity of 159 cfs into 72-inch storm drain
2809          KM   pipe at the intersection of Bell Road and 87th Avenue
2810          DT   DBLNR      0.0      0.0
2811          DI     0.0   159.0   159.1 50000.0      0.0      0.0      0.0      0.0      0.0      0.0
2812          DQ     0.0     0.0     0.1 49841.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

2813          KK  RPBLNR   ROUTE
2814          KM   Route full flow capacity of 159 cfs through 72-inch storm drain pipe in
2815          KM   Bell Road to the intersection of Bell Road and New River
2816          RK    1896  0.0014   0.015            CIRC   6.000
              *

2817          KK  CPNR08 COMBINE
2818          KM   Combine pipe flow DPBLNR with the runoff hydrograph at combination point
2819          KM   CNR08 at the intersection of Bell Road and New River
2820          HC       2   17.63
              *

2821          KK  DRBLNRRETRIEVE
2822          KM   Retrieve divert DRBLNR from combination point CPBL91 and divert to
2823          KM   combination point CNR09
2824          DR   DBLNR
              *

2825          KK  RGWNRB   ROUTE
2826          KM   Route diversion retrieval DRBLNR to combination point CNR09
2827          RS       5    FLOW
2828          RC   0.035   0.015   0.035    9106  0.0029    0.00
2829          RX    0.00    0.00   12.50   12.50   62.50   62.50   75.00   75.00
2830          RY    3.00    0.62    0.50    0.00    0.00    0.50    0.62    3.00
              *

2831          KK  DRGW91RETRIEVE
2832          KM   Retrieve divert DRGW91 from combination point CPBL91 and divert to
2833          KM   combination point CGW91
2834          DR  DSGW91
              *

2835          KK   RGW91   ROUTE
2836          KM   Route diversion retrieval DRGW91 to combination point CGW91
2837          RS       3    FLOW
2838          RC   0.035   0.015   0.035    5450  0.0039    0.00
2839          RX    0.00    0.00   16.50   16.50   107.50  107.50  124.00  124.00
2840          RY    3.00    0.66    0.50    0.00    0.00    0.50    0.66    3.00
              *

2841          KK    GW91   BASIN
2842          KM   Runoff hydrograph for subbasin GW91 near the intersection of Greenway Road
2843          KM   91st Avenue
2844          BA   0.477
2845          LG    0.20    0.25    5.60    0.19      43
2846          UC   0.865   0.492
```



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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

2847          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
2848          UA     100
              *

2849          KK  ERGW91  DIVERT
2850          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
2851          KM   retention developed after 1990 in subbasin GW91
2852          DT   XGW91     22.0      0.0
2853          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
2854          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

2855          KK   CGW91 COMBINE
2856          KM   Combine route RGW91 and subbasin GW91
2857          HC       2    3.35
              *

2858          KK  DEGWNR  DIVERT
2859          KM   Divert remaining runoff hydrograph at combination point CGW91 east to
2860          KM   combination point CNR09
2861          DT  DSTBNR      0.0      0.0
2862          DI     0.0  1350.0  1350.1 50000.0      0.0      0.0      0.0      0.0      0.0      0.0
2863          DQ     0.0     0.0  1350.1 50000.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

2864          KK  RGWNRA   ROUTE
2865          KM   Route diversion DEGWNR east to combination point CNR09
2866          RS       6    FLOW
2867          RC   0.045   0.015   0.045    6001  0.0010    0.00
2868          RX    0.00    0.00   40.00   50.00   60.00   70.00  110.00  110.00
2869          RY    6.20    5.20    5.00    0.00    0.00    5.00    5.20    6.20
              *
```



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2870          KK    GWNR   BASIN
2871          KM   Runoff hydrograph for subbasin GWNR near the intersection of Greenway Road
2872          KM   and New River
2873          BA   0.696
2874          LG    0.18    0.27    4.65    0.29      36
2875          UC   1.060   0.714
2876          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
2877          UA     100
              *

2878          KK  ERGWNR  DIVERT
2879          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
2880          KM   retention developed after 1990 in subbasin GWNR
2881          DT   XGWNR     26.6      0.0
2882          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
2883          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *
```



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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

2884          KK   CNR09 COMBINE
2885          KM   Combine route RGWNRA, route RGWNRB and subbasin
2886          KM   DV87
2887          HC       5   59.13
              *

2888          KK  DRTBNRRETRIEVE
2889          KM   Retrieve divert DRTBNR from combination point CGW91 and divert to
2890          KM   combination point CNR10
2891          DR  DSTBNR
              *

2892          KK   RTBNR   ROUTE
2893          KM   Route diversion retrieval DRTBNR to combination point CNR10
2894          RS       1    FLOW
2895          RC   0.035   0.015   0.035    6342  0.0031    0.00
2896          RX    0.00    0.00   16.50   16.50   107.50  107.50  124.00  124.00
2897          RY    3.00    0.66    0.50    0.00    0.00    0.50    0.66    3.00
              *

2898          KK    TBNR   BASIN
2899          KM   Runoff hydrograph for subbasin TBNR near the intersection of Thunderbird Road
2900          KM   and New River
2901          BA   1.123
2902          LG    0.19    0.24    4.65    0.30      31
2903          UC   1.170   0.537
2904          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
2905          UA     100
              *

2906          KK  ERTBNR  DIVERT
2907          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
2908          KM   retention developed after 1990 in subbasin TBNR
2909          DT   XTBNR     15.5      0.0
2910          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
2911          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

2912          KK   CNR10 COMBINE
2913          KM   Combine route RTBNR and subbasin TBNR
2914          HC       3   61.93
              *

2915          KK    HV93   BASIN
2916          KM   Runoff hydrograph for subbasin HV93 near the intersection of Happy Valley
2917          KM   Road and 93rd Avenue
2918          BA   0.172
2919          LG    0.25    0.28    4.15    0.43      30
2920          UC   0.434   0.290
2921          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
2922          UA     100
              *
```



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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

2923          KK  DSPPLP  DIVERT
2924          KM   Divert remaining runoff hydrograph from subbasin HV93 south to combination
2925          KM   point CPPLP
2926          DT  DWHVLP      0.0      0.0
2927          DI     0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0  10000.0  20000.0  50000.0
2928          DQ     0.0     42.0     84.0    210.0    420.0    840.0   1680.0   4200.0   8400.0  21000.0
              *

2929          KK  RPPLPA   ROUTE
2930          KM   Route diversion DSPPLP south to combination point CPPLP
2931          RS       4    FLOW
2932          RC   0.035   0.015   0.035    8751  0.0066    0.00
2933          RX    0.00    0.00    9.50    9.50   40.50   40.50   50.00   50.00
```

```
2934          RY    3.00    0.60    0.50    0.00    0.00    0.50    0.60    3.00
              *

2935          KK  DRPP91RETRIEVE
2936          KM   Retrieve divert DRPP91 from subbasin PP91 and divert to combination point
2937          KM   CPPLP
2938          DR   DPP91
              *

2939          KK  RPPLPB   ROUTE
2940          KM   Route diversion retrieval DRPP91 to combination point CPPLP
2941          RS       1    FLOW
2942          RC   0.040   0.040   0.040    5844  0.0020    0.00
2943          RX    0.00  100.00  140.00  160.00  200.00  300.00  400.00  500.00
2944          RY   10.00    9.00    0.00    0.00    9.00   10.00   11.00   12.00
              *

2945          KK    PPLP   BASIN
2946          KM   Runoff hydrograph for subbasin PPLP near the intersection of Pinnacle Peak
2947          KM   Road and Lake Pleasant Parkway
2948          BA   0.885
2949          LG    0.23    0.25    4.35    0.38      37
2950          UC   0.973   0.670
2951          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
2952          UA     100
              *

2953          KK  ERPPLP  DIVERT
2954          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
2955          KM   retention developed after 1990 in subbasin PPLP
2956          DT   XPPLP    45.6     0.0
2957          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
2958          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

2959          KK   CPPLP COMBINE
2960          KM   Combine route RPPLP and subbasin PPLP
2961          HC       3    1.15
              *

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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

2962          KK  DSDV99  DIVERT
2963          KM   Divert remaining runoff hydrograph from combination point CPPLP south to
2964          KM   combination point CDV99
2965          DT  DWPP03      0.0     0.0
2966          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
2967          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

2968          KK   DDV99  DIVERT
2969          KM   Divert portion of diversion DSDV99 south to subbasin DVLP and the
2970          KM   remaining flow follow to subbasin DV99 at combination point CDV99
2971          DT  DSDVLP      0.0     0.0
2972          DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
2973          DQ     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

2974          KK    DV99   BASIN
2975          KM   Runoff hydrograph for subbasin DV99 near the intersection of Deer Valley
2976          KM   Road and 99th Avenue
2977          BA   1.217
2978          LG    0.28    0.25    4.40    0.38      22
2979          UC   0.911   0.322
2980          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
2981          UA     100
              *

2982          KK  ERDV99  DIVERT
2983          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
2984          KM   retention developed after 1990 in subbasin DV99
2985          DT   XDV99    81.4     0.0
2986          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
2987          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

2988          KK   CDV99 COMBINE
2989          KM   Combine divert DDV99 and subbasin DV99
2990          HC       2    1.22
              *

2991          KK  RRGLPA   ROUTE
2992          KM   Route runoff hydrograph at combination point CDV99 to combination point CRGLP
2993          RS       1    FLOW
2994          RC   0.045   0.020   0.045    2633  0.0048    0.00
2995          RX    0.00    0.00   40.00   50.00   60.00   70.00  110.00  110.00
2996          RY    6.20    5.20    5.00    0.00    0.00    5.00    5.20    6.20
              *

2997          KK  DRRGLPRETRIEVE
2998          KM   Retrieve divert DRRGLP from combination point CRG93 and divert to
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2999          KM   combination point CRGLP
3000          DR  DWRGLP
              *

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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

3001          KK  RRGLPB   ROUTE
3002          KM   Route diversion retrieval DRRGLP to combination point CRGLP
3003          RS      10    FLOW
3004          RC   0.045   0.020   0.045    3160  0.0003    0.00
3005          RX    0.00    0.00   19.00   25.00   30.00   36.00   55.00   55.00
3006          RY    4.10    3.10    3.00    0.00    0.00    3.00    3.10    4.10
              *

3007          KK    RGLP   BASIN
3008          KM   Runoff hydrograph for subbasin RGLP near the intersection of Rose Garden Lane
3009          KM   and Lake Pleasant Parkway
3010          BA   0.410
3011          LG    0.22    0.25    4.35    0.34      42
3012          UC   1.046   0.692
3013          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
3014          UA     100
              *

3015          KK  ERRGLP  DIVERT
3016          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
3017          KM   retention developed after 1990 in subbasin RGLP
3018          DT   XRGLP    38.4     0.0
3019          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
3020          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

3021          KK   CRGLP COMBINE
3022          KM   Combine route RRGLPA, route RRGLPB, and subbasin RGLP
3023          HC       3    1.75
              *

3024          KK  DSBY07  DIVERT
3025          KM   Divert remaining runoff hydrograph from combination point CRGLP south to
3026          KM   combination point CBY07
3027          DT  DWRG07      0.0     0.0
3028          DI     0.0    50.0   100.0   300.0   750.0  1200.0  2000.0     0.0     0.0     0.0
3029          DQ     0.0    40.0    80.0   240.0   600.0  1050.0  1850.0     0.0     0.0     0.0
              *

3030          KK   RBY99   ROUTE
3031          KM   Route diversion DSBY07 south to combination point CBY99
3032          RS       7    FLOW
3033          RC   0.045   0.035   0.045    3939  0.0041    0.00
3034          RX    0.00    1.00   16.00   36.00   51.00  123.00  148.00  648.00
3035          RY   16.00    8.00    0.00    0.00    8.00    8.00    9.00   11.00
              *

3036          KK    BY07   BASIN
3037          KM   Runoff hydrograph for subbasin BY07 near the intersection of Beardsley Road
3038          KM   and 87th Avenue
3039          BA   0.513
3040          LG    0.23    0.25    5.10    0.23      38
3041          UC   0.856   0.426
3042          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

3043          UA     100
              *

3044          KK  ERBY07  DIVERT
3045          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
3046          KM   retention developed after 1990 in subbasin BY07
3047          DT   XBY07    38.7     0.0
3048          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
3049          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

3050          KK   CBY07 COMBINE
3051          KM   Combine route RBY99 and subbasin BY07
3052          HC       2    1.39
              *

3053          KK  DSUH99  DIVERT
3054          KM   Divert remaining runoff hydrograph from combination point CBY07 south to
3055          KM   combination point CUH99
3056          DT  DWBYAF      0.0     0.0
3057          DI     0.0    10.0    30.0    50.0   100.0   500.0   700.0  1000.0     0.0     0.0
3058          DQ     0.0    10.0    30.0    50.0   100.0   420.0   450.0   500.0     0.0     0.0
              *

3059          KK   RUH99   ROUTE
3060          KM   Route diversion DSUH99 south to combination point CUH99
3061          RS       4    FLOW
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3062          RC   0.045   0.015   0.045    5347  0.0042    0.00
3063          RX    0.00    0.00   19.00   25.00   30.00   36.00   55.00   55.00
3064          RY    4.10    3.10    3.00    0.00    0.00    3.00    3.10    4.10
              *

3065          KK    UH99   BASIN
3066          KM   Runoff hydrograph for subbasin UH99 near the intersection of Union Hills
3067          KM   Drive and 99th Avenue
3068          BA   0.563
3069          LG    0.25    0.15    7.00    0.10      35
3070          UC   1.294   0.945
3071          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
3072          UA     100
              *

3073          KK   CUH99 COMBINE
3074          KM   Combine route RUH99 and subbasin UH99
3075          HC       2    1.26
              *

3076          KK  RDW99A   ROUTE
3077          KM   Route runoff hydrograph at combination point CUH99 to combination point CDW99
3078          RS       1    FLOW
3079          RC   0.045   0.015   0.045    2292  0.0029    0.00
3080          RX    0.00    0.00   40.00   50.00   60.00   70.00  110.00  110.00
3081          RY    6.20    5.20    5.00    0.00    0.00    5.00    5.20    6.20
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9.....10

3082          KK    UH97   BASIN
3083          KM   Runoff hydrograph for subbasin UH97 near the intersection of Happy Valley
3084          KM   Road and Palo Verde Drive
3085          BA   0.272
3086          LG    0.21    0.25    5.60    0.22      28
3087          UC   1.007   0.912
3088          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
3089          UA     100
              *

3090          KK  RDW99B   ROUTE
3091          KM   Route runoff hydrograph at subbasin UH97 to combination point CDW99
3092          RS       4    FLOW
3093          RC   0.045   0.035   0.045    2848  0.0034    0.00
3094          RX    0.00    0.00   19.00   25.00   30.00   36.00   55.00   55.00
3095          RY    4.10    3.10    3.00    0.00    0.00    3.00    3.10    4.10
              *

3096          KK    DW99   BASIN
3097          KM   Runoff hydrograph for subbasin DW99 near the intersection of Del Webb
3098          KM   Boulevard and 99th Avenue
3099          BA   0.155
3100          LG    0.18    0.16    7.00    0.12      35
3101          UC   0.794   0.728
3102          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
3103          UA     100
              *

3104          KK   CDW99 COMBINE
3105          KM   Combine route RDW99 and subbasin DW99
3106          HC       3    1.68
              *

3107          KK  DSBL99  DIVERT
3108          KM   Divert remaining runoff hydrograph from combination point CDW99 south to
3109          KM   combination point CBL99
3110          DT  DWDW07       0.0    550.0
3111          DI       0.0 50000.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0
3112          DQ       0.0 50000.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0
              *

3113          KK   RBL99   ROUTE
3114          KM   Route diversion DSBL99 south to combination point CBL99
3115          RS       2    FLOW
3116          RC   0.035   0.015   0.035    3206  0.0041    0.00
3117          RX    0.00    0.00   16.50   16.50   107.50  107.50  124.00  124.00
3118          RY    3.00    0.66    0.50    0.00    0.00    0.50    0.66    3.00
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9.....10

3119          KK    BL99   BASIN
3120          KM   Runoff hydrograph for subbasin BL99 near the intersection of Bell Road and
3121          KM   99th Avenue
3122          BA   1.133
3123          LG    0.22    0.21    6.40    0.14      36
3124          UC   1.153   0.588
3125          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
3126          UA     100
```



```
              *

3127          KK   CBL99 COMBINE
3128          KM   Combine route RBL99 and subbasin BL99
3129          HC       2    1.98
              *

3130          KK   RBN99   ROUTE
3131          KM   Route runoff hydrograph at combination point CBL99 to combination point CBN99
3132          RS       1    FLOW
3133          RC   0.045   0.015   0.045    3854  0.0052    0.00
3134          RX    0.00    0.00   40.00   50.00   60.00   70.00  110.00  110.00
3135          RY    6.20    5.20    5.00    0.00    0.00    5.00    5.20    6.20
              *

3136          KK    BN99   BASIN          .
3137          KM   Runoff hydrograph for subbasin BN99 near the intersection of Burns Road and
3138          KM   99th Avenue
3139          BA   1.037
3140          LG    0.21    0.25    6.00    0.17      34
3141          UC   1.119   0.534
3142          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
3143          UA     100
              *

3144          KK   CBN99 COMBINE
3145          KM   Combine route RBN99 and subbasin BN99
3146          HC       2    3.01
              *

3147          KK   RTB99   ROUTE
3148          KM   Route runoff hydrograph at combination point CBN99 to combination point CTB99
3149          RS       3    FLOW
3150          RC   0.045   0.015   0.045    6842  0.0039    0.00
3151          RX    0.00    0.00   40.00   50.00   60.00   70.00  110.00  110.00
3152          RY    6.20    5.20    5.00    0.00    0.00    5.00    5.20    6.20
              *

3153          KK    TB99   BASIN
3154          KM   Runoff hydrograph for subbasin TB99 near the intersection of Thunderbird Road
3155          KM   and 99th Avenue
3156          BA   0.976
3157          LG    0.23    0.25    5.80    0.18      30
3158          UC   1.208   0.694
3159          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
3160          UA     100
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9.....10

3161          KK   CTB99 COMBINE
3162          KM   Combine route RTB99 and subbasin TB99
3163          HC       2    3.99
              *

3164          KK  RGRNRA   ROUTE
3165          KM   Route runoff hydrograph at combination point CTB99 to combination point CNR11
3166          RS       1    FLOW
3167          RC   0.045   0.015   0.045    6205  0.0045    0.00
3168          RX    0.00    0.00   55.00   75.00  100.00  120.00  175.00  175.00
3169          RY   11.20   10.20   10.00    0.00    0.00   10.00   10.20   11.20
              *

3170          KK  DRDW07RETRIEVE
3171          KM   Retrieve divert DRDW07 from combination point CDW99 and divert to
3172          KM   combination point CDW07
3173          DR  DWDW07
              *

3174          KK   RDW07   ROUTE
3175          KM   Route diversion retrieval DRDW07 to combination point CDW07
3176          RS       5    FLOW
3177          RC   0.045   0.015   0.045    4743  0.0007    0.00
3178          RX    0.00    0.00   40.00   50.00   60.00   70.00  110.00  110.00
3179          RY    6.20    5.20    5.00    0.00    0.00    5.00    5.20    6.20
              *

3180          KK    DW07   BASIN
3181          KM   Runoff hydrograph for subbasin DW07 near the intersection of Del Webb
3182          KM   Boulevard and 107th Avenue
3183          BA   0.484
3184          LG    0.19    0.19    6.60    0.16      28
3185          UC   1.258   0.885
3186          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
3187          UA     100
              *

3188          KK   CDW07 COMBINE
3189          KM   Combine route RDW07 and subbasin DW07
3190          HC       2    1.33
              *
```

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3191          KK  DSTL07  DIVERT
3192          KM   Divert remaining runoff hydrograph from combination point CDW07 south to
3193          KM   combination point CTL07
3194          DT  DWBL15      0.0   550.0
3195          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
3196          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

3197          KK   RTL07   ROUTE
3198          KM   Route diversion DSTL07 south to combination point CTL07
3199          RS       6   FLOW
3200          RC   0.035   0.015   0.035    8131  0.0048    0.00
3201          RX    0.00    0.00   16.50   16.50  107.50  107.50  124.00  124.00
3202          RY    3.00    0.66    0.50    0.00    0.00    0.50    0.66    3.00
              *

3203          KK    TL07   BASIN
3204          KM   Runoff hydrograph for subbasin TL07 near the intersection of Talisman Road
3205          KM   and 107th Avenue
3206          BA   0.580
3207          LG    0.21    0.25    5.00    0.29      27
3208          UC   1.074   0.788
3209          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
3210          UA     100
              *

3211          KK   CTL07 COMBINE
3212          KM   Combine route RTL07 and subbasin TL07
3213          HC       2    1.24
              *

3214          KK  RGR99A   ROUTE
3215          KM   Route runoff hydrograph at combination point CTL07 to combination point CGR99
3216          RS       4    FLOW
3217          RC   0.045   0.020   0.045   12358  0.0025    0.00
3218          RX    0.00    0.00   40.00   50.00   60.00   70.00  110.00  110.00
3219          RY    6.20    5.20    5.00    0.00    0.00    5.00    5.20    6.20
              *

3220          KK    RO99   BASIN
3221          KM   Runoff hydrograph for subbasin RO99 near the intersection of Royal Oak Road
3222          KM   and 99th Avenue
3223          BA   0.414
3224          LG    0.20    0.22    4.70    0.26      38
3225          UC   1.341   1.185
3226          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
3227          UA     100
              *

3228          KK  RGR99B   ROUTE
3229          KM   Route runoff hydrograph at subbasin RO99 to combination point CGR99
3230          RS       1    FLOW
3231          RC   0.045   0.015   0.045    1046  0.0060    0.00
3232          RX    0.00    0.00   19.00   25.00   30.00   36.00   55.00   55.00
3233          RY    4.10    3.10    3.00    0.00    0.00    3.00    3.10    4.10
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

3234          KK    GR99   BASIN
3235          KM   Runoff hydrograph for subbasin GR99 near the intersection of Grand Avenue
3236          KM   and 99th Avenue
3237          BA   1.309
3238          LG    0.20    0.17    6.80    0.12      41
3239          UC   1.500   1.089
3240          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
3241          UA     100
              *

3242          KK   CGR99 COMBINE
3243          KM   Combine route RGR99A, route RGR99B, and subbasin GR99
3244          HC       3    2.97
              *

3245          KK  RGRNRB   ROUTE
3246          KM   Route runoff hydrograph at combination point CGR99 to combination point CNR11
3247          RS       1    FLOW
3248          RC   0.045   0.015   0.045    3071  0.0051    0.00
3249          RX    0.00    0.00   55.00   75.00  100.00  120.00  175.00  175.00
3250          RY   11.20   10.20   10.00    0.00    0.00   10.00   10.20   11.20
              *

3251          KK    GRNR   BASIN
3252          KM   Runoff hydrograph for subbasin GRNR near the intersection of Grand Avenue
3253          KM   and New River
3254          BA   0.947
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3255          LG    0.17    0.26    5.00    0.23      48
3256          UC   0.875   0.421
3257          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
3258          UA     100
              *

3259          KK  ERGRNR  DIVERT
3260          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
3261          KM   retention developed after 1990 in subbasin GRNR
3262          DT   XGRNR     18.5      0.0
3263          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
3264          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

3265          KK   CNR11 COMBINE
3266          KM   Combine route RGRNRA, route RGRNRB and subbasin GRNR
3267          HC       4    69.83
              *

3268          KK    PE99   BASIN
3269          KM   Runoff hydrograph for subbasin PE99 near the intersection of Peoria Avenue
3270          KM   and 99th Avenue
3271          BA   0.294
3272          LG    0.21    0.25    4.90    0.28      33
3273          UC   1.362   1.662
3274          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
3275          UA     100
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

3276          KK  DEPE97  DIVERT
3277          KM   Divert remaining runoff hydrograph at subbasin PE99 east to combination point
3278          KM   CNR12
3279          DT  DSOL99      0.0     0.0
3280          DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
3281          DQ     0.0    30.0    60.0   150.0   300.0   600.0  1200.0  3000.0  6000.0 15000.0
              *

3282          KK   RPE97   ROUTE
3283          KM   Route diversion DEPE97 east to combination point CNR12
3284          RS       2    FLOW
3285          RC   0.035   0.015   0.035    1508  0.0023    0.00
3286          RX    0.00    0.00   64.00   64.00  310.00  310.00  374.00  374.00
3287          RY    3.00    1.14    0.50    0.00    0.00    0.50    1.14    3.00
              *

3288          KK    PENR   BASIN
3289          KM   Runoff hydrograph for subbasin PENR near the intersection of Peoria Avenue
3290          KM   and New River
3291          BA   0.197
3292          LG    0.10    0.25    4.70    0.28      70
3293          UC   0.950   0.678
3294          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
3295          UA     100
              *

3296          KK  ERPENR  DIVERT
3297          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
3298          KM   retention developed after 1990 in subbasin PENR
3299          DT   XPENR      6.9      0.0
3300          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
3301          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

3302          KK  DWPE99  DIVERT
3303          KM   Divert remaining runoff hydrograph at subbasin PENR west to combination point
3304          KM   CNR12
3305          DT  DSOLNR      0.0     0.0
3306          DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
3307          DQ     0.0    44.0    88.0   220.0   440.0   880.0  1760.0  4400.0  8800.0 22000.0
              *

3308          KK    PE97   BASIN
3309          KM   Runoff hydrograph for subbasin PE97 near the intersection of Peoria Avenue
3310          KM   Road and 97th Avenue
3311          BA   0.560
3312          LG    0.18    0.26    4.65    0.31      30
3313          UC   1.022   0.772
3314          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
3315          UA     100
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

3316          KK  ERPE97  DIVERT
3317          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
3318          KM   retention developed after 1990 in subbasin PE97
3319          DT   XPE97      0.8      0.0
```

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3320          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
3321          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

3322          KK   CNR12 COMBINE
3323          KM   Combine route RPE97, divert DWPE99, and subbasin PE97
3324          HC        4   70.71
              *

3325          KK  DROL99RETRIEVE
3326          KM   Retrieve divert DROL99 from subbasin PE99 and divert to combination point
3327          KM   CNR13
3328          DR  DSOL99
              *

3329          KK  ROL99A    ROUTE
3330          KM   Route diversion retrieval DROL99 to combination point CNR13
3331          RS        7     FLOW
3332          RC    0.035   0.015   0.035    5677  0.0038     0.00
3333          RX     0.00    0.00   16.50   16.50  107.50  107.50  124.00  124.00
3334          RY     3.00    0.66    0.50    0.00    0.00    0.50    0.66    3.00
              *

3335          KK    PE11    BASIN
3336          KM   Runoff hydrograph for subbasin PE11 near the intersection of Peoria Avenue
3337          KM   and 111th Avenue
3338          BA    0.924
3339          LG     0.20    0.25    6.00    0.18      30
3340          UC    1.490   1.095
3341          UA        0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
3342          UA      100
              *

3343          KK  ROL03A    ROUTE
3344          KM   Route runoff hydrograph at subbasin PE11 to combination point COL03
3345          RS        2     FLOW
3346          RC    0.045   0.015   0.045    7132  0.0024     0.00
3347          RX     0.00    0.00   40.00   50.00   60.00   70.00  110.00  110.00
3348          RY     6.20    5.20    5.00    0.00    0.00    5.00    5.20    6.20
              *

3349          KK    PE07    BASIN
3350          KM   Runoff hydrograph for subbasin PE07 near the intersection of Peoria Avenue
3351          KM   and 107th Avenue
3352          BA    0.575
3353          LG     0.18    0.25    5.30    0.27      23
3354          UC    1.238   1.010
3355          UA        0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
3356          UA      100
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9.....10

3357          KK  ROL03B    ROUTE
3358          KM   Route runoff hydrograph at subbasin PE07 to combination point COL03
3359          RS        4     FLOW
3360          RC    0.035   0.015   0.035    6517  0.0026     0.00
3361          RX     0.00    0.00    9.50    9.50   40.50   40.50   50.00   50.00
3362          RY     3.00    0.60    0.50    0.00    0.00    0.50    0.60    3.00
              *

3363          KK    PE03    BASIN
3364          KM   Runoff hydrograph for subbasin PE03 near the intersection of Peoria Avenue
3365          KM   and 103rd Avenue
3366          BA    0.409
3367          LG     0.20    0.25    4.80    0.32      29
3368          UC    1.108   0.940
3369          UA        0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
3370          UA      100
              *

3371          KK  ROL03C    ROUTE
3372          KM   Route runoff hydrograph at subbasin PE03 to combination point COL03
3373          RS        5     FLOW
3374          RC    0.035   0.015   0.035    5865  0.0030     0.00
3375          RX     0.00    0.00   12.50   12.50   62.50   62.50   75.00   75.00
3376          RY     3.00    0.62    0.50    0.00    0.00    0.50    0.62    3.00
              *

3377          KK    OL03    BASIN
3378          KM   Runoff hydrograph for subbasin OL03 near the intersection of Olive Avenue and
3379          KM   103rd Avenue
3380          BA    1.099
3381          LG     0.22    0.25    5.20    0.24      33
3382          UC    1.289   0.731
3383          UA        0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
3384          UA      100
              *

3385          KK   COL03 COMBINE
3386          KM   Combine route ROL03A, route ROL03B, route ROL03C, and subbasin OL03
```



```
3387          HC        4   3.01
              *

3388          KK  ROL99B    ROUTE
3389          KM   Route runoff hydrograph at combination point COL03 to combination point CNR13
3390          RS        1     FLOW
3391          RC    0.045   0.015   0.045    1627  0.0124     0.00
3392          RX     0.00    0.00   40.00   50.00   60.00   70.00  110.00  110.00
3393          RY     6.20    5.20    5.00    0.00    0.00    5.00    5.20    6.20
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9.....10

3394          KK  DROLNRRETRIEVE
3395          KM   Retrieve divert DROLNR from subbasin PENR and divert to combination point
3396          KM   COLNR
3397          DR  DSOLNR
              *

3398          KK   ROLNR    ROUTE
3399          KM   Route diversion retreival DROLNR to combination point COLNR
3400          RS        9     FLOW
3401          RC    0.035   0.015   0.035    8150  0.0031     0.00
3402          RX     0.00    0.00   12.50   12.50   62.50   62.50   75.00   75.00
3403          RY     3.00    0.62    0.50    0.00    0.00    0.50    0.62    3.00
              *

3404          KK    OLNR    BASIN
3405          KM   Runoff hydrograph for subbasin OLNR near the intersection of Olive Avenue
3406          KM   and New River
3407          BA    0.696
3408          LG     0.23    0.17    6.80    0.11      38
3409          UC    1.399   1.061
3410          UA        0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
3411          UA      100
              *

3412          KK  EROLNR   DIVERT
3413          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
3414          KM   retention developed after 1990 in subbasin OLNR
3415          DT   XOLNR     31.6      0.0
3416          DI       0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
3417          DQ       0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

3418          KK   COLNR COMBINE
3419          KM   Combine route ROLNR and subbasin OLNR
3420          HC        2    0.78
              *

3421          KK  DWOL99   DIVERT
3422          KM   Divert runoff hydrograph at combination point COLNR west to combination point
3423          KM   CNR13
3424          DT  DSNONR      0.0      0.0
3425          DI       0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
3426          DQ       0.0    33.0    66.0   165.0   330.0   660.0  1320.0  3300.0  6600.0 16500.0
              *

3427          KK    OL99    BASIN
3428          KM   Runoff hydrograph for subbasin OL99 near the intersection of Olive Avenue
3429          KM   and 99th Avenue
3430          BA    0.436
3431          LG     0.19    0.27    4.25    0.38      28
3432          UC    1.070   0.872
3433          UA        0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
3434          UA      100
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9.....10

3435          KK   CNR13 COMBINE
3436          KM   Combine route ROL99A, route ROL99B and subbasin OL99
3437          HC        5   74.76
              *

3438          KK  DRNONRRETRIEVE
3439          KM   Retrieve divert DRNONR from subbasin OLNR and divert to combination point
3440          KM   CNONR
3441          DR  DSNONR
              *

3442          KK   RNONR    ROUTE
3443          KM   Route diversion retrieval DRNONR to combination point CNONR
3444          RS        8     FLOW
3445          RC    0.035   0.015   0.035    8560  0.0031     0.00
3446          RX     0.00    0.00   12.50   12.50   62.50   62.50   75.00   75.00
3447          RY     3.00    0.62    0.50    0.00    0.00    0.50    0.62    3.00
              *
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3448          KK    NONR   BASIN
3449          KM   Runoff hydrograph for subbasin NONR near the intersection of Northern Avenue
3450          KM   and New River
3451          BA   0.830
3452          LG    0.22    0.15    7.60    0.08      41
3453          UC   1.383   1.031
3454          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
3455          UA     100
              *
3456          KK  ERNONR  DIVERT
3457          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
3458          KM   retention developed after 1990 in subbasin NONR
3459          DT   XNONR     48.0      0.0
3460          DI     0.0 50000.0      0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
3461          DQ     0.0 50000.0      0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *
3462          KK   CNONR COMBINE
3463          KM   Combine route RNONR and subbasin NONR
3464          HC       2    1.09
              *
3465          KK    NO99   BASIN
3466          KM   Runoff hydrograph for subbasin NO99 near the intersection of Northern Avenue
3467          KM   and 99th Avenue
3468          BA   0.858
3469          LG    0.21    0.26    4.25    0.38      28
3470          UC   1.500   0.932
3471          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
3472          UA     100
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

3473          KK  ERNO99  DIVERT
3474          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
3475          KM   retention developed after 1990 in subbasin NO99
3476          DT   XNO99     26.3      0.0
3477          DI     0.0 50000.0      0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
3478          DQ     0.0 50000.0      0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *
3479          KK   CNR14 COMBINE
3480          KM   Combine combination point CNONR, and subbasin NO99
3481          HC       3   76.71
              *
3482          KK    GL03   BASIN
3483          KM   Runoff hydrograph for subbasin GL03 near the intersection of Glendale Avenue
3484          KM   and 103rd Avenue
3485          BA   0.649
3486          LG    0.10    0.27    4.10    0.38      69
3487          UC   0.981   0.617
3488          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
3489          UA     100
              *
3490          KK  ERGL03  DIVERT
3491          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
3492          KM   retention developed after 1990 in subbasin GL03
3493          DT   XGL03     49.8      0.0
3494          DI     0.0 50000.0      0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
3495          DQ     0.0 50000.0      0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *
3496          KK   CNR15 COMBINE
3497          KM   Combine subbasin GL03
3498          HC       2   77.36
              *
3499          KK    GLGH   BASIN
3500          KM   Runoff hydrograph for subbasin GLGH near the intersection of Glendale Avenue
3501          KM   and Glen Harbor Boulevard
3502          BA   0.079
3503          LG    0.10    0.25    4.40    0.32      95
3504          UC   0.567   0.473
3505          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
3506          UA     100
              *
3507          KK   RGHNR   ROUTE
3508          KM   Route runoff hydrograph at subbasin GLGH to combination point CNR16
3509          RS       6    FLOW
3510          RC   0.045   0.035   0.045    7516  0.0045    0.00
3511          RX    0.00    0.00   19.00   25.00   30.00   36.00   55.00   55.00
3512          RY    4.10    3.10    3.00    0.00    0.00    3.00    3.10    4.10
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10
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3513          KK    GHNR   BASIN
3514          KM   Runoff hydrograph for subbasin GHNR near the intersection of Glen Harbor
3515          KM   Boulevard and New River
3516          BA   0.841
3517          LG    0.14    0.28    3.71    0.47      47
3518          UC   1.060   0.697
3519          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
3520          UA     100
              *
3521          KK  ERGHNR  DIVERT
3522          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
3523          KM   retention developed after 1990 in subbasin GHNR
3524          DT   XGHNR     14.8      0.0
3525          DI     0.0 50000.0      0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
3526          DQ     0.0 50000.0      0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *
3527          KK   CNR16 COMBINE
3528          KM   Combine route RGHNR and subbasin GHNR
3529          HC       3   78.28
              *
3530          KK    AF11   BASIN
3531          KM   Runoff hydrograph for subbasin AF11 near the intersection of the Agua Fria
3532          KM   River and 111th Avenue
3533          BA   0.375
3534          LG    0.15    0.28    3.07    0.74      80
3535          UC   0.480   0.247
3536          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
3537          UA     100
              *
3538          KK    GHAF   BASIN
3539          KM   Runoff hydrograph for subbasin GHAF near the intersection of Glen Harbor
3540          KM   Boulevard and the Agua Fria River
3541          BA   0.563
3542          LG    0.15    0.28    3.03    0.76      79
3543          UC   0.640   0.414
3544          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
3545          UA     100
              *
3546          KK  ERGHAF  DIVERT
3547          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
3548          KM   retention developed after 1990 in subbasin GHAF
3549          DT   XGHAF     48.5      0.0
3550          DI     0.0 50000.0      0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
3551          DQ     0.0 50000.0      0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

3552          KK   CAF06 COMBINE
3553          KM   Combine combination point CNR16, subbasin AF11, and subbasin GHAF
3554          HC       3   79.22
              *
3555          KK    JMAF   BASIN
3556          KM   Runoff hydrograph for subbasin JMAF near the intersection of Jomax Road and
3557          KM   the Agua Fria River
3558          BA   0.147
3559          LG    0.19    0.29    4.90    0.24      24
3560          UC   0.510   0.454
3561          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
3562          UA     100
              *
3563          KK  ERJMAF  DIVERT
3564          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
3565          KM   retention developed after 1990 in subbasin JMAF
3566          DT   XJMAF      5.8      0.0
3567          DI     0.0 50000.0      0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
3568          DQ     0.0 50000.0      0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *
3569          KK    HV07   BASIN
3570          KM   Runoff hydrograph for subbasin HV07 near the intersection of Happy Valley
3571          KM   Road and 107th Avenue
3572          BA   0.304
3573          LG    0.25    0.25    3.92    0.41      31
3574          UC   0.467   0.214
3575          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
3576          UA     100
              *
3577          KK  ERHV07  DIVERT
3578          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
3579          KM   retention developed after 1990 in subbasin HV07
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3580          DT   XHV07     13.1      0.0
3581          DI     0.0 50000.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0
3582          DQ     0.0 50000.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0
              *

3583          KK   RHVAF    ROUTE
3584          KM   Route runoff hydrograph at subbasin HV07 to combination point CHVAF
3585          RS       3     FLOW
3586          RC   0.045    0.020    0.045     2397   0.0013     0.00
3587          RX    0.00     0.00    19.00    25.00    30.00    36.00    55.00    55.00
3588          RY    4.10     3.10     3.00     0.00     0.00     3.00     3.10     4.10
              *
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LINE          ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

3589          KK    HVAF   BASIN
3590          KM   Runoff hydrograph for subbasin HVAF near the intersection of Happy Valley
3591          KM   Road and the Agua Fria River
3592          BA   0.215
3593          LG    0.25     0.25     3.92     0.41       32
3594          UC   0.551    0.242
3595          UA       0      5.0     16.0     30.0     65.0     77.0     84.0     90.0     94.0     97.0
3596          UA     100
              *

3597          KK  ERHVAF  DIVERT
3598          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
3599          KM   retention developed after 1990 in subbasin HVAF
3600          DT   XHVAF    12.4      0.0
3601          DI     0.0 50000.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0
3602          DQ     0.0 50000.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0
              *

3603          KK    JM99   BASIN
3604          KM   Runoff hydrograph for subbasin HV07 near the intersection of Jomax Road and
3605          KM   99th Avenue
3606          BA   0.568
3607          LG    0.24     0.13    10.10     0.03       33
3608          UC   0.757    0.405
3609          UA       0      5.0     16.0     30.0     65.0     77.0     84.0     90.0     94.0     97.0
3610          UA     100
              *

3611          KK  ERJM99  DIVERT
3612          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
3613          KM   retention developed after 1990 in subbasin JM99
3614          DT   XJM99     42.7      0.0
3615          DI     0.0 50000.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0
3616          DQ     0.0 50000.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0
              *

3617          KK    WWLP   BASIN
3618          KM   Runoff hydrograph for subbasin WWLP near the intersection of Westwing Parkway
3619          KM   and Lake Pleasant Parkway
3620          BA   0.136
3621          LG    0.20     0.17     7.00     0.10       44
3622          UC   0.257    0.118
3623          UA       0      5.0     16.0     30.0     65.0     77.0     84.0     90.0     94.0     97.0
3624          UA     100
              *

3625          KK  ERWWLP  DIVERT
3626          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
3627          KM   retention developed after 1990 in subbasin WWLP
3628          DT   XWWLP     10.1      0.0
3629          DI     0.0 50000.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0
3630          DQ     0.0 50000.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0
              *
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LINE          ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

3631          KK   RJMLP    ROUTE
3632          KM   Route runoff hydrograph at subbasin WWLP to combination point CJMLP
3633          RS       4     FLOW
3634          RC   0.045    0.035    0.045     5973   0.0084     0.00
3635          RX    0.00     0.00    40.00    50.00    60.00    70.00   110.00   110.00
3636          RY    6.20     5.20     5.00     0.00     0.00     5.00     5.20     6.20
              *

3637          KK    JMLP   BASIN
3638          KM   Runoff hydrograph for subbasin JMLP near the intersection of Jomax Road and
3639          KM   Lake Pleasant Parkway
3640          BA   0.705
3641          LG    0.24     0.25     6.00     0.16       36
3642          UC   0.754    0.397
3643          UA       0      5.0     16.0     30.0     65.0     77.0     84.0     90.0     94.0     97.0
3644          UA     100
              *
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3645          KK  ERJMLP  DIVERT
3646          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
3647          KM   retention developed after 1990 in subbasin JMLP
3648          DT   XJMLP     50.3      0.0
3649          DI     0.0 50000.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0
3650          DQ     0.0 50000.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0
              *

3651          KK   CJMLP COMBINE
3652          KM   Combine route RJMLP, subbasin JM99, and subbasin JMLP
3653          HC       3    1.41
              *

3654          KK  RHV01A   ROUTE
3655          KM   Route runoff hydrograph at combination point CJMLP to combination point CHV01
3656          RS       1     FLOW
3657          RC   0.045    0.035    0.045     5774   0.0093     0.00
3658          RX    0.00     0.00    55.00    75.00   100.00   120.00   175.00   175.00
3659          RY   11.20    10.20    10.00     0.00     0.00    10.00    10.20    11.20
              *

3660          KK    YLLP   BASIN
3661          KM   Runoff hydrograph for subbasin YLLP near the intersection of Yearling Road
3662          KM   and Lake Pleasant Parkway
3663          BA   0.595
3664          LG    0.25     0.26     4.35     0.38       34
3665          UC   0.718    0.484
3666          UA       0      5.0     16.0     30.0     65.0     77.0     84.0     90.0     94.0     97.0
3667          UA     100
              *
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LINE          ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

3668          KK  ERYLLP  DIVERT
3669          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
3670          KM   retention developed after 1990 in subbasin YLLP
3671          DT   XYLLP     13.8      0.0
3672          DI     0.0 50000.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0
3673          DQ     0.0 50000.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0
              *

3674          KK  RHV01B   ROUTE
3675          KM   Route runoff hydrograph at subbasin YLLP to combination point CHV01
3676          RS       1     FLOW
3677          RC   0.045    0.035    0.045     2017   0.0107     0.00
3678          RX    0.00     0.00    40.00    50.00    60.00    70.00   110.00   110.00
3679          RY    6.20     5.20     5.00     0.00     0.00     5.00     5.20     6.20
              *

3680          KK  DRHVLPRETRIEVE
3681          KM   Retrieve divert DRHVLP from subbasin HV93 and divert to combination point
3682          KM   CHVLP
3683          DR  DWHVLP
              *

3684          KK   RHVLP    ROUTE
3685          KM   Route diversion retrieval DRHVLP to combination point CHVLP
3686          RS       2     FLOW
3687          RC   0.045    0.020    0.045     4021   0.0052     0.00
3688          RX    0.00     0.00    19.00    25.00    30.00    36.00    55.00    55.00
3689          RY    4.10     3.10     3.00     0.00     0.00     3.00     3.10     4.10
              *

3690          KK    HVLP   BASIN
3691          KM   Runoff hydrograph for subbasin HVLP near the intersection of Happy Valley
3692          KM   Road and Lake Pleasant Parkway
3693          BA   0.198
3694          LG    0.20     0.25     4.30     0.37       48
3695          UC   0.627    0.577
3696          UA       0      5.0     16.0     30.0     65.0     77.0     84.0     90.0     94.0     97.0
3697          UA     100
              *

3698          KK  ERHVLP  DIVERT
3699          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
3700          KM   retention developed after 1990 in subbasin HVLP
3701          DT   XHVLP      9.2      0.0
3702          DI     0.0 50000.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0
3703          DQ     0.0 50000.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0
              *

3704          KK   CHVLP COMBINE
3705          KM   Combine route RHVLP and subbasin HVLP
3706          HC       2    0.27
              *
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3707          KK  RHV01C   ROUTE
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3708          KM   Route runoff hydrograph at combination point CHVLP to combination point CHV01
3709          RS      1    FLOW
3710          RC   0.045   0.020   0.045    1200  0.0174    0.00
3711          RX    0.00    0.00   40.00   50.00   60.00   70.00  110.00  110.00
3712          RY    6.20    5.20    5.00    0.00    0.00    5.00    5.20    6.20
              *
3713          KK    HV01   BASIN
3714          KM   Runoff hydrograph for subbasin HV01 near the intersection of Happy Valley
3715          KM   Road and 101st Avenue
3716          BA   0.444
3717          LG    0.19    0.25    5.30    0.20      52
3718          UC   0.675   0.407
3719          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
3720          UA     100
              *
3721          KK  ERHV01  DIVERT
3722          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
3723          KM   retention developed after 1990 in subbasin HV01
3724          DT   XHV01    29.2     0.0
3725          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
3726          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *
3727          KK   CHV01 COMBINE
3728          KM   Combine route RHV01A, route RHV01B, route RHV01C, and subbasin HV01
3729          HC       4    2.72
              *
3730          KK   RCL07   ROUTE
3731          KM   Route runoff hydrograph at combination point CHV01 to combination point CCL07
3732          RS      1    FLOW
3733          RC   0.045   0.035   0.045    5019  0.0120    0.00
3734          RX    0.00    0.00   55.00   75.00  100.00  120.00  175.00  175.00
3735          RY   11.20   10.20   10.00    0.00    0.00   10.00   10.20   11.20
              *
3736          KK  RCLAFA   ROUTE
3737          KM   Route runoff hydrograph from route RCL07 to combination point CCLAF
3738          RS      1    FLOW
3739          RC   0.045   0.020   0.045    2211  0.0045    0.00
3740          RX    0.00    0.00   40.00   50.00   60.00   70.00  110.00  110.00
3741          RY    6.20    5.20    5.00    0.00    0.00    5.00    5.20    6.20
              *
3742          KK    CL07   BASIN
3743          KM   Runoff hydrograph for subbasin CL07 near the intersection of Calle Lejos Road
3744          KM   and 107th Avenue
3745          BA   0.524
3746          LG    0.21    0.27    4.55    0.30      26
3747          UC   0.861   0.600
3748          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
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LINE          ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10
3749          UA     100
              *
3750          KK  ERCL07  DIVERT
3751          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
3752          KM   retention developed after 1990 in subbasin CL07
3753          DT   XCL07    31.0     0.0
3754          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
3755          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *
3756          KK  DWCLAF  DIVERT
3757          KM   Divert remaining runoff hydrograph at subbasin CL07 west to combination point
3758          KM   CCLAF
3759          DT  DSPP03     0.0     0.0
3760          DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
3761          DQ     0.0    12.0    24.0    60.0   120.0   240.0   480.0  1200.0  2400.0  6000.0
              *
3762          KK  RCLAFB   ROUTE
3763          KM   Route diversion DWCLAF west to combination point CCLAF
3764          RS      3    FLOW
3765          RC   0.045   0.035   0.045    2215  0.0045    0.00
3766          RX    0.00    0.00   19.00   25.00   30.00   36.00   55.00   55.00
3767          RY    4.10    3.10    3.00    0.00    0.00    3.00    3.10    4.10
              *
3768          KK    CLAF   BASIN
3769          KM   Runoff hydrograph for subbasin CLAF near the intersection of Calle Lejos Road
3770          KM   and the Agua Fria River
3771          BA   0.289
3772          LG    0.16    0.29    3.95    0.40      25
3773          UC   0.756   0.510
3774          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
3775          UA     100
              *
```



```
3776          KK  ERCLAF  DIVERT
3777          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
3778          KM   retention developed after 1990 in subbasin CLAF
3779          DT   XCLAF    10.4     0.0
3780          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
3781          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *
3782          KK   CCLAF COMBINE
3783          KM   Combine route RCLAFA, route RCLAFB, and subbasin CLAF
3784          HC       3    3.47
              *
1                                   HEC-1 INPUT                                          PAGE 99
LINE          ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10
3785          KK   CAF01 COMBINE
3786          KM   Combine route RHVAF, subbasin JMAF, subbasin HVAF, and combination point
3787          KM   CCLAF
3788          HC       4    4.13
              *
3789          KK  DR03PPRETRIEVE
3790          KM   Retrieve divert DR03PP from combination point CPPLP and divert to
3791          KM   combination point CPP03
3792          DR  DWPP03
              *
3793          KK  RPP03B   ROUTE
3794          KM   Route diversion retrieval DR03PP to combination point CPP03
3795          RS      1    FLOW
3796          RC   0.040   0.040   0.040    1960  0.0072    0.00
3797          RX    0.00  100.00  140.00  160.00  200.00  300.00  400.00  500.00
3798          RY   10.00    9.00    0.00    0.00    9.00   10.00   11.00   12.00
              *
3799          KK  DRPP03RETRIEVE
3800          KM   Retrieve divert DRPP03 from subbasin CL07 and divert to combination point
3801          KM   CPP03
3802          DR  DSPP03
              *
3803          KK  RPP03A   ROUTE
3804          KM   Route diversion retrieval DRPP03 to combination point CPP03
3805          RS      4    FLOW
3806          RC   0.045   0.035   0.045    2970  0.0057    0.00
3807          RX    0.00    0.00   19.00   25.00   30.00   36.00   55.00   55.00
3808          RY    4.10    3.10    3.00    0.00    0.00    3.00    3.10    4.10
              *
3809          KK    PP03   BASIN
3810          KM   Runoff hydrograph for subbasin PP03 near the intersection of Pinnacle Peak
3811          KM   Road and 103rd Avenue
3812          BA   0.325
3813          LG    0.30    0.25    4.45    0.38      15
3814          UC   1.316   1.050
3815          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
3816          UA     100
              *
3817          KK  ERPP03  DIVERT
3818          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
3819          KM   retention developed after 1990 in subbasin PP03
3820          DT   XPP03     3.4     0.0
3821          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
3822          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *
1                                   HEC-1 INPUT                                          PAGE100
LINE          ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10
3823          KK   CPP03 COMBINE
3824          KM   Combine route RPP03A, route RPP03B, and subbasin PP03
3825          HC       3    1.53
              *
3826          KK  DWPP07  DIVERT
3827          KM   Divert remaining runoff hydrograph at combination point CPP03 west to
3828          KM   combination point CPP07
3829          DT  DSDV07     0.0     0.0
3830          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
3831          DQ     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *
3832          KK  RPP07   ROUTE
3833          KM   Route diversion DWPP07 west to combination point CPP07
3834          RS      2    FLOW
3835          RC   0.050   0.050   0.050    2468  0.0158    0.00
3836          RX    0.00  100.00  140.00  160.00  200.00  300.00  400.00  500.00
3837          RY   10.00    9.00    0.00    0.00    9.00   10.00   11.00   12.00
```

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                *
3838            KK    PP07   BASIN
3839            KM   Runoff hydrograph for subbasin PP07 near the intersection of Pinnacle Peak
3840            KM   Road and 107th Avenue
3841            BA   0.195
3842            LG    0.27    0.27    5.30    0.24      13
3843            UC   0.676   0.493
3844            UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
3845            UA     100
                *
3846            KK  ERPP07  DIVERT
3847            KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
3848            KM   retention developed after 1990 in subbasin PP07
3849            DT   XPP07      3.9       0.0
3850            DI     0.0 50000.0       0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
3851            DQ     0.0 50000.0       0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
                *
3852            KK   CPP07 COMBINE
3853            KM   Combine route RPP07 and subbasin PP07
3854            HC       2    1.73
                *
3855            KK   RPPAF   ROUTE
3856            KM   Route runoff hydrograph at combination point CPP07 to combination point CDVAF
3857            RS       1    FLOW
3858            RC   0.050   0.050   0.050    1553  0.0300    0.00
3859            RX    0.00  100.00  140.00  170.00  210.00  310.00  410.00  510.00
3860            RY   10.00    9.00    0.00    0.00    9.00   10.00   11.00   12.00
                *
1                                        HEC-1 INPUT                                        PAGE101

LINE            ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

3861            KK    PPAF   BASIN
3862            KM   Runoff hydrograph for subbasin PPAF near the intersection of Pinnacle Peak
3863            KM   Road and the Agua Fria River
3864            BA   0.270
3865            LG    0.15    0.25    4.20    0.36      80
3866            UC   0.325   0.217
3867            UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
3868            UA     100
                *
3869            KK   CPPAF COMBINE
3870            KM   Combine route RDVAF and subbasin DVAF
3871            HC       2    2.00
                *
3872            KK    DVAF   BASIN
3873            KM   Runoff hydrograph for subbasin DVAF near the intersection of Deer Valley Road
3874            KM   and the Agua Fria River
3875            BA   0.412
3876            LG    0.15    0.33    5.60    0.18      10
3877            UC   0.776   0.452
3878            UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
3879            UA     100
                *
3880            KK  ERDVAF  DIVERT
3881            KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
3882            KM   retention developed after 1990 in subbasin DVAF
3883            DT   XDVAF     11.3      0.0
3884            DI     0.0 50000.0       0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
3885            DQ     0.0 50000.0       0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
                *
3886            KK   CAF02 COMBINE
3887            KM   Combine combination point CDVAF and subbasin PPAF
3888            HC       2    2.41
                *
3889            KK  DRDV07RETRIEVE
3890            KM   Retrieve divert DRDV07 from combination point CPP03 and divert to
3891            KM   combination point CDV07
3892            DR  DSDV07
                *
3893            KK   RDV07   ROUTE
3894            KM   Route diversion retrieval DRDV07 to combination point CDV07
3895            RS       1    FLOW
3896            RC   0.045   0.035   0.045    6455  0.0071    0.00
3897            RX    0.00    0.00   40.00   50.00   60.00   70.00  110.00  110.00
3898            RY    6.20    5.20    5.00    0.00    0.00    5.00    5.20    6.20
                *
1                                        HEC-1 INPUT                                        PAGE102

LINE            ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10
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3899            KK    DV07   BASIN
3900            KM   Runoff hydrograph for subbasin DV07 near the intersection of Deer Valley Road
3901            KM   and 107th Avenue
3902            BA   0.645
3903            LG    0.26    0.25    4.65    0.29      27
3904            UC   0.956   0.575
3905            UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
3906            UA     100
                *
3907            KK  ERDV07  DIVERT
3908            KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
3909            KM   retention developed after 1990 in subbasin DV07
3910            DT   XDV07     45.8      0.0
3911            DI     0.0 50000.0       0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
3912            DQ     0.0 50000.0       0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
                *
3913            KK   CDV07 COMBINE
3914            KM   Combine route RDV07 and subbasin DV07
3915            HC       2    0.65
                *
3916            KK  RRG07A   ROUTE
3917            KM   Route runoff hydrograph at combination point CDV07 to combination point CRG07
3918            RS       1    FLOW
3919            RC   0.045   0.015   0.045    2573  0.0027    0.00
3920            RX    0.00    0.00   19.00   25.00   30.00   36.00   55.00   55.00
3921            RY    4.10    3.10    3.00    0.00    0.00    3.00    3.10    4.10
                *
3922            KK  DRRG07RETRIEVE
3923            KM   Retrieve divert DRRG07 from combination point CRGLP and divert to
3924            KM   combination point CRG07
3925            DR  DWRG07
                *
3926            KK  RRG07C   ROUTE
3927            KM   Route diversion retrieval DRRG07 to combination point CRG07
3928            RS       2    FLOW
3929            RC   0.045   0.020   0.045    4816  0.0056    0.00
3930            RX    0.00    0.00   40.00   50.00   60.00   70.00  110.00  110.00
3931            RY    6.20    5.20    5.00    0.00    0.00    5.00    5.20    6.20
                *
3932            KK  DRDVLPRETRIEVE
3933            KM   Retrieve divert DRDVLP from combination point CPPLP and divert to
3934            KM   combination point CDVLP
3935            DR  DSDVLP
                *
1                                        HEC-1 INPUT                                        PAGE103

LINE            ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

3936            KK   RDVLP   ROUTE
3937            KM   Route diversion retrieval DRDVLP to combination point CDVLP
3938            RS       1    FLOW
3939            RC   0.045   0.035   0.045    5616  0.0059    0.00
3940            RX    0.00    0.00   19.00   25.00   30.00   36.00   55.00   55.00
3941            RY    4.10    3.10    3.00    0.00    0.00    3.00    3.10    4.10
                *
3942            KK    DVLP   BASIN
3943            KM   Runoff hydrograph for subbasin DVLP near the intersection of Deer Valley Road
3944            KM   and Lake Pleasant Parkway
3945            BA   0.136
3946            LG    0.23    0.25    4.45    0.33      38
3947            UC   0.911   1.082
3948            UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
3949            UA     100
                *
3950            KK  ERDVLP  DIVERT
3951            KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
3952            KM   retention developed after 1990 in subbasin DVLP
3953            DT   XDVLP     8.7       0.0
3954            DI     0.0 50000.0       0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
3955            DQ     0.0 50000.0       0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
                *
3956            KK   CDVLP COMBINE
3957            KM   Combine route RDVLP and subbasin DVLP
3958            HC       2    0.14
                *
3959            KK  RRG07B   ROUTE
3960            KM   Route runoff hydrograph at combination point CDVLP to combination point CRG07
3961            RS       6    FLOW
3962            RC   0.045   0.020   0.045    5903  0.0059    0.00
3963            RX    0.00    0.00   40.00   50.00   60.00   70.00  110.00  110.00
3964            RY    6.20    5.20    5.00    0.00    0.00    5.00    5.20    6.20
                *
```

```
KK    RG07   BASIN
KM   Runoff hydrograph for subbasin RG07 near the intersection of Rose Garden Lane
KM   and 107th Avenue
BA   0.350
LG    0.23    0.25    4.55    0.31      35
UC   1.100   0.802
UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
UA     100
*
```

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LINE  ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

KK  ERRG07  DIVERT
KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
KM   retention developed after 1990 in subbasin RG07
DT   XRG07    41.1     0.0
DI      0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
DQ      0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
*

KK   CRG07 COMBINE
KM   Combine route RRG07A, route RRG07B, route RRG07C, and subbasin RG07
HC       4    2.01
*

KK   RRGAF   ROUTE
KM   Route runoff hydrograph at combination point CRG07 to combination point CRGAF
RS      10    FLOW
RC   0.045   0.020   0.045    4328  0.0083    0.00
RX    0.00    0.00   40.00   50.00   60.00   70.00  110.00  110.00
RY    6.20    5.20    5.00    0.00    0.00    5.00    5.20    6.20
*

KK    RGAF   BASIN
KM   Runoff hydrograph for subbasin RGAF near the intersection of Rose Garden Lane
KM   and the Agua Fria River
BA   0.332
LG    0.16    0.33    6.20    0.14      12
UC   1.043   0.897
UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
UA     100
*

KK  ERRGAF  DIVERT
KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
KM   retention developed after 1990 in subbasin RGAF
DT   XRGAF    10.4     0.0
DI      0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
DQ      0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
*

KK   CRGAF COMBINE
KM   Combine route RRGAF and subbasin RGAF
HC       2    2.34
*

KK  DRBYAFRETRIEVE
KM   Retrieve divert DRBYAF from combination point CBY07 and divert to
KM   combination point CBYAF
DR  DWBYAF
*
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LINE  ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

KK   RBY07   ROUTE
KM   Route diversion retrieval DRBYAF to route RBYAF
RS       3    FLOW
RC   0.045   0.020   0.045    3085  0.0019    0.00
RX    0.00    1.00   16.00   36.00   51.00  123.00  148.00  648.00
RY   16.00    8.00    0.00    0.00    8.00    8.00    9.00   11.00
*

KK   RBYAF   ROUTE
KM   Route runoff hydrograph at route RBY07 to combination point CBYAF
RS       6    FLOW
RC   0.045   0.035   0.045    8144  0.0065    0.00
RX    0.00    0.00   19.00   25.00   30.00   36.00   55.00   55.00
RY    4.10    3.10    3.00    0.00    0.00    3.00    3.10    4.10
*

KK    BYAF   BASIN
KM   Runoff hydrograph for subbasin BYAF near the intersection of Beardsley Road
KM   and the Agua Fria River
BA   0.609
LG    0.17    0.27    4.70    0.26      30
UC   0.931   0.735
UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
UA     100
```



```
*

KK  ERBYAF  DIVERT
KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
KM   retention developed after 1990 in subbasin BYAF
DT   XBYAF    26.1     0.0
DI      0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
DQ      0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
*

KK   CBYAF COMBINE
KM   Combine route RBYAF and subbasin BYAF
HC       2    1.30
*

KK    UHAF   BASIN
KM   Runoff hydrograph for subbasin UHAF near the intersection of Union Hills
KM   Drive and the Agua Fria River
BA   0.489
LG    0.15    0.30    3.50    0.54      12
UC   1.469   1.260
UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
UA     100
*
```

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LINE  ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

KK  ERUHAF  DIVERT
KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
KM   retention developed after 1990 in subbasin UHAF
DT   XUHAF    19.8     0.0
DI      0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
DQ      0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
*

KK   CAF03 COMBINE
KM   Combine combination point CRGAF, combination point CBYAF, and subbasin UHAF
HC       3    4.13
*

KK    UH07   BASIN
KM   Runoff hydrograph for subbasin UH07 near the intersection of Union Hills
KM   Drive and 107th Avenue
BA   0.252
LG    0.20    0.25    4.80    0.34      22
UC   1.276   1.320
UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
UA     100
*

KK   RUH11   ROUTE
KM   Route runoff hydrograph at subbasin UH07 to route RUH15
RS       1    FLOW
RC   0.045   0.020   0.045    2740  0.0090    0.00
RX    0.00    1.00   13.00   23.00   53.00   83.00  108.00  109.00
RY   14.00    6.00    0.00    0.00    6.00    6.00    7.00   15.00
*

KK   RUH15   ROUTE
KM   Route runoff hydrograph at route RUH11 to combination point CUH15
RS       2    FLOW
RC   0.045   0.035   0.045    2598  0.0120    0.00
RX    0.00   50.00   62.00   72.00   84.00  104.00  139.00  640.00
RY    9.00    6.00    0.00    0.00    6.00    7.00    7.00    9.00
*

KK    UH15   BASIN
KM   Runoff hydrograph for subbasin UH15 near the intersection of Union Hills
KM   Drive and 115th Avenue
BA   1.019
LG    0.20    0.25    5.80    0.16      47
UC   0.950   0.486
UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
UA     100
*
```

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LINE  ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

KK  ERUH15  DIVERT
KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
KM   retention developed after 1990 in subbasin UH15
DT   XUH15    63.8     0.0
DI      0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
DQ      0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
*

KK   CUH15 COMBINE
KM   Combine route RUH15 and subbasin UH15
HC       2    1.27
```

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                *
4092            KK  RBL15B   ROUTE
4093            KM   Route runoff hydrograph at combination point CUH15 to combination point CBL15
4094            RS       4    FLOW
4095            RC   0.045   0.035   0.045    4894  0.0020    0.00
4096            RX    0.00  100.00  112.00  147.00  159.00  179.00  214.00  580.00
4097            RY    8.00    6.00    0.00    0.00    6.00    7.00    7.00    9.00
                *
4098            KK  DRBL15RETRIEVE
4099            KM   Retrieve divert DRBL15 from combination point CDW07 and divert to
4100            KM   combination point CBL15
4101            DR  DWBL15
                *
4102            KK  RBL15A   ROUTE
4103            KM   Route diversion retrieval DRBL15 to combination point CBL15
4104            RS       2    FLOW
4105            RC   0.045   0.015   0.045    6041  0.0082    0.00
4106            RX    0.00    0.00   40.00   50.00   60.00   70.00  110.00  110.00
4107            RY    6.20    5.20    5.00    0.00    0.00    5.00    5.20    6.20
                *
4108            KK    BL15   BASIN
4109            KM   Runoff hydrograph for subbasin Bl15 near the intersection of Bell Road and
4110            KM   115th Avenue
4111            BA   0.962
4112            LG    0.22    0.25    4.60    0.32      28
4113            UC   1.040   0.523
4114            UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
4115            UA     100
                *
4116            KK  ERBL15  DIVERT
4117            KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
4118            KM   retention developed after 1990 in subbasin BL15
4119            DT   XBL15    37.0     0.0
4120            DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
4121            DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
                *
1                                    HEC-1 INPUT                                          PAGE108

LINE            ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

4122            KK   CBL15 COMBINE
4123            KM   Combine route RBL15A, route RBL15B, and subbasin BL15
4124            HC       3    2.90
                *
4125            KK   RMEAF   ROUTE
4126            KM   Route runoff hydrograph at combination point CBL15 to combination point CMEAF
4127            RS       2    FLOW
4128            RC   0.045   0.020   0.045    5783  0.0053    0.00
4129            RX    0.00    0.00   40.00   50.00   60.00   70.00  110.00  110.00
4130            RY    6.20    5.20    5.00    0.00    0.00    5.00    5.20    6.20
                *
4131            KK    MEAF   BASIN
4132            KM   Runoff hydrograph for subbasin MEAF near the intersection of Meade Drive and
4133            KM   the Agua Fria River
4134            BA   1.369
4135            LG    0.19    0.26    4.65    0.31      35
4136            UC   0.917   0.462
4137            UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
4138            UA     100
                *
4139            KK  ERMEAF  DIVERT
4140            KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
4141            KM   retention developed after 1990 in subbasin MEAF
4142            DT   XMEAF    39.2     0.0
4143            DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
4144            DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
                *
4145            KK   CMEAF COMBINE
4146            KM   Combine route RMEAF and subbasin MEAF
4147            HC       2    4.27
                *
4148            KK    BLAF   BASIN
4149            KM   Runoff hydrograph for subbasin BLAF near the intersection of Bell Road and
4150            KM   the Agua Fria River
4151            BA   0.283
4152            LG    0.20    0.28    3.55    0.52      20
4153            UC   1.500   1.613
4154            UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
4155            UA     100
                *
4156            KK  ERBLAF  DIVERT
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4157            KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
4158            KM   retention developed after 1990 in subbasin BLAF
4159            DT   XBLAF    15.4     0.0
4160            DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
4161            DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
                *
1                                    HEC-1 INPUT                                          PAGE109

LINE            ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

4162            KK    GRAF   BASIN
4163            KM   Runoff hydrograph for subbasin GRAF near the intersection of Grand Avenue and
4164            KM   the Agua Fria River
4165            BA   0.859
4166            LG    0.23    0.15    7.00    0.11      37
4167            UC   1.190   0.903
4168            UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
4169            UA     100
                *
4170            KK  ERGRAF  DIVERT
4171            KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
4172            KM   retention developed after 1990 in subbasin GRAF
4173            DT   XGRAF     7.0     0.0
4174            DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
4175            DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
                *
4176            KK    PEAF   BASIN
4177            KM   Runoff hydrograph for subbasin PEAF near the intersection of Kansas Avenue
4178            KM   and the Agua Fria River
4179            BA   0.531
4180            LG    0.19    0.25    4.20    0.36      48
4181            UC   0.710   0.337
4182            UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
4183            UA     100
                *
4184            KK   CAF04 COMBINE
4185            KM   Combine combination point CMEAF, subbasin BLAF, subbasin GRAF, and subbasin
4186            KM   PEAF
4187            HC       4    5.94
                *
4188            KK    OL11   BASIN
4189            KM   Runoff hydrograph for subbasin OL11 near the intersection of Olive Avenue and
4190            KM   111th Avenue
4191            BA   0.339
4192            LG    0.26    0.25    4.25    0.43      22
4193            UC   0.891   0.515
4194            UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
4195            UA     100
                *
4196            KK  EROL11  DIVERT
4197            KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
4198            KM   retention developed after 1990 in subbasin OL11
4199            DT   XOL11     2.9     0.0
4200            DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
4201            DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
                *
1                                    HEC-1 INPUT                                          PAGE110

LINE            ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

4202            KK   RNO11   ROUTE
4203            KM   Route runoff hydrograph at subbasin OL11 to combination point CNO11
4204            RS       3    FLOW
4205            RC   0.045   0.020   0.045    6339  0.0057    0.00
4206            RX    0.00    0.00   19.00   25.00   30.00   36.00   55.00   55.00
4207            RY    4.10    3.10    3.00    0.00    0.00    3.00    3.10    4.10
                *
4208            KK    NO11   BASIN
4209            KM   Runoff hydrograph for subbasin NO11 near the intersection of Northern Avenue
4210            KM   and 111th Avenue
4211            BA   0.860
4212            LG    0.20    0.25    3.95    0.40      52
4213            UC   0.738   0.353
4214            UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
4215            UA     100
                *
4216            KK  ERNO11  DIVERT
4217            KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
4218            KM   retention developed after 1990 in subbasin NO11
4219            DT   XNO11    23.2     0.0
4220            DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
4221            DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
                *
```

```
4222          KK   CNO11 COMBINE
4223          KM   Combine route RNO11 and subbasin NO11
4224          HC       2    1.20
              *

4225          KK  RGL14A   ROUTE
4226          KM   Route runoff hydrograph at combination point CNO11 to combination point CGL14
4227          RS       7     FLOW
4228          RC   0.045   0.035   0.045    7959  0.0008    0.00
4229          RX    0.00    0.00   55.00   75.00  100.00  120.00  175.00  175.00
4230          RY   11.20   10.20   10.00    0.00    0.00   10.00   10.20   11.20
              *

4231          KK    NO07   BASIN
4232          KM   Runoff hydrograph for subbasin NO07 near the intersection of Northern Avenue
4233          KM   and 107th Avenue
4234          BA   0.340
4235          LG    0.21    0.25    4.55    0.36      29
4236          UC   0.992   0.684
4237          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
4238          UA     100
              *
1                                        HEC-1 INPUT                                        PAGE111

LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

4239          KK  ERNO07  DIVERT
4240          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
4241          KM   retention developed after 1990 in subbasin NO07
4242          DT   XNO07     10.9      0.0
4243          DI     0.0 50000.0      0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
4244          DQ     0.0 50000.0      0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

4245          KK   RGL11   ROUTE
4246          KM   Route runoff hydrograph at subbasin NO07 to combination point CGL11
4247          RS       5     FLOW
4248          RC   0.035   0.015   0.035    5370  0.0041    0.00
4249          RX    0.00    0.00   13.00   13.00   55.00   55.00   68.00   68.00
4250          RY    3.00    0.63    0.50    0.00    0.00    0.50    0.63    3.00
              *

4251          KK    GL11   BASIN
4252          KM   Runoff hydrograph for subbasin GL11 near the intersection of Glendale Avenue
4253          KM   and 111th Avenue
4254          BA   0.426
4255          LG    0.19    0.25    4.35    0.33      60
4256          UC   0.952   0.574
4257          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
4258          UA     100
              *

4259          KK  ERGL11  DIVERT
4260          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
4261          KM   retention developed after 1990 in subbasin GL11
4262          DT   XGL11     38.8      0.0
4263          DI     0.0 50000.0      0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
4264          DQ     0.0 50000.0      0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

4265          KK   CGL11 COMBINE
4266          KM   Combine route RGL11 and subbasin GL11
4267          HC       2    0.77
              *

4268          KK  RGL14B   ROUTE
4269          KM   Route runoff hydrograph at combination point CGL11 to combination point CGL14
4270          RS       4     FLOW
4271          RC   0.045   0.035   0.045    4950  0.0021    0.00
4272          RX    0.00    0.00   40.00   50.00   60.00   70.00  110.00  110.00
4273          RY    6.20    5.20    5.00    0.00    0.00    5.00    5.20    6.20
              *

4274          KK    GL14   BASIN
4275          KM   Runoff hydrograph for subbasin GL14 near the intersection of Glendale Avenue
4276          KM   and 114th Avenue
4277          BA   0.481
4278          LG    0.15    0.25    3.81    0.44      80
4279          UC   0.673   0.476
4280          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
1                                        HEC-1 INPUT                                        PAGE112

LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

4281          UA     100
              *

4282          KK   CGL14 COMBINE
4283          KM   Combine route RGL14A, RGL14B, and subbasin GL14
4284          HC       3    2.45
              *
```



```
4285          KK   RGLAF   ROUTE
4286          KM   Route runoff hydrograph at combination point CGL14 to combination point CGLAF
4287          RS       2     FLOW
4288          RC   0.045   0.035   0.045    3487  0.0023    0.00
4289          RX    0.00    0.00   55.00   75.00  100.00  120.00  175.00  175.00
4290          RY   11.20   10.20   10.00    0.00    0.00   10.00   10.20   11.20
              *

4291          KK    GLAF   BASIN
4292          KM   Runoff hydrograph for subbasin GLAF near the intersection of Glendale Avenue
4293          KM   and the Agua Fria River
4294          BA   0.388
4295          LG    0.15    0.28    3.07    0.74      80
4296          UC   0.764   0.696
4297          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
4298          UA     100
              *

4299          KK  ERGLAF  DIVERT
4300          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
4301          KM   retention developed after 1990 in subbasin GLAF
4302          DT   XGLAF     7.3      0.0
4303          DI     0.0 50000.0      0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
4304          DQ     0.0 50000.0      0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

4305          KK   CGLAF COMBINE
4306          KM   Combine route RGLAF and subbasin GLAF
4307          HC       2    2.83
              *

4308          KK    OLAF   BASIN
4309          KM   Runoff hydrograph for subbasin OLAF near the intersection of Olive Avenue and
4310          KM   the Agua Fria River
4311          BA   1.026
4312          LG    0.20    0.28    3.60    0.50      26
4313          UC   1.305   0.846
4314          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
4315          UA     100
              *

4316          KK  EROLAF  DIVERT
4317          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
4318          KM   retention developed after 1990 in subbasin OLAF
4319          DT   XOLAF     38.2      0.0
4320          DI     0.0 50000.0      0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
4321          DQ     0.0 50000.0      0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *
1                                        HEC-1 INPUT                                        PAGE113

LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

4322          KK    NOAF   BASIN
4323          KM   Runoff hydrograph for subbasin NOAF near the intersection of Northern Avenue
4324          KM   and the Agua Fria River
4325          BA   0.285
4326          LG    0.11    0.30    2.92    0.82      26
4327          UC   0.755   0.624
4328          UA       0     3.0     5.0     8.0    12.0    20.0    43.0    75.0    90.0    96.0
4329          UA     100
              *

4330          KK   CAF05 COMBINE
4331          KM   Combine combination point CGLAF, subbasin OLAF, and subbasin NOAF
4332          HC       3    4.15
              *
4333          ZZ
1
        SCHEMATIC DIAGRAM OF STREAM NETWORK

INPUT
 LINE     (V) ROUTING          (--->) DIVERSION OR PUMP FLOW

  NO.     (.) CONNECTOR        (<---) RETURN OF DIVERTED OR PUMPED FLOW

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              .
              .
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  155      ERUH35
              .
              .
  164         .-------->  DPUH35
  161       DUH35
              .
              .
  170         .-------->  DWUH43
  167      DSBL35
              V
              V
  173      RSBL35
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              .
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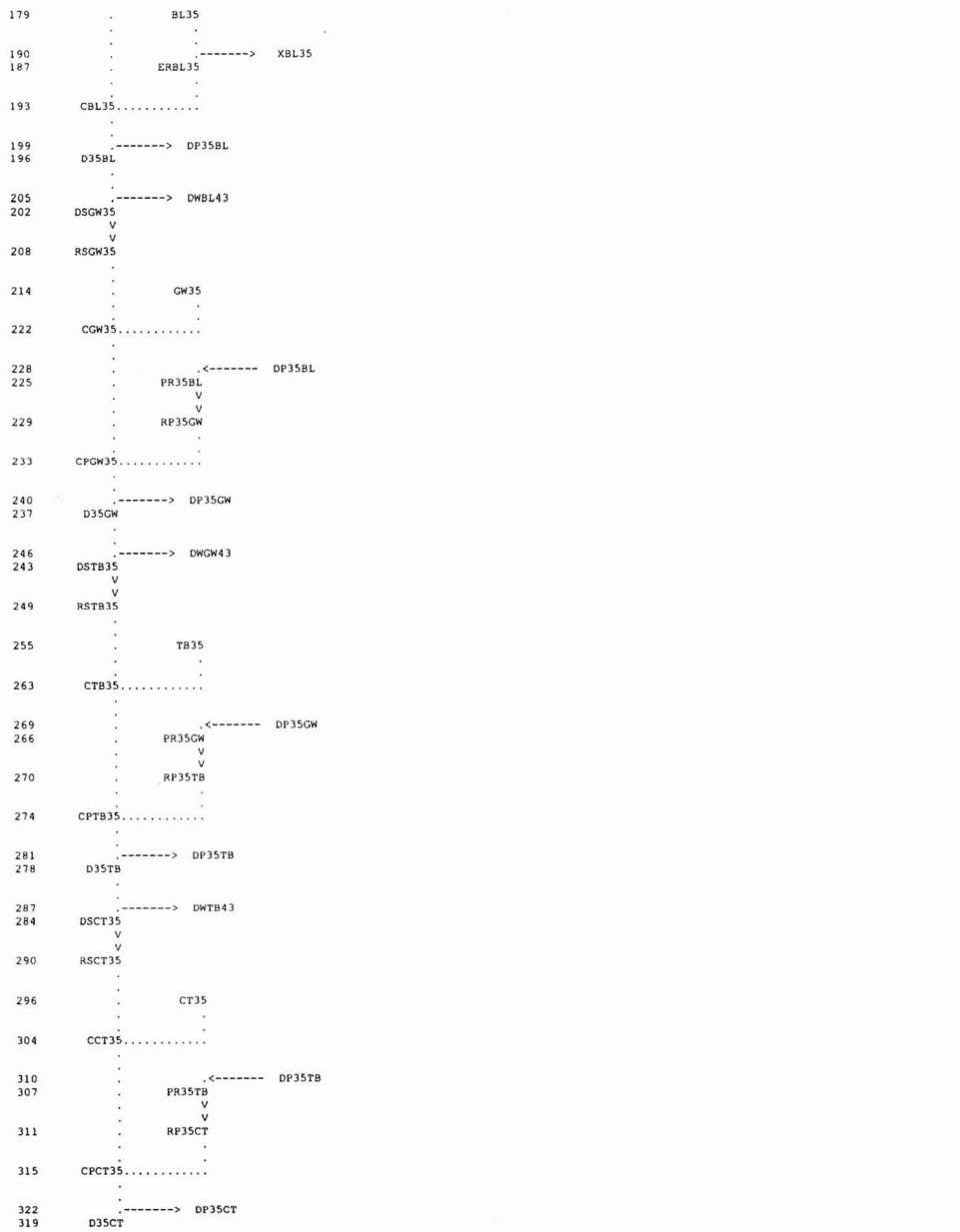
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208 RSGW35
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228 DP35BL
225 PR35BL
229 RP35GW
233 CPGW35
240 DP35GW
237 D35GW
246 DWGW43
243 DSTB35
249 RSTB35
255 TB35
263 CTB35
269 DP35GW
266 PR35GW
270 RP35TB
274 CPTB35
281 DP35TB
278 D35TB
287 DWTB43
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307 PR35TB
311 RP35CT
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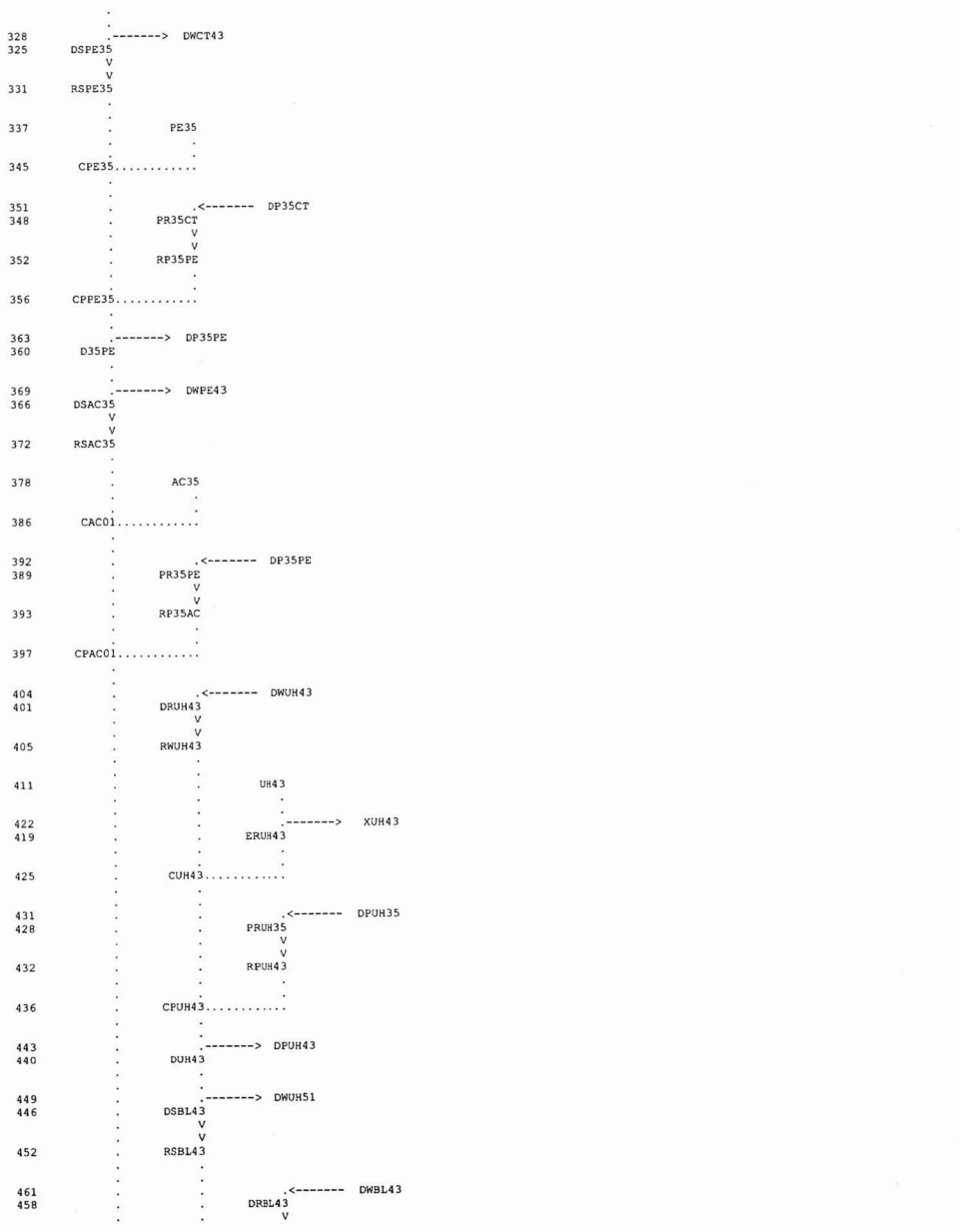
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360 D35PE
369 DWPE43
366 DSAC35
372 RSAC35
378 AC35
386 CAC01
392 DP35PE
389 PR35PE
393 RP35AC
397 CPAC01
404 DWUH43
401 DRUH43
405 RWUH43
411 UH43
422 XUH43
419 ERUH43
425 CUH43
431 DPUH35
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446 DSBL43
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461 DWBL43
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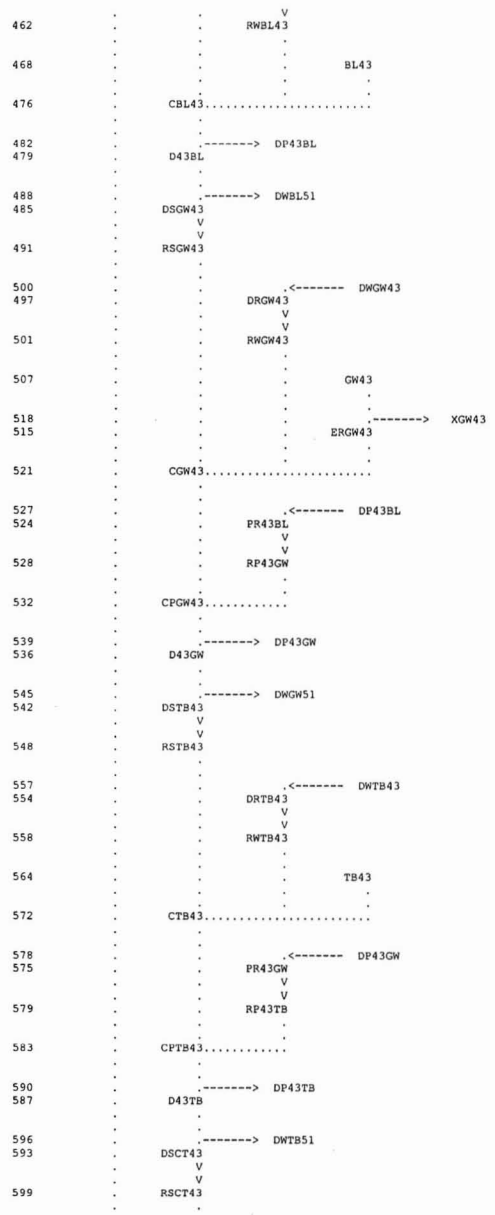
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518 XGW43
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521 CGW43
527 DP43BL
524 PR43BL
528 RP43GW
532 CPGW43
539 DP43GW
536 D43GW
545 DWGW51
542 DSTB43
548 RSTB43
557 DWTB43
554 DRTB43
558 RWTB43
564 TB43
572 CTB43
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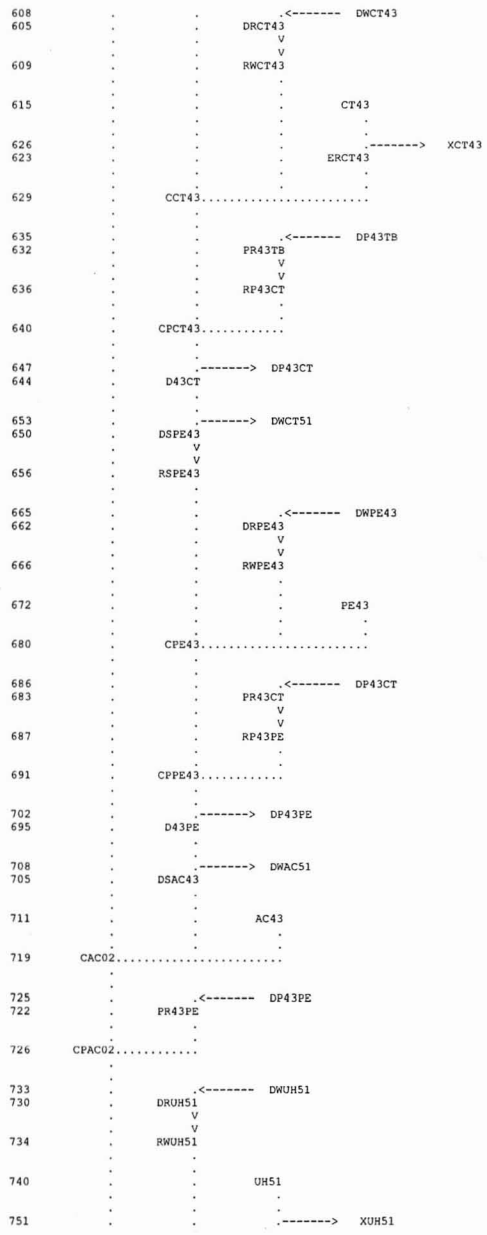
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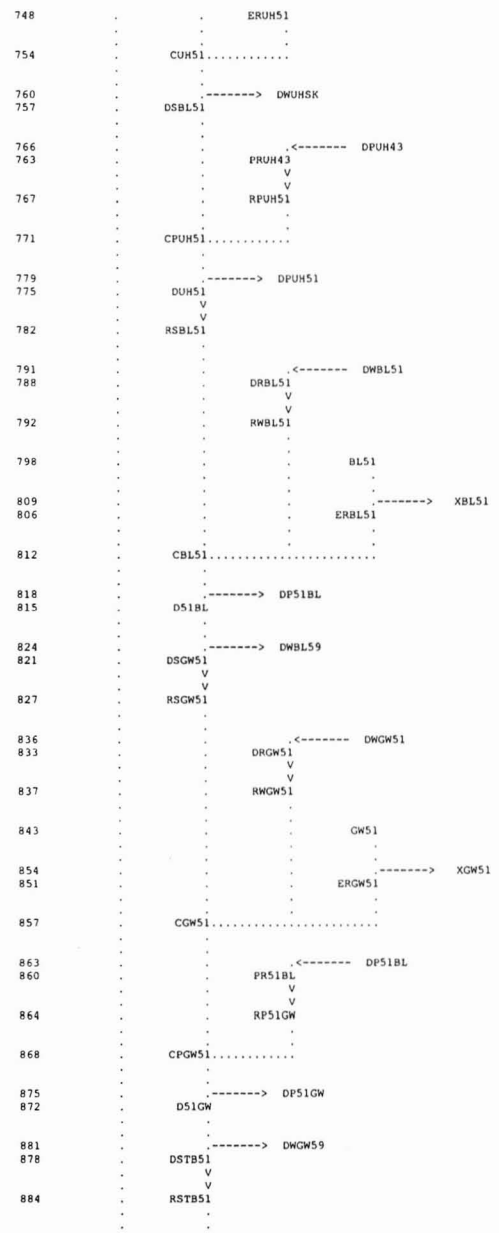
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DPUH51
775
DUH51
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RSBL51
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DWBL51
788
DRBL51
792
RWBL51
798
BL51
809
XBL51
806
ERBL51
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CBL51
818
DP51BL
815
D51BL
824
DWBL59
821
DSGW51
827
RSGW51
836
DWGW51
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DRGW51
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RWGW51
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GW51
854
XGW51
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CGW51
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DP51BL
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PR51BL
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DSTB51
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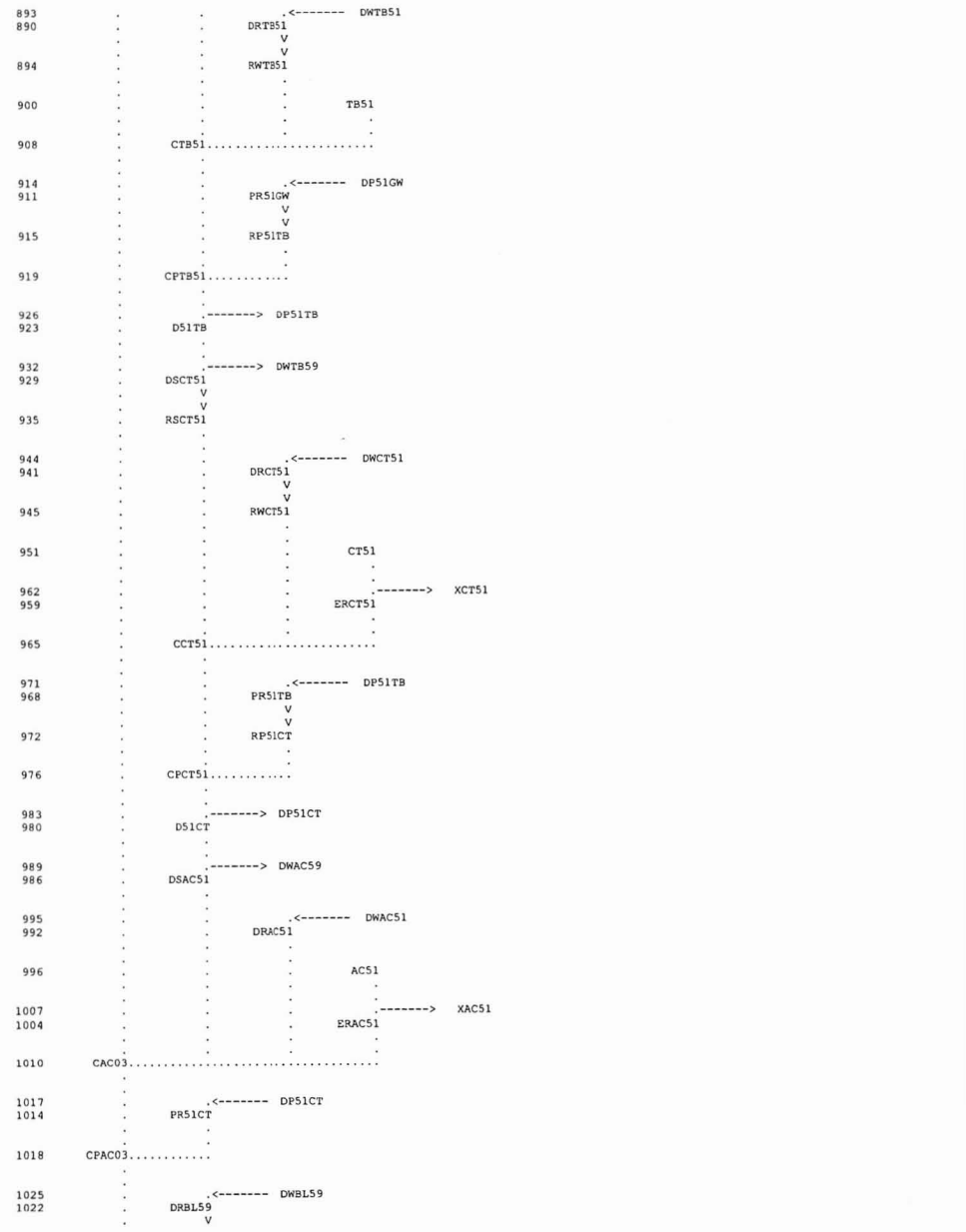
RSTB51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DWBL59
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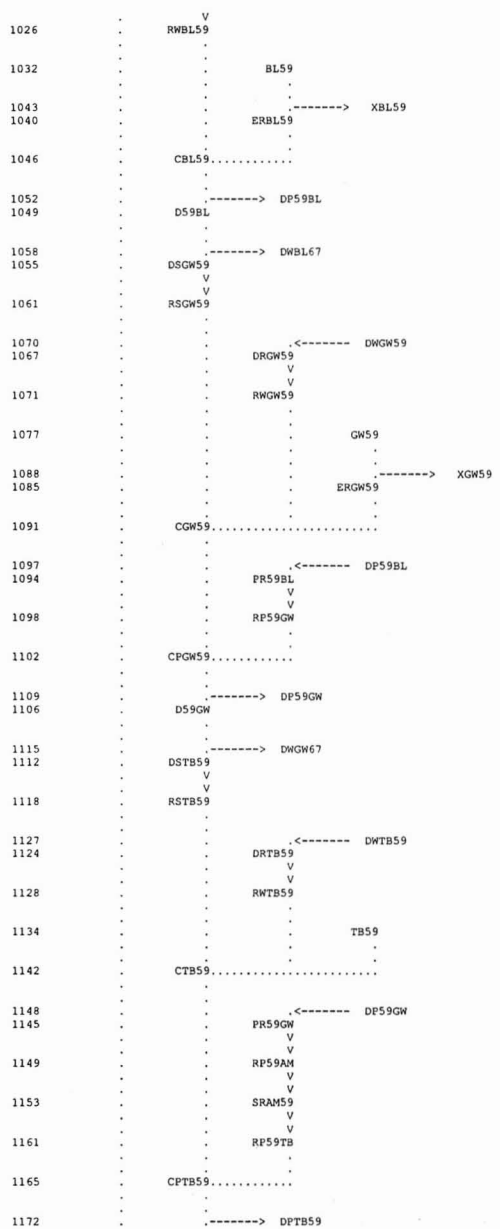
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1070 DWGW59
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1071 RWGW59
1077 GW59
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1085 ERGW59
1091 CGW59
1097 DP59BL
1094 PR59BL
1098 RP59GW
1102 CPGW59
1109 DP59GW
1106 D59GW
1115 DWGW67
1112 DSTB59
1118 RSTB59
1127 DWTB59
1124 DRTB59
1128 RWTB59
1134 TB59
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1161 RP59TB
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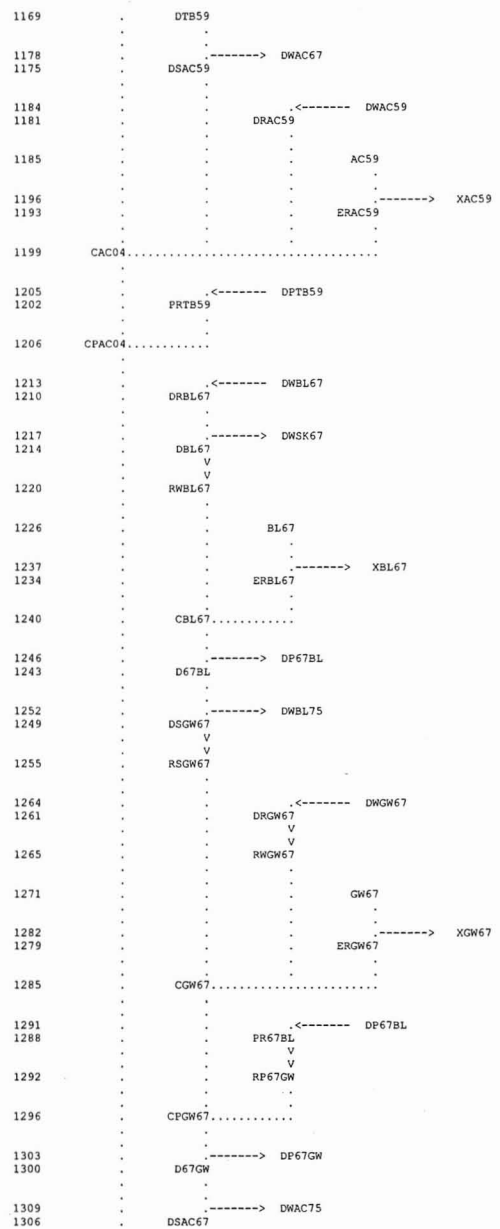
1172 DPTB59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1184 DWAC59
1181 DRAC59
1185 AC59
1196 XAC59
1193 ERAC59
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1205 DPTB59
1202 PRTB59
1206 CPAC04
1213 DWBL67
1210 DRBL67
1217 DWSK67
1214 DBL67
1220 RWBL67
1226 BL67
1237 XBL67
1234 ERBL67
1240 CBL67
1246 DP67BL
1243 D67BL
1252 DWBL75
1249 DSGW67
1255 RSGW67
1264 DWGW67
1261 DRGW67
1265 RWGW67
1271 GW67
1282 XGW67
1279 ERGW67
1285 CGW67
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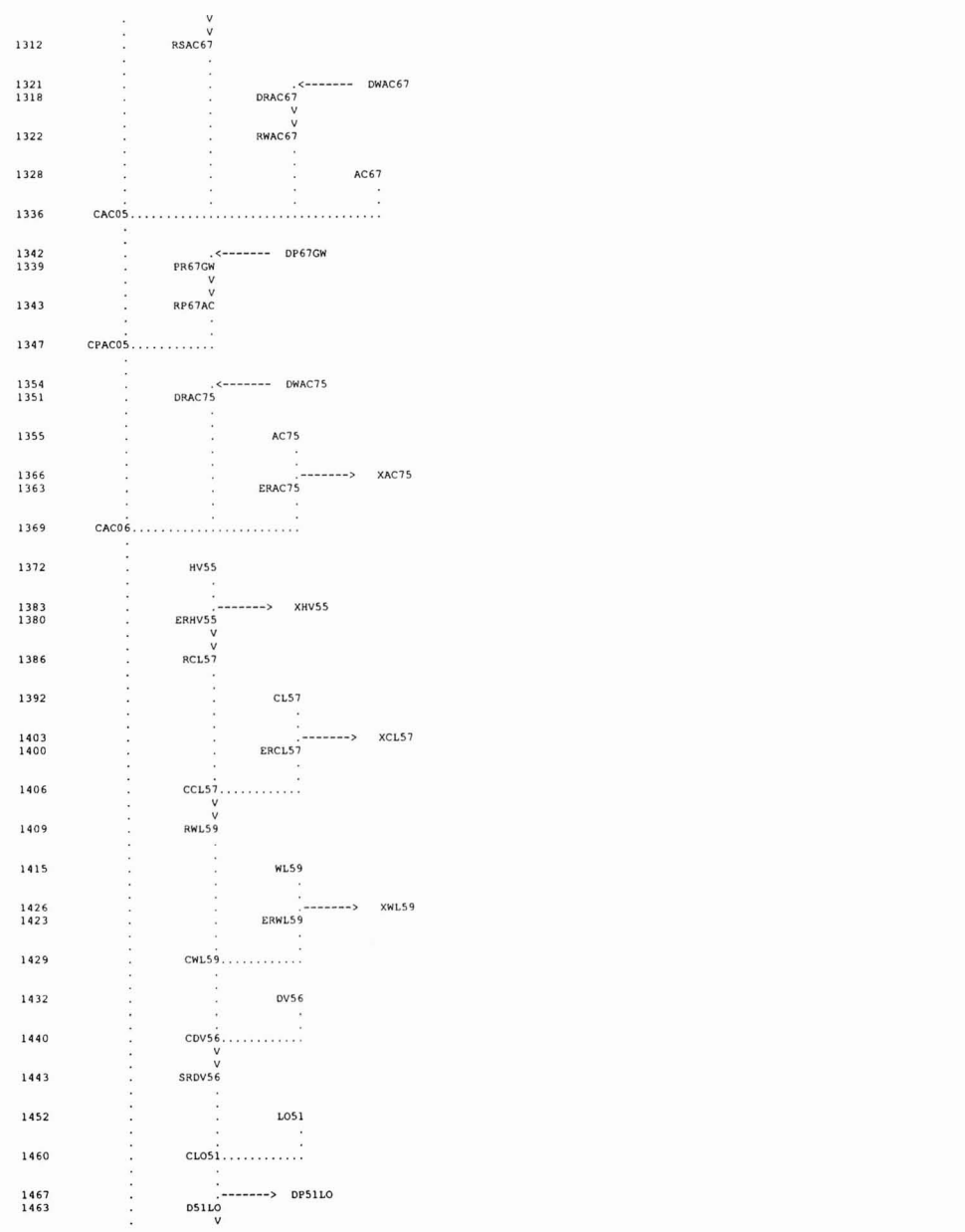
1300 D67GW
1309 DWAC75
1306 DSAC67


1312 RSAC67
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1318 DRAC67
1322 RWAC67
1328 AC67
1336 CAC05
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1339 PR67GW
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1347 CPAC05
1354 DWAC75
1351 DRAC75
1355 AC75
1366 XAC75
1363 ERAC75
1369 CAC06
1372 HV55
1383 XHV55
1380 ERHV55
1386 RCL57
1392 CL57
1403 XCL57
1400 ERCL57
1406 CCL57
1409 RWL59
1415 WL59
1426 XWL59
1423 ERWL59
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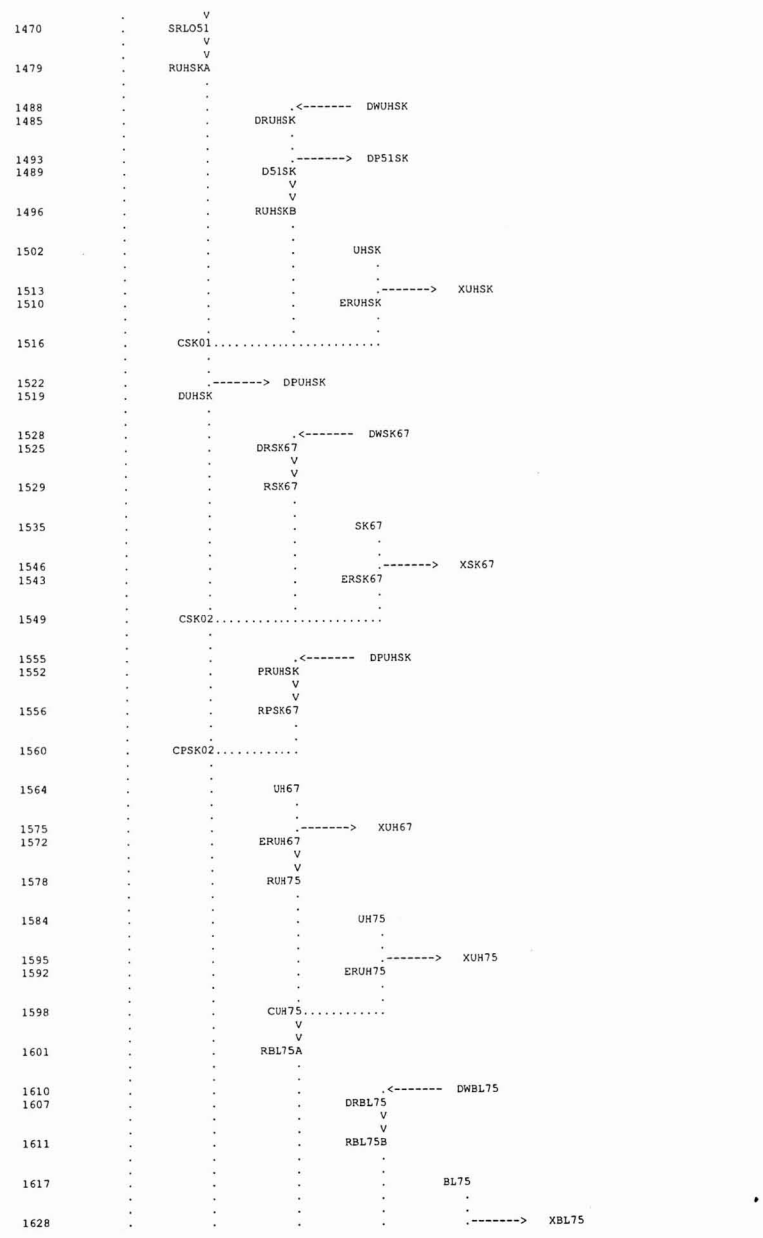
1443 SRDV56
1452 LO51
1460 CLO51
1467 DP51LO
1463 D51LO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1488 DWUHSK
1485 DRUHSK
1493 DP51SK
1489 D51SK
1496 RUHSKB
1502 UHSK
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1510 ERUHSK
1516 CSK01
1522 DPUHSK
1519 DUHSK
1528 DWSK67
1525 DRSK67
1529 RSK67
1535 SK67
1546 XSK67
1543 ERSK67
1549 CSK02
1555 DPUHSK
1552 PRUHSK
1556 RPSK67
1560 CPSK02
1564 UH67
1575 XUH67
1572 ERUH67
1578 RUH75
1584 UH75
1595 XUH75
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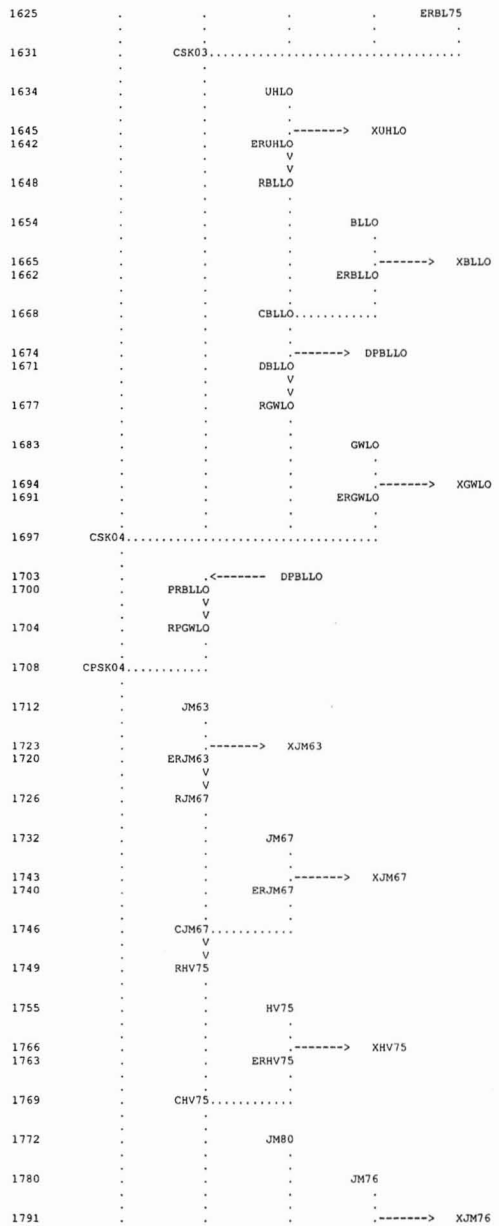
1611 RBL75B
1617 BL75
1628 XBL75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1642 ERUHLO
1648 RBLLO
1654 BLLO
1665 XBLLO
1662 ERBLLO
1668 CBLLO
1674 DPBLLO
1671 DBLLO
1677 RGWLO
1683 GWLO
1694 XGWLO
1691 ERGWLO
1697 CSK04
1703 DPBLLO
1700 PRBLLO
1704 RPGWLO
1708 CPSK04
1712 JM63
1723 XJM63
1720 ERJM63
1726 RJM67
1732 JM67
1743 XJM67
1740 ERJM67
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1755 HV75
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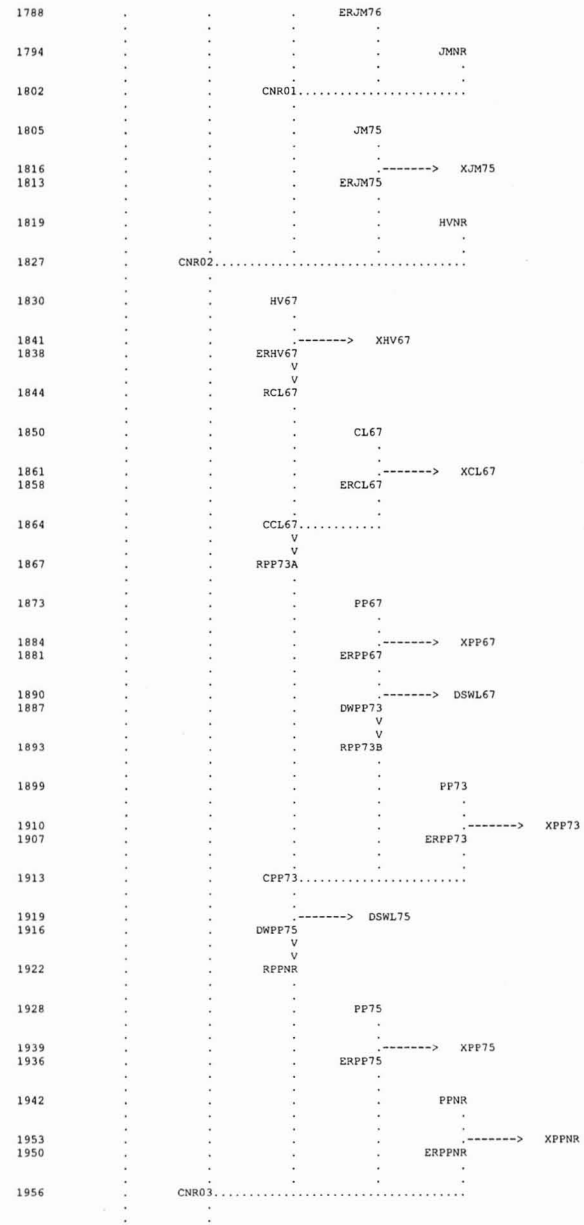
1788 ERJM76
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1805 JM75
1816 XJM75
1813 ERJM75
1819 HVNR
1827 CNR02
1830 HV67
1841 XHV67
1838 ERHV67
1844 RCL67
1850 CL67
1861 XCL67
1858 ERCL67
1864 CCL67
1867 RPP73A
1873 PP67
1884 XPP67
1881 ERPP67
1890 DSWL67
1887 DWPP73
1893 RPP73B
1899 PP73
1910 XPP73
1907 ERPP73
1913 CPP73
1919 DSWL75
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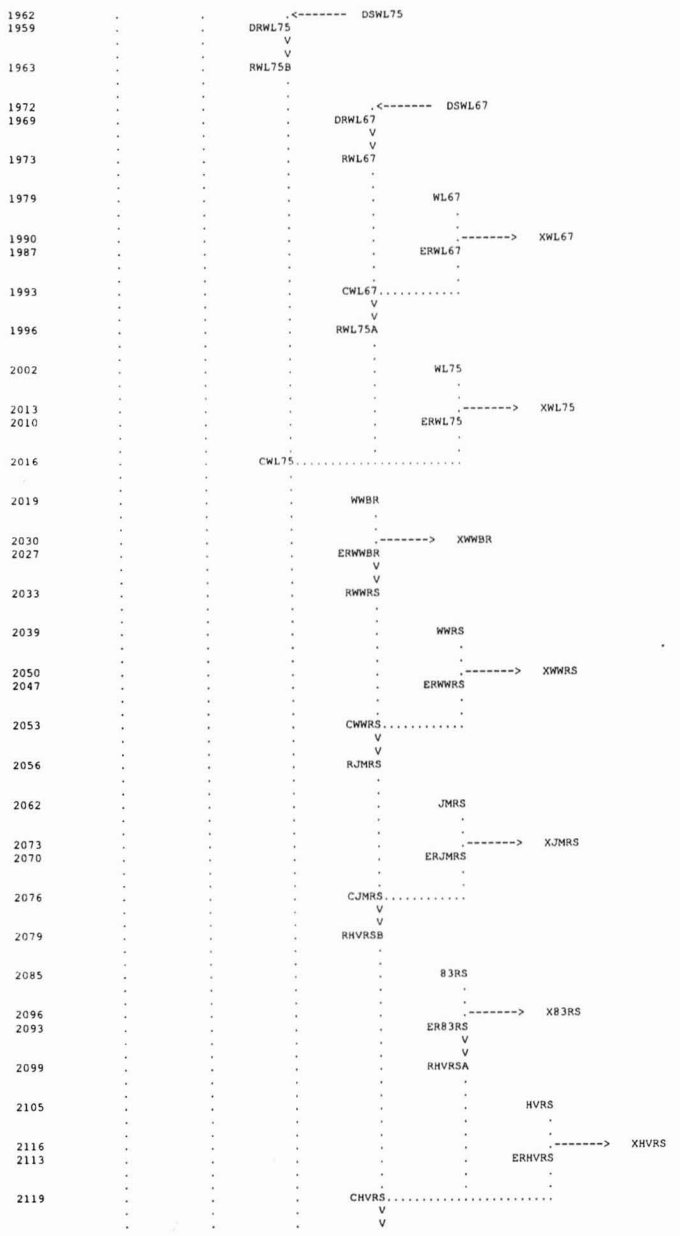
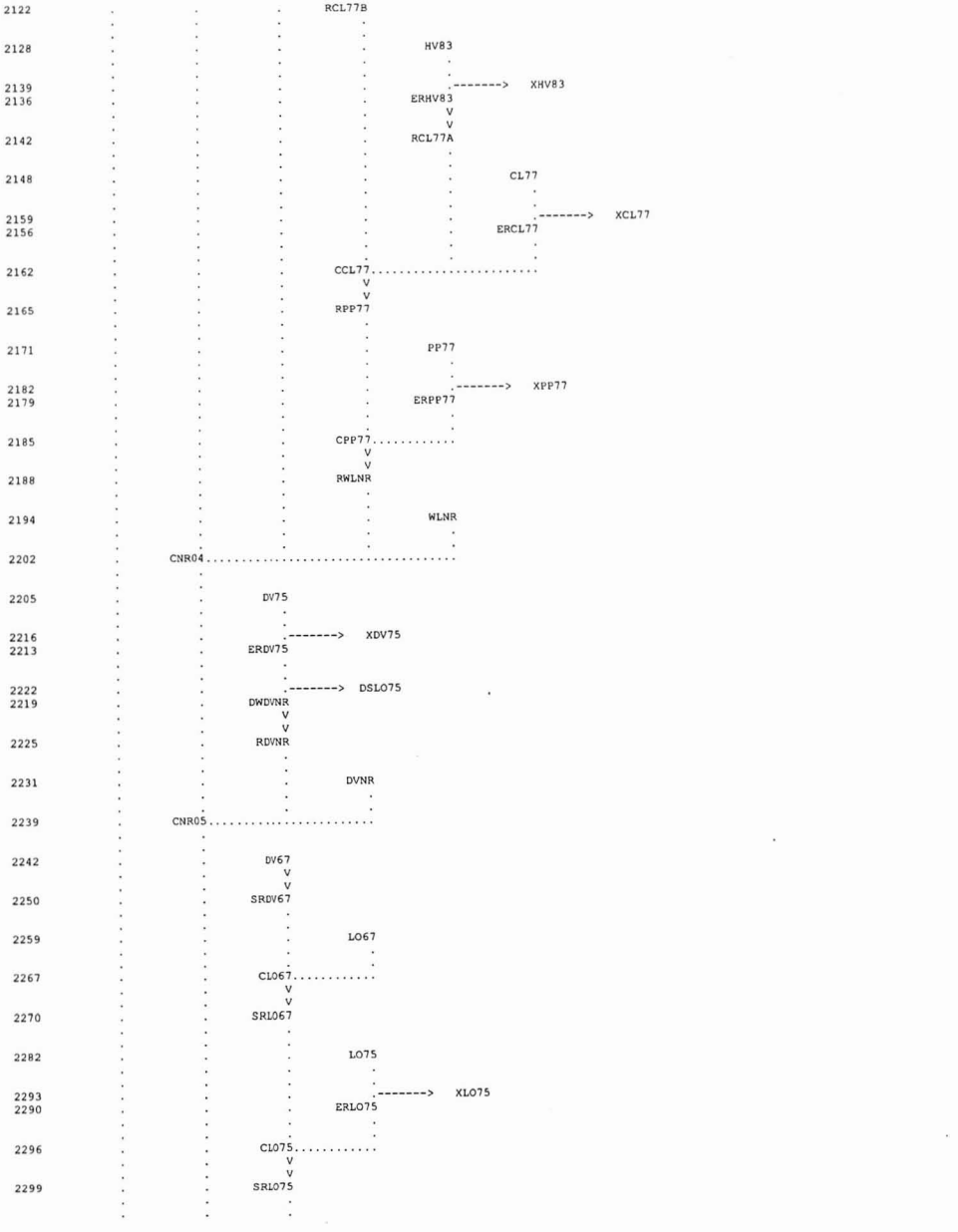
1922 RPPNR
1928 PP75
1939 XPP75
1936 ERPP75
1942 PPNR
1953 XPPNR
1950 ERPPNR
1956 CNR03


1962
1959
DRWL75
1963
RWL75B
1972
1969
DRWL67
1973
RWL67
1979
WL67
1990
1987
ERWL67
XWL67
1993
CWL67
1996
RWL75A
2002
WL75
2013
2010
ERWL75
XWL75
2016
CWL75
2019
WWBR
2030
2027
ERWWBR
XWWBR
2033
RWWRS
2039
WWRS
2050
2047
ERWWRS
XWWRS
2053
CWWRS
2056
RJMRS
2062
JMRS
2073
2070
ERJMRS
XJMRS
2076
CJMRS
2079
RHVRSB
2085
83RS
2096
2093
ER83RS
X83RS
2099
RHVRSA
2105
HVRS
2116
2113
ERHVRS
XHVRS
2119
CHVRS
DSWL75
DSWL67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2128
HV83
2139
2136
ERHV83
XHV83
2142
RCL77A
2148
CL77
2159
2156
ERCL77
XCL77
2162
CCL77
2165
RPP77
2171
PP77
2182
2179
ERPP77
XPP77
2185
CPP77
2188
RWLNR
2194
WLNR
2202
CNR04
2205
DV75
2216
2213
ERDV75
XDV75
2222
2219
DWDVNR
DSLO75
2225
RDVNR
2231
DVNR
2239
CNR05
2242
DV67
2250
SRDV67
2259
LO67
2267
CLO67
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SRLO67
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LO75
2293
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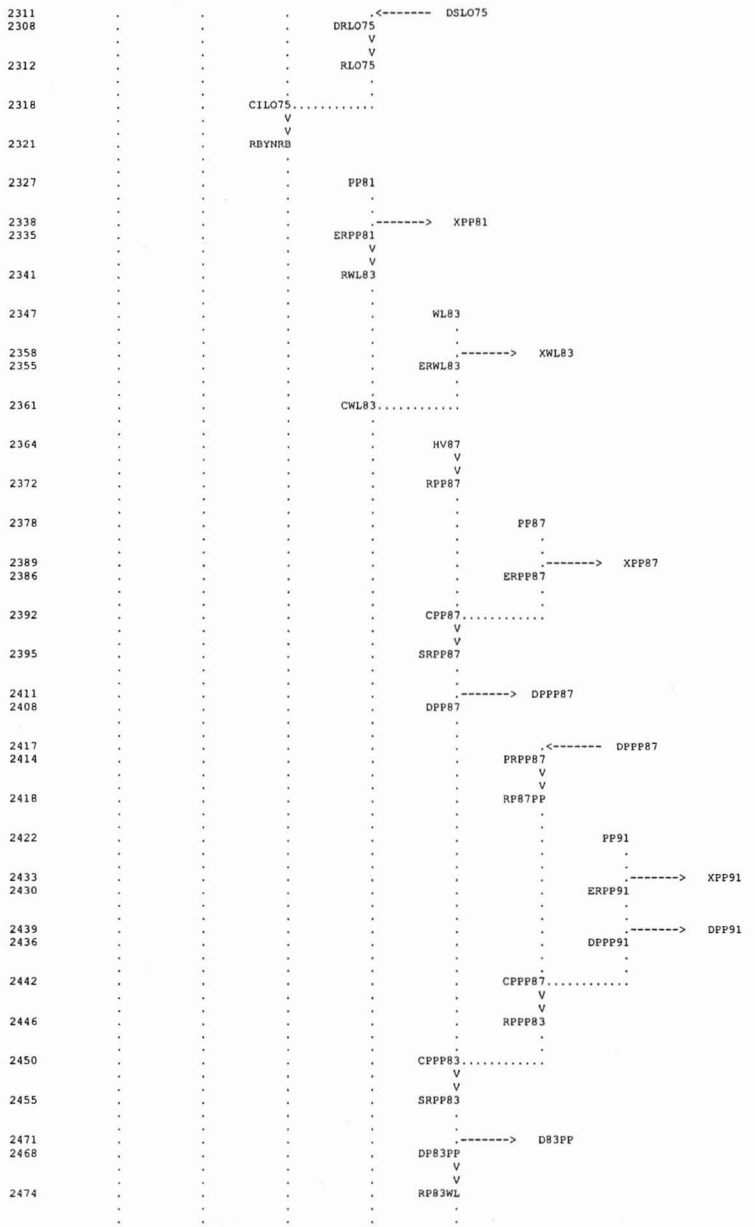
ERLO75
XLO75
2296
CLO75
2299
SRLO75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2312 RLO75
2318 CILO75.....
2321 RBYNRB
2327 PP81
2338 .-------> XPP81
2335 ERPP81
2341 RWL83
2347 WL83
2358 .-------> XWL83
2355 ERWL83
2361 CWL83.....
2364 HV87
2372 RPP87
2378 PP87
2389 .-------> XPP87
2386 ERPP87
2392 CPP87.....
2395 SRPP87
2411 .-------> DPPP87
2408 DPP87
2417 .<------- DPPP87
2414 PRPP87
2418 RP87PP
2422 PP91
2433 .-------> XPP91
2430 ERPP91
2439 .-------> DPP91
2436 DPPP91
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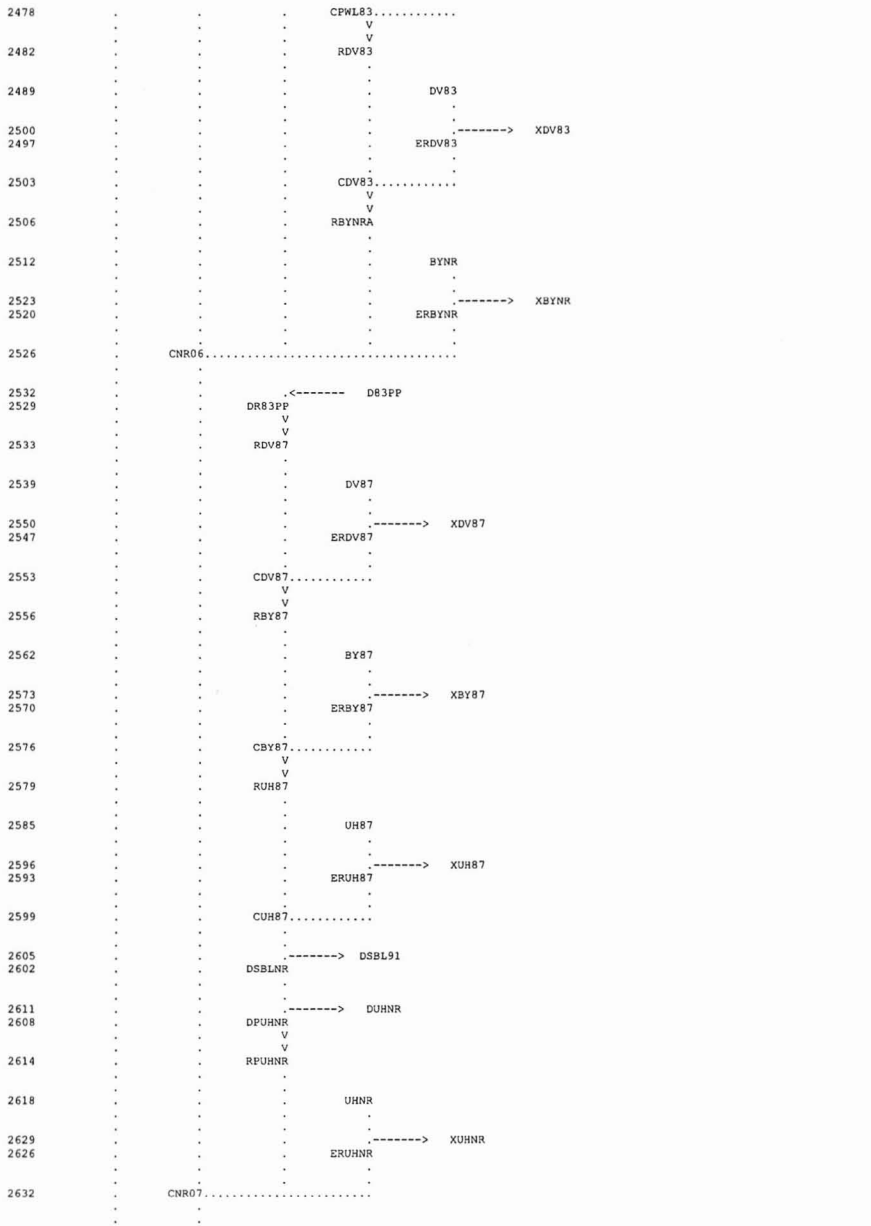
2446 RPPP83
2450 CPPP83.....
2455 SRPP83
2471 .-------> D83PP
2468 DP83PP
2474 RP83WL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2482 RDV83
2489 DV83
2500 .-------> XDV83
2497 ERDV83
2503 CDV83.....
2506 RBYNRA
2512 BYNR
2523 .-------> XBYNR
2520 ERBYNR
2526 CNR06.....
2532 .<------- D83PP
2529 DR83PP
2533 RDV87
2539 DV87
2550 .-------> XDV87
2547 ERDV87
2553 CDV87.....
2556 RBY87
2562 BY87
2573 .-------> XBY87
2570 ERBY87
2576 CBY87.....
2579 RUH87
2585 UH87
2596 .-------> XUH87
2593 ERUH87
2599 CUH87.....
2605 .-------> DSBL91
2602 DSBLNR
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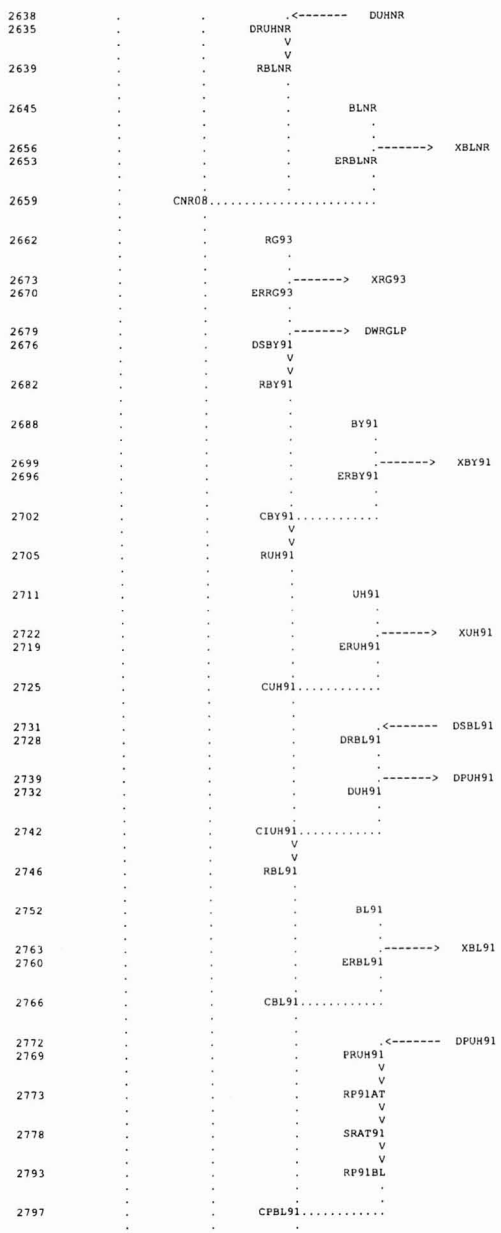
2608 DPUHNR
2614 RPUHNR
2618 UHNR
2629 .-------> XUHNR
2626 ERUHNR
2632 CNR07.....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DRUHNR
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RBLNR
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2656
2653
XBLNR
ERBLNR
2659
CNR08
2662
RG93
2673
2670
XRG93
ERRG93
2679
2676
DWRGLP
DSBY91
2682
RBY91
2688
BY91
2699
2696
XBY91
ERBY91
2702
CBY91
2705
RUH91
2711
UH91
2722
2719
XUH91
ERUH91
2725
CUH91
2731
2728
DSBL91
DRBL91
2739
2732
DPUH91
DUH91
2742
CIUH91
2746
RBL91
2752
BL91
2763
2760
XBL91
ERBL91
2766
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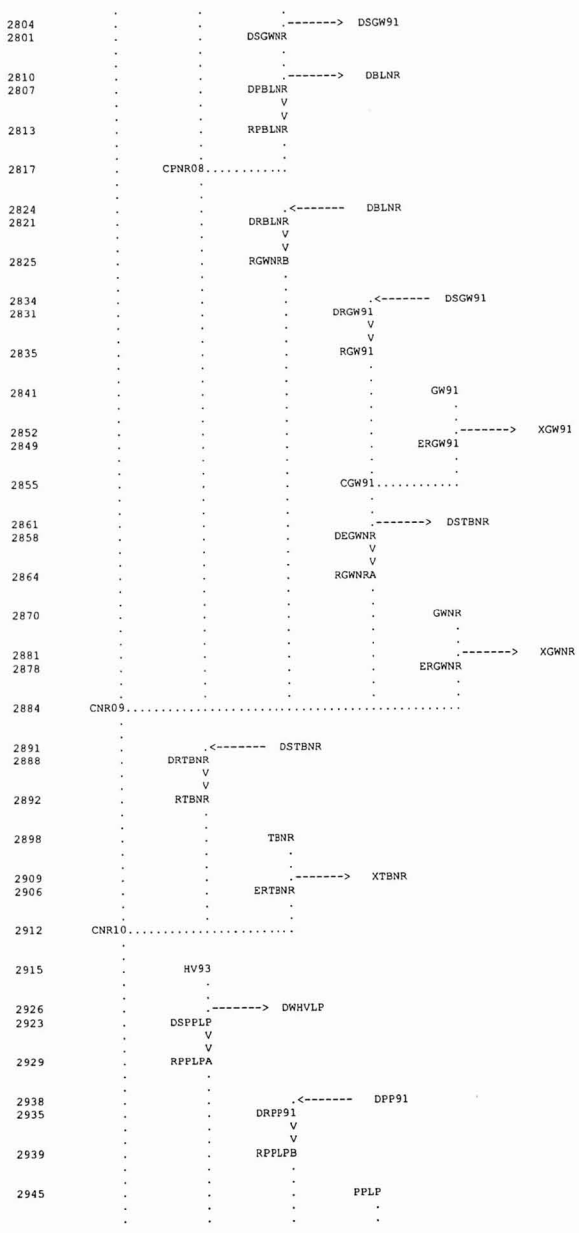
RP91BL
2797
CPBL91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DSGWNR
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2807
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DPBLNR
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RPBLNR
2817
CPNR08
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DBLNR
DRBLNR
2825
RGWNRB
2834
2831
DSGW91
DRGW91
2835
RGW91
2841
GW91
2852
2849
XGW91
ERGW91
2855
CGW91
2861
2858
DSTBNR
DEGWNR
2864
RGWNRA
2870
GWNR
2881
2878
XGWNR
ERGWNR
2884
CNR09
2891
2888
DSTBNR
DRTBNR
2892
RTBNR
2898
TBNR
2909
2906
XTBNR
ERTBNR
2912
CNR10
2915
HV93
2926
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RPPLPA
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RPPLPB
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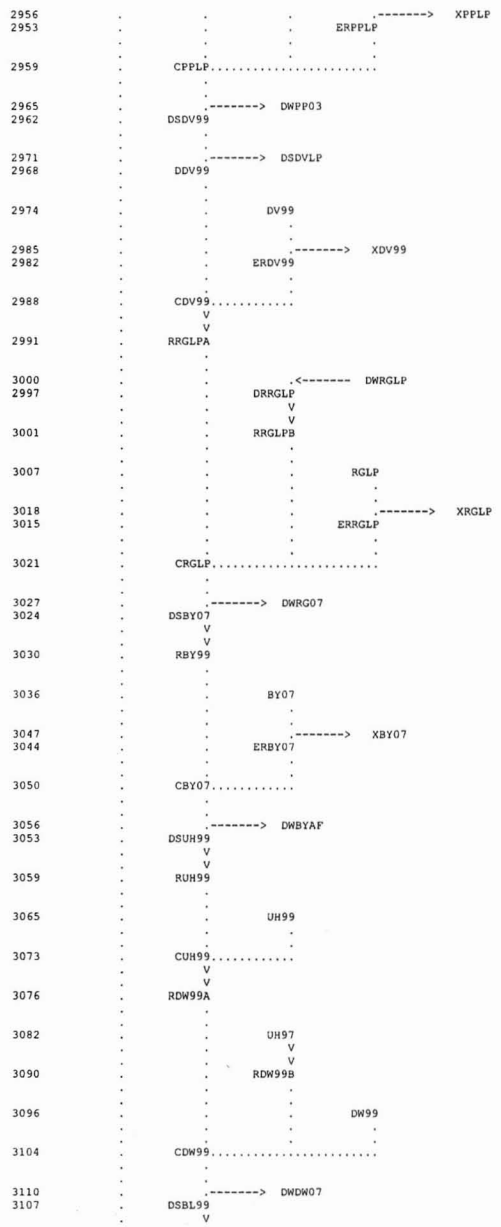
PPLP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XPPLP
2959 CPPLP
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2968 DDV99
DSDVLP
2974 DV99
2985
2982 ERDV99
XDV99
2988 CDV99
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3000
2997 DRRGLP
DWRGLP
3001 RRGLPB
3007 RGLP
3018
3015 ERRGLP
XRGLP
3021 CRGLP
3027
3024 DSBY07
DWRG07
3030 RBY99
3036 BY07
3047
3044 ERBY07
XBY07
3050 CBY07
3056
3053 DSUH99
DWBYAF
3059 RUH99
3065 UH99
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3082 UH97
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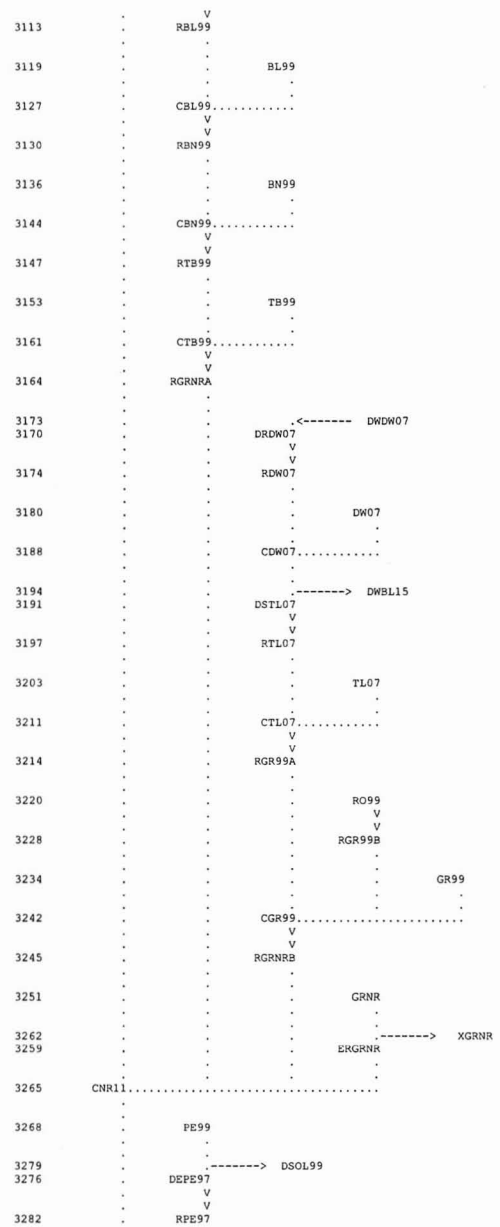
3107 DSBL99
DWDW07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3127 CBL99
3130 RBN99
3136 BN99
3144 CBN99
3147 RTB99
3153 TB99
3161 CTB99
3164 RGRNRA
3173
3170 DRDW07
DWDW07
3174 RDW07
3180 DW07
3188 CDW07
3194
3191 DSTL07
DWBL15
3197 RTL07
3203 TL07
3211 CTL07
3214 RGR99A
3220 RO99
3228 RGR99B
3234 GR99
3242 CGR99
3245 RGRNRB
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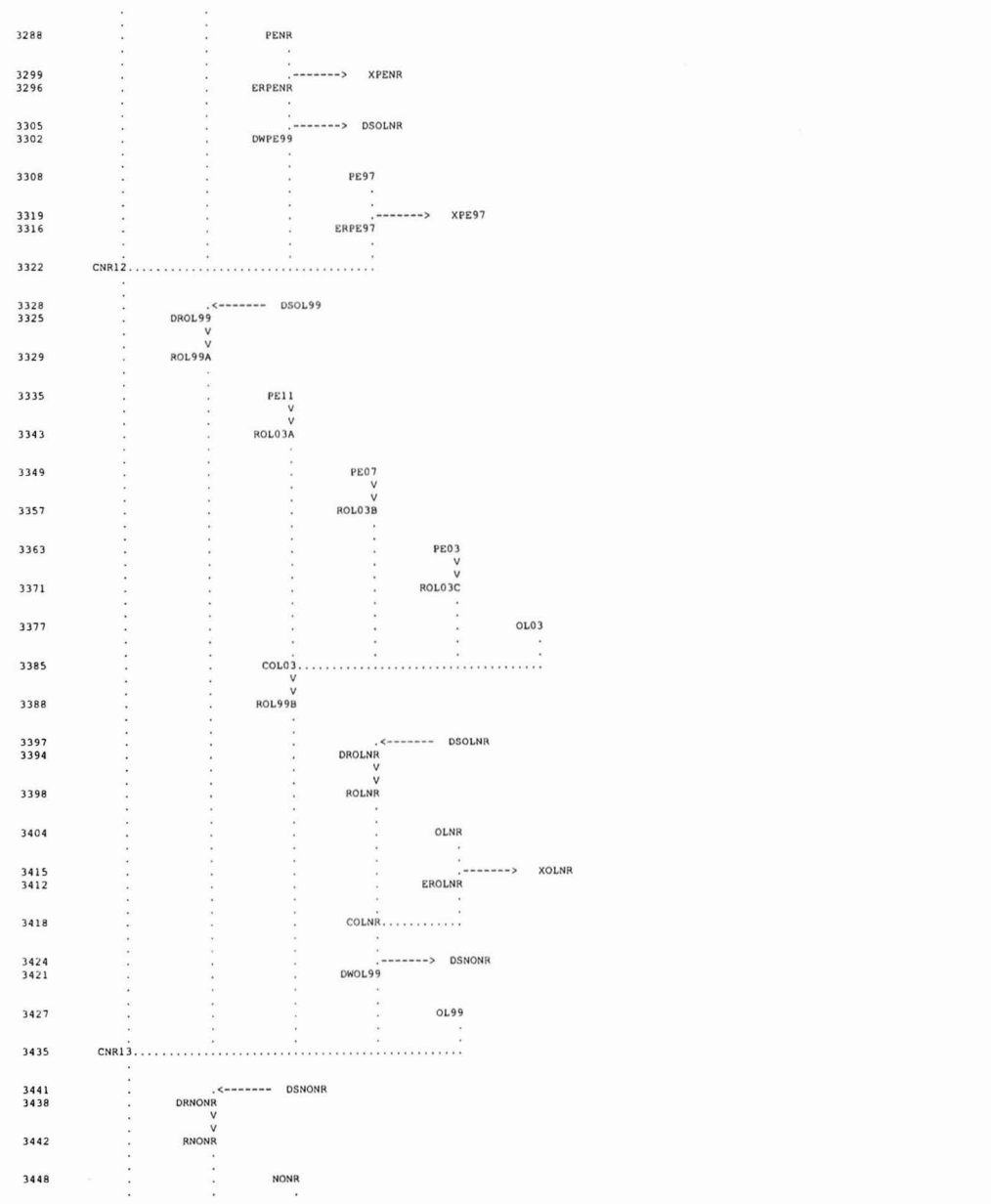
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3328 DSOL99
3325 DROL99
3329 ROL99A
3335 PE11
3343 ROL03A
3349 PE07
3357 ROL03B
3363 PE03
3371 ROL03C
3377 OL03
3385 COL03
3388 ROL99B
3397 DSOLNR
3394 DROLNR
3398 ROLNR
3404 OLNR
3415 XOLNR
3412 EROLNR
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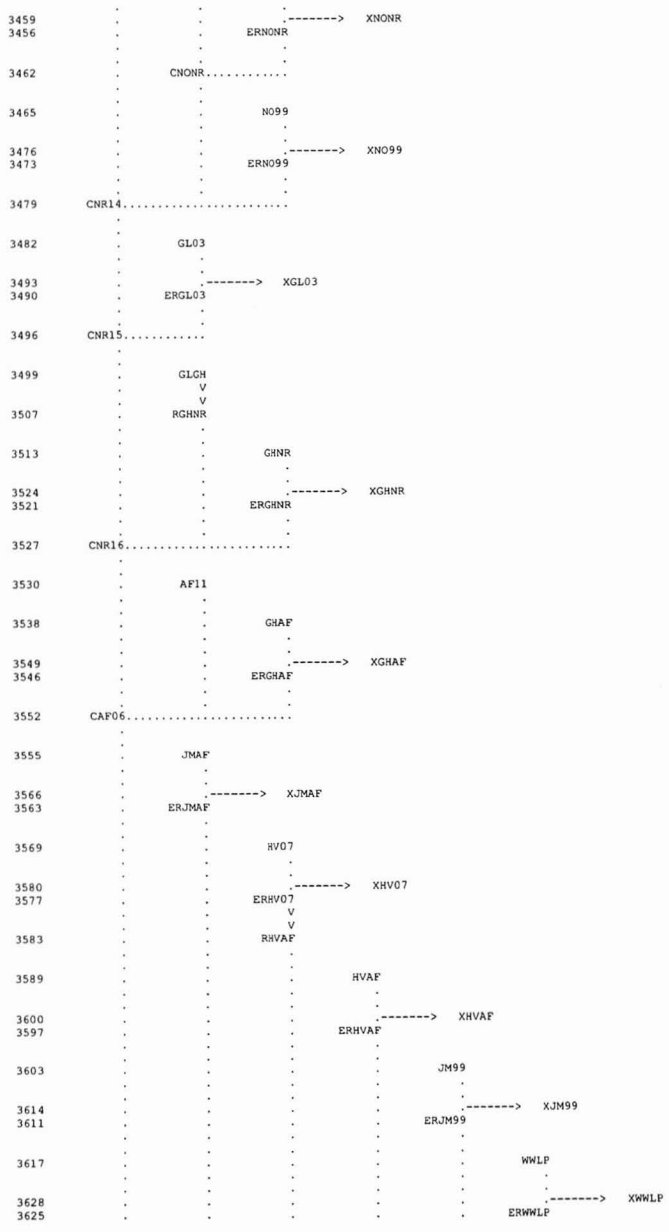
3442 RNONR
3448 NONR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3462 CNONR
3465 NO99
3476 XNO99
3473 ERNO99
3479 CNR14
3482 GL03
3493 XGL03
3490 ERGL03
3496 CNR15
3499 GLGH
3507 RGHNR
3513 GHNR
3524 XGHNR
3521 ERGHNR
3527 CNR16
3530 AF11
3538 GHAF
3549 XGHAF
3546 ERGHAF
3552 CAF06
3555 JMAF
3566 XJMAF
3563 ERJMAF
3569 HV07
3580 XHV07
3577 ERHV07
3583 RHVAF
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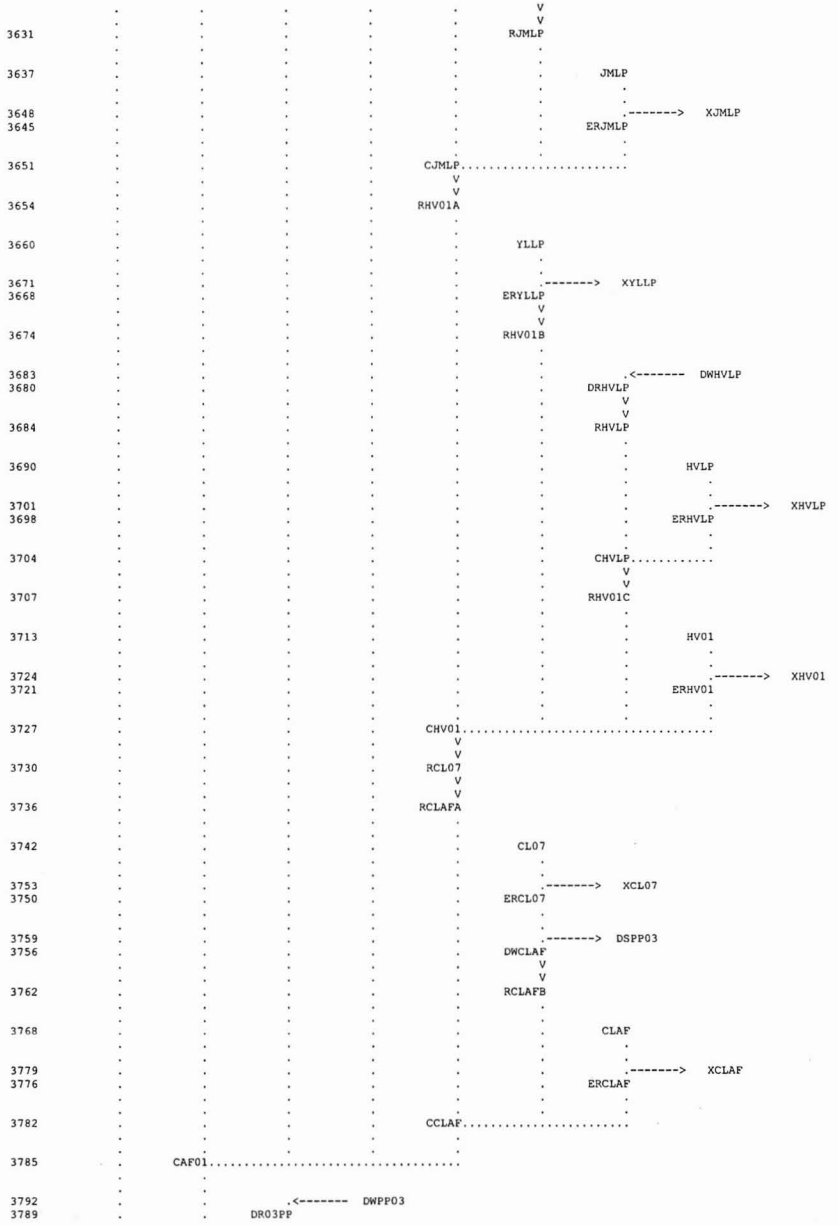
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3648 XJMLP
3645 ERJMLP
3651 CJMLP
3654 RHV01A
3660 YLLP
3671 XYLLP
3668 ERYLLP
3674 RHV01B
3683 DWHVLP
3680 DRHVLP
3684 RHVLP
3690 HVLP
3701 XHVLP
3698 ERHVLP
3704 CHVLP
3707 RHV01C
3713 HV01
3724 XHV01
3721 ERHV01
3727 CHV01
3730 RCL07
3736 RCLAFA
3742 CL07
3753 XCL07
3750 ERCL07
3759 DSPP03
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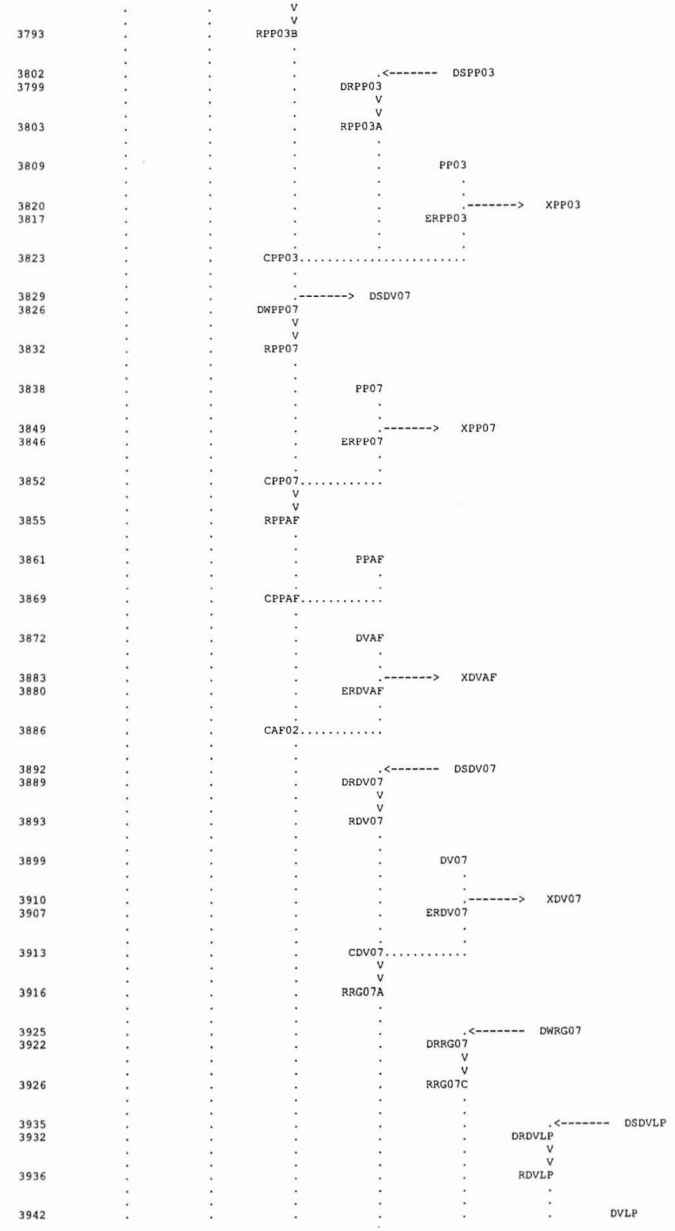
3789 DRO3PP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3820 XPP03
3817 ERPP03
3823 CPP03
3829 DSDV07
3826 DWPP07
3832 RPP07
3838 PP07
3849 XPP07
3846 ERPP07
3852 CPP07
3855 RPPAF
3861 PPAF
3869 CPPAF
3872 DVAF
3883 XDVAF
3880 ERDVAF
3886 CAF02
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3913 CDV07
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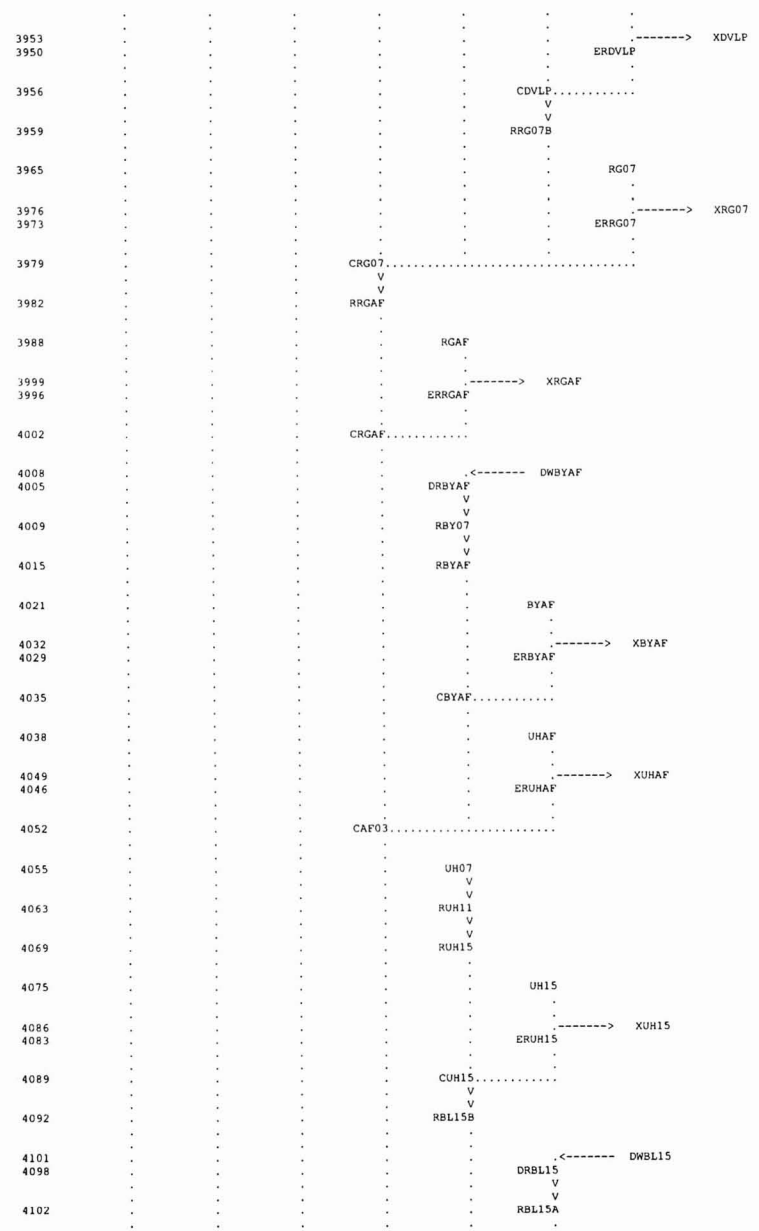
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CDVLP
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XRG07
ERRG07
3979
CRG07
3982
RRGAF
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RGAF
3999
3996
XRGAF
ERRGAF
4002
CRGAF
4008
4005
DWBYAF
DRBYAF
4009
RBY07
4015
RBYAF
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BYAF
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4029
XBYAF
ERBYAF
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CBYAF
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UHAF
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4046
XUHAF
ERUHAF
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CAF03
4055
UH07
4063
RUH11
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RUH15
4075
UH15
4086
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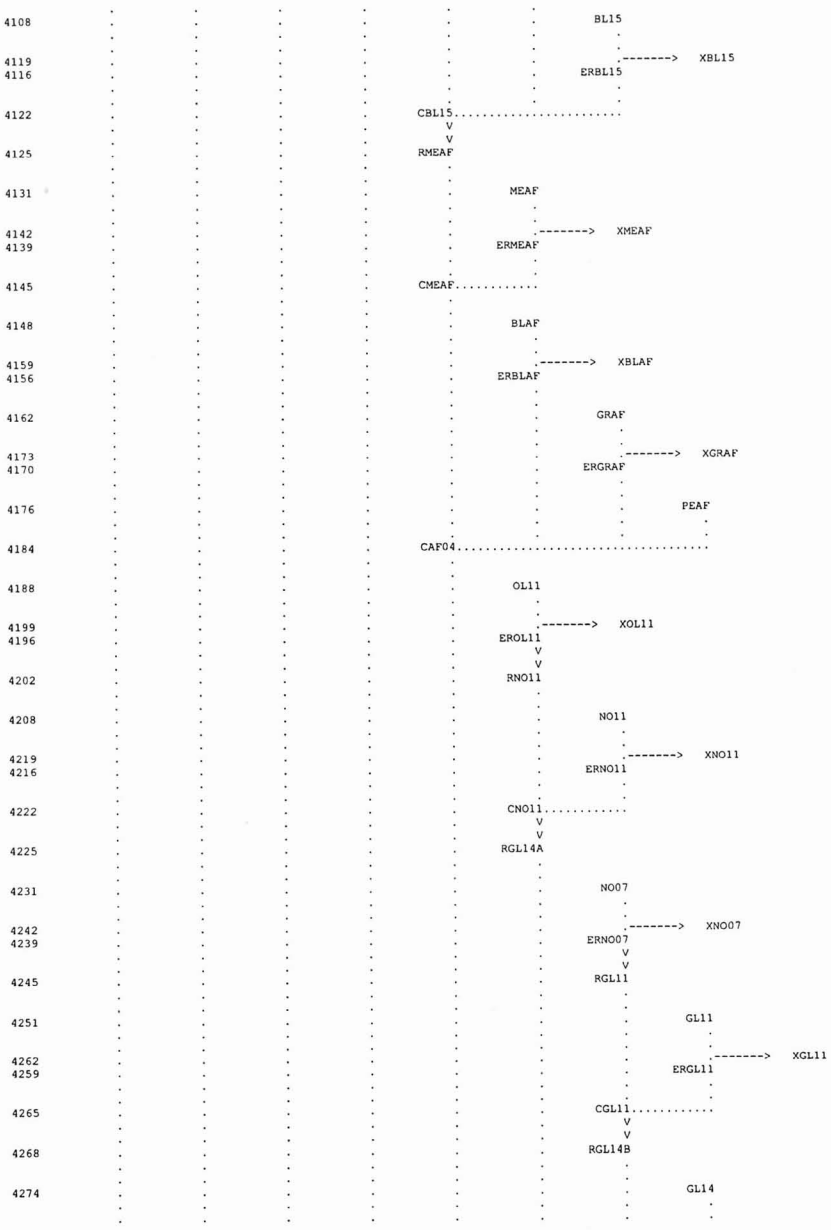
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ERBL15
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CBL15
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MEAF
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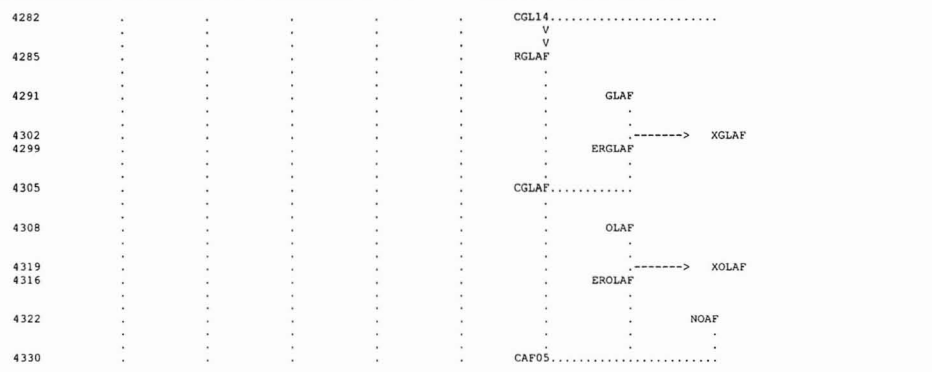
XMEAF
ERMEAF
4145
CMEAF
4148
BLAF
4159
4156
XBLAF
ERBLAF
4162
GRAF
4173
4170
XGRAF
ERGRAF
4176
PEAF
4184
CAF04
4188
OL11
4199
4196
XOL11
EROL11
4202
RNO11
4208
NO11
4219
4216
XNO11
ERNO11
4222
CNO11
4225
RGL14A
4231
NO07
4242
4239
XNO07
ERNO07
4245
RGL11
4251
GL11
4262
4259
XGL11
ERGL11
4265
CGL11
4268
RGL14B
4274
GL14



(***) RUNOFF ALSO COMPUTED AT THIS LOCATION

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1**************************************
*                                    *
*   FLOOD HYDROGRAPH PACKAGE  (HEC-1)  *
*              JUN  1998             *
*            VERSION 4.1             *
*                                    *
*  RUN DATE   01NOV10  TIME  14:01:21  *
*                                    *
**************************************
```

```
**************************************
*                                    *
*   U.S. ARMY CORPS OF ENGINEERS     *
*   HYDROLOGIC ENGINEERING CENTER    *
*        609 SECOND STREET           *
*     DAVIS, CALIFORNIA 95616        *
*         (916) 756-1104             *
*                                    *
**************************************
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GLENDALE STORMWATER MANAGEMENT PLAN
Model for Glendale/Peoria Watershed
Future Conditions

Prepared for the City of Glendale
In Association with the Flood Control District of Maricopa County
City Project Number 089017

Prepared by Kimley-Horn and Associates, Inc.
KHA Project Number 091910009
October 2010

MODELING PARAMETERS
- 100 Year 6 Hour Storm Event
- NOAA 14 Rainfall Data
- Clark Unit Hydrograph
- Green and Ampt Rainfall Loss Method

Topo data extracted from Flood Control District database July 24, 2009
Land use obtained from City of Glendale General Plan August 2009, City of Phoenix General Plan August 2009, and MAG General Plan Land Use 2007

Storage routing data obtained from As-built Records or Final Drainage Reports where possible
When As-built data/Drainage reports were not available data was obtained from HEC-1 models and checked for accuracy.
Storage routing data obtained from the following HEC-1 models:
- Glendale/Peoria ADMPU, May 2001
- Glendale/Peoria ADMP Northwest Region Update, May 2007
The source of data is identified on each individual storage routing card

****

MODELING NOMENCLATURE
SUBBASIN HYDROGRAPH:
Example: JMRS - the subbasin upstream of Jomax and Rock Springs Wash

STORM DRAIN DIVERSION:
Example: DBL59 - flow from subbasin BL59 is diverted to a storm drain

SUBBASIN DIVERSION:
Example: DWBL59 - flow is diverted west towards Bell and 59th Avenue
Example: DSGW51 - flow is diverted south towards Greenway and 51st Ave

ROUTE HYDROGRAPH:
Example: RWBL51 - flow is routed west towards Bell and 51st Avenue
Example: RSGW59 - flow is routed south towards Greenway and 59th Ave

COMBINE HYDROGRAPH:
Example: CJMRS - combine flow at Jomax and Rock Springs Wash

STREET NAME ABBREVIATIONS

Jomax Road	JM
Happy Valley Road	HV
Pinnacle Peak Road	PP
Deer Valley Road	DV
SR Loop 101	LO
Beardsley Road	BY
Union Hills Drive	UH
Bell Road	BL
Greenway Road	GW
Thunderbird Road	TB
Cactus Road	CT
Peoria Avenue	PE
Olive Avenue	OL
Northern Avenue	NO
Glendale Avenue	GL
Bethany Home Road	BH
Camelback Road	CB
Indian School Road	IS
Thomas Road	TM
McDowell Road	MD
Interstate 10	IN
Grand Avenue	GR
Mountain View Road	MV
Pinnacle Hill Road	PH
Greenbriar Drive	GB
Utopia Road	UT
Pyramid Peak Boulevard	PY
Bent Tree Drive	BT
Glen Harbor Boulevard	GH
Black Rock Boulevard	BR
Rose Garden Lane	RG
Calle Lejos	CL
Rock Springs Wash	RS
Williams Road	WL
Del Webb Boulevard	DW
Westwing Parkway	WW
Lake Pleasant Parkway	LP
Thunderbird Park Road	TP
Talisman Road	TL
Royal Oak Road	RO
Yearling Road	YL
Meade Drive	ME
Acoma Drive	AM
Athens Street	AT

PREFIXES FOR MODELING OPERATIONS

RW	Routing flow in the west direction
RS	Routing flow in the south direction
RP	Routing storm drain pipe flow
C	Combination point
CI	Combination point at an intersection
CP	Combination point for storm drain pipe flow
SR	Storage for detention/retention basins
DW	Divert flow to the west
DE	Divert flow to the east
DS	Divert flow to the south
DN	Divert flow to the north
ER	Divert flow for existing 100-yr 2-hr retention
X	Existing retention diversion does not return to model
DR	Divert retrieval from surface flow
DI	Divert retrieval from intersection flow
D	Divert surface flow (remains after storm drain divert)
DP	Divert flow to a storm drain pipe
PR	Divert retrieval from a storm drain pipe

****

```
122 IO          OUTPUT CONTROL VARIABLES
                     IPRNT          5  PRINT CONTROL
                     IPLOT          0  PLOT CONTROL
                     QSCAL          0.  HYDROGRAPH PLOT SCALE

    IT          HYDROGRAPH TIME DATA
                      NMIN          5  MINUTES IN COMPUTATION INTERVAL
                     IDATE      1   0  STARTING DATE
                     ITIME       0000  STARTING TIME
                        NQ       1000  NUMBER OF HYDROGRAPH ORDINATES
                    NDDATE      4   0  ENDING DATE
                    NDTIME       1115  ENDING TIME
                     ICENT         19  CENTURY MARK

                  COMPUTATION INTERVAL      .08 HOURS
                      TOTAL TIME BASE   83.25 HOURS

            ENGLISH UNITS
                 DRAINAGE AREA         SQUARE MILES
                 PRECIPITATION DEPTH   INCHES
                 LENGTH, ELEVATION     FEET
                 FLOW                  CUBIC FEET PER SECOND
                 STORAGE VOLUME        ACRE-FEET
```

```
          SURFACE AREA          ACRES
          TEMPERATURE           DEGREES FAHRENHEIT

123 JD      INDEX STORM NO. 1
                STRM        2.69  PRECIPITATION DEPTH
                TRDA         .00  TRANSPOSITION DRAINAGE AREA

124 PI        PRECIPITATION PATTERN
               .00   .00   .00   .00   .00   .00   .00   .00   .00   .00
               .00   .00   .00   .00   .00   .00   .00   .00   .00   .00
               .00   .00   .00   .00   .00   .00   .00   .00   .00   .00
               .00   .00   .00   .01   .01   .01   .01   .01   .01   .03
               .03   .03   .05   .05   .05   .15   .15   .15   .03   .03
               .03   .01   .01   .01   .01   .01   .01   .00   .00   .00
               .00   .00   .00   .00   .00   .00   .00   .00   .00   .00
               .00   .00

127 JD      INDEX STORM NO. 2
                STRM        2.68  PRECIPITATION DEPTH
                TRDA         .50  TRANSPOSITION DRAINAGE AREA

128 PI        PRECIPITATION PATTERN
               .00   .00   .00   .00   .00   .00   .00   .00   .00   .00
               .00   .00   .00   .00   .00   .00   .00   .00   .00   .00
               .00   .00   .00   .00   .00   .00   .00   .00   .00   .00
               .00   .00   .00   .01   .01   .01   .01   .01   .01   .03
               .03   .03   .05   .05   .05   .15   .15   .15   .03   .03
               .03   .01   .01   .01   .01   .01   .01   .00   .00   .00
               .00   .00   .00   .00   .00   .00   .00   .00   .00   .00
               .00   .00

131 JD      INDEX STORM NO. 3
                STRM        2.63  PRECIPITATION DEPTH
                TRDA        2.80  TRANSPOSITION DRAINAGE AREA

132 PI        PRECIPITATION PATTERN
               .00   .00   .00   .00   .00   .00   .00   .00   .00   .00
               .00   .00   .00   .00   .00   .00   .00   .00   .00   .00
               .00   .00   .00   .00   .00   .00   .00   .00   .00   .00
               .00   .00   .00   .01   .01   .01   .01   .01   .01   .03
               .03   .03   .07   .07   .07   .08   .08   .08   .05   .05
               .05   .02   .02   .02   .01   .01   .01   .00   .00   .00
               .00   .00   .00   .00   .00   .00   .00   .00   .00   .00
               .00   .00

135 JD      INDEX STORM NO. 4
                STRM        2.48  PRECIPITATION DEPTH
                TRDA       16.00  TRANSPOSITION DRAINAGE AREA

136 PI        PRECIPITATION PATTERN
               .01   .01   .00   .00   .00   .00   .00   .00   .00   .01
               .01   .01   .00   .01   .00   .00   .00   .00   .00   .00
               .00   .00   .01   .00   .00   .00   .00   .01   .01   .01
               .01   .01   .01   .01   .01   .01   .02   .02   .02   .03
               .03   .03   .06   .06   .06   .07   .07   .07   .04   .04
               .04   .02   .02   .02   .01   .01   .01   .01   .01   .01
               .00   .00   .00   .00   .00   .00   .00   .00   .00   .00
               .00   .00

139 JD      INDEX STORM NO. 5
                STRM        2.18  PRECIPITATION DEPTH
                TRDA       90.00  TRANSPOSITION DRAINAGE AREA

140 PI        PRECIPITATION PATTERN
               .01   .01   .01   .00   .00   .00   .01   .01   .01   .01
               .01   .01   .01   .01   .01   .01   .01   .01   .01   .01
               .01   .01   .01   .01   .01   .01   .01   .01   .01   .01
               .01   .01   .01   .01   .01   .01   .02   .02   .02   .03
               .03   .03   .05   .05   .05   .05   .05   .05   .04   .04
               .04   .02   .02   .02   .02   .02   .02   .01   .01   .01
               .01   .01   .01   .01   .01   .01   .01   .01   .01   .01
               .01   .01

143 JD      INDEX STORM NO. 6
                STRM        2.15  PRECIPITATION DEPTH
                TRDA      100.00  TRANSPOSITION DRAINAGE AREA

144 PI        PRECIPITATION PATTERN
               .01   .01   .01   .00   .01   .00   .01   .01   .01   .01
               .01   .01   .01   .01   .01   .01   .01   .01   .01   .01
               .01   .01   .01   .01   .01   .01   .01   .01   .01   .01
               .01   .01   .01   .01   .01   .01   .02   .02   .02   .03
               .03   .03   .04   .04   .04   .05   .05   .05   .04   .04
               .04   .02   .02   .02   .02   .02   .02   .01   .01   .01
               .01   .01   .01   .01   .01   .01   .01   .01   .01   .01
               .01   .01

     *** FDKRUT WARNING TIME STEP CALCULATION FAILED TO CONVERGE. STABILITY PROBLEMS MAY RESULT

***  Multiple FDKRUT Warnings deleted from model for brevity and in consideration of the environment when printing ***
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 *** Warnings from RHVAF:

WARNING --- ROUTED OUTFLOW (     357.) IS GREATER THAN MAXIMUM OUTFLOW (     324.) IN STORAGE-OUTFLOW TABLE

WARNING --- ROUTED OUTFLOW (     352.) IS GREATER THAN MAXIMUM OUTFLOW (     324.) IN STORAGE-OUTFLOW TABLE

1
                                        RUNOFF SUMMARY
                                FLOW IN CUBIC FEET PER SECOND
                            TIME IN HOURS,  AREA IN SQUARE MILES
```

	OPERATION	STATION	PEAK FLOW	TIME OF PEAK	AVERAGE FLOW FOR MAXIMUM PERIOD 6-HOUR	24-HOUR	72-HOUR	BASIN AREA	MAXIMUM STAGE	TIME OF MAX STAGE
+	HYDROGRAPH AT	UH35	1037.	4.50	273.	69.	23.	1.14		
+	DIVERSION TO	XUH35	975.	4.33	95.	24.	8.	1.14		
+	HYDROGRAPH AT	ERUH35	1026.	4.58	182.	46.	15.	1.14		
+	DIVERSION TO	DPUH35	875.	4.58	175.	44.	15.	1.14		
+	HYDROGRAPH AT	DUH35	151.	4.58	7.	2.	1.	1.14		
+	DIVERSION TO	DWUH43	77.	4.58	4.	1.	0.	1.14		
+	HYDROGRAPH AT	DSBL35	74.	4.58	3.	1.	0.	1.14		
+	ROUTED TO	RSBL35	22.	5.42	3.	1.	0.	1.14		
+	HYDROGRAPH AT	BL35	859.	4.58	245.	63.	21.	1.14		
+	DIVERSION TO	XBL35	111.	3.75	16.	4.	1.	1.14		
+	HYDROGRAPH AT	ERBL35	859.	4.58	234.	59.	20.	1.14		
+	2 COMBINED AT	CBL35	824.	4.67	234.	58.	19.	1.70		
+	DIVERSION TO	DP35BL	158.	3.92	89.	22.	7.	1.70		
+	HYDROGRAPH AT	D35BL	666.	4.67	145.	36.	12.	1.70		
+	DIVERSION TO	DWBL43	440.	4.67	96.	24.	8.	1.70		
+	HYDROGRAPH AT	DSGW35	226.	4.67	49.	12.	4.	1.70		
+	ROUTED TO	RSGW35	213.	5.00	49.	12.	4.	1.70		
+	HYDROGRAPH AT	GW35	679.	4.67	213.	55.	18.	1.01		
+	2 COMBINED AT	CGW35	844.	4.83	260.	67.	22.	1.58		
+	HYDROGRAPH AT	PR35BL	158.	3.92	89.	22.	7.	1.70		
+	ROUTED TO	RP35GW	158.	4.08	89.	22.	7.	1.70		
+	2 COMBINED AT	CPGW35	1002.	4.83	347.	89.	30.	1.58		
+	DIVERSION TO	DP35GW	318.	4.08	193.	50.	17.	1.58		
+	HYDROGRAPH AT	D35GW	684.	4.83	155.	39.	13.	1.58		
+	DIVERSION TO	DWGW43	397.	4.83	90.	22.	7.	1.58		
+	HYDROGRAPH AT									

+		DSTB35	287.	4.83	65.	16.	5.	1.58
+	ROUTED TO	RSTB35	276.	5.17	65.	16.	5.	1.58
+	HYDROGRAPH AT	TB35	617.	4.75	204.	53.	18.	.98
+	2 COMBINED AT	CTB35	824.	5.00	266.	68.	23.	1.65
+	HYDROGRAPH AT	PR35GW	318.	4.08	193.	50.	17.	1.58
+	ROUTED TO	RP35TB	318.	4.25	193.	50.	17.	1.58
+	2 COMBINED AT	CPTB35	1142.	5.00	459.	118.	39.	1.65
+	DIVERSION TO	DP35TB	554.	4.17	334.	87.	29.	1.65
+	HYDROGRAPH AT	D35TB	588.	5.00	125.	31.	10.	1.65
+	DIVERSION TO	DWTB43	306.	5.00	65.	16.	5.	1.65
+	HYDROGRAPH AT	DSCT35	282.	5.00	60.	15.	5.	1.65
+	ROUTED TO	RSCT35	260.	5.42	60.	15.	5.	1.65
+	HYDROGRAPH AT	CT35	618.	4.67	195.	51.	17.	.98
+	2 COMBINED AT	CCT35	702.	5.17	250.	64.	21.	1.76
+	HYDROGRAPH AT	PR35TB	554.	4.17	334.	87.	29.	1.65
+	ROUTED TO	RP35CT	554.	4.25	334.	87.	29.	1.65
+	2 COMBINED AT	CPCT35	1256.	5.17	583.	151.	50.	1.76
+	DIVERSION TO	DP35CT	554.	4.08	368.	97.	32.	1.76
+	HYDROGRAPH AT	D35CT	702.	5.17	215.	54.	18.	1.76
+	DIVERSION TO	DWCT43	407.	5.17	125.	31.	10.	1.76
+	HYDROGRAPH AT	DSPE35	295.	5.17	90.	23.	8.	1.76
+	ROUTED TO	RSPE35	285.	5.50	90.	23.	8.	1.76
+	HYDROGRAPH AT	PE35	526.	4.75	179.	46.	15.	.98
+	2 COMBINED AT	CPE35	703.	5.08	262.	67.	22.	1.71
+	HYDROGRAPH AT	PR35CT	554.	4.08	368.	97.	32.	1.76
+	ROUTED TO	RP35PE	554.	4.17	368.	97.	32.	1.76
+	2 COMBINED AT	CPPE35	1257.	5.08	631.	165.	55.	1.71
+	DIVERSION TO	DP35PE	466.	4.08	349.	95.	32.	1.71
+	HYDROGRAPH AT	D35PE	791.	5.08	281.	70.	23.	1.71
+	DIVERSION TO	DWPE43	554.	5.08	197.	49.	16.	1.71
+	HYDROGRAPH AT	DSAC35	237.	5.08	84.	21.	7.	1.71
	ROUTED TO							

+		RSAC35	234.	5.33	84.	21.	7.	1.71
+	HYDROGRAPH AT	AC35	747.	4.42	177.	45.	15.	.75
+	2 COMBINED AT	CAC01	787.	4.58	257.	66.	22.	1.27
+	HYDROGRAPH AT	PR35PE	466.	4.08	349.	95.	32.	1.71
+	ROUTED TO	RP35AC	466.	4.17	349.	95.	32.	1.71
+	2 COMBINED AT	CPAC01	1253.	4.58	603.	160.	53.	1.27
+	HYDROGRAPH AT	DRUH43	77.	4.58	4.	1.	0.	1.14
+	ROUTED TO	RWUH43	25.	5.25	4.	1.	0.	1.14
+	HYDROGRAPH AT	UH43	646.	4.67	185.	47.	16.	1.02
+	DIVERSION TO	XUH43	621.	4.50	54.	14.	5.	1.02
+	HYDROGRAPH AT	ERUH43	638.	4.75	134.	34.	11.	1.02
+	2 COMBINED AT	CUH43	615.	4.75	133.	33.	11.	1.60
+	HYDROGRAPH AT	PRUH35	875.	4.58	175.	44.	15.	1.14
+	ROUTED TO	RPUH43	875.	4.67	175.	44.	15.	1.14
+	2 COMBINED AT	CPUH43	1490.	4.75	308.	77.	26.	1.60
+	DIVERSION TO	DPUH43	1268.	4.67	296.	74.	25.	1.60
+	HYDROGRAPH AT	DUH43	222.	4.75	12.	3.	1.	1.60
+	DIVERSION TO	DWUH51	93.	4.75	5.	1.	0.	1.60
+	HYDROGRAPH AT	DSBL43	129.	4.75	7.	2.	1.	1.60
+	ROUTED TO	RSBL43	41.	5.25	7.	2.	1.	1.60
+	HYDROGRAPH AT	DRBL43	440.	4.67	96.	24.	8.	1.70
+	ROUTED TO	RWBL43	419.	4.92	96.	24.	8.	1.70
+	HYDROGRAPH AT	BL43	731.	4.67	219.	56.	19.	1.05
+	3 COMBINED AT	CBL43	1033.	4.92	307.	78.	26.	3.10
+	DIVERSION TO	DP43BL	117.	3.83	82.	22.	7.	3.10
+	HYDROGRAPH AT	D43BL	916.	4.92	225.	56.	19.	3.10
+	DIVERSION TO	DWBL51	421.	4.92	104.	26.	9.	3.10
+	HYDROGRAPH AT	DSGW43	495.	4.92	122.	30.	10.	3.10
+	ROUTED TO	RSGW43	474.	5.17	122.	30.	10.	3.10
+	HYDROGRAPH AT	DRGW43	397.	4.83	90.	22.	7.	1.58
+	ROUTED TO	RWGW43	381.	5.17	90.	22.	7.	1.58
	HYDROGRAPH AT							

+		GW43	679.	4.58	196.	50.	17.	.99
+	DIVERSION TO	XGW43	78.	3.83	13.	3.	1.	.99
+	HYDROGRAPH AT	ERGW43	679.	4.58	188.	47.	16.	.99
+	3 COMBINED AT	CGW43	1296.	5.08	380.	95.	32.	3.57
+	HYDROGRAPH AT	PR43BL	117.	3.83	82.	22.	7.	3.10
+	ROUTED TO	RP43GW	117.	4.00	82.	22.	7.	3.10
+	2 COMBINED AT	CPGW43	1413.	5.08	461.	117.	39.	3.57
+	DIVERSION TO	DP43GW	155.	3.92	117.	31.	10.	3.57
+	HYDROGRAPH AT	D43GW	1258.	5.08	345.	86.	29.	3.57
+	DIVERSION TO	DWGW51	667.	5.08	183.	46.	15.	3.57
+	HYDROGRAPH AT	DSTB43	591.	5.08	162.	41.	14.	3.57
+	ROUTED TO	RSTB43	562.	5.33	162.	41.	14.	3.57
+	HYDROGRAPH AT	DRTB43	306.	5.00	65.	16.	5.	1.65
+	ROUTED TO	RWTB43	275.	5.42	65.	16.	5.	1.65
+	HYDROGRAPH AT	TB43	635.	4.67	192.	49.	16.	1.00
+	3 COMBINED AT	CTB43	1233.	5.33	402.	102.	34.	3.55
+	HYDROGRAPH AT	PR43GW	155.	3.92	117.	31.	10.	3.57
+	ROUTED TO	RP43TB	155.	4.08	117.	31.	10.	3.57
+	2 COMBINED AT	CPTB43	1388.	5.33	519.	133.	44.	3.55
+	DIVERSION TO	DP43TB	312.	4.00	231.	61.	20.	3.55
+	HYDROGRAPH AT	D43TB	1076.	5.33	289.	72.	24.	3.55
+	DIVERSION TO	DWTB51	678.	5.33	182.	45.	15.	3.55
+	HYDROGRAPH AT	DSCT43	398.	5.33	107.	27.	9.	3.55
+	ROUTED TO	RSCT43	384.	5.58	107.	27.	9.	3.55
+	HYDROGRAPH AT	DRCT43	407.	5.17	125.	31.	10.	1.76
+	ROUTED TO	RWCT43	394.	5.50	125.	31.	10.	1.76
+	HYDROGRAPH AT	CT43	707.	4.67	212.	54.	18.	1.00
+	DIVERSION TO	XCT43	707.	4.67	83.	21.	7.	1.00
+	HYDROGRAPH AT	ERCT43	679.	4.83	134.	34.	11.	1.00
+	3 COMBINED AT	CCT43	1177.	5.33	352.	88.	29.	3.35
+	HYDROGRAPH AT	PR43TB	312.	4.00	231.	61.	20.	3.55
	ROUTED TO							

+		RP43CT	312.	4.17	231.	61.	20.	3.55
+	2 COMBINED AT	CPCT43	1489.	5.33	582.	148.	49.	3.35
+	DIVERSION TO	DP43CT	380.	4.67	280.	73.	24.	3.35
+	HYDROGRAPH AT	D43CT	1109.	5.33	302.	75.	25.	3.35
+	DIVERSION TO	DWCT51	699.	5.33	190.	48.	16.	3.35
+	HYDROGRAPH AT	DSPE43	410.	5.33	112.	28.	9.	3.35
+	ROUTED TO	RSPE43	397.	5.67	112.	28.	9.	3.35
+	HYDROGRAPH AT	DRPE43	554.	5.08	197.	49.	16.	1.71
+	ROUTED TO	RWPE43	543.	5.42	197.	49.	16.	1.71
+	HYDROGRAPH AT	PE43	546.	4.75	177.	46.	15.	1.00
+	3 COMBINED AT	CPE43	1228.	5.50	460.	117.	39.	3.42
+	HYDROGRAPH AT	PR43CT	380.	4.67	280.	73.	24.	3.35
+	ROUTED TO	RP43PE	380.	4.75	280.	73.	24.	3.35
+	2 COMBINED AT	CPPE43	1608.	5.50	741.	190.	63.	3.42
+	DIVERSION TO	DP43PE	520.	4.25	399.	105.	35.	3.42
+	HYDROGRAPH AT	D43PE	1088.	5.50	342.	85.	28.	3.42
+	DIVERSION TO	DWAC51	413.	5.50	130.	32.	11.	3.42
+	HYDROGRAPH AT	DSAC43	674.	5.50	212.	53.	18.	3.42
+	HYDROGRAPH AT	AC43	172.	4.67	63.	17.	6.	.36
+	3 COMBINED AT	CAC02	1713.	5.33	856.	225.	75.	3.75
+	HYDROGRAPH AT	PR43PE	520.	4.25	399.	105.	35.	3.42
+	2 COMBINED AT	CPAC02	2233.	5.33	1252.	329.	110.	3.75
+	HYDROGRAPH AT	DRUH51	93.	4.75	5.	1.	0.	1.60
+	ROUTED TO	RWUH51	31.	5.50	5.	1.	0.	1.60
+	HYDROGRAPH AT	UH51	532.	4.75	173.	45.	15.	.99
+	DIVERSION TO	XUH51	532.	4.75	98.	25.	8.	.99
+	HYDROGRAPH AT	ERUH51	382.	5.42	81.	20.	7.	.99
+	2 COMBINED AT	CUH51	398.	5.42	80.	20.	7.	1.66
+	DIVERSION TO	DWUHSK	243.	5.42	49.	12.	4.	1.66
+	HYDROGRAPH AT	DSBL51	155.	5.42	31.	8.	3.	1.66
+	HYDROGRAPH AT	PRUH43	1268.	4.67	296.	74.	25.	1.60
	ROUTED TO							

+		RPUH51	1268.	4.75	296.	74.	25.	1.60
+	2 COMBINED AT	CPUH51	1290.	5.17	327.	82.	27.	1.66
+	DIVERSION TO	DPUH51	1290.	5.17	327.	82.	27.	1.66
+	HYDROGRAPH AT	DUH51	0.	.00	0.	0.	0.	1.66
+	ROUTED TO	RSBL51	0.	.00	0.	0.	0.	1.66
+	HYDROGRAPH AT	DRBL51	421.	4.92	104.	26.	9.	3.10
+	ROUTED TO	RWBL51	409.	5.17	104.	26.	9.	3.10
+	HYDROGRAPH AT	BL51	684.	4.67	198.	51.	17.	1.04
+	DIVERSION TO	XBL51	547.	4.33	46.	12.	4.	1.04
+	HYDROGRAPH AT	ERBL51	684.	4.67	157.	39.	13.	1.04
+	3 COMBINED AT	CBL51	948.	5.00	249.	62.	21.	3.12
+	DIVERSION TO	DP51BL	38.	4.50	26.	7.	2.	3.12
+	HYDROGRAPH AT	D51BL	910.	5.00	223.	56.	19.	3.12
+	DIVERSION TO	DWBL59	473.	5.00	116.	29.	10.	3.12
+	HYDROGRAPH AT	DSGW51	437.	5.00	107.	27.	9.	3.12
+	ROUTED TO	RSGW51	379.	5.33	107.	27.	9.	3.12
+	HYDROGRAPH AT	DRGW51	667.	5.08	183.	46.	15.	3.57
+	ROUTED TO	RWGW51	641.	5.33	183.	46.	15.	3.57
+	HYDROGRAPH AT	GW51	549.	4.67	162.	41.	14.	.96
+	DIVERSION TO	XGW51	11.	2.58	3.	1.	0.	.96
+	HYDROGRAPH AT	ERGW51	549.	4.67	162.	41.	14.	.96
+	3 COMBINED AT	CGW51	1338.	5.25	424.	107.	36.	4.34
+	HYDROGRAPH AT	PR51BL	38.	4.50	26.	7.	2.	3.12
+	ROUTED TO	RP51GW	38.	4.67	26.	7.	2.	3.12
+	2 COMBINED AT	CPGW51	1376.	5.25	449.	113.	38.	4.34
+	DIVERSION TO	DP51GW	150.	4.08	116.	30.	10.	4.34
+	HYDROGRAPH AT	D51GW	1226.	5.25	333.	83.	28.	4.34
+	DIVERSION TO	DWGW59	797.	5.25	216.	54.	18.	4.34
+	HYDROGRAPH AT	DSTB51	429.	5.25	117.	29.	10.	4.34
+	ROUTED TO	RSTB51	412.	5.50	116.	29.	10.	4.34
+	HYDROGRAPH AT	DRTB51	678.	5.33	182.	45.	15.	3.55
	ROUTED TO							

+		RWTB51	658.	5.50	182.	45.	15.	3.55
+	HYDROGRAPH AT	TB51	577.	4.67	172.	44.	15.	.99
+	3 COMBINED AT	CTB51	1350.	5.50	442.	112.	37.	4.70
+	HYDROGRAPH AT	PR51GW	150.	4.08	116.	30.	10.	4.34
+	ROUTED TO	RP51TB	150.	4.25	116.	30.	10.	4.34
+	2 COMBINED AT	CPTB51	1500.	5.50	558.	142.	47.	4.70
+	DIVERSION TO	DP51TB	244.	4.08	194.	50.	17.	4.70
+	HYDROGRAPH AT	D51TB	1256.	5.50	365.	91.	30.	4.70
+	DIVERSION TO	DWTB59	766.	5.50	222.	56.	19.	4.70
+	HYDROGRAPH AT	DSCT51	490.	5.50	142.	36.	12.	4.70
+	ROUTED TO	RSCT51	476.	5.75	142.	36.	12.	4.70
+	HYDROGRAPH AT	DRCT51	699.	5.33	190.	48.	16.	3.35
+	ROUTED TO	RWCT51	672.	5.67	190.	48.	16.	3.35
+	HYDROGRAPH AT	CT51	809.	4.50	221.	56.	19.	.99
+	DIVERSION TO	XCT51	809.	4.50	117.	29.	10.	.99
+	HYDROGRAPH AT	ERCT51	673.	4.92	109.	27.	9.	.99
+	3 COMBINED AT	CCT51	1404.	5.58	418.	104.	35.	4.94
+	HYDROGRAPH AT	PR51TB	244.	4.08	194.	50.	17.	4.70
+	ROUTED TO	RP51CT	244.	4.25	194.	50.	17.	4.70
+	2 COMBINED AT	CPCT51	1648.	5.58	610.	155.	52.	4.94
+	DIVERSION TO	DP51CT	244.	4.25	202.	53.	18.	4.94
+	HYDROGRAPH AT	D51CT	1404.	5.58	409.	102.	34.	4.94
+	DIVERSION TO	DWAC59	463.	5.58	135.	34.	11.	4.94
+	HYDROGRAPH AT	DSAC51	940.	5.58	274.	68.	23.	4.94
+	HYDROGRAPH AT	DRAC51	413.	5.50	130.	32.	11.	3.42
+	HYDROGRAPH AT	AC51	284.	4.83	118.	32.	11.	.58
+	DIVERSION TO	XAC51	7.	2.17	1.	0.	0.	.58
+	HYDROGRAPH AT	ERAC51	284.	4.83	118.	31.	10.	.58
+	4 COMBINED AT	CAC03	3478.	5.50	1678.	440.	147.	8.95
+	HYDROGRAPH AT	PR51CT	244.	4.25	202.	53.	18.	4.94
+	2 COMBINED AT	CPAC03	3722.	5.50	1876.	493.	164.	8.95
	HYDROGRAPH AT							

+		DRBL59	473.	5.00	116.	29.	10.	3.12
+	ROUTED TO	RWBL59	401.	5.33	116.	29.	10.	3.12
+	HYDROGRAPH AT	BL59	773.	4.58	221.	57.	19.	1.08
+	DIVERSION TO	XBL59	773.	4.58	153.	38.	13.	1.08
+	HYDROGRAPH AT	ERBL59	408.	5.42	73.	18.	6.	1.08
+	2 COMBINED AT	CBL59	795.	5.50	184.	46.	15.	2.71
+	DIVERSION TO	DP59BL	108.	4.75	65.	16.	5.	2.71
+	HYDROGRAPH AT	D59BL	687.	5.50	119.	30.	10.	2.71
+	DIVERSION TO	DWBL67	213.	5.50	37.	9.	3.	2.71
+	HYDROGRAPH AT	DSGW59	474.	5.50	82.	21.	7.	2.71
+	ROUTED TO	RSGW59	416.	5.83	82.	21.	7.	2.71
+	HYDROGRAPH AT	DRGW59	797.	5.25	216.	54.	18.	4.34
+	ROUTED TO	RWGW59	775.	5.50	216.	54.	18.	4.34
+	HYDROGRAPH AT	GW59	673.	4.67	203.	52.	17.	.94
+	DIVERSION TO	XGW59	672.	4.58	72.	18.	6.	.94
+	HYDROGRAPH AT	ERGW59	663.	4.75	136.	34.	11.	.94
+	3 COMBINED AT	CGW59	1288.	5.67	400.	100.	33.	5.64
+	HYDROGRAPH AT	PR59BL	108.	4.75	65.	16.	5.	2.71
+	ROUTED TO	RP59GW	108.	4.92	64.	16.	5.	2.71
+	2 COMBINED AT	CPGW59	1396.	5.67	463.	116.	39.	5.64
+	DIVERSION TO	DP59GW	273.	4.83	164.	41.	14.	5.64
+	HYDROGRAPH AT	D59GW	1123.	5.67	299.	75.	25.	5.64
+	DIVERSION TO	DWGW67	505.	5.67	134.	34.	11.	5.64
+	HYDROGRAPH AT	DSTB59	618.	5.67	164.	41.	14.	5.64
+	ROUTED TO	RSTB59	600.	5.92	164.	41.	14.	5.64
+	HYDROGRAPH AT	DRTB59	766.	5.50	222.	56.	19.	4.70
+	ROUTED TO	RWTB59	749.	5.67	222.	56.	19.	4.70
+	HYDROGRAPH AT	TB59	650.	4.67	199.	51.	17.	1.00
+	3 COMBINED AT	CTB59	1527.	5.75	541.	138.	46.	6.96
+	HYDROGRAPH AT	PR59GW	273.	4.83	164.	41.	14.	5.64
+	ROUTED TO	RP59AM	273.	4.92	164.	41.	14.	5.64
	ROUTED TO							

+		SRAM59	273.	6.00	164.	41.	14.	5.64
+	ROUTED TO	RP59TB	273.	6.08	164.	41.	14.	5.64
+	2 COMBINED AT	CPTB59	1725.	5.75	699.	179.	60.	6.96
+	DIVERSION TO	DPTB59	578.	4.75	412.	107.	36.	6.96
+	HYDROGRAPH AT	DTB59	1147.	5.75	287.	72.	24.	6.96
+	DIVERSION TO	DWAC67	470.	5.75	118.	29.	10.	6.96
+	HYDROGRAPH AT	DSAC59	676.	5.75	169.	42.	14.	6.96
+	HYDROGRAPH AT	DRAC59	463.	5.58	135.	34.	11.	4.94
+	HYDROGRAPH AT	AC59	403.	4.75	156.	41.	14.	.74
+	DIVERSION TO	XAC59	403.	4.75	115.	29.	10.	.74
+	HYDROGRAPH AT	ERAC59	179.	6.33	50.	12.	4.	.74
+	4 COMBINED AT	CAC04	4421.	5.58	2086.	548.	183.	15.39
+	HYDROGRAPH AT	PRTB59	578.	4.75	412.	107.	36.	6.96
+	2 COMBINED AT	CPAC04	4999.	5.58	2487.	654.	218.	15.39
+	HYDROGRAPH AT	DRBL67	213.	5.50	37.	9.	3.	2.71
+	DIVERSION TO	DWSK67	158.	5.50	27.	7.	2.	2.71
+	HYDROGRAPH AT	DBL67	55.	5.50	10.	2.	1.	2.71
+	ROUTED TO	RWBL67	44.	6.00	10.	2.	1.	2.71
+	HYDROGRAPH AT	BL67	184.	4.50	51.	13.	4.	.23
+	DIVERSION TO	XBL67	184.	4.50	32.	8.	3.	.23
+	HYDROGRAPH AT	ERBL67	121.	5.08	20.	5.	2.	.23
+	2 COMBINED AT	CBL67	122.	5.08	32.	8.	3.	.46
+	DIVERSION TO	DP67BL	32.	5.08	15.	4.	1.	.46
+	HYDROGRAPH AT	D67BL	90.	5.08	17.	4.	1.	.46
+	DIVERSION TO	DWBL75	55.	5.08	11.	3.	1.	.46
+	HYDROGRAPH AT	DSGW67	35.	5.08	7.	2.	1.	.46
+	ROUTED TO	RSGW67	27.	6.67	7.	2.	1.	.46
+	HYDROGRAPH AT	DRGW67	505.	5.67	134.	34.	11.	5.64
+	ROUTED TO	RWGW67	491.	5.92	134.	34.	11.	5.64
+	HYDROGRAPH AT	GW67	667.	4.58	194.	50.	17.	.89
+	DIVERSION TO	XGW67	667.	4.58	101.	25.	8.	.89
	HYDROGRAPH AT							

+		ERGW67	537.	5.08	98.	24.	8.	.89
+	3 COMBINED AT	CGW67	802.	5.58	240.	60.	20.	3.64
+	HYDROGRAPH AT	PR67BL	32.	5.08	15.	4.	1.	.46
+	ROUTED TO	RP67GW	32.	5.33	15.	4.	1.	.46
+	2 COMBINED AT	CPGW67	829.	5.67	254.	64.	21.	3.64
+	DIVERSION TO	DP67GW	608.	5.50	223.	56.	19.	3.64
+	HYDROGRAPH AT	D67GW	221.	5.67	32.	8.	3.	3.64
+	DIVERSION TO	DWAC75	186.	5.67	26.	7.	2.	3.64
+	HYDROGRAPH AT	DSAC67	35.	5.67	5.	1.	0.	3.64
+	ROUTED TO	RSAC67	34.	5.83	5.	1.	0.	3.64
+	HYDROGRAPH AT	DRAC67	470.	5.75	118.	29.	10.	6.96
+	ROUTED TO	RWAC67	469.	5.83	118.	29.	10.	6.96
+	HYDROGRAPH AT	AC67	397.	4.75	142.	37.	12.	.70
+	4 COMBINED AT	CAC05	5333.	5.67	2615.	688.	229.	19.62
+	HYDROGRAPH AT	PR67GW	608.	5.50	223.	56.	19.	3.64
+	ROUTED TO	RP67AC	608.	5.58	223.	56.	19.	3.64
+	2 COMBINED AT	CPAC05	5909.	5.67	2799.	734.	245.	19.55
+	HYDROGRAPH AT	DRAC75	186.	5.67	26.	7.	2.	3.64
+	HYDROGRAPH AT	AC75	461.	4.67	155.	40.	13.	.84
+	DIVERSION TO	XAC75	398.	4.42	35.	9.	3.	.84
+	HYDROGRAPH AT	ERAC75	461.	4.67	126.	31.	10.	.84
+	3 COMBINED AT	CAC06	5920.	5.67	2809.	737.	246.	23.44
+	HYDROGRAPH AT	HV55	1268.	4.58	323.	82.	27.	2.05
+	DIVERSION TO	XHV55	1268.	4.58	222.	56.	19.	2.05
+	HYDROGRAPH AT	ERHV55	779.	5.17	106.	26.	9.	2.05
+	ROUTED TO	RCL57	633.	5.42	106.	26.	9.	2.05
+	HYDROGRAPH AT	CL57	663.	4.33	125.	32.	11.	.75
+	DIVERSION TO	XCL57	663.	4.33	88.	22.	7.	.75
+	HYDROGRAPH AT	ERCL57	325.	4.83	38.	10.	3.	.75
+	2 COMBINED AT	CCL57	730.	5.42	122.	31.	10.	2.80
+	ROUTED TO	RWL59	634.	5.75	122.	31.	10.	2.80
	HYDROGRAPH AT							

+		WL59	333.	4.50	89.	23.	8.	.56
+	DIVERSION TO	XWL59	324.	4.42	22.	6.	2.	.56
+	HYDROGRAPH AT	ERWL59	331.	4.58	68.	17.	6.	.56
+	2 COMBINED AT	CWL59	671.	5.75	168.	42.	14.	3.36
+	HYDROGRAPH AT	DV56	410.	4.33	55.	14.	5.	.29
+	2 COMBINED AT	CDV56	658.	5.75	208.	53.	18.	3.65
+	ROUTED TO	SRDV56	525.	6.00	206.	53.	18.	3.65
+	HYDROGRAPH AT	LO51	744.	4.58	216.	55.	18.	1.13
+	2 COMBINED AT	CLO51	870.	4.83	381.	100.	33.	4.78
+	DIVERSION TO	DP51LO	38.	2.92	38.	14.	5.	4.78
+	HYDROGRAPH AT	D51LO	832.	4.83	343.	86.	29.	4.78
+	ROUTED TO	SRLO51	287.	7.08	211.	84.	29.	4.78
+	ROUTED TO	RUHSKA	286.	7.25	211.	84.	29.	4.78
+	HYDROGRAPH AT	DRUHSK	243.	5.42	49.	12.	4.	1.66
+	DIVERSION TO	DP51SK	24.	5.33	14.	3.	1.	1.66
+	HYDROGRAPH AT	D51SK	219.	5.42	35.	9.	3.	1.66
+	ROUTED TO	RUHSKB	161.	6.00	35.	9.	3.	1.66
+	HYDROGRAPH AT	UHSK	646.	4.50	161.	41.	14.	.93
+	DIVERSION TO	XUHSK	503.	4.25	40.	10.	3.	.93
+	HYDROGRAPH AT	ERUHSK	646.	4.50	124.	31.	10.	.93
+	3 COMBINED AT	CSK01	496.	4.58	303.	109.	37.	6.73
+	DIVERSION TO	DPUHSK	10.	4.42	10.	10.	4.	6.73
+	HYDROGRAPH AT	DUHSK	486.	4.58	293.	99.	33.	6.73
+	HYDROGRAPH AT	DRSK67	158.	5.50	27.	7.	2.	2.71
+	ROUTED TO	RSK67	125.	6.00	27.	7.	2.	2.71
+	HYDROGRAPH AT	SK67	704.	4.50	162.	41.	14.	.94
+	DIVERSION TO	XSK67	697.	4.42	57.	14.	5.	.94
+	HYDROGRAPH AT	ERSK67	690.	4.58	107.	27.	9.	.94
+	3 COMBINED AT	CSK02	943.	4.75	380.	120.	40.	8.30
+	HYDROGRAPH AT	PRUHSK	10.	4.42	10.	10.	4.	6.73
+	ROUTED TO	RPSK67	10.	4.92	10.	10.	4.	6.73
	2 COMBINED AT							

+		CPSK02	952.	4.75	390.	130.	44.	8.30
+	HYDROGRAPH AT	UH67	608.	4.50	158.	40.	13.	.78
+	DIVERSION TO	XUH67	608.	4.50	135.	34.	11.	.78
+	HYDROGRAPH AT	ERUH67	149.	5.67	27.	7.	2.	.78
+	ROUTED TO	RUH75	120.	6.75	27.	7.	2.	.78
+	HYDROGRAPH AT	UH75	485.	4.75	161.	41.	14.	.81
+	DIVERSION TO	XUH75	485.	4.75	131.	33.	11.	.81
+	HYDROGRAPH AT	ERUH75	147.	6.42	34.	8.	3.	.81
+	2 COMBINED AT	CUH75	209.	6.75	51.	13.	4.	1.60
+	ROUTED TO	RBL75A	190.	7.17	51.	13.	4.	1.60
+	HYDROGRAPH AT	DRBL75	55.	5.08	11.	3.	1.	.46
+	ROUTED TO	RBL75B	47.	5.92	11.	3.	1.	.46
+	HYDROGRAPH AT	BL75	649.	4.58	180.	46.	15.	1.06
+	DIVERSION TO	XBL75	344.	4.17	27.	7.	2.	1.06
+	HYDROGRAPH AT	ERBL75	649.	4.58	157.	39.	13.	1.06
+	4 COMBINED AT	CSK03	1377.	4.75	504.	158.	53.	11.22
+	HYDROGRAPH AT	UHLO	758.	4.42	151.	38.	13.	.82
+	DIVERSION TO	XUHLO	758.	4.42	134.	34.	11.	.82
+	HYDROGRAPH AT	ERUHLO	154.	5.33	18.	4.	1.	.82
+	ROUTED TO	RBLLO	86.	6.08	18.	4.	1.	.82
+	HYDROGRAPH AT	BLLO	585.	4.50	158.	40.	13.	.76
+	DIVERSION TO	XBLLO	585.	4.50	143.	36.	12.	.76
+	HYDROGRAPH AT	ERBLLO	117.	5.92	19.	5.	2.	.76
+	2 COMBINED AT	CBLLO	97.	6.58	25.	6.	2.	1.59
+	DIVERSION TO	DPBLLO	97.	6.58	24.	6.	2.	1.59
+	HYDROGRAPH AT	DBLLO	27.	6.08	2.	0.	0.	1.59
+	ROUTED TO	RGWLO	12.	6.67	2.	0.	0.	1.59
+	HYDROGRAPH AT	GWLO	981.	4.25	174.	44.	15.	.81
+	DIVERSION TO	XGWLO	981.	4.25	109.	27.	9.	.81
+	HYDROGRAPH AT	ERGWLO	575.	4.50	66.	17.	6.	.81
+	4 COMBINED AT	CSK04	6011.	5.58	2969.	805.	269.	37.07
+	HYDROGRAPH AT							

+		PRBLLO	97.	6.58	24.	6.	2.	1.59
+	ROUTED TO	RPGWLO	91.	6.75	24.	6.	2.	1.59
+	2 COMBINED AT	CPSK04	6011.	5.58	2969.	805.	269.	37.07
+	HYDROGRAPH AT	JM63	793.	4.33	139.	35.	12.	.84
+	DIVERSION TO	XJM63	793.	4.33	101.	25.	8.	.84
+	HYDROGRAPH AT	ERJM63	319.	4.83	38.	10.	3.	.84
+	ROUTED TO	RJM67	262.	5.08	38.	10.	3.	.84
+	HYDROGRAPH AT	JM67	357.	4.33	68.	17.	6.	.38
+	DIVERSION TO	XJM67	357.	4.33	48.	12.	4.	.38
+	HYDROGRAPH AT	ERJM67	179.	4.92	21.	5.	2.	.38
+	2 COMBINED AT	CJM67	343.	5.17	51.	13.	4.	1.22
+	ROUTED TO	RHV75	292.	5.42	51.	13.	4.	1.22
+	HYDROGRAPH AT	HV75	665.	4.42	147.	37.	12.	.96
+	DIVERSION TO	XHV75	665.	4.42	138.	35.	12.	.96
+	HYDROGRAPH AT	ERHV75	85.	5.75	10.	2.	1.	.96
+	2 COMBINED AT	CHV75	282.	5.42	51.	13.	4.	2.18
+	HYDROGRAPH AT	JM80	167.	4.25	29.	7.	2.	.16
+	HYDROGRAPH AT	JM76	118.	4.33	26.	7.	2.	.17
+	DIVERSION TO	XJM76	118.	4.33	13.	3.	1.	.17
+	HYDROGRAPH AT	ERJM76	93.	4.75	13.	3.	1.	.17
+	HYDROGRAPH AT	JMNR	57.	4.58	18.	5.	2.	.15
+	3 COMBINED AT	CNR01	237.	4.75	59.	15.	5.	.48
+	HYDROGRAPH AT	JM75	1137.	4.25	171.	43.	14.	1.11
+	DIVERSION TO	XJM75	1137.	4.25	87.	22.	7.	1.11
+	HYDROGRAPH AT	ERJM75	882.	4.50	85.	21.	7.	1.11
+	HYDROGRAPH AT	HVNR	74.	4.92	21.	5.	2.	.20
+	4 COMBINED AT	CNR02	819.	4.50	155.	39.	13.	3.98
+	HYDROGRAPH AT	HV67	722.	4.25	116.	29.	10.	.54
+	DIVERSION TO	XHV67	722.	4.25	64.	16.	5.	.54
+	HYDROGRAPH AT	ERHV67	582.	4.42	54.	13.	4.	.54
+	ROUTED TO	RCL67	475.	4.67	54.	13.	4.	.54
+	HYDROGRAPH AT							

+		CL67	166.	4.42	43.	11.	4.	.28
+	DIVERSION TO	XCL67	166.	4.42	34.	8.	3.	.28
+	HYDROGRAPH AT	ERCL67	63.	5.58	10.	2.	1.	.28
+	2 COMBINED AT	CCL67	467.	4.67	62.	16.	5.	.82
+	ROUTED TO	RPP73A	342.	4.92	59.	15.	5.	.82
+	HYDROGRAPH AT	PP67	45.	4.50	12.	3.	1.	.10
+	DIVERSION TO	XPP67	45.	4.50	12.	3.	1.	.10
+	HYDROGRAPH AT	ERPP67	0.	9.42	0.	0.	0.	.10
+	DIVERSION TO	DSWL67	0.	9.42	0.	0.	0.	.10
+	HYDROGRAPH AT	DWPP73	0.	9.42	0.	0.	0.	.10
+	ROUTED TO	RPP73B	0.	9.75	0.	0.	0.	.10
+	HYDROGRAPH AT	PP73	405.	4.42	83.	21.	7.	.55
+	DIVERSION TO	XPP73	340.	4.25	21.	5.	2.	.55
+	HYDROGRAPH AT	ERPP73	402.	4.42	63.	16.	5.	.55
+	3 COMBINED AT	CPP73	529.	5.00	110.	27.	9.	1.43
+	DIVERSION TO	DSWL75	217.	5.00	45.	11.	4.	1.43
+	HYDROGRAPH AT	DWPP75	312.	5.00	65.	16.	5.	1.43
+	ROUTED TO	RPPNR	312.	5.00	65.	16.	5.	1.43
+	HYDROGRAPH AT	PP75	354.	4.33	69.	17.	6.	.42
+	DIVERSION TO	XPP75	354.	4.33	41.	10.	3.	.42
+	HYDROGRAPH AT	ERPP75	248.	4.75	28.	7.	2.	.42
+	HYDROGRAPH AT	PPNR	92.	4.58	27.	7.	2.	.24
+	DIVERSION TO	XPPNR	92.	4.58	10.	3.	1.	.24
+	HYDROGRAPH AT	ERPPNR	83.	4.92	17.	4.	1.	.24
+	4 COMBINED AT	CNR03	817.	4.67	208.	53.	18.	5.47
+	HYDROGRAPH AT	DRWL75	217.	5.00	45.	11.	4.	1.43
+	ROUTED TO	RWL75B	206.	5.08	45.	11.	4.	1.43
+	HYDROGRAPH AT	DRWL67	0.	9.42	0.	0.	0.	.10
+	ROUTED TO	RWL67	0.	9.50	0.	0.	0.	.10
+	HYDROGRAPH AT	WL67	50.	4.50	13.	3.	1.	.10
+	DIVERSION TO	XWL67	50.	4.50	9.	2.	1.	.10
	HYDROGRAPH AT							

+		ERWL67	26.	5.33	5.	1.	0.	.10
+	2 COMBINED AT	CWL67	26.	5.33	5.	1.	0.	.13
+	ROUTED TO	RWL75A	20.	5.92	5.	1.	0.	.13
+	HYDROGRAPH AT	WL75	387.	4.42	78.	20.	7.	.47
+	DIVERSION TO	XWL75	387.	4.42	36.	9.	3.	.47
+	HYDROGRAPH AT	ERWL75	328.	4.67	43.	11.	4.	.47
+	3 COMBINED AT	CWL75	419.	4.92	86.	22.	7.	1.20
+	HYDROGRAPH AT	WWBR	330.	4.08	37.	9.	3.	.18
+	DIVERSION TO	XWWBR	330.	4.08	25.	6.	2.	.18
+	HYDROGRAPH AT	ERWWBR	226.	4.33	13.	3.	1.	.18
+	ROUTED TO	RWWRS	158.	4.50	13.	3.	1.	.18
+	HYDROGRAPH AT	WWRS	147.	4.25	24.	6.	2.	.14
+	DIVERSION TO	XWWRS	147.	4.25	14.	4.	1.	.14
+	HYDROGRAPH AT	ERWWRS	98.	4.58	10.	3.	1.	.14
+	2 COMBINED AT	CWWRS	237.	4.58	23.	6.	2.	.33
+	ROUTED TO	RJMRS	175.	4.75	23.	6.	2.	.33
+	HYDROGRAPH AT	JMRS	528.	4.33	103.	26.	9.	.57
+	DIVERSION TO	XJMRS	528.	4.33	76.	19.	6.	.57
+	HYDROGRAPH AT	ERJMRS	235.	5.00	27.	7.	2.	.57
+	2 COMBINED AT	CJMRS	288.	5.00	45.	11.	4.	.90
+	ROUTED TO	RHVRSB	224.	5.50	45.	11.	4.	.90
+	HYDROGRAPH AT	83RS	1021.	4.17	127.	32.	11.	.64
+	DIVERSION TO	X83RS	1021.	4.17	83.	21.	7.	.64
+	HYDROGRAPH AT	ER83RS	596.	4.33	45.	11.	4.	.64
+	ROUTED TO	RHVRSA	441.	4.67	45.	11.	4.	.64
+	HYDROGRAPH AT	HVRS	409.	4.50	97.	25.	8.	.63
+	DIVERSION TO	XHVRS	409.	4.50	78.	20.	7.	.63
+	HYDROGRAPH AT	ERHVRS	147.	5.42	20.	5.	2.	.63
+	3 COMBINED AT	CHVRS	407.	5.42	104.	26.	9.	2.16
+	ROUTED TO	RCL77B	298.	5.00	81.	20.	7.	2.16
+	HYDROGRAPH AT	HV83	50.	4.17	7.	2.	1.	.04
	DIVERSION TO							

+		XHV83	50.	4.17	5.	1.	0.	.04
+	HYDROGRAPH AT	ERHV83	23.	4.50	2.	0.	0.	.04
+	ROUTED TO	RCL77A	13.	4.83	2.	0.	0.	.04
+	HYDROGRAPH AT	CL77	288.	4.25	44.	11.	4.	.32
+	DIVERSION TO	XCL77	288.	4.25	39.	10.	3.	.32
+	HYDROGRAPH AT	ERCL77	61.	5.17	6.	1.	0.	.32
+	3 COMBINED AT	CCL77	302.	5.00	81.	20.	7.	2.51
+	ROUTED TO	RPP77	260.	5.17	79.	20.	7.	2.51
+	HYDROGRAPH AT	PP77	125.	4.58	35.	9.	3.	.27
+	DIVERSION TO	XPP77	125.	4.58	18.	4.	1.	.27
+	HYDROGRAPH AT	ERPP77	97.	5.08	18.	5.	2.	.27
+	2 COMBINED AT	CPP77	281.	5.42	87.	22.	7.	2.78
+	ROUTED TO	RWLNR	265.	5.67	86.	22.	7.	2.78
+	HYDROGRAPH AT	WLNR	339.	4.42	70.	18.	6.	.39
+	4 COMBINED AT	CNR04	1020.	4.67	327.	84.	28.	9.84
+	HYDROGRAPH AT	DV75	349.	4.50	92.	23.	8.	.50
+	DIVERSION TO	XDV75	349.	4.50	46.	11.	4.	.50
+	HYDROGRAPH AT	ERDV75	286.	4.92	48.	12.	4.	.50
+	DIVERSION TO	DSLO75	72.	4.92	13.	3.	1.	.50
+	HYDROGRAPH AT	DWDVNR	214.	4.92	36.	9.	3.	.50
+	ROUTED TO	RDVNR	193.	5.08	36.	9.	3.	.50
+	HYDROGRAPH AT	DVNR	280.	4.50	70.	18.	6.	.40
+	3 COMBINED AT	CNR05	1183.	4.67	393.	101.	34.	10.50
+	HYDROGRAPH AT	DV67	935.	4.08	94.	24.	8.	.50
+	ROUTED TO	SRDV67	673.	4.25	93.	24.	8.	.50
+	HYDROGRAPH AT	LO67	1015.	4.42	220.	55.	18.	1.22
+	2 COMBINED AT	CLO67	1423.	4.42	300.	76.	25.	1.72
+	ROUTED TO	SRLO67	444.	5.33	250.	78.	32.	1.72
+	HYDROGRAPH AT	LO75	825.	4.42	183.	46.	15.	.97
+	DIVERSION TO	XLO75	815.	4.42	69.	17.	6.	.97
+	HYDROGRAPH AT	ERLO75	799.	4.58	116.	29.	10.	.97
+	2 COMBINED AT							

+		CLO75	999.	4.67	347.	102.	40.	2.69
+	ROUTED TO	SRLO75	632.	5.58	329.	101.	40.	2.69
+	HYDROGRAPH AT	DRLO75	72.	4.92	13.	3.	1.	.50
+	ROUTED TO	RLO75	56.	5.50	13.	3.	1.	.50
+	2 COMBINED AT	CILO75	662.	5.67	337.	103.	40.	2.94
+	ROUTED TO	RBYNRB	660.	5.75	336.	103.	40.	2.94
+	HYDROGRAPH AT	PP81	220.	4.25	32.	8.	3.	.20
+	DIVERSION TO	XPP81	220.	4.25	26.	6.	2.	.20
+	HYDROGRAPH AT	ERPP81	85.	4.83	7.	2.	1.	.20
+	ROUTED TO	RWL83	59.	5.17	7.	2.	1.	.20
+	HYDROGRAPH AT	WL83	112.	4.42	28.	7.	2.	.13
+	DIVERSION TO	XWL83	110.	4.33	9.	2.	1.	.13
+	HYDROGRAPH AT	ERWL83	111.	4.50	19.	5.	2.	.13
+	2 COMBINED AT	CWL83	122.	5.08	26.	6.	2.	.32
+	HYDROGRAPH AT	HV87	593.	4.17	51.	13.	4.	.28
+	ROUTED TO	RPP87	531.	4.25	51.	13.	4.	.28
+	HYDROGRAPH AT	PP87	1005.	4.25	128.	32.	11.	.98
+	DIVERSION TO	XPP87	1005.	4.25	86.	21.	7.	.98
+	HYDROGRAPH AT	ERPP87	473.	4.50	43.	11.	4.	.98
+	2 COMBINED AT	CPP87	569.	4.50	86.	22.	7.	1.27
+	ROUTED TO	SRPP87	196.	4.83	79.	21.	7.	1.27
+	DIVERSION TO	DPPP87	113.	5.25	74.	20.	7.	1.27
+	HYDROGRAPH AT	DPP87	87.	4.83	4.	1.	0.	1.27
+	HYDROGRAPH AT	PRPP87	113.	5.25	74.	20.	7.	1.27
+	ROUTED TO	RP87PP	113.	5.25	74.	20.	7.	1.27
+	HYDROGRAPH AT	PP91	94.	4.42	22.	6.	2.	.16
+	DIVERSION TO	XPP91	94.	4.42	16.	4.	1.	.16
+	HYDROGRAPH AT	ERPP91	46.	5.25	7.	2.	1.	.16
+	DIVERSION TO	DPP91	0.	.00	0.	0.	0.	.16
+	HYDROGRAPH AT	DPPP91	46.	5.25	7.	2.	1.	.16
+	2 COMBINED AT	CPPP87	174.	5.25	92.	25.	8.	.16
	ROUTED TO							

+		RPPP83	170.	5.33	92.	25.	8.	.16
+	2 COMBINED AT	CPPP83	176.	4.83	80.	22.	7.	1.43
+	ROUTED TO	SRPP83	21.	10.17	20.	15.	6.	1.43
+	DIVERSION TO	D83PP	0.	.00	0.	0.	0.	1.43
+	HYDROGRAPH AT	DP83PP	21.	10.17	20.	15.	6.	1.43
+	ROUTED TO	RP83WL	21.	10.33	20.	15.	6.	1.43
+	2 COMBINED AT	CPWL83	122.	5.08	43.	25.	10.	1.75
+	ROUTED TO	RDV83	101.	4.75	35.	19.	7.	1.75
+	HYDROGRAPH AT	DV83	81.	4.50	25.	6.	2.	.11
+	DIVERSION TO	XDV83	53.	4.17	3.	1.	0.	.11
+	HYDROGRAPH AT	ERDV83	81.	4.50	22.	5.	2.	.11
+	2 COMBINED AT	CDV83	197.	4.67	63.	30.	12.	.43
+	ROUTED TO	RBYNRA	167.	5.17	62.	30.	12.	.43
+	HYDROGRAPH AT	BYNR	809.	4.50	188.	48.	16.	1.03
+	DIVERSION TO	XBYNR	205.	4.00	19.	5.	2.	1.03
+	HYDROGRAPH AT	ERBYNR	809.	4.50	172.	43.	14.	1.03
+	4 COMBINED AT	CNR06	1820.	5.08	790.	225.	82.	14.90
+	HYDROGRAPH AT	DR83PP	0.	.00	0.	0.	0.	1.43
+	ROUTED TO	RDV87	0.	.00	0.	0.	0.	1.43
+	HYDROGRAPH AT	DV87	1142.	4.33	174.	44.	15.	1.00
+	DIVERSION TO	XDV87	145.	3.83	11.	3.	1.	1.00
+	HYDROGRAPH AT	ERDV87	1142.	4.33	164.	41.	14.	1.00
+	2 COMBINED AT	CDV87	961.	4.33	156.	39.	13.	2.27
+	ROUTED TO	RBY87	874.	4.58	156.	39.	13.	2.27
+	HYDROGRAPH AT	BY87	938.	4.42	201.	51.	17.	.96
+	DIVERSION TO	XBY87	938.	4.42	155.	39.	13.	.96
+	HYDROGRAPH AT	ERBY87	371.	5.25	48.	12.	4.	.96
+	2 COMBINED AT	CBY87	875.	4.58	204.	51.	17.	3.23
+	ROUTED TO	RUH87	683.	5.00	192.	48.	16.	3.23
+	HYDROGRAPH AT	UH87	1025.	4.42	199.	50.	17.	1.00
+	DIVERSION TO	XUH87	1025.	4.42	145.	36.	12.	1.00
	HYDROGRAPH AT							

+		ERUH87	453.	5.00	55.	14.	5.	1.00
+	2 COMBINED AT	CUH87	1009.	5.08	228.	57.	19.	4.23
+	DIVERSION TO	DSBL91	595.	5.08	134.	34.	11.	4.23
+	HYDROGRAPH AT	DSBLNR	414.	5.08	93.	23.	8.	4.23
+	DIVERSION TO	DUHNR	364.	5.08	67.	17.	6.	4.23
+	HYDROGRAPH AT	DPUHNR	50.	4.42	27.	7.	2.	4.23
+	ROUTED TO	RPUHNR	50.	4.50	27.	7.	2.	4.23
+	HYDROGRAPH AT	UHNR	316.	4.42	75.	19.	6.	.39
+	DIVERSION TO	XUHNR	37.	3.75	6.	1.	0.	.39
+	HYDROGRAPH AT	ERUHNR	316.	4.42	71.	18.	6.	.39
+	3 COMBINED AT	CNR07	2006.	5.00	866.	244.	88.	15.29
+	HYDROGRAPH AT	DRUHNR	364.	5.08	67.	17.	6.	4.23
+	ROUTED TO	RBLNR	337.	5.17	67.	17.	6.	4.23
+	HYDROGRAPH AT	BLNR	555.	4.42	127.	32.	11.	.60
+	DIVERSION TO	XBLNR	215.	4.00	19.	5.	2.	.60
+	HYDROGRAPH AT	ERBLNR	555.	4.42	111.	28.	9.	.60
+	3 COMBINED AT	CNR08	2353.	5.00	969.	270.	97.	17.63
+	HYDROGRAPH AT	RG93	185.	4.42	43.	11.	4.	.25
+	DIVERSION TO	XRG93	185.	4.42	41.	10.	3.	.25
+	HYDROGRAPH AT	ERRG93	25.	6.25	3.	1.	0.	.25
+	DIVERSION TO	DWRGLP	14.	6.25	1.	0.	0.	.25
+	HYDROGRAPH AT	DSBY91	11.	6.25	2.	1.	0.	.25
+	ROUTED TO	RBY91	10.	6.75	2.	1.	0.	.25
+	HYDROGRAPH AT	BY91	575.	4.25	84.	21.	7.	.50
+	DIVERSION TO	XBY91	575.	4.25	78.	19.	6.	.50
+	HYDROGRAPH AT	ERBY91	88.	5.17	7.	2.	1.	.50
+	2 COMBINED AT	CBY91	77.	5.17	8.	2.	1.	.63
+	ROUTED TO	RUH91	30.	6.25	8.	2.	1.	.63
+	HYDROGRAPH AT	UH91	437.	4.75	147.	38.	13.	.93
+	DIVERSION TO	XUH91	60.	3.92	8.	2.	1.	.93
+	HYDROGRAPH AT	ERUH91	437.	4.75	144.	36.	12.	.93
	2 COMBINED AT							

+		CUH91	409.	4.75	140.	35.	12.	1.55
+	HYDROGRAPH AT	DRBL91	595.	5.08	134.	34.	11.	4.23
+	DIVERSION TO	DPUH91	525.	5.00	132.	33.	11.	4.23
+	HYDROGRAPH AT	DUH91	71.	5.08	2.	1.	0.	4.23
+	2 COMBINED AT	CIUH91	501.	5.08	141.	35.	12.	4.04
+	ROUTED TO	RBL91	378.	5.17	126.	32.	11.	4.04
+	HYDROGRAPH AT	BL91	947.	4.42	209.	53.	18.	.90
+	DIVERSION TO	XBL91	947.	4.42	160.	40.	13.	.90
+	HYDROGRAPH AT	ERBL91	376.	5.17	52.	13.	4.	.90
+	2 COMBINED AT	CBL91	617.	5.25	163.	41.	14.	4.94
+	HYDROGRAPH AT	PRUH91	525.	5.00	132.	33.	11.	4.23
+	ROUTED TO	RP91AT	524.	5.08	132.	33.	11.	4.23
+	ROUTED TO	SRAT91	313.	5.83	132.	33.	11.	4.23
+	ROUTED TO	RP91BL	313.	5.92	132.	33.	11.	4.23
+	2 COMBINED AT	CPBL91	852.	5.25	292.	74.	25.	4.94
+	DIVERSION TO	DSGW91	494.	5.25	169.	43.	14.	4.94
+	HYDROGRAPH AT	DSGWNR	358.	5.25	123.	31.	10.	4.94
+	DIVERSION TO	DBLNR	199.	5.25	35.	9.	3.	4.94
+	HYDROGRAPH AT	DPBLNR	159.	4.92	88.	22.	7.	4.94
+	ROUTED TO	RPBLNR	159.	5.00	88.	22.	7.	4.94
+	2 COMBINED AT	CPNR08	2510.	5.00	1051.	290.	103.	17.63
+	HYDROGRAPH AT	DRBLNR	199.	5.25	35.	9.	3.	4.94
+	ROUTED TO	RGWNRB	157.	6.00	35.	9.	3.	4.94
+	HYDROGRAPH AT	DRGW91	494.	5.25	169.	43.	14.	4.94
+	ROUTED TO	RGW91	468.	5.58	169.	43.	14.	4.94
+	HYDROGRAPH AT	GW91	505.	4.33	98.	25.	8.	.48
+	DIVERSION TO	XGW91	505.	4.33	44.	11.	4.	.48
+	HYDROGRAPH AT	ERGW91	448.	4.50	55.	14.	5.	.48
+	2 COMBINED AT	CGW91	628.	5.50	224.	57.	19.	3.35
+	DIVERSION TO	DSTBNR	0.	.00	0.	0.	0.	3.35
+	HYDROGRAPH AT	DEGWNR	628.	5.50	224.	57.	19.	3.35
	ROUTED TO							

+		RGWNRA	613.	5.75	223.	57.	19.	3.35
+	HYDROGRAPH AT	GWNR	501.	4.50	126.	32.	11.	.70
+	DIVERSION TO	XGWNR	501.	4.50	54.	13.	4.	.70
+	HYDROGRAPH AT	ERGWNR	440.	4.75	75.	19.	6.	.70
+	5 COMBINED AT	CNR09	7163.	5.58	3571.	980.	334.	59.13
+	HYDROGRAPH AT	DRTBNR	0.	.00	0.	0.	0.	3.35
+	ROUTED TO	RTBNR	0.	.00	0.	0.	0.	3.35
+	HYDROGRAPH AT	TBNR	837.	4.50	191.	48.	16.	1.12
+	DIVERSION TO	XTBNR	379.	4.08	31.	8.	3.	1.12
+	HYDROGRAPH AT	ERTBNR	837.	4.50	161.	40.	13.	1.12
+	3 COMBINED AT	CNR10	7225.	5.58	3619.	992.	338.	61.93
+	HYDROGRAPH AT	HV93	233.	4.17	28.	7.	2.	.17
+	DIVERSION TO	DWHVLP	98.	4.17	12.	3.	1.	.17
+	HYDROGRAPH AT	DSPPLP	135.	4.17	16.	4.	1.	.17
+	ROUTED TO	RPPLPA	103.	4.50	16.	4.	1.	.17
+	HYDROGRAPH AT	DRPP91	0.	.00	0.	0.	0.	.16
+	ROUTED TO	RPPLPB	0.	.00	0.	0.	0.	.16
+	HYDROGRAPH AT	PPLP	624.	4.42	152.	39.	13.	.88
+	DIVERSION TO	XPPLP	624.	4.42	92.	23.	8.	.88
+	HYDROGRAPH AT	ERPPLP	377.	5.08	63.	16.	5.	.88
+	3 COMBINED AT	CPPLP	408.	5.08	75.	19.	6.	1.15
+	DIVERSION TO	DWPP03	408.	5.08	75.	19.	6.	1.15
+	HYDROGRAPH AT	DSDV99	0.	.00	0.	0.	0.	1.15
+	DIVERSION TO	DSDVLP	0.	.00	0.	0.	0.	1.15
+	HYDROGRAPH AT	DDV99	0.	.00	0.	0.	0.	1.15
+	HYDROGRAPH AT	DV99	1049.	4.33	172.	43.	14.	1.22
+	DIVERSION TO	XDV99	1049.	4.33	160.	40.	13.	1.22
+	HYDROGRAPH AT	ERDV99	143.	5.08	12.	3.	1.	1.22
+	2 COMBINED AT	CDV99	142.	5.08	12.	3.	1.	1.22
+	ROUTED TO	RRGLPA	114.	5.17	12.	3.	1.	1.22
+	HYDROGRAPH AT	DRRGLP	14.	6.25	1.	0.	0.	.25
	ROUTED TO							

+		RRGLPB	7.	7.08	1.	0.	0.	.25
+	HYDROGRAPH AT	RGLP	320.	4.42	78.	20.	7.	.41
+	DIVERSION TO	XRGLP	320.	4.42	77.	19.	6.	.41
+	HYDROGRAPH AT	ERRGLP	19.	6.92	2.	1.	0.	.41
+	3 COMBINED AT	CRGLP	114.	5.17	13.	3.	1.	1.75
+	DIVERSION TO	DWRG07	52.	5.17	6.	1.	0.	1.75
+	HYDROGRAPH AT	DSBY07	13.	5.17	1.	0.	0.	1.75
+	ROUTED TO	RBY99	9.	5.75	1.	0.	0.	1.75
+	HYDROGRAPH AT	BY07	564.	4.33	100.	25.	8.	.51
+	DIVERSION TO	XBY07	564.	4.33	78.	20.	7.	.51
+	HYDROGRAPH AT	ERBY07	219.	5.00	23.	6.	2.	.51
+	2 COMBINED AT	CBY07	118.	5.33	19.	5.	2.	1.39
+	DIVERSION TO	DWBYAF	115.	5.33	19.	5.	2.	1.39
+	HYDROGRAPH AT	DSUH99	10.	5.00	1.	0.	0.	1.39
+	ROUTED TO	RUH99	6.	5.33	1.	0.	0.	1.39
+	HYDROGRAPH AT	UH99	386.	4.67	117.	30.	10.	.56
+	2 COMBINED AT	CUH99	358.	4.67	115.	30.	10.	1.26
+	ROUTED TO	RDW99A	357.	4.75	115.	30.	10.	1.26
+	HYDROGRAPH AT	UH97	178.	4.50	48.	12.	4.	.27
+	ROUTED TO	RDW99B	171.	4.83	48.	12.	4.	.27
+	HYDROGRAPH AT	DW99	140.	4.42	32.	8.	3.	.16
+	3 COMBINED AT	CDW99	596.	4.75	188.	48.	16.	1.68
+	DIVERSION TO	DWDW07	550.	4.67	185.	48.	16.	1.68
+	HYDROGRAPH AT	DSBL99	46.	4.75	3.	1.	0.	1.68
+	ROUTED TO	RBL99	33.	4.92	3.	1.	0.	1.68
+	HYDROGRAPH AT	BL99	916.	4.50	222.	56.	19.	1.13
+	2 COMBINED AT	CBL99	851.	4.58	219.	56.	19.	1.98
+	ROUTED TO	RBN99	846.	4.67	219.	56.	19.	1.98
+	HYDROGRAPH AT	BN99	858.	4.50	194.	49.	16.	1.04
+	2 COMBINED AT	CBN99	1521.	4.58	394.	100.	33.	3.01
+	ROUTED TO	RTB99	1486.	4.83	394.	100.	33.	3.01
	HYDROGRAPH AT							

+		TB99	678.	4.58	175.	44.	15.	.98
+	2 COMBINED AT	CTB99	1987.	4.75	544.	138.	46.	3.99
+	ROUTED TO	RGRNRA	1969.	4.83	543.	138.	46.	3.99
+	HYDROGRAPH AT	DRDW07	550.	4.67	185.	48.	16.	1.68
+	ROUTED TO	RDW07	548.	5.08	185.	48.	16.	1.68
+	HYDROGRAPH AT	DW07	325.	4.58	92.	24.	8.	.48
+	2 COMBINED AT	CDW07	825.	4.75	273.	70.	23.	1.33
+	DIVERSION TO	DWBL15	550.	4.42	234.	60.	20.	1.33
+	HYDROGRAPH AT	DSTL07	275.	4.75	39.	10.	3.	1.33
+	ROUTED TO	RTL07	258.	5.25	39.	10.	3.	1.33
+	HYDROGRAPH AT	TL07	382.	4.50	98.	25.	8.	.58
+	2 COMBINED AT	CTL07	485.	5.17	131.	33.	11.	1.24
+	ROUTED TO	RGR99A	443.	5.50	131.	33.	11.	1.24
+	HYDROGRAPH AT	RO99	226.	4.67	78.	20.	7.	.41
+	ROUTED TO	RGR99B	226.	4.67	78.	20.	7.	.41
+	HYDROGRAPH AT	GR99	742.	4.83	266.	69.	23.	1.31
+	3 COMBINED AT	CGR99	1144.	5.00	445.	116.	39.	2.97
+	ROUTED TO	RGRNRB	1143.	5.00	445.	116.	39.	2.97
+	HYDROGRAPH AT	GRNR	978.	4.33	194.	49.	16.	.95
+	DIVERSION TO	XGRNR	454.	4.00	37.	9.	3.	.95
+	HYDROGRAPH AT	ERGRNR	978.	4.33	158.	39.	13.	.95
+	4 COMBINED AT	CNR11	8466.	5.33	4265.	1165.	396.	69.83
+	HYDROGRAPH AT	PE99	120.	4.75	51.	14.	5.	.29
+	DIVERSION TO	DSOL99	36.	4.75	15.	4.	1.	.29
+	HYDROGRAPH AT	DEPE97	84.	4.75	35.	10.	3.	.29
+	ROUTED TO	RPE97	83.	4.92	35.	10.	3.	.29
+	HYDROGRAPH AT	PENR	186.	4.42	47.	12.	4.	.20
+	DIVERSION TO	XPENR	161.	4.25	14.	3.	1.	.20
+	HYDROGRAPH AT	ERPENR	186.	4.42	34.	8.	3.	.20
+	DIVERSION TO	DSOLNR	82.	4.42	15.	4.	1.	.20
+	HYDROGRAPH AT	DWPE99	104.	4.42	19.	5.	2.	.20
	HYDROGRAPH AT							

	PE97	384.	4.50	97.	25.	8.	.56
DIVERSION TO	XPE97	8.	2.00	2.	0.	0.	.56
HYDROGRAPH AT	ERPE97	384.	4.50	97.	24.	8.	.56
4 COMBINED AT	CNR12	8607.	5.33	4335.	1184.	402.	70.71
HYDROGRAPH AT	DROL99	36.	4.75	15.	4.	1.	.29
ROUTED TO	ROL99A	35.	5.33	15.	4.	1.	.29
HYDROGRAPH AT	PE11	474.	4.75	163.	42.	14.	.92
ROUTED TO	ROL03A	465.	5.00	163.	42.	14.	.92
HYDROGRAPH AT	PE07	310.	4.58	94.	24.	8.	.57
ROUTED TO	ROL03B	303.	4.92	94.	24.	8.	.57
HYDROGRAPH AT	PE03	244.	4.50	69.	18.	6.	.41
ROUTED TO	ROL03C	237.	4.83	69.	18.	6.	.41
HYDROGRAPH AT	OL03	704.	4.58	193.	49.	16.	1.10
4 COMBINED AT	COL03	1395.	4.92	467.	121.	40.	3.01
ROUTED TO	ROL99B	1395.	4.92	467.	121.	40.	3.01
HYDROGRAPH AT	DROLNR	82.	4.42	15.	4.	1.	.20
ROUTED TO	ROLNR	66.	5.17	15.	4.	1.	.20
HYDROGRAPH AT	OLNR	428.	4.75	143.	37.	12.	.70
DIVERSION TO	XOLNR	428.	4.75	64.	16.	5.	.70
HYDROGRAPH AT	EROLNR	368.	5.17	85.	21.	7.	.70
2 COMBINED AT	COLNR	428.	5.17	99.	25.	8.	.78
DIVERSION TO	DSNONR	141.	5.17	33.	8.	3.	.78
HYDROGRAPH AT	DWOL99	287.	5.17	66.	17.	6.	.78
HYDROGRAPH AT	OL99	265.	4.50	71.	18.	6.	.44
5 COMBINED AT	CNR13	9266.	5.33	4646.	1268.	430.	74.76
HYDROGRAPH AT	DRNONR	141.	5.17	33.	8.	3.	.78
ROUTED TO	RNONR	119.	5.83	32.	8.	3.	.78
HYDROGRAPH AT	NONR	533.	4.75	178.	46.	15.	.83
DIVERSION TO	XNONR	533.	4.75	97.	24.	8.	.83
HYDROGRAPH AT	ERNONR	410.	5.33	88.	22.	7.	.83
2 COMBINED AT	CNONR	409.	5.33	118.	30.	10.	1.09
HYDROGRAPH AT							

	NO99	424.	4.67	133.	34.	11.	.86
DIVERSION TO	XNO99	424.	4.67	53.	13.	4.	.86
HYDROGRAPH AT	ERNO99	378.	5.00	84.	21.	7.	.86
3 COMBINED AT	CNR14	9211.	5.58	4689.	1280.	434.	76.71
HYDROGRAPH AT	GL03	605.	4.42	149.	38.	13.	.65
DIVERSION TO	XGL03	605.	4.42	100.	25.	8.	.65
HYDROGRAPH AT	ERGL03	333.	5.00	52.	13.	4.	.65
2 COMBINED AT	CNR15	9201.	5.58	4691.	1280.	434.	77.36
HYDROGRAPH AT	GLGH	109.	4.25	22.	6.	2.	.08
ROUTED TO	RGHNR	95.	4.75	22.	6.	2.	.08
HYDROGRAPH AT	GHNR	598.	4.50	156.	40.	13.	.84
DIVERSION TO	XGHNR	379.	4.17	30.	7.	2.	.84
HYDROGRAPH AT	ERGHNR	598.	4.50	130.	32.	11.	.84
3 COMBINED AT	CNR16	9367.	5.33	4765.	1299.	440.	78.28
HYDROGRAPH AT	AF11	650.	4.17	93.	23.	8.	.38
HYDROGRAPH AT	GHAF	722.	4.25	137.	35.	12.	.56
DIVERSION TO	XGHAF	722.	4.25	98.	24.	8.	.56
HYDROGRAPH AT	ERGHAF	352.	4.75	40.	10.	3.	.56
3 COMBINED AT	CAF06	9396.	5.33	4816.	1315.	446.	79.22
HYDROGRAPH AT	JMAF	164.	4.25	25.	6.	2.	.15
DIVERSION TO	XJMAF	164.	4.25	12.	3.	1.	.15
HYDROGRAPH AT	ERJMAF	138.	4.42	14.	3.	1.	.15
HYDROGRAPH AT	HV07	477.	4.17	52.	13.	4.	.30
DIVERSION TO	XHV07	444.	4.08	26.	7.	2.	.30
HYDROGRAPH AT	ERHV07	425.	4.25	26.	6.	2.	.30
ROUTED TO	RHVAF	287.	4.50	26.	6.	2.	.30
HYDROGRAPH AT	HVAF	310.	4.17	37.	9.	3.	.22
DIVERSION TO	XHVAF	310.	4.17	25.	6.	2.	.22
HYDROGRAPH AT	ERHVAF	180.	4.42	12.	3.	1.	.22
HYDROGRAPH AT	JM99	745.	4.33	130.	33.	11.	.57
DIVERSION TO	XJM99	745.	4.33	86.	22.	7.	.57
HYDROGRAPH AT							

+		ERJM99	476.	4.67	45.	11.	4.	.57
+	HYDROGRAPH AT	WWLP	329.	4.08	31.	8.	3.	.14
+	DIVERSION TO	XWWLP	329.	4.08	20.	5.	2.	.14
+	HYDROGRAPH AT	ERWWLP	247.	4.17	10.	3.	1.	.14
+	ROUTED TO	RJMLP	113.	4.50	10.	3.	1.	.14
+	HYDROGRAPH AT	JMLP	798.	4.33	138.	35.	12.	.70
+	DIVERSION TO	XJMLP	798.	4.33	101.	25.	8.	.70
+	HYDROGRAPH AT	ERJMLP	376.	4.75	37.	9.	3.	.70
+	3 COMBINED AT	CJMLP	596.	5.00	84.	21.	7.	1.41
+	ROUTED TO	RHV01A	491.	5.08	84.	21.	7.	1.41
+	HYDROGRAPH AT	YLLP	560.	4.33	102.	26.	9.	.60
+	DIVERSION TO	XYLLP	484.	4.17	28.	7.	2.	.60
+	HYDROGRAPH AT	ERYLLP	560.	4.33	75.	19.	6.	.60
+	ROUTED TO	RHV01B	540.	4.42	75.	19.	6.	.60
+	HYDROGRAPH AT	DRHVLP	98.	4.17	12.	3.	1.	.17
+	ROUTED TO	RHVLP	87.	4.33	12.	3.	1.	.17
+	HYDROGRAPH AT	HVLP	196.	4.25	40.	10.	3.	.20
+	DIVERSION TO	XHVLP	196.	4.25	19.	5.	2.	.20
+	HYDROGRAPH AT	ERHVLP	171.	4.50	21.	5.	2.	.20
+	2 COMBINED AT	CHVLP	241.	4.50	33.	8.	3.	.27
+	ROUTED TO	RHV01C	231.	4.58	33.	8.	3.	.27
+	HYDROGRAPH AT	HV01	562.	4.25	97.	24.	8.	.44
+	DIVERSION TO	XHV01	562.	4.25	59.	15.	5.	.44
+	HYDROGRAPH AT	ERHV01	405.	4.58	39.	10.	3.	.44
+	4 COMBINED AT	CHV01	889.	5.08	201.	50.	17.	2.72
+	ROUTED TO	RCL07	862.	5.17	201.	50.	17.	2.72
+	ROUTED TO	RCLAFA	857.	5.17	201.	50.	17.	2.72
+	HYDROGRAPH AT	CL07	431.	4.33	88.	22.	7.	.52
+	DIVERSION TO	XCL07	431.	4.33	63.	16.	5.	.52
+	HYDROGRAPH AT	ERCL07	224.	5.00	27.	7.	2.	.52
+	DIVERSION TO	DSPP03	27.	5.00	3.	1.	0.	.52
	HYDROGRAPH AT							

+		DWCLAF	197.	5.00	24.	6.	2.	.52
+	ROUTED TO	RCLAFB	159.	5.25	24.	6.	2.	.52
+	HYDROGRAPH AT	CLAF	259.	4.33	46.	12.	4.	.29
+	DIVERSION TO	XCLAF	259.	4.33	21.	5.	2.	.29
+	HYDROGRAPH AT	ERCLAF	231.	4.50	26.	6.	2.	.29
+	3 COMBINED AT	CCLAF	876.	5.17	222.	56.	19.	3.47
+	4 COMBINED AT	CAF01	936.	4.83	246.	62.	21.	4.13
+	HYDROGRAPH AT	DR03PP	408.	5.08	75.	19.	6.	1.15
+	ROUTED TO	RPP03B	364.	5.17	75.	19.	6.	1.15
+	HYDROGRAPH AT	DRPP03	27.	5.00	3.	1.	0.	.52
+	ROUTED TO	RPP03A	20.	5.33	3.	1.	0.	.52
+	HYDROGRAPH AT	PP03	147.	4.58	45.	11.	4.	.32
+	DIVERSION TO	XPP03	106.	4.33	7.	2.	1.	.32
+	HYDROGRAPH AT	ERPP03	147.	4.58	39.	10.	3.	.32
+	3 COMBINED AT	CPP03	450.	5.17	107.	27.	9.	1.53
+	DIVERSION TO	DSDV07	0.	.00	0.	0.	0.	1.53
+	HYDROGRAPH AT	DWPP07	450.	5.17	107.	27.	9.	1.53
+	ROUTED TO	RPP07	437.	5.33	107.	27.	9.	1.53
+	HYDROGRAPH AT	PP07	181.	4.25	30.	7.	2.	.19
+	DIVERSION TO	XPP07	161.	4.17	8.	2.	1.	.19
+	HYDROGRAPH AT	ERPP07	181.	4.33	22.	6.	2.	.19
+	2 COMBINED AT	CPP07	462.	5.33	123.	31.	10.	1.73
+	ROUTED TO	RPPAF	455.	5.33	123.	31.	10.	1.73
+	HYDROGRAPH AT	PPAF	541.	4.08	69.	17.	6.	.27
+	2 COMBINED AT	CPPAF	466.	5.33	181.	47.	16.	2.00
+	HYDROGRAPH AT	DVAF	411.	4.33	65.	16.	5.	.41
+	DIVERSION TO	XDVAF	396.	4.25	23.	6.	2.	.41
+	HYDROGRAPH AT	ERDVAF	391.	4.42	43.	11.	4.	.41
+	2 COMBINED AT	CAF02	629.	4.50	210.	54.	18.	2.41
+	HYDROGRAPH AT	DRDV07	0.	.00	0.	0.	0.	1.53
+	ROUTED TO	RDV07	0.	.00	0.	0.	0.	1.53
	HYDROGRAPH AT							

+		DV07	518.	4.42	109.	27.	9.	.64
+	DIVERSION TO	XDV07	518.	4.42	92.	23.	8.	.64
+	HYDROGRAPH AT	ERDV07	133.	5.42	17.	4.	1.	.64
+	2 COMBINED AT	CDV07	133.	5.42	17.	4.	1.	.65
+	ROUTED TO	RRG07A	112.	5.50	17.	4.	1.	.65
+	HYDROGRAPH AT	DRRG07	52.	5.17	6.	1.	0.	1.75
+	ROUTED TO	RRG07C	41.	5.42	6.	1.	0.	1.75
+	HYDROGRAPH AT	DRDVLP	0.	.00	0.	0.	0.	1.15
+	ROUTED TO	RDVLP	0.	.00	0.	0.	0.	1.15
+	HYDROGRAPH AT	DVLP	81.	4.50	25.	6.	2.	.14
+	DIVERSION TO	XDVLP	81.	4.50	18.	4.	1.	.14
+	HYDROGRAPH AT	ERDVLP	39.	5.58	8.	2.	1.	.14
+	2 COMBINED AT	CDVLP	39.	5.58	8.	2.	1.	.14
+	ROUTED TO	RRG07B	33.	6.00	8.	2.	1.	.14
+	HYDROGRAPH AT	RG07	241.	4.50	63.	16.	5.	.35
+	DIVERSION TO	XRG07	241.	4.50	63.	16.	5.	.35
+	HYDROGRAPH AT	ERRG07	0.	.00	0.	0.	0.	.35
+	4 COMBINED AT	CRG07	73.	5.50	21.	5.	2.	2.01
+	ROUTED TO	RRGAF	61.	6.58	18.	4.	1.	2.01
+	HYDROGRAPH AT	RGAF	210.	4.50	55.	14.	5.	.33
+	DIVERSION TO	XRGAF	210.	4.50	21.	5.	2.	.33
+	HYDROGRAPH AT	ERRGAF	195.	4.75	35.	9.	3.	.33
+	2 COMBINED AT	CRGAF	152.	4.92	42.	11.	4.	2.34
+	HYDROGRAPH AT	DRBYAF	115.	5.33	19.	5.	2.	1.39
+	ROUTED TO	RBY07	98.	5.58	19.	5.	2.	1.39
+	ROUTED TO	RBYAF	79.	6.08	19.	5.	2.	1.39
+	HYDROGRAPH AT	BYAF	450.	4.42	108.	28.	9.	.61
+	DIVERSION TO	XBYAF	450.	4.42	53.	13.	4.	.61
+	HYDROGRAPH AT	ERBYAF	350.	4.75	57.	14.	5.	.61
+	2 COMBINED AT	CBYAF	310.	4.92	71.	18.	6.	1.30
+	HYDROGRAPH AT	UHAF	174.	4.75	61.	16.	5.	.49
	DIVERSION TO							

+		XUHAF	174.	4.75	40.	10.	3.	.49
+	HYDROGRAPH AT	ERUHAF	100.	5.83	23.	6.	2.	.49
+	3 COMBINED AT	CAF03	362.	5.08	92.	23.	8.	4.13
+	HYDROGRAPH AT	UH07	109.	4.67	39.	10.	3.	.25
+	ROUTED TO	RUH11	108.	4.75	39.	10.	3.	.25
+	ROUTED TO	RUH15	108.	4.92	39.	10.	3.	.25
+	HYDROGRAPH AT	UH15	980.	4.42	212.	54.	18.	1.02
+	DIVERSION TO	XUH15	980.	4.42	129.	32.	11.	1.02
+	HYDROGRAPH AT	ERUH15	677.	4.83	86.	21.	7.	1.02
+	2 COMBINED AT	CUH15	756.	4.83	119.	30.	10.	1.27
+	ROUTED TO	RBL15B	605.	5.17	119.	30.	10.	1.27
+	HYDROGRAPH AT	DRBL15	550.	4.42	234.	60.	20.	1.33
+	ROUTED TO	RBL15A	550.	4.75	234.	60.	20.	1.33
+	HYDROGRAPH AT	BL15	738.	4.42	157.	39.	13.	.96
+	DIVERSION TO	XBL15	738.	4.42	75.	19.	6.	.96
+	HYDROGRAPH AT	ERBL15	610.	4.75	83.	21.	7.	.96
+	3 COMBINED AT	CBL15	1394.	5.25	409.	105.	35.	2.90
+	ROUTED TO	RMEAF	1326.	5.42	409.	105.	35.	2.90
+	HYDROGRAPH AT	MEAF	1126.	4.42	234.	59.	20.	1.37
+	DIVERSION TO	XMEAF	1019.	4.25	79.	20.	7.	1.37
+	HYDROGRAPH AT	ERMEAF	1126.	4.42	157.	39.	13.	1.37
+	2 COMBINED AT	CMEAF	1565.	4.92	532.	136.	45.	4.27
+	HYDROGRAPH AT	BLAF	92.	4.83	38.	10.	3.	.28
+	DIVERSION TO	XBLAF	92.	4.83	31.	8.	3.	.28
+	HYDROGRAPH AT	ERBLAF	35.	6.83	10.	2.	1.	.28
+	HYDROGRAPH AT	GRAF	593.	4.58	177.	46.	15.	.86
+	DIVERSION TO	XGRAF	133.	3.92	14.	4.	1.	.86
+	HYDROGRAPH AT	ERGRAF	593.	4.58	168.	42.	14.	.86
+	HYDROGRAPH AT	PEAF	674.	4.25	107.	27.	9.	.53
+	4 COMBINED AT	CAF04	2151.	4.83	751.	193.	64.	5.94
+	HYDROGRAPH AT	OL11	274.	4.33	51.	13.	4.	.34
	DIVERSION TO							

+		XOL11	86.	4.00	6.	1.	0.	.34
+	HYDROGRAPH AT	EROL11	274.	4.33	45.	11.	4.	.34
+	ROUTED TO	RNO11	262.	4.58	45.	11.	4.	.34
+	HYDROGRAPH AT	NO11	968.	4.25	173.	43.	14.	.86
+	DIVERSION TO	XNO11	678.	4.08	47.	12.	4.	.86
+	HYDROGRAPH AT	ERNO11	968.	4.25	127.	32.	11.	.86
+	2 COMBINED AT	CNO11	1038.	4.42	165.	41.	14.	1.20
+	ROUTED TO	RGL14A	858.	5.00	164.	41.	14.	1.20
+	HYDROGRAPH AT	NO07	249.	4.42	57.	15.	5.	.34
+	DIVERSION TO	XNO07	249.	4.42	22.	5.	2.	.34
+	HYDROGRAPH AT	ERNO07	237.	4.58	36.	9.	3.	.34
+	ROUTED TO	RGL11	200.	5.00	36.	9.	3.	.34
+	HYDROGRAPH AT	GL11	416.	4.42	94.	24.	8.	.43
+	DIVERSION TO	XGL11	416.	4.42	78.	20.	7.	.43
+	HYDROGRAPH AT	ERGL11	130.	5.42	17.	4.	1.	.43
+	2 COMBINED AT	CGL11	232.	5.33	50.	12.	4.	.77
+	ROUTED TO	RGL14B	202.	5.67	49.	12.	4.	.77
+	HYDROGRAPH AT	GL14	597.	4.25	120.	30.	10.	.48
+	3 COMBINED AT	CGL14	1011.	5.00	299.	78.	26.	2.45
+	ROUTED TO	RGLAF	969.	5.17	299.	78.	26.	2.45
+	HYDROGRAPH AT	GLAF	375.	4.33	94.	24.	8.	.39
+	DIVERSION TO	XGLAF	131.	3.92	15.	4.	1.	.39
+	HYDROGRAPH AT	ERGLAF	375.	4.33	82.	20.	7.	.39
+	2 COMBINED AT	CGLAF	1131.	5.08	372.	96.	32.	2.83
+	HYDROGRAPH AT	OLAF	500.	4.58	145.	37.	12.	1.03
+	DIVERSION TO	XOLAF	500.	4.58	77.	19.	6.	1.03
+	HYDROGRAPH AT	EROLAF	360.	5.25	72.	18.	6.	1.03
+	HYDROGRAPH AT	NOAF	208.	4.50	40.	10.	3.	.28
+	3 COMBINED AT	CAF05	1348.	5.25	434.	112.	37.	4.15

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SUMMARY OF KINEMATIC WAVE - MUSKINGUM-CUNGE ROUTING
(FLOW IS DIRECT RUNOFF WITHOUT BASE FLOW)

ISTAQ	ELEMENT	DT	PEAK	TIME TO PEAK	VOLUME	DT	INTERPOLATED TO COMPUTATION INTERVAL PEAK	TIME TO PEAK	VOLUME

		(MIN)	(CFS)	(MIN)	(IN)	(MIN)	(CFS)	(MIN)	(IN)
FOR STORM = 1	STORM AREA (SQ MI) =			.00					
RP35GW	MANE	1.66	158.00	243.05	.47	5.00	158.00	245.00	.47

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4302E+02 EXCESS= .0000E+00 OUTFLOW= .4300E+02 BASIN STORAGE= .7205E-10 PERCENT ERROR= .0

FOR STORM = 2	STORM AREA (SQ MI) =			.50					
RP35GW	MANE	1.60	158.00	245.34	.47	5.00	158.00	250.00	.47

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4289E+02 EXCESS= .0000E+00 OUTFLOW= .4288E+02 BASIN STORAGE= .7149E-10 PERCENT ERROR= .0

FOR STORM = 3	STORM AREA (SQ MI) =			2.80					
RP35GW	MANE	1.60	158.00	240.75	.49	5.00	158.00	245.00	.49

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4440E+02 EXCESS= .0000E+00 OUTFLOW= .4442E+02 BASIN STORAGE= .7156E-10 PERCENT ERROR= .0

FOR STORM = 4	STORM AREA (SQ MI) =			16.00					
RP35GW	MANE	2.73	158.00	237.29	.51	5.00	158.00	240.00	.51

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4654E+02 EXCESS= .0000E+00 OUTFLOW= .4654E+02 BASIN STORAGE= .1256E-09 PERCENT ERROR= .0

FOR STORM = 5	STORM AREA (SQ MI) =			90.00					
RP35GW	MANE	2.77	158.00	242.56	.51	5.00	158.00	245.00	.51

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4647E+02 EXCESS= .0000E+00 OUTFLOW= .4650E+02 BASIN STORAGE= .1175E-09 PERCENT ERROR= -.1

FOR STORM = 6	STORM AREA (SQ MI) =			100.00					
RP35GW	MANE	2.69	158.00	241.24	.51	5.00	158.00	245.00	.51

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4630E+02 EXCESS= .0000E+00 OUTFLOW= .4629E+02 BASIN STORAGE= .1185E-09 PERCENT ERROR= .0

FOR STORM = 1	STORM AREA (SQ MI) =			.00					
RP35TB	MANE	2.40	318.00	249.97	1.16	5.00	318.00	250.00	1.16

CONTINUITY SUMMARY (AC-FT) - INFLOW= .9779E+02 EXCESS= .0000E+00 OUTFLOW= .9781E+02 BASIN STORAGE= .3959E-09 PERCENT ERROR= .0

FOR STORM = 2	STORM AREA (SQ MI) =			.50					
RP35TB	MANE	2.38	318.00	250.04	1.16	5.00	318.00	255.00	1.16

CONTINUITY SUMMARY (AC-FT) - INFLOW= .9755E+02 EXCESS= .0000E+00 OUTFLOW= .9757E+02 BASIN STORAGE= .4264E-09 PERCENT ERROR= .0

FOR STORM = 3	STORM AREA (SQ MI) =			2.80					
RP35TB	MANE	2.33	318.00	245.82	1.19	5.00	318.00	250.00	1.19

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1001E+03 EXCESS= .0000E+00 OUTFLOW= .1001E+03 BASIN STORAGE= .4283E-09 PERCENT ERROR= .0

FOR STORM = 4	STORM AREA (SQ MI) =			16.00					
RP35TB	MANE	2.32	318.00	245.07	1.23	5.00	318.00	250.00	1.23

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1036E+03 EXCESS= .0000E+00 OUTFLOW= .1036E+03 BASIN STORAGE= .3662E-09 PERCENT ERROR= .0

FOR STORM = 5	STORM AREA (SQ MI) =			90.00					
RP35TB	MANE	2.25	318.00	250.35	1.22	5.00	318.00	255.00	1.22

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1026E+03 EXCESS= .0000E+00 OUTFLOW= .1026E+03 BASIN STORAGE= .5002E-09 PERCENT ERROR= .0

FOR STORM = 6	STORM AREA (SQ MI) =			100.00					
RP35TB	MANE	2.25	318.00	250.54	1.21	5.00	318.00	255.00	1.21

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1021E+03 EXCESS= .0000E+00 OUTFLOW= .1021E+03 BASIN STORAGE= .4356E-09 PERCENT ERROR= .0

FOR STORM = 1	STORM AREA (SQ MI) =			.00					
RP35CT	MANE	2.04	554.00	254.74	1.93	5.00	554.00	255.00	1.93

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1701E+03 EXCESS= .0000E+00 OUTFLOW= .1701E+03 BASIN STORAGE= .7489E-09 PERCENT ERROR= .0

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          FOR STORM = 2  STORM AREA (SQ MI) =        .50
            RP35CT  MANE          2.04    554.00    254.94      1.93      5.00    554.00    255.00        1.93

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1697E+03 EXCESS= .0000E+00 OUTFLOW= .1697E+03 BASIN STORAGE= .7450E-09 PERCENT ERROR=    .0

          FOR STORM = 3  STORM AREA (SQ MI) =       2.80
            RP35CT  MANE          1.98    554.00    254.99      1.97      5.00    554.00    255.00        1.97

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1735E+03 EXCESS= .0000E+00 OUTFLOW= .1736E+03 BASIN STORAGE= .9046E-09 PERCENT ERROR=    .0

          FOR STORM = 4  STORM AREA (SQ MI) =      16.00
            RP35CT  MANE          2.02    554.00    254.28      2.01      5.00    554.00    255.00        2.01

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1772E+03 EXCESS= .0000E+00 OUTFLOW= .1772E+03 BASIN STORAGE= .1116E-08 PERCENT ERROR=    .0

          FOR STORM = 5  STORM AREA (SQ MI) =      90.00
            RP35CT  MANE          2.06    554.00    265.38      1.96      5.00    554.00    270.00        1.96

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1722E+03 EXCESS= .0000E+00 OUTFLOW= .1723E+03 BASIN STORAGE= .9599E-09 PERCENT ERROR=    .0

          FOR STORM = 6  STORM AREA (SQ MI) =     100.00
            RP35CT  MANE          2.06    554.00    265.50      1.95      5.00    554.00    270.00        1.95

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1713E+03 EXCESS= .0000E+00 OUTFLOW= .1713E+03 BASIN STORAGE= .8313E-09 PERCENT ERROR=    .0

          FOR STORM = 1  STORM AREA (SQ MI) =        .00
            RP35PE  MANE          2.05    554.00    249.25      2.03      5.00    554.00    250.00        2.03

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1909E+03 EXCESS= .0000E+00 OUTFLOW= .1909E+03 BASIN STORAGE= .1969E-08 PERCENT ERROR=    .0

          FOR STORM = 2  STORM AREA (SQ MI) =        .50
            RP35PE  MANE          1.99    554.00    249.09      2.03      5.00    554.00    250.00        2.03

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1904E+03 EXCESS= .0000E+00 OUTFLOW= .1905E+03 BASIN STORAGE= .1718E-08 PERCENT ERROR=    .0

          FOR STORM = 3  STORM AREA (SQ MI) =       2.80
            RP35PE  MANE          2.02    554.00    249.89      2.07      5.00    554.00    250.00        2.07

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1941E+03 EXCESS= .0000E+00 OUTFLOW= .1941E+03 BASIN STORAGE= .1718E-08 PERCENT ERROR=    .0

          FOR STORM = 4  STORM AREA (SQ MI) =      16.00
            RP35PE  MANE          2.09    554.00    244.97      2.12      5.00    554.00    245.00        2.12

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1994E+03 EXCESS= .0000E+00 OUTFLOW= .1994E+03 BASIN STORAGE= .2427E-08 PERCENT ERROR=    .0

          FOR STORM = 5  STORM AREA (SQ MI) =      90.00
            RP35PE  MANE          2.10    554.00    249.79      2.09      5.00    554.00    250.00        2.09

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1962E+03 EXCESS= .0000E+00 OUTFLOW= .1962E+03 BASIN STORAGE= .2664E-08 PERCENT ERROR=    .0

          FOR STORM = 6  STORM AREA (SQ MI) =     100.00
            RP35PE  MANE          2.05    554.00    250.07      2.08      5.00    554.00    255.00        2.08

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1953E+03 EXCESS= .0000E+00 OUTFLOW= .1953E+03 BASIN STORAGE= .2605E-08 PERCENT ERROR=    .0

          FOR STORM = 1  STORM AREA (SQ MI) =        .00
            RP35AC  MANE          1.40    466.00    247.86      2.04      5.00    466.00    250.00        2.04

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1857E+03 EXCESS= .0000E+00 OUTFLOW= .1857E+03 BASIN STORAGE= .2403E-08 PERCENT ERROR=    .0

          FOR STORM = 2  STORM AREA (SQ MI) =        .50
            RP35AC  MANE          1.39    466.00    248.54      2.03      5.00    466.00    250.00        2.03

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1853E+03 EXCESS= .0000E+00 OUTFLOW= .1853E+03 BASIN STORAGE= .2344E-08 PERCENT ERROR=    .0

          FOR STORM = 3  STORM AREA (SQ MI) =       2.80
            RP35AC  MANE          1.43    466.00    243.83      2.07      5.00    466.00    245.00        2.06
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CONTINUITY SUMMARY (AC-FT) - INFLOW= .1883E+03 EXCESS= .0000E+00 OUTFLOW= .1883E+03 BASIN STORAGE= .2423E-08 PERCENT ERROR=    .0

          FOR STORM = 4  STORM AREA (SQ MI) =      16.00
            RP35AC  MANE          1.44    466.00    244.27      2.13      5.00    466.00    245.00        2.13

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1943E+03 EXCESS= .0000E+00 OUTFLOW= .1943E+03 BASIN STORAGE= .2649E-08 PERCENT ERROR=    .0

          FOR STORM = 5  STORM AREA (SQ MI) =      90.00
            RP35AC  MANE          1.43    466.00    243.99      2.12      5.00    466.00    245.00        2.12

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1938E+03 EXCESS= .0000E+00 OUTFLOW= .1938E+03 BASIN STORAGE= .2655E-08 PERCENT ERROR=    .0

          FOR STORM = 6  STORM AREA (SQ MI) =     100.00
            RP35AC  MANE          1.42    466.00    243.96      2.12      5.00    466.00    245.00        2.12

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1931E+03 EXCESS= .0000E+00 OUTFLOW= .1931E+03 BASIN STORAGE= .2587E-08 PERCENT ERROR=    .0

          FOR STORM = 1  STORM AREA (SQ MI) =        .00
            RPUH43  MANE          1.83    875.00    274.30      1.44      5.00    875.00    275.00        1.43

CONTINUITY SUMMARY (AC-FT) - INFLOW= .8701E+02 EXCESS= .0000E+00 OUTFLOW= .8696E+02 BASIN STORAGE= .9602E-10 PERCENT ERROR=    .1

          FOR STORM = 2  STORM AREA (SQ MI) =        .50
            RPUH43  MANE          1.83    875.00    274.36      1.42      5.00    875.00    275.00        1.42

CONTINUITY SUMMARY (AC-FT) - INFLOW= .8632E+02 EXCESS= .0000E+00 OUTFLOW= .8630E+02 BASIN STORAGE= .9487E-10 PERCENT ERROR=    .0

          FOR STORM = 3  STORM AREA (SQ MI) =       2.80
            RPUH43  MANE          1.83    875.00    279.34      1.45      5.00    875.00    280.00        1.44

CONTINUITY SUMMARY (AC-FT) - INFLOW= .8746E+02 EXCESS= .0000E+00 OUTFLOW= .8759E+02 BASIN STORAGE= .9232E-10 PERCENT ERROR=   -.2

          FOR STORM = 4  STORM AREA (SQ MI) =      16.00
            RPUH43  MANE          1.86    773.28    279.42      1.30      5.00    772.61    280.00        1.29

CONTINUITY SUMMARY (AC-FT) - INFLOW= .7850E+02 EXCESS= .0000E+00 OUTFLOW= .7847E+02 BASIN STORAGE= .9791E-10 PERCENT ERROR=    .0

          FOR STORM = 5  STORM AREA (SQ MI) =      90.00
            RPUH43  MANE          1.97    578.69    285.18       .98      5.00    571.80    285.00         .98

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5957E+02 EXCESS= .0000E+00 OUTFLOW= .5964E+02 BASIN STORAGE= .9597E-10 PERCENT ERROR=   -.1

          FOR STORM = 6  STORM AREA (SQ MI) =     100.00
            RPUH43  MANE          2.03    555.28    289.51       .96      5.00    553.81    290.00         .96

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5793E+02 EXCESS= .0000E+00 OUTFLOW= .5804E+02 BASIN STORAGE= .8789E-10 PERCENT ERROR=   -.2

          FOR STORM = 1  STORM AREA (SQ MI) =        .00
            RP43GW  MANE          2.91    117.00    241.03       .26      5.00    117.00    245.00         .26

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4253E+02 EXCESS= .0000E+00 OUTFLOW= .4254E+02 BASIN STORAGE= .1345E-09 PERCENT ERROR=    .0

          FOR STORM = 2  STORM AREA (SQ MI) =        .50
            RP43GW  MANE          2.91    117.00    241.21       .26      5.00    117.00    245.00         .26

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4244E+02 EXCESS= .0000E+00 OUTFLOW= .4245E+02 BASIN STORAGE= .1306E-09 PERCENT ERROR=    .0

          FOR STORM = 3  STORM AREA (SQ MI) =       2.80
            RP43GW  MANE          3.00    117.00    237.21       .26      5.00    117.00    240.00         .26

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4337E+02 EXCESS= .0000E+00 OUTFLOW= .4338E+02 BASIN STORAGE= .1485E-09 PERCENT ERROR=    .0

          FOR STORM = 4  STORM AREA (SQ MI) =      16.00
            RP43GW  MANE          2.88    117.00    237.46       .27      5.00    117.00    240.00         .27
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CONTINUITY SUMMARY (AC-FT) - INFLOW= .4475E+02 EXCESS= .0000E+00 OUTFLOW= .4475E+02 BASIN STORAGE= .1291E-09 PERCENT ERROR= .0

FOR STORM = 5 STORM AREA (SQ MI) = 90.00

RP43GW	MANE	2.91	117.00	243.38	.27	5.00	117.00	245.00	.27	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4430E+02 EXCESS= .0000E+00 OUTFLOW= .4431E+02 BASIN STORAGE= .1423E-09 PERCENT ERROR= .0

FOR STORM = 6 STORM AREA (SQ MI) = 100.00

RP43GW	MANE	2.92	117.00	243.45	.27	5.00	117.00	245.00	.27	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4414E+02 EXCESS= .0000E+00 OUTFLOW= .4415E+02 BASIN STORAGE= .1300E-09 PERCENT ERROR= .0

FOR STORM = 1 STORM AREA (SQ MI) = .00

RP43TB	MANE	2.87	155.00	243.48	.31	5.00	155.00	245.00	.31	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5938E+02 EXCESS= .0000E+00 OUTFLOW= .5941E+02 BASIN STORAGE= .3888E-09 PERCENT ERROR= .0

FOR STORM = 2 STORM AREA (SQ MI) = .50

RP43TB	MANE	2.72	155.01	453.45	.31	5.00	155.00	245.00	.31	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5928E+02 EXCESS= .0000E+00 OUTFLOW= .5929E+02 BASIN STORAGE= .5302E-09 PERCENT ERROR= .0

FOR STORM = 3 STORM AREA (SQ MI) = 2.80

RP43TB	MANE	2.86	155.00	242.60	.32	5.00	155.00	245.00	.32	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6061E+02 EXCESS= .0000E+00 OUTFLOW= .6063E+02 BASIN STORAGE= .3802E-09 PERCENT ERROR= .0

FOR STORM = 4 STORM AREA (SQ MI) = 16.00

RP43TB	MANE	2.82	155.00	231.92	.33	5.00	155.00	235.00	.33	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6321E+02 EXCESS= .0000E+00 OUTFLOW= .6323E+02 BASIN STORAGE= .3749E-09 PERCENT ERROR= .0

FOR STORM = 5 STORM AREA (SQ MI) = 90.00

RP43TB	MANE	2.76	155.00	235.55	.33	5.00	155.00	240.00	.33	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6336E+02 EXCESS= .0000E+00 OUTFLOW= .6338E+02 BASIN STORAGE= .4069E-09 PERCENT ERROR= .0

FOR STORM = 6 STORM AREA (SQ MI) = 100.00

RP43TB	MANE	2.75	155.00	235.53	.33	5.00	155.00	240.00	.33	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6316E+02 EXCESS= .0000E+00 OUTFLOW= .6318E+02 BASIN STORAGE= .3967E-09 PERCENT ERROR= .0

FOR STORM = 1 STORM AREA (SQ MI) = .00

RP43CT	MANE	2.41	312.00	251.75	.62	5.00	312.00	255.00	.62	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1176E+03 EXCESS= .0000E+00 OUTFLOW= .1176E+03 BASIN STORAGE= .1055E-08 PERCENT ERROR= .0

FOR STORM = 2 STORM AREA (SQ MI) = .50

RP43CT	MANE	2.40	312.00	252.05	.62	5.00	312.00	255.00	.62	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1173E+03 EXCESS= .0000E+00 OUTFLOW= .1174E+03 BASIN STORAGE= .1098E-08 PERCENT ERROR= .0

FOR STORM = 3 STORM AREA (SQ MI) = 2.80

RP43CT	MANE	2.33	312.00	245.33	.63	5.00	312.00	250.00	.63	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1196E+03 EXCESS= .0000E+00 OUTFLOW= .1196E+03 BASIN STORAGE= .1275E-08 PERCENT ERROR= .0

FOR STORM = 4 STORM AREA (SQ MI) = 16.00

RP43CT	MANE	2.40	312.00	245.75	.65	5.00	312.00	250.00	.65	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1225E+03 EXCESS= .0000E+00 OUTFLOW= .1225E+03 BASIN STORAGE= .1138E-08 PERCENT ERROR= .0

FOR STORM = 5 STORM AREA (SQ MI) = 90.00

RP43CT	MANE	2.32	312.00	251.80	.64	5.00	312.00	255.00	.64	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1203E+03 EXCESS= .0000E+00 OUTFLOW= .1204E+03 BASIN STORAGE= .1033E-08 PERCENT ERROR= .0

FOR STORM = 6 STORM AREA (SQ MI) = 100.00

RP43CT	MANE	2.32	312.00	256.32	.63	5.00	312.00	260.00	.63	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1198E+03 EXCESS= .0000E+00 OUTFLOW= .1198E+03 BASIN STORAGE= .1229E-08 PERCENT ERROR= .0

FOR STORM = 1 STORM AREA (SQ MI) = .00

RP43PE	MANE	2.15	380.00	279.87	.80	5.00	380.00	280.00	.80	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1423E+03 EXCESS= .0000E+00 OUTFLOW= .1423E+03 BASIN STORAGE= .2587E-08 PERCENT ERROR= .0

FOR STORM = 2 STORM AREA (SQ MI) = .50

RP43PE	MANE	2.08	380.00	279.73	.80	5.00	380.00	280.00	.79	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1420E+03 EXCESS= .0000E+00 OUTFLOW= .1421E+03 BASIN STORAGE= .2757E-08 PERCENT ERROR= .0

FOR STORM = 3 STORM AREA (SQ MI) = 2.80

RP43PE	MANE	2.08	380.00	280.31	.81	5.00	380.00	285.00	.81	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1446E+03 EXCESS= .0000E+00 OUTFLOW= .1446E+03 BASIN STORAGE= .2638E-08 PERCENT ERROR= .0

FOR STORM = 4 STORM AREA (SQ MI) = 16.00

RP43PE	MANE	2.19	380.00	284.79	.82	5.00	380.00	285.00	.82	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1469E+03 EXCESS= .0000E+00 OUTFLOW= .1470E+03 BASIN STORAGE= .2338E-08 PERCENT ERROR= .0

FOR STORM = 5 STORM AREA (SQ MI) = 90.00

RP43PE	MANE	2.09	380.00	295.78	.80	5.00	380.00	300.00	.80	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1431E+03 EXCESS= .0000E+00 OUTFLOW= .1431E+03 BASIN STORAGE= .2263E-08 PERCENT ERROR= .0

FOR STORM = 6 STORM AREA (SQ MI) = 100.00

RP43PE	MANE	2.10	380.00	295.91	.80	5.00	380.00	300.00	.80	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1423E+03 EXCESS= .0000E+00 OUTFLOW= .1424E+03 BASIN STORAGE= .2645E-08 PERCENT ERROR= .0

FOR STORM = 1 STORM AREA (SQ MI) = .00

RPUH51	MANE	1.69	1268.00	283.45	1.76	5.00	1268.00	285.00	1.76	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1504E+03 EXCESS= .0000E+00 OUTFLOW= .1505E+03 BASIN STORAGE= .4351E-09 PERCENT ERROR= .0

FOR STORM = 2 STORM AREA (SQ MI) = .50

RPUH51	MANE	1.74	1268.00	283.90	1.75	5.00	1268.00	285.00	1.74	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1492E+03 EXCESS= .0000E+00 OUTFLOW= .1491E+03 BASIN STORAGE= .4104E-09 PERCENT ERROR= .0

FOR STORM = 3 STORM AREA (SQ MI) = 2.80

RPUH51	MANE	1.64	1268.00	284.60	1.71	5.00	1268.00	285.00	1.71	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1460E+03 EXCESS= .0000E+00 OUTFLOW= .1460E+03 BASIN STORAGE= .4194E-09 PERCENT ERROR= .0

FOR STORM = 4 STORM AREA (SQ MI) = 16.00

RPUH51	MANE	1.65	1207.15	293.75	1.51	5.00	1198.55	295.00	1.51	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1291E+03 EXCESS= .0000E+00 OUTFLOW= .1291E+03 BASIN STORAGE= .4096E-09 PERCENT ERROR= .0

FOR STORM = 5 STORM AREA (SQ MI) = 90.00

RPUH51	MANE	1.85	840.09	304.65	1.07	5.00	837.65	305.00	1.07	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .9138E+02 EXCESS= .0000E+00 OUTFLOW= .9148E+02 BASIN STORAGE= .4003E-09 PERCENT ERROR= -.1

FOR STORM = 6 STORM AREA (SQ MI) = 100.00

RPUH51	MANE	1.78	787.74	307.73	1.04	5.00	783.14	310.00	1.03	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .8827E+02 EXCESS= .0000E+00 OUTFLOW= .8835E+02 BASIN STORAGE= .3648E-09 PERCENT ERROR= -.1

FOR STORM = 1 STORM AREA (SQ MI) = .00

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          RP51GW  MANE          3.76     38.01    476.02       .08      5.00     38.01    475.00         .08

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1285E+02 EXCESS= .0000E+00 OUTFLOW= .1286E+02 BASIN STORAGE= .1528E-09 PERCENT ERROR=   -.1

        FOR STORM = 2  STORM AREA (SQ MI) =         .50
          RP51GW  MANE          3.76     38.01    475.74       .08      5.00     38.01    475.00         .08

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1283E+02 EXCESS= .0000E+00 OUTFLOW= .1285E+02 BASIN STORAGE= .1737E-09 PERCENT ERROR=   -.2

        FOR STORM = 3  STORM AREA (SQ MI) =        2.80
          RP51GW  MANE          3.77     38.01    477.24       .08      5.00     38.00    475.00         .08

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1296E+02 EXCESS= .0000E+00 OUTFLOW= .1296E+02 BASIN STORAGE= .1642E-09 PERCENT ERROR=    .0

        FOR STORM = 4  STORM AREA (SQ MI) =       16.00
          RP51GW  MANE          3.90     38.00    279.15       .08      5.00     38.00    280.00         .08

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1267E+02 EXCESS= .0000E+00 OUTFLOW= .1267E+02 BASIN STORAGE= .1658E-09 PERCENT ERROR=    .0

        FOR STORM = 5  STORM AREA (SQ MI) =       90.00
          RP51GW  MANE          3.84     38.00    291.48       .07      5.00     38.00    295.00         .07

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1192E+02 EXCESS= .0000E+00 OUTFLOW= .1192E+02 BASIN STORAGE= .1531E-09 PERCENT ERROR=    .0

        FOR STORM = 6  STORM AREA (SQ MI) =      100.00
          RP51GW  MANE          3.91     38.00    288.03       .07      5.00     38.00    290.00         .07

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1184E+02 EXCESS= .0000E+00 OUTFLOW= .1184E+02 BASIN STORAGE= .1545E-09 PERCENT ERROR=    .0

        FOR STORM = 1  STORM AREA (SQ MI) =         .00
          RP51TB  MANE          2.85    150.00    252.13       .25      5.00    150.00    255.00         .25

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5869E+02 EXCESS= .0000E+00 OUTFLOW= .5872E+02 BASIN STORAGE= .4527E-09 PERCENT ERROR=    .0

        FOR STORM = 2  STORM AREA (SQ MI) =         .50
          RP51TB  MANE          2.98    150.00    253.79       .25      5.00    150.00    255.00         .25

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5858E+02 EXCESS= .0000E+00 OUTFLOW= .5860E+02 BASIN STORAGE= .4713E-09 PERCENT ERROR=    .0

        FOR STORM = 3  STORM AREA (SQ MI) =        2.80
          RP51TB  MANE          2.88    150.00    252.11       .26      5.00    150.00    255.00         .26

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5923E+02 EXCESS= .0000E+00 OUTFLOW= .5924E+02 BASIN STORAGE= .6301E-09 PERCENT ERROR=    .0

        FOR STORM = 4  STORM AREA (SQ MI) =       16.00
          RP51TB  MANE          2.84    150.00    253.00       .26      5.00    150.00    255.00         .26

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5918E+02 EXCESS= .0000E+00 OUTFLOW= .5922E+02 BASIN STORAGE= .5421E-09 PERCENT ERROR=   -.1

        FOR STORM = 5  STORM AREA (SQ MI) =       90.00
          RP51TB  MANE          2.86    150.00    260.93       .25      5.00    150.00    265.00         .25

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5684E+02 EXCESS= .0000E+00 OUTFLOW= .5689E+02 BASIN STORAGE= .5912E-09 PERCENT ERROR=   -.1

        FOR STORM = 6  STORM AREA (SQ MI) =      100.00
          RP51TB  MANE          2.89    150.00    261.24       .24      5.00    150.00    265.00         .24

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5653E+02 EXCESS= .0000E+00 OUTFLOW= .5657E+02 BASIN STORAGE= .5424E-09 PERCENT ERROR=   -.1

        FOR STORM = 1  STORM AREA (SQ MI) =         .00
          RP51CT  MANE          2.54    244.00    251.00       .40      5.00    244.00    255.00         .40

CONTINUITY SUMMARY (AC-FT) - INFLOW= .9907E+02 EXCESS= .0000E+00 OUTFLOW= .9908E+02 BASIN STORAGE= .1429E-08 PERCENT ERROR=    .0

        FOR STORM = 2  STORM AREA (SQ MI) =         .50
          RP51CT  MANE          2.54    244.00    251.05       .39      5.00    244.00    255.00         .39
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CONTINUITY SUMMARY (AC-FT) - INFLOW= .9887E+02 EXCESS= .0000E+00 OUTFLOW= .9888E+02 BASIN STORAGE= .1745E-08 PERCENT ERROR=    .0

        FOR STORM = 3  STORM AREA (SQ MI) =        2.80
          RP51CT  MANE          2.61    244.00    252.53       .40      5.00    244.00    255.00         .40

CONTINUITY SUMMARY (AC-FT) - INFLOW= .9999E+02 EXCESS= .0000E+00 OUTFLOW= .1000E+03 BASIN STORAGE= .1729E-08 PERCENT ERROR=    .0

        FOR STORM = 4  STORM AREA (SQ MI) =       16.00
          RP51CT  MANE          2.46    244.00    255.04       .40      5.00    244.00    255.00         .40

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1003E+03 EXCESS= .0000E+00 OUTFLOW= .1003E+03 BASIN STORAGE= .1621E-08 PERCENT ERROR=    .0

        FOR STORM = 5  STORM AREA (SQ MI) =       90.00
          RP51CT  MANE          2.54    244.00    256.05       .39      5.00    244.00    260.00         .39

CONTINUITY SUMMARY (AC-FT) - INFLOW= .9656E+02 EXCESS= .0000E+00 OUTFLOW= .9658E+02 BASIN STORAGE= .1337E-08 PERCENT ERROR=    .0

        FOR STORM = 6  STORM AREA (SQ MI) =      100.00
          RP51CT  MANE          2.55    244.00    256.12       .38      5.00    244.00    260.00         .38

CONTINUITY SUMMARY (AC-FT) - INFLOW= .9606E+02 EXCESS= .0000E+00 OUTFLOW= .9608E+02 BASIN STORAGE= .1718E-08 PERCENT ERROR=    .0

        FOR STORM = 1  STORM AREA (SQ MI) =         .00
          RP59GW  MANE          2.41    108.00    288.68       .22      5.00    108.00    290.00         .22

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3246E+02 EXCESS= .0000E+00 OUTFLOW= .3246E+02 BASIN STORAGE= .1759E-09 PERCENT ERROR=    .0

        FOR STORM = 2  STORM AREA (SQ MI) =         .50
          RP59GW  MANE          2.31    108.00    287.78       .22      5.00    108.00    290.00         .22

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3238E+02 EXCESS= .0000E+00 OUTFLOW= .3237E+02 BASIN STORAGE= .1808E-09 PERCENT ERROR=    .1

        FOR STORM = 3  STORM AREA (SQ MI) =        2.80
          RP59GW  MANE          3.10    108.00    292.07       .22      5.00    108.00    295.00         .22

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3217E+02 EXCESS= .0000E+00 OUTFLOW= .3218E+02 BASIN STORAGE= .2192E-09 PERCENT ERROR=    .0

        FOR STORM = 4  STORM AREA (SQ MI) =       16.00
          RP59GW  MANE          3.16    108.00    299.16       .21      5.00    108.00    300.00         .21

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3104E+02 EXCESS= .0000E+00 OUTFLOW= .3104E+02 BASIN STORAGE= .2179E-09 PERCENT ERROR=    .0

        FOR STORM = 5  STORM AREA (SQ MI) =       90.00
          RP59GW  MANE          3.06    108.00    312.50       .18      5.00    108.00    315.00         .18

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2578E+02 EXCESS= .0000E+00 OUTFLOW= .2578E+02 BASIN STORAGE= .2065E-09 PERCENT ERROR=    .0

        FOR STORM = 6  STORM AREA (SQ MI) =      100.00
          RP59GW  MANE          3.13    108.00    318.62       .16      5.00    108.00    320.00         .16

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2373E+02 EXCESS= .0000E+00 OUTFLOW= .2373E+02 BASIN STORAGE= .2242E-09 PERCENT ERROR=    .0

        FOR STORM = 1  STORM AREA (SQ MI) =         .00
          RP59AM  MANE          1.38    273.00    283.04       .28      5.00    273.00    285.00         .28

CONTINUITY SUMMARY (AC-FT) - INFLOW= .8373E+02 EXCESS= .0000E+00 OUTFLOW= .8373E+02 BASIN STORAGE= .3047E-09 PERCENT ERROR=    .0

        FOR STORM = 2  STORM AREA (SQ MI) =         .50
          RP59AM  MANE          1.29    273.00    282.97       .28      5.00    273.00    285.00         .28

CONTINUITY SUMMARY (AC-FT) - INFLOW= .8357E+02 EXCESS= .0000E+00 OUTFLOW= .8357E+02 BASIN STORAGE= .3053E-09 PERCENT ERROR=    .0

        FOR STORM = 3  STORM AREA (SQ MI) =        2.80
          RP59AM  MANE          1.25    273.00    288.73       .28      5.00    273.00    290.00         .28

CONTINUITY SUMMARY (AC-FT) - INFLOW= .8293E+02 EXCESS= .0000E+00 OUTFLOW= .8294E+02 BASIN STORAGE= .2424E-09 PERCENT ERROR=    .0
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          FOR STORM = 4  STORM AREA (SQ MI) =      16.00
            RP59AM  MANE          1.31    273.00    292.64       .27      5.00    273.00    295.00         .27

CONTINUITY SUMMARY (AC-FT) - INFLOW= .8014E+02 EXCESS= .0000E+00 OUTFLOW= .8015E+02 BASIN STORAGE= .2552E-09 PERCENT ERROR=    .0

          FOR STORM = 5  STORM AREA (SQ MI) =      90.00
            RP59AM  MANE          1.39    273.00    303.50       .23      5.00    273.00    305.00         .23

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6872E+02 EXCESS= .0000E+00 OUTFLOW= .6873E+02 BASIN STORAGE= .3195E-09 PERCENT ERROR=    .0

          FOR STORM = 6  STORM AREA (SQ MI) =     100.00
            RP59AM  MANE          1.39    273.00    302.95       .22      5.00    273.00    305.00         .22

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6616E+02 EXCESS= .0000E+00 OUTFLOW= .6617E+02 BASIN STORAGE= .2592E-09 PERCENT ERROR=    .0

          FOR STORM = 1  STORM AREA (SQ MI) =       .00
            RP59TB  MANE          1.54    274.04    353.68       .28      5.00    273.70    355.00         .28

CONTINUITY SUMMARY (AC-FT) - INFLOW= .8374E+02 EXCESS= .0000E+00 OUTFLOW= .8373E+02 BASIN STORAGE= .4696E-09 PERCENT ERROR=    .0

          FOR STORM = 2  STORM AREA (SQ MI) =       .50
            RP59TB  MANE          1.52    273.88    354.42       .28      5.00    273.73    355.00         .28

CONTINUITY SUMMARY (AC-FT) - INFLOW= .8354E+02 EXCESS= .0000E+00 OUTFLOW= .8354E+02 BASIN STORAGE= .5029E-09 PERCENT ERROR=    .0

          FOR STORM = 3  STORM AREA (SQ MI) =      2.80
            RP59TB  MANE          1.45    273.61    358.35       .28      5.00    273.38    360.00         .28

CONTINUITY SUMMARY (AC-FT) - INFLOW= .8291E+02 EXCESS= .0000E+00 OUTFLOW= .8291E+02 BASIN STORAGE= .6118E-09 PERCENT ERROR=    .0

          FOR STORM = 4  STORM AREA (SQ MI) =      16.00
            RP59TB  MANE          1.58    273.23    364.09       .27      5.00    273.18    365.00         .27

CONTINUITY SUMMARY (AC-FT) - INFLOW= .8012E+02 EXCESS= .0000E+00 OUTFLOW= .8012E+02 BASIN STORAGE= .6357E-09 PERCENT ERROR=    .0

          FOR STORM = 5  STORM AREA (SQ MI) =      90.00
            RP59TB  MANE          1.43    273.84    373.18       .23      5.00    273.50    375.00         .23

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6874E+02 EXCESS= .0000E+00 OUTFLOW= .6874E+02 BASIN STORAGE= .5041E-09 PERCENT ERROR=    .0

          FOR STORM = 6  STORM AREA (SQ MI) =     100.00
            RP59TB  MANE          1.45    274.07    373.38       .22      5.00    273.67    375.00         .22

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6618E+02 EXCESS= .0000E+00 OUTFLOW= .6618E+02 BASIN STORAGE= .5178E-09 PERCENT ERROR=    .0

          FOR STORM = 1  STORM AREA (SQ MI) =       .00
            RP67GW  MANE           .94     32.00    314.17       .31      5.00     32.00    315.00         .31

CONTINUITY SUMMARY (AC-FT) - INFLOW= .7578E+01 EXCESS= .0000E+00 OUTFLOW= .7644E+01 BASIN STORAGE= .6238E-10 PERCENT ERROR=   -.9

          FOR STORM = 2  STORM AREA (SQ MI) =       .50
            RP67GW  MANE          1.77     32.00    318.98       .31      5.00     32.00    320.00         .31

CONTINUITY SUMMARY (AC-FT) - INFLOW= .7480E+01 EXCESS= .0000E+00 OUTFLOW= .7490E+01 BASIN STORAGE= .1136E-09 PERCENT ERROR=   -.1

          FOR STORM = 3  STORM AREA (SQ MI) =      2.80
            RP67GW  MANE          1.77     32.00    327.56       .29      5.00     32.00    330.00         .29

CONTINUITY SUMMARY (AC-FT) - INFLOW= .7076E+01 EXCESS= .0000E+00 OUTFLOW= .7088E+01 BASIN STORAGE= .1141E-09 PERCENT ERROR=   -.2

          FOR STORM = 4  STORM AREA (SQ MI) =      16.00
            RP67GW  MANE          1.84     32.00    344.37       .25      5.00     32.00    345.00         .25

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6226E+01 EXCESS= .0000E+00 OUTFLOW= .6238E+01 BASIN STORAGE= .1179E-09 PERCENT ERROR=   -.2
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          FOR STORM = 5  STORM AREA (SQ MI) =      90.00
            RP67GW  MANE          4.66     30.67    395.50       .11      5.00     29.63    395.00         .11

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2587E+01 EXCESS= .0000E+00 OUTFLOW= .2593E+01 BASIN STORAGE= .2995E-09 PERCENT ERROR=   -.2

          FOR STORM = 6  STORM AREA (SQ MI) =     100.00
            RP67GW  MANE          4.76     25.52    406.10       .09      5.00     24.89    405.00         .09

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2175E+01 EXCESS= .0000E+00 OUTFLOW= .2176E+01 BASIN STORAGE= .2923E-09 PERCENT ERROR=    .0

          FOR STORM = 1  STORM AREA (SQ MI) =       .00
            RP67AC  MANE           .47    608.00    301.03       .62      5.00    608.00    305.00         .62

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1194E+03 EXCESS= .0000E+00 OUTFLOW= .1194E+03 BASIN STORAGE= .2891E-10 PERCENT ERROR=    .0

          FOR STORM = 2  STORM AREA (SQ MI) =       .50
            RP67AC  MANE           .33    608.00    300.78       .61      5.00    608.00    305.00         .61

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1186E+03 EXCESS= .0000E+00 OUTFLOW= .1186E+03 BASIN STORAGE= .4463E-10 PERCENT ERROR=    .0

          FOR STORM = 3  STORM AREA (SQ MI) =      2.80
            RP67AC  MANE           .47    608.00    311.37       .58      5.00    608.00    315.00         .58

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1128E+03 EXCESS= .0000E+00 OUTFLOW= .1128E+03 BASIN STORAGE= .4480E-10 PERCENT ERROR=    .0

          FOR STORM = 4  STORM AREA (SQ MI) =      16.00
            RP67AC  MANE           .33    608.00    330.76       .50      5.00    608.00    335.00         .50

CONTINUITY SUMMARY (AC-FT) - INFLOW= .9672E+02 EXCESS= .0000E+00 OUTFLOW= .9672E+02 BASIN STORAGE= .4619E-10 PERCENT ERROR=    .0

          FOR STORM = 5  STORM AREA (SQ MI) =      90.00
            RP67AC  MANE           .41    343.46    355.94       .24      5.00    343.07    355.00         .24

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4619E+02 EXCESS= .0000E+00 OUTFLOW= .4620E+02 BASIN STORAGE= .8856E-10 PERCENT ERROR=    .0

          FOR STORM = 6  STORM AREA (SQ MI) =     100.00
            RP67AC  MANE           .49    322.04    359.76       .22      5.00    322.04    360.00         .22

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4247E+02 EXCESS= .0000E+00 OUTFLOW= .4247E+02 BASIN STORAGE= .8696E-10 PERCENT ERROR=    .0

          FOR STORM = 1  STORM AREA (SQ MI) =       .00
            RPSK67  MANE          3.89     10.00    282.74       .07      5.00     10.00    285.00         .07

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2534E+02 EXCESS= .0000E+00 OUTFLOW= .2534E+02 BASIN STORAGE= .3374E-03 PERCENT ERROR=    .0

          FOR STORM = 2  STORM AREA (SQ MI) =       .50
            RPSK67  MANE          3.92     10.00    282.43       .07      5.00     10.00    285.00         .07

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2530E+02 EXCESS= .0000E+00 OUTFLOW= .2530E+02 BASIN STORAGE= .3313E-03 PERCENT ERROR=    .0

          FOR STORM = 3  STORM AREA (SQ MI) =      2.80
            RPSK67  MANE          4.61     10.00    298.55       .07      5.00     10.00    300.00         .07

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2458E+02 EXCESS= .0000E+00 OUTFLOW= .2457E+02 BASIN STORAGE= .2719E-03 PERCENT ERROR=    .0

          FOR STORM = 4  STORM AREA (SQ MI) =      16.00
            RPSK67  MANE          4.61     10.00    293.74       .07      5.00     10.00    295.00         .07

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2356E+02 EXCESS= .0000E+00 OUTFLOW= .2356E+02 BASIN STORAGE= .2290E-03 PERCENT ERROR=    .0

          FOR STORM = 5  STORM AREA (SQ MI) =      90.00
            RPSK67  MANE          4.75     10.00    289.91       .06      5.00     10.00    290.00         .06

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2083E+02 EXCESS= .0000E+00 OUTFLOW= .2082E+02 BASIN STORAGE= .1452E-03 PERCENT ERROR=    .0

          FOR STORM = 6  STORM AREA (SQ MI) =     100.00
            RPSK67  MANE          4.75     10.00    290.01       .06      5.00     10.00    295.00         .06
```

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2062E+02 EXCESS= .0000E+00 OUTFLOW= .2062E+02 BASIN STORAGE= .1438E-03 PERCENT ERROR= .0

FOR STORM = 1 STORM AREA (SQ MI) = .00

RPGWLO	MANE	2.14	169.00	360.45	.24	5.00	169.00	365.00	.24

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2045E+02 EXCESS= .0000E+00 OUTFLOW= .2049E+02 BASIN STORAGE= .4296E-10 PERCENT ERROR= -.2

FOR STORM = 2 STORM AREA (SQ MI) = .50

RPGWLO	MANE	1.61	169.00	361.18	.23	5.00	169.00	365.00	.23

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1975E+02 EXCESS= .0000E+00 OUTFLOW= .1974E+02 BASIN STORAGE= .3254E-10 PERCENT ERROR= .0

FOR STORM = 3 STORM AREA (SQ MI) = 2.80

RPGWLO	MANE	.85	71.19	403.96	.09	5.00	70.46	405.00	.09

CONTINUITY SUMMARY (AC-FT) - INFLOW= .7726E+01 EXCESS= .0000E+00 OUTFLOW= .7777E+01 BASIN STORAGE= .1344E-10 PERCENT ERROR= -.7

FOR STORM = 4 STORM AREA (SQ MI) = 16.00

RPGWLO	MANE	1.21	.00	604.25	.00	5.00	.00	605.00	.00

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4813E-06 EXCESS= .0000E+00 OUTFLOW= .8125E-06 BASIN STORAGE= .1920E-11 PERCENT ERROR= -68.8

FOR STORM = 5 STORM AREA (SQ MI) = 90.00

RPGWLO	MANE	2.58	.00	474.72	.00	5.00	.00	475.00	.00

CONTINUITY SUMMARY (AC-FT) - INFLOW= .7270E-06 EXCESS= .0000E+00 OUTFLOW= .1499E-05 BASIN STORAGE= .2573E-11 PERCENT ERROR=-106.3

FOR STORM = 6 STORM AREA (SQ MI) = 100.00

RPGWLO	MANE	.92	.00	461.87	.00	5.00	.00	465.00	.00

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4584E-06 EXCESS= .0000E+00 OUTFLOW= .1071E-05 BASIN STORAGE= .1957E-11 PERCENT ERROR=-133.8

FOR STORM = 1 STORM AREA (SQ MI) = .00

RP87PP	MANE	.57	128.00	286.42	.68	5.00	128.00	290.00	.68

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4635E+02 EXCESS= .0000E+00 OUTFLOW= .4635E+02 BASIN STORAGE= .1589E-06 PERCENT ERROR= .0

FOR STORM = 2 STORM AREA (SQ MI) = .50

RP87PP	MANE	.55	128.00	286.50	.68	5.00	128.00	290.00	.68

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4621E+02 EXCESS= .0000E+00 OUTFLOW= .4621E+02 BASIN STORAGE= .1589E-06 PERCENT ERROR= .0

FOR STORM = 3 STORM AREA (SQ MI) = 2.80

RP87PP	MANE	.69	99.88	315.21	.51	5.00	99.88	315.00	.51

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3464E+02 EXCESS= .0000E+00 OUTFLOW= .3464E+02 BASIN STORAGE= .1589E-06 PERCENT ERROR= .0

FOR STORM = 4 STORM AREA (SQ MI) = 16.00

RP87PP	MANE	.67	65.64	291.29	.27	5.00	65.59	290.00	.27

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1832E+02 EXCESS= .0000E+00 OUTFLOW= .1832E+02 BASIN STORAGE= .1589E-06 PERCENT ERROR= .0

FOR STORM = 5 STORM AREA (SQ MI) = 90.00

RP87PP	MANE	.63	49.93	291.29	.20	5.00	49.88	290.00	.20

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1329E+02 EXCESS= .0000E+00 OUTFLOW= .1329E+02 BASIN STORAGE= .1589E-06 PERCENT ERROR= .0

FOR STORM = 6 STORM AREA (SQ MI) = 100.00

RP87PP	MANE	.63	48.39	291.14	.19	5.00	48.35	295.00	.19

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1290E+02 EXCESS= .0000E+00 OUTFLOW= .1289E+02 BASIN STORAGE= .1686E-06 PERCENT ERROR= .0

FOR STORM = 1 STORM AREA (SQ MI) = .00

RPPP83	MANE	1.78	171.74	318.19	5.79	5.00	170.47	320.00	5.79

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4969E+02 EXCESS= .0000E+00 OUTFLOW= .4969E+02 BASIN STORAGE= .5764E-06 PERCENT ERROR= .0

FOR STORM = 2 STORM AREA (SQ MI) = .50

RPPP83	MANE	1.66	172.01	319.10	5.76	5.00	170.06	320.00	5.76

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4945E+02 EXCESS= .0000E+00 OUTFLOW= .4945E+02 BASIN STORAGE= .5762E-06 PERCENT ERROR= .0

FOR STORM = 3 STORM AREA (SQ MI) = 2.80

RPPP83	MANE	1.91	103.50	369.90	4.15	5.00	103.48	370.00	4.15

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3561E+02 EXCESS= .0000E+00 OUTFLOW= .3561E+02 BASIN STORAGE= .5763E-06 PERCENT ERROR= .0

FOR STORM = 4 STORM AREA (SQ MI) = 16.00

RPPP83	MANE	2.09	65.59	294.12	2.13	5.00	65.58	295.00	2.13

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1832E+02 EXCESS= .0000E+00 OUTFLOW= .1832E+02 BASIN STORAGE= .5764E-06 PERCENT ERROR= .0

FOR STORM = 5 STORM AREA (SQ MI) = 90.00

RPPP83	MANE	2.18	49.87	295.89	1.55	5.00	49.86	295.00	1.55

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1330E+02 EXCESS= .0000E+00 OUTFLOW= .1330E+02 BASIN STORAGE= .5764E-06 PERCENT ERROR= .0

FOR STORM = 6 STORM AREA (SQ MI) = 100.00

RPPP83	MANE	2.18	48.35	296.37	1.50	5.00	48.34	295.00	1.50

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1290E+02 EXCESS= .0000E+00 OUTFLOW= .1290E+02 BASIN STORAGE= .5761E-06 PERCENT ERROR= .0

FOR STORM = 1 STORM AREA (SQ MI) = .00

RP83WL	MANE	2.99	24.22	643.22	.61	5.00	24.22	645.00	.61

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4683E+02 EXCESS= .0000E+00 OUTFLOW= .4682E+02 BASIN STORAGE= .9446E-02 PERCENT ERROR= .0

FOR STORM = 2 STORM AREA (SQ MI) = .50

RP83WL	MANE	2.98	23.99	641.89	.60	5.00	23.99	645.00	.60

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4587E+02 EXCESS= .0000E+00 OUTFLOW= .4586E+02 BASIN STORAGE= .9356E-02 PERCENT ERROR= .0

FOR STORM = 3 STORM AREA (SQ MI) = 2.80

RP83WL	MANE	3.14	18.72	599.80	.36	5.00	18.72	600.00	.36

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2772E+02 EXCESS= .0000E+00 OUTFLOW= .2771E+02 BASIN STORAGE= .7518E-02 PERCENT ERROR= .0

FOR STORM = 4 STORM AREA (SQ MI) = 16.00

RP83WL	MANE	3.39	11.49	510.64	.14	5.00	11.49	510.00	.14

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1075E+02 EXCESS= .0000E+00 OUTFLOW= .1075E+02 BASIN STORAGE= .5619E-02 PERCENT ERROR= .0

FOR STORM = 5 STORM AREA (SQ MI) = 90.00

RP83WL	MANE	4.63	2.40	562.00	.08	5.00	2.40	560.00	.08

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5840E+01 EXCESS= .0000E+00 OUTFLOW= .5835E+01 BASIN STORAGE= .4868E-02 PERCENT ERROR= .0

FOR STORM = 6 STORM AREA (SQ MI) = 100.00

RP83WL	MANE	4.78	2.01	568.82	.07	5.00	2.01	570.00	.07

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5476E+01 EXCESS= .0000E+00 OUTFLOW= .5470E+01 BASIN STORAGE= .4649E-02 PERCENT ERROR= .0

FOR STORM = 1 STORM AREA (SQ MI) = .00

RPUHNR	MANE	1.40	50.00	270.65	.06	5.00	50.00	290.00	.06

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1284E+02 EXCESS= .0000E+00 OUTFLOW= .1283E+02 BASIN STORAGE= .4385E-11 PERCENT ERROR= .0

FOR STORM = 2 STORM AREA (SQ MI) = .50

RPUHNR	MANE	1.41	50.00	270.74	.06	5.00	50.00	285.00	.06

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1281E+02 EXCESS= .0000E+00 OUTFLOW= .1281E+02 BASIN STORAGE= .4682E-11 PERCENT ERROR= .0

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          FOR STORM = 3  STORM AREA (SQ MI) =       2.80
            RPUHNR  MANE          1.33     50.00    283.34       .06      5.00     50.00    275.00         .06

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1333E+02 EXCESS= .0000E+00 OUTFLOW= .1333E+02 BASIN STORAGE= .4610E-11 PERCENT ERROR=    .0

          FOR STORM = 4  STORM AREA (SQ MI) =      16.00
            RPUHNR  MANE          1.40     50.00    268.93       .06      5.00     50.00    285.00         .06

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1337E+02 EXCESS= .0000E+00 OUTFLOW= .1337E+02 BASIN STORAGE= .4405E-11 PERCENT ERROR=    .0

          FOR STORM = 5  STORM AREA (SQ MI) =      90.00
            RPUHNR  MANE          1.47     50.00    273.81       .05      5.00     50.00    275.00         .05

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1079E+02 EXCESS= .0000E+00 OUTFLOW= .1079E+02 BASIN STORAGE= .4386E-11 PERCENT ERROR=    .0

          FOR STORM = 6  STORM AREA (SQ MI) =     100.00
            RPUHNR  MANE          1.42     50.00    273.84       .05      5.00     50.00    275.00         .05

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1072E+02 EXCESS= .0000E+00 OUTFLOW= .1072E+02 BASIN STORAGE= .4649E-11 PERCENT ERROR=    .0

          FOR STORM = 1  STORM AREA (SQ MI) =        .00
            RP91AT  MANE          .58     583.00    291.22       .33      5.00    583.00    295.00         .33

CONTINUITY SUMMARY (AC-FT) - INFLOW= .7456E+02 EXCESS= .0000E+00 OUTFLOW= .7457E+02 BASIN STORAGE= .6110E-12 PERCENT ERROR=    .0

          FOR STORM = 2  STORM AREA (SQ MI) =        .50
            RP91AT  MANE          .54     583.00    291.30       .33      5.00    583.00    295.00         .33

CONTINUITY SUMMARY (AC-FT) - INFLOW= .7410E+02 EXCESS= .0000E+00 OUTFLOW= .7411E+02 BASIN STORAGE= .6244E-12 PERCENT ERROR=    .0

          FOR STORM = 3  STORM AREA (SQ MI) =       2.80
            RP91AT  MANE          .67     583.00    301.87       .31      5.00    583.00    305.00         .31

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6996E+02 EXCESS= .0000E+00 OUTFLOW= .6996E+02 BASIN STORAGE= .6148E-12 PERCENT ERROR=    .0

          FOR STORM = 4  STORM AREA (SQ MI) =      16.00
            RP91AT  MANE          .62     383.76    325.64       .23      5.00    382.42    325.00         .23

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5206E+02 EXCESS= .0000E+00 OUTFLOW= .5207E+02 BASIN STORAGE= .6462E-12 PERCENT ERROR=    .0

          FOR STORM = 5  STORM AREA (SQ MI) =      90.00
            RP91AT  MANE          .77     231.38    301.19       .12      5.00    230.67    300.00         .12

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2741E+02 EXCESS= .0000E+00 OUTFLOW= .2741E+02 BASIN STORAGE= .6429E-12 PERCENT ERROR=    .0

          FOR STORM = 6  STORM AREA (SQ MI) =     100.00
            RP91AT  MANE          .67     222.36    301.66       .12      5.00    221.37    300.00         .12

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2651E+02 EXCESS= .0000E+00 OUTFLOW= .2651E+02 BASIN STORAGE= .6241E-12 PERCENT ERROR=    .0

          FOR STORM = 1  STORM AREA (SQ MI) =        .00
            RP91BL  MANE          1.53     337.23    353.16       .33      5.00    337.22    355.00         .33

CONTINUITY SUMMARY (AC-FT) - INFLOW= .7488E+02 EXCESS= .0000E+00 OUTFLOW= .7535E+02 BASIN STORAGE=-.6265E+00 PERCENT ERROR=    .2

          FOR STORM = 2  STORM AREA (SQ MI) =        .50
            RP91BL  MANE          1.54     336.99    353.29       .33      5.00    336.97    355.00         .33

CONTINUITY SUMMARY (AC-FT) - INFLOW= .7447E+02 EXCESS= .0000E+00 OUTFLOW= .7496E+02 BASIN STORAGE=-.6265E+00 PERCENT ERROR=    .2

          FOR STORM = 3  STORM AREA (SQ MI) =       2.80
            RP91BL  MANE          1.52     332.92    354.19       .31      5.00    332.92    355.00         .31

CONTINUITY SUMMARY (AC-FT) - INFLOW= .7005E+02 EXCESS= .0000E+00 OUTFLOW= .7053E+02 BASIN STORAGE=-.6265E+00 PERCENT ERROR=    .2

          FOR STORM = 4  STORM AREA (SQ MI) =      16.00
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            RP91BL  MANE          1.61     247.00    353.60       .23      5.00    246.92    355.00         .23

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5236E+02 EXCESS= .0000E+00 OUTFLOW= .5284E+02 BASIN STORAGE=-.6265E+00 PERCENT ERROR=    .3

          FOR STORM = 5  STORM AREA (SQ MI) =      90.00
            RP91BL  MANE          1.81     143.47    339.54       .12      5.00    143.47    340.00         .12

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2761E+02 EXCESS= .0000E+00 OUTFLOW= .2809E+02 BASIN STORAGE=-.6265E+00 PERCENT ERROR=    .5

          FOR STORM = 6  STORM AREA (SQ MI) =     100.00
            RP91BL  MANE          1.74     139.33    342.41       .12      5.00    139.33    340.00         .12

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2685E+02 EXCESS= .0000E+00 OUTFLOW= .2732E+02 BASIN STORAGE=-.6265E+00 PERCENT ERROR=    .6

          FOR STORM = 1  STORM AREA (SQ MI) =        .00
            RPBLNR  MANE          1.53     159.00    283.24       .18      5.00    159.00    285.00         .18

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4779E+02 EXCESS= .0000E+00 OUTFLOW= .4797E+02 BASIN STORAGE=-.2596E+00 PERCENT ERROR=    .2

          FOR STORM = 2  STORM AREA (SQ MI) =        .50
            RPBLNR  MANE          1.53     159.00    283.42       .18      5.00    159.00    285.00         .18

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4761E+02 EXCESS= .0000E+00 OUTFLOW= .4779E+02 BASIN STORAGE=-.2596E+00 PERCENT ERROR=    .2

          FOR STORM = 3  STORM AREA (SQ MI) =       2.80
            RPBLNR  MANE          1.46     159.00    288.98       .17      5.00    159.00    290.00         .17

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4529E+02 EXCESS= .0000E+00 OUTFLOW= .4547E+02 BASIN STORAGE=-.2596E+00 PERCENT ERROR=    .2

          FOR STORM = 4  STORM AREA (SQ MI) =      16.00
            RPBLNR  MANE          1.47     159.00    298.16       .16      5.00    159.00    300.00         .16

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4210E+02 EXCESS= .0000E+00 OUTFLOW= .4228E+02 BASIN STORAGE=-.2596E+00 PERCENT ERROR=    .2

          FOR STORM = 5  STORM AREA (SQ MI) =      90.00
            RPBLNR  MANE          1.51     130.67    328.29       .10      5.00    130.55    325.00         .10

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2733E+02 EXCESS= .0000E+00 OUTFLOW= .2751E+02 BASIN STORAGE=-.2596E+00 PERCENT ERROR=    .3

          FOR STORM = 6  STORM AREA (SQ MI) =     100.00
            RPBLNR  MANE          1.52     126.22    331.94       .10      5.00    126.21    330.00         .10

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2645E+02 EXCESS= .0000E+00 OUTFLOW= .2663E+02 BASIN STORAGE=-.2596E+00 PERCENT ERROR=    .3


*** NORMAL END OF HEC-1 ***
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1**************************************
*                                    *
*   FLOOD HYDROGRAPH PACKAGE  (HEC-1)  *
*             JUN  1998              *
*           VERSION 4.1              *
*                                    *
*  RUN DATE   01NOV10  TIME  11:14:13  *
*                                    *
**************************************
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**************************************
*                                    *
*   U.S. ARMY CORPS OF ENGINEERS     *
*   HYDROLOGIC ENGINEERING CENTER    *
*        609 SECOND STREET           *
*      DAVIS, CALIFORNIA 95616       *
*          (916) 756-1104            *
*                                    *
**************************************
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X     X  XXXXXXX   XXXXX          X
X     X  X        X     X        XX
X     X  X        X              X
XXXXXXX  XXXX     X        XXXXX  X
X     X  X        X              X
X     X  X        X     X        X
X     X  XXXXXXX   XXXXX          XXX
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THIS PROGRAM REPLACES ALL PREVIOUS VERSIONS OF HEC-1 KNOWN AS HEC1 (JAN 73), HEC1GS, HEC1DB, AND HEC1KW.

THE DEFINITIONS OF VARIABLES -RTIMP- AND -RTIOR- HAVE CHANGED FROM THOSE USED WITH THE 1973-STYLE INPUT STRUCTURE.
THE DEFINITION OF -AMSKK- ON RM-CARD WAS CHANGED WITH REVISIONS DATED 28 SEP 81. THIS IS THE FORTRAN77 VERSION
NEW OPTIONS: DAMBREAK OUTFLOW SUBMERGENCE , SINGLE EVENT DAMAGE CALCULATION, DSS:WRITE STAGE FREQUENCY,
DSS:READ TIME SERIES AT DESIRED CALCULATION INTERVAL LOSS RATE:GREEN AND AMPT INFILTRATION
KINEMATIC WAVE: NEW FINITE DIFFERENCE ALGORITHM

1 HEC-1 INPUT PAGE 1

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LINE      ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

    1     ID    GLENDALE STORMWATER MANAGEMENT PLAN
    2     ID    Model for Maryvale Watershed
    3     ID    Future Conditions
    4     ID
    5     ID    Prepared for the City of Glendale
    6     ID    In Association with the Flood Control District of Maricopa County
    7     ID    City Project Number 089017
    8     ID
    9     ID    Prepared by Kimley-Horn and Associates, Inc.
   10     ID    KHA Project Number 091910009
   11     ID    October 2010
   12     ID
   13     ID    MODELING PARAMETERS
   14     ID    - 100 Year 24 Hour Storm Event
   15     ID    - NOAA 14 Rainfall Data
   16     ID    - Clark Unit Hydrograph
   17     ID    - Green and Ampt Rainfall Loss Method
   18     ID
   19     ID    Topo data extracted from Flood Control District database July 24, 2009
   20     ID    Land use obtained from City of Glendale General Plan August 2009, City of
   21     ID          Phoenix General Plan August 2009, and MAG General Plan Land Use 2007
   22     ID
   23     ID    Storage routing data obtained from As-built records where possible
   24     ID    When As-built data was not available data was obtained from HEC-1 models
   25     ID          and checked for accuracy. HEC-1 models used include:
   26     ID          - Maryvale ADMS, February 1997
   27     ID          - Maryvale model modified by DMJM for improvements along the Bethany
   28     ID            Home Outfall Channel, file BHGC00C6.dat, November 2004
   29     ID          - Update to ponding areas along Grand Canal in the City of Glendale
   30     ID            for a CLOMR by PEC, February 2008
   31     ID    The source of data is identified on each individual storage routing card
   32     ID
   33     ID    ************************************************************************
   34     ID
   35     ID    MODELING NOMENCLATURE
   36     ID    SUBBASIN HYDROGRAPH:
   37     ID       Example: OL51   - the subbasin northeast of Olive and 51st Avenue
   38     ID
   39     ID    STORM DRAIN DIVERSION:
   40     ID       Example: DOL51  - flow from subbasin OL51 is diverted to a storm drain
   41     ID
   42     ID    SUBBASIN DIVERSION:
   43     ID       Example: DWOL59 - flow is diverted west towards Olive and 59th Avenue
   44     ID       Example: DSNO51 - flow is diverted south towards Northern and 51st Ave
   45     ID
   46     ID    ROUTE HYDROGRAPH:
   47     ID       Example: RWOL59 - flow is routed west towards Olive and 59th Avenue
   48     ID       Example: RSNO59 - flow is routed south towards Northern and 59th Ave
   49     ID
   50     ID    COMBINE HYDROGRAPH:
   51     ID       Example: COL59  - combine flow at Olive and 59th Avenue
   52     ID
   53     ID    NAME ABBREVIATIONS
   54     ID       Jomax Road            JM
   55     ID       Happy Valley Road     HV
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1 HEC-1 INPUT PAGE 2

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LINE      ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

   56     ID       Pinnacle Peak Road    PP
   57     ID       Deer Valley Road      DV
   58     ID       Loop 101              LO
   59     ID       Beardsley Road        BY
   60     ID       Union Hills Drive     UH
   61     ID       Bell Road             BL
   62     ID       Greenway Road         GW
   63     ID       Thunderbird Road      TB
   64     ID       Cactus Road           CT
   65     ID       Peoria Avenue         PE
   66     ID       Olive Avenue          OL
   67     ID       Northern Avenue       NO
   68     ID       Glendale Avenue       GL
   69     ID       Bethany Home Road     BH
   70     ID       Camelback Road        CB
   71     ID       Indian School Road    IS
   72     ID       Thomas Road           TM
   73     ID       McDowell Road         MD
   74     ID       Interstate 10         IN
   75     ID       Van Buren Street      VB
   76     ID       Avondale Boulevard    AV
   77     ID       Grand Avenue          GR
   78     ID       Grand Canal           GC
   79     ID       Brown Street          BR
   80     ID       Mountain View Road    MV
   81     ID       Orangewood Avenue     OW
   82     ID       Mitchell Drive        ML
   83     ID       Agua Fria River       AF
   84     ID       New River             NR
   85     ID       Skunk Creek           SK
   86     ID       Roosevelt Irrigation  RI
   87     ID
   88     ID    PREFIXES FOR MODELING OPERATIONS
   89     ID       RW    Routing flow in the west direction
   90     ID       RS    Routing flow in the south direction
   91     ID       RP    Routing storm drain pipe flow
   92     ID       C     Combination point
   93     ID       CI    Combination point at an intersection
   94     ID       CP    Combination point for storm drain pipe flow
   95     ID       SR    Storage for detention/retention basins
   96     ID       DW    Divert flow to the west
   97     ID       DE    Divert flow to the east
   98     ID       DS    Divert flow to the south
   99     ID       DN    Divert flow to the north
  100     ID       ER    Divert flow for existing 100-yr 2-hr retention
  101     ID       X     Existing retention divertion does not return to model
  102     ID       DR    Divert retrieval from surface flow
  103     ID       DI    Divert retrieval from intersection flow
  104     ID       D     Divert surface flow (remains after storm drain divert)
  105     ID       DP    Divert flow to a storm drain pipe
  106     ID       PR    Divert retrieval from a storm drain pipe
  107     ID
  108     ID    ************************************************************************
  109     IT     5       0       0    1000
  110     IN    15
```

1 HEC-1 INPUT PAGE 3

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LINE      ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

  111     IO     5
          *DIAGRAM
          *
  112     JD  3.450  0.0001
  113     PC  0.000  0.002  0.005  0.008  0.011  0.014  0.017  0.020  0.023  0.026
  114     PC  0.029  0.032  0.035  0.038  0.041  0.044  0.048  0.052  0.056  0.060
  115     PC  0.064  0.068  0.072  0.076  0.080  0.085  0.090  0.095  0.100  0.105
  116     PC  0.110  0.115  0.120  0.126  0.133  0.140  0.147  0.155  0.163  0.172
  117     PC  0.181  0.191  0.203  0.218  0.236  0.257  0.283  0.387  0.663  0.707
  118     PC  0.735  0.758  0.776  0.791  0.804  0.815  0.825  0.834  0.842  0.849
  119     PC  0.856  0.863  0.869  0.875  0.881  0.887  0.893  0.898  0.903  0.908
  120     PC  0.913  0.918  0.922  0.926  0.930  0.934  0.938  0.942  0.946  0.950
  121     PC  0.953  0.956  0.959  0.962  0.965  0.968  0.971  0.974  0.977  0.980
  122     PC  0.983  0.986  0.989  0.992  0.995  0.998  1.000
  123     JD  3.278   10.0
  124     JD  3.105   30.0
  125     JD  3.002   60.0
  126     JD  2.939   90.0
  127     JD  2.901  120.0
          *
  128     KK   GW83   BASIN
  129     KM  Runoff hydrograph for subbasin GW83 northeast of the intersection of Greenway
  130     KM  Road and 83rd Avenue
  131     BA  0.291
  132     LG   0.25   0.25   4.70   0.28     30
  133     UC  1.142  1.095
  134     UA     0    5.0   16.0   30.0   65.0   77.0   84.0   90.0   94.0   97.0
  135     UA   100
          *
```

```
KK   DGW83  DIVERT
KM   Divert calculated full flow capapcity of 45 cfs into 42-inch storm drain
KM   pipe at the intersection of Greenway Road and 83rd Avenue
DT  DPGW83      0.0     45.0
DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
*

KK  DSTB83  DIVERT
KM   Divert portion of runoff hydrograph from subbasin GW83 south to the
KM   intersection of Thunderbird Road and 83rd Avenue and the remaining flow west
KM   to Skunk Creek. The diversion is based on topography
DT  DWSK01      0.0      0.0
DI      0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0 10000.0 20000.0 50000.0
DQ      0.0     57.0    114.0    285.0    570.0   1140.0   2280.0  5700.0 11400.0 28500.0
*

KK  RSTB83   ROUTE
KM   Route diversion DSTB83 south to combination point CTB83
RS       10     FLOW
RC   0.035   0.015   0.035    5280  0.0023     0.00
RX    0.00    0.00   48.00   48.00  251.00  251.00  299.00  299.00
RY    3.00    0.98    0.50    0.00    0.00    0.50    0.98    3.00
*
```



```
LINE  ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

KK    TB67   BASIN
KM   Runoff hydrograph for subbasin TB67 northeast of the intersection of
KM   Thunderbird Road and 67th Avenue
BA   0.265
LG    0.21    0.15    9.70    0.05      25
UC   0.687   0.400
UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
UA     100
*

KK  DWTB75  DIVERT
KM   Divert remaining runoff hydrograph from subbasin TB67 west to combination
KM   point CTB75
DT  DSCT67      0.0      0.0
DI      0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0 10000.0 20000.0 50000.0
DQ      0.0     40.0     80.0    200.0    400.0    800.0   1600.0  4000.0  8000.0 20000.0
*

KK  RWTB75   ROUTE
KM   Route diversion DWTB75 west to combination point CTB75
RS        7     FLOW
RC   0.035   0.015   0.035    5280  0.0027     0.00
RX    0.00    0.00   48.00   48.00  251.00  251.00  299.00  299.00
RY    3.00    0.98    0.50    0.00    0.00    0.50    0.98    3.00
*

KK    TB75   BASIN
KM   Runoff hydrograph for subbasin TB75 northeast of the intersection of
KM   Thunderbird Road and 75th Avenue
BA   1.026
LG    0.23    0.15    7.00    0.11      33
UC   1.163   0.612
UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
UA     100
*

KK  ERTB75  DIVERT
KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
KM   retention developed after 1990 in subbasin TB75
DT   XTB75      9.7      0.0
DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
*

KK   CTB75 COMBINE
KM   Combine route RWTB75 and subbasin TB75
HC       2    1.18
*
```



```
LINE  ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

KK   DTB75  DIVERT
KM   Divert calculated full flow capapcity of 161 cfs into 66-inch storm drain
KM   pipe at the intersection of Thunderbird Road and 75th Avenue
DT  DPTB75      0.0    161.0
DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
*

KK  DWTB83  DIVERT
KM   Divert remaining runoff hydrograph from subbasin TB83 west to combination
```



```
KM   point CTB83
DT  DSCT75      0.0      0.0
DI      0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0 10000.0 20000.0 50000.0
DQ      0.0     45.0     90.0    225.0    450.0    900.0   1800.0  4500.0  9000.0 22500.0
*

KK  RWTB83   ROUTE
KM   Route diversion DWTB83 west to combination point CTB83
RS        5     FLOW
RC   0.035   0.015   0.035    5280  0.0034     0.00
RX    0.00    0.00   76.50   76.50  372.50  372.50  449.00  449.00
RY    3.00    1.27    0.50    0.00    0.00    0.50    1.27    3.00
*

KK    TB83   BASIN
KM   Runoff hydrograph for square mile subbasin TB83 northeast of the intersection
KM   Thunderbird Road and 83rd Avenue
BA   0.994
LG    0.25    0.21    6.40    0.14      31
UC   1.408   0.949
UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
UA     100
*

KK  ERTB83  DIVERT
KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
KM   retention developed after 1990 in subbasin TB83
DT   XTB83     19.4      0.0
DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
*

KK   CTB83 COMBINE
KM   Combine route RWTB83, route south RSTB83, and subbasin TB83
HC       3    1.77
*

KK  PRTB75RETRIEVE
KM   Retrieve full flow capacity of 161 cfs from 66-inch storm drain pipe at the
KM   intersection of Thunderbird Road and 75th Avenue
DR  DPTB75
*
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LINE  ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

KK  RPTB83   ROUTE
KM   Route full flow capacity of 161 cfs through 66-inch storm drain pipe in
KM   Thunderbird Road to the intersection of Thunderbird Road and 83rd Avenue
RK    5194  0.0023   0.015             CIRC   5.500
*

KK  GPTB83 COMBINE
KM   Combine pipe return PRTB75 with the runoff hydrograph at combination point
KM   CTB83 at the intersection of Thunderbird Road and 83rd Avenue
HC       2
*

KK   DTB83  DIVERT
KM   Divert calculated full flow capapcity of 247 cfs into 72-inch storm drain
KM   pipe at the intersection of Thunderbird Road and 83rd Avenue
DT  DPTB83      0.0    247.0
DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
*

KK  DWTBLO  DIVERT
KM   Divert remaining runoff hydrograph from subbasin TB83 west to combination
KM   point CTBLO
DT  DSCT83      0.0      0.0
DI      0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0 10000.0 20000.0 50000.0
DQ      0.0     71.0    142.0    355.0    710.0   1420.0   2840.0  7100.0 14200.0 35500.0
*

KK  RWTBLO   ROUTE
KM   Route diversion DWTBLO west to combination point CTBLO
RS        2     FLOW
RC   0.035   0.015   0.035    2002  0.0030     0.00
RX    0.00    0.00   16.50   16.50  107.50  107.50  124.00  124.00
RY    3.00    0.66    0.50    0.00    0.00    0.50    0.66    3.00
*

KK    TBLO   BASIN
KM   Runoff hydrograph for subbasin TBLO northeast of the intersection of
KM   Thunderbird Road and SR Loop 101
BA   0.099
LG    0.14    0.15    8.80    0.05      72
UC   0.731   0.881
UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
UA     100
*
```

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 265            KK   ERTBLO  DIVERT
 266            KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
 267            KM   retention developed after 1990 in subbasin TBLO
 268            DT   XTBLO    10.8     0.0
 269            DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
 270            DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
                *
1                                        HEC-1 INPUT                                       PAGE  7

 LINE           ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 271            KK    CTBLO COMBINE
 272            KM   Combine route RWTBLO and subbasin TBLO
 273            HC       2    0.62
                *

 274            KK   PRTB83RETRIEVE
 275            KM   Retrieve full flow capacity of 247 cfs from 72-inch storm drain pipe at the
 276            KM   intersection of Thunderbird Road and 83rd Avenue
 277            DR   DPTB83
                *

 278            KK   RPTBLO   ROUTE
 279            KM   Route full flow capacity of 247 cfs through 72-inch storm drain pipe in
 280            KM   Thunderbird Road to the intersection of Thunderbird Road and 83rd Avenue
 281            RK    1532  0.0034   0.015             CIRC   6.000
                *

 282            KK   CPTBLO COMBINE
 283            KM   Combine pipe return PRTBLO with the runoff hydrograph at combination point
 284            KM   CTBLO at the intersection of Thunderbird Road and SR Loop 101
 285            HC       2
                *

 286            KK   RSCTLO   ROUTE
 287            KM   Route runoff hydrograph at combination point CPTBLO south to combination
 288            KM   point CCTLO
 289            RS       1    FLOW
 290            RC   0.035   0.015   0.035    4816  0.0016    0.00
 291            RX    0.00    3.00   13.00   29.00   39.00   55.00   65.00   68.00
 292            RY    9.00    8.00    8.00    0.00    0.00    8.00    8.00    9.00
                *

 293            KK    CT59   BASIN
 294            KM   Runoff hydrograph for subbasin CT59 northeast of the intersection of
 295            KM   Cactus Road and 59th Avenue
 296            BA   0.296
 297            LG    0.24    0.15    8.80    0.06      30
 298            UC   0.874   0.586
 299            UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
 300            UA     100
                *

 301            KK   ERCT59  DIVERT
 302            KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
 303            KM   retention developed after 1990 in subbasin CT59
 304            DT   XCT59    24.6     0.0
 305            DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
 306            DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
                *
1                                        HEC-1 INPUT                                       PAGE  8

 LINE           ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 307            KK    D59CT  DIVERT
 308            KM   Divert calculated full flow capapcity of 18 cfs into 30-inch storm drain
 309            KM   pipe at the intersection of Cactus Road and 59th Avenue
 310            DT   DP59CT     0.0    18.0
 311            DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
 312            DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
                *

 313            KK   DWCT67  DIVERT
 314            KM   Divert remaining runoff hydrograph from subbasin CT59 west to combination
 315            KM   point CCT67
 316            DT   DSPE59     0.0     0.0
 317            DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
 318            DQ     0.0    68.0   136.0   340.0   680.0  1360.0  2720.0  6800.0 13600.0 34000.0
                *

 319            KK   RWCT67   ROUTE
 320            KM   Route diversion DWCT67 west to combination point CCT67
 321            RS      10    FLOW
 322            RC   0.035   0.015   0.035    5280  0.0041    0.00
 323            RX    0.00    0.00   33.50   33.50  144.50  144.50  178.00  178.00
 324            RY    3.00    0.84    0.50    0.00    0.00    0.50    0.84    3.00
                *

 325            KK   DRCT67RETRIEVE
 326            KM   Retrieve divert DRCT67 from subbasin TB67 and divert south to combination
 327            KM   point CCT67
```



```
 328            DR   DSCT67
                *

 329            KK   RSCT67   ROUTE
 330            KM   Route retrieval DRCT67 south to combination point CCT67
 331            RS       6    FLOW
 332            RC   0.035   0.015   0.035    5280  0.0035    0.00
 333            RX    0.00    0.00   24.50   24.50  155.50  155.50  180.00  180.00
 334            RY    3.00    0.74    0.50    0.00    0.00    0.50    0.74    3.00
                *

 335            KK    CT67   BASIN
 336            KM   Runoff hydrograph for subbasin CT67 northeast of the intersection of Cactus
 337            KM   Road and 67th Avenue
 338            BA   0.910
 339            LG    0.26    0.15    7.30    0.11      28
 340            UC   1.099   0.638
 341            UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
 342            UA     100
                *

 343            KK   ERCT67  DIVERT
 344            KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
 345            KM   retention developed after 1990 in subbasin CT67
 346            DT   XCT67    26.8     0.0
 347            DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
 348            DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
                *
1                                        HEC-1 INPUT                                       PAGE  9

 LINE           ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 349            KK    CCT67 COMBINE
 350            KM   Combine route RWCT67, route RSCT67, and subbasin CT67
 351            HC       3    1.11
                *

 352            KK    DCT67  DIVERT
 353            KM   Divert calculated full flow capapcity of 268 cfs into 78-inch storm drain
 354            KM   pipe at the intersection of Cactus Road and 67th Avenue
 355            DT   DPCT67     0.0   268.0
 356            DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
 357            DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
                *

 358            KK   DWCT75  DIVERT
 359            KM   Divert remaining runoff hydrograph from combination point CCT67 west to
 360            KM   combination point CCT75
 361            DT   DSPE67     0.0     0.0
 362            DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
 363            DQ     0.0    43.0    86.0   215.0   430.0   860.0  1720.0  4300.0  8600.0 21500.0
                *

 364            KK   RWCT75   ROUTE
 365            KM   Route diversion DWCT75 west to combination point CCT75
 366            RS       8    FLOW
 367            RC   0.035   0.015   0.035    5280  0.0030    0.00
 368            RX    0.00    0.00   76.50   76.50  372.50  372.50  449.00  449.00
 369            RY    3.00    1.27    0.50    0.00    0.00    0.50    1.27    3.00
                *

 370            KK   DRCT75RETRIEVE
 371            KM   Retrieve divert DRCT75 from combination point CTB75 and divert south to
 372            KM   combination point CCT75
 373            DR   DSCT75
                *

 374            KK   RSCT75   ROUTE
 375            KM   Route retrieval DRCT75 south to combination point CCT75
 376            RS       5    FLOW
 377            RC   0.035   0.015   0.035    5280  0.0038    0.00
 378            RX    0.00    0.00   57.50   57.50  291.50  291.50  349.00  349.00
 379            RY    3.00    1.08    0.50    0.00    0.00    0.50    1.08    3.00
                *

 380            KK    CT75   BASIN
 381            KM   Runoff hydrograph for square mile subbasin CT75 northeast of the intersection
 382            KM   of Cactus Road and 75th Avenue
 383            BA   1.003
 384            LG    0.26    0.15    8.80    0.06      27
 385            UC   1.390   0.927
 386            UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
 387            UA     100
                *
1                                        HEC-1 INPUT                                       PAGE 10

 LINE           ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 388            KK   ERCT75  DIVERT
 389            KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
 390            KM   retention developed after 1990 in subbasin CT75
```

```
391          DT   XCT75    29.2     0.0
392          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
393          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
             *

394          KK   CCT75 COMBINE
395          KM   Combine route RWCT75, route RSCT75, and subbasin CT75
396          HC       3    2.17
             *

397          KK  PRCT67RETRIEVE
398          KM   Retrieve full flow capacity of 268 cfs from 78-inch storm drain pipe at the
399          KM   intersection of Cactus Road and 67th Avenue
400          DR  DPCT67
             *

401          KK  RPCT75   ROUTE
402          KM   Route full flow capacity of 268 cfs through 78-inch storm drain pipe in
403          KM   Cactus Road to the intersection of Cactus Road and 75th Avenue
404          RK    5321  0.0026   0.015            CIRC   6.500
             *

405          KK  CPCT75 COMBINE
406          KM   Combine pipe return PRCT67 with the runoff hydrograph at combination point
407          KM   CCT75 at the intersection of Cactus Road and 75th Avenue
408          HC       2
             *

409          KK   DCT75  DIVERT
410          KM   Divert calculated full flow capapcity of 651 cfs into 108-inch storm drain
411          KM   pipe at the intersection of Cactus Road and 75th Avenue
412          DT  DPCT75      0.0     651.0
413          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
414          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
             *

415          KK  DWCT83  DIVERT
416          KM   Divert remaining runoff hydrograph from combination point CCT75 west to
417          KM   combination point CCT83
418          DT  DSPE75      0.0     0.0
419          DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
420          DQ     0.0    50.0   100.0   250.0   500.0  1000.0  2000.0  5000.0 10000.0 25000.0
             *

421          KK  RWCT83   ROUTE
422          KM   Route diversion DWCT83 west to combination point CCT83
423          RS       4    FLOW
424          RC   0.035   0.015   0.035    5280  0.0026    0.00
425          RX    0.00    0.00   57.50   57.50  291.50  291.50  349.00  349.00
426          RY    3.00    1.08    0.50    0.00    0.00    0.50    1.08    3.00
             *
1                                        HEC-1 INPUT                                    PAGE 11

LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

427          KK  DRCT83RETRIEVE
428          KM   Retrieve divert DRCT83 from combination point CPTB83 and divert south to
429          KM   combination point CCT83
430          DR  DSCT83
             *

431          KK  RSCT83   ROUTE
432          KM   Route retrieval DRCT83 south to combination point CCT83
433          RS       4    FLOW
434          RC   0.035   0.015   0.035    5280  0.0030    0.00
435          RX    0.00    0.00   48.00   48.00  251.00  251.00  299.00  299.00
436          RY    3.00    0.98    0.50    0.00    0.00    0.50    0.98    3.00
             *

437          KK   CT83   BASIN
438          KM   Runoff hydrograph for square mile subbasin CT83 northeast of the intersection
439          KM   of Cactus Road and 83rd Avenue
440          BA   1.008
441          LG    0.25    0.15    8.40    0.06      30
442          UC   1.397   0.933
443          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
444          UA     100
             *

445          KK  ERCT83  DIVERT
446          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
447          KM   retention developed after 1990 in subbasin CT83
448          DT   XCT83    28.8     0.0
449          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
450          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
             *

451          KK   CCT83 COMBINE
452          KM   Combine route RWCT83, route RSCT83, and subbasin CT83
453          HC       3    3.34
             *
```



```
454          KK  PRCT75RETRIEVE
455          KM   Retrieve full flow capacity of 651 cfs from 108-inch storm drain pipe at the
456          KM   intersection of Cactus Road and 75th Avenue
457          DR  DPCT75
             *

458          KK  RPCT83   ROUTE
459          KM   Route full flow capacity of 651 cfs through 108-inch storm drain pipe in
460          KM   Cactus Road to the intersection of Cactus Road and 83rd Avenue
461          RK    5246  0.0027   0.015            CIRC   9.000
             *
1                                        HEC-1 INPUT                                    PAGE 12

LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

462          KK  CPCT83 COMBINE
463          KM   Combine pipe return PRCT75 with the runoff hydrograph at combination point
464          KM   CCT83 at the intersection of Cactus Road and 83rd Avenue
465          HC       2
             *

466          KK   DCT83  DIVERT
467          KM   Divert calculated full flow capapcity of 663 cfs into 120-inch storm drain
468          KM   pipe at the intersection of Cactus Road and 83rd Avenue
469          DT  DPCT83      0.0     663.0
470          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
471          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
             *

472          KK  DWCTLO  DIVERT
473          KM   Divert remaining runoff hydrograph from combination point CCT83 west to
474          KM   combination point CCTLO
475          DT  DSPE83      0.0     0.0
476          DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
477          DQ     0.0    41.0    82.0   205.0   410.0   820.0  1640.0  4100.0  8200.0 20500.0
             *

478          KK  RWCTLO   ROUTE
479          KM   Route diversion DWCTLO west to combination point CCTLO
480          RS       3    FLOW
481          RC   0.035   0.015   0.035    6650  0.0048    0.00
482          RX    0.00    0.00   76.50   76.50  372.50  372.50  449.00  449.00
483          RY    3.00    1.27    0.50    0.00    0.00    0.50    1.27    3.00
             *

484          KK   CTLO   BASIN
485          KM   Runoff hydrograph for subbasin CTLO northeast of the intersection of Cactus
486          KM   Road and SR Loop 101
487          BA   0.865
488          LG    0.20    0.15    7.30    0.09      47
489          UC   1.287   1.021
490          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
491          UA     100
             *

492          KK  ERCTLO  DIVERT
493          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
494          KM   retention developed after 1990 in subbasin CTLO
495          DT   XCTLO     46.0     0.0
496          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
497          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
             *

498          KK   CCTLO COMBINE
499          KM   Combine route RWCTLO, route RSCTLO, and subbasin CTLO
500          HC       3    3.46
             *
1                                        HEC-1 INPUT                                    PAGE 13

LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

501          KK  PRCT83RETRIEVE
502          KM   Retrieve full flow capacity of 663 cfs from 120-inch storm drain pipe at the
503          KM   intersection of Cactus Road and 83rd Avenue
504          DR  DPCT83
             *

505          KK  RPCTLO   ROUTE
506          KM   Route full flow capacity of 663 cfs through 120-inch storm drain pipe in
507          KM   Cactus Road to the intersection of Cactus Road and SR Loop 101
508          RK    6334  0.0016   0.015            CIRC  10.000
             *

509          KK  CPCTLO COMBINE
510          KM   Combine pipe return PRCT83 with the runoff hydrograph at combination point
511          KM   CCTLO at the intersection of Cactus Road and SR Loop 101
512          HC       2
             *

513          KK  DSCTLO  DIVERT
514          KM   Divert portion of runoff hydrograph from combination point CPCTLO south to
```

```
KM   combination point CGRLO
DT  DWNR01       0.0  1927.0
DI       0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
DQ       0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
*

KK  DSPELO  DIVERT
KM   Divert remainder of runoff hydrograph from divert DSCTLO south to
KM   combination point CGRLO
DT  DSGR91       0.0      0.0
DI       0.0  1299.0  1299.1 50000.0      0.0      0.0      0.0      0.0      0.0      0.0
DQ       0.0      0.0  1299.1 50000.0      0.0      0.0      0.0      0.0      0.0      0.0
*

KK    PE51   BASIN
KM   Runoff hydrograph for subbasin PE51 northeast of the intersection of Peoria
KM   Avenue and 51st Avenue
BA   0.419
LG    0.22     0.15     8.80     0.05       37
UC   0.920    0.558
UA       0      5.0     16.0     30.0     65.0     77.0     84.0     90.0     94.0     97.0
UA     100
*

KK  DWPE59  DIVERT
KM   Divert remaining runoff hydrograph from subbasin PE59 west to combination
KM   point CPE59
DT  DSOL51       0.0      0.0
DI       0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0  10000.0  20000.0  50000.0
DQ       0.0     40.0     80.0    200.0    400.0    800.0   1600.0   4000.0   8000.0  20000.0
*
```



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LINE      ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

KK  RWPE59   ROUTE
KM   Route diversion DWPE59 west to combination point CPE59
RS        6     FLOW
RC   0.035    0.015    0.035     5280   0.0042     0.00
RX    0.00     0.00    79.50    79.50   468.50   468.50   548.00   548.00
RY    3.00     1.30     0.50     0.00     0.00     0.50     1.30     3.00
*

KK  DRPE59RETRIEVE
KM   Retrieve divert DRPE59 from subbasin CPCT59 and divert south to combination
KM   point CPE59
DR  DSPE59
*

KK  RSPE59   ROUTE
KM   Route diversion retrieval DRPE59 south to combination point CPE59
RS       10     FLOW
RC   0.035    0.015    0.035     5280   0.0037     0.00
RX    0.00     0.00    58.50    58.50   339.50   339.50   398.00   398.00
RY    3.00     1.08     0.50     0.00     0.00     0.50     1.08     3.00
*

KK    PE59   BASIN
KM   Runoff hydrograph for square mile subbasin PE59 northeast of the intersection
KM   of Peoria Avenue and 59th Avenue
BA   0.989
LG    0.25     0.15     8.80     0.05       31
UC   1.264    0.817
UA       0      5.0     16.0     30.0     65.0     77.0     84.0     90.0     94.0     97.0
UA     100
*

KK  ERPE59  DIVERT
KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
KM   retention developed after 1990 in subbasin PE59
DT  XPE59      8.6      0.0
DI       0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
DQ       0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
*

KK   CPE59 COMBINE
KM   Combine route RWPE59, route RSPE59, and subbasin PE59
HC        3     1.44
*

KK  PR59CTRETRIEVE
KM   Retrieve full flow capacity of 18 cfs from 30-inch storm drain pipe at the
KM   intersection of Cactus Road and 59th Avenue
DR  DP59CT
*
* KKRP59PE   ROUTE
* KM Route full flow capacity of 18 cfs through 30-inch storm drain pipe in
* KM 59th Avenue to the intersection of Peoria Avenue and 59th Avenue
* RK   5358  0.0020   0.015            CIRC   2.500
*
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LINE      ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

KK  CPPE59 COMBINE
KM   Combine pipe return PR59CT with the runoff hydrograph at combination point
KM   CPE59 at the intersection of Peoria Avenue and 59th Avenue
HC        2
*

KK  D59PE  DIVERT
KM   Divert calculated full flow capapcity of 235 cfs into 78-inch storm drain
KM   pipe at the intersection of Peoria Avenue and 59th Avenue
DT  DP59PE       0.0    235.0
DI       0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
DQ       0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
*

KK  DWPE67  DIVERT
KM   Divert remaining runoff hydrograph from combination point CPPE59 west to
KM   combination point CPE67
DT  DSOL59       0.0      0.0
DI       0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0  10000.0  20000.0  50000.0
DQ       0.0     57.0    114.0    285.0    570.0   1140.0   2280.0   5700.0  11400.0  28500.0
*

KK  RWPE67   ROUTE
KM   Route diversion DWPE67 west to combination point CPE67
RS        5     FLOW
RC   0.035    0.015    0.035     5280   0.0026     0.00
RX    0.00     0.00    51.50    51.50   296.50   296.50   348.00   348.00
RY    3.00     1.02     0.50     0.00     0.00     0.50     1.02     3.00
*

KK  DRPE67RETRIEVE
KM   Retrieve divert DRPE67 from combination point CCT67 and divert south to
KM   combination point CPE67
DR  DSPE67
*

KK  RSPE67   ROUTE
KM   Route diversion retrieval DRPE67 south to combination point CPE67
RS        9     FLOW
RC   0.035    0.015    0.035     5280   0.0022     0.00
RX    0.00     0.00    58.50    58.50   339.50   339.50   398.00   398.00
RY    3.00     1.08     0.50     0.00     0.00     0.50     1.08     3.00
*

KK    PE67   BASIN
KM   Runoff hydrograph for square mile subbasin PE67 northeast of the intersection
KM   of Peoria Avenue and 67th Avenue
BA   0.962
LG    0.23     0.15     7.60     0.09       37
UC   1.295    0.863
UA       0      5.0     16.0     30.0     65.0     77.0     84.0     90.0     94.0     97.0
UA     100
*
```



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LINE      ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

KK  ERPE67  DIVERT
KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
KM   retention developed after 1990 in subbasin PE67
DT  XPE67      56.2      0.0
DI       0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
DQ       0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
*

KK   CPE67 COMBINE
KM   Combine route RWPE67, route RSPE67, and subbasin PE67
HC        3     2.06
*

KK  SRPE67 STORAGE
KM   Storage route runoff hydrograph from combination point CPE67 through
KM     regional detention basin located in subbasin PE67
KM   Stage-storage data from Sunnyside Park As-built records, 1991
RS        1     STOR
SV              5.24    11.27    12.67    18.77    26.81    35.20
SQ                     217.00 2430.00 6873.0012627.00
SE    87.00    88.00    89.00    89.20    90.00    91.00    92.00
*

KK   D67PE  DIVERT
KM   Divert calculated full flow capapcity of 162 cfs into 60-inch storm drain
KM   pipe at the intersection of Peoria Avenue and 67th Avenue
DT  DP67PE       0.0    162.0
DI       0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
DQ       0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
*

KK  DWPE75  DIVERT
```

```
KM   Divert remaining runoff hydrograph from combination point CPE67 west to
KM   combination point CPE75
DT  DSOL67      0.0      0.0
DI      0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0 10000.0 20000.0 50000.0
DQ      0.0     38.0     76.0    190.0    380.0    760.0   1520.0  3800.0  7600.0 19000.0
*

KK  RWPE75    ROUTE
KM   Route diversion DWPE75 west to combination point CPE75
RS        7     FLOW
RC   0.035   0.015   0.035    5280  0.0035    0.00
RX    0.00    0.00   86.00   86.00  413.00  413.00  499.00  499.00
RY    3.00    1.36    0.50    0.00    0.00    0.50    1.36    3.00
*

KK  DRPE75RETRIEVE
KM   Retrieve divert DRPE75 from combination point CPCT75 and divert south to
KM   combination point CPE75
DR  DSPE75
*
```

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LINE      ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

KK  RSPE75    ROUTE
KM   Route diversion retrieval DRPE75 south to combination point CPE75
RS        4     FLOW
RC   0.035   0.015   0.035    5280  0.0027    0.00
RX    0.00    0.00   57.50   57.50  291.50  291.50  349.00  349.00
RY    3.00    1.08    0.50    0.00    0.00    0.50    1.08    3.00
*

KK    PE75    BASIN
KM   Runoff hydrograph for square mile subbasin PE75 northeast of the intersection
KM   of Peoria Avenue and 75th Avenue
BA   1.007
LG    0.24    0.15    8.00    0.07      33
UC   1.409   0.943
UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
UA     100
*

KK  ERPE75   DIVERT
KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
KM   retention developed after 1990 in subbasin PE75
DT   XPE75      9.4      0.0
DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
*

KK   CPE75 COMBINE
KM   Combine route RWPE75, route RSPE75, and subbasin PE75
HC        3    3.36
*

KK   D75PE   DIVERT
KM   Divert calculated full flow capapcity of 179 cfs into 60-inch storm drain
KM   pipe at the intersection of Peoria Avenue and 75th Avenue
DT  DP75PE      0.0    179.0
DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
*

KK  DWPE83   DIVERT
KM   Divert remaining runoff hydrograph from combination point CPE75 west to
KM   combination point CPE83
DT  DSOL75      0.0      0.0
DI      0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0 10000.0 20000.0 50000.0
DQ      0.0     52.0    104.0    260.0    520.0   1040.0   2080.0  5200.0 10400.0 26000.0
*

KK  RWPE83    ROUTE
KM   Route diversion DWPE83 west to combination point CPE83
RS        2     FLOW
RC   0.035   0.015   0.035    5280  0.0023    0.00
RX    0.00    0.00   57.50   57.50  291.50  291.50  349.00  349.00
RY    3.00    1.08    0.50    0.00    0.00    0.50    1.08    3.00
*
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1 HEC-1 INPUT PAGE 18

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LINE      ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

KK  DRPE83RETRIEVE
KM   Retrieve divert DRPE83 from combination point CPCT83 and divert south to
KM   combination point CPE83
DR  DSPE83
*

KK  RSPE83    ROUTE
KM   Route diversion retrieval DRPE83 south to combination point CPE83
RS        4     FLOW
```



```
RC   0.035   0.015   0.035    5280  0.0023    0.00
RX    0.00    0.00   76.50   76.50  372.50  372.50  449.00  449.00
RY    3.00    1.27    0.50    0.00    0.00    0.50    1.27    3.00
*

KK    PE83    BASIN
KM   Runoff hydrograph for square mile subbasin PE83 northeast of the intersection
KM   of Peoria Avenue, 83rd Avenue, and Grand Avenue
BA   1.000
LG    0.24    0.13   10.10    0.03      35
UC   1.444   0.969
UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
UA     100
*

KK  ERPE83   DIVERT
KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
KM   retention developed after 1990 in subbasin PE83
DT   XPE83     36.8      0.0
DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
*

KK   CPE83 COMBINE
KM   Combine route RWPE83, route RSPE83, and subbasin PE83
HC        3    3.97
*

KK   DPE83   DIVERT
KM   Divert calculated full flow capapcity of 112 cfs into 48-inch storm drain
KM   pipe at the intersection of Peoria Avenue and 83rd Avenue
DT  DPPE83      0.0    112.0
DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
*

KK  DWGR91   DIVERT
KM   Divert portion of runoff hydrograph from subbasin CPE83 west through subbasin
KM   GR91 using the ratio of the widths and slopes od the streets going west and
KM   the widths and slopes of the streets going south. The remaining flow is
KM   diverted south through subbasin GR83
DT  DSGR83      0.0      0.0
DI      0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0 10000.0 20000.0 50000.0
DQ      0.0     48.0     96.0    240.0    480.0    960.0   1920.0  4800.0  9600.0 24000.0
*
```

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LINE      ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

KK   DGR91   DIVERT
KM   Divert portion of DWGR91 west to subbasin GR91 using the ratio of the width
KM   of the collector and local streets and the width of the arterial street. The
KM   remaining flow is diverted west to subbasin PE91 along Peoria Avenue
DT  DWPE91      0.0      0.0
DI      0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0 10000.0 20000.0 50000.0
DQ      0.0     36.0     72.0    180.0    360.0    720.0   1440.0  3600.0  7200.0 18000.0
*

KK  DRGR91RETRIEVE
KM   Retrieve divert DRGR91 from combination point CPCTLO and divert south to
KM   combination point CGR91
DR  DSGR91
*

KK  RSGR91    ROUTE
KM   Route diversion retrieval DRGR91 south to combination point CGR91
RS        3     FLOW
RC   0.035   0.015   0.035    4969  0.0024    0.00
RX    0.00    0.00   57.50   57.50  291.50  291.50  349.00  349.00
RY    3.00    1.08    0.50    0.00    0.00    0.50    1.08    3.00
*

KK    GR91    BASIN
KM   Runoff hydrograph for subbasin GR91 north of Grand Avenue and east of 91st
KM   Avenue
BA   0.514
LG    0.23    0.13   10.10    0.03      40
UC   0.934   0.477
UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
UA     100
*

KK  ERGR91   DIVERT
KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
KM   retention developed after 1990 in subbasin GR91
DT   XGR91     28.6      0.0
DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
*

KK   CGR91 COMBINE
KM   Combine divert DGR91, route RSGR91, and subbasin GR91
```

```
 770          HC       3    3.58
              *

 771          KK  DWGRLO  DIVERT
 772          KM   Divert portion of runoff hydrograph from combination point CGR91 west to the
 773          KM   intersection of Grand Avenue and SR Loop 101 and the remaining flow south to
 774          KM   the intersection of Peoria Avenue and Grand Avenue. The diversion is based on
 775          KM   topography
 776          DT  DSPE91      0.0      0.0
 777          DI     0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0 10000.0 20000.0 50000.0
 778          DQ     0.0     67.0    134.0    335.0    670.0   1340.0   2680.0  6700.0 13400.0 33500.0
              *
1                                        HEC-1 INPUT                                          PAGE 20

LINE          ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

 779          KK   CGRLO COMBINE
 780          KM   Combine divert DWGRLO and divert DSPELO
 781          HC       2    2.91
              *

 782          KK  RSPELO   ROUTE
 783          KM   Route hydrograph at combination point CGRLO south to combination point CIPEGR
 784          RS       1    FLOW
 785          RC  0.035   0.015   0.035    2704  0.0018    0.00
 786          RX   0.00    3.00   13.00   25.00   35.00   47.00   57.00   60.00
 787          RY   7.00    6.00    6.00    0.00    0.00    6.00    6.00    7.00
              *

 788          KK  DSOLLO  DIVERT
 789          KM   Divert remaining runoff hydrograph from combination point CPPELO south to
 790          KM   combination point COLLO
 791          DT  DWNR02      0.0   7462.0
 792          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
 793          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

 794          KK  DRPE91RETRIEVE
 795          KM   Retrieve divert DRPE91 from combination point CPE83 and divert west to
 796          KM   combination point CIPEGR
 797          DR  DSPE91
              *

 798          KK  SRGR91 STORAGE
 799          KM   Storage route runoff hydrograph from divert retrieval DRPE91 through ponding
 800          KM     area at Grand Avenue near the intersection of Peoria Avenue and 83rd Avenue
 801          KM   Storage routing ID RES22 in Maryvale ADMS, Feb 1997 - comments from ADMS:
 802          KM   PONDING AREA RESERVOIR ROUTE
 803          KM   SUB-BASIN 22-31E
 804          KM   PONDING AREA NORTHEAST OF GRAND AVENUE/RR EMBANKMENT
 805          RS       1    STOR
 806          SV            5.40    9.60   39.75
 807          SQ            0.10  970.0010990.00
 808          SE  1134.0 1136.00 1136.50 1138.00
              *

 809          KK  DIPE91RETRIEVE
 810          KM   Retrieve arterial street flow diverted to Peoria Avenue at the intersection
 811          KM   of Peoria Avenue and Grand Avenue
 812          DR  DWPE91
              *

 813          KK  CIPEGR COMBINE
 814          KM   Combine arterial street flow from Peoria Avenue DIPE91 with runoff hydrograph
 815          KM   DRPE91 at the intersection of Peoria Avenue and Grand Avenue
 816          HC       2    3.14
              *
1                                        HEC-1 INPUT                                          PAGE 21

LINE          ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

 817          KK  RWPE91   ROUTE
 818          KM   Route hydrograph at combination point CIPEGR at the intersection of Peoria
 819          KM   Avenue and Grand Avenue west to combination point CPE91
 820          RS       3    FLOW
 821          RC  0.035   0.015   0.035    5280  0.0037    0.00
 822          RX   0.00    0.00   67.00   67.00  332.00  332.00  399.00  399.00
 823          RY   3.00    1.17    0.50    0.00    0.00    0.50    1.17    3.00
              *

 824          KK    PE91   BASIN
 825          KM   Runoff hydrograph for subbasin PE91 northeast of the intersection of Peoria
 826          KM   Avenue and 91st Avenue
 827          BA   0.509
 828          LG    0.20    0.15    9.70    0.04      50
 829          UC   0.842   0.450
 830          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
 831          UA     100
              *

 832          KK  ERPE91  DIVERT
```



```
 833          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
 834          KM   retention developed after 1990 in subbasin PE91
 835          DT  XPE91     13.1      0.0
 836          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
 837          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

 838          KK   CPE91 COMBINE
 839          KM   Combine route RWPE91 and subbasin PE91
 840          HC       2    3.65
              *

 841          KK  PRPE83RETRIEVE
 842          KM   Retrieve full flow capacity of 112 cfs from 48-inch storm drain pipe at the
 843          KM   intersection of Peoria Avenue and 83rd Avenue
 844          DR  DPPE83
              *

 845          KK  RPPE91   ROUTE
 846          KM   Route full flow capacity of 112 cfs through 48-inch storm drain pipe in
 847          KM   Peoria Avenue to the intersection of Peoria Avenue and 91st Avenue
 848          RK    5350  0.0061   0.015            CIRC   4.000
              *

 849          KK  CPPE91 COMBINE
 850          KM   Combine pipe return PRPE83 with the runoff hydrograph at combination point
 851          KM   CPE91 at the intersection of Peoria Avenue and 91st Avenue
 852          HC       2
              *
1                                        HEC-1 INPUT                                          PAGE 22

LINE          ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

 853          KK   DPE91  DIVERT
 854          KM   Divert calculated full flow capapcity of 147 cfs into 72-inch storm drain
 855          KM   pipe at the intersection of Peoria Avenue and 91st Avenue
 856          DT  DPPE91      0.0   147.0
 857          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
 858          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

 859          KK  DWPELO  DIVERT
 860          KM   Divert remaining runoff hydrograph from combination point CPPE91 west to
 861          KM   combination point CPELO
 862          DT  DSOL91      0.0      0.0
 863          DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
 864          DQ     0.0    55.0   110.0   275.0   550.0  1100.0  2200.0  5500.0 11000.0 27500.0
              *

 865          KK  RWPELO   ROUTE
 866          KM   Route diversion DWPELO west to combination point CPELO
 867          RS       1    FLOW
 868          RC  0.035   0.015   0.035    1289  0.0017    0.00
 869          RX   0.00    0.00   73.50   73.50  350.50  350.50  424.00  424.00
 870          RY   3.00    1.23    0.50    0.00    0.00    0.50    1.23    3.00
              *

 871          KK    PELO   BASIN
 872          KM   Runoff hydrograph for subbasin PELO northeast of the intersection of Peoria
 873          KM   Avenue and SR Loop 101
 874          BA   0.271
 875          LG    0.19    0.21    6.40    0.13      52
 876          UC   0.944   0.771
 877          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
 878          UA     100
              *

 879          KK  ERPELO  DIVERT
 880          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
 881          KM   retention developed after 1990 in subbasin PELO
 882          DT  XPELO     9.1      0.0
 883          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
 884          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

 885          KK   CPELO COMBINE
 886          KM   Combine route RWPELO, route RSPELO, and subbasin PELO
 887          HC       3    4.81
              *

 888          KK  PRPE91RETRIEVE
 889          KM   Retrieve full flow capacity of 147 cfs from 72-inch storm drain pipe at the
 890          KM   intersection of Peoria Avenue and 91st Avenue
 891          DR  DPPE91
              *
1                                        HEC-1 INPUT                                          PAGE 23

LINE          ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

 892          KK  RPPELO   ROUTE
 893          KM   Route full flow capacity of 147 cfs through 72-inch storm drain pipe in
```

```
          KM   Peoria Avenue to the intersection of Peoria Avenue and St Loop 101
          RK    1594  0.0012   0.015            CIRC   6.000
          *

          KK  CPPELO COMBINE
          KM   Combine pipe return PRPE91 with the runoff hydrograph at combination point
          KM   CPELO at the intersection of Peoria Avenue and SR Loop 101
          HC       2
          *

          KK   DPELO  DIVERT
          KM   Divert calculated full flow capapcity of 255 cfs into 72-inch storm drain
          KM   pipe at the intersection of Peoria Avenue and Loop 101
          DT  DPPELO      0.0   255.0
          DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
          DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
          *

          KK  RSOLLO   ROUTE
          KM   Route diversion DSOLLO south to combination point COLLO
          RS       1    FLOW
          RC   0.035   0.015   0.035    5324  0.0018    0.00
          RX    0.00    3.00   13.00   33.00   63.00   83.00   93.00   96.00
          RY   11.00   10.00   10.00    0.00    0.00   10.00   10.00   11.00
          *

          KK    OL35   BASIN
          KM   Runoff hydrograph for subbasin OL35 northeast of the intersection of Olive
          KM   Avenue and 35th Avenue
          BA   0.214
          LG    0.10    0.25    5.40    0.23      58
          UC   0.697   0.700
          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
          UA     100
          *

          KK   D35OL  DIVERT
          KM   Divert calculated full flow capapcity of 61 cfs into 42-inch storm drain
          KM   pipe at the intersection of Olive Avenue and 35th Avenue
          DT  DP35OL      0.0     61.0
          DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
          DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
          *

          KK  DWOL43  DIVERT
          KM   Divert remaining runoff hydrograph from subbasin OL35 west to combination
          KM   point COL43
          DT  DSNO35      0.0      0.0
          DI      0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0  10000.0  20000.0  50000.0
          DQ      0.0     70.0    140.0    350.0    700.0   1400.0   2800.0   7000.0  14000.0  35000.0
          *
```



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     LINE  ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

          KK  RWOL43   ROUTE
          KM   Route diversion DWOL43 west to combination point COL43
          RS      10    FLOW
          RC   0.035   0.015   0.035    5280  0.0022    0.00
          RX    0.00    0.00   35.50   35.50  188.50  188.50  224.00  224.00
          RY    3.00    0.86    0.50    0.00    0.00    0.50    0.86    3.00
          *

          KK    OL43   BASIN
          KM   Runoff hydrograph for subbasin OL43 northeast of the intersection of Olive
          KM   Avenue and 43rd Avenue
          BA   0.635
          LG    0.25    0.25    5.40    0.20      33
          UC   1.253   0.768
          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
          UA     100
          *

          KK   COL43 COMBINE
          KM   Combine route RWOL43 and subbasin OL43
          HC       2    0.70
          *

          KK   D43OL  DIVERT
          KM   Divert calculated full flow capapcity of 85 cfs into 48-inch storm drain
          KM   pipe at the intersection of Olive Avenue and 43rd Avenue
          DT  DP43OL      0.0     85.0
          DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
          DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
          *

          KK  DWOL51  DIVERT
          KM   Divert remaining runoff hydrograph from combination point COL43 west to
          KM   combination point COL51
          DT  DSNO43      0.0      0.0
          DI      0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0  10000.0  20000.0  50000.0
          DQ      0.0     59.0    118.0    295.0    590.0   1180.0   2360.0   5900.0  11800.0  29500.0
```



```
          *

          KK  RWOL51   ROUTE
          KM   Route diversion DWOL51 west to combination point COL51
          RS       7    FLOW
          RC   0.035   0.015   0.035    5280  0.0035    0.00
          RX    0.00    0.00   47.50   47.50  230.50  230.50  278.00  278.00
          RY    3.00    0.98    0.50    0.00    0.00    0.50    0.98    3.00
          *

          KK  DROL51RETRIEVE
          KM   Retrieve divert DROL51 from subbasin CPE51 and divert south to combination
          KM   point COL51
          DR  DSOL51
          *
```



```
     LINE  ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

          KK  RSOL51   ROUTE
          KM   Route diversion retrieval DROL51 south to combination point COL51
          RS       7    FLOW
          RC   0.035   0.015   0.035    5280  0.0031    0.00
          RX    0.00    0.00   68.50   68.50  359.50  359.50  428.00  428.00
          RY    3.00    1.18    0.50    0.00    0.00    0.50    1.18    3.00
          *

          KK    OL51   BASIN
          KM   Runoff hydrograph for square mile subbasin OL51 northeast of the intersection
          KM   of Olive Avenue and 51st Avenue
          BA   0.993
          LG    0.23    0.15    7.30    0.10      36
          UC   1.300   0.865
          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
          UA     100
          *

          KK  EROL51  DIVERT
          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
          KM   retention developed after 1990 in subbasin OL51
          DT   XOL51      6.0      0.0
          DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
          DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
          *

          KK   COL51 COMBINE
          KM   Combine route RWOL51, route RSOL51, and subbasin OL51
          HC       3    1.45
          *

          KK   DOL51  DIVERT
          KM   Divert calculated full flow capapcity of 297 cfs into 78-inch storm drain
          KM   pipe at the intersection of Olive Avenue and 51st Avenue
          DT  DPOL51      0.0    297.0
          DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
          DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
          *

          KK  DWOL59  DIVERT
          KM   Divert remaining runoff hydrograph from combination point COL51 west to
          KM   combination point COL59
          DT  DSNO51      0.0      0.0
          DI      0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0  10000.0  20000.0  50000.0
          DQ      0.0     34.0     68.0    170.0    340.0    680.0   1360.0   3400.0   6800.0  17000.0
          *

          KK  RWOL59   ROUTE
          KM   Route diversion DWOL59 west to combination point COL59
          RS       5    FLOW
          RC   0.035   0.015   0.035    5280  0.0034    0.00
          RX    0.00    0.00   75.50   75.50  402.50  402.50  478.00  478.00
          RY    3.00    1.25    0.50    0.00    0.00    0.50    1.25    3.00
          *
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     LINE  ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

          KK  DROL59RETRIEVE
          KM   Retrieve divert DROL59 from combination point CPPE59 and divert south to
          KM   combination point COL59
          DR  DSOL59
          *

          KK  RSOL59   ROUTE
          KM   Route diversion retrieval DROL59 south to combination point COL59
          RS       5    FLOW
          RC   0.035   0.015   0.035    5280  0.0023    0.00
          RX    0.00    0.00   72.50   72.50  425.50  425.50  498.00  498.00
          RY    3.00    1.23    0.50    0.00    0.00    0.50    1.23    3.00
          *
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1022          KK    OL59   BASIN
1023          KM   Runoff hydrograph for square mile subbasin OL59 northeast of the intersection
1024          KM   of Olive Avenue and 59th Avenue
1025          BA   0.990
1026          LG    0.24    0.15    8.80    0.05      34
1027          UC   1.336   0.890
1028          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
1029          UA     100
              *


1030          KK  EROL59  DIVERT
1031          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
1032          KM   retention developed after 1990 in subbasin OL59
1033          DT   XOL59     21.9      0.0
1034          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
1035          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *


1036          KK   COL59 COMBINE
1037          KM   Combine route RWOL59, route RSOL59, and subbasin OL59
1038          HC       3    2.78
              *


1039          KK  PR59PERETRIEVE
1040          KM   Retrieve full flow capacity of 235 cfs from 78-inch storm drain pipe at the
1041          KM   intersection of Peoria Avenue and 59th Avenue
1042          DR  DP59PE
              *


1043          KK  RP59BR   ROUTE
1044          KM   Route full flow capacity of 235 cfs through 78-inch storm drain pipe in
1045          KM   59th Avenue to the intersection of Brown Street and 59th Avenue
1046          RK    1231  0.0020   0.015            CIRC   6.500
              *
1                                        HEC-1 INPUT                                        PAGE 27

LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


1047          KK   DBR59  DIVERT
1048          KM   Divert calculated full flow capapcity of 161 cfs into 60-inch storm drain
1049          KM   pipe at the intersection of Brown Street and 59th Avenue
1050          DT  DPBR59      0.0   161.0
1051          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
1052          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *


1053          KK  RP59OL   ROUTE
1054          KM   Route full flow capacity of 161 cfs through 60-inch storm drain pipe in
1055          KM   59th Avenue to the intersection of Olive Avenue and 59th Avenue
1056          RK    1446  0.0031   0.015            CIRC   3.500
              *


1057          KK  PROL51RETRIEVE
1058          KM   Retrieve full flow capacity of 297 cfs from 78-inch storm drain pipe at the
1059          KM   intersection of Olive Avenue and 51st Avenue
1060          DR  DPOL51
              *


1061          KK  RPOL59   ROUTE
1062          KM   Route full flow capacity of 297 cfs through 78-inch storm drain pipe in
1063          KM   Olive Avenue to the intersection of Olive Avenue and 59th Avenue
1064          RK    5117  0.0032   0.015            CIRC   6.500
              *


1065          KK  CPOL59 COMBINE
1066          KM   Combine pipe return PROL51 and the remainder of pipe return PR59PE with the
1067          KM   runoff hydrograph at combination point COL59 at the intersection of Olive
1068          KM   Avenue and 59th Avenue
1069          HC       3
              *


1070          KK   DOL59  DIVERT
1071          KM   Divert calculated full flow capapcity of 475 cfs into 90-inch storm drain
1072          KM   pipe at the intersection of Olive Avenue and 59th Avenue
1073          DT  DPOL59      0.0   475.0
1074          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
1075          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *


1076          KK  DWOL67  DIVERT
1077          KM   Divert remaining runoff hydrograph from combination point CPOL59 west to
1078          KM   combination point COL67
1079          DT  DSNO59      0.0      0.0
1080          DI     0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0  10000.0  20000.0  50000.0
1081          DQ     0.0     61.0    122.0    305.0    610.0   1220.0   2440.0   6100.0  12200.0  30500.0
              *
1                                        HEC-1 INPUT                                        PAGE 28

LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


1082          KK  RWOL67   ROUTE
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1083          KM   Route diversion DWOL67 west to combination point COL67
1084          RS       3    FLOW
1085          RC   0.035   0.015   0.035    5280  0.0034    0.00
1086          RX    0.00    0.00   54.50   54.50  273.50  273.50  328.00  328.00
1087          RY    3.00    1.04    0.50    0.00    0.00    0.50    1.04    3.00
              *


1088          KK  DROL67RETRIEVE
1089          KM   Retrieve divert DROL67 from combination point CPE67 and divert south to
1090          KM   combination point COL67
1091          DR  DSOL67
              *


1092          KK  RSOL67   ROUTE
1093          KM   Route diversion retrieval DROL67 south to combination point COL67
1094          RS       8    FLOW
1095          RC   0.035   0.015   0.035    5280  0.0031    0.00
1096          RX    0.00    0.00   45.50   45.50  284.50  284.50  330.00  330.00
1097          RY    3.00    0.96    0.50    0.00    0.00    0.50    0.96    3.00
              *


1098          KK    OL67   BASIN
1099          KM   Runoff hydrograph for square mile subbasin OL67 northeast of the intersection
1100          KM   of Olive Avenue and 67th Avenue
1101          BA   0.960
1102          LG    0.23    0.15    8.40    0.07      36
1103          UC   1.159   0.764
1104          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
1105          UA     100
              *


1106          KK  EROL67  DIVERT
1107          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
1108          KM   retention developed after 1990 in subbasin OL67
1109          DT   XOL67     39.8      0.0
1110          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
1111          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *


1112          KK   COL67 COMBINE
1113          KM   Combine route RWOL67, route RSOL67, and subbasin OL67
1114          HC       3    2.84
              *


1115          KK  PRBR59RETRIEVE
1116          KM   Retrieve full flow capacity of 161 cfs from 60-inch storm drain pipe at the
1117          KM   intersection of Brown Street and 59th Avenue
1118          DR  DPBR59
              *
1                                        HEC-1 INPUT                                        PAGE 29

LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


1119          KK  RPBR63   ROUTE
1120          KM   Route full flow capacity of 161 cfs through 60-inch storm drain pipe in
1121          KM   63rd Avenue to the intersection of Brown Street and 63rd Avenue
1122          RK     528  0.0038   0.015            CIRC   5.000
              *


1123          KK  SRBR63 STORAGE
1124          KM   Storage route pipe flow PRBR59 from the storm drain in Brown Street
1125          KM     through regional detention basin located near the intersection of Brown
1126          KM     Street and 63rd Avenue
1127          KM   Stage-storage from Sahuaro Ranch Park - Phase VI Civil Survey, 1988
1128          RS       1    STOR
1129          SV            0.83    1.95    7.59    8.05    8.59
1130          SQ            9.00   25.00   52.00  201.00  474.00
1131          SE   57.00   58.00   59.00   63.00   63.30   63.50
              *


1132          KK  RP63OL   ROUTE
1133          KM   Route full flow capacity of 161 cfs through 60-inch storm drain pipe in
1134          KM   63rd Avenue to the intersection of Olive Avenue and 63rd Avenue
1135          RK    3878  0.0040   0.015            CIRC   2.500
              *


1136          KK  PROL59RETRIEVE
1137          KM   Retrieve full flow capacity of 475 cfs from 90-inch diameter pipe at the
1138          KM   intersection of Olive Avenue and 59th Avenue
1139          DR  DPOL59
              *


1140          KK  RPOL63   ROUTE
1141          KM   Route full flow capacity of 475 cfs through 90-inch storm drain pipe in
1142          KM   in Olive Avenue to the intersection of Olive Avenue and 63rd Avenue
1143          RK    2835  0.0038   0.015            CIRC   7.500
              *


1144          KK  CPOL63 COMBINE
1145          KM   Combine pipe return PROL67 with pipe return PRBR59 at the intersection of
1146          KM   Olive Avenue and 63rd Avenue
1147          HC       2    2.84
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                *
1148            KK  RPOL67    ROUTE
1149            KM   Route full flow capacity of 161 cfs through 60inch storm drain pipe in
1150            KM   59th Avenue to the intersection of Olive Avenue and 59th Avenue
1151            RK    2409  0.0033    0.015             CIRC    7.500
                *
1152            KK  PR67PERETRIEVE
1153            KM   Retrieve full flow capacity of 161 cfs from 60-inch storm drain pipe at the
1154            KM   intersection of Olive Avenue and 67th Avenue
1155            DR  DP67PE
                *
1                                          HEC-1 INPUT                                    PAGE 30

LINE            ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1156            KK  RP67MV    ROUTE
1157            KM   Route full flow capacity of 162 cfs through 60-inch storm drain pipe in
1158            KM   67th Avenue to the intersection of Mountain View Road and 67th Avenue
1159            RK    2679  0.0039    0.015             CIRC    5.000
                *
1160            KK  SR67MV STORAGE
1161            KM   Storage route pipe flow PR67PE from storm drain in 67th Avenue through
1162            KM     regional detention basin located near the intersection of Mountain View
1163            KM     Road and 67th Avenue
1164            KM   Stage-storage from Chaparral Ranch Retention Basin Plans, 1984
1165            RS       1     STOR
1166            SV              2.29     2.93     3.65     5.28
1167            SQ             17.00   201.00   531.00 1457.00
1168            SE  1170.0 1171.00 1171.30 1171.50 1172.00
                *
1169            KK  RP67OL    ROUTE
1170            KM   Route full flow capacity of 175 cfs through 66-inch storm drain pipe in
1171            KM   67th Avenue to the intersection of Olive Avenue and 67th Avenue
1172            RK    2627  0.0027    0.015             CIRC    5.500
                *
1173            KK  CPOL67 COMBINE
1174            KM   Combine pipe return PR67PE with the runoff hydrograph at combination point
1175            KM   COL67 at the intersection of Olive Avenue and 67th Avenue
1176            HC       3
                *
1177            KK   DOL67  DIVERT
1178            KM   Divert calculated full flow capapcity of 662 cfs into 72-inch storm drain
1179            KM   pipe at the intersection of Olive Avenue and 67th Avenue
1180            DT  DPOL67      0.0    662.0
1181            DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
1182            DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
                *
1183            KK  DWOL75  DIVERT
1184            KM   Divert remaining runoff hydrograph from combination point CPOL67 west to
1185            KM   combination point COL75
1186            DT  DSNO67      0.0      0.0
1187            DI     0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0  10000.0  20000.0  50000.0
1188            DQ     0.0     44.0     88.0    220.0    440.0    880.0   1760.0   4400.0   8800.0  22000.0
                *
1189            KK  RWOL75    ROUTE
1190            KM   Route diversion DWOL75 west to combination point COL75
1191            RS       4     FLOW
1192            RC   0.035    0.015    0.035     5280   0.0031     0.00
1193            RX    0.00     0.00    67.00    67.00   332.00   332.00   399.00   399.00
1194            RY    3.00     1.17     0.50     0.00     0.00     0.50     1.17     3.00
                *
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LINE            ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1195            KK  DROL75RETRIEVE
1196            KM   Retrieve divert DROL75 from combination point CPE75 and divert south to
1197            KM   combination point COL75
1198            DR  DSOL75
                *
1199            KK  RSOL75    ROUTE
1200            KM   Route diversion retrieval DROL75 south to combination point COL75
1201            RS       3     FLOW
1202            RC   0.035    0.015    0.035     5280   0.0027     0.00
1203            RX    0.00     0.00    57.50    57.50   291.50   291.50   349.00   349.00
1204            RY    3.00     1.08     0.50     0.00     0.00     0.50     1.08     3.00
                *
1205            KK     OL75   BASIN
1206            KM   Runoff hydrograph for square mile subbasin OL75 northeast of the intersection
1207            KM   of Olive Avenue and 75th Avenue
1208            BA   1.004
```



```
1209            LG    0.23    0.15    8.80    0.06      32
1210            UC   1.344   0.896
1211            UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
1212            UA     100
                *
1213            KK  EROL75  DIVERT
1214            KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
1215            KM   retention developed after 1990 in subbasin OL75
1216            DT   XOL75     40.9      0.0
1217            DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
1218            DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
                *
1219            KK   COL75 COMBINE
1220            KM   Combine route RWOL75, route RSOL75, and subbasin OL75
1221            HC       3     4.34
                *
1222            KK  PROL67RETRIEVE
1223            KM   Retrieve full flow capacity of 662 cfs from 72-inch storm drain pipe at the
1224            KM   intersection of Olive Avenue and 67th Avenue
1225            DR  DPOL67
                *
1226            KK  RPOL71    ROUTE
1227            KM   Route full flow capacity of 662 cfs through 72-inch storm drain pipe in
1228            KM   Olive Avenue to the intersection of Olive Avenue and 71st Avenue
1229            RK    2746  0.0243    0.015             CIRC    6.000
                *
1                                          HEC-1 INPUT                                    PAGE 32

LINE            ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1230            KK  CPOL71 COMBINE
1231            KM   Combine pipe return PROL67 with the runoff hydrograph at combination point
1232            KM   COL71 at the intersection of Olive Avenue and 71st Avenue
1233            HC       2
                *
1234            KK  SROL71 STORAGE
1235            KM   Storage route runoff hydrograph from combination point CPOL71 through
1236            KM     regional detention basin located near the intersection of Olive Avenue
1237            KM     and 71st Avenue
1238            KM   Stage-storage data from topography provided by FCDMC dated 3/28/1994
1239            RS       1     STOR
1240            SV              8.78    27.11    47.24    69.15    92.94   105.55   118.61
1241            SQ             57.00   147.00   148.00   184.00   213.00  2792.00  7494.00
1242            SE  1128.0 1130.00 1132.00 1134.00 1136.00 1138.00 1139.00 1140.00
                *
1243            KK   DOL71  DIVERT
1244            KM   Divert calculated full flow capapcity of 386 cfs into 78-inch storm drain
1245            KM   pipe at the intersection of Olive Avenue and 71st Avenue
1246            DT  DPOL71      0.0    386.0
1247            DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
1248            DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
                *
1249            KK  PR75PERETRIEVE
1250            KM   Retrieve full flow capacity of 179 cfs from 60-inch storm drain pipe at the
1251            KM   intersection of Peoria Avenue and 75th Avenue
1252            DR  DP75PE
                *
1253            KK  RP75OL    ROUTE
1254            KM   Route full flow capacity of 179 cfs through 60-inch storm drain pipe in
1255            KM   75th Avenue to the intersection of Olive Avenue and 75th Avenue
1256            RK    5035  0.0047    0.015             CIRC    5.000
                *
1257            KK  PROL71RETRIEVE
1258            KM   Retrieve full flow capacity of 386 cfs from 78-inch storm drain pipe at the
1259            KM   intersection of Olive Avenue and 71st Avenue
1260            DR  DPOL71
                *
1261            KK  RPOL75    ROUTE
1262            KM   Route full flow capacity of 386 cfs through 78-inch storm drain pipe in
1263            KM   Olive Avenue to the intersection of Olive Avenue and 75th Avenue
1264            RK    2971  0.0054    0.015             CIRC    6.500
                *
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LINE            ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1265            KK  CPOL75 COMBINE
1266            KM   Combine pipe return PROL71 with the runoff hydrograph at combination point
1267            KM   COL75 at the intersection of Olive Avenue and 75th Avenue
1268            HC       3
                *
```

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1269          KK   DOL75  DIVERT
1270          KM   Divert calculated full flow capapcity of 239 cfs into 90-inch storm drain
1271          KM   pipe at the intersection of Olive Avenue and 75th Avenue
1272          DT  DPOL75      0.0    239.0
1273          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
1274          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

1275          KK  DWGR83  DIVERT
1276          KM   Divert remaining runoff hydrograph from combination point CPOL75 west to
1277          KM   combination point CGR83
1278          DT  DSGR75      0.0      0.0
1279          DI     0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0  10000.0  20000.0  50000.0
1280          DQ     0.0     51.0    102.0    255.0    510.0   1020.0   2040.0   5100.0  10200.0  25500.0
              *

1281          KK  DRGR83RETRIEVE
1282          KM   Retrieve divert DRGR83 from combination point CPE83 and divert south to
1283          KM   combination point CGR83
1284          DR  DSGR83
              *

1285          KK   D83GR  DIVERT
1286          DT  DSOL83      0.0      0.0
1287          DI     0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0  10000.0  20000.0  50000.0
1288          DQ     0.0     28.0     56.0    140.0    280.0    560.0   1120.0   2800.0   5600.0  14000.0
              *

1289          KK  RSGR83   ROUTE
1290          KM   Route diversion D83GR south to combination point CGR83
1291          RS      10    FLOW
1292          RC   0.035    0.015    0.035     7145   0.0003     0.00
1293          RX    0.00     0.00    67.00    67.00   332.00   332.00   399.00   399.00
1294          RY    3.00     1.17     0.50     0.00     0.00     0.50     1.17     3.00
              *

1295          KK    GR83   BASIN
1296          KM   Runoff hydrograph for subbasin GR83 southeast of the intersection of Grand
1297          KM   Avenue and 83rd Avenue
1298          BA   0.468
1299          LG    0.17     0.13    10.10     0.03       58
1300          UC   0.899    0.499
1301          UA       0      5.0     16.0     30.0     65.0     77.0     84.0     90.0     94.0     97.0
1302          UA     100
              *
```



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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1303          KK  ERGR83  DIVERT
1304          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
1305          KM   retention developed after 1990 in subbasin GR83
1306          DT   XGR83     32.4      0.0
1307          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
1308          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

1309          KK   CGR83 COMBINE
1310          KM   Combine divert DWGR83, route RSGR83, and subbasin GR83
1311          HC       3    3.99
              *

1312          KK  SRGR83 STORAGE
1313          KM   Storage routing ID RES26S in Maryvale ADMS, Feb 1997 - comments from ADMS:
1314          KM   PONDING AREA RESERVOIR ROUTE
1315          KM   SUB-BASIN 26-31E
1316          KM   PONDING AREA NORTHEAST OF GRAND AVENUE/RR EMBANKMENT
1317          KM   OUTFLOW REPRESENTS BOTH FLOW WEST (OVER THE RR EMBANKEMENT) AND
1318          KM   FLOW SOUTH OVER OLIVE AVENUE
1319          KM   ================================================================================
1320          KM   REVISION TO MARYVALE ADMS MODEL KHA --> COMBINED STORAGE AT 75TH AND 83RD AVE
1321          KM
1322          KM   Storage route runoff hydrograph from combination point CGR83 through ponding
1323          KM     area at Grand Avenue between 75th Avenue and 83rd Avenue
1324          KM   ================================================================================
1325          RS       1    STOR
1326          SV              3.40    27.60    58.20   102.60   145.28   278.39   315.39   329.41   339.52
1327          SV   350.22   367.41
1328          SQ        0      0.1      0.2     0.35   2170.1  4810.15   51070.   51070.   51070.     5117
1329          SQ   51230.   52040.
1330          SE    1132.    1134.    1136.    1137.    1138.   1138.5    1140.    1141.   1141.3     1141
1331          SE   1141.7    1142.
              *

1332          KK  DWOL83  DIVERT
1333          KM   Divert ID D26AW in Maryvale ADMS, Feb 1997
1334          KM   Divert remaining runoff hydrograph from combination point CGR83 west to
1335          KM   combination point COL83
1336          DT  DS75NO      0.0      0.0
1337          DI     0.0   2170.0   4810.0  52040.0      0.0      0.0      0.0      0.0      0.0      0.0
1338          DQ     0.0   2170.0   4160.0  51390.0      0.0      0.0      0.0      0.0      0.0      0.0
```



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              *

1339          KK  RWOL83   ROUTE
1340          KM   Route diversion DWOL83 west to combination point COL83
1341          RS       1    FLOW
1342          RC   0.035    0.015    0.035     5280   0.0027     0.00
1343          RX    0.00     0.00    26.00    26.00   148.00   148.00   174.00   174.00
1344          RY    3.00     0.76     0.50     0.00     0.00     0.50     0.76     3.00
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1345          KK  DIOL83RETRIEVE
1346          KM   Retrieve arterial street flow diverted to 83rd Avenue at the intersection
1347          KM   of 83rd Avenue and Grand Avenue
1348          DR  DSOL83
              *

1349          KK  RSOL83   ROUTE
1350          KM   Route diversion retrieval DIOL83 south to combination point COL83
1351          RS       5    FLOW
1352          RC   0.035    0.015    0.035     5280   0.0031     0.00
1353          RX    0.00     0.00    67.00    67.00   332.00   332.00   399.00   399.00
1354          RY    3.00     1.17     0.50     0.00     0.00     0.50     1.17     3.00
              *

1355          KK   OL83   BASIN
1356          KM   Runoff hydrograph for subbasin OL83 northeast of the intersection
1357          KM   of Olive Avenue and 83rd Avenue
1358          BA   0.537
1359          LG    0.19     0.13    10.10     0.03       53
1360          UC   0.958    0.515
1361          UA       0      5.0     16.0     30.0     65.0     77.0     84.0     90.0     94.0     97.0
1362          UA     100
              *

1363          KK  EROL83  DIVERT
1364          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
1365          KM   retention developed after 1990 in subbasin OL83
1366          DT   XOL83     36.7      0.0
1367          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
1368          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

1369          KK   COL83 COMBINE
1370          KM   Combine route RWOL83, route RSOL83, and subbasin OL83
1371          HC       3    1.06
              *

1372          KK   NO27   BASIN
1373          KM   Runoff hydrograph for subbasin NO27 northeast of the intersection of Northern
1374          KM   Avenue and 27th Avenue
1375          BA   0.126
1376          LG    0.18     0.15     8.80     0.05       63
1377          UC   0.754    0.978
1378          UA       0      5.0     16.0     30.0     65.0     77.0     84.0     90.0     94.0     97.0
1379          UA     100
              *

1380          KK   D27NO  DIVERT
1381          KM   Divert calculated full flow capapcity of 114 cfs into 54-inch storm drain
1382          KM   pipe at the intersection of Northern Avenue and 27th Avenue
1383          DT  DP27NO      0.0    114.0
1384          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
1385          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1386          KK  DWNO35  DIVERT
1387          KM   Divert remaining runoff hydrograph from subbasin NO27 west to combination
1388          KM   point CNO35
1389          DT  DSGL27      0.0      0.0
1390          DI     0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0  10000.0  20000.0  50000.0
1391          DQ     0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0  10000.0  20000.0  50000.0
              *

1392          KK  RWNO35   ROUTE
1393          KM   Route diversion DWNO35 west to combination point CNO35
1394          RS       1    FLOW
1395          RC   0.035    0.015    0.035     5280   0.0001     0.00
1396          RX    0.00     0.00    76.50    76.50   372.50   372.50   449.00   449.00
1397          RY    3.00     1.27     0.50     0.00     0.00     0.50     1.27     3.00
              *

1398          KK  DRNO35RETRIEVE
1399          KM   Retrieve divert DRNO35 from subbasin OL35 and divert south to
1400          KM   combination point CNO35
1401          DR  DSNO35
```

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                *
1402            KK  RSNO35   ROUTE
1403            KM   Route diversion retrieval DRNO35 south to combination point CNO35
1404            RS      10    FLOW
1405            RC  0.035   0.015   0.035    5280  0.0036    0.00
1406            RX   0.00    0.00   67.00   67.00  332.00  332.00  399.00  399.00
1407            RY   3.00    1.17    0.50    0.00    0.00    0.50    1.17    3.00
                *
1408            KK   NO35   BASIN
1409            KM   Runoff hydrograph for square mile subbasin NO35 northeast of the intersection
1410            KM   of Norhtern Avenue and 35th Avenue
1411            BA  0.991
1412            LG   0.24    0.25    5.80    0.17      38
1413            UC  1.471   0.901
1414            UA      0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
1415            UA    100
                *
1416            KK   CNO35 COMBINE
1417            KM   Combine route RWNO35, route RSNO35, and subbasin NO35
1418            HC       3    1.14
                *
1419            KK  PR27NORETRIEVE
1420            KM   Retrieve full flow capacity of 114 cfs from 54-inch diameter pipe at the
1421            KM   intersection of Northern Avenue and 27th Avenue
1422            DR  DP27NO
                *
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LINE            ID.......1.......2.......3.......4.......5.......6.......7.......8.......9.....10

1423            KK  CPNO29 COMBINE
1424            KM   Combine pipe return PR27NO with the runoff hydrograph at combination point
1425            KM   CNO29 at the intersection of Northern Avenue and 29th Avenue
1426            HC       2
                *
1427            KK   D29NO  DIVERT
1428            KM   Divert calculated full flow capapcity of 114 cfs into 54-inch storm drain
1429            KM   pipe at the intersection of Northern Avenue and 29th Avenue
1430            DT  DP29NO      0.0   114.0
1431            DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
1432            DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
                *
1433            KK  PR35OLRETRIEVE
1434            KM   Retrieve full flow capacity of 61 cfs from 42-inch diameter pipe at the
1435            KM    intersection of Northern Avenue and 35th Avenue
1436            DR  DP35OL
                *
1437            KK  RP35NO   ROUTE
1438            KM   Route full flow capacity of 61 cfs through 42-inch storm drain pipe in
1439            KM   35th Avenue to the intersection of Northern Avenue and 35th Avenue
1440            RK    5191  0.0037   0.015            CIRC   3.500
                *
1441            KK  CPNO35 COMBINE
1442            KM   Combine pipe return PR35OL with the runoff hydrograph at combination point
1443            KM   CNO35 at the intersection of Northern Avenue and 35th Avenue
1444            HC       2
                *
1445            KK   D35NO  DIVERT
1446            KM   Capacity of storm drain in 31st Avenue and 35th Avenue diverted together.
1447            KM   Divert combined calculated full flow capacity of 26 cfs in the 30-inch storm
1448            KM   drain pipe in 31st Avenue and 87 cfs in the 48-inch storm drain pipe in
1449            KM   35th Avenue. The total calculated combined full flow capacity diverted at the
1450            KM   intersection of 35th Avenue and Northern Avenue is 113 cfs in an equivalent
1451            KM   diameter pipe of 53 inches
1452            DT  DP35NO      0.0   113.0
1453            DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
1454            DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
                *
1455            KK  DWNO43  DIVERT
1456            KM   Divert remaining runoff hydrograph from combination point CPNO353 west to
1457            KM   combination point CNO43
1458            DT  DSGL35      0.0     0.0
1459            DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
1460            DQ     0.0    46.0    92.0   230.0   460.0   920.0  1840.0  4600.0  9200.0 23000.0
                *
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LINE            ID.......1.......2.......3.......4.......5.......6.......7.......8.......9.....10

1461            KK  RWNO43   ROUTE
1462            KM   Route diversion DWNO43 west to combination point CNO43
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1463            RS       8    FLOW
1464            RC   0.035   0.015   0.035    5280  0.0021    0.00
1465            RX    0.00    0.00  114.50  114.50  534.50  534.50  649.00  649.00
1466            RY    3.00    1.64    0.50    0.00    0.00    0.50    1.64    3.00
                *
1467            KK  DRNO43RETRIEVE
1468            KM   Retrieve divert DRNO43 from combination point COL43 and divert south to
1469            KM   combination point CNO43
1470            DR  DSNO43
                *
1471            KK  RSNO43   ROUTE
1472            KM   Route diversion retrieval DRNO43 south to combination point CNO43
1473            RS       7    FLOW
1474            RC   0.035   0.015   0.035    5280  0.0035    0.00
1475            RX    0.00    0.00   67.00   67.00  332.00  332.00  399.00  399.00
1476            RY    3.00    1.17    0.50    0.00    0.00    0.50    1.17    3.00
                *
1477            KK   NO43   BASIN
1478            KM   Runoff hydrograph for square mile subbasin NO43 northeast of the intersection
1479            KM   of Norhtern Avenue and 43rd Avenue
1480            BA  0.995
1481            LG   0.24    0.21    6.40    0.14      33
1482            UC  1.451   0.973
1483            UA      0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
1484            UA    100
                *
1485            KK   CNO43 COMBINE
1486            KM   Combine route RWNO43, route RSNO43, and subbasin NO43
1487            HC       3    2.02
                *
1488            KK  PR43OLRETRIEVE
1489            KM   Retrieve full flow capacity of 85 cfs from 48-inch storm drain pipe at the
1490            KM   intersection of Olive Avenue and 43rd Avenue
1491            DR  DP43OL
                *
1492            KK  RP43NO   ROUTE
1493            KM   Route full flow capacity of 85 cfs through 48-inch storm drain pipe in
1494            KM   43rd Avenue to the intersection of Northern Avenue and 43rd Avenue
1495            RK    5100  0.0035   0.015            CIRC   4.000
                *
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LINE            ID.......1.......2.......3.......4.......5.......6.......7.......8.......9.....10

1496            KK  CPNO43 COMBINE
1497            KM   Combine pipe return PR43OL with the runoff hydrograph at combination point
1498            KM   CPNO43 at the intersection of Northern Avenue and 43rd Avenue
1499            HC       2
                *
1500            KK   D43NO  DIVERT
1501            KM   Capacity of storm drain in 43rd Avenue and 39th Avenue diverted together.
1502            KM   Divert combined calculated full flow capacity of 124 cfs in the 54-inch storm
1503            KM   drain pipe in 39th AVenue and 117 cfs in the 54-inch storm drain pipe in
1504            KM   43rd Avenue. The total calculated combined full flow capacity diverted at the
1505            KM   intersection of 43rd Avenue and Northern Avenue is 241 cfs in an equivalent
1506            KM   diameter pipe of 71 inches
1507            DT  DP43NO      0.0   241.0
1508            DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
1509            DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
                *
1510            KK  DWNO51  DIVERT
1511            KM   Divert remaining runoff hydrograph from combination point CPNO43 west to
1512            KM   combination point CNO51
1513            DT  DSGL43      0.0     0.0
1514            DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
1515            DQ     0.0    51.0   102.0   255.0   510.0  1020.0  2040.0  5100.0 10200.0 25500.0
                *
1516            KK  RWNO51   ROUTE
1517            KM   Route diversion DWNO51 west to combination point CNO51
1518            RS       5    FLOW
1519            RC   0.035   0.015   0.035    5280  0.0019    0.00
1520            RX    0.00    0.00   65.50   65.50  382.50  382.50  448.00  448.00
1521            RY    3.00    1.16    0.50    0.00    0.00    0.50    1.16    3.00
                *
1522            KK  DRNO51RETRIEVE
1523            KM   Retrieve divert DRNO51 from combination point COL51 and divert south to
1524            KM   combination point CNO51
1525            DR  DSNO51
                *
1526            KK  RSNO51   ROUTE
1527            KM   Route diversion retrieval DRNO51 south to combination point CNO51
```

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1528          RS       7    FLOW
1529          RC   0.035   0.015   0.035    5280  0.0019    0.00
1530          RX    0.00    0.00   54.50   54.50  273.50  273.50  328.00  328.00
1531          RY    3.00    1.04    0.50    0.00    0.00    0.50    1.04    3.00
              *

1532          KK    NO51    BASIN
1533          KM   Runoff hydrograph for square mile subbasin NO51 northeast of the intersection
1534          KM   of Norhtern Avenue and 51st Avenue
1535          BA   0.993
1536          LG    0.24    0.25    6.00    0.16      37
1537          UC   1.423   0.953
1 HEC-1 INPUT PAGE 40
LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1538          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
1539          UA     100
              *

1540          KK   CNO51 COMBINE
1541          KM   Combine route RWNO51, route RSNO51, and subbasin NO51
1542          HC       3    2.47
              *

1543          KK   DNO51  DIVERT
1544          KM   Divert calculated full flow capapcity of 168 cfs into 66-inch storm drain
1545          KM   pipe at the intersection of Northern Avenue and 51st Avenue
1546          DT  DPNO51      0.0   168.0
1547          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
1548          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

1549          KK  DWNO59  DIVERT
1550          KM   Divert remaining runoff hydrograph from combination point CNO51 west to
1551          KM   combination point CNO59
1552          DT  DSGL51      0.0     0.0
1553          DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
1554          DQ     0.0    44.0    88.0   220.0   440.0   880.0  1760.0  4400.0  8800.0 22000.0
              *

1555          KK  RWNO59   ROUTE
1556          KM   Route diversion DWNO59 west to combination point CNO59
1557          RS       3    FLOW
1558          RC   0.035   0.015   0.035    5280  0.0040    0.00
1559          RX    0.00    0.00   58.50   58.50  339.50  339.50  398.00  398.00
1560          RY    3.00    1.08    0.50    0.00    0.00    0.50    1.08    3.00
              *

1561          KK  DRNO59RETRIEVE
1562          KM   Retrieve divert DRNO59 from combination point CPOL59 and divert south to
1563          KM   combination point CNO59
1564          DR  DSNO59
              *

1565          KK  RSNO59   ROUTE
1566          KM   Route diversion retrieval DRNO59 south to combination point CNO59
1567          RS       4    FLOW
1568          RC   0.035   0.015   0.035    5280  0.0024    0.00
1569          RX    0.00    0.00   86.50   86.50  511.50  511.50  598.00  598.00
1570          RY    3.00    1.36    0.50    0.00    0.00    0.50    1.36    3.00
              *

1571          KK    NO59   BASIN
1572          KM   Runoff hydrograph for square mile subbasin NO59 northeast of the intersection
1573          KM   of Norhtern Avenue and 59th Avenue
1574          BA   0.992
1575          LG    0.23    0.15    7.60    0.09      33
1576          UC   1.345   0.896
1577          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
1578          UA     100
              *
1 HEC-1 INPUT PAGE 41
LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1579          KK  ERNO59  DIVERT
1580          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
1581          KM   retention developed after 1990 in subbasin NO59
1582          DT   XNO59     22.4      0.0
1583          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
1584          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

1585          KK   CNO59 COMBINE
1586          KM   Combine route RWNO59, route RSNO59, and subbasin NO59
1587          HC       3    4.06
              *

1588          KK  SRNO59 STORAGE
1589          KM   Storage route runoff hydrograph from combination point CNO59 through
1590          KM     regional detention basin located in subbasin NO59
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1591          KM   Combined storage from two retention basins
1592          KM   Stage-storage data from Butler Park Detention Basin As-built record, 1991 and
1593          KM     Butler Park Street Improvements Retention Basin As-built record, 1990
1594          RS       1    STOR
1595          SV            1.87    4.65    7.68   15.59
1596          SQ                                 2430.00
1597          SE    96.00   97.00   98.00   99.00  100.00
              *

1598          KK  PRNO51RETRIEVE
1599          KM   Retrieve full flow capacity of 168 cfs from 66-inch storm drain pipe at the
1600          KM   intersection of Northern Avenue and 51st Avenue
1601          DR  DPNO51
              *

1602          KK  RPNO59   ROUTE
1603          KM   Route full flow capacity of 168 cfs through 66-inch storm drain pipe in
1604          KM   Northern Avenue to the intersection of Northern Avenue and 51st Avenue
1605          RK    5146  0.0025   0.015            CIRC   5.500
              *

1606          KK  CPNO59 COMBINE
1607          KM   Combine pipe return PRNO51 with the runoff hydrograph at combination point
1608          KM   CNO59 at the intersection of Northern Avenue and 59th Avenue
1609          HC       2
              *

1610          KK   DNO59  DIVERT
1611          KM   Divert calculated full flow capapcity of 134 cfs into 72-inch storm drain
1612          KM   pipe at the intersection of Northern Avenue and 59th Avenue
1613          DT  DPNO59      0.0   134.0
1614          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
1615          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *
1 HEC-1 INPUT PAGE 42
LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1616          KK  DWNO67  DIVERT
1617          KM   Divert remaining runoff hydrograph from combination point CPNO59 west to
1618          KM   combination point CNO67
1619          DT  DSGL59      0.0     0.0
1620          DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
1621          DQ     0.0    33.0    66.0   165.0   330.0   660.0  1320.0  3300.0  6600.0 16500.0
              *

1622          KK  RWNO67   ROUTE
1623          KM   Route diversion DWNO67 west to combination point CNO67
1624          RS       3    FLOW
1625          RC   0.035   0.015   0.035    5280  0.0029    0.00
1626          RX    0.00    0.00   58.50   58.50  339.50  339.50  398.00  398.00
1627          RY    3.00    1.08    0.50    0.00    0.00    0.50    1.08    3.00
              *

1628          KK  DRNO67RETRIEVE
1629          KM   Retrieve divert DRNO67 from combination point CPOL67 and divert south to
1630          KM   combination point CNO67
1631          DR  DSNO67
              *

1632          KK  RSNO67   ROUTE
1633          KM   Route diversion retrieval DRNO67 south to combination point CNO67
1634          RS       5    FLOW
1635          RC   0.035   0.015   0.035    5280  0.0019    0.00
1636          RX    0.00    0.00   58.50   58.50  339.50  339.50  398.00  398.00
1637          RY    3.00    1.08    0.50    0.00    0.00    0.50    1.08    3.00
              *

1638          KK    NO67   BASIN
1639          KM   Runoff hydrograph for square mile subbasin NO67 northeast of the intersection
1640          KM   of Norhtern Avenue and 67th Avenue
1641          BA   0.956
1642          LG    0.22    0.15    8.80    0.05      45
1643          UC   1.358   0.914
1644          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
1645          UA     100
              *

1646          KK  ERNO67  DIVERT
1647          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
1648          KM   retention developed after 1990 in subbasin NO67
1649          DT   XNO67     54.3      0.0
1650          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
1651          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

1652          KK   CNO67 COMBINE
1653          KM   Combine route RWNO67, route RSNO67, and subbasin NO67
1654          HC       3    4.93
              *
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LINE      ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

1655      KK  DWGR75  DIVERT
1656      KM   Divert portion of runoff hydrograph from subbasin CNO67 west through subbasin
1657      KM   GR75 using the ratio of the widths and slopes of the streets going west and
1658      KM   the widths and slopes of the streets going south. The remaining flow is
1659      KM   diverted south through subbasin GR67
1660      DT  DSGR67     0.0     0.0
1661      DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
1662      DQ     0.0    65.0   130.0   325.0   650.0  1300.0  2600.0  6500.0 13000.0 32500.0
          *

1663      KK   DGR75  DIVERT
1664      KM   Divert portion of DWGR75 west to subbasin GR75 using the ratio of the width
1665      KM   of the collector and local streets and the width of the arterial street. The
1666      KM   remaining flow is diverted west to subbasin NO75 along Northern Avenue
1667      DT  DWNO75     0.0     0.0
1668      DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
1669      DQ     0.0    33.0    66.0   165.0   330.0   660.0  1320.0  3300.0  6600.0 16500.0
          *

1670      KK  RWGR75   ROUTE
1671      KM   Route diversion DGR75 west to combination point CGR75
1672      RS      10    FLOW
1673      RC   0.035   0.015   0.035    7409  0.0008    0.00
1674      RX    0.00    0.00   44.50   44.50  253.50  253.50  298.00  298.00
1675      RY    3.00    0.94    0.50    0.00    0.00    0.50    0.94    3.00
          *

1676      KK  DRGR75RETRIEVE
1677      KM   Retrieve divert DRGR75 from combination point CPOL75 and divert south to
1678      KM   combination point CGR75
1679      DR  DSGR75
          *

1680      KK   D75GR  DIVERT
1681      KM   Divert portion of divert retrieval DRGR75 south to subbasin NO75 along
1682      KM   collector and local streets. The remaining flow is diverted south to subbasin
1683      KM   GR75 along 75th Avenue to combination point CGR75
1684      DT  DSNO75     0.0     0.0
1685      DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
1686      DQ     0.0    36.0    72.0   180.0   360.0   720.0  1440.0  3600.0  7200.0 18000.0
          *

1687      KK    GR75   BASIN
1688      KM   Runoff hydrograph for subbasin GR75 southeast of the intersection of Grand
1689      KM   Avenue and 75th Avenue
1690      BA   0.496
1691      LG    0.21    0.15    8.80    0.05      55
1692      UC   0.867   0.463
1693      UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
1694      UA     100
          *
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LINE      ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

1695      KK  ERGR75  DIVERT
1696      KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
1697      KM   retention developed after 1990 in subbasin GR75
1698      DT  XGR75     31.1     0.0
1699      DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
1700      DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
          *

1701      KK   CGR75 COMBINE
1702      KM   Combine runoff hydrographs from route RWGR75, divert D75GR, and subbasin GR75
1703      HC       3    3.09
          *

1704      KK  SRGR75 STORAGE
1705      KM   Storage route runoff hydrograph from combination point CGR75 through regional
1706      KM     detention basin located near the intersection of Grand Avenue and Olive
1707      KM     Avenue
1708      KM   Stage-storage-discharge data from State Highway Wickenburg-Phoenix Highway
1709      KM     (US 60), Grand Ave: 75th Ave-Olive Ave As-builts, ADOT, August 2004
1710      RS       1    STOR
1711      SV            0.39    2.08    4.83    7.73   14.05   21.04   28.74   37.16   46.32
1712      SV    56.2    66.9    72.6    75.5    78.4
1713      SQ     0.0     8.0    20.0    25.0    29.0    36.0    42.0    47.0    52.0    56.0
1714      SQ    60.0    64.0    66.0   305.0  1417.0
1715      SE  1118.0  1119.0  1120.0  1121.0  1122.0  1124.0  1126.0  1128.0  1130.0  1132.0
1716      SE  1134.0  1136.0  1137.0  1137.5  1138.0
          *

1717      KK  PROL75RETRIEVE
1718      KM   Retrieve full flow capacity of 239 cfs from 90-inch storm drain pipe at the
1719      KM   intersection of Olive Avenue and 75th Avenue
1720      DR  DPOL75
          *
```



```
1721      KK  CPOLGR COMBINE
1722      KM   Combine pipe return PROL75 with storage route SRGR75 at combination point
1723      KM   CPOLGR at the intersection of Olive Avenue and Grand Avenue
1724      HC       2
          *

1725      KK  DPOLGR  DIVERT
1726      KM   Divert calculated full flow capapcity of 239 cfs into 90-inch storm drain
1727      KM   pipe at the intersection of Olive Avenue and Grand Avenue. The pipe flow is
1728      KM   followed to combination point CPOL83 and the remaining surface flow is
1729      KM   diverted to combination point CIGR75 at the intersection of Grand Avenue and
1730      KM   75th Avenue
1731      DT  DOLGR      0.0     0.0
1732      DI     0.0   239.0   239.1 50000.0     0.0     0.0     0.0     0.0     0.0     0.0
1733      DQ     0.0     0.0     0.1 49761.0     0.0     0.0     0.0     0.0     0.0     0.0
          *
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LINE      ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

1734      KK  RPOL83   ROUTE
1735      KM   Route full flow capacity of 239 cfs through 90-inch storm drain pipe in
1736      KM   Olive Avenue to the intersection of Olive Avenue and 83rd Avenue
1737      RK    4974  0.0010   0.015             CIRC   7.500
          *

1738      KK  CPOL83 COMBINE
1739      KM   Combine pipe return PROL75 with the runoff hydrograph at combination point
1740      KM   COL83 at the intersection of Olive Avenue and 83rd Avenue
1741      HC       2
          *

1742      KK  SROL83 STORAGE
1743      KM   Storage route runoff hydrograph from combination point CPOL83 through
1744      KM     regional detention basin located near the intersection of Olive Avenue
1745      KM     and 83rd Avenue
1746      KM   Stage-storage data from topography provided by FCDMC dated 3/28/1994
1747      RS       1    STOR
1748      SV            5.45   13.07   21.61   23.90   26.31   31.42
1749      SQ           57.00  147.00  148.00  635.00 1517.00 4002.00
1750      SE  1118.0 1120.00 1122.00 1124.00 1124.50 1125.00 1126.00
          *

1751      KK   DOL83  DIVERT
1752      KM   Divert calculated full flow capapcity of 243 cfs into 90-inch storm drain
1753      KM   pipe at the intersection of Olive Avenue and 83rd Avenue
1754      DT  DPOL83     0.0   243.0
1755      DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
1756      DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
          *

1757      KK  DWOL91  DIVERT
1758      KM   Divert remaining runoff hydrograph from combination point CPOL83 west to
1759      KM   combination point COL91
1760      DT  DSNO83     0.0     0.0
1761      DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
1762      DQ     0.0    39.0    78.0   195.0   390.0   780.0  1560.0  3900.0  7800.0 19500.0
          *

1763      KK  RWOL91   ROUTE
1764      KM   Route diversion DWOL91 west to combination point COL91
1765      RS      10    FLOW
1766      RC   0.035   0.015   0.035    5280  0.0025    0.00
1767      RX    0.00    0.00   76.50   76.50  372.50  372.50  449.00  449.00
1768      RY    3.00    1.27    0.50    0.00    0.00    0.50    1.27    3.00
          *

1769      KK  DROL91RETRIEVE
1770      KM   Retrieve divert DROL91 from combination point CPPE91 and divert south to
1771      KM   combination point COL91
1772      DR  DSOL91
          *
```



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LINE      ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

1773      KK  RSOL91   ROUTE
1774      KM   Route diversion retrieval DROL91 south to combination point COL91
1775      RS       4    FLOW
1776      RC   0.035   0.015   0.035    5280  0.0019    0.00
1777      RX    0.00    0.00   86.00   86.00  413.00  413.00  499.00  499.00
1778      RY    3.00    1.36    0.50    0.00    0.00    0.50    1.36    3.00
          *

1779      KK    OL91   BASIN
1780      KM   Runoff hydrograph for square mile subbasin OL91 northeast of the intersection
1781      KM   of Olive Avenue and 91st Avenue
1782      BA   1.016
1783      LG    0.21    0.15    9.70    0.04      43
1784      UC   1.288   0.856
1785      UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
```

```
1786          UA     100
              *

1787          KK  EROL91   DIVERT
1788          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
1789          KM   retention developed after 1990 in subbasin OL91
1790          DT   XOL91     47.7      0.0
1791          DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
1792          DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

1793          KK   COL91 COMBINE
1794          KM   Combine route RWOL91, route RSOL91, and subbasin OL91
1795          HC        3     3.68
              *

1796          KK  PROL83RETRIEVE
1797          KM   Retrieve full flow capacity of 243 cfs from 90-inch storm drain pipe at the
1798          KM   intersection of Olive Avenue and 83rd Avenue
1799          DR  DPOL83
              *

1800          KK  RPOL91   ROUTE
1801          KM   Route full flow capacity of 243 cfs through 90-inch storm drain pipe in
1802          KM   Olive Avenue to the intersection of Olive Avenue and 91st Avenue
1803          RK    5184  0.0010   0.015             CIRC   7.500
              *

1804          KK  CPOL91 COMBINE
1805          KM   Combine pipe return PROL83 with the runoff hydrograph at combination point
1806          KM   COL91 at the intersection of Olive Avenue and 91st Avenue
1807          HC        2
              *

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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1808          KK  DWOLLO   DIVERT
1809          KM   Divert remaining runoff hydrograph from combination point CPOL91 west to
1810          KM   combination point COLLO
1811          DT  DSNO91      0.0      0.0
1812          DI      0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0  10000.0  20000.0  50000.0
1813          DQ      0.0     67.0    134.0    335.0    670.0   1340.0   2680.0   6700.0  13400.0  33500.0
              *

1814          KK  RWOLLO   ROUTE
1815          KM   Route diversion DWOLLO west to combination point COLLO
1816          RS        1     FLOW
1817          RC   0.035   0.015   0.035      600  0.0039     0.00
1818          RX    0.00    0.00   16.50    16.50  107.50  107.50  124.00  124.00
1819          RY    3.00    0.66    0.50     0.00    0.00    0.50    0.66    3.00
              *

1820          KK    OLLO   BASIN
1821          KM   Runoff hydrograph for subbasin OLLO northeast of the intersection of Olive
1822          KM   Avenue and SR Loop 101
1823          BA   0.160
1824          LG    0.10    0.15    8.80    0.05      83
1825          UC   0.652   0.716
1826          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
1827          UA     100
              *

1828          KK  EROLLO   DIVERT
1829          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
1830          KM   retention developed after 1990 in subbasin OLLO
1831          DT   XOLLO     11.4      0.0
1832          DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
1833          DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

1834          KK   COLLO COMBINE
1835          KM   Combine route RWOLLO, route RSOLLO, and subbasin OLLO
1836          HC        3     6.18
              *

1837          KK  RSNOLO   ROUTE
1838          KM   Route hydrograph at combination point COLLO south to combination point CNOLO
1839          RS        1     FLOW
1840          RC   0.035   0.015   0.035    6136  0.0023     0.00
1841          RX    0.00    4.00   16.00    26.00   34.00   44.00   56.00   59.00
1842          RY    6.24    5.24    5.00     0.00    0.20    5.20    5.44    6.44
              *

1843          KK  DROLGRRETRIEVE
1844          KM   Retrieve remaining surface flow runoff hydrograph DROLGR following pipe
1845          KM   diversion DPOLGR after combination point CPOLGR at the intersection of Grand
1846          KM   Avenue and Olive Avenue
1847          DR   DOLGR
              *

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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1848          KK  DI75NORETRIEVE
1849          KM   Retrieve arterial street flow diverted to 75th Avenue at the intersection
1850          KM   of 75th Avenue and Grand Avenue
1851          DR  DSNO75
              *

1852          KK  DR75NORETRIEVE
1853          KM   Retrieve divert DR75NO from combination point CGR83 and divert south to
1854          KM   combination point CIGR75
1855          DR  DS75NO
              *

1856          KK  CIGR75 COMBINE
1857          KM   Combine arterial street flow from 75th Avenue DI75NO, divert retrieval DR75NO
1858          KM   and storage route SRGR75 at the intersection of 75th Avenue and Grand Avenue
1859          HC        3     7.85
              *

1860          KK  RSNO75   ROUTE
1861          KM   Route hydrograph at intersection combination point CIGR75
1862          KM   south to combination point CNO75
1863          RS        2     FLOW
1864          RC   0.035   0.015   0.035     5280  0.0019     0.00
1865          RX    0.00    0.00   29.00    29.00  170.00  170.00  199.00  199.00
1866          RY    3.00    0.79    0.50     0.00    0.00    0.50    0.79    3.00
              *

1867          KK  DINO75RETRIEVE
1868          KM   Retrieve arterial street flow diverted to Northern Avenue and 75th Avenue
1869          KM   from the intersection of Northern Avenue and 67th Avenue
1870          DR  DWNO75
              *

1871          KK  RWNO75   ROUTE
1872          KM   Route diversion retrieval DINO75 at the intersection of Norhtern Avenue
1873          KM   and 75th Avenue west to combination point CNO75
1874          RS        4     FLOW
1875          RC   0.035   0.015   0.035     5280  0.0030     0.00
1876          RX    0.00    0.00   16.50    16.50  107.50  107.50  124.00  124.00
1877          RY    3.00    0.66    0.50     0.00    0.00    0.50    0.66    3.00
              *

1878          KK    NO75   BASIN
1879          KM   Runoff hydrograph for subbasin NO75 northeast of the intersection of
1880          KM   Norhtern Avenue and 75th Avenue
1881          BA   0.506
1882          LG    0.10    0.15    8.40    0.06      80
1883          UC   0.789   0.416
1884          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
1885          UA     100
              *

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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1886          KK  ERNO75   DIVERT
1887          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
1888          KM   retention developed after 1990 in subbasin NO75
1889          DT   XNO75     19.5      0.0
1890          DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
1891          DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

1892          KK   CNO75 COMBINE
1893          KM   Combine route RWNO75, route RSNO75, and subbasin NO75
1894          HC        3     8.93
              *

1895          KK    DNO75   DIVERT
1896          KM   Divert calculated full flow capapcity of 161 cfs into 60-inch storm drain
1897          KM   pipe at the intersection of Northern Avenue and 75th Avenue
1898          DT   DPNO75      0.0    161.0
1899          DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
1900          DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

1901          KK  DWNO83   DIVERT
1902          KM   Divert remaining runoff hydrograph from combination point CNO75 west to
1903          KM   combination point CNO83
1904          DT  DSOW75      0.0      0.0
1905          DI      0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0  10000.0  20000.0  50000.0
1906          DQ      0.0     48.0     96.0    240.0    480.0    960.0   1920.0   4800.0   9600.0  24000.0
              *

1907          KK  RWNO83   ROUTE
1908          KM   Route diversion DWNO83 west to combination point CNO83
1909          RS        2     FLOW
1910          RC   0.035   0.015   0.035     5280  0.0048     0.00
1911          RX    0.00    0.00   35.50    35.50  188.50  188.50  224.00  224.00
```

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1912          RY    3.00    0.86    0.50    0.00    0.00    0.50    0.86    3.00
              *

1913          KK  DRNO83RETRIEVE
1914          KM   Retrieve divert DRNO83 from combination point COL83 and divert south to
1915          KM   combination point CNO83
1916          DR  DSNO83
              *

1917          KK  RSNO83   ROUTE
1918          KM   Route diversion retrieval DRNO83 south to combination point CNO83
1919          RS      10    FLOW
1920          RC   0.035   0.015   0.035    5280  0.0040    0.00
1921          RX    0.00    0.00   35.50   35.50  188.50  188.50  224.00  224.00
1922          RY    3.00    0.86    0.50    0.00    0.00    0.50    0.86    3.00
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1923          KK    NO83   BASIN
1924          KM   Runoff hydrograph for square mile subbasin NO83 northeast of the intersection
1925          KM   of Norhtern Avenue and 83rd Avenue
1926          BA   1.005
1927          LG    0.10    0.15    8.80    0.05      80
1928          UC   1.288   0.854
1929          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
1930          UA     100
              *

1931          KK  ERNO83  DIVERT
1932          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
1933          KM   retention developed after 1990 in subbasin NO83
1934          DT   XNO83    74.7     0.0
1935          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
1936          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

1937          KK   CNO83 COMBINE
1938          KM   Combine route RWNO83, route RSNO83, and subbasin NO83
1939          HC       3    6.05
              *

1940          KK  PRNO75RETRIEVE
1941          KM   Retrieve full flow capacity of 161 cfs from 60-inch storm drain pipe at the
1942          KM   intersection of Thunderbird Road and 75th Avenue
1943          DR  DPNO75
              *

1944          KK  RPNO83   ROUTE
1945          KM   Route full flow capacity of 161 cfs through 60-inch storm drain pipe in
1946          KM   Northern Avenue to the intersection of Northern Avenue and 83rd Avenue
1947          RK    5291  0.0038   0.015            CIRC   5.000
              *

1948          KK  CPNO83 COMBINE
1949          KM   Combine pipe return PRNO75 with the runoff hydrograph at combination point
1950          KM   CNO83 at the intersection of Northern Avenue and 83rd Avenue
1951          HC       2
              *

1952          KK   DNO83  DIVERT
1953          KM   Divert calculated full flow capapcity of 233 cfs into 72-inch storm drain
1954          KM   pipe at the intersection of Northern Avenue and 83rd Avenue
1955          DT  DPNO83     0.0   233.0
1956          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
1957          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *
1                                        HEC-1 INPUT                                    PAGE 51

LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1958          KK  RWNO91   ROUTE
1959          KM   Route diversion DWNO91 west to combination point CNO91
1960          RS       4    FLOW
1961          RC   0.035   0.015   0.035    5280  0.0014    0.00
1962          RX    0.00    0.00   45.00   45.00  229.00  229.00  274.00  274.00
1963          RY    3.00    0.95    0.50    0.00    0.00    0.50    0.95    3.00
              *

1964          KK  DRNO91RETRIEVE
1965          KM   Retrieve divert DRNO91 from combination point CPOL91 and divert south to
1966          KM   combination point CNO91
1967          DR  DSNO91
              *

1968          KK  RSNO91   ROUTE
1969          KM   Route diversion retrieval DRNO91 south to combination point CNO91
1970          RS       3    FLOW
1971          RC   0.035   0.015   0.035    5280  0.0029    0.00
1972          RX    0.00    0.00   48.00   48.00  251.00  251.00  299.00  299.00
```



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1973          RY    3.00    0.98    0.50    0.00    0.00    0.50    0.98    3.00
              *

1974          KK    NO91   BASIN
1975          KM   Runoff hydrograph for square mile subbasin NO91 northeast of the intersection
1976          KM   of Norhtern Avenue and 91st Avenue
1977          BA   0.993
1978          LG    0.24    0.15    8.00    0.07      33
1979          UC   1.426   0.959
1980          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
1981          UA     100
              *

1982          KK  ERNO91  DIVERT
1983          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
1984          KM   retention developed after 1990 in subbasin NO91
1985          DT   XNO91    53.9     0.0
1986          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
1987          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

1988          KK   CNO91 COMBINE
1989          KM   Combine route RWNO91, route RSNO91, and subbasin NO91
1990          HC       3    9.52
              *

1991          KK  PRNO83RETRIEVE
1992          KM   Retrieve full flow capacity of 233 cfs from 72-inch storm drain pipe at the
1993          KM   intersection of Northern Avenue and 83rd Avenue
1994          DR  DPNO83
              *
1                                        HEC-1 INPUT                                    PAGE 52

LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1995          KK  RPNO91   ROUTE
1996          KM   Route full flow capacity of 233 cfs through 72-inch storm drain pipe in
1997          KM   Northern Avenue to the intersection of Northern Avenue and 91st Avenue
1998          RK    6941  0.0030   0.015            CIRC   6.000
              *

1999          KK  CPNO91 COMBINE
2000          KM   Combine pipe return PRNO83 with the runoff hydrograph at combination point
2001          KM   CNO91 at the intersection of Northern Avenue and 91st Avenue
2002          HC       2
              *

2003          KK  SRNO91 STORAGE
2004          KM   Storage route runoff hydrograph from combination point CPNO91 through
2005          KM     regional detention basin located near the intersection of Northern Avenue
2006          KM     and 87th Avenue
2007          KM   Stage-storage data from Northern and Butler Storm Drains Sub-Phase "A"
2008          KM     As-built records, 2001
2009          RS       1    STOR
2010          SV            7.00   21.80   62.20   67.50   72.90   84.00  107.20
2011          SQ           18.00   26.00   38.00 1526.00 4245.0011934.0033681.00
2012          SE  1089.2 1090.90 1092.50 1095.80 1096.20 1096.60 1097.50 1099.10
              *

2013          KK   DNO91  DIVERT
2014          KM   Divert calculated full flow capapcity of 69 cfs into 60-inch storm drain
2015          KM   pipe at the intersection of Northern Avenue and 29th Avenue
2016          DT  DPNO91     0.0    69.0
2017          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
2018          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

2019          KK  DWNOLO  DIVERT
2020          KM   Divert remaining runoff hydrograph from combination point CPNO91 west to
2021          KM   combination point CNOLO
2022          DT  DSGL91     0.0     0.0
2023          DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
2024          DQ     0.0    53.0   106.0   265.0   530.0  1060.0  2120.0  5300.0 10600.0 26500.0
              *

2025          KK  RWNOLO   ROUTE
2026          KM   Route diversion DWNOLO west to combination point CNOLO
2027          RS       2    FLOW
2028          RC   0.035   0.015   0.035    3480  0.0026    0.00
2029          RX    0.00    0.00   45.00   45.00  229.00  229.00  274.00  274.00
2030          RY    3.00    0.95    0.50    0.00    0.00    0.50    0.95    3.00
              *

2031          KK    NOLO   BASIN
2032          KM   Runoff hydrograph for subbasin NOLO northeast of the intersection of Northern
2033          KM   Avenue and SR Loop 101
2034          BA   0.280
2035          LG    0.10    0.15    7.30    0.09      84
2036          UC   0.746   0.828
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10
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2037          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
2038          UA     100
              *

2039          KK  ERNOLO  DIVERT
2040          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
2041          KM   retention developed after 1990 in subbasin NOLO
2042          DT   XNOLO     19.9      0.0
2043          DI     0.0 50000.0      0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
2044          DQ     0.0 50000.0      0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

2045          KK   CNOLO COMBINE
2046          KM   Combine route RWNOLO, route RSNOLO, and subbasin NOLO
2047          HC        3   10.91
              *

2048          KK  PRNO91RETRIEVE
2049          KM   Retrieve full flow capacity of 69 cfs from 60-inch storm drain pipe at the
2050          KM   intersection of Northern Avenue and 91st Avenue
2051          DR  DPNO91
              *

2052          KK  RPNOLO    ROUTE
2053          KM   Route full flow capacity of 69cfs through 60-inch storm drain pipe in
2054          KM   Northern Avenue to the intersection of Northern Avenue and SR Loop 101
2055          RK    2827  0.0007    0.015             CIRC   5.000
              *

2056          KK   CPNOLO COMBINE
2057          KM   Combine pipe return PRNO91 with the runoff hydrograph at combination point
2058          KM   CNOLO at the intersection of Northern Avenue and SR Loop 101
2059          HC        2
              *

2060          KK    DNOLO  DIVERT
2061          KM   Divert calculated full flow capapcity of 15 cfs into 24-inch storm drain
2062          KM   pipe at the intersection of Northern Avenue and SR Loop 101
2063          DT  DPNOLO      0.0     15.0
2064          DI     0.0 50000.0      0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
2065          DQ     0.0 50000.0      0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

2066          KK  DSGLLO  DIVERT
2067          KM   Divert remaining runoff hydrograph from combination point CPNOLO south to
2068          KM   combination point CGLLO
2069          DT  DWNR03      0.0    917.0
2070          DI     0.0 50000.0      0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
2071          DQ     0.0 50000.0      0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *
1                                        HEC-1 INPUT                                    PAGE 54

LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

2072          KK  RSGLLO    ROUTE
2073          KM   Route diversion DSGLLO south to combination point CGLLO
2074          RS        1     FLOW
2075          RC   0.035   0.015   0.035    2381  0.0023    0.00
2076          RX    0.00    4.00   16.00   26.00   34.00   44.00   56.00   59.00
2077          RY    6.24    5.24    5.00    0.00    0.20    5.20    5.44    6.44
              *

2078          KK  DRGL43RETRIEVE
2079          KM   Retrieve divert DRGL43 from combination point CPNO43 and divert south to
2080          KM   combination point CGL43
2081          DR  DSGL43
              *

2082          KK  RSGL43    ROUTE
2083          KM   Route diversion retrieval DRGL43 south to combination point CGL43
2084          RS        4     FLOW
2085          RC   0.035   0.015   0.035    5280  0.0034    0.00
2086          RX    0.00    0.00   57.50   57.50  291.50  291.50  349.00  349.00
2087          RY    3.00    1.08    0.50    0.00    0.00    0.50    1.08    3.00
              *

2088          KK    GL43   BASIN
2089          KM   Runoff hydrograph for square mile subbasin GL43 northeast of the intersection
2090          KM   of Glendale Avenue and 43rd Avenue
2091          BA   0.998
2092          LG    0.24    0.15    7.30    0.09      36
2093          UC   1.388   0.924
2094          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
2095          UA     100
              *

2096          KK   CGL43 COMBINE
2097          KM   Combine route RSGL43, and subbasin GL43
2098          HC        2    2.03
              *
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```
2099          KK  PR43NORETRIEVE
2100          KM   Retrieve combined full flow capacity of 241 cfs from 71-inch equivalent
2101          KM   diameter pipe at the intersection of Northern Avenue and 43rd Avenue
2102          DR  DP43NO
              *

2103          KK  RP43GL    ROUTE
2104          KM   Route the combined full flow capacity of 241 cfs through an equivalent storm
2105          KM   drain pipe diameter of 71 inches in 43rd Avenue to the intersection of
2106          KM   43rd Avenue and Glendale Avenue
2107          RK    5336  0.0035    0.015             CIRC   5.917
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

2108          KK   CPGL43 COMBINE
2109          KM   Combine pipe return PR43NO with the runoff hydrograph at combination point
2110          KM   CGL43 at the intersection of Glendale Avenue and 43rd Avenue
2111          HC        2
              *

2112          KK    D43GL  DIVERT
2113          KM   Capacity of storm drain in 39th Avenue and 43rd Avenue diverted together.
2114          KM   Divert combined calculated full flow capacity of 268 cfs in the 72-inch storm
2115          KM   drain pipe in 39th Avenue and 117 cfs in the 54-inch storm drain pipe in
2116          KM   43rd Avenue. The total calculated combined full flow capacity diverted at the
2117          KM   intersection of 43rd Avenue and Glendale Avenue is 385 cfs in an equivalent
2118          KM   diameter pipe of 85 inches
2119          DT  DP43GL      0.0    385.0
2120          DI     0.0 50000.0      0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
2121          DQ     0.0 50000.0      0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

2122          KK  DWGL51  DIVERT
2123          KM   Divert remaining runoff hydrograph from combination point CPGL43 west to
2124          KM   combination point CGL51
2125          DT  DSBH43      0.0     0.0
2126          DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
2127          DQ     0.0    59.0   118.0   295.0   590.0  1180.0  2360.0  5900.0 11800.0 29500.0
              *

2128          KK  RWGL51    ROUTE
2129          KM   Route diversion DWGL51 west to combination point CGL51
2130          RS        6     FLOW
2131          RC   0.035   0.015   0.035    5280  0.0011    0.00
2132          RX    0.00    0.00   61.50   61.50  316.50  316.50  378.00  378.00
2133          RY    3.00    1.12    0.50    0.00    0.00    0.50    1.12    3.00
              *

2134          KK  DRGL51RETRIEVE
2135          KM   Retrieve divert DRGL51 from combination point CNO51 and divert south to
2136          KM   combination point CGL51
2137          DR  DSGL51
              *

2138          KK  RSGL51    ROUTE
2139          KM   Route diversion retrieval DRGL51 south to combination point CGL51
2140          RS        4     FLOW
2141          RC   0.035   0.015   0.035    5280  0.0027    0.00
2142          RX    0.00    0.00   61.50   61.50  316.50  316.50  378.00  378.00
2143          RY    3.00    1.12    0.50    0.00    0.00    0.50    1.12    3.00
              *

2144          KK    GL51   BASIN
2145          KM   Runoff hydrograph for square mile subbasin GL51 northeast of the intersection
2146          KM   of Glendale Avenue and 51st Avenue
2147          BA   1.002
2148          LG    0.23    0.25    5.40    0.20      42
2149          UC   1.500   1.009
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

2150          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
2151          UA     100
              *

2152          KK   CGL51 COMBINE
2153          KM   Combine route RWGL51, route RSGL51, and subbasin GL51
2154          HC        3    2.91
              *

2155          KK  DWGL59  DIVERT
2156          KM   Divert remaining runoff hydrograph from combination point CGL51 west to
2157          KM   combination point CGL59
2158          DT  DSBH51      0.0     0.0
2159          DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
2160          DQ     0.0    47.0    94.0   235.0   470.0   940.0  1880.0  4700.0  9400.0 23500.0
              *

2161          KK    D47GL  DIVERT
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2162          KM   Capacity of storm drain in 47th Avenue and 49th Avenue diverted together.
2163          KM   Divert combined calculated full flow capacity of 284 cfs in the 60-inch storm
2164          KM   drain pipe in 47th Avenue and 96 cfs in the 48-inch storm drain pipe in
2165          KM   49th Avenue. The total calculated combined full flow capacity diverted at the
2166          KM   intersection of 47rd Avenue and Glendale Avenue is 379 cfs in an equivalent
2167          KM   diameter pipe of 85 inches
2168          DT  DP47GL      0.0   379.0
2169          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
2170          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

2171          KK  RWGL59    ROUTE
2172          KM   Route diversion DWGL59 west to combination point CGL59
2173          RS       5     FLOW
2174          RC   0.035   0.015   0.035    5280  0.0031     0.00
2175          RX    0.00    0.00   68.50   68.50  359.50  359.50  428.00  428.00
2176          RY    3.00    1.18    0.50    0.00    0.00    0.50    1.18    3.00
              *

2177          KK  DRGL59RETRIEVE
2178          KM   Retrieve divert DRGL59 from combination point CPNO59 and divert south to
2179          KM   combination point CGL59
2180          DR  DSGL59
              *

2181          KK  RSGL59    ROUTE
2182          KM   Route diversion retrieval DRGL59 south to combination point CGL59
2183          RS       4     FLOW
2184          RC   0.035   0.015   0.035    5280  0.0018     0.00
2185          RX    0.00    0.00   37.50   37.50  210.50  210.50  248.00  248.00
2186          RY    3.00    0.88    0.50    0.00    0.00    0.50    0.88    3.00
              *

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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

2187          KK    GL59    BASIN
2188          KM   Runoff hydrograph for square mile subbasin GL59 northeast of the intersection
2189          KM   of Glendale Avenue and 59th Avenue
2190          BA   1.015
2191          LG    0.20    0.25    5.20    0.22      47
2192          UC   1.310   0.872
2193          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
2194          UA     100
              *

2195          KK  ERGL59   DIVERT
2196          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
2197          KM   retention developed after 1990 in subbasin GL59
2198          DT  XGL59      22.3      0.0
2199          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
2200          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

2201          KK    CGL59 COMBINE
2202          KM   Combine route RWGL59, route RSGL59, and subbasin GL59
2203          HC       3    3.91
              *

2204          KK    D59GL   DIVERT
2205          KM   Divert calculated full flow capapcity of 217 cfs into 72-inch storm drain
2206          KM   pipe at the intersection of Glendale Avenue and 59th Avenue
2207          DT  DP59GL      0.0   217.0
2208          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
2209          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

2210          KK  DWGR67   DIVERT
2211          KM   Divert portion of runoff hydrograph from combination point CGL59 west through
2212          KM   subbasin GR67 using the ratio of the widths and slopes of the streets going
2213          KM   west and the widths and slopes of the streets going south. The remaining flow
2214          KM   is diverted south through subbasin GR59
2215          DT  DSGR59      0.0     0.0
2216          DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
2217          DQ     0.0    46.0    92.0   230.0   460.0   920.0  1840.0  4600.0  9200.0 23000.0
              *

2218          KK    DGR67   DIVERT
2219          KM   Divert portion of DWGR67 west to subbasin GR67 using the ratio of the width
2220          KM   of the collector and local streets and the width of the arterial street. The
2221          KM   remaining flow is diverted west to subbasin GL67 along Glendale Avenue
2222          DT  DWGL67      0.0     0.0
2223          DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
2224          DQ     0.0    26.0    52.0   130.0   260.0   520.0  1040.0  2600.0  5200.0 13000.0
              *

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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

2225          KK  DRGL35RETRIEVE
2226          KM   Retrieve divert DRGL35 from combination point CPNO35 and divert south to
```



```
2227          KM   combination point CGL35
2228          DR  DSGL35
              *

2229          KK  RSGL35    ROUTE
2230          KM   Route diversion retrieval DRGL35 south to combination point CGL35
2231          RS       7     FLOW
2232          RC   0.035   0.015   0.035    5280  0.0032     0.00
2233          RX    0.00    0.00   76.50   76.50  372.50  372.50  449.00  449.00
2234          RY    3.00    1.27    0.50    0.00    0.00    0.50    1.27    3.00
              *

2235          KK    GL35    BASIN
2236          KM   Runoff hydrograph for square mile subbasin GL35 northeast of the intersection
2237          KM   of Glendale Avenue and 35th Avenue
2238          BA   1.004
2239          LG    0.23    0.23    6.20    0.15      34
2240          UC   1.500   1.012
2241          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
2242          UA     100
              *

2243          KK    CGL35 COMBINE
2244          KM   Combine route RSGL35, and subbasin GL35
2245          HC       2    1:53
              *

2246          KK  PR35NORETRIEVE
2247          KM   Retrieve combined full flow capacity of 113 cfs from 53-inch equivalent
2248          KM   diameter pipe at the intersection of Northern Avenue and 35th Avenue
2249          DR  DP35NO
              *

2250          KK  RP35GL    ROUTE
2251          KM   Route the combined full flow capacity of 113 cfs through an equivalent storm
2252          KM   drain pipe diameter of 53 inches in 35th Avenue to the intersection of
2253          KM   35th Avenue and Glendale Avenue
2254          RK    5335  0.0037   0.015            CIRC   4.417
              *

2255          KK  CPGL35 COMBINE
2256          KM   Combine pipe return PR35NO with the runoff hydrograph at combination point
2257          KM   CGL35 at the intersection of Glendale Avenue and 35th Avenue
2258          HC       2
              *

2259          KK    D35GL   DIVERT
2260          KM   Capacity of storm drain in 31st Avenue and 35th Avenue diverted together.
2261          KM   Divert combined calculated full flow capacity of 165 cfs in the 60-inch storm
2262          KM   drain pipe in 31st Avenue and 61 cfs in the 42-inch storm drain pipe in
2263          KM   49th Avenue. The total calculated combined full flow capacity diverted at the
2264          KM   intersection of 35th Avenue and Glendale Avenue is 226 cfs in an equivalent
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

2265          KM   diameter pipe of 69 inches
2266          DT  DP35GL      0.0   226.0
2267          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
2268          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

2269          KK  DEGL27   DIVERT
2270          KM   Divert remaining runoff hydrograph from combination point CPGL35 east to
2271          KM   combination point CGL27
2272          DT  DSBH35      0.0     0.0
2273          DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
2274          DQ     0.0    61.0   122.0   305.0   610.0  1220.0  2440.0  6100.0 12200.0 30500.0
              *

2275          KK  DRGL27RETRIEVE
2276          KM   Retrieve divert DRGL27 from subbasin NO27 and divert south to combination
2277          KM   point CGL27
2278          DR  DSGL27
              *

2279          KK  RSGL27    ROUTE
2280          KM   Route diversion retrieval DRGL27 south to combination point CGL27
2281          RS       1     FLOW
2282          RC   0.035   0.015   0.035    5280  0.0040     0.00
2283          RX    0.00    0.00   26.00   26.00  148.00  148.00  174.00  174.00
2284          RY    3.00    0.76    0.50    0.00    0.00    0.50    0.76    3.00
              *

2285          KK    GL27    BASIN
2286          KM   Runoff hydrograph for subbasin GL27 northeast of the intersection of Glendale
2287          KM   Avenue and 27th Avenue
2288          BA   0.258
2289          LG    0.23    0.17    6.80    0.11      45
2290          UC   0.930   0.739
2291          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
2292          UA     100
              *
```

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2293          KK   CGL27 COMBINE
2294          KM   Combine divert DEGL27, route RSGL27, and subbasin GL27
2295          HC       3    0.98
              *

2296          KK  PR29NORETRIEVE
2297          KM   Retrieve full flow capacity of 114 cfs from 54-inch diameter pipe at the
2298          KM   intersection of Northern Avenue and 29th Avenue
2299          DR  DP29NO
              *

2300          KK  RP27GL   ROUTE
2301          KM   Route full flow capacity of 114 cfs through 54-inch storm drain pipe in
2302          KM   in 27th Avenue to the intersection of 27th Avenue and Glendale Avenue
2303          RK    5260  0.0034   0.015            CIRC   4.500
              *
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LINE          ID.......1.......2..... 3.......4.......5.......6.......7.......8.......9.....10

2304          KK  CPGL27 COMBINE
2305          KM   Combine pipe return PR29NO with the runoff hydrograph at combination point
2306          KM   CGL27 at the intersection of Glendale Avenue and 27th Avenue
2307          HC       2
              *

2308          KK   D27GL  DIVERT
2309          KM   Divert calculated full flow capapcity of 132 cfs into 57-inch storm drain
2310          KM   pipe at the intersection of Glendale Avenue and 27th Avenue
2311          DT  DP27GL     0.0   132.0
2312          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
2313          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

2314          KK  RSBH27   ROUTE
2315          KM   Route remainder of divert D27GL south to combination point CBH27
2316          RS      1    FLOW
2317          RC   0.035   0.015   0.035    5280  0.0039    0.00
2318          RX    0.00    0.00   26.00   26.00  148.00  148.00  174.00  174.00
2319          RY    3.00    0.76    0.50    0.00    0.00    0.50    0.76    3.00
              *

2320          KK    BH27   BASIN
2321          KM   Runoff hydrograph for subbasin BH27 northeast of the intersection of Bethany
2322          KM   Home Road and 27th Avenue
2323          BA   0.258
2324          LG    0.21    0.25    4.80    0.25      55
2325          UC   0.834   0.654
2326          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
2327          UA     100
              *

2328          KK   CBH27 COMBINE
2329          KM   Combine route RSBH27, and subbasin BH27
2330          HC       2    1.24
              *

2331          KK  PR27GLRETRIEVE
2332          KM   Retrieve full flow capacity of 132 cfs from 57-inch storm drain pipe at the
2333          KM   intersection of Glendale Avenue and 27th Avenue
2334          DR  DP27GL
              *

2335          KK  RP27BH   ROUTE
2336          KM   Route full flow capacity of 132 cfs through 57-inch storm drain pipe in
2337          KM   27th Avenue to the intersection of Bethany Home Road and 27th Avenue
2338          RK    5221  0.0034   0.015            CIRC   4.750
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9.....10

2339          KK  CPBH27 COMBINE
2340          KM   Combine pipe return PR27GL with the runoff hydrograph at combination point
2341          KM   CBH27 at the intersection of Bethany Home Road and 27th Avenue
2342          HC       2
              *

2343          KK   D27BH  DIVERT
2344          KM   Divert calculated full flow capapcity of 132 cfs into 57-inch storm drain
2345          KM   pipe at the intersection of Bethany Home Road and 27th Avenue
2346          DT  DP27BH     0.0   132.0
2347          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
2348          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

2349          KK  DWBH35  DIVERT
2350          KM   Divert remaining runoff hydrograph from combination point CPBH27 west to
2351          KM   combination point CBH35
2352          DT  DSCB27     0.0     0.0
```



```
2353          DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
2354          DQ     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
              *

2355          KK  RWBH35   ROUTE
2356          KM   Route diversion DWBH35 west to combination point CBH35
2357          RS      1    FLOW
2358          RC   0.035   0.015   0.035    5280  0.0002    0.00
2359          RX    0.00    0.00   86.00   86.00  413.00  413.00  499.00  499.00
2360          RY    3.00    1.36    0.50    0.00    0.00    0.50    1.36    3.00
              *

2361          KK  DRBH35RETRIEVE
2362          KM   Retrieve divert DRBH35 from combination point CGL35 and divert south to
2363          KM   combination point CBH35
2364          DR  DSBH35
              *

2365          KK  RSBH35   ROUTE
2366          KM   Route diversion retrieval DRBH35 south to combination point CBH35
2367          RS      4    FLOW
2368          RC   0.035   0.015   0.035    5280  0.0049    0.00
2369          RX    0.00    0.00   67.00   67.00  332.00  332.00  399.00  399.00
2370          RY    3.00    1.17    0.50    0.00    0.00    0.50    1.17    3.00
              *

2371          KK    BH35   BASIN
2372          KM   Runoff hydrograph for square mile subbasin BH35 northeast of the intersection
2373          KM   of Bethany Home Road and 35th Avenue
2374          BA   1.005
2375          LG    0.23    0.25    5.20    0.22      37
2376          UC   0.922   0.337
2377          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
2378          UA     100
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9.....10

2379          KK  ERBH35  DIVERT
2380          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
2381          KM   retention developed after 1990 and NOAA14 rainfall for future retention in
2382          KM   subbasin BH35
2383          DT   XBH35      3.2      0.0
2384          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
2385          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

2386          KK   CBH35 COMBINE
2387          KM   Combine route RWBH35, route RSBH35, and subbasin BH35
2388          HC       3    1.94
              *

2389          KK  PR35GLRETRIEVE
2390          KM   Retrieve combined full flow capacity of 226 cfs from 69-inch equivalent
2391          KM   diameter pipe at the intersection of Glendale Avenue and 35th Avenue
2392          DR  DP35GL
              *

2393          KK  RP35BH   ROUTE
2394          KM   Route the combined full flow capacity of 226 cfs through an equivalent storm
2395          KM   drain pipe diameter of 69 inches in 35th Avenue to the intersection of
2396          KM   35th Avenue and Bethany Home Road
2397          RK    5147  0.0037   0.015            CIRC   5.750
              *

2398          KK  CPBH35 COMBINE
2399          KM   Combine pipe return PR35GL with the runoff hydrograph at combination point
2400          KM   CBH35 at the intersection of Bethany Home Road and 35th Avenue
2401          HC       2
              *

2402          KK   D35BH  DIVERT
2403          KM   Capacity of storm drain in 31st Avenue and 35th Avenue diverted together.
2404          KM   Divert combined calculated full flow capacity of 165 cfs in the 60-inch storm
2405          KM   drain pipe in 31st Avenue and 61 cfs in the 42-inch storm drain pipe in
2406          KM   49th Avenue. The total calculated combined full flow capacity diverted at the
2407          KM   intersection of 35th Avenue and Bethany Home Road is 226 cfs in an equivalent
2408          KM   diameter pipe of 69 inches
2409          DT  DP35BH     0.0   226.0
2410          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
2411          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

2412          KK  DWBH43  DIVERT
2413          KM   Divert remaining runoff hydrograph from combination point CPBH35 west to
2414          KM   combination point CBH43
2415          DT  DSCB35     0.0     0.0
2416          DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
2417          DQ     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

2418          KK  RWBH43   ROUTE
2419          KM   Route diversion DWBH43 west to combination point CBH43
2420          RS       1    FLOW
2421          RC  0.035   0.015   0.035    5280  0.0001    0.00
2422          RX   0.00    0.00  133.50  133.50  615.50  615.50  749.00  749.00
2423          RY   3.00    1.84    0.50    0.00    0.00    0.50    1.84    3.00
              *

2424          KK  DRBH43RETRIEVE
2425          KM   Retrieve divert DRBH43 from combination point CGL43 and divert south to
2426          KM   combination point CBH43
2427          DR  DSBH43
              *

2428          KK  RSBH43   ROUTE
2429          KM   Route diversion retrieval DRBH43 south to combination point CBH43
2430          RS       4    FLOW
2431          RC  0.035   0.015   0.035    5280  0.0028    0.00
2432          RX   0.00    0.00   57.50   57.50  291.50  291.50  349.00  349.00
2433          RY   3.00    1.08    0.50    0.00    0.00    0.50    1.08    3.00
              *

2434          KK   BH43   BASIN
2435          KM   Runoff hydrograph for square mile subbasin BH43 northeast of the intersection
2436          KM   of Bethany Home Road and 43rd Avenue
2437          BA  0.993
2438          LG   0.23    0.25    5.20    0.24      32
2439          UC  1.498   1.013
2440          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
2441          UA     100
              *

2442          KK   CBH43 COMBINE
2443          KM   Combine route RWBH43, route RSBH43, and subbasin BH43
2444          HC       3    2.19
              *

2445          KK  PR43GLRETRIEVE
2446          KM   Retrieve combined full flow capacity of 385 cfs from 85-inch equivalent
2447          KM   diameter pipe at the intersection of Glendale Avenue and 43rd Avenue
2448          DR  DP43GL
              *

2449          KK  RP43BH   ROUTE
2450          KM   Route the combined full flow capacity of 385 cfs through an equivalent storm
2451          KM   drain pipe diameter of 85 inches in 43rd Avenue to the intersection of
2452          KM   43rd Avenue and Bethany Home Road
2453          RK    5295  0.0035   0.015            CIRC   7.083
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

2454          KK  CPBH43 COMBINE
2455          KM   Combine pipe return PR43GL with the runoff hydrograph at combination point
2456          KM   CBH43 at the intersection of Bethany Home Road and 43rd Avenue
2457          HC       2
              *

2458          KK   D43BH  DIVERT
2459          KM   Capacity of storm drain in 39th Avenue and 43rd Avenue diverted together.
2460          KM   Divert combined calculated full flow capacity of 268 cfs in the 72-inch storm
2461          KM   drain pipe in 39th Avenue and 117 cfs in the 54-inch storm drain pipe in
2462          KM   43rd Avenue. The total calculated combined full flow capacity diverted at the
2463          KM   intersection of 43rd Avenue and Glendale Avenue is 385 cfs in an equivalent
2464          KM   diameter pipe of 85 inches
2465          DT  DP43BH      0.0   385.0
2466          DI      0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
2467          DQ      0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

2468          KK  DWBH51  DIVERT
2469          KM   Divert remaining runoff hydrograph from combination point CPBH43 west to
2470          KM   combination point CBH51
2471          DT  DSCB43      0.0     0.0
2472          DI      0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
2473          DQ      0.0    51.0   102.0   255.0   510.0  1020.0  2040.0  5100.0 10200.0 25500.0
              *

2474          KK  RWBH51   ROUTE
2475          KM   Route diversion DWBH51 west to combination point CBH51
2476          RS       5    FLOW
2477          RC  0.035   0.015   0.035    5280  0.0016    0.00
2478          RX   0.00    0.00   75.50   75.50  402.50  402.50  478.00  478.00
2479          RY   3.00    1.25    0.50    0.00    0.00    0.50    1.25    3.00
              *

2480          KK  DRBH51RETRIEVE
```



```
2481          KM   Retrieve divert DRBH51 from combination point CGL51 and divert south to
2482          KM   combination point CBH51
2483          DR  DSBH51
              *

2484          KK  RSBH51   ROUTE
2485          KM   Route diversion retrieval DRBH51 south to combination point CBH51
2486          RS       5    FLOW
2487          RC  0.035   0.015   0.035    5280  0.0030    0.00
2488          RX   0.00    0.00   61.50   61.50  316.50  316.50  378.00  378.00
2489          RY   3.00    1.12    0.50    0.00    0.00    0.50    1.12    3.00
              *

2490          KK   BH51   BASIN
2491          KM   Runoff hydrograph for square mile subbasin BH51 northeast of the intersection
2492          KM   of Bethany Home Road and 51st Avenue
2493          BA  0.995
2494          LG   0.22    0.23    6.20    0.15      43
2495          UC  1.500   1.025
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

2496          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
2497          UA     100
              *

2498          KK   CBH51 COMBINE
2499          KM   Combine route RWBH51, route RSBH51, and subbasin BH51
2500          HC       3    3.42
              *

2501          KK  PR47GLRETRIEVE
2502          KM   Retrieve combined full flow capacity of 379 cfs from 85-inch equivalent
2503          KM   diameter pipe at the intersection of Glendale Avenue and 47th Avenue
2504          DR  DP47GL
              *

2505          KK  RP51BH   ROUTE
2506          KM   Route the combined full flow capacity of 379 cfs through an equivalent storm
2507          KM   drain pipe diameter of 85 inches in 51st Avenue to the intersection of
2508          KM   51st Avenue and Bethany Home Road
2509          RK    2773  0.0118   0.015            CIRC   7.083
              *

2510          KK  CPBH51 COMBINE
2511          KM   Combine pipe return PR47GL with the runoff hydrograph at combination point
2512          KM   CBH51 at the intersection of Bethany Home Road and 51st Avenue
2513          HC       2
              *

2514          KK  SRBH51 STORAGE
2515          KM   Storage route runoff hydrograph from combination point CPBH51 through the
2516          KM     regional detention basin located near the intersection of Bethany Home Road
2517          KM     and 51st Avenue
2518          KM   Combined storage from two retention basins
2519          KM   Stage-storage data from topography provided by FCDMC dated 3/28/1994
2520          RS       1    STOR
2521          SV            1.99   12.41   22.30   22.30   31.52   42.36   53.20
2522          SQ            8.00   24.00 1649.00 1649.00 1649.00 1649.00 4349.00
2523          SE  1146.0 1148.00 1150.00 1151.00 1152.00 1154.00 1156.00 1157.00
              *

2524          KK  DWGR59  DIVERT
2525          KM   Divert portion of runoff hydrograph from combination point CPBH51 west
2526          KM   through subbasin GR59 using the ratio of the widths and slopes of the streets
2527          KM   going west and the widths and slopes of the streets going south. The
2528          KM   remaining flow is diverted south through subbasin GR43
2529          DT  DSGR43      0.0     0.0
2530          DI      0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
2531          DQ      0.0    32.0    64.0   160.0   320.0   640.0  1280.0  3200.0  6400.0 16000.0
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

2532          KK   DGR59  DIVERT
2533          KM   Divert portion of DWGR59 west to subbasin GR59 using the ratio of the width
2534          KM   of the collector and local streets and the width of the arterial street. The
2535          KM   remaining flow is diverted west to subbasin BH59 along Bethany Home Road
2536          DT  DWBH59      0.0     0.0
2537          DI      0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
2538          DQ      0.0    23.0    46.0   115.0   230.0   460.0   920.0  2300.0  4600.0 11500.0
              *

2539          KK  DRGR59RETRIEVE
2540          KM   Retrieve divert DRGR59 from combination point CGL59 and divert south to
2541          KM   combination point CGR59
2542          DR  DSGR59
              *

2543          KK   D59GR  DIVERT
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2544          KM   Divert portion of divert retrieval DRGR59 south to subbasin BH59 along 59th
2545          KM   Avenue. Divert remaining runoff hydrograph south to combination point CGR59
2546          DT  DSBH59      0.0      0.0
2547          DI     0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0 10000.0 20000.0 50000.0
2548          DQ     0.0     52.0    104.0    260.0    520.0   1040.0   2080.0  5200.0 10400.0 26000.0
              *
2549          KK    GR59   BASIN
2550          KM   Runoff hydrograph for subbasin GR59 southeast of the intersection of Grand
2551          KM   Avenue and 59th Avenue
2552          BA   0.518
2553          LG    0.16    0.25    4.80    0.25      62
2554          UC   0.611   0.309
2555          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
2556          UA     100
              *
2557          KK   CGR59 COMBINE
2558          KM   Combine remainder of divert retrieval DRGR59, divert DGR59, and subbasin GR59
2559          HC       3    3.18
              *
2560          KK  DNGR67   DIVERT
2561          KM   Divert portion of runoff hydrograph from combination point CGR59 north to the
2562          KM   intersection of 67th Avenue and Grand Avenue and the remaining flow south
2563          KM   to the intersection of Bethany Home Road and Grand Avenue. The diversion is
2564          KM   based on topography
2565          DT   DBH59      0.0      0.0
2566          DI     0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0 10000.0 20000.0 50000.0
2567          DQ     0.0     50.0    100.0    250.0    500.0   1000.0   2000.0  5000.0 10000.0 25000.0
              *
2568          KK   DGRGL   DIVERT
2569          KM   Divert calculated full flow capapcity of 234 cfs into 60-inch storm drain
2570          KM   pipe at the intersection of Grand Avenue and Glendale Avenue
2571          DT  DPGRGL      0.0    234.0
2572          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
2573          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

2574          KK  CIGR59 COMBINE
2575          KM   Combine diverts DRGL and DGR67 at the intersection of Grand Avenue and 59th
2576          KM   Avenue
2577          HC       2    3.15
              *
2578          KK  RWGR67   ROUTE
2579          KM   Route diversion DGR67 west to combination point CGR67
2580          RS       8    FLOW
2581          RC   0.035   0.015   0.035    7222  0.0008     0.00
2582          RX    0.00    0.00   75.50   75.50  402.50  402.50  478.00  478.00
2583          RY    3.00    1.25    0.50    0.00    0.00    0.50    1.25    3.00
              *
2584          KK  DRGR67RETRIEVE
2585          KM   Retrieve divert DRGR67 from combination point CNO67 and divert south to
2586          KM   combination point CGR67
2587          DR  DSGR67
              *
2588          KK    GR67   BASIN
2589          KM   Runoff hydrograph for subbasin GR67 southeast of the intersection of Grand
2590          KM   Avenue and 67th Avenue
2591          BA   0.497
2592          LG    0.16    0.15    7.60    0.09      44
2593          UC   0.765   0.406
2594          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
2595          UA     100
              *
2596          KK  ERGR67   DIVERT
2597          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
2598          KM   retention developed after 1990 in subbasin GR67
2599          DT   XGR67     1.2      0.0
2600          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
2601          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *
2602          KK    CGR67 COMBINE
2603          KM   Combine route RWGR67, divert retrieval DRGR67, and subbasin GR67
2604          HC       3    6.83
              *
2605          KK  PRNO59RETRIEVE
2606          KM   Retrieve full flow capacity of 134 cfs from 72-inch storm drain pipe at the
2607          KM   intersection of Northern Avenue and 59th Avenue
2608          DR  DPNO59
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

2609          KK  RPNO67   ROUTE
2610          KM   Route full flow capacity of 134 cfs through 72-inch storm drain pipe in
2611          KM   Grand Avenue to the intersection of Grand Avenue and 67th Avenue
2612          RK    2688  0.0010   0.015            CIRC   6.000
              *
2613          KK  PR59GLRETRIEVE
2614          KM   Retrieve full flow capacity of 217 cfs from 72-inch storm drain pipe at the
2615          KM   intersection of Glendale Avenue and 59th Avenue
2616          DR  DP59GL
              *
2617          KK  PRGRGLRETRIEVE
2618          KM   Retrieve full flow capacity of 234 cfs from 60-inch storm drain pipe at the
2619          KM   intersection of Grand Avenue and Glendale Avenue
2620          DR  DPGRGL
              *
2621          KK  CPGL59 COMBINE
2622          KM   Combine pipe return PR59GL with pipe return PRGRGL at combination point
2623          KM   CGL59 near the intersection of Glendale Avenue and 59th Avenue
2624          HC       2    1.42
              *
2625          KK  RPGR67   ROUTE
2626          KM   Route combined full flow capacity of 451 cfs through 108-inch storm drain pip
2627          KM   Grand Avenue to the intersection of Grand Avenue and 67th Avenue
2628          RK    4247  0.0018   0.015            CIRC   9.000
              *
2629          KK  CPGR67 COMBINE
2630          KM   Combine pipe return PRNO59, pipe route RPGR67 and the runoff hydrograph at
2631          KM   combination point CGR67 at the intersection of Grand Avenue and 67th Avenue
2632          HC       3
              *
2633          KK  SRGR67 STORAGE
2634          KM   Storage route runoff hydrograph from combination point CPGR67 through
2635          KM     regional detention basin located near the intersection of Grand Avenue
2636          KM     and 67th Avenue
2637          KM   Stage-storage data from Orangewood Ave Storm Drain Sub-Phase "C" As-builts
2638          RS       1    STOR
2639          SV            2.25   11.38   31.32   57.76  140.64  378.04  409.71  478.76
2640          SQ           24.00   62.00  105.00  133.00  189.00  299.00 1529.00 6654.00
2641          SE  1130.0 1131.00 1132.00 1133.00 1134.00 1136.00 1142.00 1143.00 1145.00
              *
2642          KK   D67GR   DIVERT
2643          KM   Divert calculated full flow capapcity of 546 cfs into 108-inch storm drain
2644          KM   pipe at the intersection of Grand Avenue and 67th Avenue
2645          DT  DP67GR      0.0    546.0
2646          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
2647          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

2648          KK  RSOW67   ROUTE
2649          KM   Route remainder of divert D67GR south to combination point COW67
2650          RS       1    FLOW
2651          RC   0.035   0.015   0.035    2640  0.0035     0.00
2652          RX    0.00    0.00   17.50   17.50  112.50  112.50  130.00  130.00
2653          RY    3.00    0.68    0.50    0.00    0.00    0.50    0.68    3.00
              *
2654          KK    OW67   BASIN
2655          KM   Runoff hydrograph for subbasin OW67 northeast of the intersection of
2656          KM   Orangewood Avenue and 67th Avenue
2657          BA   0.119
2658          LG    0.15    0.15    8.00    0.07      80
2659          UC   0.392   0.265
2660          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
2661          UA     100
              *
2662          KK  EROW67   DIVERT
2663          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
2664          KM   retention developed after 1990 and NOAA14 rainfall for future retention in
2665          KM   subbasin OW67
2666          DT   XOW67     2.5      0.0
2667          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
2668          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *
2669          KK    COW67 COMBINE
2670          KM   Combine route RWOW67 and subbasin OW67
2671          HC       2    6.95
```

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                *
2672            KK  PRGR67RETRIEVE
2673            KM   Retrieve full flow capacity of 546 cfs from 108-inch storm drain pipe at the
2674            KM   intersection of Grand Avenue and 67th Avenue
2675            DR  DP67GR
                *
2676            KK  RPOW67   ROUTE
2677            KM   Route full flow capacity of 546 cfs through 108-inch storm drain pipe in
2678            KM   Orangewood Avenue to the intersection of Orangewood Avenue and 67th Avenue
2679            RK    2517  0.0019   0.015            CIRC   9.000
                *
2680            KK  CPOW67 COMBINE
2681            KM   Combine pipe return PRGR67 with the runoff hydrograph at combination point
2682            KM   COW67 at the intersection of Orangewood Avenue and 67th Avenue
2683            HC       2
                *
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LINE            ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

2684            KK   DOW67  DIVERT
2685            KM   Divert calculated full flow capapcity of 181 cfs into 66-inch storm drain
2686            KM   pipe at the intersection of Orangewood Avenue and 67th Avenue
2687            DT  DPOW67      0.0    181.0
2688            DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
2689            DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
                *
2690            KK  DWOW75  DIVERT
2691            KM   Divert remaining runoff hydrograph from combination point CPOW67 west to
2692            KM   combination point COW75
2693            DT  DSGL67      0.0      0.0
2694            DI     0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0 10000.0 20000.0 50000.0
2695            DQ     0.0     51.0    102.0    255.0    510.0   1020.0   2040.0  5100.0 10200.0 25500.0
                *
2696            KK  RWOW75   ROUTE
2697            KM   Route diversion DWOW75 west to combination point COW75
2698            RS      5     FLOW
2699            RC   0.035    0.015    0.035     5280   0.0025     0.00
2700            RX    0.00     0.00    34.00    34.00   184.00   184.00   218.00   218.00
2701            RY    3.00     0.84     0.50     0.00     0.00     0.50     0.84     3.00
                *
2702            KK  DROW75RETRIEVE
2703            KM   Retrieve divert DROW75 from combination point CNO75 and divert south to
2704            KM   combination point COW75
2705            DR  DSOW75
                *
2706            KK  RSOW75   ROUTE
2707            KM   Route diversion retrieval DROW75 south to combination point COW75
2708            RS      1     FLOW
2709            RC   0.035    0.015    0.035     2640   0.0025     0.00
2710            RX    0.00     0.00    47.50    47.50   240.50   240.50   288.00   288.00
2711            RY    3.00     0.98     0.50     0.00     0.00     0.50     0.98     3.00
                *
2712            KK   OW75   BASIN
2713            KM   Runoff hydrograph for half square mile subbasin OW75 northeast of the
2714            KM   intersection of Orangewood Avenue and 75th Avenue
2715            BA   0.498
2716            LG    0.17     0.15     8.80     0.05       60
2717            UC   0.818    0.610
2718            UA       0      5.0     16.0     30.0     65.0     77.0     84.0     90.0     94.0     97.0
2719            UA     100
                *
2720            KK  EROW75  DIVERT
2721            KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
2722            KM   retention developed after 1990 in subbasin OW75
2723            DT   XOW75     28.5      0.0
2724            DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
2725            DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
                *
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LINE            ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

2726            KK   COW75 COMBINE
2727            KM   Combine route RWOW75, route RSOW75, and subbasin OW75
2728            HC       3    8.17
                *
2729            KK  PROW67RETRIEVE
2730            KM   Retrieve full flow capacity of 181 cfs from 66-inch storm drain pipe at the
2731            KM   intersection of Orangewood Avenue and 67th Avenue
2732            DR  DPOW67
```



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                *
2733            KK  RPOW71   ROUTE
2734            KM   Route full flow capacity of 181 cfs through 66-inch storm drain pipe in
2735            KM   Orangewood Avenue to the intersection of Orangewood Avenue and 71st Avenue
2736            RK    2145  0.0029   0.015            CIRC   5.500
                *
2737            KK  CPOW71 COMBINE
2738            KM   Combine pipe return PROW67 with the runoff hydrograph at combination point
2739            KM   COW71 at the intersection of Orangewood Avenue and 71st Avenue
2740            HC       2
                *
2741            KK  SROW75 STORAGE
2742            KM   Storage route runoff hydrograph from combination point CPOW71 through
2743            KM     regional detention basin located near the intersection of Orangewood Avenue
2744            KM     and 71st Avenue
2745            KM   Stage-storage data from Orangewood Avenue Storm Drain As-builts, 1980
2746            RS       1    STOR
2747            SV            8.74    20.36    34.36    49.53    65.12    97.58   118.22
2748            SQ                                  42.00   400.00  1044.00  2459.00  3812.00
2749            SE  1121.0 1122.00 1123.00 1124.00 1125.00 1126.00 1128.00 1129.00
                *
2750            KK   DOW71  DIVERT
2751            KM   Divert calculated full flow capapcity of 44 cfs into 42-inch storm drain
2752            KM   pipe at the intersection of Orangewood Avenue and 71st Avenue
2753            DT  DPOW71      0.0     44.0
2754            DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
2755            DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
                *
2756            KK  PROW71RETRIEVE
2757            KM   Retrieve full flow capacity of 44 cfs from 42-inch storm drain pipe at the
2758            KM   intersection of Orangewood Avenue and 71st Avenue
2759            DR  DPOW71
                *
2760            KK  RPOW75   ROUTE
2761            KM   Route full flow capacity of 44 cfs through 42-inch storm drain pipe in
2762            KM   Orangewood Avenue to the intersection of Orangewood Avenue and 75th Avenue
2763            RK    3391  0.0019   0.015            CIRC   3.500
                *
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LINE            ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

2764            KK  CPOW75 COMBINE
2765            KM   Combine pipe return PROW71 with the runoff hydrograph at combination point
2766            KM   COW75 at the intersection of Orangewood Avenue and 75th Avenue
2767            HC       2
                *
2768            KK   DOW75  DIVERT
2769            KM   Divert calculated full flow capapcity of 66 cfs into 48-inch storm drain
2770            KM   pipe at the intersection of Orangewood Avenue and 75th Avenue
2771            DT  DPOW75      0.0     66.0
2772            DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
2773            DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
                *
2774            KK  DWOW83  DIVERT
2775            KM   Divert remaining runoff hydrograph from combination point CPOW75 west to
2776            KM   combination point COW83
2777            DT  DSGL75      0.0      0.0
2778            DI     0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0 10000.0 20000.0 50000.0
2779            DQ     0.0     76.0    152.0    380.0    760.0   1520.0   3040.0  7600.0 15200.0 38000.0
                *
2780            KK  RWOW83   ROUTE
2781            KM   Route diversion DWOW83 west to combination point COW83
2782            RS       3     FLOW
2783            RC   0.035    0.015    0.035     5280   0.0029     0.00
2784            RX    0.00     0.00    20.00    20.00    98.00    98.00   118.00   118.00
2785            RY    3.00     0.70     0.50     0.00     0.00     0.50     0.70     3.00
                *
2786            KK   OW83   BASIN
2787            KM   Runoff hydrograph for half square mile subbasin OW83 northeast of the
2788            KM   intersection of Orangewood Avenue and 83rd Avenue
2789            BA   0.496
2790            LG    0.25     0.15     8.40     0.07       33
2791            UC   1.253    0.980
2792            UA       0      5.0     16.0     30.0     65.0     77.0     84.0     90.0     94.0     97.0
2793            UA     100
                *
2794            KK  EROW83  DIVERT
2795            KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
2796            KM   retention developed after 1990 in subbasin OW83
2797            DT   XOW83     16.5      0.0
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2798          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
2799          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

2800          KK   COW83 COMBINE
2801          KM   Combine route RWOW83 and subbasin OW83
2802          HC       2    2.46
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

2803          KK  PROW75RETRIEVE
2804          KM   Retrieve full flow capacity of 66 cfs from 48-inch storm drain pipe at the
2805          KM   intersection of Orangewood Avenue and 75th Avenue
2806          DR  DPOW75
              *

2807          KK  RPOW83    ROUTE
2808          KM   Route full flow capacity of 66 cfs through 48-inch storm drain pipe in
2809          KM   Orangewood Avenue to the intersection of Orangewood Avenue and 67th Avenue
2810          RK    5178  0.0021   0.015            CIRC   4.000
              *

2811          KK  CPOW83 COMBINE
2812          KM   Combine pipe return PROW75 with the runoff hydrograph at combination point
2813          KM   COW83 at the intersection of Orangewood Avenue and 83rd Avenue
2814          HC       2
              *

2815          KK   D83OW   DIVERT
2816          KM   Divert calculated full flow capapcity of 255 cfs into 72-inch storm drain
2817          KM   pipe at the intersection of Orangewood Avenue and 83rd Avenue
2818          DT  DP83OW      0.0    255.0
2819          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
2820          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

2821          KK  DWOW91   DIVERT
2822          KM   Divert remaining runoff hydrograph from combination point CPOW83 west to
2823          KM   combination point CGL91
2824          DT  DSGL83      0.0      0.0
2825          DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
2826          DQ     0.0    85.0   170.0   425.0   850.0  1700.0  3400.0  8500.0 17000.0 42500.0
              *

2827          KK  RWOW91    ROUTE
2828          KM   Route diversion DWOW91 west to combination point COW91
2829          RS       7     FLOW
2830          RC   0.035   0.015   0.035    5280  0.0038     0.00
2831          RX    0.00    0.00    7.00    7.00   43.00   43.00   50.00   50.00
2832          RY    3.00    0.57    0.50    0.00    0.00    0.50    0.57    3.00
              *

2833          KK  DIGL67RETRIEVE
2834          KM   Retrieve arterial street flow diverted to Glendale Avenue at the intersection
2835          KM   of Glendale Avenue and 67th Avenue
2836          DR  DWGL67
              *

2837          KK  RWGL67    ROUTE
2838          KM   Route diversion retrieval DIGL67 at the intersection of Glendale Avenue
2839          KM   and 67th Avenue west to combination point CGL67
2840          RS       4     FLOW
2841          RC   0.035   0.015   0.035    5280  0.0037     0.00
2842          RX    0.00    0.00   41.50   41.50  218.50  218.50  260.00  260.00
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

2843          RY    3.00    0.92    0.50    0.00    0.00    0.50    0.92    3.00
              *

2844          KK    GL67    BASIN
2845          KM   Runoff hydrograph for square mile subbasin GL67 northeast of the intersection
2846          KM   of Glendale Avenue and 67th Avenue
2847          BA   0.359
2848          LG    0.19    0.25    5.40    0.19      63
2849          UC   0.667   0.410
2850          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
2851          UA     100
              *

2852          KK  DRGL67RETRIEVE
2853          KM   Retrieve divert DRGL67 from combination point CPOW67 and divert south to
2854          KM   combination point CGL67
2855          DR  DSGL67
              *

2856          KK  RSGL67    ROUTE
2857          KM   Route diversion retrieval DRGL67 south to combination point CGL67
2858          RS       2     FLOW
```



```
2859          RC   0.035   0.015   0.035    2640  0.0052     0.00
2860          RX    0.00    0.00   27.50   27.50  132.50  132.50  160.00  160.00
2861          RY    3.00    0.78    0.50    0.00    0.00    0.50    0.78    3.00
              *

2862          KK   CGL67 COMBINE
2863          KM   Combine route RWGL67, route RSGL67, and subbasin GL67
2864          HC       3    4.47
              *

2865          KK  DWGL75   DIVERT
2866          KM   Divert remaining runoff hydrograph from combination point CGL67 west to
2867          KM   combination point CGL75
2868          DT  DSBH67      0.0      0.0
2869          DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
2870          DQ     0.0    49.0    98.0   245.0   490.0   980.0  1960.0  4900.0  9800.0 24500.0
              *

2871          KK  RWGL75    ROUTE
2872          KM   Route diversion DWGL75 west to combination point CGL75
2873          RS       6     FLOW
2874          RC   0.035   0.015   0.035    5280  0.0034     0.00
2875          RX    0.00    0.00   47.00   47.00  283.00  283.00  330.00  330.00
2876          RY    3.00    0.97    0.50    0.00    0.00    0.50    0.97    3.00
              *

2877          KK  DRGL75RETRIEVE
2878          KM   Retrieve divert DRGL75 from combination point CPOW75 and divert south to
2879          KM   combination point CGL75
2880          DR  DSGL75
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

2881          KK  RSGL75    ROUTE
2882          KM   Route diversion retrieval DRGL75 south to combination point CGL75
2883          RS       1     FLOW
2884          RC   0.035   0.015   0.035    2640  0.0035     0.00
2885          RX    0.00    0.00   54.50   54.50  283.50  283.50  338.00  338.00
2886          RY    3.00    1.04    0.50    0.00    0.00    0.50    1.04    3.00
              *

2887          KK    GL75    BASIN
2888          KM   Runoff hydrograph for half square mile subbasin GL75 northeast of the
2889          KM   intersection of Glendale Avenue and 75th Avenue
2890          BA   0.499
2891          LG    0.24    0.15    8.80    0.05      46
2892          UC   1.226   0.953
2893          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
2894          UA     100
              *

2895          KK  ERGL75   DIVERT
2896          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
2897          KM   retention developed after 1990 in subbasin GL75
2898          DT   XGL75     42.2      0.0
2899          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
2900          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

2901          KK   CGL75 COMBINE
2902          KM   Combine route RWGL75, route RSGL75, and subbasin GL75
2903          HC       3    8.97
              *

2904          KK  DWGL83   DIVERT
2905          KM   Divert remaining runoff hydrograph from combination point CGL75 west to
2906          KM   combination point CGL83
2907          DT  DSBH75      0.0      0.0
2908          DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
2909          DQ     0.0    50.0   100.0   250.0   500.0  1000.0  2000.0  5000.0 10000.0 25000.0
              *

2910          KK  RWGL83    ROUTE
2911          KM   Route diversion DWGL83 west to combination point CGL83
2912          RS       3     FLOW
2913          RC   0.035   0.015   0.035    5280  0.0032     0.00
2914          RX    0.00    0.00   47.00   47.00  283.00  283.00  330.00  330.00
2915          RY    3.00    0.97    0.50    0.00    0.00    0.50    0.97    3.00
              *

2916          KK  DRGL83RETRIEVE
2917          KM   Retrieve divert DRGL83 from combination point CPOW83 and divert south to
2918          KM   combination point CGL83
2919          DR  DSGL83
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10
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2920          KK  RSGL83    ROUTE
2921          KM   Route diversion retrieval DRGL83 south to combination point CGL83
2922          RS       3     FLOW
2923          RC   0.035   0.015   0.035    2640  0.0041     0.00
2924          RX    0.00    0.00   38.50   38.50  241.50  241.50  280.00  280.00
2925          RY    3.00    0.88    0.50    0.00    0.00    0.50    0.88    3.00
              *

2926          KK    GL83    BASIN
2927          KM   Runoff hydrograph for half square mile subbasin GL83 northeast of the
2928          KM   intersection of Glendale Avenue and 83rd Avenue
2929          BA   0.495
2930          LG    0.25    0.15    7.00    0.11      31
2931          UC   1.202   0.932
2932          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
2933          UA     100
              *

2934          KK  ERGL83   DIVERT
2935          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
2936          KM   retention developed after 1990 in subbasin GL83
2937          DT   XGL83     18.1      0.0
2938          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
2939          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

2940          KK   CGL83 COMBINE
2941          KM   Combine route RWGL83, route RSGL83, and subbasin GL83
2942          HC       3     7.11
              *

2943          KK  PR83OWRETRIEVE
2944          KM   Retrieve full flow capacity of 255 cfs from 72-inch storm drain pipe at the
2945          KM   intersection of Orangewood Avenue and 83rd Avenue
2946          DR  DP83OW
              *

2947          KK  RP83GL    ROUTE
2948          KM   Route full flow capacity of 255 cfs through 72-inch storm drain pipe in
2949          KM   83rd Avenue to the intersection of Glendale Avenue and 83rd Avenue
2950          RK    2644  0.0036   0.015            CIRC   6.000
              *

2951          KK  CPGL83 COMBINE
2952          KM   Combine pipe return PR83OW with the runoff hydrograph at combination point
2953          KM   CGL83 at the intersection of Glendale Avenue and 83rd Avenue
2954          HC       2
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

2955          KK   DGL83  DIVERT
2956          KM   Divert calculated full flow capapcity of 374 cfs into 84-inch storm drain
2957          KM   pipe at the intersection of Glendale Avenue and 83rd Avenue
2958          DT  DPGL83      0.0    374.0
2959          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
2960          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

2961          KK  DWGL91  DIVERT
2962          KM   Divert remaining runoff hydrograph from combination point CPGL83 west to
2963          KM   combination point CGL91
2964          DT  DSBH83      0.0      0.0
2965          DI     0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0  10000.0  20000.0  50000.0
2966          DQ     0.0     63.0    126.0    315.0    630.0   1260.0   2520.0   6300.0  12600.0  31500.0
              *

2967          KK  RWGL91    ROUTE
2968          KM   Route diversion DWGL91 west to combination point CGL92
2969          RS       4     FLOW
2970          RC   0.035   0.015   0.035    5280  0.0032     0.00
2971          RX    0.00    0.00   33.00   33.00  197.00  197.00  230.00  230.00
2972          RY    3.00    0.83    0.50    0.00    0.00    0.50    0.83    3.00
              *

2973          KK  DRGL91RETRIEVE
2974          KM   Retrieve divert DRGL91 from combination point CCPNO91 and divert south to
2975          KM   combination point CGL91
2976          DR  DSGL91
              *

2977          KK  RSGL91    ROUTE
2978          KM   Route diversion retrieval DRGL91 south to combination point CGL91
2979          RS       2     FLOW
2980          RC   0.035   0.015   0.035    5280  0.0032     0.00
2981          RX    0.00    0.00   38.50   38.50  241.50  241.50  280.00  280.00
2982          RY    3.00    0.88    0.50    0.00    0.00    0.50    0.88    3.00
              *

2983          KK    GL91    BASIN
2984          KM   Runoff hydrograph for square mile subbasin GL91 northeast of the intersection
```



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2985          KM   of Glendale Avenue and 91st Avenue
2986          BA   0.979
2987          LG    0.25    0.17    6.80    0.12      34
2988          UC   1.475   1.000
2989          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
2990          UA     100
              *

2991          KK  ERGL91   DIVERT
2992          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
2993          KM   retention developed after 1990 in subbasin GL91
2994          DT   XGL91     65.2      0.0
2995          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
2996          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

2997          KK   CGL91 COMBINE
2998          KM   Combine route RWGL91, route RSGL91, route RWoW91, and subbasin GL91
2999          HC       4     9.02
              *

3000          KK  PRGL83RETRIEVE
3001          KM   Retrieve full flow capacity of 374 cfs from 84-inch storm drain pipe at the
3002          KM   intersection of Glendale Avenue and 83rd Avenue
3003          DR  DPGL83
              *

3004          KK  RPGL91    ROUTE
3005          KM   Route full flow capacity of 374 cfs through 84-inch storm drain pipe in
3006          KM   Glendale Avenue to the intersection of Glendale Avenue and 91st Avenue
3007          RK    5306  0.0034   0.015            CIRC   7.000
              *

3008          KK  CPGL91 COMBINE
3009          KM   Combine pipe return PRGL83 with the runoff hydrograph at combination point
3010          KM   CGL91 at the intersection of Glendale Avenue and 91st Avenue
3011          HC       2
              *

3012          KK   DGL91  DIVERT
3013          KM   Divert calculated full flow capapcity of 449 cfs into 90-inch storm drain
3014          KM   pipe at the intersection of Glendale Avenue and 91st Avenue
3015          DT  DPGL91      0.0    449.0
3016          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
3017          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

3018          KK  DWGLLO  DIVERT
3019          KM   Divert remaining runoff hydrograph from combination point CPGL91 west to
3020          KM   combination point CGLLO
3021          DT  DSBH91      0.0      0.0
3022          DI     0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0  10000.0  20000.0  50000.0
3023          DQ     0.0     62.0    124.0    310.0    620.0   1240.0   2480.0   6200.0  12400.0  31000.0
              *

3024          KK  RWGLLO    ROUTE
3025          KM   Route diversion DWGLLO west to combination point CGLLO
3026          RS       3     FLOW
3027          RC   0.035   0.015   0.035    4441  0.0027     0.00
3028          RX    0.00    0.00   19.00   19.00  111.00  111.00  130.00  130.00
3029          RY    3.00    0.69    0.50    0.00    0.00    0.50    0.69    3.00
              *

3030          KK    GLLO    BASIN
3031          KM   Runoff hydrograph for subbasin GLLO northeast of the intersection of Glendale
3032          KM   Avenue and SR Loop 101
3033          BA   0.848
3034          LG    0.10    0.19    6.60    0.12      80
3035          UC   1.297   0.872
3036          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

3037          UA     100
              *

3038          KK  ERGLLO  DIVERT
3039          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
3040          KM   retention developed after 1990 in subbasin GLLO
3041          DT   XGLLO     75.5      0.0
3042          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
3043          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

3044          KK   CGLLO COMBINE
3045          KM   Combine route RWGLLO, route RSGLLO, and subbasin GLLO
3046          HC       3    15.23
              *
```

```
3047          KK  PRGL91RETRIEVE
3048          KM   Retrieve full flow capacity of 449 cfs from 90-inch storm drain pipe at the
3049          KM   intersection of Glendale Avenue and 91st Avenue
3050          DR  DPGL91
              *

3051          KK  RPGLLO   ROUTE
3052          KM   Route full flow capacity of 449 cfs through 90-inch storm drain pipe in
3053          KM   Glendale Avenue to the intersection of Glendale Avenue and SR Loop 101
3054          RK    4160  0.0034   0.015            CIRC   7.500
              *

3055          KK  CPGLLO COMBINE
3056          KM   Combine pipe return PRGL91 with the runoff hydrograph at combination point
3057          KM   CGLLO at the intersection of Glendale Avenue and SR Loop 101
3058          HC       2
              *

3059          KK  RSBHLO   ROUTE
3060          KM   Route hydrograph at combination point CPGLLO south to combination point CBHLO
3061          RS       2    FLOW
3062          RC   0.035   0.015   0.035    5165  0.0005    0.00
3063          RX    0.00    4.00   16.00   34.00   57.00   74.00   86.00   89.00
3064          RY   10.24    9.24    9.00    0.00    0.20    8.70    8.97    9.94
              *

3065          KK  DIBH59RETRIEVE
3066          KM   Retrieve arterial street flow diverted to Bethany Home Road at the intersecti
3067          KM   of Bethany Home Road and Grand Avenue
3068          DR  DWBH59
              *

3069          KK  DRBH59RETRIEVE
3070          KM   Retrieve divert DRBH59 from combination point CGR59 and divert south to
3071          KM   combination point CIBHGR
3072          DR   DBH59
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

3073          KK  SRGR59 STORAGE
3074          KM   Storage route runoff hydrograph from divert retrieval DRBH59 through ponding
3075          KM     area at Grand Avenue between 51st and 59th Avenues
3076          KM   Storage routing ID RESB in DMJM HEC-1 revision (model BHGC00C6, Nov 2004)
3077          KM   Comments from DMJM model:
3078          KM   PONDING AREA RESERVOIR ROUTE
3079          KM   PONDING AREA NORTHEAST OF GRAND AVENUE/RR EMBANKMENT
3080          KM   SUB-BASIN 8-22E
3081          RS       1    STOR
3082          SV           14.95   50.65   78.30  116.78  220.43
3083          SQ            0.10    0.20  310.00 1070.00 4090.00
3084          SE  1148.0 1149.00 1150.00 1150.50 1151.00 1152.00
              *

3085          KK  CIBHGR COMBINE
3086          KM   Combine arterial street flow from Bethany Home Road DIBH59 with runoff
3087          KM   hydrograph DRBH59 at the intersection of Bethany Home Road and Grand Avenue
3088          HC       2    2.13
              *

3089          KK  RWBH59   ROUTE
3090          KM   Route hydrograph at combination point CIBHGR at the intersection of Bethany
3091          KM   Home Road and Grand Avenue west to combination point CBH59
3092          RS       4    FLOW
3093          RC   0.035   0.015   0.035    5280  0.0025    0.00
3094          RX    0.00    0.00   47.50   47.50  230.50  230.50  278.00  278.00
3095          RY    3.00    0.98    0.50    0.00    0.00    0.50    0.98    3.00
              *

3096          KK  DI59BHRETRIEVE
3097          KM   Retrieve arterial street flow diverted to 59th Avenue at the intersection
3098          KM   of Bethany Home Road and Grand Avenue
3099          DR  DSBH59
              *

3100          KK  RSBH59   ROUTE
3101          KM   Route diversion retrieval DI59HB at the intersection of Bethany Home Road and
3102          KM   59th Avenue south to combination point CBH59
3103          RS       4    FLOW
3104          RC   0.035   0.015   0.035    5280  0.0024    0.00
3105          RX    0.00    0.00   30.50   30.50  167.50  167.50  198.00  198.00
3106          RY    3.00    0.80    0.50    0.00    0.00    0.50    0.80    3.00
              *

3107          KK    BH59   BASIN
3108          KM   Runoff hydrograph for subbasin BH59 northeast of the intersection of Bethany
3109          KM   Home Road and 59th Avenue
3110          BA   0.493
3111          LG    0.16    0.25    5.00    0.23      71
3112          UC   0.671   0.356
```



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3113          UA       0    5.0   16.0   30.0   65.0   77.0   84.0   90.0   94.0   97.0
3114          UA     100
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

3115          KK  ERBH59  DIVERT
3116          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
3117          KM   retention developed after 1990 and NOAA14 rainfall for future retention in
3118          KM   subbasin BH59
3119          DT   XBH59     3.1      0.0
3120          DI       0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
3121          DQ       0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

3122          KK   CBH59 COMBINE
3123          KM   Combine route RWBH59, route RSBH59, and subbasin BH59
3124          HC       3    3.58
              *

3125          KK  DWBH67  DIVERT
3126          KM   Divert remaining runoff hydrograph from combination point CBH59 west to
3127          KM   combination point CBH67
3128          DT  DSCB59      0.0      0.0
3129          DI       0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
3130          DQ       0.0    42.0    84.0   210.0   420.0   840.0  1680.0  4200.0  8400.0 21000.0
              *

3131          KK  RWBH67   ROUTE
3132          KM   Route diversion DWBH67 west to combination point CBH67
3133          RS       3    FLOW
3134          RC   0.035   0.015   0.035    5280  0.0028    0.00
3135          RX    0.00    0.00   68.50   68.50  359.50  359.50  428.00  428.00
3136          RY    3.00    1.18    0.50    0.00    0.00    0.50    1.18    3.00
              *

3137          KK  DRBH67RETRIEVE
3138          KM   Retrieve divert DRBH67 from combination point CGL75 and divert south to
3139          KM   combination point CBH67
3140          DR  DSBH67
              *

3141          KK  RSBH67   ROUTE
3142          KM   Route diversion retrieval DRBH67 south to combination point CBH67
3143          RS       9    FLOW
3144          RC   0.035   0.015   0.035    5280  0.0015    0.00
3145          RX    0.00    0.00   75.50   75.50  402.50  402.50  478.00  478.00
3146          RY    3.00    1.25    0.50    0.00    0.00    0.50    1.25    3.00
              *

3147          KK    BH67   BASIN
3148          KM   Runoff hydrograph for square mile subbasin BH67 northeast of the intersection
3149          KM   of Bethany Home Road and 67th Avenue
3150          BA   0.971
3151          LG    0.23    0.25    5.60    0.19      40
3152          UC   1.459   0.985
3153          UA       0    5.0   16.0   30.0   65.0   77.0   84.0   90.0   94.0   97.0
3154          UA     100
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

3155          KK   CBH67 COMBINE
3156          KM   Combine route RWBH67, route RSBH67, and subbasin BH67
3157          HC       3    5.24
              *

3158          KK  DWBH75  DIVERT
3159          KM   Divert remaining runoff hydrograph from combination point CBH67 west to
3160          KM   combination point CBH75
3161          DT  DSCB67      0.0      0.0
3162          DI       0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
3163          DQ       0.0    44.0    88.0   220.0   440.0   880.0  1760.0  4400.0  8800.0 22000.0
              *

3164          KK  RWBH75   ROUTE
3165          KM   Route diversion DWBH75 west to combination point CBH75
3166          RS       4    FLOW
3167          RC   0.035   0.015   0.035    5280  0.0038    0.00
3168          RX    0.00    0.00   61.50   61.50  316.50  316.50  378.00  378.00
3169          RY    3.00    1.12    0.50    0.00    0.00    0.50    1.12    3.00
              *

3170          KK  DRBH75RETRIEVE
3171          KM   Retrieve divert DRBH75 from combination point CGL75 and divert south to
3172          KM   combination point CBH75
3173          DR  DSBH75
              *
```

```
KK  RSBH75   ROUTE
KM   Route diversion retrieval DRBH75 south to combination point CBH75
RS       4    FLOW
RC  0.035   0.015   0.035    5280  0.0019    0.00
RX   0.00    0.00   68.50   68.50  359.50  359.50  428.00  428.00
RY   3.00    1.18    0.50    0.00    0.00    0.50    1.18    3.00
*

KK   BH75   BASIN
KM   Runoff hydrograph for square mile subbasin BH75 northeast of the intersection
KM   of Bethany Home Road and 75th Avenue
BA   1.003
LG    0.24    0.15    9.70    0.04      37
UC   1.413   0.944
UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
UA     100
*

KK  ERBH75  DIVERT
KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
KM   retention developed after 1990 in subbasin BH75
DT   XBH75     69.9      0.0
DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
*
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LINE  ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

KK   CBH75 COMBINE
KM   Combine route RWBH75, route RSBH75, and subbasin BH75
HC       3    8.42
*

KK   DBH75  DIVERT
KM   Divert calculated full flow capapcity of 560 cfs into 108-inch storm drain
KM   pipe at the intersection of Bethany Home Road and 75th Avenue
DT  DPBH75      0.0   560.0
DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
*

KK  DWBH83  DIVERT
KM   Divert remaining runoff hydrograph from combination point CBH75 west to
KM   combination point CBH83
DT  DSCB75      0.0      0.0
DI       0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0  10000.0  20000.0  50000.0
DQ       0.0     53.0    106.0    265.0    530.0   1060.0   2120.0   5300.0  10600.0  26500.0
*

KK  RWBH83   ROUTE
KM   Route diversion DWBH83 west to combination point CBH83
RS       8    FLOW
RC  0.035   0.015   0.035    5280  0.0034    0.00
RX   0.00    0.00   47.50   47.50  230.50  230.50  278.00  278.00
RY   3.00    0.98    0.50    0.00    0.00    0.50    0.98    3.00
*

KK  DRBH83RETRIEVE
KM   Retrieve divert DRBH83 from combination point CGL83 and divert south to
KM   combination point CBH83
DR  DSBH83
*

KK  RSBH83   ROUTE
KM   Route diversion retrieval DRBH83 south to combination point CBH83
RS       5    FLOW
RC  0.035   0.015   0.035    5280  0.0021    0.00
RX   0.00    0.00   72.50   72.50  425.50  425.50  498.00  498.00
RY   3.00    1.23    0.50    0.00    0.00    0.50    1.23    3.00
*

KK   BH83   BASIN
KM   Runoff hydrograph for square mile subbasin BH83 northeast of the intersection
KM   of Bethany Home Road and 83rd Avenue
BA   0.998
LG    0.22    0.15    7.60    0.09      31
UC   1.316   0.879
UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
UA     100
*
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LINE  ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

KK  ERBH83  DIVERT
KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
KM   retention developed after 1990 in subbasin BH83
DT   XBH83     62.4      0.0
DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
*
```



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*

KK  CBH83 COMBINE
KM   Combine route RWBH83, route RSBH83, and subbasin BH83
HC       3    9.47
*

KK  PRBH75RETRIEVE
KM   Retrieve full flow capacity of 560 cfs from 108-inch storm drain pipe at the
KM   intersection of Bethany Home Road and 75th Avenue
DR  DPBH75
*

KK  RPBH83   ROUTE
KM   Route full flow capacity of 560 cfs through 108-inch storm drain pipe in
KM   Bethany Home Road to the intersection of Bethany Home Road and 83rd Avenue
RK    4286  0.0020   0.015            CIRC   9.000
*

KK  CPBH83 COMBINE
KM   Combine pipe return PRBH75 with the runoff hydrograph at combination point
KM   CBH83 at the intersection of Bethany Home Road and 83rd Avenue
HC       2
*

KK  DWBH91  DIVERT
KM   Divert remaining runoff hydrograph from combination point CPBH83 west to
KM   combination point CIBH83
DT  DSGC83      0.0      0.0
DI       0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0  10000.0  20000.0  50000.0
DQ       0.0     34.0     68.0    170.0    340.0    680.0   1360.0   3400.0   6800.0  17000.0
*

KK  DRCB27RETRIEVE
KM   Retrieve divert DRCB27 from combination point CPBH27 and divert south to
KM   combination point CCB27
DR  DSCB27
*

KK  RSCB27   ROUTE
KM   Route diversion retrieval DRCB27 south to combination point CCB27
RS       3    FLOW
RC  0.035   0.015   0.035    5280  0.0037    0.00
RX   0.00    0.00   26.00   26.00  148.00  148.00  174.00  174.00
RY   3.00    0.76    0.50    0.00    0.00    0.50    0.76    3.00
*
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LINE  ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

KK   CB27   BASIN
KM   Runoff hydrograph for subbasin CB27 northeast of the intersection of
KM   Camelback Road and 27th Avenue
BA   0.262
LG    0.20    0.25    5.10    0.22      54
UC   0.855   0.673
UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
UA     100
*

KK   CCB27 COMBINE
KM   Combine route RSCB27, and subbasin CB27
HC       2    1.50
*

KK  PR27BHRETRIEVE
KM   Retrieve full flow capacity of 132 cfs from 57-inch diameter pipe at the
KM   intersection of Bethany Home Road and 27th Avenue
DR  DP27BH
*

KK  RP27CB   ROUTE
KM   Route full flow capacity of 132 cfs through 57-inch storm drain pipe in
KM   27th Avenue to the intersection of 27th Avenue and Camelback Road
RK    5336  0.0034   0.015            CIRC   4.750
*

KK  CPCB27 COMBINE
KM   Combine pipe return PR27BH with the runoff hydrograph at combination point
KM   CGL83 at the intersection of Camelback Road and 27th Avenue
HC       2
*

KK   D27CB  DIVERT
KM   Divert calculated full flow capapcity of 132 cfs into 57-inch storm drain
KM   pipe at the intersection of Camelback Road and 27th Avenue
DT  DP27CB      0.0   132.0
DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
*

KK  DWCB35  DIVERT
```

```
3300          KM   Divert remaining runoff hydrograph from combination point CPCB27 west to
3301          KM   combination point CCB35
3302          DT  DSIS27      0.0       0.0
3303          DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
3304          DQ     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
              *
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LINE          ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10


3305          KK  RWCB35   ROUTE
3306          KM   Route diversion DWCB35 west to combination point CCB35
3307          RS       1    FLOW
3308          RC  0.035   0.015   0.035    5280  0.0006    0.00
3309          RX   0.00    0.00  105.00  105.00  494.00  494.00  599.00  599.00
3310          RY   3.00    1.55    0.50    0.00    0.00    0.50    1.55    3.00
              *

3311          KK  DRCB35RETRIEVE
3312          KM   Retrieve divert DRCB35 from combination point CPBH35 and divert south to
3313          KM   combination point CCB35
3314          DR  DSCB35
              *

3315          KK  RSCB35   ROUTE
3316          KM   Route diversion retrieval DRCB35 south to combination point CCB35
3317          RS       4    FLOW
3318          RC  0.035   0.015   0.035    5280  0.0040    0.00
3319          RX   0.00    0.00   95.50   95.50  453.50  453.50  549.00  549.00
3320          RY   3.00    1.46    0.50    0.00    0.00    0.50    1.46    3.00
              *

3321          KK   CB35   BASIN
3322          KM   Runoff hydrograph for square mile subbasin CB35 northeast of the intersection
3323          KM   of Camelback Road and 35th Avenue
3324          BA  1.000
3325          LG   0.24    0.25    5.00    0.25      39
3326          UC  1.483   0.997
3327          UA      0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
3328          UA    100
              *

3329          KK   CCB35 COMBINE
3330          KM   Combine route RWCB35, route RSCB35, and subbasin CB35
3331          HC       3    2.94
              *

3332          KK  PR27CBRETRIEVE
3333          KM   Retrieve combined full flow capacity of 132 cfs from 57-inch equivalent
3334          KM   diameter pipe at the intersection of Camelback Road and 27th Avenue
3335          DR  DP27CB
              *

3336          KK  CPCB29 COMBINE
3337          KM   Combine pipe return PR27CB with the runoff hydrograph at combination point
3338          KM   CCB29 at the intersection of Camelback Road and 29thth Avenue
3339          HC       2
              *
1                                        HEC-1 INPUT                                        PAGE 87

LINE          ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10


3340          KK   D29CB   DIVERT
3341          KM   Divert calculated full flow capapcity of 132 cfs into 57-inch storm drain
3342          KM   pipe at the intersection of Camelback Road and 29th Avenue
3343          DT  DP29CB      0.0   132.0
3344          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
3345          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

3346          KK  PR35BHRETRIEVE
3347          KM   Retrieve combined full flow capacity of 226 cfs from 69-inch equivalent
3348          KM   diameter pipe at the intersection of Bethany Home Road and 35th Avenue
3349          DR  DP35BH
              *

3350          KK  RP35CB   ROUTE
3351          KM   Route the combined full flow capacity of 226 cfs through an equivalent storm
3352          KM   drain pipe diameter of 69 inches in 35th Avenue to the intersection of
3353          KM   35th Avenue and Camelback Road
3354          RK    5249  0.0037   0.015            CIRC   5.750
              *

3355          KK  CPCB35 COMBINE
3356          KM   Combine pipe return PR35BH with the runoff hydrograph at combination point
3357          KM   CCB35 at the intersection of Camelback Road and 35th Avenue
3358          HC       2
              *

3359          KK   D35CB   DIVERT
3360          KM   Capacity of storm drain in 31st Avenue and 35th Avenue diverted together.
```



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3361          KM   Divert combined calculated full flow capacity of 213 cfs in the 66-inch storm
3362          KM   drain pipe in 31st Avenue and 40 cfs in the 36-inch storm drain pipe in
3363          KM   35th Avenue. The total calculated combined full flow capacity diverted at the
3364          KM   intersection of 35th Avenue and Camelback Road is 253 cfs in an equivalent
3365          KM   diameter pipe of 73 inches
3366          DT  DP35CB      0.0   253.0
3367          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
3368          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

3369          KK  DWCB43  DIVERT
3370          KM   Divert remaining runoff hydrograph from combination point CPCB35 west to
3371          KM   combination point CCB43
3372          DT  DSIS35      0.0       0.0
3373          DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
3374          DQ     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
              *

3375          KK  RWCB43   ROUTE
3376          KM   Route diversion DWCB43 west to combination point CCB43
3377          RS       1    FLOW
3378          RC  0.035   0.015   0.035    5280  0.0001    0.00
3379          RX   0.00    0.00   86.00   86.00  413.00  413.00  499.00  499.00
3380          RY   3.00    1.36    0.50    0.00    0.00    0.50    1.36    3.00
              *
1                                        HEC-1 INPUT                                        PAGE 88

LINE          ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10


3381          KK  DRCB43RETRIEVE
3382          KM   Retrieve divert DRCB43 from combination point CPBH43 and divert south to
3383          KM   combination point CCB43
3384          DR  DSCB43
              *

3385          KK  RSCB43   ROUTE
3386          KM   Route diversion retrieval DRCB43 south to combination point CCB43
3387          RS       3    FLOW
3388          RC  0.035   0.015   0.035    5280  0.0032    0.00
3389          RX   0.00    0.00   57.50   57.50  291.50  291.50  349.00  349.00
3390          RY   3.00    1.08    0.50    0.00    0.00    0.50    1.08    3.00
              *

3391          KK   CB43   BASIN
3392          KM   Runoff hydrograph for square mile subbasin CB43 northeast of the intersection
3393          KM   of Camelback Road and 43rd Avenue
3394          BA  0.999
3395          LG   0.24    0.25    4.80    0.26      35
3396          UC  0.959   0.353
3397          UA      0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
3398          UA    100
              *

3399          KK   CCB43 COMBINE
3400          KM   Combine route RWCB43, route RSCB43, and subbasin CB43
3401          HC       3    2.12
              *

3402          KK  PR43BHRETRIEVE
3403          KM   Retrieve combined full flow capacity of 385 cfs from 85-inch equivalent
3404          KM   diameter pipe at the intersection of Bethany Home Road and 43rd Avenue
3405          DR  DP43BH
              *

3406          KK  RP43CB   ROUTE
3407          KM   Route the combined full flow capacity of 385 cfs through an equivalent storm
3408          KM   drain pipe diameter of 85 inches in 43rd Avenue to the intersection of
3409          KM   43rd Avenue and Camelback Road
3410          RK    5172  0.0035   0.015            CIRC   7.083
              *

3411          KK  CPCB43 COMBINE
3412          KM   Combine pipe return PR43BH with the runoff hydrograph at combination point
3413          KM   CCB43 at the intersection of Camelback Road and 43rd Avenue
3414          HC       2
              *

3415          KK   D39CB   DIVERT
3416          KM   Divert calculated full flow capapcity of 268 cfs into 72-inch storm drain
3417          KM   pipe at the intersection of Camelback Road and 39th Avenue
3418          DT  DP39CB      0.0   268.0
3419          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
3420          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *
1                                        HEC-1 INPUT                                        PAGE 89

LINE          ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10


3421          KK   D43CB   DIVERT
3422          KM   Divert calculated full flow capapcity of 155 cfs into 60-inch storm drain
3423          KM   pipe at the intersection of Camelback Road and 43rd Avenue
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3424          DT  DP43CB      0.0   155.0
3425          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
3426          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

3427          KK  DWGR43  DIVERT
3428          KM   Divert portion of runoff hydrograph from combination point CPCB43 west
3429          KM   through subbasin GR43 using the ratio of the widths and slopes of the streets
3430          KM   going west and the widths and slopes of the streets going south. The
3431          KM   remaining flow is diverted south through subbasin IS43
3432          DT  DSGR35      0.0     0.0
3433          DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
3434          DQ     0.0    57.0   114.0   285.0   570.0  1140.0  2280.0  5700.0 11400.0 28500.0
              *

3435          KK   DGR43  DIVERT
3436          KM   Divert portion of DWGR43 west to subbasin GR43 using the ratio of the width
3437          KM   of the collector and local streets and the width of the arterial street. The
3438          KM   remaining flow is diverted west to subbasin CB51 along Camelback Road
3439          DT  DCB51      0.0     0.0
3440          DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
3441          DQ     0.0    25.0    50.0   125.0   250.0   500.0  1000.0  2500.0  5000.0 12500.0
              *

3442          KK  DRGR43RETRIEVE
3443          KM   Retrieve divert DRGR43 from combination point CPBH51 and divert south to
3444          KM   combination point CGR43
3445          DR  DSGR43
              *

3446          KK  RSGR43   ROUTE
3447          KM   Route diversion retrieval DRGR43 south to combination point CGR43
3448          RS       6    FLOW
3449          RC  0.035   0.015   0.035    7370  0.0013     0.00
3450          RX   0.00    0.00   31.50   31.50  143.50  143.50  175.00  175.00
3451          RY   3.00    0.82    0.50    0.00    0.00    0.50    0.82    3.00
              *

3452          KK    GR43   BASIN
3453          KM   Runoff hydrograph for subbasin GR43 northwest of the intersection of Grand
3454          KM   Avenue and 43rd Avenue
3455          BA  0.514
3456          LG   0.21    0.25    4.90    0.24      51
3457          UC  0.775   0.411
3458          UA      0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
3459          UA    100
              *
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              LINE  ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


3460          KK  ERGR43  DIVERT
3461          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
3462          KM   retention developed after 1990 in subbasin GR43
3463          DT   XGR43      6.6     0.0
3464          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
3465          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

3466          KK   CGR43 COMBINE
3467          KM   Combine route RSGR43, remainder of combination point CPCB43, and subbasin
3468          KM   GR43
3469          HC       3    2.28
              *

3470          KK  SRGR43 STORAGE
3471          KM   Combined storage routing IDs BCm1 and BCm2 from PEC model, Feb 2008
3472          KM   Storage routing through two basins along Grand Avenue between 51st Avenue and
3473          KM     Bethany Home and 43rd Avenue and Camelback
3474          RS       1    STOR
3475          SV           20.40   65.70  122.40  136.72  212.40  323.58  339.80
3476          SE  1126.0  1131.0  1136.0  1141.0  1142.0  1146.0  1150.0  1151.0
3477          SQ     0.0     0.0     0.0    10.0    17.0    40.0    80.0   100.0   160.0     200
3478          SQ   300.0   400.0   500.0   600.0   700.0   800.0   900.0  1000.0  1100.0
3479          SE  1126.0  1140.0  1142.5 1142.67  1142.7 1142.8 1142.91 1142.95 1143.05   1143.
3480          SE  1143.2 1143.38 1143.48 1143.58 1143.67 1143.75 1143.83 1143.91 1143.98
              *

3481          KK   DGR35  DIVERT
3482          KM   Divert portion of runoff hydrograph from combination point CGR43 west to
3483          KM   combination point CICBGR using the ratio of the widths and slopes of the
3484          KM   streets going east and the widths and slopes of the streets going south. The
3485          KM   remaining flow is diverted east through subbasin GR35 along Grand Avenue.
3486          DT  DEGR35      0.0     0.0
3487          DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
3488          DQ     0.0    35.0    70.0   175.0   350.0   700.0  1400.0  3500.0  7000.0 17500.0
              *

3489          KK  DWCB51  DIVERT
3490          KM   Divert portion of DGR35 south to subbasin IS43 using the ratio of the width
3491          KM   of the collector and local streets and the width of the arterial street. The
3492          KM   remaining flow is diverted west to combination point CICBGR at the
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3493          KM   intersection of Camelback Road and 51st Avenue
3494          DT  DSIS43      0.0     0.0
3495          DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
3496          DQ     0.0    65.0   130.0   325.0   650.0  1300.0  2600.0  6500.0 13000.0 32500.0
              *

3497          KK  DICB51RETRIEVE
3498          KM   Retrieve arterial street flow diverted to Camelback Road at the intersection
3499          KM   of Bethany Home Road and 51st Avenue
3500          DR  DCB51
              *
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              LINE  ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


3501          KK  CICBGR COMBINE
3502          KM   Combine arterial street flow from Camelback Rd DICB51 with runoff hydrograph
3503          KM   DWCB51 at the intersection of Camelback Road and 51st Avenue
3504          HC       2    0.74
              *

3505          KK  RWCB51   ROUTE
3506          KM   Route hydrograph at combination point CICBGR at the intersection of Camelback
3507          KM   Road and 51st Avenue west to combination point CCB51
3508          RS       6    FLOW
3509          RC  0.035   0.015   0.035    5280  0.0014     0.00
3510          RX   0.00    0.00   16.50   16.50  107.50  107.50  124.00  124.00
3511          RY   3.00    0.66    0.50    0.00    0.00    0.50    0.66    3.00
              *

3512          KK    CB51   BASIN
3513          KM   Runoff hydrograph for subbasin CB51 northeast of the intersection
3514          KM   of Camelback Road and 51st Avenue
3515          BA  0.483
3516          LG   0.15    0.25    5.00    0.23      80
3517          UC  0.449   0.227
3518          UA      0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
3519          UA    100
              *

3520          KK   CCB51 COMBINE
3521          KM   Combine hydrograph at combination point CICBGR and subbasin CB51
3522          HC       2    1.23
              *

3523          KK  DWCB59  DIVERT
3524          KM   Divert remaining runoff hydrograph from combination point CCB51 west to
3525          KM   combination point CCB59
3526          DT  DSIS51      0.0     0.0
3527          DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
3528          DQ     0.0    51.0   102.0   255.0   510.0  1020.0  2040.0  5100.0 10200.0 25500.0
              *

3529          KK  RWCB59   ROUTE
3530          KM   Route diversion DWCB59 west to combination point CCB59
3531          RS       4    FLOW
3532          RC  0.035   0.015   0.035    5280  0.0023     0.00
3533          RX   0.00    0.00   48.00   48.00  251.00  251.00  299.00  299.00
3534          RY   3.00    0.98    0.50    0.00    0.00    0.50    0.98    3.00
              *

3535          KK  DRCB59RETRIEVE
3536          KM   Retrieve divert DRCB59 from combination point CBH59 and divert south to
3537          KM   combination point CCB59
3538          DR  DSCB59
              *
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              LINE  ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


3539          KK  RSCB59   ROUTE
3540          KM   Route diversion retrieval DRCB59 south to combination point CCB59
3541          RS       3    FLOW
3542          RC  0.035   0.015   0.035    5280  0.0030     0.00
3543          RX   0.00    0.00   48.00   48.00  251.00  251.00  299.00  299.00
3544          RY   3.00    0.98    0.50    0.00    0.00    0.50    0.98    3.00
              *

3545          KK    CB59   BASIN
3546          KM   Runoff hydrograph for square mile subbasin CB59 northeast of the intersection
3547          KM   of Camelback Road and 59th Avenue
3548          BA  1.010
3549          LG   0.16    0.25    5.10    0.22      72
3550          UC  1.007   0.651
3551          UA      0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
3552          UA    100
              *

3553          KK  ERCB59  DIVERT
3554          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
3555          KM   retention developed after 1990 in subbasin CB59
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3556          DT   XCB59     16.6      0.0
3557          DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
3558          DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

3559          KK   CCB59 COMBINE
3560          KM   Combine route RWCB59, route RSCB59, and subbasin CB59
3561          HC        3     3.11
              *

3562          KK   DCB59  DIVERT
3563          KM   Divert calculated full flow capapcity of 351 cfs into 84-inch storm drain
3564          KM   pipe at the intersection of Camelback Road and 59th Avenue
3565          KM   This is a future storm drain currently under design
3566          DT  DPCB59      0.0    351.0
3567          DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
3568          DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

3569          KK  DWCB67  DIVERT
3570          KM   Divert remaining runoff hydrograph from combination point CCB59 west to
3571          KM   combination point CCB67
3572          DT  DSIS59      0.0      0.0
3573          DI      0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0  10000.0  20000.0  50000.0
3574          DQ      0.0     53.0    106.0    265.0    530.0   1060.0   2120.0   5300.0  10600.0  26500.0
              *

3575          KK  RWCB67    ROUTE
3576          KM   Route diversion DWCB67 west to combination point CCB67
3577          RS        4     FLOW
3578          RC   0.035    0.015    0.035     5280   0.0025     0.00
3579          RX    0.00     0.00    67.00    67.00   332.00   332.00   399.00   399.00
3580          RY    3.00     1.17     0.50     0.00     0.00     0.50     1.17     3.00
              *
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LINE          ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

3581          KK  DRCB67RETRIEVE
3582          KM   Retrieve divert DRCB67 from combination point CBH67 and divert south to
3583          KM   combination point CCB67
3584          DR  DSCB67
              *

3585          KK  RSCB67    ROUTE
3586          KM   Route diversion retrieval DRCB67 south to combination point CCB67
3587          RS        4     FLOW
3588          RC   0.035    0.015    0.035     5280   0.0027     0.00
3589          RX    0.00     0.00    57.50    57.50   291.50   291.50   349.00   349.00
3590          RY    3.00     1.08     0.50     0.00     0.00     0.50     1.08     3.00
              *

3591          KK     CB67    BASIN
3592          KM   Runoff hydrograph for square mile subbasin CB67 northeast of the intersection
3593          KM   of Camelback Road and 67th Avenue
3594          BA   0.970
3595          LG    0.24     0.15     7.60     0.08       36
3596          UC   1.393    0.936
3597          UA        0      5.0     16.0     30.0     65.0     77.0     84.0     90.0     94.0     97.0
3598          UA      100
              *

3599          KK  ERCB67  DIVERT
3600          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
3601          KM   retention developed after 1990 in subbasin CB67
3602          DT   XCB67     3.2      0.0
3603          DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
3604          DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

3605          KK   CCB67 COMBINE
3606          KM   Combine route RWCB67, route RSCB67, and subbasin CB67
3607          HC        3     4.73
              *

3608          KK  PRCB59RETRIEVE
3609          KM   Retrieve full flow capacity of 351 cfs from 84-inch diameter pipe at the
3610          KM   intersection of Camelback Road and 59th Avenue
3611          KM   This is a future storm drain currently under design
3612          DR  DPCB59
              *

3613          KK  RPCB67    ROUTE
3614          KM   Route full flow capacity of 351 cfs through 84-inch storm drain pipe in
3615          KM   Camelback Road to the intersection of 67th Avenue and Camelback Road
3616          KM   This is a future storm drain currently under design
3617          RK     2642  0.0030    0.015              CIRC    7.000
              *
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LINE          ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10
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3618          KK  CPCB67 COMBINE
3619          KM   Combine pipe return PRCB59 with the runoff hydrograph at combination point
3620          KM   CCB67 at the intersection of Camelback Road and 67th Avenue
3621          HC        2
              *

3622          KK   DCB67  DIVERT
3623          KM   Divert calculated full flow capapcity of 504 cfs into 102-inch storm drain
3624          KM   pipe at the intersection of Camelback Road and 67th Avenue
3625          KM   This is a future storm drain currently under design
3626          DT  DPCB67      0.0    504.0
3627          DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
3628          DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

3629          KK  DWCB75  DIVERT
3630          KM   Divert remaining runoff hydrograph from combination point CPCB67 west to
3631          KM   combination point CCB75
3632          DT  DSGC67      0.0      0.0
3633          DI      0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0  10000.0  20000.0  50000.0
3634          DQ      0.0     43.0     86.0    215.0    430.0    860.0   1720.0   4300.0   8600.0  21500.0
              *

3635          KK  RWCB75    ROUTE
3636          KM   Route diversion DWCB75 west to combination point CCB75
3637          RS        4     FLOW
3638          RC   0.035    0.015    0.035     5280   0.0024     0.00
3639          RX    0.00     0.00    86.00    86.00   413.00   413.00   499.00   499.00
3640          RY    3.00     1.36     0.50     0.00     0.00     0.50     1.36     3.00
              *

3641          KK  DRCB75RETRIEVE
3642          KM   Retrieve divert DRCB75 from combination point CBH75 and divert south to
3643          KM   combination point CCB75
3644          DR  DSCB75
              *

3645          KK  RSCB75    ROUTE
3646          KM   Route diversion retrieval DRCB75 south to combination point CCB75
3647          RS       10     FLOW
3648          RC   0.035    0.015    0.035     5280   0.0013     0.00
3649          RX    0.00     0.00    86.00    86.00   413.00   413.00   499.00   499.00
3650          RY    3.00     1.36     0.50     0.00     0.00     0.50     1.36     3.00
              *

3651          KK     CB75    BASIN
3652          KM   Runoff hydrograph for square mile subbasin CB75 northeast of the intersection
3653          KM   of Camelback Road and 75th Avenue
3654          BA   0.998
3655          LG    0.24     0.15     7.30     0.10       33
3656          UC   1.478    0.995
3657          UA        0      5.0     16.0     30.0     65.0     77.0     84.0     90.0     94.0     97.0
3658          UA      100
              *
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LINE          ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

3659          KK  ERCB75  DIVERT
3660          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
3661          KM   retention developed after 1990 in subbasin CB75
3662          DT   XCB75     25.1      0.0
3663          DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
3664          DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

3665          KK   CCB75 COMBINE
3666          KM   Combine RWCB75, route RSCB75, and subbasin CB75
3667          HC        3     8.14
              *

3668          KK  PRCB67RETRIEVE
3669          KM   Retrieve full flow capacity of 504 cfs from 102-inch diameter pipe at the
3670          KM   intersection of Camelback Road and 67th Avenue
3671          KM   This is a future storm drain currently under design
3672          DR  DPCB67
              *

3673          KK  RPCB75    ROUTE
3674          KM   Route full flow capacity of 504 cfs through 102-inch storm drain pipe in
3675          KM   Camelback Road to the intersection of 75th Avenue and Camelback Road
3676          KM   This is a future storm drain currently under design
3677          RK     4997  0.0022    0.015              CIRC    8.500
              *

3678          KK  CPCB75 COMBINE
3679          KM   Combine pipe return PRCB67 with the runoff hydrograph at combination point
3680          KM   CCB75 at the intersection of Camelback Road and 75th Avenue
3681          HC        2
              *
```

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3682          KK  DWGC83  DIVERT
3683          KM   Divert remaining runoff hydrograph from combination point CPCB75 west to
3684          KM   combination point CICB75
3685          DT  DSGC75     0.0     0.0
3686          DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
3687          DQ     0.0    44.0    88.0   220.0   440.0   880.0  1760.0  4400.0  8800.0 22000.0
              *

3688          KK  DRIS27RETRIEVE
3689          KM   Retrieve divert DRIS27 from combination point CPCB27 and divert south to
3690          KM   combination point CIS27
3691          DR  DSIS27
              *

3692          KK  RSIS27   ROUTE
3693          KM   Route diversion retrieval DRIS27 south to combination point CIS27
3694          RS      3    FLOW
3695          RC   0.035   0.015   0.035    5280  0.0038    0.00
3696          RX    0.00    0.00   26.00   26.00  148.00  148.00  174.00  174.00
3697          RY    3.00    0.76    0.50    0.00    0.00    0.50    0.76    3.00
              *

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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

3698          KK    IS27   BASIN
3699          KM   Runoff hydrograph for subbasin IS27 northeast of the intersection of Indian
3700          KM   School Road and 27th Avenue
3701          BA   0.239
3702          LG    0.20    0.15    7.30    0.09      58
3703          UC   1.057   0.890
3704          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
3705          UA     100
              *

3706          KK   CIS27 COMBINE
3707          KM   Combine route RSIS27 and subbasin IS27
3708          HC       2    1.74
              *

3709          KK  PR29CBRETRIEVE
3710          KM   Retrieve full flow capacity of 132 cfs from 57-inch storm drain pipe at the
3711          KM   intersection of Camelback Road and 29th Avenue
3712          DR  DP29CB
              *

3713          KK  RP27IS   ROUTE
3714          KM   Route full flow capacity of 132 cfs through 57-inch storm drain pipe in
3715          KM   27th Avenue to the intersection of Indian School Road and 43rd Avenue
3716          RK    5210  0.0034   0.015            CIRC   4.750
              *

3717          KK  CPIS27 COMBINE
3718          KM   Combine pipe return PR29CB with the runoff hydrograph at combination point
3719          KM   CIS27 at the intersection of Indian School Road and 27th Avenue
3720          HC       2
              *

3721          KK   D27IS  DIVERT
3722          KM   Divert calculated full flow capapcity of 151 cfs into 60-inch storm drain
3723          KM   pipe at the intersection of Indian School Road and 27th Avenue
3724          DT  DP27IS      0.0   151.0
3725          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
3726          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

3727          KK  DWIS35  DIVERT
3728          KM   Divert remaining runoff hydrograph from combination point CIS27 west to
3729          KM   combination point CIS35
3730          DT  DSGC27     0.0     0.0
3731          DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
3732          DQ     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
              *

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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

3733          KK  RWIS35   ROUTE
3734          KM   Route diversion DWIS35 west to combination point CIS35
3735          RS      1    FLOW
3736          RC   0.035   0.015   0.035    5280  0.0006    0.00
3737          RX    0.00    0.00   95.50   95.50  453.50  453.50  549.00  549.00
3738          RY    3.00    1.46    0.50    0.00    0.00    0.50    1.46    3.00
              *

3739          KK  DRIS35RETRIEVE
3740          KM   Retrieve divert DRIS35 from combination point CPCB35 and divert south to
3741          KM   combination point CIS35
3742          DR  DSIS35
              *
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3743          KK  RSIS35   ROUTE
3744          KM   Route diversion retrieval DRIS35 south to combination point CIS35
3745          RS      3    FLOW
3746          RC   0.035   0.015   0.035    5280  0.0038    0.00
3747          RX    0.00    0.00   86.00   86.00  413.00  413.00  499.00  499.00
3748          RY    3.00    1.36    0.50    0.00    0.00    0.50    1.36    3.00
              *

3749          KK    IS35   BASIN
3750          KM   Runoff hydrograph for square mile subbasin IS35 northeast of the intersection
3751          KM   Indian School Road and 35th Avenue
3752          BA   0.990
3753          LG    0.24    0.15    7.60    0.09      31
3754          UC   0.883   0.324
3755          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
3756          UA     100
              *

3757          KK   CIS35 COMBINE
3758          KM   Combine route RWIS35, route RSIS35, and subbasin IS35
3759          HC       3    3.93
              *

3760          KK  PR35CBRETRIEVE
3761          KM   Retrieve combined full flow capacity of 253 cfs from 73-inch equivalent
3762          KM   diameter pipe at the intersection of Camelback Road and 35th Avenue
3763          DR  DP35CB
              *

3764          KK  RP35IS   ROUTE
3765          KM   Route the combined full flow capacity of 253 cfs through an equivalent storm
3766          KM   drain pipe diameter of 73 inches in 35th Avenue to the intersection of
3767          KM   35th Avenue and Indian School Road
3768          RK    2083  0.0037   0.015            CIRC   6.083
              *

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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

3769          KK  CPIS35 COMBINE
3770          KM   Combine pipe return PR35CB with the runoff hydrograph at combination point
3771          KM   CIS35 at the intersection of Indian School Road and 35th Avenue
3772          HC       2
              *

3773          KK   D31IS  DIVERT
3774          KM   Divert calculated full flow capapcity of 268 cfs into 72-inch storm drain
3775          KM   pipe at the intersection of Indian School Road and 31st Avenue
3776          DT  DP31IS      0.0   268.0
3777          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
3778          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

3779          KK   D35IS  DIVERT
3780          KM   Divert calculated full flow capapcity of 40 cfs into 36-inch storm drain
3781          KM   pipe at the intersection of Indian School Road and 35th Avenue
3782          DT  DP35IS      0.0    40.0
3783          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
3784          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

3785          KK  DWGR35  DIVERT
3786          KM   Divert remaining runoff hydrograph from combination point CIS35 west to
3787          KM   combination point CGR35
3788          DT  DSGC35     0.0     0.0
3789          DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
3790          DQ     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
              *

3791          KK  DIGR35RETRIEVE
3792          KM   Retrieve arterial street flow diverted to Grand Avenue at the intersection
3793          KM   of Grand Avenue and 35th Avenue
3794          DR  DEGR35
              *

3795          KK  DRGR35RETRIEVE
3796          KM   Retrieve subbasin flow diverted to the intersection of 43rd Avenue and
3797          KM   Grand Avenue
3798          DR  DSGR35
              *

3799          KK   D35GR  DIVERT
3800          KM   Divert portion of divert return DRGR35 south to subbasin GR35 using the ratio
3801          KM   of the width of the collector and local streets and the width of the arterial
3802          KM   street. The remaining flow is diverted south to combination point CICB43
3803          KM   along 43rd Avenue
3804          DT  DS43IS      0.0     0.0
3805          DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
3806          DQ     0.0    36.0    72.0   180.0   360.0   720.0  1440.0  3600.0  7200.0 18000.0
              *

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LINE          ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

3807          KK  CIGR43 COMBINE
3808          KM   Combine arterial street flow from Grand Avenue DIGR35 with runoff hydrograph
3809          KM   D35GR at the intersection of 43rd Avenue and Grand Avenue
3810          HC       2    1.58
              *

3811          KK  RSGR35    ROUTE
3812          KM   Route hydrograph at combination point CIGR43 at the intersection of Grand
3813          KM   Avenue and 43rd Avenue south to combination point CGR35
3814          RS       5     FLOW
3815          RC   0.035   0.015   0.035    7095  0.0033    0.00
3816          RX    0.00    0.00   48.00   48.00  251.00  251.00  299.00  299.00
3817          RY    3.00    0.98    0.50    0.00    0.00    0.50    0.98    3.00
              *

3818          KK    GR35    BASIN
3819          KM   Runoff hydrograph for subbasin GR35 northwest of the intersection of Grand
3820          KM   Avenue, 35th Avenue, and Indian School Road
3821          BA   0.531
3822          LG    0.20    0.25    4.80    0.26      51
3823          UC   0.808   0.436
3824          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
3825          UA     100
              *

3826          KK   CGR35 COMBINE
3827          KM   Combine divert DWGR35, route RSGR35, and subbasin GR35
3828          HC       3    2.11
              *

3829          KK  PR39CBRETRIEVE
3830          KM   Retrieve full flow capacity of 268 cfs from 72-inch diameter pipe at the
3831          KM   intersection of Camelback Road and 39th Avenue
3832          DR  DP39CB
              *

3833          KK  RP39GR    ROUTE
3834          KM   Route the full flow capacity of 268 cfs through 72-inch storm drain pipe
3835          KM   diameter in 39th Avenue to the intersection of 39th Avenue and Indian School
3836          KM   Road
3837          RK    2846  0.0040   0.015             CIRC   6.000
              *

3838          KK  CPGR35 COMBINE
3839          KM   Combine pipe return PR39CB with the runoff hydrograph at combination point
3840          KM   CGC35 at the intersection of Grand Avenue and 35th Avenue
3841          HC       2
              *
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LINE          ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

3842          KK  DP39GR  DIVERT
3843          KM   Divert calculated full flow capapcity of 251 cfs into 72-inch storm drain
3844          KM   pipe at the intersection of Grand Avenue and 39th Avenue. The pipe flow is
3845          KM   followed to combination point CPIS43 and the remaining surface flow is
3846          KM   diverted to combination point CIIS53 at the intersection of Indian School
3847          KM   Road and 35th Avenue
3848          DT   D39GR      0.0      0.0
3849          DI     0.0    251.0    251.1 50000.0      0.0      0.0      0.0      0.0      0.0      0.0
3850          DQ     0.0      0.0      0.1 49749.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

3851          KK  RP39IS    ROUTE
3852          KM   Route the full flow capacity of 251 cfs through 72-inch storm drain pipe
3853          KM   diameter in 39th Avenue to the intersection of 39th Avenue and Indian School
3854          KM   Road
3855          RK    2428  0.0035   0.015             CIRC   6.000
              *

3856          KK  DRIS43RETRIEVE
3857          KM   Retrieve divert DRIS43 in 43rd Avenue from combination point CGR43 and divert
3858          KM   south to intersection combination point CICB43
3859          DR  DSIS43
              *

3860          KK  DI43ISRETRIEVE
3861          KM   Retrieve subbasin flow diverted to the intersection of Camelback Road and
3862          KM   43rd Avenue
3863          DR  DS43IS
              *

3864          KK  CICB43 COMBINE
3865          KM   Combine arterial street flow from 43rd Avenue DRIS43 with arterial street
3866          KM   flow DI43IS at the intersection of 43rd Avenue and Camelback Road
3867          HC       2    1.40
              *

3868          KK  RSIS43    ROUTE
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3869          KM   Route hydrograph at intersection combination point CICB43 at the intersection
3870          KM   of Camelback Road and 43rd Avenue south to combination point CIS43
3871          RS       3     FLOW
3872          RC   0.035   0.015   0.035    5280  0.0048    0.00
3873          RX    0.00    0.00   16.50   16.50  107.50  107.50  124.00  124.00
3874          RY    3.00    0.66    0.50    0.00    0.00    0.50    0.66    3.00
              *

3875          KK    IS43    BASIN
3876          KM   Runoff hydrograph for subbasin IS43 northeast of the intersection of Indian
3877          KM   School Road and 43rd Avenue
3878          BA   0.467
3879          LG    0.15    0.25    4.80    0.25      80
3880          UC   0.456   0.225
3881          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
3882          UA     100
              *
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LINE          ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

3883          KK   CIS43 COMBINE
3884          KM   Combine route RSIS43 and subbasin IS43
3885          HC       2    1.87
              *

3886          KK  PR43CBRETRIEVE
3887          KM   Retrieve full flow capacity of 155 cfs from 60-inch storm drain pipe at the
3888          KM   intersection of Camelback Road and 43rd Avenue
3889          DR  DP43CB
              *

3890          KK  RP43IS    ROUTE
3891          KM   Route full flow capacity of 155 cfs through 60-inch storm drain pipe in
3892          KM   43rd Avenue to the intersection of Indian School Road and 43rd Avenue
3893          RK    5374  0.0035   0.015             CIRC   5.000
              *

3894          KK  CPIS43 COMBINE
3895          KM   Combine pipe return PR43CB with the runoff hydrograph at combination point
3896          KM   CIS43 at the intersection of Indian School Road and 43rd Avenue
3897          HC       3
              *

3898          KK   D43IS  DIVERT
3899          KM   Capacity of storm drain in 39th Avenue and 43rd Avenue diverted together.
3900          KM   Divert combined calculated full flow capacity of 251 cfs in the 72-inch storm
3901          KM   drain pipe in 39th Avenue and 154 cfs in the 60-inch storm drain pipe in
3902          KM   43rd Avenue. The total calculated combined full flow capacity diverted at the
3903          KM   intersection of 43rd Avenue and Indian School Road is 406 cfs in an
3904          KM   equivalent diameter pipe of 87 inches
3905          DT  DP43IS      0.0   406.0
3906          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
3907          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

3908          KK  DWIS51  DIVERT
3909          KM   Divert runoff hydrograph from combination point CPIS43 west to combination
3910          KM   point CIS51
3911          DT  DSGC43      0.0      0.0
3912          DI     0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0  10000.0  20000.0  50000.0
3913          DQ     0.0     83.0    166.0    415.0    830.0   1660.0   3320.0   8300.0  16600.0  41500.0
              *

3914          KK  RWIS51    ROUTE
3915          KM   Route diversion DWIS51 west to combination point CIS51
3916          RS      10     FLOW
3917          RC   0.035   0.015   0.035    5280  0.0003    0.00
3918          RX    0.00    0.00   45.00   45.00  229.00  229.00  274.00  274.00
3919          RY    3.00    0.95    0.50    0.00    0.00    0.50    0.95    3.00
              *
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LINE          ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

3920          KK  DRIS51RETRIEVE
3921          KM   Retrieve divert DRIS51 from combination point CCB51 and divert south to
3922          KM   combination point CIS51
3923          DR  DSIS51
              *

3924          KK  RSIS51    ROUTE
3925          KM   Route diversion retrieval DRIS51 south to combination point CIS51
3926          RS       3     FLOW
3927          RC   0.035   0.015   0.035    5280  0.0037    0.00
3928          RX    0.00    0.00   38.50   38.50  210.50  210.50  249.00  249.00
3929          RY    3.00    0.88    0.50    0.00    0.00    0.50    0.88    3.00
              *

3930          KK    IS51    BASIN
3931          KM   Runoff hydrograph for square mile subbasin IS51 northeast of the intersection
```

```
3932          KM   of Indian School Road and 51st Avenue
3933          BA   0.994
3934          LG    0.19    0.25    5.00    0.23      59
3935          UC   1.167   0.764
3936          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
3937          UA     100
              *
3938          KK  ERIS51  DIVERT
3939          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
3940          KM   retention developed after 1990 in subbasin IS51
3941          DT   XIS51     49.9      0.0
3942          DI     0.0 50000.0      0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
3943          DQ     0.0 50000.0      0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *
3944          KK   CIS51 COMBINE
3945          KM   Combine route RWIS51, route RSIS51, and subbasin IS51
3946          HC       3    1.94
              *
3947          KK   D51IS  DIVERT
3948          KM   Divert calculated full flow capapcity of 244 cfs into 72-inch storm drain
3949          KM   pipe at the intersection of Indian School Road and 51st Avenue
3950          DT   DP51IS      0.0   244.0
3951          DI     0.0 50000.0      0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
3952          DQ     0.0 50000.0      0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *
3953          KK  DWIS59  DIVERT
3954          KM   Divert remaining runoff hydrograph from combination point CIS51 west to
3955          KM   combination point CIS59
3956          DT   DSGC51      0.0     0.0
3957          DI      0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
3958          DQ      0.0    62.0   124.0   310.0   620.0  1240.0  2480.0  6200.0 12400.0 31000.0
              *
```



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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

3959          KK  RWIS59   ROUTE
3960          KM   Route diversion DWIS59 west to combination point CIS59
3961          RS       10    FLOW
3962          RC   0.035   0.015   0.035    5280  0.0016    0.00
3963          RX    0.00    0.00   67.00   67.00  332.00  332.00  399.00  399.00
3964          RY    3.00    1.17    0.50    0.00    0.00    0.50    1.17    3.00
              *
3965          KK  DRIS59RETRIEVE
3966          KM   Retrieve divert DRIS59 from combination point CCB59 and divert south to
3967          KM   combination point CIS59
3968          DR  DSIS59
              *
3969          KK  RSIS59   ROUTE
3970          KM   Route diversion retrieval DRIS59 south to combination point CIS59
3971          RS        4    FLOW
3972          RC   0.035   0.015   0.035    5280  0.0030    0.00
3973          RX    0.00    0.00   67.00   67.00  332.00  332.00  399.00  399.00
3974          RY    3.00    1.17    0.50    0.00    0.00    0.50    1.17    3.00
              *
3975          KK    IS59   BASIN
3976          KM   Runoff hydrograph for square mile subbasin IS59 northeast of the intersection
3977          KM   of Indian School Road and 59th Avenue
3978          BA   1.014
3979          LG    0.22    0.25    5.30    0.21      43
3980          UC   1.413   0.942
3981          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
3982          UA     100
              *
3983          KK   CIS59 COMBINE
3984          KM   Combine route RWIS59, route RSIS59, and subbasin IS59
3985          HC       3    3.38
              *
3986          KK   D59IS  DIVERT
3987          KM   Divert calculated full flow capapcity of 353 cfs into 81-inch storm drain
3988          KM   pipe at the intersection of Indian School Road and 59th Avenue
3989          DT   DP59IS      0.0   353.0
3990          DI     0.0 50000.0      0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
3991          DQ     0.0 50000.0      0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *
3992          KK  DWGC67  DIVERT
3993          KM   Divert remaining runoff hydrograph from combination point CIS59 west to
3994          KM   combination point CGC67
3995          DT   DSGC59      0.0     0.0
3996          DI      0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
3997          DQ      0.0    60.0   120.0   300.0   600.0  1200.0  2400.0  6000.0 12000.0 30000.0
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

3998          KK  RWGC67   ROUTE
3999          KM   Route diversion DWGC67 west to combination point CGC67
4000          RS        4    FLOW
4001          RC   0.035   0.015   0.035    3841  0.0016    0.00
4002          RX    0.00    0.00   48.00   48.00  251.00  251.00  299.00  299.00
4003          RY    3.00    0.98    0.50    0.00    0.00    0.50    0.98    3.00
              *
4004          KK  DRGC67RETRIEVE
4005          KM   Retrieve divert DRGC67 from combination point CCB67 and divert south to
4006          KM   combination point CGC67
4007          DR  DSGC67
              *
4008          KK  RSGC67   ROUTE
4009          KM   Route diversion retrieval DRGC67 south to combination point CGC67
4010          RS        5    FLOW
4011          RC   0.035   0.015   0.035    5280  0.0017    0.00
4012          RX    0.00    0.00   76.50   76.50  372.50  372.50  449.00  449.00
4013          RY    3.00    1.27    0.50    0.00    0.00    0.50    1.27    3.00
              *
4014          KK    GC67   BASIN
4015          KM   Runoff hydrograph for subbasin GC67 northeast of the intersection of the
4016          KM   Grand Canal and 67th Avenue
4017          BA   0.936
4018          LG    0.21    0.15    7.30    0.11      28
4019          UC   1.256   0.767
4020          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
4021          UA     100
              *
4022          KK   CGC67 COMBINE
4023          KM   Combine route RWGC67, route RSGC67, and subbasin GC67
4024          HC       3    4.34
              *
4025          KK   D67IS  DIVERT
4026          KM   Divert calculated full flow capapcity of 175 cfs into 66-inch storm drain
4027          KM   pipe at the intersection of Indian School Road and 67th Avenue
4028          DT   DP67IS      0.0   175.0
4029          DI     0.0 50000.0      0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
4030          DQ     0.0 50000.0      0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *
4031          KK  DWGC75  DIVERT
4032          KM   Divert remaining runoff hydrograph from combination point CGC67 west to
4033          KM   combination point CGC75
4034          DT   DSISGC      0.0     0.0
4035          DI      0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
4036          DQ      0.0    51.0   102.0   255.0   510.0  1020.0  2040.0  5100.0 10200.0 25500.0
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

4037          KK  DRGR39RETRIEVE
4038          KM   Retrieve remaining surface flow runoff hydrograph DRGR39 following pipe
4039          KM   diversion DP39GR after combination point CPGR35 at the intersection of 39th
4040          KM   Avenue and Grand Avenue
4041          DR   D39GR
              *
4042          KK   DGC35  DIVERT
4043          KM   Divert runoff hydrograph DRGR39 along Grand Avenue.  Remaining hydrograph
4044          KM   flows along 35th Avenue to the intersection of 35th Avenue and the Grand
4045          KM   Canal
4046          DT   DEGCGR      0.0     0.0
4047          DI      0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
4048          DQ      0.0    48.0    96.0   240.0   480.0   960.0  1920.0  4800.0  9600.0 24000.0
              *
4049          KK  DRGC35RETRIEVE
4050          KM   Retrieve remaining runoff hydrograph DRGC35 coming south from combination
4051          KM   point CPIS35 at the intersection of 35th Avenue and Grand Avenue
4052          DR  DSGC35
              *
4053          KK  DS35GC  DIVERT
4054          KM   Divert runoff hydrograph DRGC35 along Grand Avenue. Remaining hydrograph
4055          KM   flows along 35th Avenue to the intersection of 35th Avenue and the Grand
4056          KM   Canal
4057          DT   DSGCGR      0.0     0.0
4058          DI      0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
4059          DQ      0.0    25.0    50.0   125.0   250.0   500.0  1000.0  2500.0  5000.0 12500.0
              *
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4060          KK  CIIS35 COMBINE
4061          KM   Combine arterial street flow from 35th Avenue DIGC35 with areterial street
4062          KM   flow from 35th Avenue DRGC35 at the intersection of 35th Avenue and Indian
4063          KM   School Road
4064          HC       2    2.06
              *

4065          KK  RSGC35   ROUTE
4066          KM   Route hydrograph at combination point CIIS35 at the intersection of Indian
4067          KM   School Road and 35th Avenue south to combination point CGC35
4068          RS       1     FLOW
4069          RC   0.035   0.015   0.035    1973  0.0033    0.00
4070          RX    0.00    0.00   16.50   16.50  107.50  107.50  124.00  124.00
4071          RY    3.00    0.66    0.50    0.00    0.00    0.50    0.66    3.00
              *

4072          KK   GC35   BASIN
4073          KM   Runoff hydrograph for subbasin GC35 northeast of the intersection of the
4074          KM   Grand Canal and 35th Avenue
4075          BA   0.077
4076          LG    0.15    0.25    4.25    0.35      80
4077          UC   0.342   0.219
4078          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
1                                          HEC-1 INPUT                                    PAGE106

LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

4079          UA     100
              *

4080          KK   CGC35 COMBINE
4081          KM   Combine route RSGC35 and subbasin GC35
4082          HC       2    2.14
              *

4083          KK  PR35ISRETRIEVE
4084          KM   Retrieve full flow capacity of 40 cfs from 36-inch diameter pipe at the
4085          KM   intersection of Indian School Road and 35th Avenue
4086          DR  DP35IS
              *

4087          KK  RP35GC   ROUTE
4088          KM   Route the full flow capacity of 40 cfs through 36-inch storm drain pipe
4089          KM   diameter in 35th Avenue to the intersection of 35th Avenue and the Grand
4090          KM   Canal
4091          RK    2327  0.0035   0.015            CIRC   3.000
              *

4092          KK  CPGC35 COMBINE
4093          KM   Combine pipe return PR35IS with the runoff hydrograph at combination point
4094          KM   CGC35 at the intersection of the Grand Canal and 35th Avenue
4095          HC       2
              *

4096          KK   D35GC  DIVERT
4097          KM   Divert calculated full flow capapcity of 40 cfs into 36-inch storm drain
4098          KM   pipe at the intersection of the Grand Canal and 35th Avenue
4099          DT  DP35GC      0.0     40.0
4100          DI      0.0 50000.0      0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
4101          DQ      0.0 50000.0      0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

4102          KK  DWGC43  DIVERT
4103          KM   Divert runoff hydrograph from combination point CGC35 west to combination
4104          KM   point CGC35
4105          DT  DSTM35      0.0     0.0
4106          DI      0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
4107          DQ      0.0    85.0   170.0   425.0   850.0  1700.0  3400.0  8500.0 17000.0 42500.0
              *

4108          KK  RWGC43   ROUTE
4109          KM   Route hydrograph at combination point CGC35 at the intersection of the Grand
4110          KM   Canal and 35th Avenue west to combination point CGC43
4111          RS       6     FLOW
4112          RC   0.035   0.015   0.035    6627  0.0009    0.00
4113          RX    0.00    0.00    9.50    9.50   40.50   40.50   50.00   50.00
4114          RY    3.00    0.60    0.50    0.00    0.00    0.50    0.60    3.00
              *
1                                          HEC-1 INPUT                                    PAGE107

LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


4115          KK  DRGC43RETRIEVE
4116          KM   Retrieve divert DRGC43 from combination point CPIS43 and divert south to
4117          KM   combination point CGC43
4118          DR  DSGC43
              *

4119          KK  RSGC43   ROUTE
4120          KM   Route diversion retrieval DRGC43 south to combination point CGC43
4121          RS       1     FLOW
4122          RC   0.035   0.015   0.035    2155  0.0038    0.00
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4123          RX    0.00    0.00   57.50   57.50  291.50  291.50  349.00  349.00
4124          RY    3.00    1.08    0.50    0.00    0.00    0.50    1.08    3.00
              *

4125          KK   GC43   BASIN
4126          KM   Runoff hydrograph for subbasin GC43 northeast of the intersection of the
4127          KM   Grand Canal and 43rd Avenue
4128          BA   0.370
4129          LG    0.15    0.25    6.00    0.15      80
4130          UC   0.832   0.724
4131          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
4132          UA     100
              *

4133          KK   CGC43 COMBINE
4134          KM   Combine route RWGC43, route RSGC43, and subbasin GC43
4135          HC       3    2.23
              *

4136          KK  PR43ISRETRIEVE
4137          KM   Retrieve combined full flow capacity of 406 cfs from 87-inch equivalent
4138          KM   diameter pipe at the intersection of Indian School Road and 43rd Avenue
4139          DR  DP43IS
              *

4140          KK  RP43GC   ROUTE
4141          KM   Route the combined full flow capacity of 406 cfs through an equivalent storm
4142          KM   drain pipe diameter of 87 inches in 43rd Avenue to the intersection of
4143          KM   43rd Avenue and the Grand Canal
4144          RK    2347  0.0035   0.015            CIRC   6.083
              *

4145          KK  CPGC43 COMBINE
4146          KM   Combine pipe return PR43IS with the runoff hydrograph at combination point
4147          KM   CGC43 at the intersection of the Grand Canal and 43rd Avenue
4148          HC       2
              *

4149          KK   D43GC  DIVERT
4150          KM   Capacity of storm drain in 39th Avenue and 43rd Avenue diverted together.
4151          KM   Divert combined calculated full flow capacity of 251 cfs in the 72-inch storm
4152          KM   drain pipe in 39th Avenue and 154 cfs in the 60-inch storm drain pipe in
4153          KM   43rdAvenue. The total calculated combined full flow capacity diverted at the
4154          KM   intersection of 43rd Avenue and the Grand Canal is 406 cfs in an
1                                          HEC-1 INPUT                                    PAGE108

LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

4155          KM   equivalent diameter pipe of 87 inches
4156          DT  DP43GC      0.0     406.0
4157          DI      0.0 50000.0      0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
4158          DQ      0.0 50000.0      0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

4159          KK  SRGC43 STORAGE
4160          KM    Storage routing ID PA43 in Maryvale ADMS, Feb 1997 - comments from ADMS:
4161          KM    STORAGE ROUTING
4162          KM    PONDING AREA IN THE VICINITY OF 43RD AVE
4163          KM    PRELIMINARY COMPUTATIONS BY WPA 6/96
4164          KM    CAPACITY OF SURFACE FLOW NORTH OF CANAL = 200 CFS
4165          KM    DIVERSION OF FLOW UNDER THE GRAND CANAL BY AN EXISTING STORM DRAIN SYSTEM
4166          KM    ESTIMATED STORM DRAIN CAPACITY(63") = 89 CFS
4167          KM    TOP OF CANAL BANK ELEVATION = 1108
4168          KM
4169          KM   ------------------------------------------------------------------------------
4170          KM   REVISED BY KHA ---> storm drain flows diverted previously. Subtracted out
4171          KM                       pipe capacity from SQ cards
4172          KM                       Confirmed capacity of surface flow on north side of bank
4173          KM
4174          KM   Storage route runoff hydrograph from divert D43GC through ponding
4175          KM     area at the Grand Canal between 35th and 43rd Avenues
4176          KM   ------------------------------------------------------------------------------
4177          RS       1     STOR       -1   1104.
4178          SV              0.01     0.10     0.64     4.77     6.79    29.76    33.00
4179          SQ                                                200.00  200.00 2200.00
4180          SE  1104.0 1104.10 1105.00 1106.00 1106.80 1107.00 1108.00 1109.00
              *

4181          KK  DWGC51  DIVERT
4182          KM    Divert ID D43 in Maryvale ADMS, Feb 1997 - comments from ADMS:
4183          KM    FLOW DIVERSION AT 43RD AVE
4184          KM    DIVERSION TO SOUTH
4185          KM    PRELIMINARY COMPUTATIONS BY WPA 6/96
4186          KM    CAPACITY OF SURFACE FLOW NORTH OF CANAL = 200 CFS
4187          KM    DIVERSION OF FLOW SOUTH UNDER THE GRAND CANAL BY EXIST. STORM DRAIN SYSTEM
4188          KM    ESTIMATED STORM DRAIN CAPACITY(63") = 89 CFS
4189          KM   ------------------------------------------------------------------------------
4190          KM   Divert runoff hydrograph from combination point CGC43 west to combination
4191          KM   point CGC51
4192          KM   ------------------------------------------------------------------------------
4193          DT  DSTM43      0.0     0.0
4194          DI      0.0   200.0  2200.0      0.0     0.0     0.0     0.0     0.0     0.0     0.0
4195          DQ      0.0     0.0  2000.0      0.0     0.0     0.0     0.0     0.0     0.0     0.0
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                       *

     4196              KK  RWGC51   ROUTE
     4197              KM   Route diversion DWGC51 west to combination point CGC51
     4198              RS     10     FLOW
     4199              RC   0.035   0.015   0.035    5614  0.0005    0.00
     4200              RX    0.00    0.00   19.00   19.00   81.00   81.00  100.00  100.00
     4201              RY    3.00    0.69    0.50    0.00    0.00    0.50    0.69    3.00
                       *
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     LINE              ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


     4202              KK  DRGC51RETRIEVE
     4203              KM   Retrieve divert DRGC51 from combination point CIS51 and divert south to
     4204              KM   combination point CGC51
     4205              DR  DSGC51
                       *

     4206              KK  RSGC51   ROUTE
     4207              KM   Route diversion retrieval DRGC51 south to combination point CGC51
     4208              RS      3     FLOW
     4209              RC   0.035   0.015   0.035    2155  0.0045    0.00
     4210              RX    0.00    0.00   67.00   67.00  332.00  332.00  399.00  399.00
     4211              RY    3.00    1.17    0.50    0.00    0.00    0.50    1.17    3.00
                       *

     4212              KK    GC51   BASIN
     4213              KM   Runoff hydrograph for subbasin GC51 northeast of the intersection of the
     4214              KM   Grand Canal and 51st Avenue
     4215              BA   0.448
     4216              LG    0.24    0.25    5.00    0.24      36
     4217              UC   1.500   1.228
     4218              UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
     4219              UA     100
                       *

     4220              KK   CGC51 COMBINE
     4221              KM   Combine route RWGC51, route RSGC51, and subbasin GC51
     4222              HC       3    2.04
                       *

     4223              KK  PR51ISRETRIEVE
     4224              KM   Retrieve full flow capacity of 244 cfs from 72-inch storm drain pipe at the
     4225              KM   intersection of Indian School Road and 51st Avenue
     4226              DR  DP51IS
                       *

     4227              KK  RP51ML   ROUTE
     4228              KM   Route full flow capacity of 244 cfs through 72-inch storm drain pipe in
     4229              KM   51st Avenue to the intersection of Mitchell Drive and 51st Avenue
     4230              RK    2089  0.0033   0.015            CIRC   6.000
                       *

     4231              KK  CPML51 COMBINE
     4232              KM   Combine pipe return PR51IS with the runoff hydrograph at combination point
     4233              KM   CGC51 at the intersection of the Grand Canal and 51st Avenue
     4234              HC       2
                       *

     4235              KK   DML51  DIVERT
     4236              KM   Divert calculated full flow capapcity of 136 cfs into 72-inch storm drain
     4237              KM   pipe at the intersection of Mitchell Drive and 51st Avenue
     4238              DT  DPML51     0.0   136.0
     4239              DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
     4240              DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
                       *
1                                              HEC-1 INPUT                                            PAGE110

     LINE              ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


     4241              KK   D51GC  DIVERT
     4242              KM   Divert calculated full flow capapcity of 113 cfs into 54-inch storm drain
     4243              KM   pipe near the intersection of the Grand Canal and 51st Avenue
     4244              DT  DP51GC     0.0   113.0
     4245              DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
     4246              DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
                       *

     4247              KK  SRGC51 STORAGE
     4248              KM    Storage routing ID PA47 in Maryvale ADMS, Feb 1997 - comments from ADMS:
     4249              KM    PONDING AREA IN THE VICINITY OF 47TH  AND 51ST AVE
     4250              KM
     4251              KM    PRELIMINARY COMPUTATIONS BY WPA 6/96
     4252              KM    CAPACITY OF FLOW NORTH OF CANAL = 300 CFS+(STORM DRAIN CAP)105CFS PER CVL
     4253              KM    DIVERSION OF FLOW OVER THE CANAL BANKS
     4254              KM    TOP OF CANAL BANK ELEV = 1105
     4255              KM   ==========================================================================
     4256              KM   REVISION TO MARYVALE ADMS MODEL BY KHA --> COMBINE DIVERTS AT 47TH & 51ST AVE
     4257              KM                      SUBTRACTED OUT STORM DRAIN CAPACITY FROM SQ CARDS
     4258              KM                      CONFIRMED CAPACITY OF SURFACE FLOW ON NORTH SIDE OF BANK
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     4259              KM
     4260              KM   Storage route runoff hydrograph from divert D51GC through ponding
     4261              KM     area at the Grand Canal between 43rd 51st Avenues
     4262              KM   ==========================================================================
     4263              RS      1    STOR      -1
     4264              SV            4.82   23.64   29.62   63.89   86.57
     4265              SQ           25.00  275.00  350.00 1350.00 4250.00
     4266              SE  1103.0 1104.00 1104.80 1105.00 1105.50 1106.00
                       *

     4267              KK  DWGC53  DIVERT
     4268              KM    Divert ID D47 in Maryvale ADMS, Feb 1997 - comments from ADMS:
     4269              KM    DIVERSION AT 47TH AVE
     4270              KM    PRELIMINARY COMPUTATIONS BY WPA 6/96
     4271              KM    AN EXISTING STORM DRAIN SYSTEM CONVEYS FLOW TO THE WEST ONLY
     4272              KM    CAPACITY OF FLOW NORTH OF CANAL = 300 CFS+(STORM DRAIN CAP)105CFS PER CVL
     4273              KM    DIVERSION OF FLOW OVER THE CANAL BANKS
     4274              KM   ==========================================================================
     4275              KM   REVISION TO MARYVALE ADMS MODEL BY KHA --> COMBINE DIVERTS AT 47TH & 51ST AVE
     4276              KM                      SUBTRACTED OUT STORM DRAIN CAPACITY FROM SQ CARDS
     4277              KM                      CONFIRMED CAPACITY OF SURFACE FLOW ON NORTH SIDE OF BANK
     4278              KM
     4279              KM   Divert remaining runoff hydrograph from combination point CPGC51 west to
     4280              KM   combination point CGC59
     4281              KM   ==========================================================================
     4282              DT  DSTM51     0.0     0.0
     4283              DI     0.0   300.0  2300.0  4250.0     0.0     0.0     0.0     0.0     0.0     0.0
     4284              DQ     0.0     0.1  2000.0  3950.0     0.0     0.0     0.0     0.0     0.0     0.0
                       *
1                                              HEC-1 INPUT                                            PAGE111

     LINE              ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


     4285              KK  RWGC53   ROUTE
     4286              KM   Route diversion DWGC53 west to combination point CGC53
     4287              RS      4     FLOW
     4288              RC   0.035   0.015   0.035    1296  0.0012    0.00
     4289              RX    0.00    0.00    9.50    9.50   40.50   40.50   50.00   50.00
     4290              RY    3.00    0.60    0.50    0.00    0.00    0.50    0.60    3.00
                       *

     4291              KK  DRGC59RETRIEVE
     4292              KM   Retrieve divert DRGC59 from combination point CIS59 and divert south to
     4293              KM   combination point CGC59
     4294              DR  DSGC59
                       *

     4295              KK  RSGC59   ROUTE
     4296              KM   Route diversion retrieval DRGC59 south to combination point CGC59
     4297              RS      2     FLOW
     4298              RC   0.035   0.015   0.035    2502  0.0025    0.00
     4299              RX    0.00    0.00   57.50   57.50  291.50  291.50  349.00  349.00
     4300              RY    3.00    1.08    0.50    0.00    0.00    0.50    1.08    3.00
                       *

     4301              KK    GC59   BASIN
     4302              KM   Runoff hydrograph for subbasin GC59 northeast of the intersection of the
     4303              KM   Grand Canal and 59th Avenue
     4304              BA   0.410
     4305              LG    0.24    0.23    6.20    0.16      42
     4306              UC   1.005   0.720
     4307              UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
     4308              UA     100
                       *

     4309              KK   CGC55 COMBINE
     4310              KM   Combine route RSGC59 and subbasin GC59
     4311              HC       2    2.42
                       *

     4312              KK  DEGC53  DIVERT
     4313              KM   Divert portion of runoff hydrograph from combination point CGC55  to
     4314              KM   combination point CGC53 where it will be routed through the Maryvale Ball
     4315              KM   Park basin near the intersection of the Grand Canal and 53rd Avenue.  The
     4316              KM   remaining flow is diverted to combination point CPGC59. The diversion is
     4317              KM   based on topography
     4318              DT  DWGC59     0.0     0.0
     4319              DI     0.0   173.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0     0.0
     4320              DQ     0.0     0.0    14.0   167.0   422.0   932.0  1952.0  5012.0 10112.0     0.0
                       *

     4321              KK  PRML51RETRIEVE
     4322              KM   Retrieve full flow capacity of 136 cfs from 72-inch storm drain pipe at the
     4323              KM   intersection of Mitchell Drive and 51st Avenue
     4324              DR  DPML51
                       *
1                                              HEC-1 INPUT                                            PAGE112

     LINE              ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


     4325              KK  RPML53   ROUTE
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4326        KM   Route full flow capacity of 136 cfs through 72-inch storm drain pipe in
4327        KM   Mitchell Drive to the intersection of Mitchell Drive and 53rd Avenue
4328        RK    1084  0.0010   0.015            CIRC    6.000
             *

4329        KK   CGC53 COMBINE
4330        KM   Combine route RWGC53, route RPML53, and divert DGC53
4331        HC       3    2.27
             *

4332        KK   SRGC53 STORAGE
4333        KM   Storage route runoff hydrograph from combination point CPGC59 thru detention
4334        KM     basin at Grand Avenue near the intersection of Grand Avenue and 59th Avenue
4335        KM   Stage-storage data from Maryvale Baseball Park Grading and Drainage As-built
4336        KM     Record, 1997
4337        RS       1    STOR
4338        SV           1.90    5.90   10.00   15.20   22.20   31.70   44.60   59.50   75.60
4339        SV    93.0
4340        SQ     0.0    10.0    28.0    44.0    56.0    65.0    73.0    81.0    88.0      94
4341        SQ  1358.0
4342        SE  1094.0  1095.0  1096.0  1097.0  1098.0  1099.0  1100.0  1101.0  1102.0    1103
4343        SE  1104.0
             *

4344        KK   DGC53  DIVERT
4345        KM   Storm drain outflow from Maryvale Baseball Park basin. Divert calculated full
4346        KM   flow capapcity of 20 cfs into 36-inch storm drain pipe at the intersection of
4347        KM   the Grand Canal and 53rd Avenue
4348        DT  DPGC53     0.0    20.0
4349        DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
4350        DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
             *

4351        KK  PR59ISRETRIEVE
4352        KM   Retrieve full flow capacity of 353 cfs from 81-inch storm drain pipe at the
4353        KM    intersection of Indian School Road and 59th Avenue
4354        DR  DP59IS
             *

4355        KK  RP59GC   ROUTE
4356        KM   Route full flow capacity of 353 cfs through 81-inch storm drain pipe in
4357        KM   59th Avenue to the intersection of the Grand Canal and 59th Avenue
4358        RK    1243  0.0037   0.015            CIRC    6.750
             *

4359        KK  DRGC59RETRIEVE
4360        KM   Retrieve divert DRGC59 from combination point CGC55 and divert to
4361        KM   combination point CPGC59
4362        DR  DWGC59
             *
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LINE        ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

4363        KK  CPGC59 COMBINE
4364        KM   Combine pipe return PR59IS with the runoff hydrograph at combination point
4365        KM   CGC59 at the intersection of the Grand Canal and 59th Avenue
4366        HC       2    1.24
             *

4367        KK   D59GC  DIVERT
4368        KM   Divert calculated full flow capapcity of 258 cfs into 72-inch storm drain
4369        KM   pipe at the intersection of the Grand Canal and 59th Avenue
4370        DT  DP59GC     0.0   258.0
4371        DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
4372        DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
             *

4373        KK   CGC59 COMBINE
4374        KM   Combine divert DGC53 and divert D59GC
4375        HC       2    3.50
             *

4376        KK  DWISGC  DIVERT
4377        KM   Divert ID D55 in Maryvale ADMS, Feb 1997 - comments from ADMS:
4378        KM   FLOW DIVERSION TO SOUTH
4379        KM   PRELIMINARY COMPUTATIONS BY WPA 6/96
4380        KM   CAPACITY OF SURFACE FLOW NORTH OF CANAL = 50 CFS
4381        KM   AN EXISTING STORM DRAIN SYSTEM CONVEYS FLOW TO THE WEST ONLY
4382        KM   DIVERSION OF FLOW OVER THE GRAND CANAL
4383        KM   STORM DRAIN CAPACITY WEST = 74 CFS PER CVL
4384        KM   TOP OF CANAL BANK ELEV = 1103
4385        KM   ==========================================================================
4386        KM   REVISION TO MARYVALE ADMS MODEL BY KHA --> COMBINE DIVERTS AT 55TH & 59TH AVE
4387        KM                       SUBTRACTED OUT STORM DRAIN CAPACITY FROM SQ CARDS
4388        KM                       CONFIRMED CAPACITY OF SURFACE FLOW ON NORTH SIDE OF BANK
4389        KM
4390        KM   Divert remaining runoff hydrograph from combination point CPGC59 west to
4391        KM   combination point CISGC
4392        KM   ==========================================================================
4393        DT  DSTM59     0.0     0.0
4394        DI     0.0    50.0   555.0  2689.0     0.0     0.0     0.0     0.0     0.0     0.0
```



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4395        DQ     0.0     0.2   505.0  1030.0     0.0     0.0     0.0     0.0     0.0     0.0
             *

4396        KK  RWISGC   ROUTE
4397        KM   Route diversion DWISGC west to combination point CISGC
4398        RS       3    FLOW
4399        RC   0.035   0.015   0.035    4300  0.0009    0.00
4400        RX    0.00    0.00    9.50    9.50   40.50   40.50   50.00   50.00
4401        RY    3.00    0.60    0.50    0.00    0.00    0.50    0.60    3.00
             *
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LINE        ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

4402        KK  DRISGCRETRIEVE
4403        KM   Retrieve divert DRISGC from combination point CGC67 and divert south to
4404        KM   combination point CISGC
4405        DR  DSISGC
             *

4406        KK  RSISGC   ROUTE
4407        KM   Route diversion retrieval DRISGC south to combination point CISGC
4408        RS       1    FLOW
4409        RC   0.035   0.015   0.035    1231  0.0022    0.00
4410        RX    0.00    0.00   31.50   31.50  143.50  143.50  175.00  175.00
4411        RY    3.00    0.82    0.50    0.00    0.00    0.50    0.82    3.00
             *

4412        KK    ISGC   BASIN
4413        KM   Runoff hydrograph for subbasin ISGC southeast of the intersection of Indian
4414        KM   School Road and the Grand Canal
4415        BA   0.159
4416        LG    0.25    0.15    7.00    0.11      32
4417        UC   1.439   1.632
4418        UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
4419        UA     100
             *

4420        KK   CISGC COMBINE
4421        KM   Combine route RWISGC, route RSISGC, and subbasin ISGC
4422        HC       3    3.33
             *

4423        KK  PR59GCRETRIEVE
4424        KM   Retrieve full flow capacity of 258 cfs from 72-inch storm drain pipe at the
4425        KM   intersection of the Grand Canal and 59th Avenue
4426        DR  DP59GC
             *

4427        KK  CPISGC COMBINE
4428        KM   Combine pipe return PR59GC with the runoff hydrograph at combination point
4429        KM   CISGC at the intersection of Indian School Road and the Grand Canal
4430        HC       2
             *

4431        KK   DGC63  DIVERT
4432        KM   Divert calculated full flow capapcity of 258 cfs into 72-inch storm drain
4433        KM   pipe at the intersection of the Grand Canal and 63rd Avenue
4434        DT  DPGC63     0.0   258.0
4435        DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
4436        DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
             *
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LINE        ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

4437        KK  SRISGC STORAGE
4438        KM   Storage route runoff hydrograph from combination point CPISGC through
4439        KM     regional detention basin located near the intersection of the Grand Canal
4440        KM     and Indian School Road (Sunset Basin).
4441        KM   Stage-storage data from Bethany Home Outfall Channel TDN for CLOMR, Jan 2003
4442        KM   Discharge data for 96-in outlet pipe under construction Dec 2009
4443        RS       1    STOR
4444        SV            1.52    4.61   12.85   22.46   33.32   45.48   48.72   52.06
4445        SQ            3.00   12.00   46.00   83.00   91.00  593.00 1600.00 3421.00
4446        SE   85.00   86.00   87.00   89.00   91.00   93.00   95.00   95.50   96.00
             *

4447        KK  DPGC67  DIVERT
4448        KM   Divert excess flow that overtops the subbasin to the south.  The calculated
4449        KM   full flow capapcity in the 96-inch storm drain pipe leaving the basin is
4450        KM   is diverted north to combination point CGC75
4451        DT  DSTM67     0.0     0.0
4452        DI     0.0     3.0    12.0    46.0    83.0    91.0   593.0  1600.0  3421.0     0.0
4453        DQ     0.0     0.0     0.0     0.0     0.0     0.0     0.0   983.0  2781.0     0.0
             *

4454        KK  DRGC75RETRIEVE
4455        KM   Retrieve divert DRGC75 from combination point CCB75 and divert south to
4456        KM   combination point CGC75
4457        DR  DSGC75
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                *
4458            KK   GC75   BASIN
4459            KM   Runoff hydrograph for subbasin GC75 southeast of the intersection of the
4460            KM   Grand Canal and 75th Avenue
4461            BA   0.410
4462            LG    0.24    0.15    8.00    0.07      33
4463            UC   1.500   1.585
4464            UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
4465            UA     100
                *
4466            KK   CGC75 COMBINE
4467            KM   Combine divert DWGC75, pipe diversion DPGC67, divert retrieval DRGC75, and
4468            KM   subbasin GC75
4469            HC       4    9.44
                *
4470            KK  SRGC75 STORAGE
4471            KM   Storage route runoff hydrograph from combination point CGC75 through regional
4472            KM     detention basin along the Grand Canal between 67th and 75th Avenues
4473            KM   Vol/Elev data taken from DMJM HEC-1 revision (model BHGC00C6, Nov 2004)
4474            KM     confirmd by comparing with Bethany Home Outfall Channel Reach B As-builts
4475            KM   Discharge data calculated from discharge channel in As-builts (Bethany Home
4476            KM     Outfall Channel Reach C - 83rd Ave to 73rd Ave, June 2007)
4477            KM     Rect concrete channel, width = 14 ft, slope = 0.000992 ft/ft
4478            RS       1    STOR
4479            SV             0.00    0.00    0.07    0.73    2.73    6.42   12.25   20.32   29.62
4480            SV  40.248  52.049  65.081  79.346  94.800  103.1   111.4
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LINE            ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

4481            SQ     0.0     0.0     0.0    36.0   120.0   230.0   356.0   493.0   639.0     790
4482            SQ   947.0  1107.0  1270.0  1436.0  1604.0  1689.0  1774.0
4483            SE  1074.7  1078.0  1081.0  1083.0  1084.0  1085.0  1086.0  1087.0  1088.0    1089
4484            SE  1090.0  1091.0  1092.0  1093.0  1094.0  1094.5  1095.0
                *
4485            KK  CICB75 COMBINE
4486            KM   Combine runoff hydrograph DWGC83 with runoff hydrograph from combination
4487            KM   point CGC75 at the intersection of Camelback Road and 75th Avenue
4488            HC       2   14.03
                *
4489            KK  RWGC83   ROUTE
4490            KM   Route hydrograph at combination point CICB75 at the intersection of Camelback
4491            KM   Road and 75th Avenue west to combination point CGC83
4492            RS       2    FLOW
4493            RC   0.035   0.015   0.035    6563  0.0010    0.00
4494            RX    0.00    3.00   13.00   13.00   31.00   31.00   41.00   44.00
4495            RY   10.00    9.00    9.00    0.00    0.00    9.00    9.00   10.00
                *
4496            KK  DRGC83RETRIEVE
4497            KM   Retrieve divert DRGC83 from combination point CBH83 and divert south to
4498            KM   combination point CGC83
4499            DR  DSGC83
                *
4500            KK   GC83   BASIN
4501            KM   Runoff hydrograph for subbasin GC83 southeast of the intersection of the
4502            KM   Grand Canal and 83rd Avenue
4503            BA   0.426
4504            LG    0.23    0.15    8.40    0.07      30
4505            UC   1.500   1.722
4506            UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
4507            UA     100
                *
4508            KK  ERGC83  DIVERT
4509            KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
4510            KM   retention developed after 1990 in subbasin GC83
4511            DT   XGC83    31.2     0.0
4512            DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
4513            DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
                *
4514            KK   CGC83 COMBINE
4515            KM   Combine route RWGC83, divert retrieval DRGC83, and subbasin GC83
4516            HC       3   17.67
                *
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LINE            ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

4517            KK  CIBH83 COMBINE
4518            KM   Combine runoff hydrograph DWBH91 with runoff hydrograph from combination
4519            KM   point CGC83 at the intersection of 83rd Avenue and Bethany Home Road
4520            HC       2   23.92
                *
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4521            KK  RWBH91   ROUTE
4522            KM   Route hydrograph at combination point CIBH83 at the intersection of Bethany
4523            KM   Home Road and 91st Avenue west to combination point CBH91
4524            RS       3    FLOW
4525            RC   0.035   0.015   0.035    6508  0.0008    0.00
4526            RX    0.00    4.00   18.00   66.00  126.00  162.00  172.00  176.00
4527            RY   13.14   12.14   12.00    0.00    0.60    9.15    9.25   10.25
                *
4528            KK  DRBH91RETRIEVE
4529            KM   Retrieve divert DRBH91 from combination point CPGL91 and divert south to
4530            KM   combination point CBH91
4531            DR  DSBH91
                *
4532            KK  RSBH91   ROUTE
4533            KM   Route diversion retrieval DRBH91 south to combination point CBH91
4534            RS       3    FLOW
4535            RC   0.035   0.015   0.035    5280  0.0019    0.00
4536            RX    0.00    0.00   37.50   37.50  210.50  210.50  248.00  248.00
4537            RY    3.00    0.88    0.50    0.00    0.00    0.50    0.88    3.00
                *
4538            KK   BH91   BASIN
4539            KM   Runoff hydrograph for square mile subbasin BH91 northeast of the intersection
4540            KM   of Bethany Home Road and 91st Avenue
4541            BA   1.032
4542            LG    0.23    0.15    7.60    0.09      28
4543            UC   1.460   1.001
4544            UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
4545            UA     100
                *
4546            KK  ERBH91  DIVERT
4547            KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
4548            KM   retention developed after 1990 in subbasin BH91
4549            DT   XBH91    17.3     0.0
4550            DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
4551            DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
                *
4552            KK   CBH91 COMBINE
4553            KM   Combine route RWBH91, route RSBH91, and subbasin BH91
4554            HC       3   30.54
                *
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LINE            ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

4555            KK  RWBHLO   ROUTE
4556            KM   Route hydrograph at combination point CBH91 west to combination point CBHLO
4557            RS       1    FLOW
4558            RC   0.035   0.015   0.035    4110  0.0011    0.00
4559            RX    0.00    4.00   18.00   46.50  135.50  153.40  167.40  171.40
4560            RY    8.26    7.26    7.12    0.00    0.85    5.32    5.46    6.46
                *
4561            KK   BHLO   BASIN
4562            KM   Runoff hydrograph for subbasin BHLO northeast of the intersection of Bethany
4563            KM   Home Road and SR Loop 101
4564            BA   0.788
4565            LG    0.10    0.15    7.30    0.09      81
4566            UC   0.763   0.491
4567            UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
4568            UA     100
                *
4569            KK  ERBHLO  DIVERT
4570            KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
4571            KM   retention developed after 1990 in subbasin BHLO
4572            DT   XBHLO    41.5     0.0
4573            DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
4574            DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
                *
4575            KK   CBHLO COMBINE
4576            KM   Combine route RWBHLO, route RSBHLO, and subbasin BHLO
4577            HC       3   46.47
                *
4578            KK  RWBH99   ROUTE
4579            KM   Route hydrograph at combination point CBHLO west to combination point CBH99
4580            RS       1    FLOW
4581            RC   0.035   0.015   0.035    1075  0.0011    0.00
4582            RX    0.00    4.00   18.00   46.50  135.50  153.40  167.40  171.40
4583            RY    8.26    7.26    7.12    0.00    0.85    5.32    5.46    6.46
                *
4584            KK   BH99   BASIN
4585            KM   Runoff hydrograph for subbasin BH99 northeast of the intersection of Bethany
4586            KM   Home Road and 99th Avenue
4587            BA   0.184
```

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4588          LG    0.10    0.19    6.60    0.12      78
4589          UC   1.180   1.260
4590          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
4591          UA     100
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


4592          KK   CBH99 COMBINE
4593          KM   Combine route RWBH99 and subbasin BH99
4594          HC       2   46.65
              *

4595          KK  RWBHRI   ROUTE
4596          KM   Route hydrograph at combination point CBH99 west to combination point CGLNR
4597          RS       1    FLOW
4598          RC   0.035   0.015   0.035    2392  0.0010    0.00
4599          RX    0.00    4.00   18.00   46.50  135.50  153.40  167.40  171.40
4600          RY    8.26    7.26    7.12    0.00    0.85    5.32    5.46    6.46
              *

4601          KK    GLNR   BASIN
4602          KM   Runoff hydrograph for subbasin GLNR north of Glendale Avenue and east of New
4603          KM   River
4604          BA   0.483
4605          LG    0.10    0.21    6.40    0.13      76
4606          UC   1.352   1.286
4607          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
4608          UA     100
              *

4609          KK  ERGLNR  DIVERT
4610          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
4611          KM   retention developed after 1990 in subbasin GLNR
4612          DT   XGLNR     31.6      0.0
4613          DI       0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
4614          DQ       0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

4615          KK  DSBHRI  DIVERT
4616          KM   Divert portion of runoff hydrograph from subbasin GLNR south to the
4617          KM   intersection of Bethany Home Road and the Roosevelt Irrigation District canal
4618          KM   and the remaining flow west to New River. The diversion is based on
4619          KM   topography
4620          KM   Divert remaining runoff hydrograph from subbasin GLNR south to combination
4621          KM   point CBHRI
4622          DT  DWNR04      0.0     0.0
4623          DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
4624          DQ     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
              *

4625          KK  RSBHRI   ROUTE
4626          KM   Route subbasin diversion DSBHRI south to combination point CBHRI
4627          RS       1    FLOW
4628          RC   0.035   0.015   0.035    5280  0.0015    0.00
4629          RX    0.00    0.00    7.00    7.00   43.00   43.00   50.00   50.00
4630          RY    3.00    0.57    0.50    0.00    0.00    0.50    0.57    3.00
              *
1                                        HEC-1 INPUT                                        PAGE120

LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


4631          KK    BHRI   BASIN
4632          KM   Runoff hydrograph for subbasin BHRI north of Bethany Home Road and east of
4633          KM   the Roosevelt Irrigation District canal
4634          BA   0.512
4635          LG    0.10    0.24    6.20    0.14      77
4636          UC   1.255   0.907
4637          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
4638          UA     100
              *

4639          KK  ERBHRI  DIVERT
4640          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
4641          KM   retention developed after 1990 and NOAA14 rainfall for future retention in
4642          KM   subbasin BHRI
4643          DT   XBHRI     45.9      0.0
4644          DI       0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
4645          DQ       0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

4646          KK   DBHNR  DIVERT
4647          KM   Divert portion of runoff hydrograph from subbasin BHRI west to the
4648          KM   intersection of Bethany Home Road and New River and the remaining flow
4649          KM   west to New River. The diversion is based on topography
4650          DT  DWBHAF      0.0     0.0
4651          DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
4652          DQ     0.0    79.0   158.0   395.0   790.0  1580.0  3160.0  7900.0 15800.0 39500.0
              *
```



```
4653          KK   CBHRI COMBINE
4654          KM   Combine route RWBHRI, route RSBHRI, and and divert DBHNR
4655          HC       3   47.17
              *

4656          KK  RWBHNR   ROUTE
4657          KM   Route remaining hydrograph at combination point CBHRI west to combination
4658          KM   point CBHNR
4659          RS       1    FLOW
4660          RC   0.035   0.015   0.035    3231  0.0010    0.00
4661          RX    0.00    4.00   18.00   46.50  135.50  153.40  167.40  171.40
4662          RY    8.26    7.26    7.12    0.00    0.85    5.32    5.46    6.46
              *

4663          KK    BHNR   BASIN
4664          KM   Runoff hydrograph for subbasin BHNR north of Bethany Home Road and east of
4665          KM   New River
4666          BA   0.258
4667          LG    0.10    0.25    6.20    0.14      71
4668          UC   1.045   0.668
4669          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
4670          UA     100
              *
1                                        HEC-1 INPUT                                        PAGE121

LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


4671          KK  ERBHNR  DIVERT
4672          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
4673          KM   retention developed after 1990 and NOAA14 rainfall for future retention in
4674          KM   subbasin BHNR
4675          DT   XBHNR     21.3      0.0
4676          DI       0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
4677          DQ       0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

4678          KK   CBHNR COMBINE
4679          KM   Combine route RWBHNR and subbasin BHNR
4680          HC       2   47.42
              *

4681          KK    CB99   BASIN
4682          KM   Runoff hydrograph for subbasin CB99 northeast of the intersection of
4683          KM   Camelback Road and 99th Avenue
4684          BA   0.201
4685          LG    0.10    0.15    7.30    0.09      79
4686          UC   0.995   1.048
4687          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
4688          UA     100
              *

4689          KK  ERCB99  DIVERT
4690          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
4691          KM   retention developed after 1990 in subbasin CB99
4692          DT   XCB99     15.0      0.0
4693          DI       0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
4694          DQ       0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

4695          KK  DWCBRI  DIVERT
4696          KM   Divert remaining runoff hydrograph from subbasin CB99 west to combination
4697          KM   point CCBRI
4698          DT  DSIS99      0.0     0.0
4699          DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
4700          DQ     0.0    49.0    98.0   245.0   490.0   980.0  1960.0  4900.0  9800.0 24500.0
              *

4701          KK  RWCBRI   ROUTE
4702          KM   Route diversion DWCBRI west to combination point CCBRI
4703          RS       8    FLOW
4704          RC   0.035   0.015   0.035    3883  0.0021    0.00
4705          RX    0.00    0.00   16.50   16.50  107.50  107.50  124.00  124.00
4706          RY    3.00    0.66    0.50    0.00    0.00    0.50    0.66    3.00
              *

4707          KK    CBRI   BASIN
4708          KM   Runoff hydrograph for subbasin CBRI north of Camelback Road and east of the
4709          KM   Roosevelt Irrigation District canal
4710          BA   0.698
4711          LG    0.24    0.15    7.00    0.10      36
4712          UC   1.500   1.250
1                                        HEC-1 INPUT                                        PAGE122

LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

4713          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
4714          UA     100
              *

4715          KK  ERCBRI  DIVERT
4716          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
4717          KM   retention developed after 1990 in subbasin CBRI
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4718          DT   XCBRI     64.0      0.0
4719          DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
4720          DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

4721          KK   CCBRI COMBINE
4722          KM   Combine route RWCBRI and subbasin CBRI
4723          HC        2     0.80
              *

4724          KK  DWCB07  DIVERT
4725          KM   Divert runoff hydrograph from combination point CCBRI west to combination
4726          KM   point CCB07
4727          DT  DSIS07      0.0      0.0
4728          DI      0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0  10000.0  20000.0  50000.0
4729          DQ      0.0     69.0    138.0    345.0    690.0   1380.0   2760.0   6900.0  13800.0  34500.0
              *

4730          KK    CB07    BASIN
4731          KM   Runoff hydrograph for subbasin CB07 northeast of the intersection of
4732          KM   Camelback Road and 107th Avenue
4733          BA   0.317
4734          LG    0.29     0.26     6.00     0.21        6
4735          UC   1.500    1.108
4736          UA       0      5.0     16.0     30.0     65.0     77.0     84.0     90.0     94.0     97.0
4737          UA     100
              *

4738          KK   CCB07 COMBINE
4739          KM   Combine divert DWCB07 and subbasin CB07
4740          HC        2     0.56
              *

4741          KK  DWCBNR  DIVERT
4742          KM   Divert runoff hydrograph from combination point CCB07 west to combination
4743          KM   point CCBNR
4744          DT  DSIS07      0.0      0.0
4745          DI      0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0  10000.0  20000.0  50000.0
4746          DQ      0.0     69.0    138.0    345.0    690.0   1380.0   2760.0   6900.0  13800.0  34500.0
              *

4747          KK  RWCBNR   ROUTE
4748          KM   Route diversion DWCBNR west to combination point CCBNR
4749          RS        9     FLOW
4750          RC   0.035    0.015    0.035     3883   0.0010     0.00
4751          RX    0.00     0.00    16.50    16.50   107.50   107.50   124.00   124.00
4752          RY    3.00     0.66     0.50     0.00     0.00     0.50     0.66     3.00
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9.....10

4753          KK    CBNR    BASIN
4754          KM   Runoff hydrograph for subbasin CBNR north of Camelback Road and east of New
4755          KM   River
4756          BA   0.466
4757          LG    0.13     0.28     5.80     0.24        5
4758          UC   1.247    1.127
4759          UA       0      5.0     16.0     30.0     65.0     77.0     84.0     90.0     94.0     97.0
4760          UA     100
              *

4761          KK  ERCBNR  DIVERT
4762          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
4763          KM   retention developed after 1990 and NOAA14 rainfall for future retention in
4764          KM   subbasin CBNR
4765          DT   XCBNR      3.7      0.0
4766          DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
4767          DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

4768          KK   CCBNR COMBINE
4769          KM   Combine route RWCBNR and subbasin CBNR
4770          HC        2     0.64
              *

4771          KK  DRIS99RETRIEVE
4772          KM   Retrieve divert DRIS99 from subbasin CB99 and divert south to
4773          KM   combination point CIS99
4774          DR  DSIS99
              *

4775          KK  RSIS99   ROUTE
4776          KM   Route diversion retrieval DRIS99 south to combination point CIS99
4777          RS       10     FLOW
4778          RC   0.035    0.015    0.035     5280   0.0020     0.00
4779          RX    0.00     0.00    16.50    16.50   107.50   107.50   124.00   124.00
4780          RY    3.00     0.66     0.50     0.00     0.00     0.50     0.66     3.00
              *

4781          KK    IS99    BASIN
4782          KM   Runoff hydrograph for subbasin IS99 northeast of the intersection of Indian
```



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4783          KM   School Road and 99th Avenue
4784          BA   0.323
4785          LG    0.10     0.15     9.70     0.04       80
4786          UC   0.667    0.520
4787          UA       0      5.0     16.0     30.0     65.0     77.0     84.0     90.0     94.0     97.0
4788          UA     100
              *

4789          KK   CIS99 COMBINE
4790          KM   Combine route RSIS99 and subbasin IS99
4791          HC        2     0.42
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9.....10

4792          KK  DWIS07  DIVERT
4793          KM   Divert runoff hydrograph from combination point CIS99 west to combination
4794          KM   point CIS07
4795          DT  DSTM99      0.0      0.0
4796          DI      0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0  10000.0  20000.0  50000.0
4797          DQ      0.0     26.0     52.0    130.0    260.0    520.0   1040.0   2600.0   5200.0  13000.0
              *

4798          KK  RWIS07   ROUTE
4799          KM   Route diversion DWIS07 west to combination point CIS07
4800          RS        5     FLOW
4801          RC   0.035    0.015    0.035     5280   0.0022     0.00
4802          RX    0.00     0.00    35.50    35.50   188.50   188.50   224.00   224.00
4803          RY    3.00     0.86     0.50     0.00     0.00     0.50     0.86     3.00
              *

4804          KK  DI07ISRETRIEVE
4805          KM   Retrieve arterial street flow diverted to 107th Avenue at the intersection
4806          KM   of 107th Avenue and Camelback Road
4807          DR   DIS07
              *

4808          KK  DRIS07RETRIEVE
4809          KM   Retrieve divert DRIS07 from combination point CCBRI and divert south to
4810          KM   combination point CICB07
4811          DR  DSIS07
              *

4812          KK  CICB07 COMBINE
4813          KM   Combine arterial street flow from 107th Avenue DI07IS with runoff hydrograph
4814          KM   DSIS07 at the intersection of 107th Avenue and Camelback Road
4815          HC        2     0.94
              *

4816          KK  RSIS07   ROUTE
4817          KM   Route hydrograph at combination point CICB07 at the intersection of Camelback
4818          KM   Road and 107th Avenue south to combination point CIS07
4819          RS        7     FLOW
4820          RC   0.035    0.015    0.035     5280   0.0026     0.00
4821          RX    0.00     0.00    26.00    26.00   148.00   148.00   174.00   174.00
4822          RY    3.00     0.76     0.50     0.00     0.00     0.50     0.76     3.00
              *

4823          KK    IS07    BASIN
4824          KM   Runoff hydrograph for square mile subbasin IS07 northeast of the intersection
4825          KM   of Indian Schhol Road and 107th Avenue
4826          BA   1.021
4827          LG    0.21     0.15     8.00     0.08       32
4828          UC   1.411    0.944
4829          UA       0      5.0     16.0     30.0     65.0     77.0     84.0     90.0     94.0     97.0
4830          UA     100
              *
1                                        HEC-1 INPUT                                        PAGE125

LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9.....10

4831          KK  ERIS07  DIVERT
4832          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
4833          KM   retention developed after 1990 in subbasin IS07
4834          DT   XIS07     17.4      0.0
4835          DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
4836          DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

4837          KK   CIS07 COMBINE
4838          KM   Combine route RWIS07, route RSIS07 and subbasin IS07
4839          HC        3     2.28
              *

4840          KK  DWISAF  DIVERT
4841          KM   Divert runoff hydrograph from combination point CIS07 west to combination
4842          KM   point CISAF
4843          DT  DSRI07      0.0      0.0
4844          DI      0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0  10000.0  20000.0  50000.0
4845          DQ      0.0     25.0     50.0    125.0    250.0    500.0   1000.0   2500.0   5000.0  12500.0
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                *
4846            KK  RWISAF    ROUTE
4847            KM   Route diversion DWISAF west to combination point CISAF
4848            RS       7     FLOW
4849            RC   0.035   0.015   0.035    6868  0.0013     0.00
4850            RX    0.00    0.00   67.00   67.00  332.00  332.00  399.00  399.00
4851            RY    3.00    1.17    0.50    0.00    0.00    0.50    1.17    3.00
                *
4852            KK    ISAF    BASIN
4853            KM   Runoff hydrograph for subbasin ISAF north of Indian School Road and east of
4854            KM   the Agua Fria River
4855            BA   0.989
4856            LG    0.22    0.25    4.80    0.25      47
4857            UC   1.500   1.137
4858            UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
4859            UA     100
                *
4860            KK    CISAF COMBINE
4861            KM   Combine route RWISAF and subbasin ISAF
4862            HC       2    2.69
                *
4863            KK  DRTM99RETRIEVE
4864            KM   Retrieve divert DRTM99 from combination point CIS99 and divert south to
4865            KM   combination point CTM99
4866            DR  DSTM99
                *
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LINE            ID.......1.......2.......3.......4.......5.......6.......7.......8.......9.....10

4867            KK  RSTM99    ROUTE
4868            KM   Route diversion retrieval DRTM99 south to combination point CTM99
4869            RS       8     FLOW
4870            RC   0.035   0.015   0.035    5280  0.0009     0.00
4871            RX    0.00    0.00   16.50   16.50  107.50  107.50  124.00  124.00
4872            RY    3.00    0.66    0.50    0.00    0.00    0.50    0.66    3.00
                *
4873            KK    TM99    BASIN
4874            KM   Runoff hydrograph for subbasin TM99 northeast of the intersection of Thomas
4875            KM   Road and 99th Avenue
4876            BA   0.505
4877            LG    0.10    0.15    8.80    0.05      80
4878            UC   0.821   0.607
4879            UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
4880            UA     100
                *
4881            KK    CTM99 COMBINE
4882            KM   Combine route RSTM99 and subbasin TM99
4883            HC       2    0.62
                *
4884            KK  DWRI07  DIVERT
4885            KM   Divert runoff hydrograph from combination point CTM99 west to combination
4886            KM   point CRI07
4887            DT  DSMD99      0.0     0.0
4888            DI       0     100     200     500    1000    2000    4000   10000   20000   50000
4889            DQ       0      46      92     230     460     920    1840    4600    9200   23000
                *
4890            KK  RWRI07    ROUTE
4891            KM   Route diversion DWRI07 west to combination point CRI07
4892            RS       7     FLOW
4893            RC   0.035   0.015   0.035    5402  0.0013     0.00
4894            RX    0.00    0.00   16.50   16.50  107.50  107.50  124.00  124.00
4895            RY    3.00    0.66    0.50    0.00    0.00    0.50    0.66    3.00
                *
4896            KK  DRRI07RETRIEVE
4897            KM   Retrieve divert DRRI07 from combination point CIS07 and divert south to
4898            KM   combination point CRI07
4899            DR  DSRI07
                *
4900            KK  RSRI07    ROUTE
4901            KM   Route diversion retrieval DRRI07 south to combination point CRI07
4902            RS       3     FLOW
4903            RC   0.035   0.015   0.035    2640  0.0008     0.00
4904            RX    0.00    0.00   26.00   26.00  148.00  148.00  174.00  174.00
4905            RY    3.00    0.76    0.50    0.00    0.00    0.50    0.76    3.00
                *
1                                          HEC-1 INPUT                                          PAGE127

LINE            ID.......1.......2.......3.......4.......5.......6.......7.......8.......9.....10

4906            KK    RI07    BASIN
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4907            KM   Runoff hydrograph for subbasin RI07 northeast of the intersection of the
4908            KM   Roosevelt Irrigation District Canal and 107th Avenue
4909            BA   0.759
4910            LG    0.17    0.15    8.80    0.05      58
4911            UC   1.233   0.764
4912            UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
4913            UA     100
                *
4914            KK  ERRI07  DIVERT
4915            KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
4916            KM   retention developed after 1990 in subbasin RI07
4917            DT   XRI07     65.5     0.0
4918            DI       0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
4919            DQ       0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
                *
4920            KK    CRI07 COMBINE
4921            KM   Combine route RWRI07, route RSRI07 and subbasin RI07
4922            HC       3    1.67
                *
4923            KK   DRIAF  DIVERT
4924            KM   Divert portion of runoff hydrograph from combination point CRIAF south to the
4925            KM   intersection of Thomas Road and 107th Avenue and the remaining flow
4926            KM   west to the intersection of the Roosevelt Irrigation District canal and the
4927            KM   Agua Fria River. The diversion is based on topography
4928            DT   DTM07      0.0     0.0
4929            DI       0     100     200     500    1000    2000    4000   10000   20000   50000
4930            DQ       0      49      98     245     490     980    1960    4900    9800   24500
                *
4931            KK  DWRIAF  DIVERT
4932            KM   Divert runoff hydrograph from combination point CRI07 west to combination
4933            KM   point CRIAF
4934            DT  DSTM07      0.0     0.0
4935            DI       0     100     200     500    1000    2000    4000   10000   20000   50000
4936            DQ       0      62     124     310     620    1240    2480    6200   12400   31000
                *
4937            KK  RWRIAF    ROUTE
4938            KM   Route diversion DWRIAF west to combination point CRIAF
4939            RS      10     FLOW
4940            RC   0.035   0.015   0.035    10904  0.0007     0.00
4941            RX    0.00    0.00   22.00   22.00  103.00  103.00  125.00  125.00
4942            RY    3.00    0.72    0.50    0.00    0.00    0.50    0.72    3.00
                *
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LINE            ID.......1.......2.......3.......4.......5.......6.......7.......8.......9.....10

4943            KK    RIAF    BASIN
4944            KM   Runoff hydrograph for subbasin RIAF north of the Roosevelt Irrigation
4945            KM   District Canal and east of the Agua Fria River
4946            BA   0.659
4947            LG    0.22    0.18    6.60    0.13      41
4948            UC   1.500   1.317
4949            UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
4950            UA     100
                *
4951            KK    CRIAF COMBINE
4952            KM   Combine route RWRIAF and subbasin RIAF
4953            HC       2    0.98
                *
4954            KK  DRBHAFRETRIEVE
4955            DR  DWBHAF
                *
4956            KK  SRBHRI STORAGE
4957            KM   Storage route runoff hydrograph from combination point CRIAF through ponding
4958            KM     area at the Roosevelt Irrigation District Canal and the Agua Fria River
4959            KM   Stage-storage-discharge data from Maryvale ADMS, Feb 1997
4960            RS       1     STOR
4961            SV             15.00   34.70   63.80  107.60
4962            SQ              0.10    0.20 4536.0013441.00
4963            SE  1050.0 1052.00 1053.00 1054.00 1055.00
                *
4964            KK    CAF01 COMBINE
4965            KM   Combine combination point CCBNR, combination point CISAF, and combination
4966            KM   point CRIAF
4967            HC       5    4.31
                *
4968            KK    CB83    BASIN
4969            KM   Runoff hydrograph for subbasin CB83 northeast of the intersection of
4970            KM   Camelback Road and 83rd Avenue
4971            BA   0.554
4972            LG    0.27    0.15    8.00    0.08      20
4973            UC   0.955   0.500
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4974          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
4975          UA     100
              *

4976          KK  ERCB83  DIVERT
4977          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
4978          KM   retention developed after 1990 in subbasin CB83
4979          DT   XCB83     18.0      0.0
4980          DI       0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
4981          DQ       0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

4982          KK   D83CB  DIVERT
4983          KM   Divert calculated full flow capapcity of 10 cfs into 24-inch storm drain
4984          KM   pipe at the intersection of Camelback Road and 83rd Avenue
4985          DT   DP83CB      0.0     10.0
4986          DI       0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
4987          DQ       0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

4988          KK  DWCB91  DIVERT
4989          KM   Divert remaining runoff hydrograph from subbasin CB83 west to combination
4990          KM   point CCB91
4991          DT   DSIS83      0.0      0.0
4992          DI       0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0  10000.0  20000.0  50000.0
4993          DQ       0.0     44.0     88.0    220.0    440.0    880.0   1760.0   4400.0   8800.0  22000.0
              *

4994          KK  RWCB91   ROUTE
4995          KM   Route diversion DWCB91 west to combination point CCB91
4996          RS       7     FLOW
4997          RC   0.035    0.015    0.035     5280   0.0036     0.00
4998          RX    0.00     0.00    57.50    57.50   291.50   291.50   349.00   349.00
4999          RY    3.00     1.08     0.50     0.00     0.00     0.50     1.08     3.00
              *

5000          KK    CB91   BASIN
5001          KM   Runoff hydrograph for square mile subbasin CB91 northeast of the intersection
5002          KM   of Camelback Road and 91st Avenue
5003          BA   0.961
5004          LG    0.25     0.15     8.80     0.06       28
5005          UC   1.424    0.956
5006          UA       0      5.0     16.0     30.0     65.0     77.0     84.0     90.0     94.0     97.0
5007          UA     100
              *

5008          KK  ERCB91  DIVERT
5009          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
5010          KM   retention developed after 1990 in subbasin CB91
5011          DT   XCB91     66.1      0.0
5012          DI       0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
5013          DQ       0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

5014          KK   CCB91 COMBINE
5015          KM   Combine route RWCB91 and subbasin CB91
5016          HC       2     1.32
              *

5017          KK  DWCBLO  DIVERT
5018          KM   Divert remaining runoff hydrograph from combination point CCB91 west to
5019          KM   combination point CCBLO
5020          DT   DSIS91      0.0      0.0
5021          DI       0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0  10000.0  20000.0  50000.0
5022          DQ       0.0     47.0     94.0    235.0    470.0    940.0   1880.0   4700.0   9400.0  23500.0
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

5023          KK  RWCBLO   ROUTE
5024          KM   Route diversion DWCBLO west to combination point CCBLO
5025          RS       6     FLOW
5026          RC   0.035    0.015    0.035     4287   0.0028     0.00
5027          RX    0.00     0.00    48.00    48.00   251.00   251.00   299.00   299.00
5028          RY    3.00     0.98     0.50     0.00     0.00     0.50     0.98     3.00
              *

5029          KK    CBLO   BASIN
5030          KM   Runoff hydrograph for subbasin CBLO northeast of the intersection of
5031          KM   Camelback Road and SR Loop 101
5032          BA   0.818
5033          LG    0.18     0.15     8.80     0.06       53
5034          UC   1.134    0.770
5035          UA       0      5.0     16.0     30.0     65.0     77.0     84.0     90.0     94.0     97.0
5036          UA     100
              *
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5037          KK  ERCBLO  DIVERT
5038          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
5039          KM   retention developed after 1990 in subbasin CBLO
5040          DT   XCBLO     55.1      0.0
5041          DI       0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
5042          DQ       0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

5043          KK   CCBLO COMBINE
5044          KM   Combine route RWCBLO and subbasin CBLO
5045          HC       2     1.52
              *

5046          KK  RSISLO   ROUTE
5047          KM   Route hydrograph at combination point CCBLO south to combination point CISLO
5048          RS       5     FLOW
5049          RC   0.035    0.015    0.035     5583   0.0010     0.00
5050          RX    0.00     4.00    14.00    29.00    49.00    64.00    94.00    97.00
5051          RY   11.20    10.20    10.00     0.00     0.40    10.40    11.84    12.84
              *

5052          KK    IS75   BASIN
5053          KM   Runoff hydrograph for subbasin IS75 northeast of the intersection of Indian
5054          KM   School Road and 75th Avenue
5055          BA   0.615
5056          LG    0.23     0.15     7.60     0.08       41
5057          UC   1.060    0.639
5058          UA       0      5.0     16.0     30.0     65.0     77.0     84.0     90.0     94.0     97.0
5059          UA     100
              *
1                                        HEC-1 INPUT                                                    PAGE131

LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

5060          KK  ERIS75  DIVERT
5061          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
5062          KM   retention developed after 1990 in subbasin IS75
5063          DT   XIS75      0.8      0.0
5064          DI       0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
5065          DQ       0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

5066          KK   D75IS  DIVERT
5067          KM   Divert calculated full flow capapcity of 123 cfs into 60-inch storm drain
5068          KM   pipe at the intersection of Indian School Road and 75th Avenue
5069          DT   DP75IS      0.0    123.0
5070          DI       0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
5071          DQ       0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

5072          KK  DWIS83  DIVERT
5073          KM   Divert remaining runoff hydrograph from combination point CPIS75 west to
5074          KM   combination point CIS83
5075          DT   DSTM75      0.0      0.0
5076          DI       0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0  10000.0  20000.0  50000.0
5077          DQ       0.0     35.0     70.0    175.0    350.0    700.0   1400.0   3500.0   7000.0  17500.0
              *

5078          KK  RWIS83   ROUTE
5079          KM   Route diversion DWIS83 west to combination point CIS83
5080          RS       7     FLOW
5081          RC   0.035    0.015    0.035     5280   0.0028     0.00
5082          RX    0.00     0.00    76.50    76.50   372.50   372.50   449.00   449.00
5083          RY    3.00     1.27     0.50     0.00     0.00     0.50     1.27     3.00
              *

5084          KK  DRIS83RETRIEVE
5085          KM   Retrieve divert DRIS83 from subbasin CB83 and divert south to combination
5086          KM   point CIS83
5087          DR   DSIS83
              *

5088          KK  RSIS83   ROUTE
5089          KM   Route diversion retrieval DRIS83 south to combination point CIS83
5090          RS       9     FLOW
5091          RC   0.035    0.015    0.035     5280   0.0022     0.00
5092          RX    0.00     0.00    57.50    57.50   291.50   291.50   349.00   349.00
5093          RY    3.00     1.08     0.50     0.00     0.00     0.50     1.08     3.00
              *

5094          KK    IS83   BASIN
5095          KM   Runoff hydrograph for square mile subbasin IS83 northeast of the intersection
5096          KM   Indian School Road and 83rd Avenue
5097          BA   0.991
5098          LG    0.24     0.17     6.80     0.12       34
5099          UC   1.387    0.924
5100          UA       0      5.0     16.0     30.0     65.0     77.0     84.0     90.0     94.0     97.0
5101          UA     100
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10
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5102          KK  CIS83 COMBINE
5103          KM  Combine route RWIS83, route RSIS83 and subbasin IS83
5104          HC       3    1.64
              *

5105          KK  PR83CBRETRIEVE
5106          KM  Retrieve full flow capacity of 10 cfs from 24-inch storm drain pipe at the
5107          KM  intersection of Camelback Road and 83rd Avenue
5108          DR  DP83CB
              *

5109          KK  RP83IS   ROUTE
5110          KM  Route full flow capacity of 10 cfs through 24-inch storm drain pipe in
5111          KM  83rd Avenue to the intersection of Indian School Road and 83rd Avenue
5112          RK   5208  0.0019   0.015            CIRC   2.000
              *

5113          KK  CPIS83 COMBINE
5114          KM  Combine pipe return PR83CB with the runoff hydrograph at combination point
5115          KM  CIS83 at the intersection of Indian School Road and 83rd Avenue
5116          HC       2
              *

5117          KK  D83IS  DIVERT
5118          KM  Divert calculated full flow capapcity of 187 cfs into 72-inch storm drain
5119          KM  pipe at the intersection of Indian School Road and 83rd Avenue
5120          DT  DP83IS      0.0   187.0
5121          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
5122          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

5123          KK  DWIS91  DIVERT
5124          KM  Divert remaining runoff hydrograph from combination point CPIS83 west to
5125          KM  combination point CIS91
5126          DT  DSTM83      0.0     0.0
5127          DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
5128          DQ     0.0    55.0   110.0   275.0   550.0  1100.0  2200.0  5500.0 11000.0 27500.0
              *

5129          KK  RWIS91   ROUTE
5130          KM  Route diversion DWIS91 west to combination point CIS91
5131          RS       3    FLOW
5132          RC  0.035   0.015   0.035    5280  0.0030    0.00
5133          RX   0.00    0.00   54.50   54.50  269.50  269.50  324.00  324.00
5134          RY   3.00    1.04    0.50    0.00    0.00    0.50    1.04    3.00
              *

5135          KK  DRIS91RETRIEVE
5136          KM  Retrieve divert DRIS91 from combination point CCB91 and divert south to
5137          KM  combination point CIS91
5138          DR  DSIS91
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9.....10

5139          KK  RSIS91   ROUTE
5140          KM  Route diversion retrieval DRIS91 south to combination point CIS91
5141          RS       9    FLOW
5142          RC  0.035   0.015   0.035    5280  0.0017    0.00
5143          RX   0.00    0.00   57.50   57.50  291.50  291.50  349.00  349.00
5144          RY   3.00    1.08    0.50    0.00    0.00    0.50    1.08    3.00
              *

5145          KK   IS91   BASIN
5146          KM  Runoff hydrograph for square mile subbasin IS91 northeast of the intersection
5147          KM  Indian School Road and 91st Avenue
5148          BA  0.999
5149          LG   0.25    0.15    9.70    0.04      37
5150          UC  1.416   0.948
5151          UA      0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
5152          UA    100
              *

5153          KK  ERIS91  DIVERT
5154          KM  Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
5155          KM  retention developed after 1990 in subbasin IS91
5156          DT  XIS91    24.6     0.0
5157          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
5158          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

5159          KK   CIS91 COMBINE
5160          KM  Combine route RWIS91, route RSIS91 and subbasin IS91
5161          HC       3    2.36
              *

5162          KK   D91IS  DIVERT
5163          KM  Divert calculated full flow capapcity of 190 cfs into 72-inch storm drain
5164          KM  pipe at the intersection of Indian School Road and 91st Avenue
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5165          DT  DP91IS      0.0   190.0
5166          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
5167          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

5168          KK  DWISLO  DIVERT
5169          KM  Divert remaining runoff hydrograph from combination point CIS91 west to
5170          KM  combination point CISLO
5171          DT  DSTM91      0.0     0.0
5172          DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
5173          DQ     0.0    57.0   114.0   285.0   570.0  1140.0  2280.0  5700.0 11400.0 28500.0
              *

5174          KK  RWISLO   ROUTE
5175          KM  Route diversion DWISLO west to combination point CISLO
5176          RS       1    FLOW
5177          RC  0.035   0.015   0.035    2651  0.0039    0.00
5178          RX   0.00    0.00   35.50   35.50  188.50  188.50  224.00  224.00
5179          RY   3.00    0.86    0.50    0.00    0.00    0.50    0.86    3.00
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9.....10

5180          KK    ISLO   BASIN
5181          KM  Runoff hydrograph for subbasin ISLO northeast of the intersection of Indian
5182          KM  School Road and SR Loop 101
5183          BA  0.684
5184          LG   0.17    0.15    9.70    0.04      56
5185          UC  1.013   0.648
5186          UA      0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
5187          UA    100
              *

5188          KK  ERISLO  DIVERT
5189          KM  Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
5190          KM  retention developed after 1990 in subbasin ISLO
5191          DT  XISLO    58.0     0.0
5192          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
5193          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

5194          KK   CISLO COMBINE
5195          KM  Combine route RWISLO, route RSISLO and subbasin ISLO
5196          HC       3    3.22
              *

5197          KK  RSTMLO   ROUTE
5198          KM  Route hydrograph at combination point CISLO south to combination point CTMLO
5199          RS       3    FLOW
5200          RC  0.035   0.015   0.035    5309  0.0010    0.00
5201          RX   0.00    4.00   14.00   29.00   44.00   59.00   73.00   76.00
5202          RY  11.20   10.20   10.00    0.00    0.30   10.30   10.58   11.58
              *

5203          KK  DRGCGRRETRIEVE
5204          KM  Retrieve divert DRGCGR from combination point CGR35 and divert south to
5205          KM  combination point CIGR35
5206          DR  DEGCGR
              *

5207          KK  DIGCGRRETRIEVE
5208          KM  Retrieve divert DIGCGR from combination point CPIS35 and divert south to
5209          KM  combination point CIGR35
5210          DR  DSGCGR
              *

5211          KK  CIGR35 COMBINE
5212          KM  Combine arterial street flow from Grand Avenue DEGCGR with runoff hydrograph
5213          KM  DGRGC at the intersection of 35th Avenue and Grand Avenue
5214          HC       2    3.97
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9.....10

5215          KK  RSGCGR   ROUTE
5216          KM  Route hydrograph at combination point CIGR35 at the intersection of Grand
5217          KM  Avenue and 35th Avenue south to combination point CGCGR
5218          RS       2    FLOW
5219          RC  0.035   0.015   0.035    3104  0.0029    0.00
5220          RX   0.00    0.00   48.00   48.00  251.00  251.00  299.00  299.00
5221          RY   3.00    0.98    0.50    0.00    0.00    0.50    0.98    3.00
              *

5222          KK  DRGC27RETRIEVE
5223          KM  Retrieve divert DRGC27 from combination point CPIS27 and divert south to
5224          KM  combination point CGCGR
5225          DR  DSGC27
              *
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5226          KK  RSGC27   ROUTE
5227          KM   Route diversion retrieval DRGC27 south to combination point CGC27
5228          RS       1    FLOW
5229          RC   0.035   0.015   0.035    1755  0.0028    0.00
5230          RX    0.00    0.00   16.50   16.50  107.50  107.50  124.00  124.00
5231          RY    3.00    0.66    0.50    0.00    0.00    0.50    0.66    3.00
              *

5232          KK    GCGR   BASIN
5233          KM   Runoff hydrograph for subbasin GCGR northeast of the intersection of Grand
5234          KM   Avenue and the Grand Canal
5235          BA   0.376
5236          LG    0.15    0.25    5.00    0.23      77
5237          UC   0.280   0.065
5238          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
5239          UA     100
              *

5240          KK   CGCGR COMBINE
5241          KM   Combine route RSGCGR, route RSGC27, and subbasin GCGR
5242          HC       3    6.09
              *

5243          KK  PR31ISRETRIEVE
5244          KM   Retrieve full flow capacity of 268 cfs from 72-inch diameter pipe at the
5245          KM   intersection of Indian School Road and 31st Avenue
5246          DR  DP31IS
              *

5247          KK  RP31GC   ROUTE
5248          KM   Route full flow capacity of 268 cfs through 72-inch storm drain pipe
5249          KM   in 31st Avenue to the intersection of 31st Avenue and the Grand Canal
5250          RK    2506  0.0040   0.015            CIRC   6.000
              *
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5251          KK  PR27ISRETRIEVE
5252          KM   Retrieve full flow capacity of 151 cfs from 60-inch diameter pipe at the
5253          KM   intersection of Indian School Road and 27th Avenue
5254          DR  DP27IS
              *

5255          KK  RP27GC   ROUTE
5256          KM   Route full flow capacity of 151 cfs through 60-inch storm drain pipe in
5257          KM   in 27th Avenue to the intersection of 27th Avenue and the Grand Canal
5258          RK    1763  0.0034   0.015            CIRC   5.000
              *

5259          KK  CPGCGR COMBINE
5260          KM   Combine pipe return PR27IS and pipe return PR35IS with the runoff hydrograph
5261          KM   at combination point CGCGR at the intersection of the Grand Canal and Grand
5262          KM   Avenue
5263          HC       3
              *

5264          KK   DGCGR  DIVERT
5265          KM   Capacity of storm drain in 27th Avenue and 29th Avenue diverted together.
5266          KM   Divert combined calculated full flow capacity of 257 cfs in the 72-inch storm
5267          KM   drain pipe in 27th Avenue and 165 cfs in the 60-inch storm drain pipe in
5268          KM   29th Avenue. The total calculated combined full flow capacity diverted at the
5269          KM   intersection of the Grand Canal and Grand Avenue is 422 cfs in an equivalent
5270          KM   diameter pipe of 87 inches
5271          DT  DPGCGR      0.0   422.0
5272          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
5273          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

5274          KK  SRGCGR STORAGE
5275          KM   Storage route runoff hydrograph from divert DGCGR through ponding
5276          KM     area at the Grand Canal between I-17 and Grand Avenue
5277          KM   Storage routing ID RES26E in Maryvale ADMS, Feb 1997 - comments from ADMS:
5278          KM   PONDING AREA RESERVOIR ROUTE
5279          KM   PONDING AREA NORTHEAST OF GRAND AVENUE/RR EMBANKMENT
5280          KM   SUB-BASIN 26-22E
5281          RS       1    STOR      0.
5282          SV           0.10   13.20   45.92   91.09  149.48
5283          SQ         160.00  160.00  376.00 1056.00 6078.00
5284          SE  1095.0 1096.00 1097.00 1098.00 1099.00 1100.00
              *

5285          KK  RSGR27   ROUTE
5286          KM   Route diversion retrieval DRGR27 south to combination point CGR27
5287          RS       3    FLOW
5288          RC   0.035   0.015   0.035    4632  0.0019    0.00
5289          RX    0.00    0.00   33.00   33.00  215.00  215.00  248.00  248.00
5290          RY    3.00    0.83    0.50    0.00    0.00    0.50    0.83    3.00
              *
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5291          KK    GR27   BASIN
5292          KM   Runoff hydrograph for subbasin GR27 northwest of the intersection of Grand
5293          KM   Avenue and 27th Avenue
5294          BA   0.407
5295          LG    0.18    0.15    8.40    0.06      66
5296          UC   0.604   0.328
5297          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
5298          UA     100
              *

5299          KK   CTM27 COMBINE
5300          KM   Combine route RSGR27 and subbasin GR27
5301          HC       2    6.50
              *

5302          KK   DTM27  DIVERT
5303          KM   Divert portion of runoff hydrograph from combination point CTM27  to storage
5304          KM   route SRTM27 where it will be routed through the Verde Basin near the
5305          KM   intersection of Thomas and 27th Avenue.  The remaining flow is diverted to
5306          KM   combination point CGR27. The diversion is based on topography
5307          DT   DGR27      0.0     0.0
5308          DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
5309          DQ     0.0    50.0   100.0   250.0   500.0  1000.0  2000.0  5000.0 10000.0 25000.0
              *

5310          KK  SRTM27 STORAGE
5311          KM   Storage route runoff hydrograph from storm drain route RP27TM thru regional
5312          KM     detention basin near the intersection of Thomas Road and 27th Avenue
5313          KM   Stage-storage-discharge data from 26th Avenue and Verde Lane Drainage
5314          KM     Improvement Project Phase II Plans, November 2005 (Verde Basin)
5315          RS       1    STOR
5316          SV            0.50    1.40    3.10    5.70    9.00   12.50   16.30   20.00   22.00
5317          SV    24.1
5318          SQ     0.0    49.0    20.0    25.0    29.0    33.0    36.0    39.0    42.0   521.0
5319          SQ  1395.0
5320          SE  1088.0  1089.0  1090.0  1091.0  1092.0  1093.0  1094.0  1095.0  1096.0  1096.5
5321          SE  1097.0
              *

5322          KK  PRGCGRRETRIEVE
5323          KM   Retrieve combined full flow capacity of 422 cfs from 87-inch equivalent
5324          KM   diameter pipe at the intersection of the Grand Canal and Grand Avenue
5325          DR  DPGCGR
              *

5326          KK    D31GR  DIVERT
5327          KM   Divert calculated full flow capapcity of 257 cfs into 72-inch storm drain
5328          KM   pipe at the intersection of Grand Avenue and 31st Avenue
5329          DT  DP31GR      0.0   257.0
5330          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
5331          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9.....10

5332          KK  RP27TM   ROUTE
5333          KM   Route full flow capacity of 151 cfs through 60-inch storm drain pipe in
5334          KM   27th Avenue to the intersection of Thomas Road and 27th Avenue
5335          RK    3088  0.0034   0.015            CIRC   5.000
              *

5336          KK  CPGR27 COMBINE
5337          KM   Combine remainder of pipe return PRGCGR with the runoff hydrograph at
5338          KM   storage route SRTM27 at the intersection of Grand Avenue and 27th Avenue
5339          HC       2
              *

5340          KK    D27GR  DIVERT
5341          KM   Divert calculated full flow capapcity of 195 cfs into 66-inch storm drain
5342          KM   pipe at the intersection of Grand Avenue and 27th Avenue
5343          DT  DP27GR      0.0   195.0
5344          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
5345          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

5346          KK  DRGR27RETRIEVE
5347          KM   Retrieve divert DRGR27 from combination point CRM27 and divert south to
5348          KM   combination point CGR27
5349          DR   DGR27
              *

5350          KK   CGR27 COMBINE
5351          KM   Combine divert D27GR and divert retrieval DRGR27
5352          HC       2    6.50
              *

5353          KK  SRGR27 STORAGE
5354          KM   Storage route runoff hydrograph from divert D27GR through regional detention
5355          KM     basin near the intersection of Grand Avenue and 27th Avenue.
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5356          KM   Stage-storage-discharge data from State Highway Wickenburg-Phoenix Highway
5357          KM     (US 60), 27th Avnue/Thomas Road As-builts, ADOT, August 2006
5358          RS       1    STOR
5359          SV             0.30    2.10    8.50   15.80   23.90   32.70   42.20   47.30   49.93
5360          SV    52.6     57.8
5361          SQ       0        2       7      14      19      22      25      28      29       3
5362          SQ     813     1469
5363          SE  1084.0  1085.0  1086.0  1088.0  1090.0  1092.0  1094.0  1096.0  1097.0    1097
5364          SE  1098.0  1098.5
              *
5365          KK  DWTM35  DIVERT
5366          KM   Divert remaining runoff hydrograph from combination point CPGR27 west to
5367          KM   combination point CTM35
5368          DT  DSMD27      0.0     0.0
5369          DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
5370          DQ     0.0    68.0   136.0   340.0   680.0  1360.0  2720.0  6800.0 13600.0 34000.0
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

5371          KK  RWTM35   ROUTE
5372          KM   Route diversion DWTM35 west to combination point CTM35
5373          RS       5    FLOW
5374          RC   0.035   0.015   0.035    5280  0.0008     0.00
5375          RX    0.00    0.00   16.50   16.50  107.50  107.50  124.00  124.00
5376          RY    3.00    0.66    0.50    0.00    0.00    0.50    0.66    3.00
              *
5377          KK  DRTM35RETRIEVE
5378          KM   Retrieve divert DRTM35 from combination point CGC35 and divert south to
5379          KM   combination point CTM35
5380          DR  DSTM35
              *
5381          KK  RSTM35   ROUTE
5382          KM   Route diversion retrieval DRTM35 south to combination point CTM35
5383          RS       1    FLOW
5384          RC   0.035   0.015   0.035    3050  0.0051     0.00
5385          RX    0.00    0.00   16.50   16.50  107.50  107.50  124.00  124.00
5386          RY    3.00    0.66    0.50    0.00    0.00    0.50    0.66    3.00
              *
5387          KK    TM35   BASIN
5388          KM   Runoff hydrograph for subbasin TM35 northeast of the intersection of Thomas
5389          KM   Road and 35th Avenue
5390          BA   0.393
5391          LG    0.14    0.15    7.60    0.08      80
5392          UC   0.548   0.315
5393          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
5394          UA     100
              *
5395          KK   CTM35 COMBINE
5396          KM   Combine route RWTM35, route RSTM35, and subbasin TM35
5397          HC       3    4.31
              *
5398          KK  PR31GRRETRIEVE
5399          KM   Retrieve full flow capacity of 257 cfs from 72-inch storm drain pipe at the
5400          KM   intersection of Grand Avenue and 31st Avenue
5401          DR  DP31GR
              *
5402          KK  RP31TM   ROUTE
5403          KM   Route full flow capacity of 257 cfs through 72-inch storm drain pipe in
5404          KM   31st Avenue to the intersection of Thomas Road and 31st Avenue
5405          RK    3862  0.0037   0.015            CIRC   6.000
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

5406          KK  PR35GCRETRIEVE
5407          KM   Retrieve full flow capacity of 40 cfs from 36-inch storm drain pipe at the
5408          KM   intersection of the Grand Canal and 35th Avenue
5409          DR  DP35GC
              *
5410          KK  RP35TM   ROUTE
5411          KM   Route full flow capacity of 40 cfs through 36-inch storm drain pipe in
5412          KM   35th Avenue to the intersection of Thomas Road and 35th Avenue
5413          RK    3051  0.0035   0.015            CIRC   3.000
              *
5414          KK  CPTM35 COMBINE
5415          KM   Combine pipe returns PR31GR and PR35GC with the runoff hydrograph at
5416          KM   combination point CTM35 at the intersection of Thomas Road and 35th Avenue
5417          HC       3
              *
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5418          KK   D35TM  DIVERT
5419          KM   Capacity of storm drain in 31st Avenue and 35th Avenue diverted together.
5420          KM   Divert combined calculated full flow capacity of 213 cfs in the 66-inch storm
5421          KM   drain pipe in 31st AVenue and 87 cfs in the 48-inch storm drain pipe in
5422          KM   35th Avenue. The total calculated combined full flow capacity diverted at the
5423          KM   intersection of 35th Avenue and Thomas Road is 300 cfs in an equivalent
5424          KM   diameter pipe of 77 inches
5425          DT  DP35TM      0.0   300.0
5426          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
5427          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *
5428          KK  DWTM43  DIVERT
5429          KM   Divert remaining runoff hydrograph from combination point CPTM35 west to
5430          KM   combination point CTM43
5431          DT  DSMD35      0.0     0.0
5432          DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
5433          DQ     0.0    84.0   168.0   420.0   840.0  1680.0  3360.0  8400.0 16800.0 42000.0
              *
5434          KK  RWTM43   ROUTE
5435          KM   Route diversion DWTM43 west to combination point CTM43
5436          RS       9    FLOW
5437          RC   0.035   0.015   0.035    5280  0.0003     0.00
5438          RX    0.00    0.00   38.50   38.50  210.50  210.50  249.00  249.00
5439          RY    3.00    0.88    0.50    0.00    0.00    0.50    0.88    3.00
              *
5440          KK  DRTM43RETRIEVE
5441          KM   Retrieve divert DRTM43 from combination point CGC43 and divert south to
5442          KM   combination point CTM43
5443          DR  DSTM43
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

5444          KK  RSTM43   ROUTE
5445          KM   Route diversion retrieval DRTM43 south to combination point CTM43
5446          RS       1    FLOW
5447          RC   0.035   0.015   0.035    3050  0.0045     0.00
5448          RX    0.00    0.00   16.50   16.50  107.50  107.50  124.00  124.00
5449          RY    3.00    0.66    0.50    0.00    0.00    0.50    0.66    3.00
              *
5450          KK    TM43   BASIN
5451          KM   Runoff hydrograph for subbasin TM43 northeast of the intersection of Thomas
5452          KM   Road and 43rd Avenue
5453          BA   0.636
5454          LG    0.23    0.15    8.80    0.05      37
5455          UC   1.398   1.001
5456          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
5457          UA     100
              *
5458          KK  ERTM43  DIVERT
5459          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
5460          KM   retention developed after 1990 in subbasin TM43
5461          DT  XTM43       1.7     0.0
5462          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
5463          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *
5464          KK   CTM43 COMBINE
5465          KM   Combine route RWTM43, route RSTM43, and subbasin TM43
5466          HC       3    3.16
              *
5467          KK  PR43GCRETRIEVE
5468          KM   Retrieve combined full flow capacity of 406 cfs from 87-inch equivalent
5469          KM   diameter pipe at the intersection of the Grand Canal and 43rd Avenue
5470          DR  DP43GC
              *
5471          KK  RP43TM   ROUTE
5472          KM   Route the combined full flow capacity of 406 cfs through an equivalent storm
5473          KM   drain pipe diameter of 87 inches in 43rd Avenue to the intersection of
5474          KM   43rd Avenue and Thomas Road
5475          RK    2924  0.0035   0.015            CIRC   7.250
              *
5476          KK  CPTM43 COMBINE
5477          KM   Combine pipe return PR43GC with the runoff hydrograph at combination point
5478          KM   CTM43 at the intersection of the Grand Canal and 43rd Avenue
5479          HC       2
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10
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5480          KK   D43TM  DIVERT
5481          KM   Capacity of storm drain in 39th Avenue and 43rd Avenue diverted together.
5482          KM   Divert combined calculated full flow capacity of 404 cfs in the 84-inch storm
5483          KM   drain pipe in 39th AVenue and 225 cfs in the 69-inch storm drain pipe in
5484          KM   43rd Avenue. The total calculated combined full flow capacity diverted at the
5485          KM   intersection of 43rd Avenue and Thomas Road is 629 cfs in an equivalent
5486          KM   diameter pipe of 102 inches
5487          DT  DP43TM     0.0   629.0
5488          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
5489          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

5490          KK  DWTM51  DIVERT
5491          KM   Divert remaining runoff hydrograph from combination point CTM43 west to
5492          KM   combination point CTM51
5493          DT  DSMD43      0.0      0.0
5494          DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
5495          DQ     0.0    79.0   158.0   395.0   790.0  1580.0  3160.0  7900.0 15800.0 39500.0
              *

5496          KK  RWTM51   ROUTE
5497          KM   Route diversion DWTM51 west to combination point CTM51
5498          RS      9     FLOW
5499          RC   0.035   0.015   0.035    5280  0.0004     0.00
5500          RX    0.00    0.00   48.00   48.00  251.00  251.00  299.00  299.00
5501          RY    3.00    0.98    0.50    0.00    0.00    0.50    0.98    3.00
              *

5502          KK  DRTM51RETRIEVE
5503          KM   Retrieve divert DRTM51 from combination point CPGC51 and divert south to
5504          KM   combination point CTM51
5505          DR  DSTM51
              *

5506          KK  RSTM51   ROUTE
5507          KM   Route diversion retrieval DRTM51 south to combination point CTM51
5508          RS      2     FLOW
5509          RC   0.035   0.015   0.035    2916  0.0044     0.00
5510          RX    0.00    0.00   29.00   29.00  170.00  170.00  199.00  199.00
5511          RY    3.00    0.79    0.50    0.00    0.00    0.50    0.79    3.00
              *

5512          KK    TM51   BASIN
5513          KM   Runoff hydrograph for subbasin TM51 northeast of the intersection of Thomas
5514          KM   Road and 51st Avenue
5515          BA   0.545
5516          LG    0.24    0.19    6.60    0.13      33
5517          UC   1.449   1.121
5518          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
5519          UA     100
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

5520          KK   CTM51 COMBINE
5521          KM   Combine route RWTM51, route RSTM51, and subbasin TM51
5522          HC       3    2.15
              *

5523          KK  PR51GCRETRIEVE
5524          KM   Retrieve full flow capacity of 113 cfs from 54-inch storm drain pipe near the
5525          KM   intersection of the Grand Canal and 51st Avenue
5526          DR  DP51GC
              *

5527          KK  PRGC53RETRIEVE
5528          KM   Retrieve full flow capacity of 20 cfs from 36-inch storm drain pipe at the
5529          KM   intersection of the Grand Canal and 53rd Avenue
5530          DR  DPGC53
              *

5531          KK  RPGC51   ROUTE
5532          KM   Route full flow capacity of 20 cfs through 36-inch storm drain near the
5533          KM   Grand Canal to the intersection of the Grand Canal and 51st Avenue
5534          RK    1038  0.0009   0.015            CIRC   3.000
              *

5535          KK  CPGC51 COMBINE
5536          KM   Combine pipe return PR51GC with pipe route RPGC51 at the intersection of
5537          KM   the Grand Canal and 51st Avenue
5538          HC       2    2.15
              *

5539          KK  RP51TM   ROUTE
5540          KM   Route combined full flow capacity of 133 cfs through a 72-inch storm drain
5541          KM   pipe in 51st Avenue to the intersection of Thomas Road and 51st Avenue
5542          RK    2803  0.0033   0.015            CIRC   6.000
              *

5543          KK  CPTM51 COMBINE
5544          KM   Combine the runoff hydrograph at combination point CTM51 with pipe route
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5545          KM   RP51TM at the intersection of Thomas Road and 51st Avenue
5546          HC       2
              *

5547          KK   D51TM  DIVERT
5548          KM   Divert calculated full flow capapcity of 244 cfs into 72-inch storm drain
5549          KM   pipe at the intersection of Thomas Road and 51st Avenue
5550          DT  DP51TM     0.0   244.0
5551          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
5552          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

5553          KK  DWTM59  DIVERT
5554          KM   Divert remaining runoff hydrograph from combination point CPTM51 west to
5555          KM   combination point CTM59
5556          DT  DSMD51      0.0      0.0
5557          DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
5558          DQ     0.0    64.0   128.0   320.0   640.0  1280.0  2560.0  6400.0 12800.0 32000.0
              *

5559          KK  RWTM59   ROUTE
5560          KM   Route diversion DWTM59 west to combination point CTM59
5561          RS      6     FLOW
5562          RC   0.035   0.015   0.035    5280  0.0013     0.00
5563          RX    0.00    0.00   48.00   48.00  251.00  251.00  299.00  299.00
5564          RY    3.00    0.98    0.50    0.00    0.00    0.50    0.98    3.00
              *

5565          KK  DRTM59RETRIEVE
5566          KM   Retrieve divert DRTM59 from combination point CPGC59 and divert south to
5567          KM   combination point CTM59
5568          DR  DSTM59
              *

5569          KK  RSTM59   ROUTE
5570          KM   Route diversion retrieval DRTM59 south to combination point CTM59
5571          RS      1     FLOW
5572          RC   0.035   0.015   0.035    2752  0.0054     0.00
5573          RX    0.00    0.00   29.00   29.00  170.00  170.00  199.00  199.00
5574          RY    3.00    0.79    0.50    0.00    0.00    0.50    0.79    3.00
              *

5575          KK    TM59   BASIN
5576          KM   Runoff hydrograph for subbasin TM59 northeast of the intersection of Thomas
5577          KM   Road and 59th Avenue
5578          BA   0.599
5579          LG    0.24    0.19    6.60    0.14      31
5580          UC   1.220   0.868
5581          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
5582          UA     100
              *

5583          KK   CTM59 COMBINE
5584          KM   Combine route RWTM59, route RSTM59, and subbasin TM59
5585          HC       3    3.90
              *

5586          KK  PRGC63RETRIEVE
5587          KM   Retrieve full flow capacity of 258 cfs from 72-inch storm drain pipe at the
5588          KM   intersection of the Grand Canal and 63rd Avenue
5589          DR  DPGC63
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

5590          KK  RP59TM   ROUTE
5591          KM   Route full flow capacity of 258 cfs through 72-inch storm drain pipe in
5592          KM   59th Avenue to the intersection of Thomas Road and 59th Avenue
5593          RK    4111  0.0037   0.015            CIRC   6.000
              *

5594          KK  CPTM59 COMBINE
5595          KM   Combine pipe return PRGC63 with the runoff hydrograph at combination point
5596          KM   CTM59 at the intersection of Thomas Road and 59th Avenue
5597          HC       2
              *

5598          KK   D59TM  DIVERT
5599          KM   Divert calculated full flow capapcity of 389 cfs into 84-inch storm drain
5600          KM   pipe at the intersection of Thomas Road and 59th Avenue
5601          DT  DP59TM     0.0   389.0
5602          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
5603          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

5604          KK  DWTM67  DIVERT
5605          KM   Divert remaining runoff hydrograph from combination point CPTM59 west to
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5606          KM   combination point CTM67
5607          DT  DSMD59      0.0      0.0
5608          DI      0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0 10000.0 20000.0 50000.0
5609          DQ      0.0     41.0     82.0    205.0    410.0    820.0   1640.0  4100.0  8200.0 20500.0
              *

5610          KK  RWTM67    ROUTE
5611          KM   Route diversion DWTM67 west to combination point CTM67
5612          RS       4     FLOW
5613          RC   0.035    0.015    0.035     5280   0.0015     0.00
5614          RX    0.00     0.00    95.50    95.50   453.50   453.50   549.00   549.00
5615          RY    3.00     1.46     0.50     0.00     0.00     0.50     1.46     3.00
              *

5616          KK  DRTM67RETRIEVE
5617          KM   Retrieve divert DRTM67 from combination point CPISGC and divert south to
5618          KM   combination point CTM67
5619          DR  DSTM67
              *

5620          KK  RSTM67    ROUTE
5621          KM   Route diversion DRTM67 south to combination point CTM67
5622          RS       4     FLOW
5623          RC   0.035    0.015    0.035     5280   0.0029     0.00
5624          RX    0.00     0.00     9.50     9.50    40.50    40.50    50.00    50.00
5625          RY    3.00     0.60     0.50     0.00     0.00     0.50     0.60     3.00
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

5626          KK    TM67    BASIN
5627          KM   Runoff hydrograph for subbasin TM67 northeast of the intersection of Thomas
5628          KM   Road and 67th Avenue
5629          BA   0.813
5630          LG    0.24     0.15     8.00     0.07       36
5631          UC   1.332    0.879
5632          UA       0      5.0     16.0     30.0     65.0     77.0     84.0     90.0     94.0     97.0
5633          UA     100
              *

5634          KK  ERTM67  DIVERT
5635          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
5636          KM   retention developed after 1990 in subbasin TM67
5637          DT   XTM67      1.1      0.0
5638          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
5639          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

5640          KK   CTM67 COMBINE
5641          KM   Combine route RWTM67, route RSTM67, and subbasin TM67
5642          HC       3     3.12
              *

5643          KK  PR67ISRETRIEVE
5644          KM   Retrieve full flow capacity of 175 cfs from 66-inch storm drain pipe at the
5645          KM   intersection of Indian School Road and 67th Avenue
5646          DR  DP67IS
              *

5647          KK  RP67TM    ROUTE
5648          KM   Route full flow capacity of 175 cfs through 66-inch storm drain pipe in
5649          KM   67th Avenue to the intersection of Thomas Road and 67th Avenue
5650          RK    5268   0.0027    0.015              CIRC    5.500
              *

5651          KK  CPTM67 COMBINE
5652          KM   Combine pipe flow at combination point CPIS67 with runoff hydrograph at
5653          KM   combination point CTM67 at the intersection of Thomas Road and 67th Avenue
5654          HC       2
              *

5655          KK   D67TM  DIVERT
5656          KM   Divert calculated full flow capapcity of 273 cfs into 78-inch storm drain
5657          KM   pipe at the intersection of Thomas Road and 67th Avenue
5658          DT  DP67TM      0.0    273.0
5659          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
5660          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

5661          KK  DWTM75  DIVERT
5662          KM   Divert remaining runoff hydrograph from combination point CPTM67 west to
5663          KM   combination point CTM75
5664          DT  DSMD67      0.0      0.0
5665          DI      0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0 10000.0 20000.0 50000.0
5666          DQ      0.0     45.0     90.0    225.0    450.0    900.0   1800.0  4500.0  9000.0 22500.0
              *
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5667          KK  RWTM75    ROUTE
5668          KM   Route diversion DWTM75 west to combination point CTM75
5669          RS       5     FLOW
5670          RC   0.035    0.015    0.035     5280   0.0023     0.00
5671          RX    0.00     0.00    76.50    76.50   372.50   372.50   449.00   449.00
5672          RY    3.00     1.27     0.50     0.00     0.00     0.50     1.27     3.00
              *

5673          KK  DRTM75RETRIEVE
5674          KM   Retrieve divert DRTM75 from combination point CPIS75 and divert south to
5675          KM   combination point CTM75
5676          DR  DSTM75
              *

5677          KK  RSTM75    ROUTE
5678          KM   Route diversion retrieval DRTM75 south to combination point CTM75
5679          RS       7     FLOW
5680          RC   0.035    0.015    0.035     5280   0.0027     0.00
5681          RX    0.00     0.00    38.50    38.50   210.50   210.50   249.00   249.00
5682          RY    3.00     0.88     0.50     0.00     0.00     0.50     0.88     3.00
              *

5683          KK    TM75    BASIN
5684          KM   Runoff hydrograph for square mile subbasin TM75 northeast of the intersection
5685          KM   of Thomas Road and 75th Avenue
5686          BA   0.997
5687          LG    0.22     0.15     9.70     0.04       41
5688          UC   1.289    0.855
5689          UA       0      5.0     16.0     30.0     65.0     77.0     84.0     90.0     94.0     97.0
5690          UA     100
              *

5691          KK  ERTM75  DIVERT
5692          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
5693          KM   retention developed after 1990 in subbasin TM75
5694          DT   XTM75      2.0      0.0
5695          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
5696          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

5697          KK   CTM75 COMBINE
5698          KM   Combine route RWTM75, route RSTM75, and subbasin TM75
5699          HC       3     2.92
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

5700          KK  PR75ISRETRIEVE
5701          KM   Retrieve full flow capacity of 123 cfs from 60-inch storm drain pipe at the
5702          KM   intersection of Indian School Road and 75th Avenue
5703          DR  DP75IS
              *

5704          KK  RP75TM    ROUTE
5705          KM   Route full flow capacity of 123 cfs through 60-inch storm drain pipe in
5706          KM   75th Avenue to the intersection of Thomas Road and 75th Avenue
5707          RK    5256   0.0022    0.015              CIRC    5.000
              *

5708          KK  CPTM75 COMBINE
5709          KM   Combine pipe return PR75IS with the runoff hydrograph at combination point
5710          KM   CTM75 at the intersection of Thomas Road and 75th Avenue
5711          HC       2
              *

5712          KK   D75TM  DIVERT
5713          KM   Divert calculated full flow capapcity of 303 cfs into 84-inch storm drain
5714          KM   pipe at the intersection of Thomas Road and 75th Avenue
5715          DT  DP75TM      0.0    303.0
5716          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
5717          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

5718          KK  DWTM83  DIVERT
5719          KM   Divert remaining runoff hydrograph from combination point CPTM75 west to
5720          KM   combination point CTM83
5721          DT  DSMD75      0.0      0.0
5722          DI      0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0 10000.0 20000.0 50000.0
5723          DQ      0.0     48.0     96.0    240.0    480.0    960.0   1920.0  4800.0  9600.0 24000.0
              *

5724          KK  RWTM83    ROUTE
5725          KM   Route diversion DWTM83 west to combination point CTM83
5726          RS       4     FLOW
5727          RC   0.035    0.015    0.035     5280   0.0025     0.00
5728          RX    0.00     0.00    76.50    76.50   372.50   372.50   449.00   449.00
5729          RY    3.00     1.27     0.50     0.00     0.00     0.50     1.27     3.00
              *

5730          KK  DRTM83RETRIEVE
5731          KM   Retrieve divert DRTM83 from combination point CPIS83 and divert south to
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5732          KM   combination point CTM83
5733          DR  DSTM83
              *
5734          KK  RSTM83   ROUTE
5735          KM   Route diversion retrieval DRTM83 south to combination point CTM83
5736          RS       4    FLOW
5737          RC  0.035   0.015   0.035    5280  0.0023    0.00
5738          RX   0.00    0.00   76.50   76.50  372.50  372.50  449.00  449.00
5739          RY   3.00    1.27    0.50    0.00    0.00    0.50    1.27    3.00
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

5740          KK    TM83   BASIN
5741          KM   Runoff hydrograph for square mile subbasin TM83 northeast of the intersection
5742          KM   of Thomas Road and 83rd Avenue
5743          BA   0.992
5744          LG    0.24    0.15    7.30    0.10      34
5745          UC   1.432   0.960
5746          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
5747          UA     100
              *
5748          KK   CTM83 COMBINE
5749          KM   Combine route RWTM83, route RSTM83, and subbasin TM83
5750          HC       3    3.41
              *
5751          KK  PR83ISRETRIEVE
5752          KM   Retrieve full flow capacity of 187 cfs from 72-inch storm drain pipe at the
5753          KM   intersection of Indian School Road and 83rd Avenue
5754          DR  DP83IS
              *
5755          KK  RP83TM   ROUTE
5756          KM   Route full flow capacity of 187 cfs through 72-inch storm drain pipe in
5757          KM   83rd Avenue to the intersection of Thomas Road and 83rd Avenue
5758          RK    5330  0.0019   0.015            CIRC   6.000
              *
5759          KK  CPTM83 COMBINE
5760          KM   Combine pipe return PR83IS with the runoff hydrograph at combination point
5761          KM   CTM83 at the intersection of Thomas Road and 83rd Avenue
5762          HC       2
              *
5763          KK   D83TM  DIVERT
5764          KM   Divert calculated full flow capapcity of 283 cfs into 84-inch storm drain
5765          KM   pipe at the intersection of Thomas Road and 83rd Avenue
5766          DT  DP83TM      0.0   283.0
5767          DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
5768          DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *
5769          KK  DWTM91  DIVERT
5770          KM   Divert remaining runoff hydrograph from combination point CPTM83 west to
5771          KM   combination point CTM91
5772          DT  DSMD83      0.0      0.0
5773          DI      0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0  10000.0  20000.0  50000.0
5774          DQ      0.0     23.0     46.0    115.0    230.0    460.0    920.0   2300.0   4600.0  11500.0
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

5775          KK  RWTM91   ROUTE
5776          KM   Route diversion DWTM91 west to combination point CTM91
5777          RS       3    FLOW
5778          RC  0.035   0.015   0.035    5280  0.0028    0.00
5779          RX   0.00    0.00  114.50  114.50  534.50  534.50  649.00  649.00
5780          RY   3.00    1.64    0.50    0.00    0.00    0.50    1.64    3.00
              *
5781          KK  DRTM91RETRIEVE
5782          KM   Retrieve divert DRTM91 from combination point CIS91 and divert south to
5783          KM   combination point CTM91
5784          DR  DSTM91
              *
5785          KK  RSTM91   ROUTE
5786          KM   Route diversion retrieval DRTM91 south to combination point CTM91
5787          RS       4    FLOW
5788          RC  0.035   0.015   0.035    5280  0.0021    0.00
5789          RX   0.00    0.00   67.00   67.00  332.00  332.00  399.00  399.00
5790          RY   3.00    1.17    0.50    0.00    0.00    0.50    1.17    3.00
              *
5791          KK    TM91   BASIN
5792          KM   Runoff hydrograph for square mile subbasin TM91 northeast of the intersection
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5793          KM   of Thomas Road and 91st Avenue
5794          BA   1.003
5795          LG    0.24    0.15    7.30    0.09      36
5796          UC   1.443   0.966
5797          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
5798          UA     100
              *
5799          KK  ERTM91  DIVERT
5800          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
5801          KM   retention developed after 1990 in subbasin TM91
5802          DT  XTM91     14.8      0.0
5803          DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
5804          DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *
5805          KK   CTM91 COMBINE
5806          KM   Combine route RWTM91, route RSTM91, and subbasin TM91
5807          HC       3    4.96
              *
5808          KK  PR91ISRETRIEVE
5809          KM   Retrieve full flow capacity of 190 cfs from 72-inch storm drain pipe at the
5810          KM   intersection of Indian School Road and 91st Avenue
5811          DR  DP91IS
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

5812          KK  RP91TM   ROUTE
5813          KM   Route full flow capacity of 190 cfs through 72-inch storm drain pipe in
5814          KM   91st Avenue to the intersection of Thomas Road and 91st Avenue
5815          RK    5130  0.0020   0.015            CIRC   6.000
              *
5816          KK  CPTM91 COMBINE
5817          KM   Combine pipe return PR91IS with the runoff hydrograph at combination point
5818          KM   CTM91 at the intersection of Thomas Road and 91st Avenue
5819          HC       2
              *
5820          KK   D91TM  DIVERT
5821          KM   Divert calculated full flow capapcity of 287 cfs into 84-inch storm drain
5822          KM   pipe at the intersection of Thomas Road and 91st Avenue
5823          DT  DP91TM      0.0   287.0
5824          DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
5825          DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *
5826          KK  DWTMLO  DIVERT
5827          KM   Divert remaining runoff hydrograph from combination point CPTM91 west to
5828          KM   combination point CTMLO
5829          DT  DSMD91      0.0      0.0
5830          DI      0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0  10000.0  20000.0  50000.0
5831          DQ      0.0     77.0    154.0    385.0    770.0   1540.0   3080.0   7700.0  15400.0  38500.0
              *
5832          KK  RWTMLO   ROUTE
5833          KM   Route diversion DWTMLO west to combination point CTMLO
5834          RS       2    FLOW
5835          RC  0.035   0.015   0.035    2623  0.0015    0.00
5836          RX   0.00    0.00   16.50   16.50  107.50  107.50  124.00  124.00
5837          RY   3.00    0.66    0.50    0.00    0.00    0.50    0.66    3.00
              *
5838          KK    TMLO   BASIN
5839          KM   Runoff hydrograph for subbasin TMLO northeast of the intersection of Thomas
5840          KM   Road and SR Loop 101
5841          BA   0.496
5842          LG    0.11    0.15    8.80    0.05      75
5843          UC   0.785   0.583
5844          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
5845          UA     100
              *
5846          KK  ERTMLO  DIVERT
5847          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
5848          KM   retention developed after 1990 in subbasin TMLO
5849          DT  XTMLO     39.3      0.0
5850          DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
5851          DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

5852          KK   CTMLO COMBINE
5853          KM   Combine route RWTMLO, route RSTMLO, and subbasin TMLO
5854          HC       3    4.87
              *
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5855          KK  RSMDLO    ROUTE
5856          KM   Route hydrograph at combination point CTMLO south to combination point CMDLO
5857          RS      2     FLOW
5858          RC   0.035   0.015   0.035    5729  0.0012    0.00
5859          RX    0.00    3.00    5.00   39.00   47.00   51.00   65.00   68.00
5860          RY   18.00   17.00   17.00    0.00    0.16   17.16   17.44   18.44
              *

5861          KK  DRMD27RETRIEVE
5862          KM   Retrieve divert DRMD27 from combination point CPGR27 and divert south to
5863          KM   combination point CMD27
5864          DR  DSMD27
              *

5865          KK  RSMD27    ROUTE
5866          KM   Route diversion retrieval DRMD27 south to combination point CMD27
5867          RS      2     FLOW
5868          RC   0.035   0.015   0.035    5280  0.0034    0.00
5869          RX    0.00    0.00   16.50   16.50  107.50  107.50  124.00  124.00
5870          RY    3.00    0.66    0.50    0.00    0.00    0.50    0.66    3.00
              *

5871          KK    MD27    BASIN
5872          KM   Runoff hydrograph for subbasin MD27 northeast of the intersection of McDowell
5873          KM   Road and 27th Avenue
5874          BA   0.241
5875          LG    0.15    0.15    8.00    0.07      80
5876          UC   0.502   0.378
5877          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
5878          UA     100
              *

5879          KK   CMD27 COMBINE
5880          KM   Combine route RSMD27 and subbasin MD27
5881          HC       2    4.65
              *

5882          KK  PR27GRRETRIEVE
5883          KM   Retrieve full flow capacity of 195 cfs from 66-inch storm drain pipe at the
5884          KM   intersection of Grand Avenue and 27th Avenue
5885          DR  DP27GR
              *

5886          KK  RP27MD    ROUTE
5887          KM   Route full flow capacity of 195 cfs through 66-inch storm drain pipe in
5888          KM   27th Avenue to the intersection of McDowell Road and 27th Avenue
5889          RK    5006  0.0034   0.015             CIRC   5.500
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

5890          KK  CPMD27 COMBINE
5891          KM   Combine pipe return PR27GR with the runoff hydrograph at combination point
5892          KM   CMD27 at the intersection of McDowell Road and 27th Avenue
5893          HC       2
              *

5894          KK   D27MD  DIVERT
5895          KM   Divert calculated full flow capapcity of 246 cfs into 72-inch storm drain
5896          KM   pipe at the intersection of McDowell Road and 27th Avenue
5897          DT  DP27MD      0.0   246.0
5898          DI      0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
5899          DQ      0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

5900          KK  RWMD35    ROUTE
5901          KM   Route remainder of diversion D27MD west to combination point CMD35
5902          RS      10     FLOW
5903          RC   0.035   0.015   0.035    5280  0.0009    0.00
5904          RX    0.00    0.00   48.00   48.00  251.00  251.00  299.00  299.00
5905          RY    3.00    0.98    0.50    0.00    0.00    0.50    0.98    3.00
              *

5906          KK  DRMD35RETRIEVE
5907          KM   Retrieve divert DRMD35 from combination point CPTM35 and divert south to
5908          KM   combination point CMD35
5909          DR  DSMD35
              *

5910          KK  RSMD35    ROUTE
5911          KM   Route diversion retrieval DRMD35 south to combination point CMD35
5912          RS      2     FLOW
5913          RC   0.035   0.015   0.035    5280  0.0036    0.00
5914          RX    0.00    0.00   67.00   67.00  332.00  332.00  399.00  399.00
5915          RY    3.00    1.17    0.50    0.00    0.00    0.50    1.17    3.00
              *

5916          KK    MD35    BASIN
5917          KM   Runoff hydrograph for square mile subbasin MD35 northeast of the intersection
5918          KM   of McDowell Road and 35th Avenue
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5919          BA   0.999
5920          LG    0.19    0.13   10.10    0.03      59
5921          UC   1.236   0.806
5922          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
5923          UA     100
              *

5924          KK  ERMD35  DIVERT
5925          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
5926          KM   retention developed after 1990 and NOAA14 rainfall for future retention in
5927          KM   subbasin MD35
5928          DT   XMD35     1.5     0.0
5929          DI      0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
5930          DQ      0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

5931          KK   CMD35 COMBINE
5932          KM   Combine route RWMD35, route RSMD35, and subbasin MD35
5933          HC       3    9.29
              *

5934          KK  PR35TMRETRIEVE
5935          KM   Retrieve combined full flow capacity of 300 cfs from 77-inch equivalent
5936          KM   diameter pipe at the intersection of Thomas Road and 35th Avenue
5937          DR  DP35TM
              *

5938          KK  RP35MD    ROUTE
5939          KM   Route the combined full flow capacity of 300 cfs through an equivalent storm
5940          KM   drain pipe diameter of 77 inches in 35th Avenue to the intersection of
5941          KM   McDowell Road and 35th Avenue
5942          RK    5093  0.0037   0.015             CIRC   6.417
              *

5943          KK  CPMD35 COMBINE
5944          KM   Combine pipe return PR35TM with the runoff hydrograph at combination point
5945          KM   CMD35 at the intersection of McDowell Road and 35th Avenue
5946          HC       2
              *

5947          KK   D35MD  DIVERT
5948          KM   Capacity of storm drain in 31st Avenue and 35th Avenue diverted together.
5949          KM   Divert combined calculated full flow capacity of 405 cfs in the 84-inch storm
5950          KM   drain pipe in 31st AVenue and 102 cfs in the 51-inch storm drain pipe in
5951          KM   35th Avenue. The total calculated combined full flow capacity diverted at the
5952          KM   intersection of 35th Avenue and McDowell Road is 507 cfs in an equivalent
5953          KM   diameter pipe of 93 inches
5954          DT  DP35MD      0.0   507.0
5955          DI      0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
5956          DQ      0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

5957          KK  DWMD43  DIVERT
5958          KM   Divert remaining runoff hydrograph from combination point CPMD35 west to
5959          KM   combination point CMD43
5960          DT  DSIN35      0.0     0.0
5961          DI      0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
5962          DQ      0.0    63.0   126.0   315.0   630.0  1260.0  2520.0  6300.0 12600.0 31500.0
              *

5963          KK  RWMD43    ROUTE
5964          KM   Route diversion DWMD43 west to combination point CMD43
5965          RS       7     FLOW
5966          RC   0.035   0.015   0.035    5280  0.0004    0.00
5967          RX    0.00    0.00   95.50   95.50  453.50  453.50  549.00  549.00
5968          RY    3.00    1.46    0.50    0.00    0.00    0.50    1.46    3.00
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

5969          KK  DRMD43RETRIEVE
5970          KM   Retrieve divert DRMD43 from combination point CTM43 and divert south to
5971          KM   combination point CMD43
5972          DR  DSMD43
              *

5973          KK  RSMD43    ROUTE
5974          KM   Route diversion retrieval DRMD43 south to combination point CMD43
5975          RS       3     FLOW
5976          RC   0.035   0.015   0.035    5280  0.0037    0.00
5977          RX    0.00    0.00   67.00   67.00  332.00  332.00  399.00  399.00
5978          RY    3.00    1.17    0.50    0.00    0.00    0.50    1.17    3.00
              *

5979          KK    MD43    BASIN
5980          KM   Runoff hydrograph for square mile subbasin MD43 northeast of the intersection
5981          KM   of McDowell Road and 43rd Avenue
```

```
BA   0.999
LG    0.22    0.15    9.70    0.04      41
UC   0.920   0.337
UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
UA     100
*

KK   CMD43 COMBINE
KM   Combine route RWMD43, route RSMD43, and subbasin MD43
HC       3    6.96
*

KK  PR43TMRETRIEVE
KM   Retrieve combined full flow capacity of 629 cfs from 102-inch equivalent
KM   diameter pipe at the intersection of Thomas Road and 43rd Avenue
DR  DP43TM
*

KK  RP43MD   ROUTE
KM   Route the combined full flow capacity of 629 cfs through an equivalent storm
KM   drain pipe diameter of 102 inches in 43rd Avenue to the intersection of
KM   43rd Avenue and McDowell Road
RK    5212  0.0035   0.015            CIRC   8.500
*

KK  CPMD43 COMBINE
KM   Combine pipe return PR43TM with the runoff hydrograph at combination point
KM   CMD43 at the intersection of McDowell Road and 43rd Avenue
HC       2
*

KK   D43MD  DIVERT
KM   Capacity of storm drain in 39th Avenue and 43rd Avenue diverted together.
KM   Divert combined calculated full flow capacity of 404 cfs in the 84-inch storm
KM   drain pipe in 39th AVenue and 225 cfs in the 69-inch storm drain pipe in
KM   43rd Avenue. The total calculated combined full flow capacity diverted at the
KM   intersection of 35th Avenue and McDowell Road is 629 cfs in an equivalent
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LINE      ID.......1.......2.......3.......4.......5.......6.......7.......8.......9.....10

KM   diameter pipe of 102 inches
DT  DP43MD      0.0   629.0
DI      0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
DQ      0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
*

KK  DWMD51  DIVERT
KM   Divert remaining runoff hydrograph from combination point CPMD43 west to
KM   combination point CMD51
DT  DSIN43      0.0     0.0
DI      0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
DQ      0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
*

KK  RWMD51   ROUTE
KM   Route diversion DWMD51 west to combination point CMD51
RS       1    FLOW
RC   0.035   0.015   0.035    5280  0.0002    0.00
RX    0.00    0.00   57.50   57.50  291.50  291.50  349.00  349.00
RY    3.00    1.08    0.50    0.00    0.00    0.50    1.08    3.00
*

KK  DRMD51RETRIEVE
KM   Retrieve divert DRMD51 from combination point CPTM51 and divert south to
KM   combination point CMD51
DR  DSMD51
*

KK  RSMD51   ROUTE
KM   Route diversion retrieval DRMD51 south to combination point CMD51
RS       4    FLOW
RC   0.035   0.015   0.035    5280  0.0035    0.00
RX    0.00    0.00   54.50   54.50  269.50  269.50  324.00  324.00
RY    3.00    1.04    0.50    0.00    0.00    0.50    1.04    3.00
*

KK   MD51   BASIN
KM   Runoff hydrograph for square mile subbasin MD51 northeast of the intersection
KM   of McDowell Road and 51st Avenue
BA   1.001
LG    0.23    0.15    8.40    0.07      35
UC   1.500   1.010
UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
UA     100
*

KK   CMD51 COMBINE
KM   Combine route RWMD51, route RSMD51, and subbasin MD51
HC       3    2.37
*
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LINE      ID.......1.......2.......3.......4.......5.......6.......7.......8.......9.....10

KK  PR51TMRETRIEVE
KM   Retrieve full flow capacity of 244 cfs from 72-inch storm drain pipe at the
KM   intersection of Thomas Road and 51st Avenue
DR  DP51TM
*

KK  RP51MD   ROUTE
KM   Route full flow capacity of 244 cfs through 72-inch storm drain pipe in
KM   51st Avenue to the intersection of McDowell Road and 51st Avenue
RK    5322  0.0033   0.015            CIRC   6.000
*

KK  CPMD51 COMBINE
KM   Combine pipe return PR51TM with the runoff hydrograph at combination point
KM   CMD51 at the intersection of McDowell Road and 51st Avenue
HC       2
*

KK   D51MD  DIVERT
KM   Divert calculated full flow capapcity of 368 cfs into 84-inch storm drain
KM   pipe at the intersection of McDowell Road and 51st Avenue
DT  DP51MD      0.0   368.0
DI      0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
DQ      0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
*

KK  DWMD59  DIVERT
KM   Divert remaining runoff hydrograph from combination point CPMD43 west to
KM   combination point CMD51
DT  DSIN51      0.0     0.0
DI      0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
DQ      0.0    39.0    78.0   195.0   390.0   780.0  1560.0  3900.0  7800.0 19500.0
*

KK  RWMD59   ROUTE
KM   Route diversion DWMD59 west to combination point CMD59
RS       7    FLOW
RC   0.035   0.015   0.035    5280  0.0014    0.00
RX    0.00    0.00   57.50   57.50  291.50  291.50  349.00  349.00
RY    3.00    1.08    0.50    0.00    0.00    0.50    1.08    3.00
*

KK  DRMD59RETRIEVE
KM   Retrieve divert DRMD59 from combination point CPTM59 and divert south to
KM   combination point CMD59
DR  DSMD59
*

KK  RSMD59   ROUTE
KM   Route diversion retrieval DRMD59 south to combination point CMD59
RS       3    FLOW
RC   0.035   0.015   0.035    5280  0.0035    0.00
RX    0.00    0.00   38.50   38.50  210.50  210.50  249.00  249.00
RY    3.00    0.88    0.50    0.00    0.00    0.50    0.88    3.00
*
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LINE      ID.......1.......2.......3.......4.......5.......6.......7.......8.......9.....10

KK   MD59   BASIN
KM   Runoff hydrograph for square mile subbasin MD59 northeast of the intersection
KM   of McDowell Road and 59th Avenue
BA   1.005
LG    0.25    0.15    7.60    0.08      33
UC   1.481   0.993
UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
UA     100
*

KK   CMD59 COMBINE
KM   Combine route RWMD59, route RSMD59, and subbasin MD59
HC       3    4.05
*

KK  PR59TMRETRIEVE
KM   Retrieve full flow capacity of 389 cfs from 84-inch storm drain pipe at the
KM   intersection of Thomas Road and 59th Avenue
DR  DP59TM
*

KK  RP59MD   ROUTE
KM   Route full flow capacity of 389 cfs through 84-inch storm drain pipe in
KM   59th Avenue to the intersection of McDowell Road and 59th Avenue
RK    5206  0.0037   0.015            CIRC   7.000
*

KK  CPMD59 COMBINE
KM   Combine pipe return PR59TM with the runoff hydrograph at combination point
KM   CMD59 at the intersection of McDowell Road and 59th Avenue
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```
6108          HC       2
              *

6109          KK   D59MD  DIVERT
6110          KM   Divert calculated full flow capapcity of 468 cfs into 90-inch storm drain
6111          KM   pipe at the intersection of McDowell Road and 59th Avenue
6112          DT  DP59MD      0.0    468.0
6113          DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
6114          DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

6115          KK  DWMD67   DIVERT
6116          KM   Divert remaining runoff hydrograph from combination point CPMD59 west to
6117          KM   combination point CMD67
6118          DT  DSIN59      0.0      0.0
6119          DI     0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0  10000.0  20000.0  50000.0
6120          DQ     0.0     50.0    100.0    250.0    500.0   1000.0   2000.0   5000.0  10000.0  25000.0
              *

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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

6121          KK  RWMD67    ROUTE
6122          KM   Route diversion DWMD67 west to combination point CMD67
6123          RS       5     FLOW
6124          RC   0.035   0.015   0.035    5280  0.0015     0.00
6125          RX    0.00    0.00   67.00   67.00  332.00  332.00  399.00  399.00
6126          RY    3.00    1.17    0.50    0.00    0.00    0.50    1.17    3.00
              *

6127          KK  DRMD67RETRIEVE
6128          KM   Retrieve divert DRMD67 from combination point CPTM67 and divert south to
6129          KM   combination point CMD67
6130          DR  DSMD67
              *

6131          KK  RSMD67    ROUTE
6132          KM   Route diversion retrieval DRMD67 south to combination point CMD67
6133          RS       4     FLOW
6134          RC   0.035   0.015   0.035    5280  0.0035     0.00
6135          RX    0.00    0.00   48.00   48.00  251.00  251.00  299.00  299.00
6136          RY    3.00    0.98    0.50    0.00    0.00    0.50    0.98    3.00
              *

6137          KK    MD67    BASIN
6138          KM   Runoff hydrograph for square mile subbasin MD67 northeast of the intersection
6139          KM   of McDowell Road and 67th Avenue
6140          BA   0.978
6141          LG    0.22    0.15    8.40    0.07      30
6142          UC   1.336   0.893
6143          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
6144          UA     100
              *

6145          KK  ERMD67   DIVERT
6146          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
6147          KM   retention developed after 1990 in subbasin MD67
6148          DT   XMD67     12.5      0.0
6149          DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
6150          DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

6151          KK   CMD67 COMBINE
6152          KM   Combine route RWMD67, route RSMD67, and subbasin MD67
6153          HC       3    4.41
              *

6154          KK  PR67TMRETRIEVE
6155          KM   Retrieve full flow capacity of 273 cfs from 78-inch storm drain pipe at the
6156          KM   intersection of Thomas Road and 67th Avenue
6157          DR  DP67TM
              *

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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

6158          KK  RP67MD    ROUTE
6159          KM   Route full flow capacity of 273 cfs through 78-inch storm drain pipe in
6160          KM   67th Avenue to the intersection of McDowell Road and 67th Avenue
6161          RK    5218  0.0027   0.015             CIRC   6.500
              *

6162          KK  CPMD67 COMBINE
6163          KM   Combine pipe return PR67TM with the runoff hydrograph at combination point
6164          KM   CMD67 at the intersection of McDowell Road and 67th Avenue
6165          HC       2
              *

6166          KK   D67MD  DIVERT
6167          KM   Divert calculated full flow capapcity of 400 cfs into 90-inch storm drain
6168          KM   pipe at the intersection of McDowell Road and 67th Avenue
```



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6169          DT  DP67MD      0.0    400.0
6170          DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
6171          DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

6172          KK  DWMD75   DIVERT
6173          KM   Divert remaining runoff hydrograph from combination point CPMD67 west to
6174          KM   combination point CMD75
6175          DT  DSIN67      0.0      0.0
6176          DI     0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0  10000.0  20000.0  50000.0
6177          DQ     0.0     15.0     30.0     75.0    150.0    300.0    600.0   1500.0   3000.0   7500.0
              *

6178          KK  RWMD75    ROUTE
6179          KM   Route diversion DWMD75 west to combination point CMD75
6180          RS       5     FLOW
6181          RC   0.035   0.015   0.035    5280  0.0015     0.00
6182          RX    0.00    0.00   95.50   95.50  453.50  453.50  549.00  549.00
6183          RY    3.00    1.46    0.50    0.00    0.00    0.50    1.46    3.00
              *

6184          KK  DRMD75RETRIEVE
6185          KM   Retrieve divert DRMD75 from combination point CPTM75 and divert south to
6186          KM   combination point CMD75
6187          DR  DSMD75
              *

6188          KK  RSMD75    ROUTE
6189          KM   Route diversion retrieval DRMD75 south to combination point CMD75
6190          RS       4     FLOW
6191          RC   0.035   0.015   0.035    5280  0.0027     0.00
6192          RX    0.00    0.00   67.00   67.00  332.00  332.00  399.00  399.00
6193          RY    3.00    1.17    0.50    0.00    0.00    0.50    1.17    3.00
              *

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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

6194          KK    MD75    BASIN
6195          KM   Runoff hydrograph for square mile subbasin MD75 northeast of the intersection
6196          KM   of McDowell Road and 75th Avenue
6197          BA   1.002
6198          LG    0.22    0.15    7.60    0.08      40
6199          UC   1.378   0.915
6200          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
6201          UA     100
              *

6202          KK  ERMD75   DIVERT
6203          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
6204          KM   retention developed after 1990 in subbasin MD75
6205          DT   XMD75     9.4      0.0
6206          DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
6207          DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

6208          KK   CMD75 COMBINE
6209          KM   Combine route RWMD75, route RSMD75, and subbasin MD75
6210          HC       3    6.14
              *

6211          KK  PR75TMRETRIEVE
6212          KM   Retrieve full flow capacity of 303 cfs from 84-inch storm drain pipe at the
6213          KM   intersection of Thomas Road and 75th Avenue
6214          DR  DP75TM
              *

6215          KK  RP75MD    ROUTE
6216          KM   Route full flow capacity of 303 cfs through 84-inch storm drain pipe in
6217          KM   75th Avenue to the intersection of McDowell Road and 75th Avenue
6218          RK    5222  0.0022   0.015             CIRC   7.000
              *

6219          KK  CPMD75 COMBINE
6220          KM   Combine pipe return PR75TM with the runoff hydrograph at combination point
6221          KM   CMD75 at the intersection of McDowell Road and 75th Avenue
6222          HC       2
              *

6223          KK   D75MD  DIVERT
6224          KM   Divert calculated full flow capapcity of 364 cfs into 90-inch storm drain
6225          KM   pipe at the intersection of McDowell Road and 75th Avenue
6226          DT  DP75MD      0.0    364.0
6227          DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
6228          DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

6229          KK  DWMD83  DIVERT
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6230          KM   Divert remaining runoff hydrograph from combination point CPMD75 west to
6231          KM   combination point CMD83
6232          DT  DSIN75      0.0      0.0
6233          DI      0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0 10000.0 20000.0 50000.0
6234          DQ      0.0     35.0     70.0    175.0    350.0    700.0   1400.0  3500.0  7000.0 17500.0
              *

6235          KK  RWMD83    ROUTE
6236          KM   Route diversion DWMD83 west to combination point CMD83
6237          RS        3     FLOW
6238          RC    0.035    0.015    0.035     5280   0.0026     0.00
6239          RX     0.00     0.00    57.50    57.50   291.50   291.50   349.00   349.00
6240          RY     3.00     1.08     0.50     0.00     0.00     0.50     1.08     3.00
              *

6241          KK  DRMD83RETRIEVE
6242          KM   Retrieve divert DRMD83 from combination point CPTM83 and divert south to
6243          KM   combination point CMD83
6244          DR  DSMD83
              *

6245          KK  RSMD83    ROUTE
6246          KM   Route diversion retrieval DRMD83 south to combination point CMD83
6247          RS        3     FLOW
6248          RC    0.035    0.015    0.035     5280   0.0028     0.00
6249          RX     0.00     0.00    29.00    29.00   170.00   170.00   199.00   199.00
6250          RY     3.00     0.79     0.50     0.00     0.00     0.50     0.79     3.00
              *

6251          KK    MD83    BASIN
6252          KM   Runoff hydrograph for square mile subbasin MD83 northeast of the intersection
6253          KM   of McDowell Road and 83rd Avenue
6254          BA   0.992
6255          LG    0.12     0.15     8.80     0.05       76
6256          UC   0.860    0.550
6257          UA        0      5.0     16.0     30.0     65.0     77.0     84.0     90.0     94.0     97.0
6258          UA      100
              *

6259          KK  ERMD83  DIVERT
6260          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
6261          KM   retention developed after 1990 in subbasin MD83
6262          DT  XMD83     55.2      0.0
6263          DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
6264          DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

6265          KK   CMD83 COMBINE
6266          KM   Combine route RWMD83, route RSMD83, and subbasin MD83
6267          HC        3     5.80
              *

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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

6268          KK  PR83TMRETRIEVE
6269          KM   Retrieve full flow capacity of 283 cfs from 84-inch storm drain pipe at the
6270          KM   intersection of Thomas Road and 83rd Avenue
6271          DR  DP83TM
              *

6272          KK  RP83MD    ROUTE
6273          KM   Route full flow capacity of 283 cfs through 84-inch storm drain pipe in
6274          KM   83rd Avenue to the intersection of McDowell Road and 83rd Avenue
6275          RK     5059  0.0019   0.015             CIRC   7.000
              *

6276          KK  CPMD83 COMBINE
6277          KM   Combine pipe return PR83TM with the runoff hydrograph at combination point
6278          KM   CMD83 at the intersection of McDowell Road and 83rd Avenue
6279          HC        2
              *

6280          KK   D83MD  DIVERT
6281          KM   Divert calculated full flow capapcity of 340 cfs into 90-inch storm drain
6282          KM   pipe at the intersection of McDowell Road and 83rd Avenue
6283          DT  DP83MD      0.0    340.0
6284          DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
6285          DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

6286          KK  RWMD91    ROUTE
6287          KM   Route remainder of diversion D83MD west to combination point CMD91
6288          RS        3     FLOW
6289          RC    0.035    0.015    0.035     5280   0.0021     0.00
6290          RX     0.00     0.00    57.50    57.50   291.50   291.50   349.00   349.00
6291          RY     3.00     1.08     0.50     0.00     0.00     0.50     1.08     3.00
              *

6292          KK  DRMD91RETRIEVE
6293          KM   Retrieve divert DRMD91 from combination point CPTM91 and divert south to
6294          KM   combination point CMD91
```



```
6295          DR  DSMD91
              *

6296          KK  RSMD91    ROUTE
6297          KM   Route diversion retrieval DRMD91 south to combination point CMD91
6298          RS        4     FLOW
6299          RC    0.035    0.015    0.035     5280   0.0021     0.00
6300          RX     0.00     0.00    57.50    57.50   291.50   291.50   349.00   349.00
6301          RY     3.00     1.08     0.50     0.00     0.00     0.50     1.08     3.00
              *

6302          KK    MD91    BASIN
6303          KM   Runoff hydrograph for square mile subbasin MD91 northeast of the intersection
6304          KM   of McDowell Road and 91st Avenue
6305          BA   1.007
6306          LG    0.22     0.15     8.80     0.05       43
6307          UC   1.382    0.919

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6308          UA        0      5.0     16.0     30.0     65.0     77.0     84.0     90.0     94.0     97.0
6309          UA      100
              *

6310          KK  ERMD91  DIVERT
6311          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
6312          KM   retention developed after 1990 in subbasin MD91
6313          DT  XMD91     25.7      0.0
6314          DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
6315          DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

6316          KK   CMD91 COMBINE
6317          KM   Combine route RWMD91, route RSMD91, and subbasin MD91
6318          HC        3    10.61
              *

6319          KK  PR91TMRETRIEVE
6320          KM   Retrieve full flow capacity of 287 cfs from 84-inch storm drain pipe at the
6321          KM   intersection of Thomas Road and 91st Avenue
6322          DR  DP91TM
              *

6323          KK  RP91MD    ROUTE
6324          KM   Route full flow capacity of 287 cfs through 84-inch storm drain pipe in
6325          KM   91st Avenue to the intersection of McDowell Road and 91st Avenue
6326          RK     5271  0.0020   0.015             CIRC   7.000
              *

6327          KK  CPMD91 COMBINE
6328          KM   Combine pipe return PR91TM with the runoff hydrograph at combination point
6329          KM   CMD91 at the intersection of McDowell Road and 91st Avenue
6330          HC        2
              *

6331          KK   D91MD  DIVERT
6332          KM   Divert calculated full flow capapcity of 345 cfs into 90-inch storm drain
6333          KM   pipe at the intersection of McDowell Road and 83rd Avenue
6334          DT  DP91MD      0.0    345.0
6335          DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
6336          DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

6337          KK  DWMDLO  DIVERT
6338          KM   Divert remaining runoff hydrograph from combination point CPMD91 west to
6339          KM   combination point CMDLO
6340          DT  DSIN91      0.0      0.0
6341          DI      0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0 10000.0 20000.0 50000.0
6342          DQ      0.0     20.0     40.0    100.0    200.0    400.0    800.0  2000.0  4000.0 10000.0
              *

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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

6343          KK  RWMDLO    ROUTE
6344          KM   Route diversion DWMDLO west to combination point CMDLO
6345          RS        3     FLOW
6346          RC    0.035    0.015    0.035     4061   0.0010     0.00
6347          RX     0.00     0.00    45.00    45.00   229.00   229.00   274.00   274.00
6348          RY     3.00     0.95     0.50     0.00     0.00     0.50     0.95     3.00
              *

6349          KK    MDLO    BASIN
6350          KM   Runoff hydrograph for subbasin MDLO northeast of the intersection of McDowell
6351          KM   Road and SR Loop 101
6352          BA   0.671
6353          LG    0.20     0.15     9.70     0.04       48
6354          UC   0.989    0.462
6355          UA        0      5.0     16.0     30.0     65.0     77.0     84.0     90.0     94.0     97.0
6356          UA      100
              *
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6357          KK  ERMDLO  DIVERT
6358          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
6359          KM   retention developed after 1990 in subbasin MDLO
6360          DT   XMDLO     60.9      0.0
6361          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
6362          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

6363          KK   CMDLO COMBINE
6364          KM   Combine route RWMDLO, route RSMDLO, and subbasin MDLO
6365          HC        3   14.07
              *

6366          KK  RSINLO   ROUTE
6367          KM   Route hydrograph at combination point CMDLO south to combination point CINLO
6368          RS        1    FLOW
6369          RC   0.035   0.015   0.035    1374  0.0019    0.00
6370          RX    0.00    3.00    5.00   39.00   47.00   51.00   65.00   68.00
6371          RY   18.00   17.00   17.00    0.00    0.16   17.16   17.44   18.44
              *

6372          KK  DSINLO  DIVERT
6373          KM   Divert route RSINLO to detention basin northeast of L101 and I-10 Freeways.
6374          KM   Only the flow greater than the channel capacity is diverted to the basin.
6375          DT  DEIN95      0.0      0.0
6376          DI     0.0 10390.0 11211.0 12070.0 13910.0      0.0      0.0      0.0      0.0      0.0
6377          DQ     0.0      0.0    286.0    810.0   2291.0      0.0      0.0      0.0      0.0      0.0
              *

6378          KK    IN27   BASIN
6379          KM   Runoff hydrograph for subbasin IN27 northeast of the intersection of
6380          KM   Interstate 10 and 27th Avenue
6381          BA   0.105
6382          LG    0.14    0.25    5.60    0.18      80
6383          UC   0.469   0.398
6384          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
```



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LINE          ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

6385          UA     100
              *

6386          KK  PR27MDRETRIEVE
6387          KM   Retrieve full flow capacity of 246 cfs from 72-inch diameter pipe at the
6388          KM   intersection of McDowell Road and 27th Avenue
6389          DR  DP27MD
              *

6390          KK  RP27IN   ROUTE
6391          KM   Route full flow capacity of 246 cfs through 72-inch storm drain pipe in
6392          KM   in 27th Avenue to the intersection of 27th Avenue and Interstate 10
6393          RK      959  0.0034   0.015             CIRC   6.000
              *

6394          KK  CPIN27 COMBINE
6395          KM   Combine pipe return PR27MD with the runoff hydrograph at combination point
6396          KM   CIN27 at the intersection of Interstate 10 and 27th Avenue
6397          HC        2
              *

6398          KK  DWIN35  DIVERT
6399          KM   Divert remaining runoff hydrograph from combination point CPIN27 west to
6400          KM   combination point CIN35
6401          DT  DSVB27      0.0      0.0
6402          DI     0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0 10000.0 20000.0 50000.0
6403          DQ     0.0     72.0    144.0    360.0    720.0   1440.0   2880.0  7200.0 14400.0 36000.0
              *

6404          KK  RWIN35   ROUTE
6405          KM   Route diversion DWIN35 west to combination point CIN35
6406          RS        7    FLOW
6407          RC   0.035   0.015   0.035    5280  0.0005    0.00
6408          RX    0.00    0.00    9.50    9.50   40.50   40.50   50.00   50.00
6409          RY    3.00    0.60    0.50    0.00    0.00    0.50    0.60    3.00
              *

6410          KK  DRIN35RETRIEVE
6411          KM   Retrieve divert DRIN35 from combination point CPMD35 and divert south to
6412          KM   combination point CIN35
6413          DR  DSIN35
              *

6414          KK  RSIN35   ROUTE
6415          KM   Route diversion retrieval DRIN35 south to combination point CIN35
6416          RS        1    FLOW
6417          RC   0.035   0.015   0.035    1116  0.0019    0.00
6418          RX    0.00    0.00   76.50   76.50  372.50  372.50  449.00  449.00
6419          RY    3.00    1.27    0.50    0.00    0.00    0.50    1.27    3.00
              *
```



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LINE          ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

6420          KK    IN35   BASIN
6421          KM   Runoff hydrograph for subbasin IN35 northeast of the intersection of
6422          KM   Interstate 10 and 35th Avenue
6423          BA   0.242
6424          LG    0.17    0.13   10.10    0.03      64
6425          UC   0.359   0.073
6426          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
6427          UA     100
              *

6428          KK   CIN35 COMBINE
6429          KM   Combine route RWIN35, route RSIN35, and subbasin IN35
6430          HC        3    6.11
              *

6431          KK  PR35MDRETRIEVE
6432          KM   Retrieve combined full flow capacity of 507 cfs from 93-inch equivalent
6433          KM   diameter pipe at the intersection of McDowell Road and 35th Avenue
6434          DR  DP35MD
              *

6435          KK  RP35IN   ROUTE
6436          KM   Route the combined full flow capacity of 507 cfs through an equivalent storm
6437          KM   drain pipe diameter of 93 inches in 35th Avenue to the intersection of
6438          KM   35th Avenue and Interstate 10
6439          RK      937  0.0037   0.015             CIRC   7.750
              *

6440          KK  CPIN35 COMBINE
6441          KM   Combine pipe return PR35MD with the runoff hydrograph at combination point
6442          KM   CIN35 at the intersection of Interstate 10 and 35th Avenue
6443          HC        2
              *

6444          KK  DWIN43  DIVERT
6445          KM   Divert remaining runoff hydrograph from combination point CPIN35 west to
6446          KM   combination point CIN43
6447          DT  DSVB35      0.0      0.0
6448          DI     0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0 10000.0 20000.0 50000.0
6449          DQ     0.0     87.0    174.0    435.0    870.0   1740.0   3480.0  8700.0 17400.0 43500.0
              *

6450          KK  RWIN43   ROUTE
6451          KM   Route diversion DWIN43 west to combination point CIN43
6452          RS        3    FLOW
6453          RC   0.035   0.015   0.035    5280  0.0008    0.00
6454          RX    0.00    0.00    9.50    9.50   40.50   40.50   50.00   50.00
6455          RY    3.00    0.60    0.50    0.00    0.00    0.50    0.60    3.00
              *
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LINE          ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

6456          KK  DRIN43RETRIEVE
6457          KM   Retrieve divert DRIN43 from combination point CPMD43 and divert south to
6458          KM   combination point CIN43
6459          DR  DSIN43
              *

6460          KK  RSIN43   ROUTE
6461          KM   Route diversion retrieval DRIN43 south to combination point CIN43
6462          RS        1    FLOW
6463          RC   0.035   0.015   0.035     900  0.0042    0.00
6464          RX    0.00    0.00   57.50   57.50  291.50  291.50  349.00  349.00
6465          RY    3.00    1.08    0.50    0.00    0.00    0.50    1.08    3.00
              *

6466          KK    IN43   BASIN
6467          KM   Runoff hydrograph for subbasin IN43 northeast of the intersection of
6468          KM   Interstate 10 and 43rd Avenue
6469          BA   0.256
6470          LG    0.20    0.15    9.70    0.04      49
6471          UC   0.558   0.148
6472          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
6473          UA     100
              *

6474          KK   CIN43 COMBINE
6475          KM   Combine route RWIN43, route RSIN43, and subbasin IN43
6476          HC        3    7.99
              *

6477          KK  PR43MDRETRIEVE
6478          KM   Retrieve combined full flow capacity of 629 cfs from 102-inch equivalent
6479          KM   diameter pipe at the intersection of McDowell Road and 43rd Avenue
6480          DR  DP43MD
              *

6481          KK  RP43IN   ROUTE
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6482          KM   Route the combined full flow capacity of 629 cfs through an equivalent storm
6483          KM   drain pipe diameter of 102 inches in 43rd Avenue to the intersection of
6484          KM   35th Avenue and Interstate 10
6485          RK    1217  0.0035   0.015            CIRC   8.500
              *

6486          KK  CPIN43 COMBINE
6487          KM   Combine pipe return PR43MD with the runoff hydrograph at combination point
6488          KM   CIN43 at the intersection of Interstate 10 and 43rd Avenue
6489          HC       2
              *

6490          KK  DWIN51  DIVERT
6491          KM   Divert remaining runoff hydrograph from combination point CPIN43 west to
6492          KM   combination point CIN51
6493          DT  DSVB43      0.0      0.0
6494          DI     0.0   100.0    200.0    500.0   1000.0   2000.0   4000.0 10000.0 20000.0 50000.0
6495          DQ     0.0    81.0    162.0    405.0    810.0   1620.0   3240.0  8100.0 16200.0 40500.0
              *

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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

6496          KK  RWIN51   ROUTE
6497          KM   Route diversion DWIN51 west to combination point CIN51
6498          RS       1    FLOW
6499          RC   0.035   0.015   0.035    5290  0.0027    0.00
6500          RX    0.00    0.10   18.00   36.00   66.00   84.00  102.00  102.10
6501          RY   18.00   17.05    9.00    0.00    0.00    9.00   17.05   18.00
              *

6502          KK  DRIN51RETRIEVE
6503          KM   Retrieve divert DRIN51 from combination point CPMD51 and divert south to
6504          KM   combination point CIN51
6505          DR  DSIN51
              *

6506          KK  RSIN51   ROUTE
6507          KM   Route diversion retrieval DRIN51 south to combination point CIN51
6508          RS       2    FLOW
6509          RC   0.035   0.015   0.035    1143  0.0007    0.00
6510          RX    0.00    0.00   54.50   54.50  269.50  269.50  324.00  324.00
6511          RY    3.00    1.04    0.50    0.00    0.00    0.50    1.04    3.00
              *

6512          KK    IN51   BASIN
6513          KM   Runoff hydrograph for subbasin IN51 northeast of the intersection of
6514          KM   Interstate 10 and 51st Avenue
6515          BA   0.232
6516          LG    0.12    0.15    9.70    0.04      80
6517          UC   0.595   0.561
6518          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
6519          UA     100
              *

6520          KK  ERIN51  DIVERT
6521          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
6522          KM   retention developed after 1990 and NOAA14 rainfall for future retention in
6523          KM   subbasin IN51
6524          DT   XIN51     1.5      0.0
6525          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
6526          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

6527          KK   CIN51 COMBINE
6528          KM   Combine route RWIN51, route RSIN51, and subbasin IN51
6529          HC       3    2.68
              *

6530          KK  PR51MDRETRIEVE
6531          KM   Retrieve full flow capacity of 368 cfs from 84-inch storm drain pipe at the
6532          KM   intersection of McDowell Road and 51st Avenue
6533          DR  DP51MD
              *

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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

6534          KK  RP51IN   ROUTE
6535          KM   Route full flow capacity of 368 cfs through 84-inch storm drain pipe in
6536          KM   51st Avenue to the intersection of Interstate 10 and 51st Avenue
6537          RK     731  0.0033   0.015            CIRC   7.000
              *

6538          KK  CPIN51 COMBINE
6539          KM   Combine pipe return PR51MD with the runoff hydrograph at combination point
6540          KM   CIN51 at the intersection of Interstate 10 and 51st Avenue
6541          HC       2
              *

6542          KK  DWIN59  DIVERT
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6543          KM   Divert remaining runoff hydrograph from combination point CPIN51 west to
6544          KM   combination point CIN59
6545          DT  DSVB51      0.0      0.0
6546          DI     0.0 26494.0 26494.1 50000.0      0.0      0.0      0.0      0.0      0.0      0.0
6547          DQ     0.0      0.0 26494.1 50000.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

6548          KK  RWIN59   ROUTE
6549          KM   Route diversion DWIN59 west to combination point CIN59
6550          RS       1    FLOW
6551          RC   0.035   0.015   0.035    5297  0.0017    0.00
6552          RX    0.00    0.10   18.00   36.00   66.00   84.00  102.00  102.10
6553          RY   18.00   17.05    9.00    0.00    0.00    9.00   17.05   18.00
              *

6554          KK  DRIN59RETRIEVE
6555          KM   Retrieve divert DRIN59 from combination point CPMD59 and divert south to
6556          KM   combination point CIN59
6557          DR  DSIN59
              *

6558          KK  RSIN59   ROUTE
6559          KM   Route diversion retrieval DRIN59 south to combination point CIN59
6560          RS       1    FLOW
6561          RC   0.035   0.015   0.035     730  0.0047    0.00
6562          RX    0.00    0.00   35.50   35.50  188.50  188.50  224.00  224.00
6563          RY    3.00    0.86    0.50    0.00    0.00    0.50    0.86    3.00
              *

6564          KK    IN59   BASIN
6565          KM   Runoff hydrograph for subbasin IN59 northeast of the intersection of
6566          KM   Interstate 10 and 59th Avenue
6567          BA   0.202
6568          LG    0.19    0.15    9.70    0.04      59
6569          UC   1.129   1.170
6570          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
6571          UA     100
              *

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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

6572          KK  ERIN59  DIVERT
6573          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
6574          KM   retention developed after 1990 and NOAA14 rainfall for future retention in
6575          KM   subbasin IN59
6576          DT   XIN59     1.9      0.0
6577          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
6578          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

6579          KK   CIN59 COMBINE
6580          KM   Combine route RWIN59, route RSIN59, and subbasin IN59
6581          HC       3    4.90
              *

6582          KK  PR59MDRETRIEVE
6583          KM   Retrieve full flow capacity of 468 cfs from 90-inch storm drain pipe at the
6584          KM   intersection of McDowell Road and 59th Avenue
6585          DR  DP59MD
              *

6586          KK  RP59IN   ROUTE
6587          KM   Route full flow capacity of 468 cfs through 90-inch storm drain pipe in
6588          KM   59th Avenue to the intersection of Interstate 10 and 59th Avenue
6589          RK     846  0.0037   0.015            CIRC   7.500
              *

6590          KK  CPIN59 COMBINE
6591          KM   Combine pipe return PR59MD with the runoff hydrograph at combination point
6592          KM   CIN59 at the intersection of Interstate 10 and 59th Avenue
6593          HC       2
              *

6594          KK  DWIN67  DIVERT
6595          KM   Divert remaining runoff hydrograph from combination point CPIN59 west to
6596          KM   combination point CIN67
6597          DT  DSVB59      0.0      0.0
6598          DI     0.0 21022.0 21022.1 50000.0      0.0      0.0      0.0      0.0      0.0      0.0
6599          DQ     0.0      0.0 21022.1 50000.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

6600          KK  RWIN67   ROUTE
6601          KM   Route diversion DWIN67 west to combination point CIN67
6602          RS       2    FLOW
6603          RC   0.035   0.015   0.035    5145  0.0012    0.00
6604          RX    0.00    0.10   18.00   36.00   66.00   84.00  102.00  102.10
6605          RY   18.00   17.05    9.00    0.00    0.00    9.00   17.05   18.00
              *

6606          KK  DRIN67RETRIEVE
6607          KM   Retrieve divert DRIN67 from combination point CPMD67 and divert south to
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6608          KM   combination point CIN67
6609          DR  DSIN67
                  *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


6610          KK  RSIN67    ROUTE
6611          KM   Route diversion retrieval DRIN67 south to combination point CIN67
6612          RS        1     FLOW
6613          RC   0.035   0.015   0.035      741  0.0027    0.00
6614          RX    0.00    0.00   12.50    12.50   62.50   62.50   75.00   75.00
6615          RY    3.00    0.62    0.50     0.00    0.00    0.50    0.62    3.00
                  *

6616          KK    IN67    BASIN
6617          KM   Runoff hydrograph for subbasin IN67 northeast of the intersection of
6618          KM   Interstate 10 and 67th Avenue
6619          BA   0.197
6620          LG    0.20    0.15    9.70    0.04      56
6621          UC   1.309   1.379
6622          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
6623          UA     100
                  *

6624          KK  ERIN67   DIVERT
6625          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
6626          KM   retention developed after 1990 in subbasin IN67
6627          DT   XIN67     10.0      0.0
6628          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
6629          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
                  *

6630          KK    CIN67 COMBINE
6631          KM   Combine route RWIN67, route RSIN67, and subbasin IN67
6632          HC        3     5.78
                  *

6633          KK  PR67MDRETRIEVE
6634          KM   Retrieve full flow capacity of 400 cfs from 90-inch storm drain pipe at the
6635          KM   intersection of McDowell Road and 67th Avenue
6636          DR  DP67MD
                  *

6637          KK  RP67IN    ROUTE
6638          KM   Route full flow capacity of 400 cfs through 90-inch storm drain pipe in
6639          KM   67th Avenue to the intersection of Interstate 10 and 67th Avenue
6640          RK      824  0.0027   0.015             CIRC   7.500
                  *

6641          KK  CPIN67 COMBINE
6642          KM   Combine pipe return PR67MD with the runoff hydrograph at combination point
6643          KM   CIN67 at the intersection of Interstate 10 and 67th Avenue
6644          HC        2
                  *
1                                        HEC-1 INPUT                                        PAGE173

LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


6645          KK  DWIN75  DIVERT
6646          KM   Divert remaining runoff hydrograph from combination point CPIN67 west to
6647          KM   combination point CIN75
6648          DT  DSVB67      0.0      0.0
6649          DI     0.0 17662.0 17662.1 50000.0      0.0      0.0      0.0      0.0      0.0      0.0
6650          DQ     0.0      0.0 17662.1 50000.0      0.0      0.0      0.0      0.0      0.0      0.0
                  *

6651          KK  RWIN75    ROUTE
6652          KM   Route diversion DWIN75 west to combination point CIN75
6653          RS        1     FLOW
6654          RC   0.035   0.015   0.035     5237  0.0020    0.00
6655          RX    0.00    0.10   18.00    36.00   66.00   84.00  102.00  102.10
6656          RY   18.00   17.05    9.00     0.00    0.00    9.00   17.05   18.00
                  *

6657          KK  DRIN75RETRIEVE
6658          KM   Retrieve divert DRIN75 from combination point CPMD75 and divert south to
6659          KM   combination point CIN75
6660          DR  DSIN75
                  *

6661          KK  RSIN75    ROUTE
6662          KM   Route diversion retrieval DRIN75 south to combination point CIN75
6663          RS        1     FLOW
6664          RC   0.035   0.015   0.035      731  0.0022    0.00
6665          RX    0.00    0.00   29.00    29.00  170.00  170.00  199.00  199.00
6666          RY    3.00    0.79    0.50     0.00    0.00    0.50    0.79    3.00
                  *

6667          KK    IN75    BASIN
6668          KM   Runoff hydrograph for subbasin IN75 northeast of the intersection of
```



```
6669          KM   Interstate 10 and 75th Avenue
6670          BA   0.199
6671          LG    0.17    0.19    6.60    0.12      64
6672          UC   1.086   1.122
6673          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
6674          UA     100
                  *

6675          KK  ERIN75   DIVERT
6676          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
6677          KM   retention developed after 1990 in subbasin IN75
6678          DT   XIN75     4.7      0.0
6679          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
6680          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
                  *

6681          KK    CIN75 COMBINE
6682          KM   Combine route RWIN75, route RSIN75, and subbasin IN75
6683          HC        3     8.11
                  *
1                                        HEC-1 INPUT                                        PAGE174

LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


6684          KK  PR75MDRETRIEVE
6685          KM   Retrieve full flow capacity of 364 cfs from 90-inch storm drain pipe at the
6686          KM   intersection of McDowell Road and 75th Avenue
6687          DR  DP75MD
                  *

6688          KK  RP75IN    ROUTE
6689          KM   Route full flow capacity of 364 cfs through 90-inch storm drain pipe in
6690          KM   75th Avenue to the intersection of Interstate 10 and 75th Avenue
6691          RK      811  0.0022   0.015             CIRC   7.500
                  *

6692          KK  CPIN75 COMBINE
6693          KM   Combine pipe return PR75MD with the runoff hydrograph at combination point
6694          KM   CIN75 at the intersection of Interstate 10 and 75th Avenue
6695          HC        2
                  *

6696          KK  DWIN83  DIVERT
6697          KM   Divert remaining runoff hydrograph from combination point CPIN75 west to
6698          KM   combination point CIN83
6699          DT  DSVB75      0.0      0.0
6700          DI     0.0 22802.0 22802.1 50000.0      0.0      0.0      0.0      0.0      0.0      0.0
6701          DQ     0.0      0.0 22802.1 50000.0      0.0      0.0      0.0      0.0      0.0      0.0
                  *

6702          KK  RWIN83    ROUTE
6703          KM   Route diversion DWIN83 west to combination point CIN83
6704          RS        1     FLOW
6705          RC   0.035   0.015   0.035     5396  0.0016    0.00
6706          RX    0.00    0.10   18.00    36.00   66.00   84.00  102.00  102.10
6707          RY   18.00   17.05    9.00     0.00    0.00    9.00   17.05   18.00
                  *

6708          KK    IN83    BASIN
6709          KM   Runoff hydrograph for subbasin IN83 northeast of the intersection of
6710          KM   Interstate 10 and 83rd Avenue
6711          BA   0.196
6712          LG    0.18    0.15    7.00    0.10      64
6713          UC   1.032   1.092
6714          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
6715          UA     100
                  *

6716          KK  ERIN83   DIVERT
6717          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
6718          KM   retention developed after 1990 in subbasin IN83
6719          DT   XIN83     12.2      0.0
6720          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
6721          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
                  *
1                                        HEC-1 INPUT                                        PAGE175

LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


6722          KK    CIN83 COMBINE
6723          KM   Combine route RWIN83, route RSIN83, and subbasin IN83
6724          HC        2     8.31
                  *

6725          KK  PR83MDRETRIEVE
6726          KM   Retrieve full flow capacity of 340 cfs from 90-inch storm drain pipe at the
6727          KM   intersection of McDowell Road and 83rd Avenue
6728          DR  DP83MD
                  *

6729          KK  RP83IN    ROUTE
```

```
6730          KM   Route full flow capacity of 340 cfs through 90-inch storm drain pipe in
6731          KM   83rd Avenue to the intersection of Interstate 10 and 83rd Avenue
6732          RK     824  0.0019   0.015            CIRC   7.500
              *

6733          KK  CPIN83 COMBINE
6734          KM   Combine pipe return PR83MD with the runoff hydrograph at combination point
6735          KM   CIN83 at the intersection of Interstate 10 and 83rd Avenue
6736          HC       2
              *

6737          KK  DWIN91  DIVERT
6738          KM   Divert remaining runoff hydrograph from combination point CPIN83 west to
6739          KM   combination point CIN91
6740          DT  DSVB83      0.0      0.0
6741          DI      0.0 20395.0 20395.1 50000.0      0.0      0.0      0.0      0.0      0.0      0.0
6742          DQ      0.0      0.0 20395.1 50000.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

6743          KK  RWIN91   ROUTE
6744          KM   Route diversion DWIN91 west to combination point CIN91
6745          RS       1     FLOW
6746          RC   0.035    0.015    0.035     5217  0.0016     0.00
6747          RX    0.00     0.10    18.00    36.00    66.00    84.00   102.00   102.10
6748          RY   18.00    17.05     9.00     0.00     0.00     9.00    17.05    18.00
              *

6749          KK  DRIN91RETRIEVE
6750          KM   Retrieve divert DRIN91 from combination point CPMD91 and divert south to
6751          KM   combination point CIN91
6752          DR  DSIN91
              *

6753          KK  RSIN91   ROUTE
6754          KM   Route diversion retrieval DRIN91 south to combination point CIN91
6755          RS       1     FLOW
6756          RC   0.035    0.015    0.035      535  0.0019     0.00
6757          RX    0.00     0.00     9.50     9.50    40.50    40.50    50.00    50.00
6758          RY    3.00     0.60     0.50     0.00     0.00     0.50     0.60     3.00
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

6759          KK    IN91   BASIN
6760          KM   Runoff hydrograph for subbasin IN91 northeast of the intersection of
6761          KM   Interstate 10 and 91st Avenue
6762          BA   0.185
6763          LG    0.11     0.15     9.70     0.04       78
6764          UC   0.520    0.517
6765          UA       0      5.0     16.0     30.0     65.0     77.0     84.0     90.0     94.0     97.0
6766          UA     100
              *

6767          KK  ERIN91  DIVERT
6768          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
6769          KM   retention developed after 1990 and NOAA14 rainfall for future retention in
6770          KM   subbasin IN91
6771          DT  XIN91      3.2      0.0
6772          DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
6773          DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

6774          KK   CIN91 COMBINE
6775          KM   Combine route RWIN91, route RSIN91, and subbasin IN91
6776          HC       3   10.57
              *

6777          KK  PR91MDRETRIEVE
6778          KM   Retrieve full flow capacity of 345 cfs from 90-inch storm drain pipe at the
6779          KM   intersection of McDowell Road and 91st Avenue
6780          DR  DP91MD
              *

6781          KK  RP91IN   ROUTE
6782          KM   Route full flow capacity of 345 cfs through 90-inch storm drain pipe in
6783          KM   91st Avenue to the intersection of Interstate 10 and 91st Avenue
6784          RK     729  0.0020   0.015            CIRC   7.500
              *

6785          KK  CPIN91 COMBINE
6786          KM   Combine pipe return PR91MD with the runoff hydrograph at combination point
6787          KM   CIN91 at the intersection of Interstate 10 and 91st Avenue
6788          HC       2
              *

6789          KK  DWINLO  DIVERT
6790          KM   Divert remaining runoff hydrograph from combination point CPIN91 west to
6791          KM   combination point CINLO
6792          DT  DSVB91      0.0      0.0
6793          DI      0.0 11110.0 11110.1 50000.0      0.0      0.0      0.0      0.0      0.0      0.0
6794          DQ      0.0      0.0 11110.1 50000.0      0.0      0.0      0.0      0.0      0.0      0.0
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              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

6795          KK  RWINLO   ROUTE
6796          KM   Route diversion DWINLO west to combination point CINLO
6797          RS       1     FLOW
6798          RC   0.035    0.015    0.035     4153  0.0008     0.00
6799          RX    0.00     0.10    18.00    36.00    66.00    84.00   102.00   102.10
6800          RY   18.00    17.05     9.00     0.00     0.00     9.00    17.05    18.00
              *

6801          KK  DWIN07  DIVERT
6802          KM   Divert route RWINLO to detention basin northeast of L101 and I-10 Freeways.
6803          KM   Only the flow greater than the channel capacity is diverted to the basin.
6804          DT  DNINLO      0.0      0.0
6805          DI      0.0  9505.0 10216.0 10958.0 12536.0      0.0      0.0      0.0      0.0      0.0
6806          DQ      0.0      0.0    620.0  1755.0  4964.0      0.0      0.0      0.0      0.0      0.0
              *

6807          KK    INLO   BASIN
6808          KM   Runoff hydrograph for subbasin INLO northeast of the intersection of
6809          KM   Interstate 10 and SR Loop 101
6810          BA   0.147
6811          LG    0.10     0.15     9.70     0.04       78
6812          UC   0.451    0.415
6813          UA       0      5.0     16.0     30.0     65.0     77.0     84.0     90.0     94.0     97.0
6814          UA     100
              *

6815          KK  ERINLO  DIVERT
6816          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
6817          KM   retention developed after 1990 in subbasin INLO
6818          DT  XINLO      6.8      0.0
6819          DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
6820          DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

6821          KK  DRINLORETRIEVE
6822          KM   Retrieve divert DRINLO from route RWINLO and route north to combination point
6823          KM   CIN95 to route thru the detention basin northeast of L101 and I-10 Freeways
6824          DR  DNINLO
              *

6825          KK  DRIN95RETRIEVE
6826          KM   Retrieve divert DRIN95 from route RSINLO and route east to combination point
6827          KM   CIN95 to route thru the detention basin northeast of L101 and I-10 Freeways
6828          DR  DEIN95
              *

6829          KK   CIN95 COMBINE
6830          KM   Combine retrieve DRINLO, retreive DRIN95, and subbasin INLO
6831          HC       3   24.79
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

6832          KK  SRINLO STORAGE
6833          KM   Storage route runoff hydrograph from combination CIN95 through detention
6834          KM     basin northeast of L101 and I-10 freeways
6835          KM   Stage-storage-discharge data from Agua Fria Freeway (101L) RAM-600-0-526
6836          KM     As-built Records, ADOT, October 2001
6837          RS       1    STOR
6838          SV          15.50  206.50  210.50  220.50  251.20  293.90
6839          SQ          33.00  159.00  367.00 1534.00 8123.0022263.00
6840          SE  1002.3 1004.50 1015.80 1016.00 1016.50 1018.00 1020.00
              *

6841          KK   CINLO COMBINE
6842          KM   Combine route RSINLO, route RWINLO, and storage route SRINLO
6843          HC       3   24.79
              *

6844          KK  DWIN07  DIVERT
6845          KM   Divert remaining runoff hydrograph from combination point CINLO west to
6846          KM   combination point CIN07
6847          DT  DNINLO      0.0      0.0
6848          DI      0.0  9505.0 10216.0 10958.0 12536.0      0.0      0.0      0.0      0.0      0.0
6849          DQ      0.0      0.0    620.0  1755.0  4964.0      0.0      0.0      0.0      0.0      0.0
              *

6850          KK  RWIN07   ROUTE
6851          KM   Route diversion DWIN07 west to combination point CIN07
6852          RS       1     FLOW
6853          RC   0.035    0.015    0.035     6475  0.0017     0.00
6854          RX    0.00     0.10    18.00    36.00    66.00    84.00   102.00   102.10
6855          RY   18.00    17.05     9.00     0.00     0.00     9.00    17.05    18.00
              *
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6856          KK  DITM07RETRIEVE
6857          KM   Retrieve divert DITM07 from combination point CRI07 and divert south to
6858          KM   combination point CTM07
6859          DR   DTM07
              *

6860          KK  SRRI03 STORAGE
6861          KM   Storage route runoff hydrograph from divert retrieval DITM07 through ponding
6862          KM     area at the Roosevelt Irrigation District Canal near the intersection of
6863          KM     canal and 103rd Avenue.
6864          KM   Stage-storage-discharge data from Maryvale ADMS, February 1997
6865          RS       1    STOR
6866          SV           16.40   50.70   71.40   77.20  109.70
6867          SQ            0.10    0.20    0.30   96.00 1160.00
6868          SE  1019.0 1020.00 1021.00 1021.40 1021.50 1022.00
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

6869          KK  RWTM07   ROUTE
6870          KM   Route diversion retrieval DRRIAF west to combination point CTM07
6871          RS      10    FLOW
6872          RC   0.035   0.015   0.035    2719  0.0029    0.00
6873          RX    0.00    0.00   16.50   16.50  107.50  107.50  124.00  124.00
6874          RY    3.00    0.66    0.50    0.00    0.00    0.50    0.66    3.00
              *

6875          KK  DRTM07RETRIEVE
6876          KM   Retrieve divert DRTM07 from combination point CRI07 and divert south to
6877          KM   combination point CTM07
6878          DR  DSTM07
              *

6879          KK  RSTM07   ROUTE
6880          KM   Route diversion retrieval DRTM07 south to combination point CTM07
6881          RS       3    FLOW
6882          RC   0.035   0.015   0.035    2640  0.0019    0.00
6883          RX    0.00    0.00   16.50   16.50  107.50  107.50  124.00  124.00
6884          RY    3.00    0.66    0.50    0.00    0.00    0.50    0.66    3.00
              *

6885          KK   TM07   BASIN
6886          KM   Runoff hydrograph for subbasin TM07 northeast of the intersection of Thomas
6887          KM   Road and 107th Avenue
6888          BA   0.265
6889          LG    0.29    0.15    9.70    0.05      15
6890          UC   1.411   1.128
6891          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
6892          UA     100
              *

6893          KK   CTM07 COMBINE
6894          KM   Combine route RWTM07, route RSTM07, and subbasin TM07
6895          HC       3    1.61
              *

6896          KK  DSMD07  DIVERT
6897          DT  DWTMAF      0.0     0.0
6898          DI      0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
6899          DQ      0.0    65.0   130.0   325.0   650.0  1300.0  2600.0  6500.0 13000.0 32500.0
              *

6900          KK  RSMD07   ROUTE
6901          KM   Route diversion DSMD07 south to combination point CMD07
6902          RS       9    FLOW
6903          RC   0.035   0.015   0.035    5280  0.0006    0.00
6904          RX    0.00    0.00   26.00   26.00  148.00  148.00  174.00  174.00
6905          RY    3.00    0.76    0.50    0.00    0.00    0.50    0.76    3.00
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

6906          KK  DRMD99RETRIEVE
6907          KM   Retrieve divert DRMD99 from combination point CTM99 and divert south to
6908          KM   combination point CMD99
6909          DR  DSMD99
              *

6910          KK  RSMD99   ROUTE
6911          KM   Route diversion retrieval DRMD99 south to combination point CMD99
6912          RS       8    FLOW
6913          RC   0.035   0.015   0.035    5508  0.0010    0.00
6914          RX    0.00    0.00   16.50   16.50  107.50  107.50  124.00  124.00
6915          RY    3.00    0.66    0.50    0.00    0.00    0.50    0.66    3.00
              *

6916          KK   MD99   BASIN
6917          KM   Runoff hydrograph for subbasin MD99 northeast of the intersection of McDowell
6918          KM   Road and 99th Avenue
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```
6919          BA   0.319
6920          LG    0.10    0.15    9.70    0.04      80
6921          UC   0.837   0.797
6922          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
6923          UA     100
              *

6924          KK   CMD99 COMBINE
6925          KM   Combine route RSMD99 and subbasin MD99
6926          HC       2    0.60
              *

6927          KK  DWTMRI  DIVERT
6928          KM   Divert portion of runoff hydrograph from combination point CMD99 west to the
6929          KM   intersection of Thomas Road and the Roosevelt Irrigation Distric canal and
6930          KM   the remaining flow west to the intersection of McDowell Road and 107th
6931          KM   Avenue. The diversion is based on topography
6932          DT   DMD99      0.0     0.0
6933          DI      0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
6934          DQ      0.0    56.0   112.0   280.0   560.0  1120.0  2240.0  5600.0 11200.0 28000.0
              *

6935          KK  RWTMRI   ROUTE
6936          KM   Route diversion DWTMRI west to combination point CTMRI
6937          RS       2    FLOW
6938          RC   0.035   0.015   0.035    2601  0.0023    0.00
6939          RX    0.00    0.00    9.50    9.50   40.50   40.50   50.00   50.00
6940          RY    3.00    0.60    0.50    0.00    0.00    0.50    0.60    3.00
              *

6941          KK   TMRI   BASIN
6942          KM   Runoff hydrograph for subbasin TMRI southeast of the intersection of Thomas
6943          KM   Road and the Roosevelt Irrigation District canal
6944          BA   0.240
6945          LG    0.10    0.15    9.70    0.05      40
6946          UC   0.395   0.168
6947          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

6948          UA     100
              *

6949          KK  ERTMRI  DIVERT
6950          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
6951          KM   retention developed after 1990 and NOAA14 rainfall for future retention in
6952          KM   subbasin TMRI
6953          DT   XTMRI     11.3      0.0
6954          DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
6955          DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

6956          KK   CTMRI COMBINE
6957          KM   Combine route RWTMRI and subbasin TMRI
6958          HC       2    0.51
              *

6959          KK  SRTMRI STORAGE
6960          KM   Storage route runoff hydrograph from combination point CTMRI through ponding
6961          KM     area at the Roosevelt Irrigation District canal near the intersection of th
6962          KM     canal and Thomas Road.
6963          KM   Stage-storage-discharge data from Maryvale ADMS, February 1997
6964          RS       1    STOR
6965          SV           15.73   25.07   35.38   85.58
6966          SQ            0.10 1069.00 3077.0011170.00
6967          SE  1020.0 1021.00 1021.50 1022.00 1023.00
              *

6968          KK   RMD07   ROUTE
6969          KM   Route runoff hydrograph from combination point CTMRI south to combination
6970          KM   point CMD07
6971          RS       8    FLOW
6972          RC   0.035   0.015   0.035    6743  0.0013    0.00
6973          RX    0.00    0.00   12.50   12.50   62.50   62.50   75.00   75.00
6974          RY    3.00    0.62    0.50    0.00    0.00    0.50    0.62    3.00
              *

6975          KK  DIMD99RETRIEVE
6976          KM   Retrieve subbasin flow diverted at the intersection of McDowell Road and 99th
6977          KM   Avenue
6978          DR   DMD99
              *

6979          KK  DWMD07  DIVERT
6980          KM   Divert remaining runoff hydrograph from combination point CTMRI west to
6981          KM   combination point CMD07
6982          DT  DSIN99      0.0     0.0
6983          DI      0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
6984          DQ      0.0    50.0   100.0   250.0   500.0  1000.0  2000.0  5000.0 10000.0 25000.0
              *
1                                        HEC-1 INPUT                                    PAGE182
```

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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

6985          KK  SRMD99 STORAGE
6986          KM   Storage route runoff hydrograph from divert DWMD07 through ponding area at
6987          KM     the Roosevelt Irrigation District canal near the intersection of the canal
6988          KM     and McDowell Road.
6989          KM   Stage-storage-discharge data from Maryvale ADMS, Feb 1997
6990          RS      1     STOR
6991          SV          11.90   27.50   38.50   54.00   98.80
6992          SQ                              1604.00 7290.0028409.00
6993          SE  1022.0 1023.00 1024.00 1024.50 1025.00 1026.00
              *

6994          KK  RWMD07    ROUTE
6995          KM   Route diversion retrieval DRMD07 west to combination point CMD07
6996          RS      1     FLOW
6997          RC  0.035   0.015   0.035    5792  0.0019    0.00
6998          RX   0.00    0.00   16.50   16.50  107.50  107.50  124.00  124.00
6999          RY   3.00    0.66    0.50    0.00    0.00    0.50    0.66    3.00
              *

7000          KK   MD07    BASIN
7001          KM   Runoff hydrograph for subbasin MD07 northeast of the intersection of McDowell
7002          KM   Road and 107th Avenue
7003          BA  0.783
7004          LG   0.22    0.15    8.80    0.05      41
7005          UC  1.433   0.900
7006          UA      0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
7007          UA    100
              *

7008          KK  ERMD07   DIVERT
7009          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
7010          KM   retention developed after 1990 in subbasin MD07
7011          DT   XMD07    53.7     0.0
7012          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
7013          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

7014          KK   CMD07 COMBINE
7015          KM   Combine route RWMD07, route RSMD07, route RMD07 and subbasin MD07
7016          HC       4    2.50
              *

7017          KK  DSIN07   DIVERT
7018          KM   Divert runoff hydrograph from combination point CMD07 sout to combination
7019          KM   point CIN07
7020          DT  DWMDAV      0.0     0.0
7021          DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
7022          DQ     0.0    75.0   150.0   375.0   750.0  1500.0  3000.0  7500.0 15000.0 37500.0
              *
1                                      HEC-1 INPUT                                      PAGE183

LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

7023          KK  RSIN07    ROUTE
7024          KM   Route diversion DSIN07 south to combination point CIN07
7025          RS      2     FLOW
7026          RC  0.035   0.015   0.035     844  0.0008    0.00
7027          RX   0.00    0.00   16.50   16.50  107.50  107.50  124.00  124.00
7028          RY   3.00    0.66    0.50    0.00    0.00    0.50    0.66    3.00
              *

7029          KK  DRIN99RETRIEVE
7030          KM   Retrieve divert DRIN99 from combination point CTMRI and divert south to
7031          KM   combination point CIN07
7032          DR  DSIN99
              *

7033          KK  RSIN99    ROUTE
7034          KM   Route divert retrieveal DRIN99 south to combination point CIN07
7035          RS      6     FLOW
7036          RC  0.035   0.015   0.035    6080  0.0019    0.00
7037          RX   0.00    0.00   16.50   16.50  107.50  107.50  124.00  124.00
7038          RY   3.00    0.66    0.50    0.00    0.00    0.50    0.66    3.00
              *

7039          KK   IN07    BASIN
7040          KM   Runoff hydrograph for subbasin IN07 northeast of the intersection of
7041          KM   Interstate 10 and 107th Avenue
7042          BA  0.256
7043          LG   0.10    0.15    8.40    0.06      83
7044          UC  0.558   0.510
7045          UA      0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
7046          UA    100
              *

7047          KK  ERIN07   DIVERT
7048          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
7049          KM   retention developed after 1990 in subbasin IN07
7050          DT   XIN07    17.6     0.0
```



```
7051          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
7052          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

7053          KK   CIN07 COMBINE
7054          KM   Combine route RWIN07, route RSIN99, route RSIN07, and subbasin IN07
7055          HC       4   27.09
              *

7056          KK  DWINAV   DIVERT
7057          KM   Divert remaining runoff hydrograph from combination point CIN07 west to
7058          KM   combination point CINAV
7059          DT  DSVB07      0.0     0.0
7060          DI     0.0 21022.0 21022.1 50000.0     0.0     0.0     0.0     0.0     0.0     0.0
7061          DQ     0.0     0.0 21022.1 50000.0     0.0     0.0     0.0     0.0     0.0     0.0
              *
1                                      HEC-1 INPUT                                      PAGE184

LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

7062          KK  RWINAV    ROUTE
7063          KM   Route diversion DWINAV west to combination point CINAV
7064          RS      1     FLOW
7065          RC  0.035   0.015   0.035    5174  0.0019    0.00
7066          RX   0.00    0.10   18.00   36.00   66.00   84.00  102.00  102.10
7067          RY  18.00   17.05    9.00    0.00    0.00    9.00   17.05   18.00
              *

7068          KK  DRTMAFRETRIEVE
7069          KM   Retrieve divert DRTMAF from combination point CTM07 and divert south to
7070          KM   combination point CTMAF
7071          DR  DWTMAF
              *

7072          KK  RWTMAF    ROUTE
7073          KM   Route diversion retrieval DRTMAF west to combination point CTMAF
7074          RS      8     FLOW
7075          RC  0.035   0.015   0.035    8219  0.0020    0.00
7076          RX   0.00    0.00   26.00   26.00  148.00  148.00  174.00  174.00
7077          RY   3.00    0.76    0.50    0.00    0.00    0.50    0.76    3.00
              *

7078          KK    TMAF    BASIN
7079          KM   Runoff hydrograph for subbasin TMAF north of Thomas Road and east of the Agua
7080          KM   Fria River
7081          BA  0.762
7082          LG   0.22    0.16    6.80    0.11      38
7083          UC  1.500   1.208
7084          UA      0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
7085          UA    100
              *

7086          KK   CTMAF COMBINE
7087          KM   Combine route RWTMAF and subbasin TMAF
7088          HC       2    1.33
              *

7089          KK  DSMDAV   DIVERT
7090          KM   Divert portion of runoff hydrograph from combination point CTMAF south to the
7091          KM   intersection of McDowell Road and Avondale Boulevard and the remaining flow
7092          KM   west to the Agua Fria River. The diversion is based on topography
7093          DT  DWAF02      0.0     0.0
7094          DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
7095          DQ     0.0    89.0   178.0   445.0   890.0  1780.0  3560.0  8900.0 17800.0 44500.0
              *

7096          KK  RSMDAV    ROUTE
7097          KM   Route diversion DSMDAV south to combination point CMDAV
7098          RS      7     FLOW
7099          RC  0.035   0.015   0.035    5280  0.0017    0.00
7100          RX   0.00    0.00   38.50   38.50  210.50  210.50  249.00  249.00
7101          RY   3.00    0.88    0.50    0.00    0.00    0.50    0.88    3.00
              *
1                                      HEC-1 INPUT                                      PAGE185

LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

7102          KK  DRMDAVRETRIEVE
7103          KM   Retrieve divert DRMDAV from combination point CMD07 and divert south to
7104          KM   combination point CMDAV
7105          DR  DWMDAV
              *

7106          KK  RWMDAV    ROUTE
7107          KM   Route diversion retrieval DRMDAV west to combination point CMDAV
7108          RS      5     FLOW
7109          RC  0.035   0.015   0.035    5280  0.0023    0.00
7110          RX   0.00    0.00   35.50   35.50  188.50  188.50  224.00  224.00
7111          RY   3.00    0.86    0.50    0.00    0.00    0.50    0.86    3.00
              *
```

```
7112          KK    MDAV   BASIN
7113          KM   Runoff hydrograph for square mile subbasin MDAV northeast of the intersection
7114          KM   McDowell Road and Avondale Boulevard
7115          BA   0.954
7116          LG    0.21    0.13    7.60    0.08      28
7117          UC   1.500   1.038
7118          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
7119          UA     100
              *

7120          KK  ERMDAV  DIVERT
7121          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
7122          KM   retention developed after 1990 in subbasin MDAV
7123          DT   XMDAV    80.8     0.0
7124          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
7125          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

7126          KK   CMDAV COMBINE
7127          KM   Combine route RWMDAV, route RSMDAV, and subbasin MDAV
7128          HC       3    1.72
              *

7129          KK  DSINAV  DIVERT
7130          KM   Divert remaining runoff hydrograph from combination point CMDAV south to
7131          KM   combination point CINAV
7132          DT  DWMDAF     0.0     0.0
7133          DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
7134          DQ     0.0    73.0   146.0   365.0   730.0  1460.0  2920.0  7300.0 14600.0 36500.0
              *

7135          KK  RSINAV   ROUTE
7136          KM   Route diversion DSINAV south to combination point CINAV
7137          RS       1    FLOW
7138          RC   0.035   0.015   0.035    1317  0.0022     0.00
7139          RX    0.00    0.00   16.50   16.50  107.50  107.50  124.00  124.00
7140          RY    3.00    0.66    0.50    0.00    0.00    0.50    0.66    3.00
              *

1                                        HEC-1 INPUT                                    PAGE186

LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9.....10

7141          KK    INAV   BASIN
7142          KM   Runoff hydrograph for subbasin INAV north of Interstate 10 and east of the
7143          KM   Agua Fria River
7144          BA   0.235
7145          LG    0.10    0.15    8.00    0.07      83
7146          UC   0.576   0.508
7147          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
7148          UA     100
              *

7149          KK  ERINAV  DIVERT
7150          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
7151          KM   retention developed after 1990 in subbasin INAV
7152          DT   XINAV    15.6     0.0
7153          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
7154          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

7155          KK   CINAV COMBINE
7156          KM   Combine route RWINAV, route RSINAV, and subbasin INAV
7157          HC       3   28.58
              *

7158          KK  DWINAF  DIVERT
7159          KM   Divert remaining runoff hydrograph from combination point CINAV west to
7160          KM   combination point CINAF
7161          DT  DSVBAF     0.0     0.0
7162          DI     0.0 22225.0 22225.1 50000.0     0.0     0.0     0.0     0.0     0.0     0.0
7163          DQ     0.0     0.0 22225.1 50000.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

7164          KK  RWINAF   ROUTE
7165          KM   Route diversion DWINAF west to combination point CINAF
7166          RS       1    FLOW
7167          RC   0.035   0.015   0.035    7360  0.0009     0.00
7168          RX    0.00    0.10   18.00   36.00   66.00   84.00  102.00  102.10
7169          RY   18.00   17.05    9.00    0.00    0.00    9.00   17.05   18.00
              * Need to re-evaluate divert, flow is greater than channel capacity
              *

7170          KK  DRMDAFRETRIEVE
7171          KM   Retrieve divert DRMDAF from combination point CMDAV and divert south to
7172          KM   combination point CMDAF
7173          DR  DWMDAF
              *

7174          KK  RWMDAF   ROUTE
7175          KM   Route diversion retrieval DRMDAF west to combination point CMDAF
7176          RS       6    FLOW
7177          RC   0.035   0.015   0.035    6890  0.0027     0.00
```



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7178          RX    0.00    0.00   48.00   48.00  251.00  251.00  299.00  299.00
7179          RY    3.00    0.98    0.50    0.00    0.00    0.50    0.98    3.00
              *

1                                        HEC-1 INPUT                                    PAGE187

LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9.....10

7180          KK    MDAF   BASIN
7181          KM   Runoff hydrograph for subbasin MDAF north of McDowell Road and east of the
7182          KM   Interstate 10 and east of the Agua Fria River
7183          BA   0.834
7184          LG    0.21    0.26    5.20    0.22      36
7185          UC   1.500   1.253
7186          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
7187          UA     100
              *

7188          KK   CMDAF COMBINE
7189          KM   Combine route RWMDAF and subbasin MDAF
7190          HC       2    1.30
              *

7191          KK  DSINAF  DIVERT
7192          KM   Divert portion of runoff hydrograph from combination point CMDAF south to the
7193          KM   intersection of Interstate 10 and the Agua Fria River and the remaining flow
7194          KM   west to the Agua Fria River. The diversion is based on topography
7195          DT  DWAF03     0.0     0.0
7196          DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
7197          DQ     0.0    76.0   152.0   380.0   760.0  1520.0  3040.0  7600.0 15200.0 38000.0
              *

7198          KK  RSINAF   ROUTE
7199          KM   Route diversion DSINAF south to combination point CINAF
7200          RS       1    FLOW
7201          RC   0.035   0.015   0.035    1317  0.0022     0.00
7202          RX    0.00    0.00   22.00   22.00  103.00  103.00  125.00  125.00
7203          RY    3.00    0.72    0.50    0.00    0.00    0.50    0.72    3.00
              *

7204          KK    INAF   BASIN
7205          KM   Runoff hydrograph for subbasin INAF north of Interstate 10 and east of the
7206          KM   Agua Fria River
7207          BA   0.472
7208          LG    0.15    0.23    6.20    0.18      42
7209          UC   0.964   0.814
7210          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
7211          UA     100
              *

7212          KK  ERINAF  DIVERT
7213          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
7214          KM   retention developed after 1990 and NOAA14 rainfall for future retention in
7215          KM   subbasin INAF
7216          DT   XINAF    21.1     0.0
7217          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
7218          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

1                                        HEC-1 INPUT                                    PAGE188

LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9.....10

7219          KK  ERINAF  DIVERT
7220          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
7221          KM   retention developed after 1990 in subbasin INAF
7222          DT   XINAF    21.1     0.0
7223          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
7224          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

7225          KK   CINAF COMBINE
7226          KM   Combine route RWINAF, route RSINAF, and subbasin INAF
7227          HC       3   29.36
              *

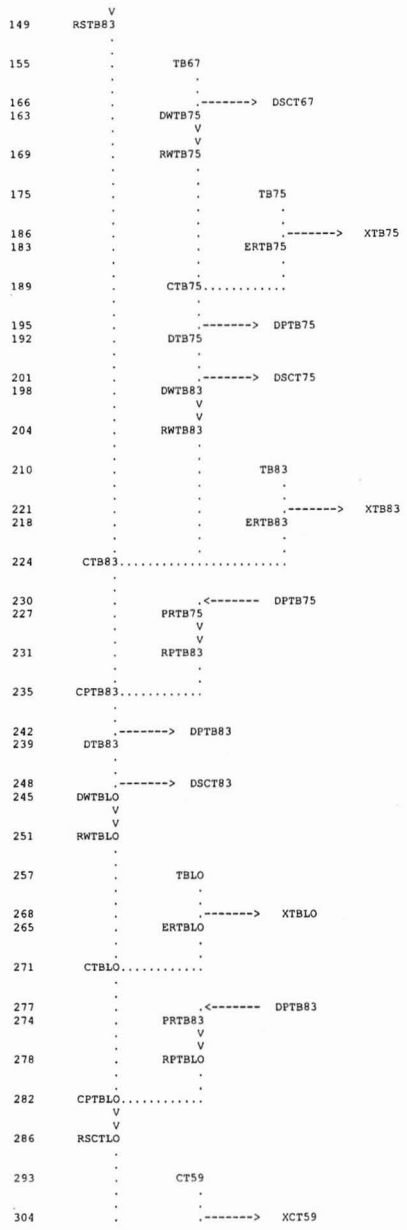
7228          ZZ

1                SCHEMATIC DIAGRAM OF STREAM NETWORK

INPUT
 LINE      (V) ROUTING           (--->) DIVERSION OR PUMP FLOW

  NO.      (.) CONNECTOR         (<---) RETURN OF DIVERTED OR PUMPED FLOW

  128        GW83
               .
               .
  139          .-------->  DPGW83
  136        DGW83
               .
               .
  146          .-------->  DWSK01
  142        DSTB83
               V
```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166 DSCT67
163 DWTB75
169 RWTB75
175 TB75
186 XTB75
183 ERTB75
189 CTB75
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192 DTB75
201 DSCT75
198 DWTB83
204 RWTB83
210 TB83
221 XTB83
218 ERTB83
224 CTB83
230 DPTB75
227 PRTB75
231 RPTB83
235 CPTB83
242 DPTB83
239 DTB83
248 DSCT83
245 DWTBLO
251 RWTBLO
257 TBLO
268 XTBLO
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282 CPTBLO
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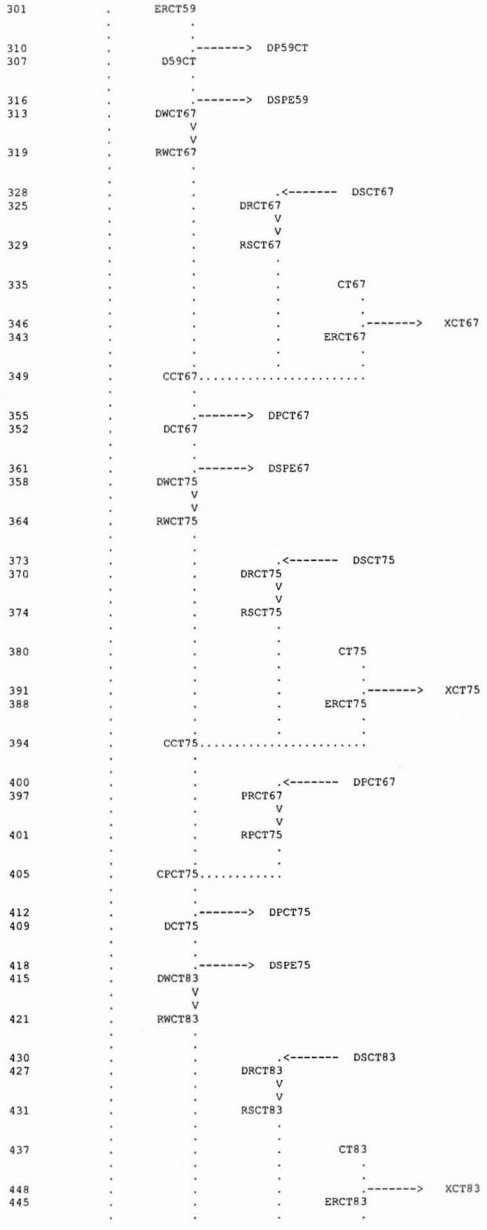
293 CT59
304 XCT59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343 ERCT67
349 CCT67
355 DPCT67
352 DCT67
361 DSPE67
358 DWCT75
364 RWCT75
373 DSCT75
370 DRCT75
374 RSCT75
380 CT75
391 XCT75
388 ERCT75
394 CCT75
400 DPCT67
397 PRCT67
401 RPCT75
405 CPCT75
412 DPCT75
409 DCT75
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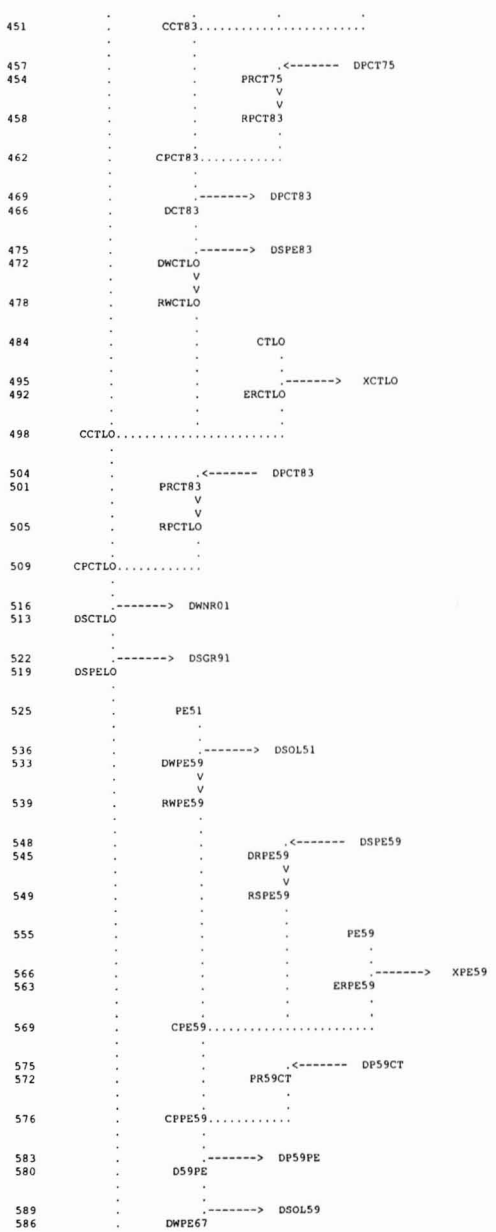
431 RSCT83
437 CT83
448 XCT83
445 ERCT83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RPCT83
CPCT83
DPCT83
DCT83
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ERCTLO
CCTLO
DPCT83
PRCT83
RPCTLO
CPCTLO
DWNR01
DSCTLO
DSGR91
DSPELO
PE51
DSOL51
DWPE59
RWPE59
DSPE59
DRPE59
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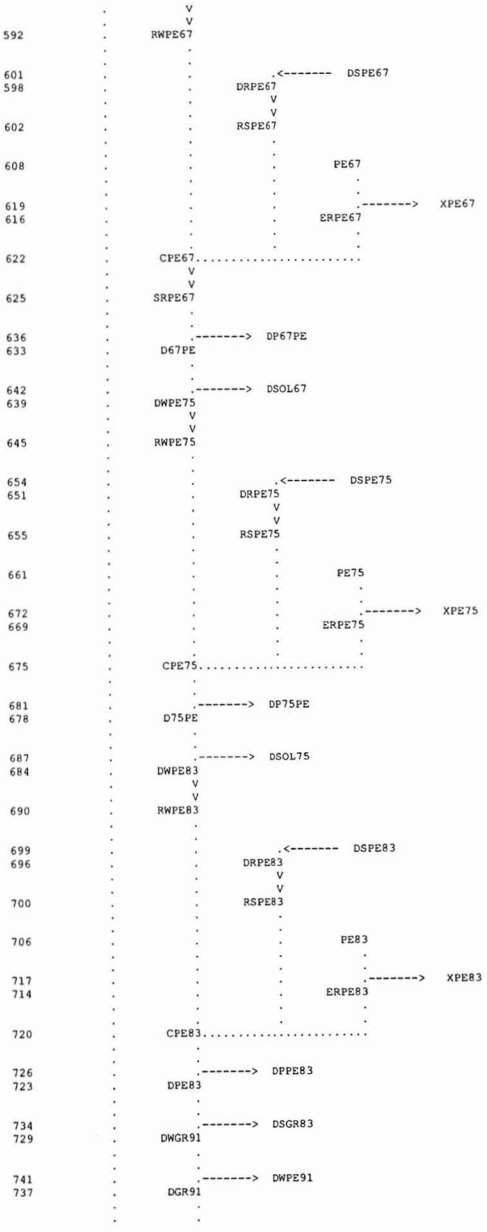
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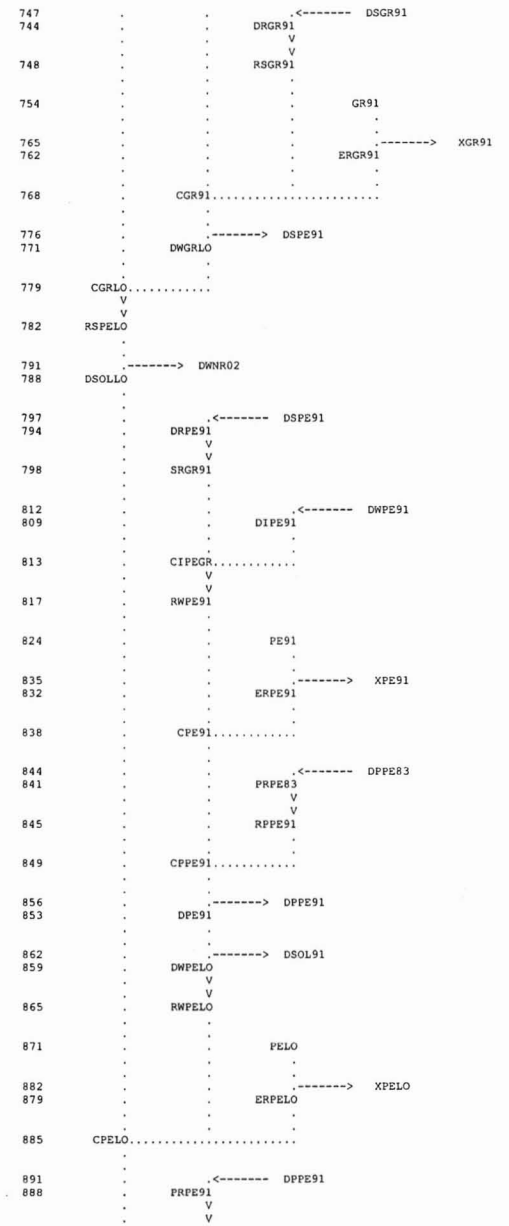
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744
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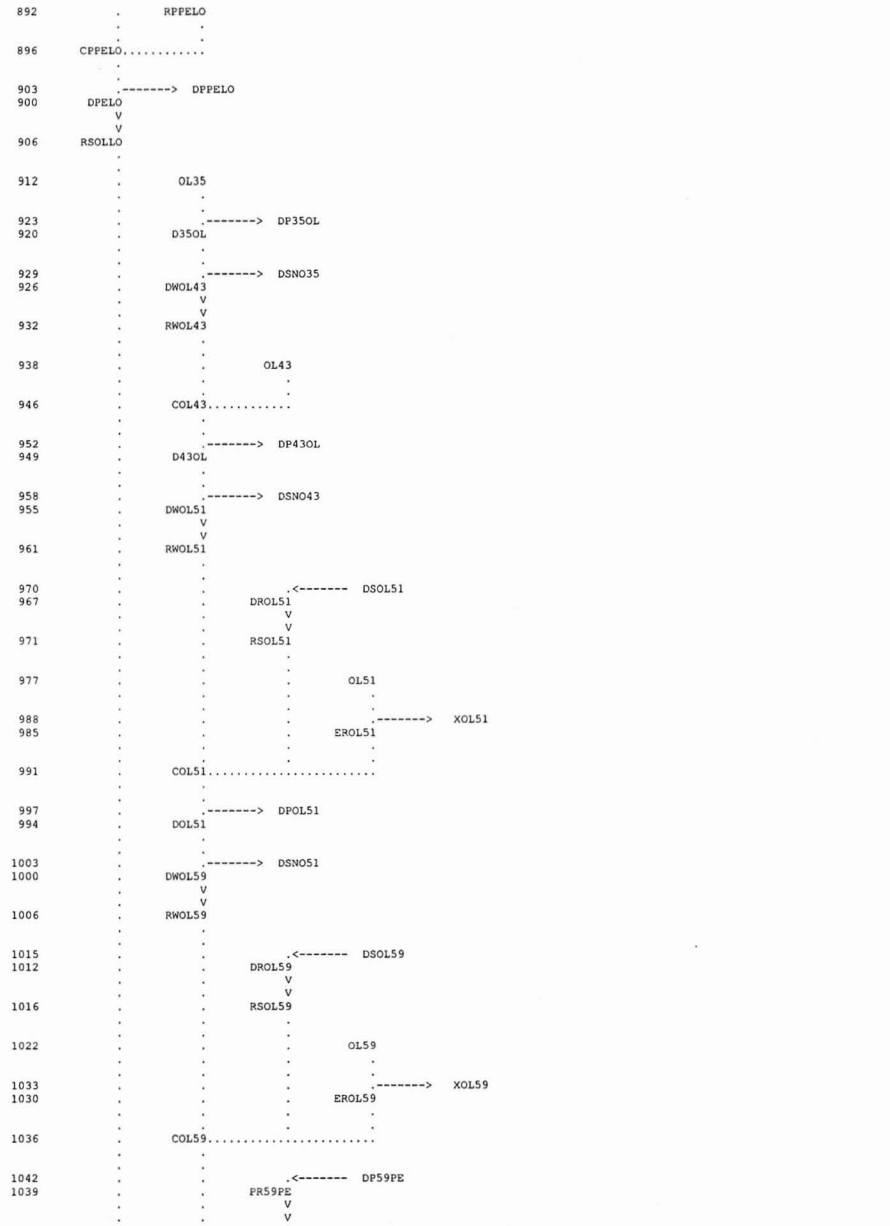
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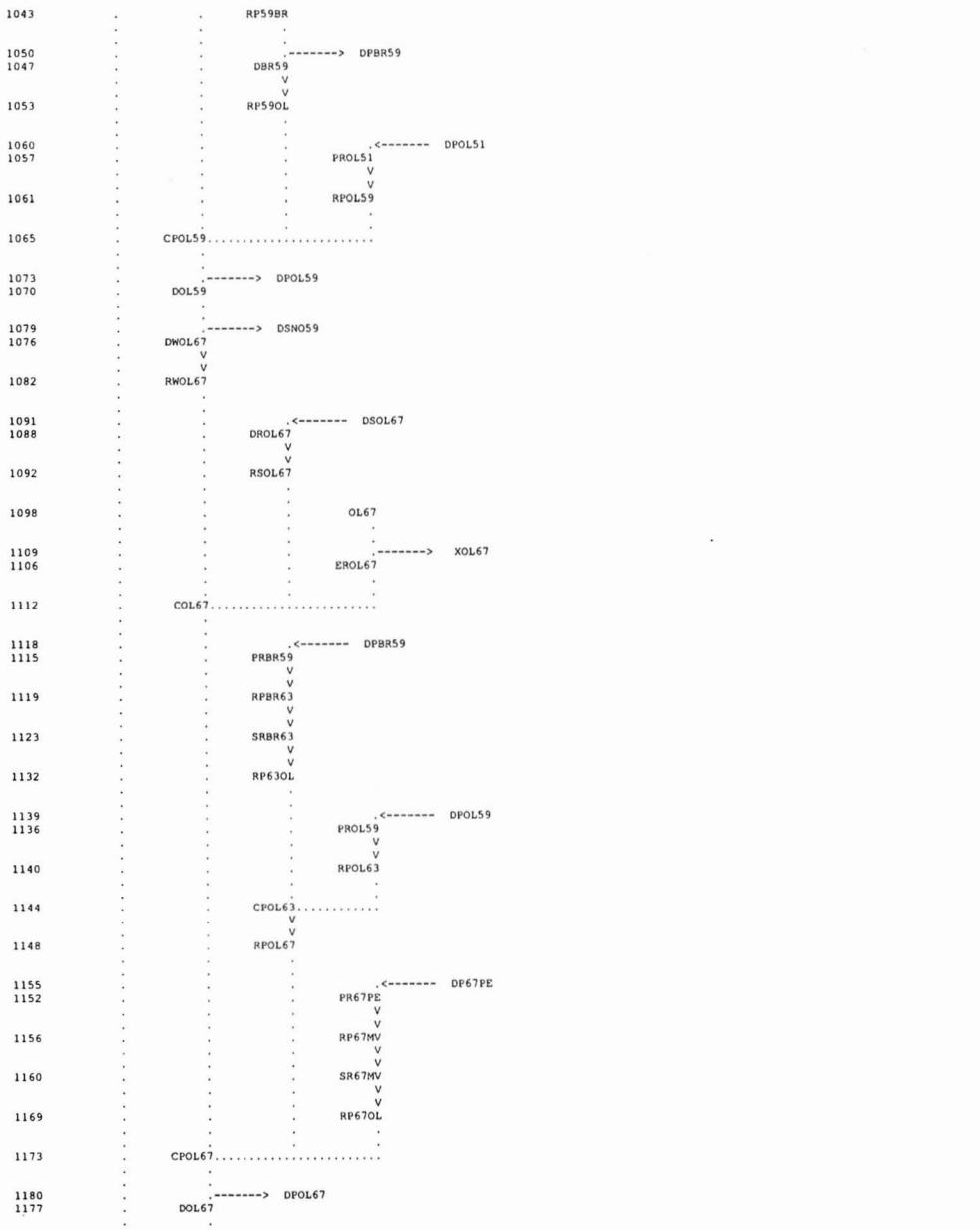
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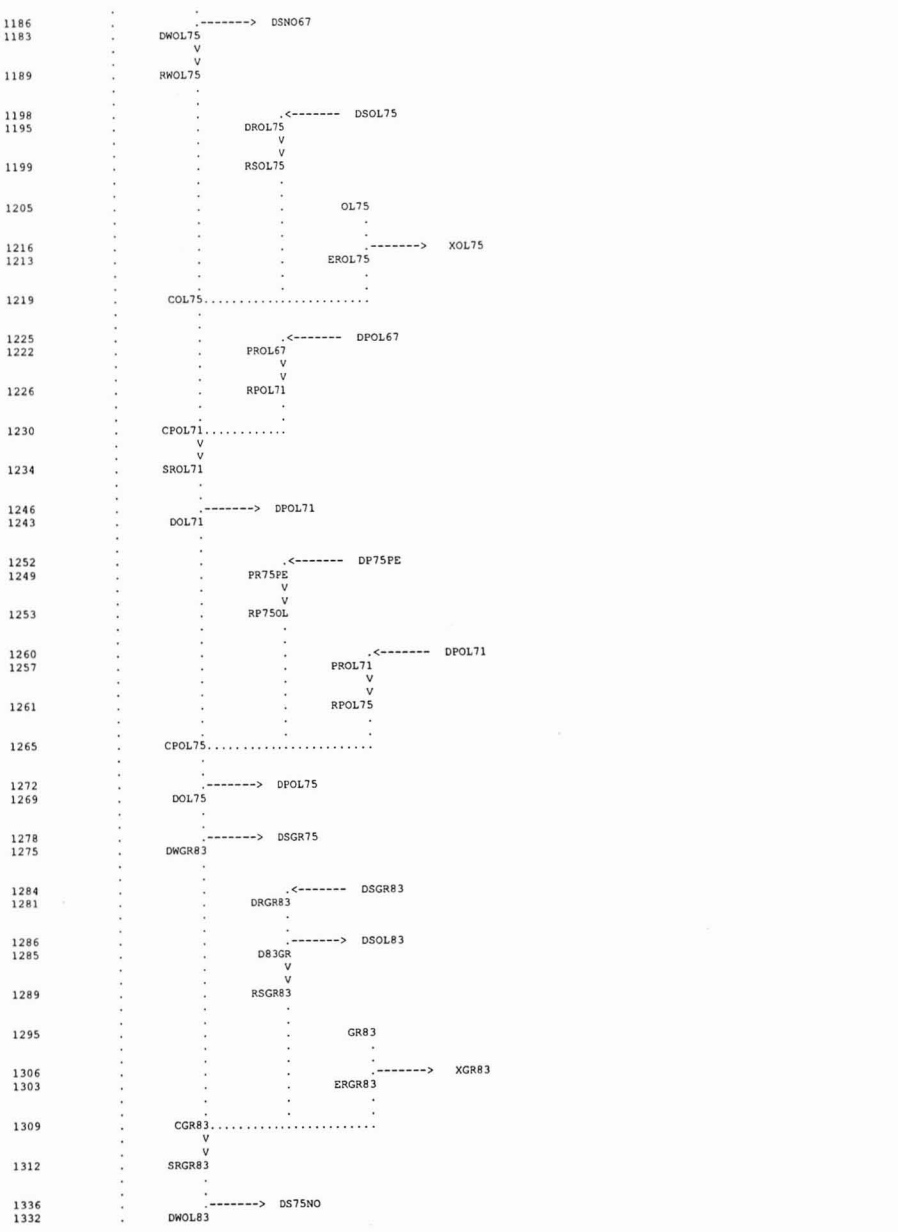
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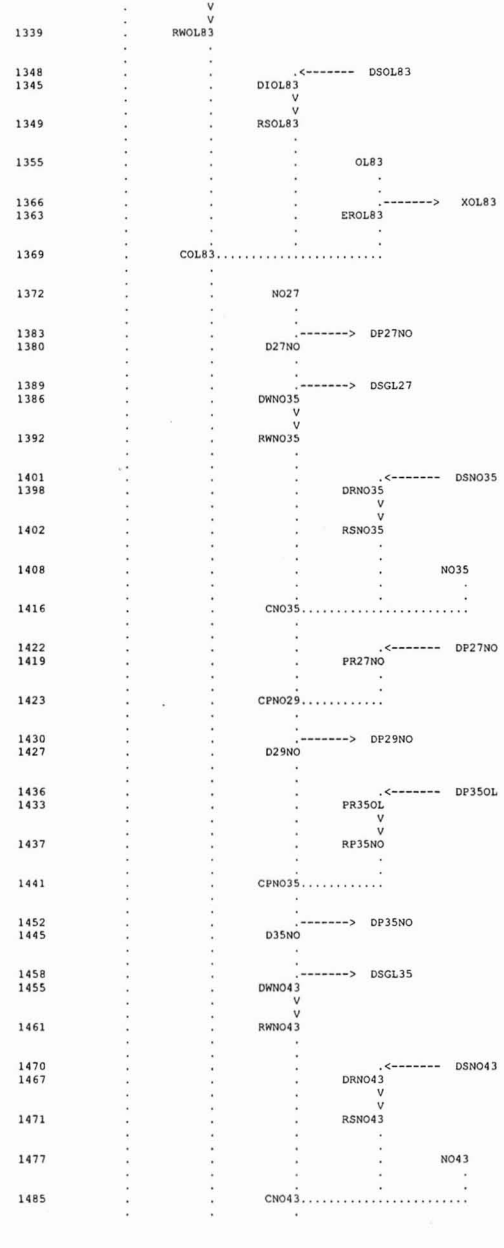
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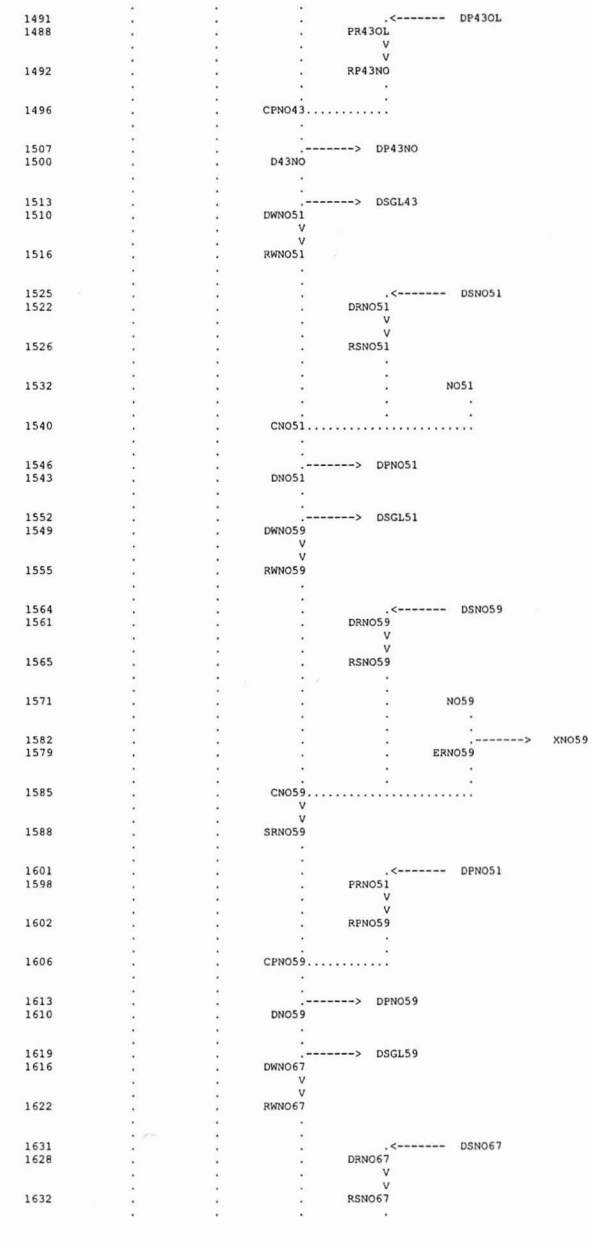
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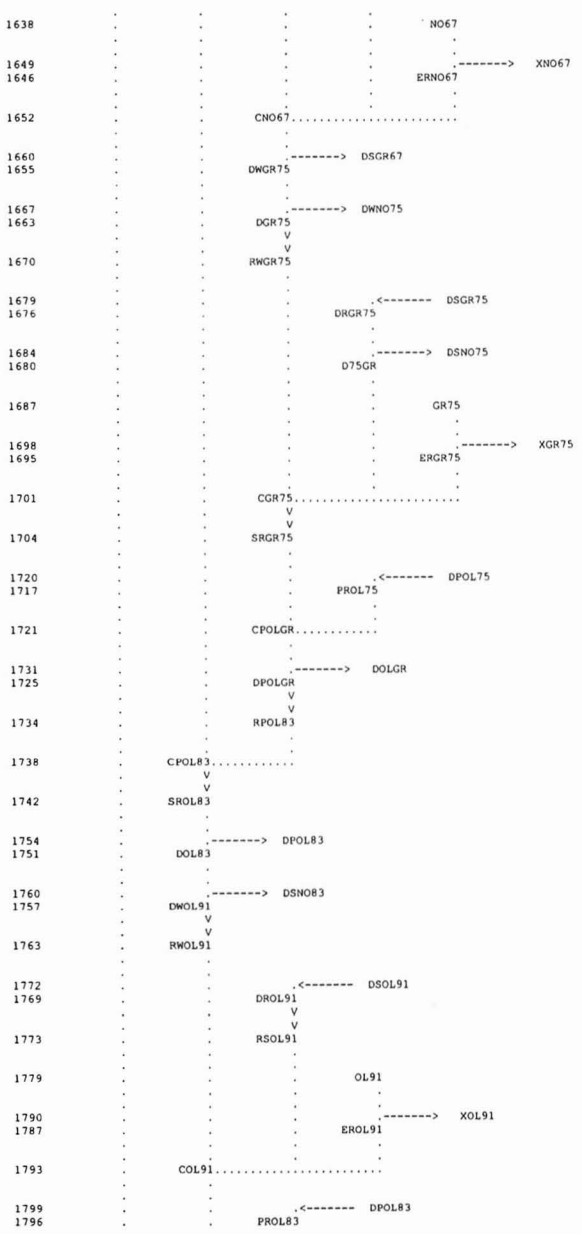
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1717 PROL75
1721 CPOLGR
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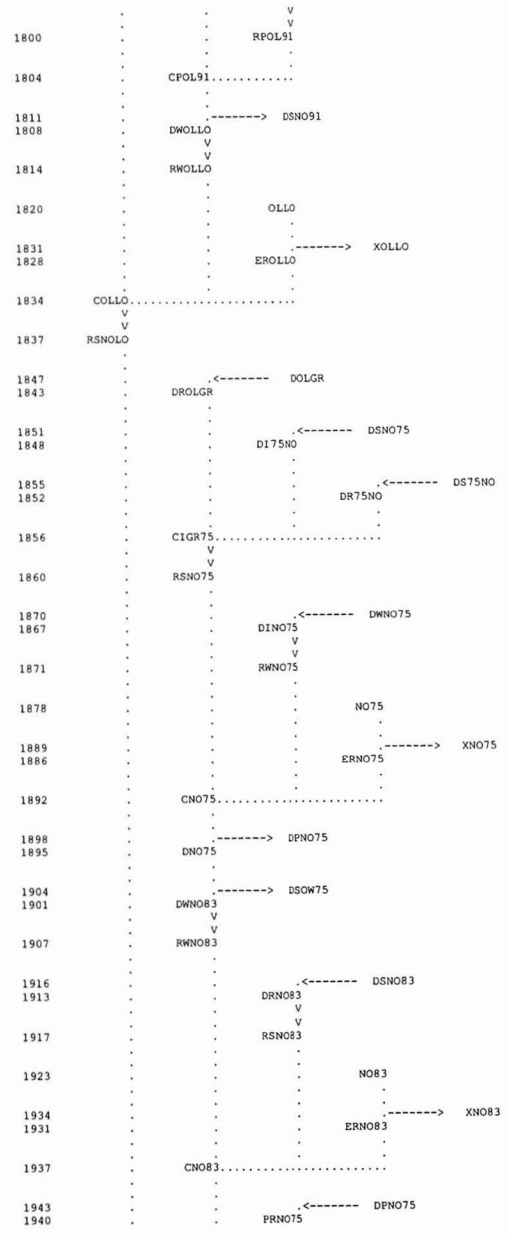
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1837 RSNOLO
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1843 DROLGR
1851 DSNO75
1848 D175NO
1855 DS75NO
1852 DR75NO
1856 CIGR75
1860 RSNO75
1870 DWNO75
1867 DINO75
1871 RWNO75
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1889 XNO75
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1892 CNO75
1898 DPNO75
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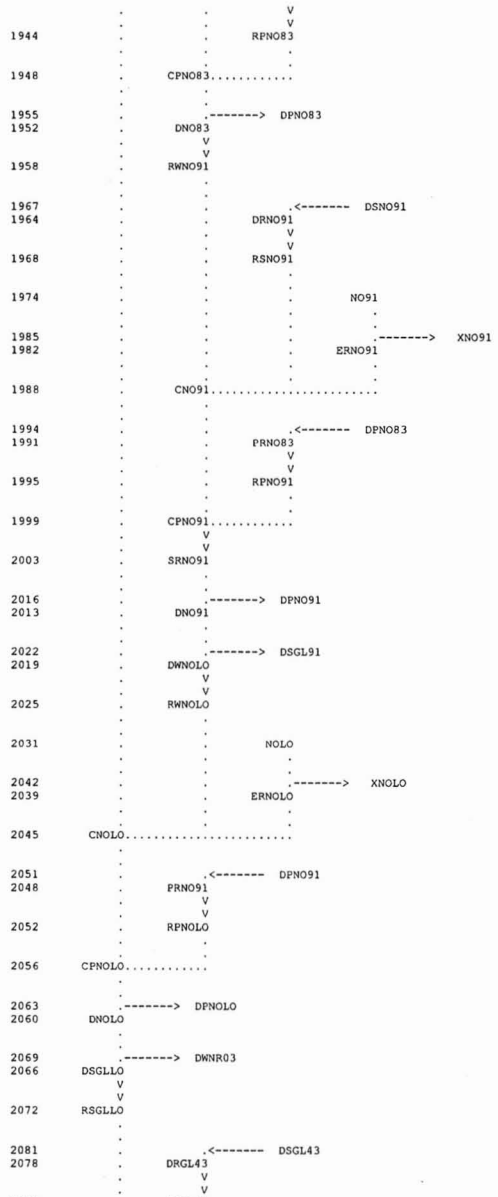
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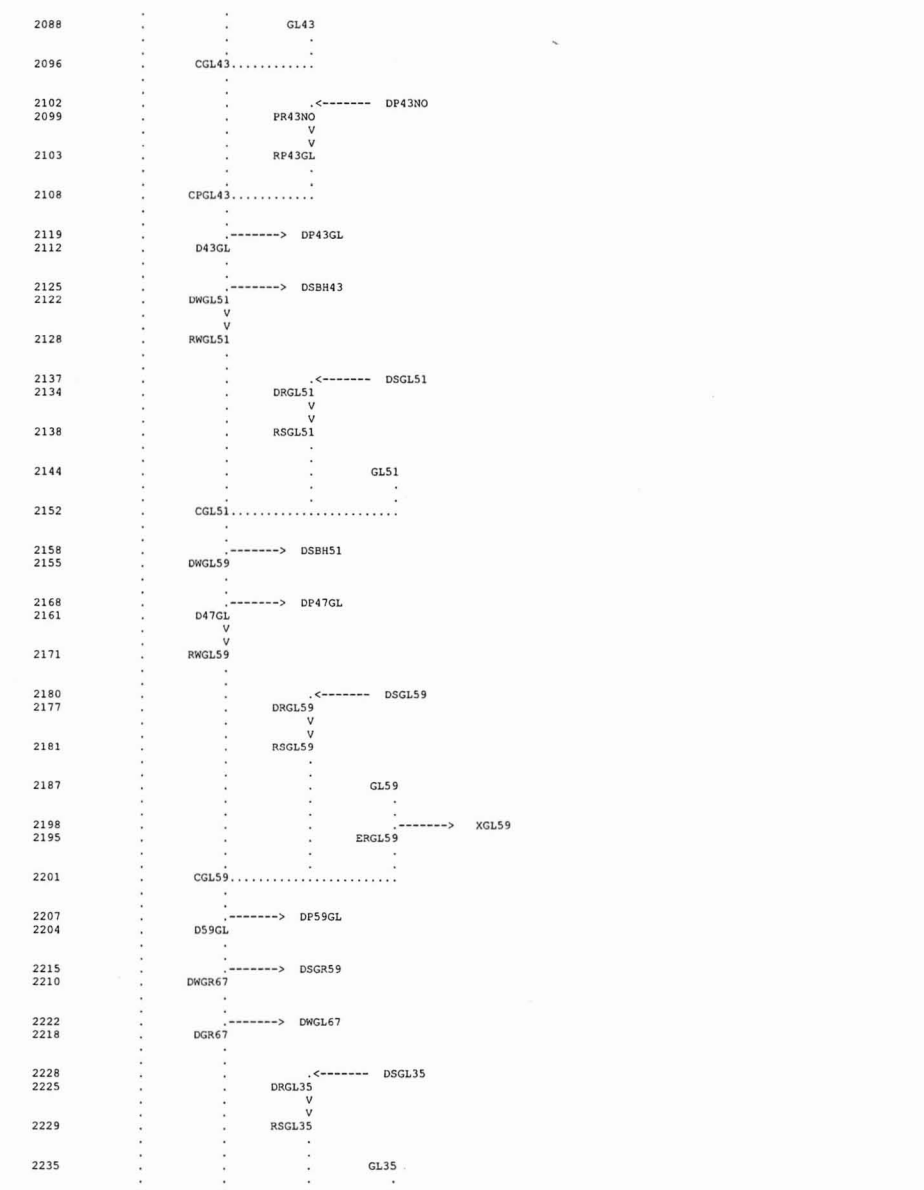
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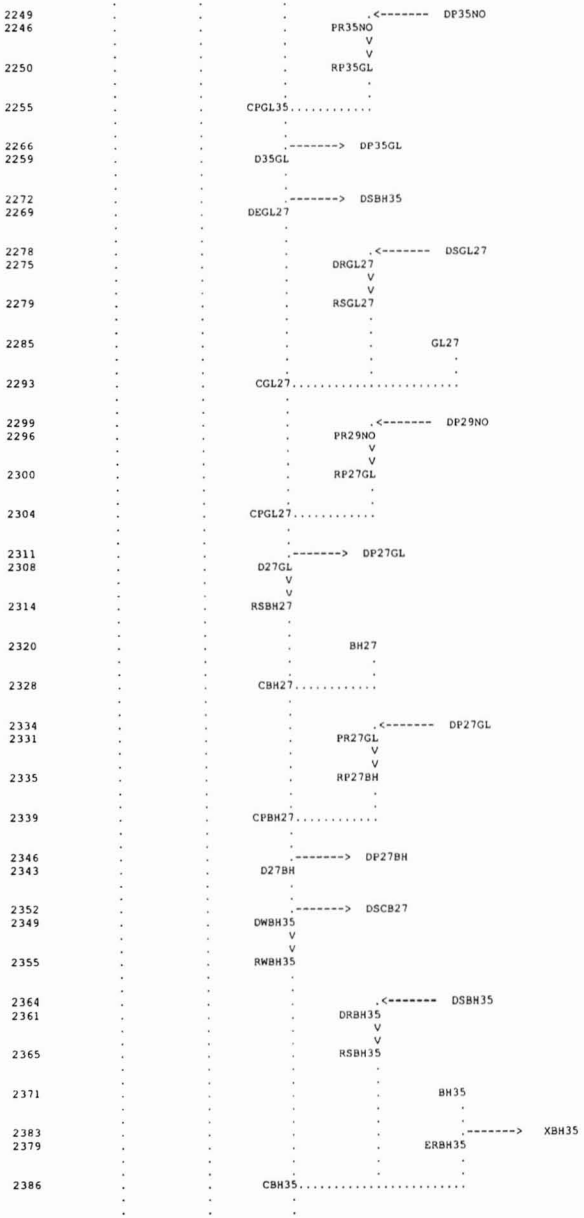
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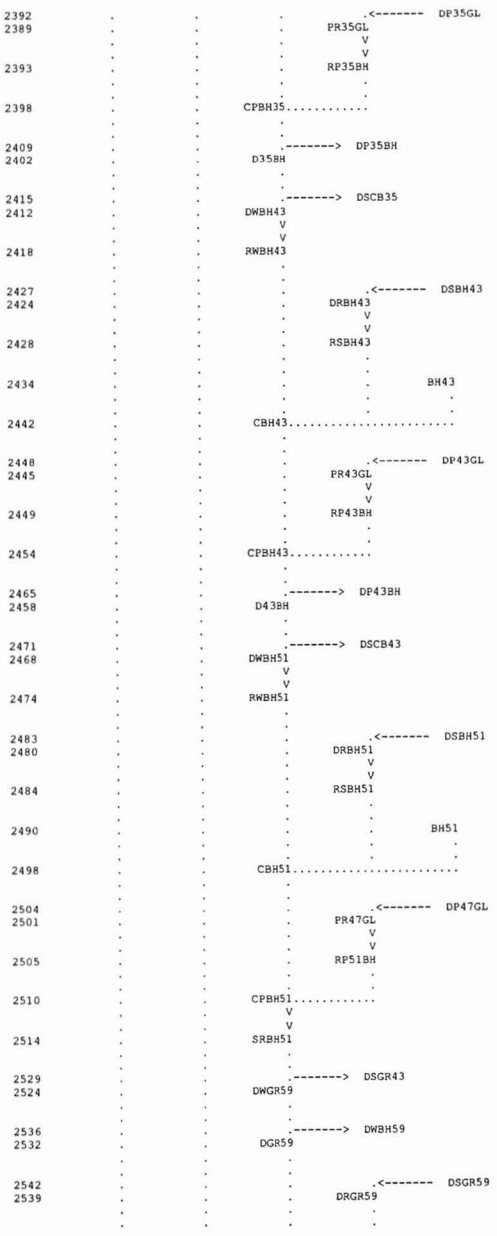
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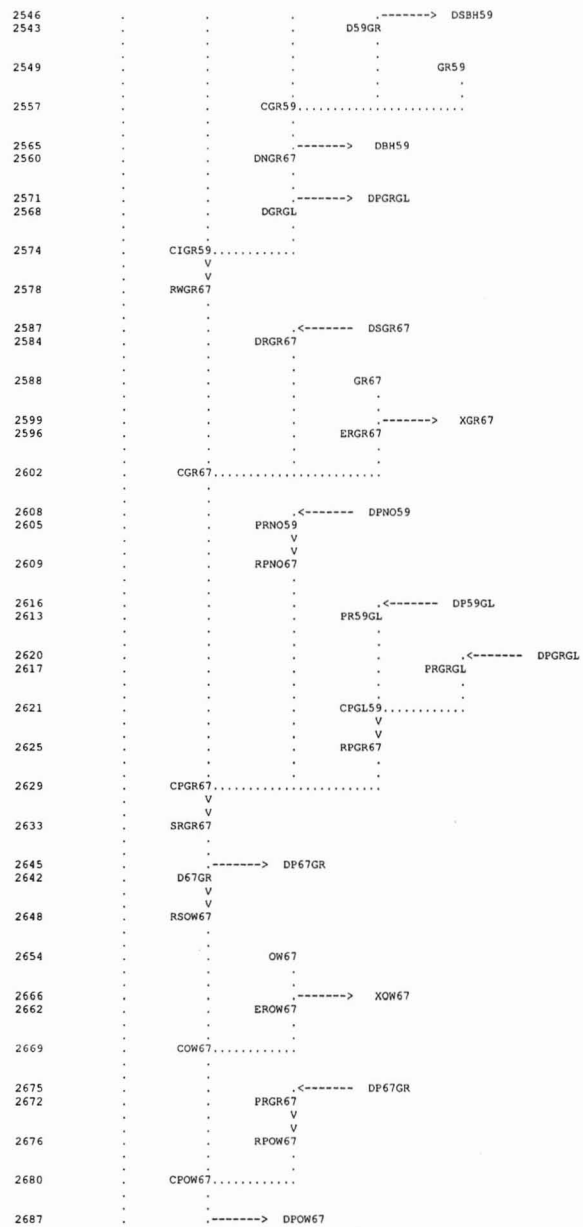
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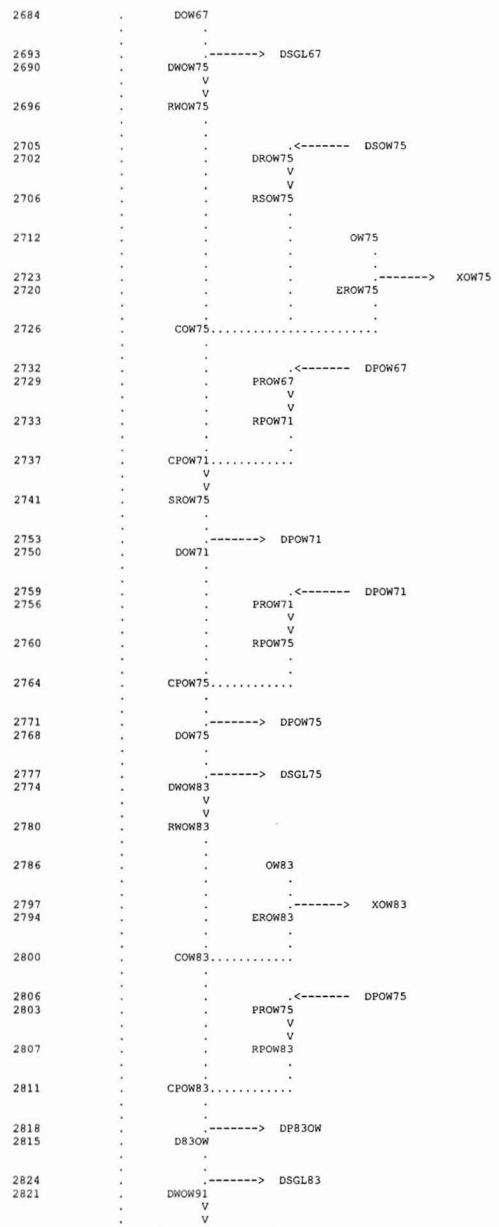
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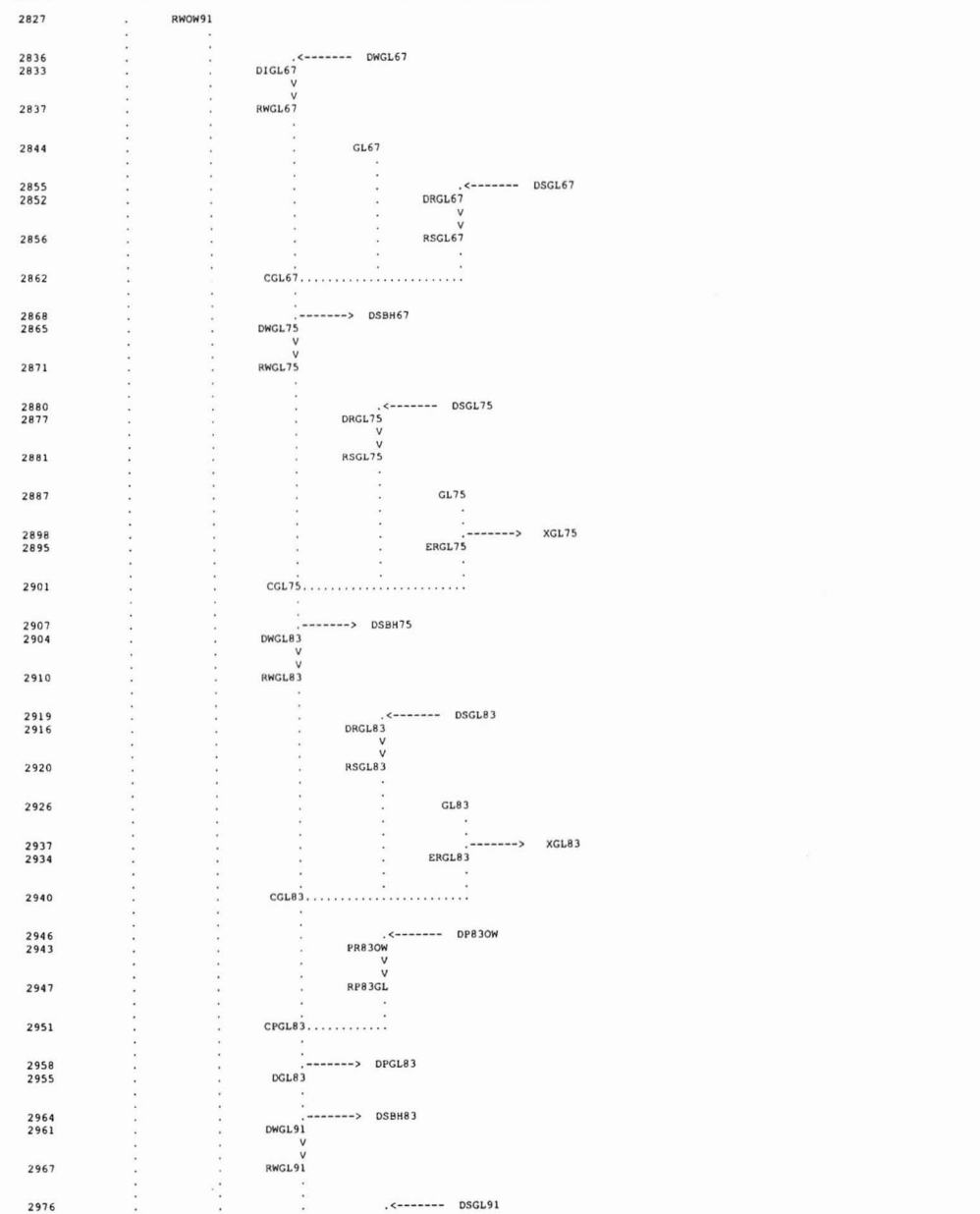
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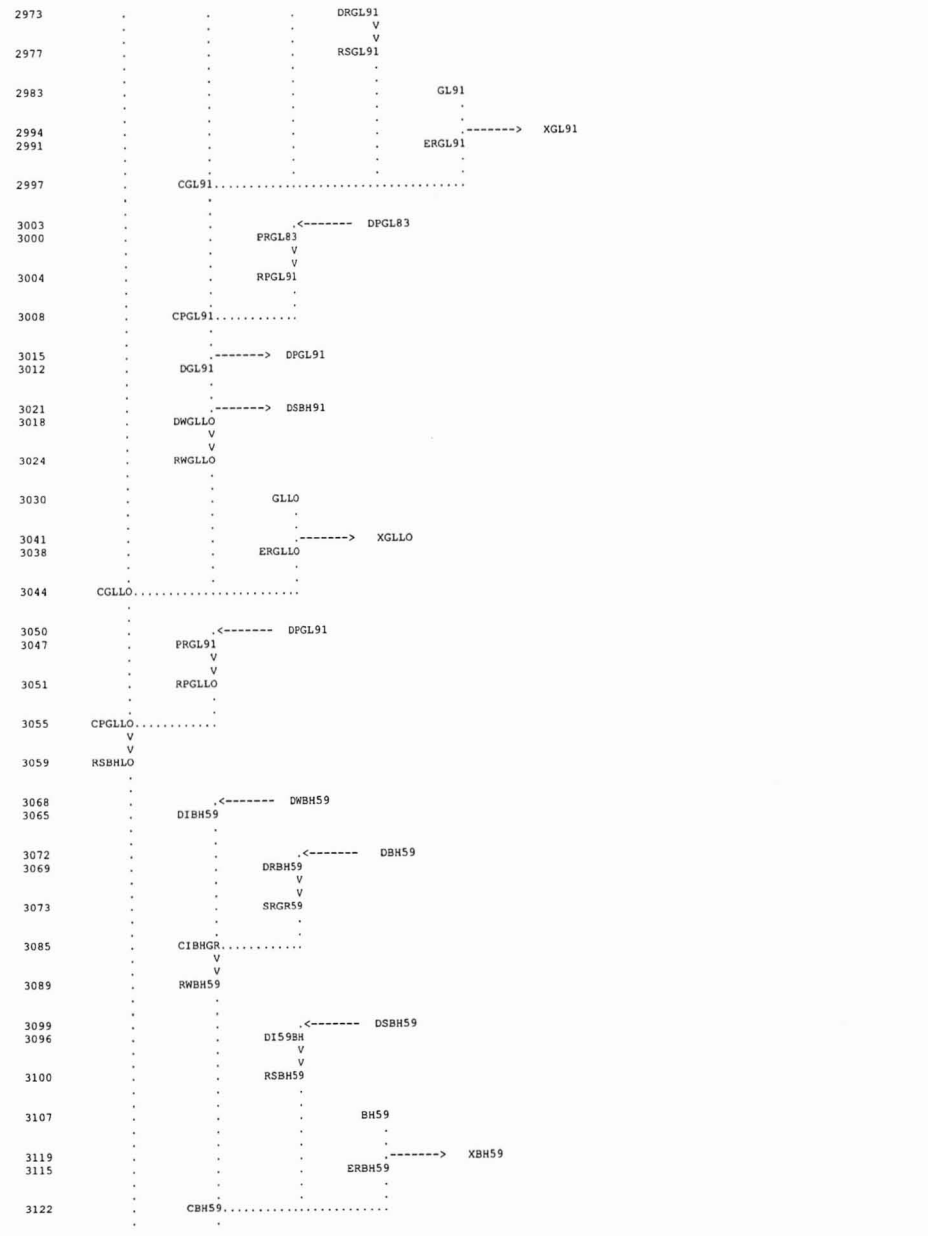
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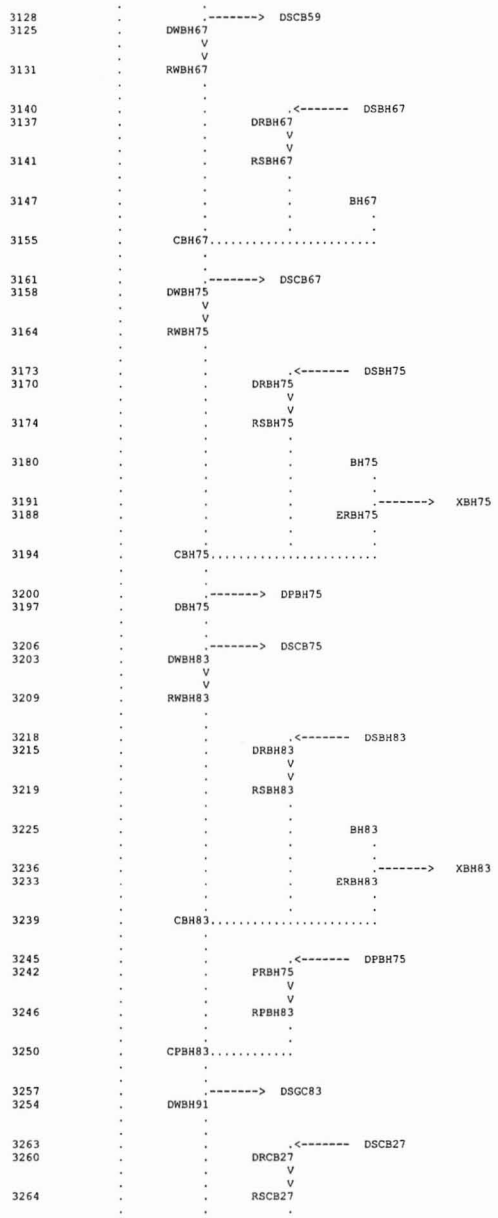
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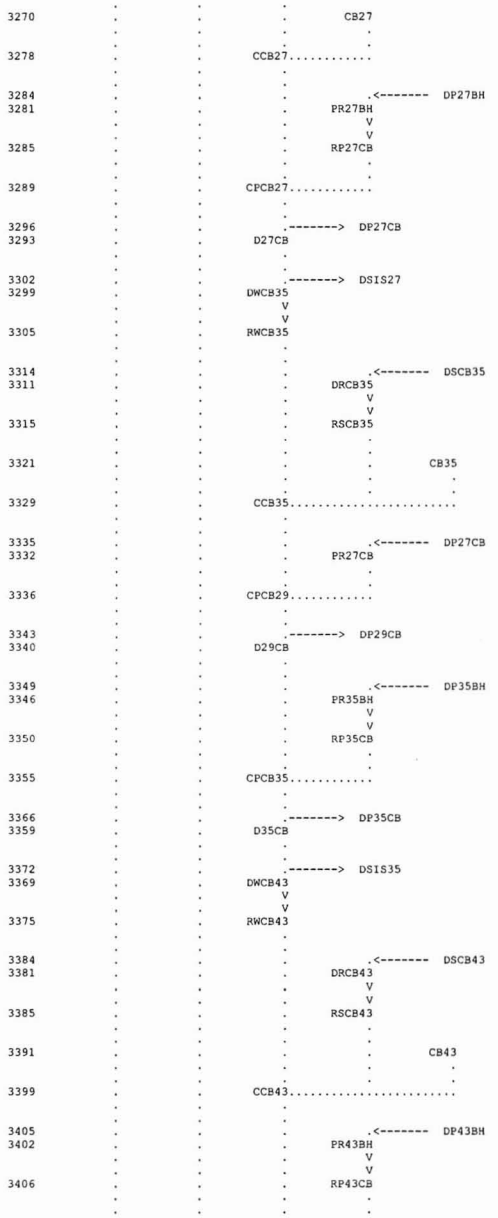
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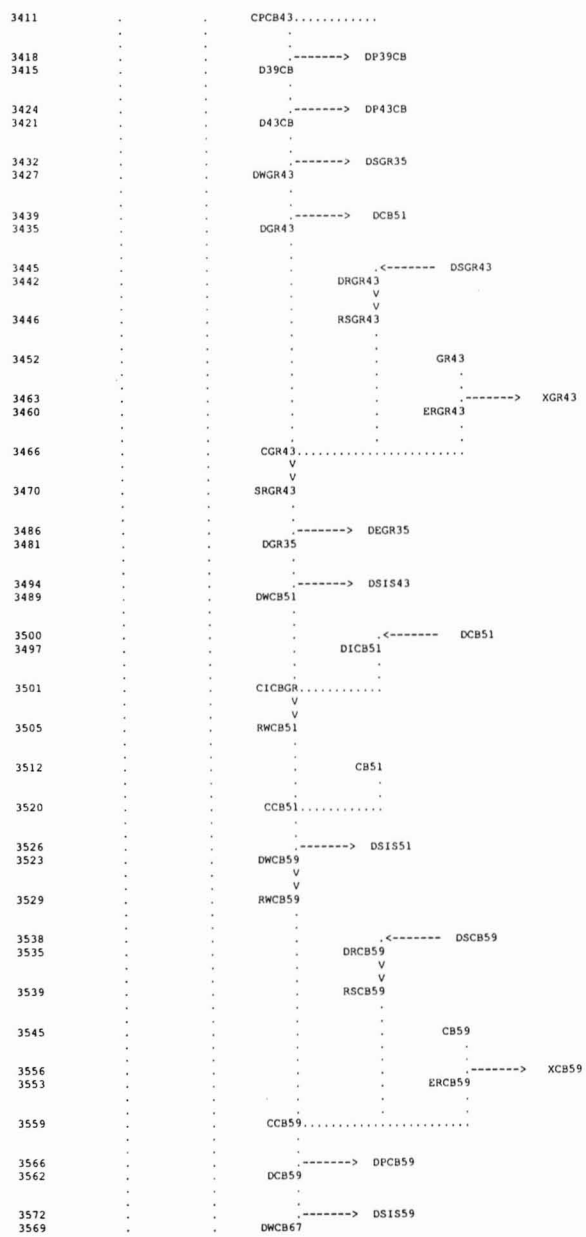
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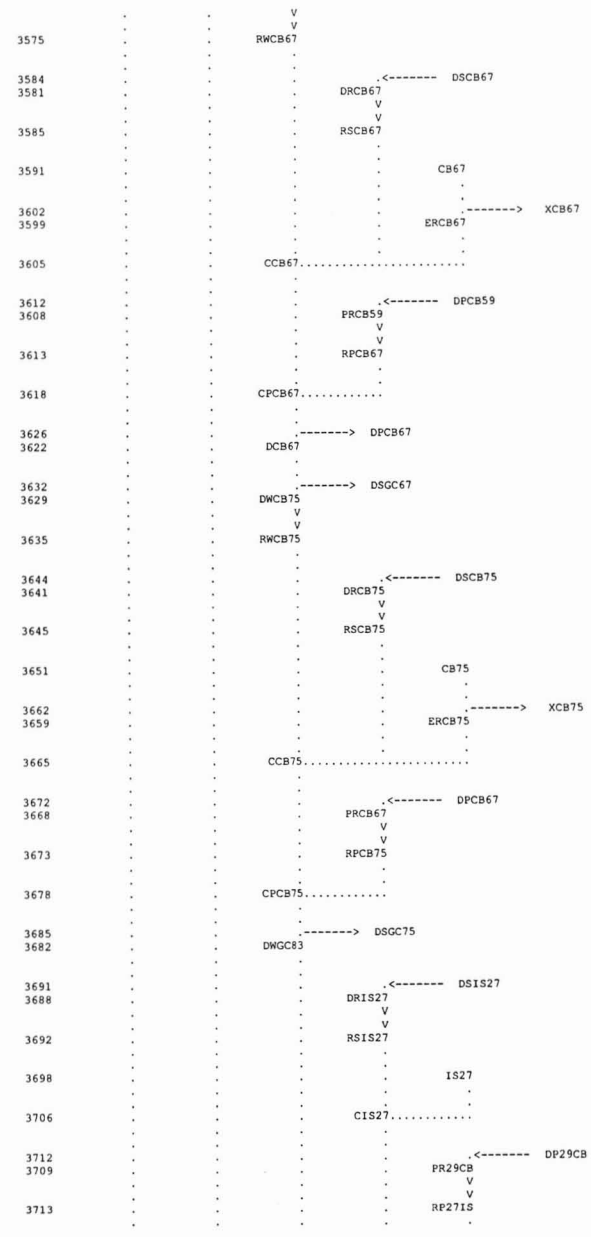
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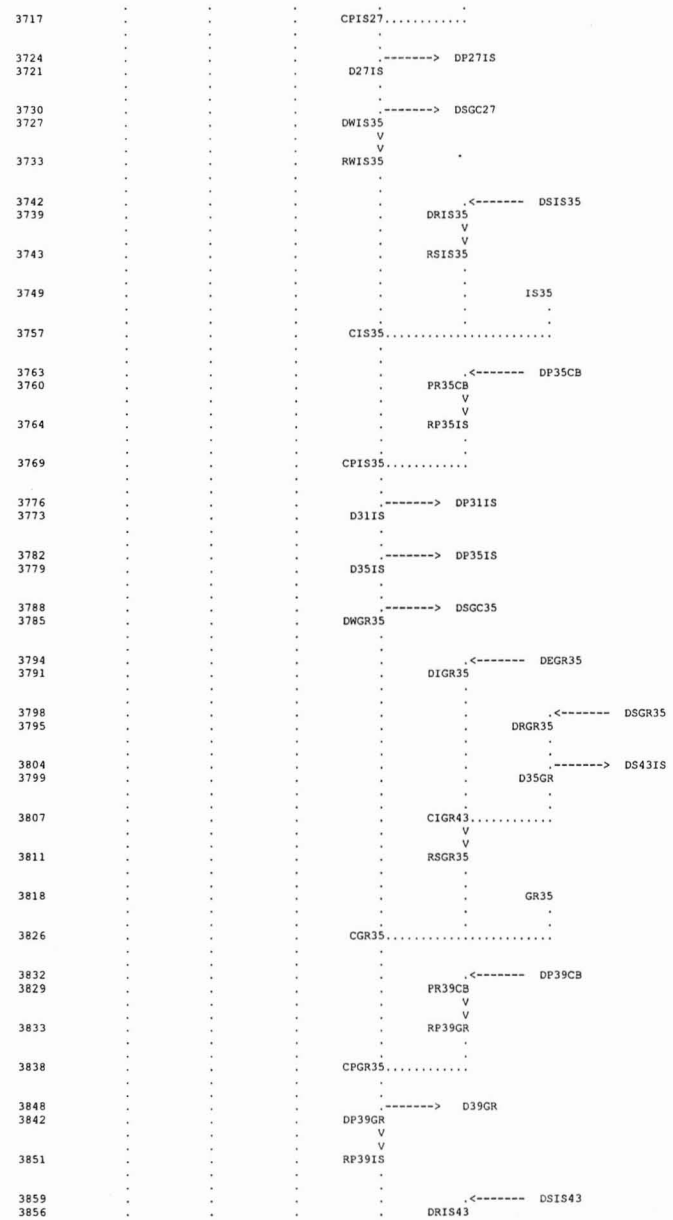
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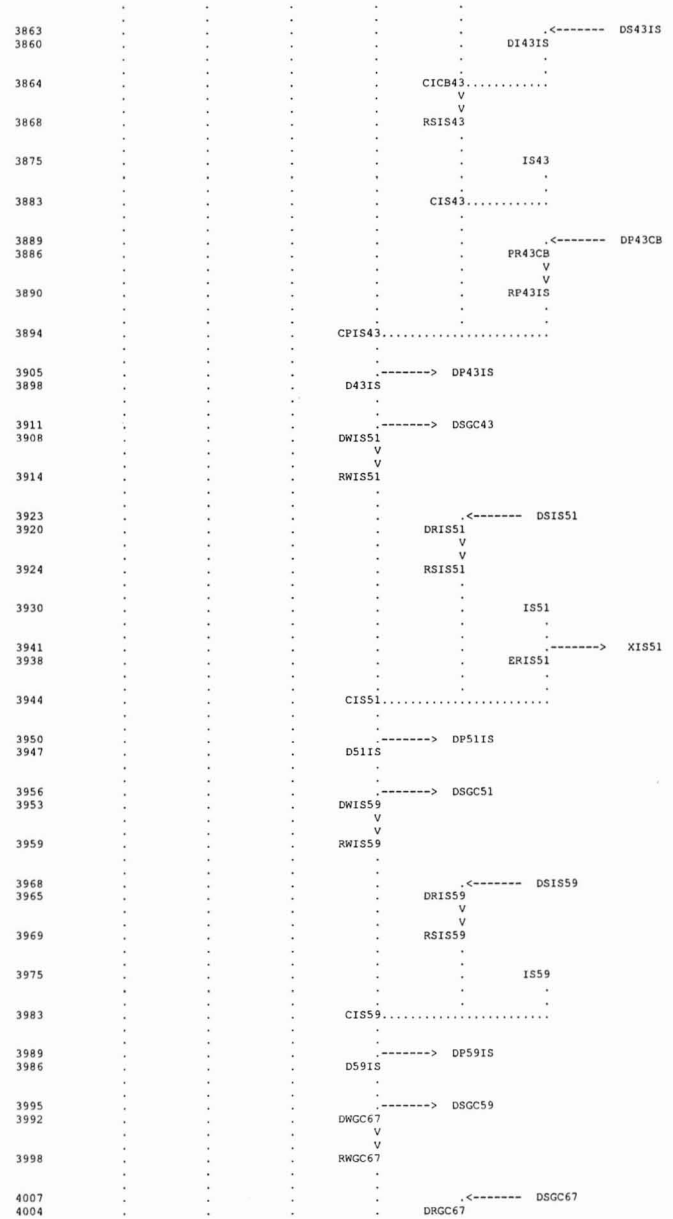
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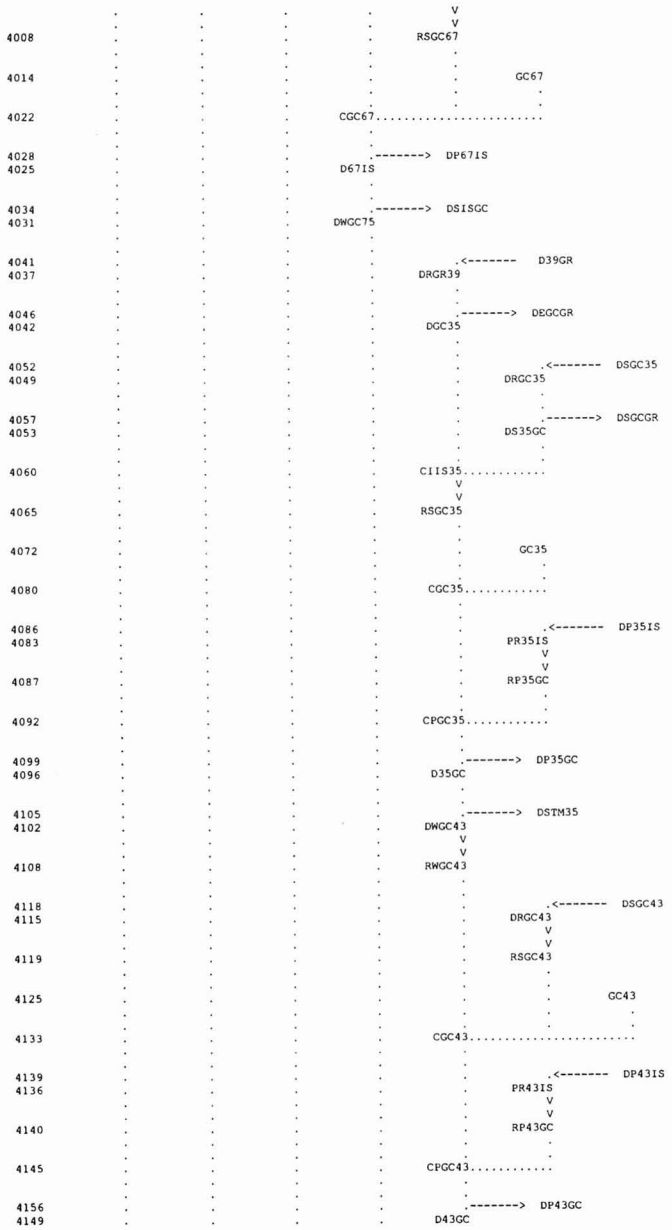
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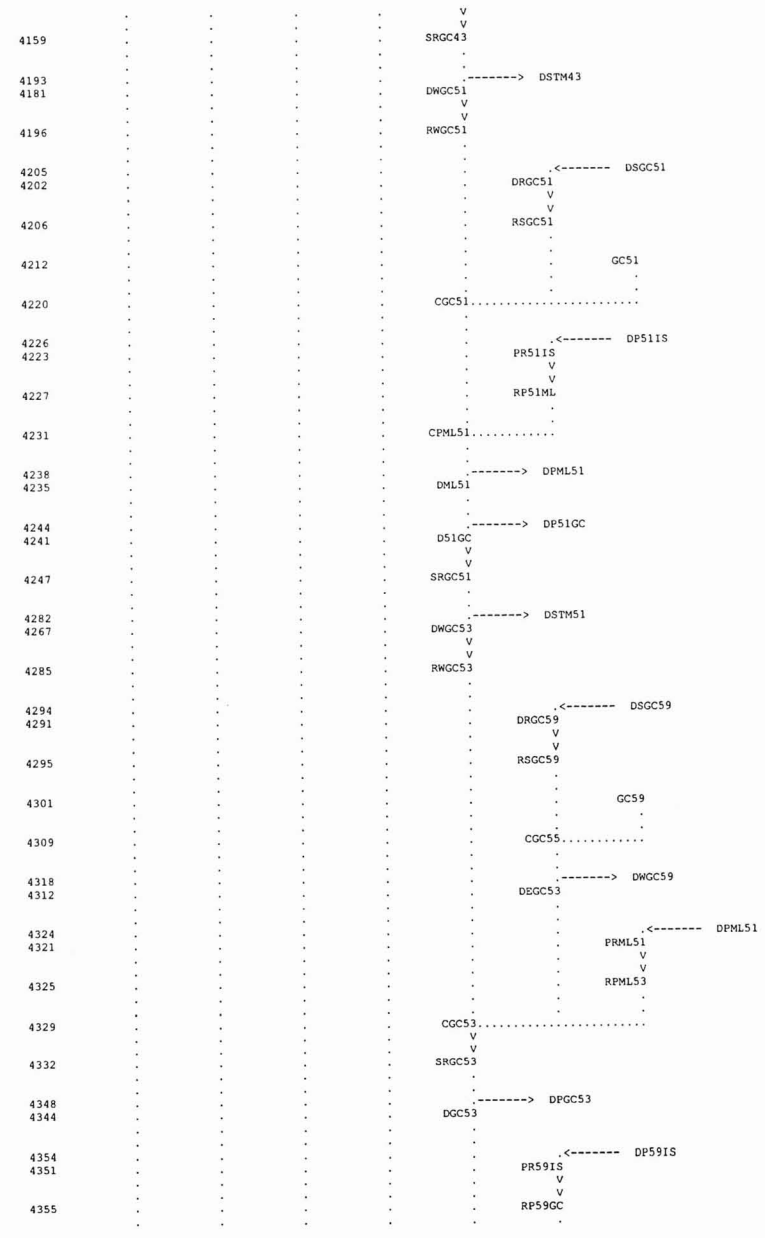
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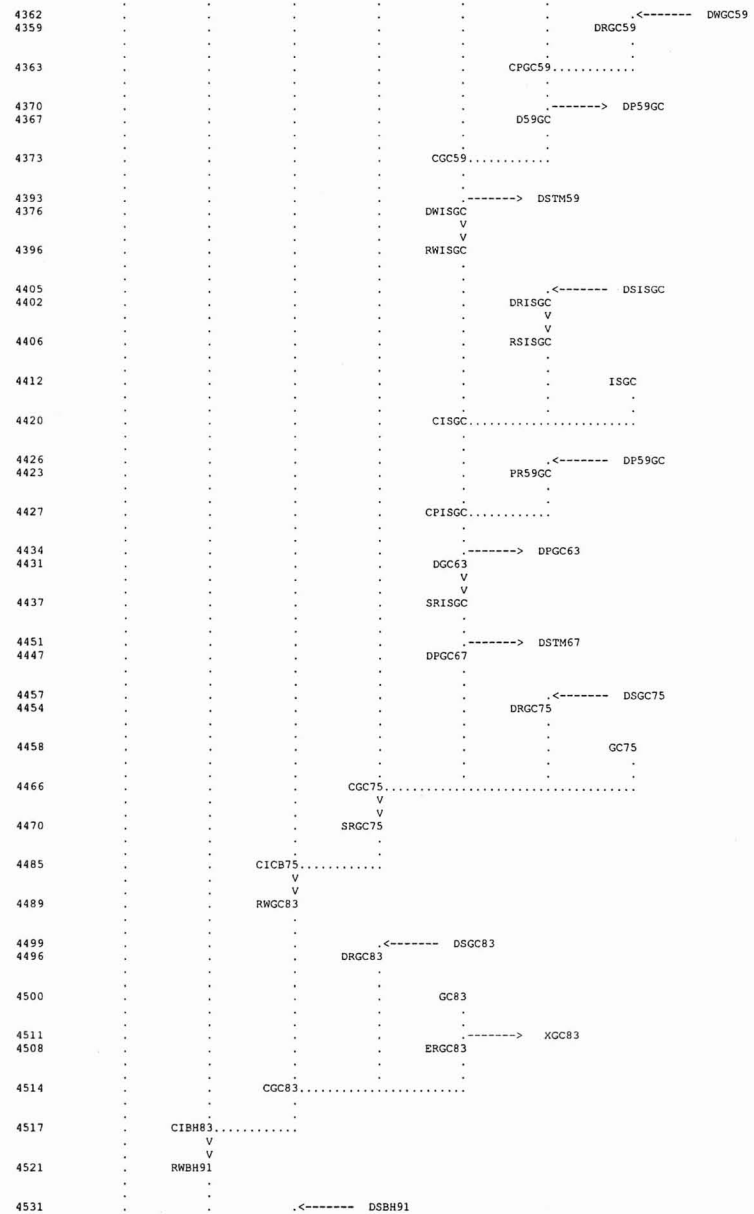
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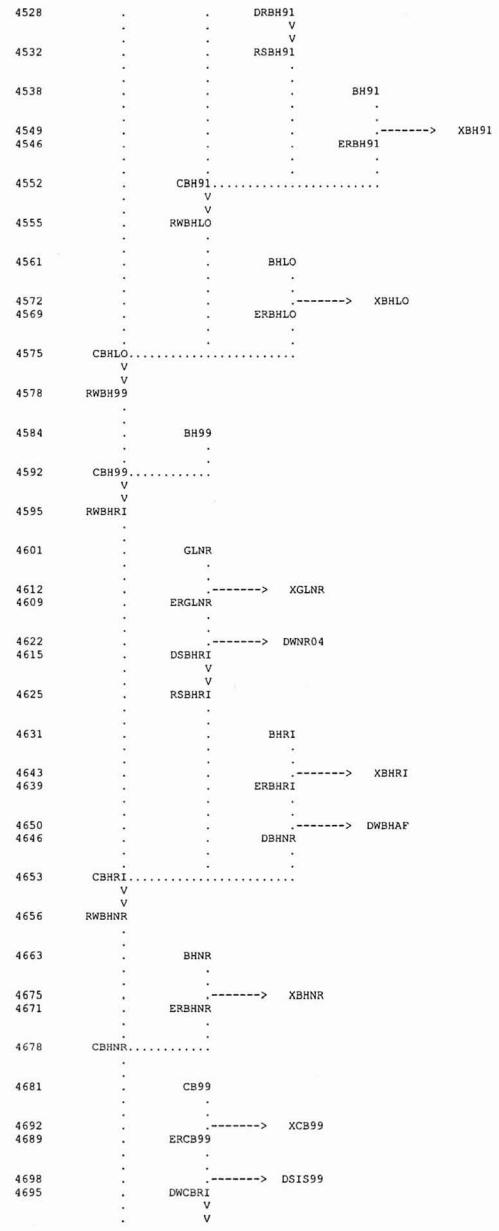
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4575 CBHLO
4578 RWBH99
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4595 RWBHRI
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4622 DWNR04
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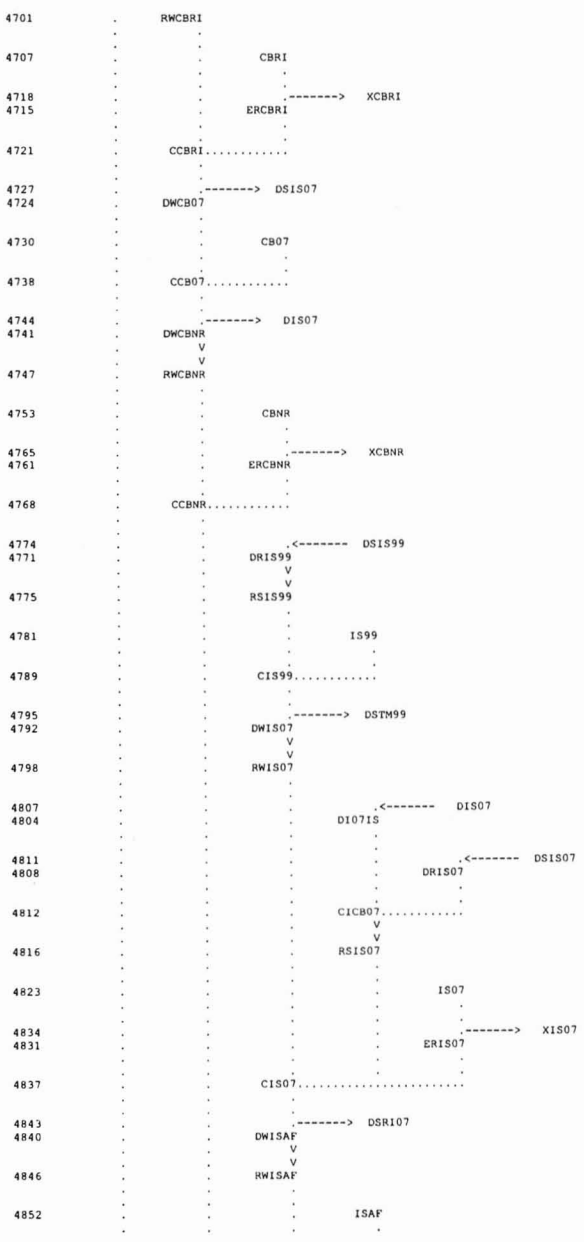
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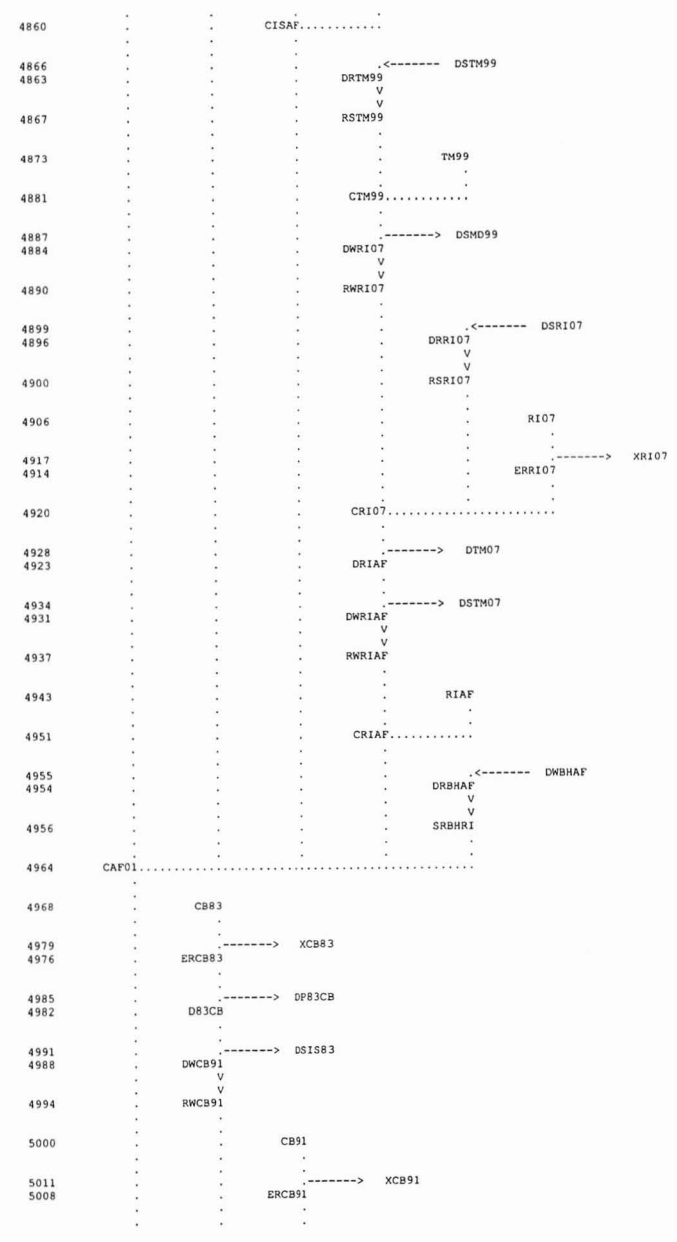
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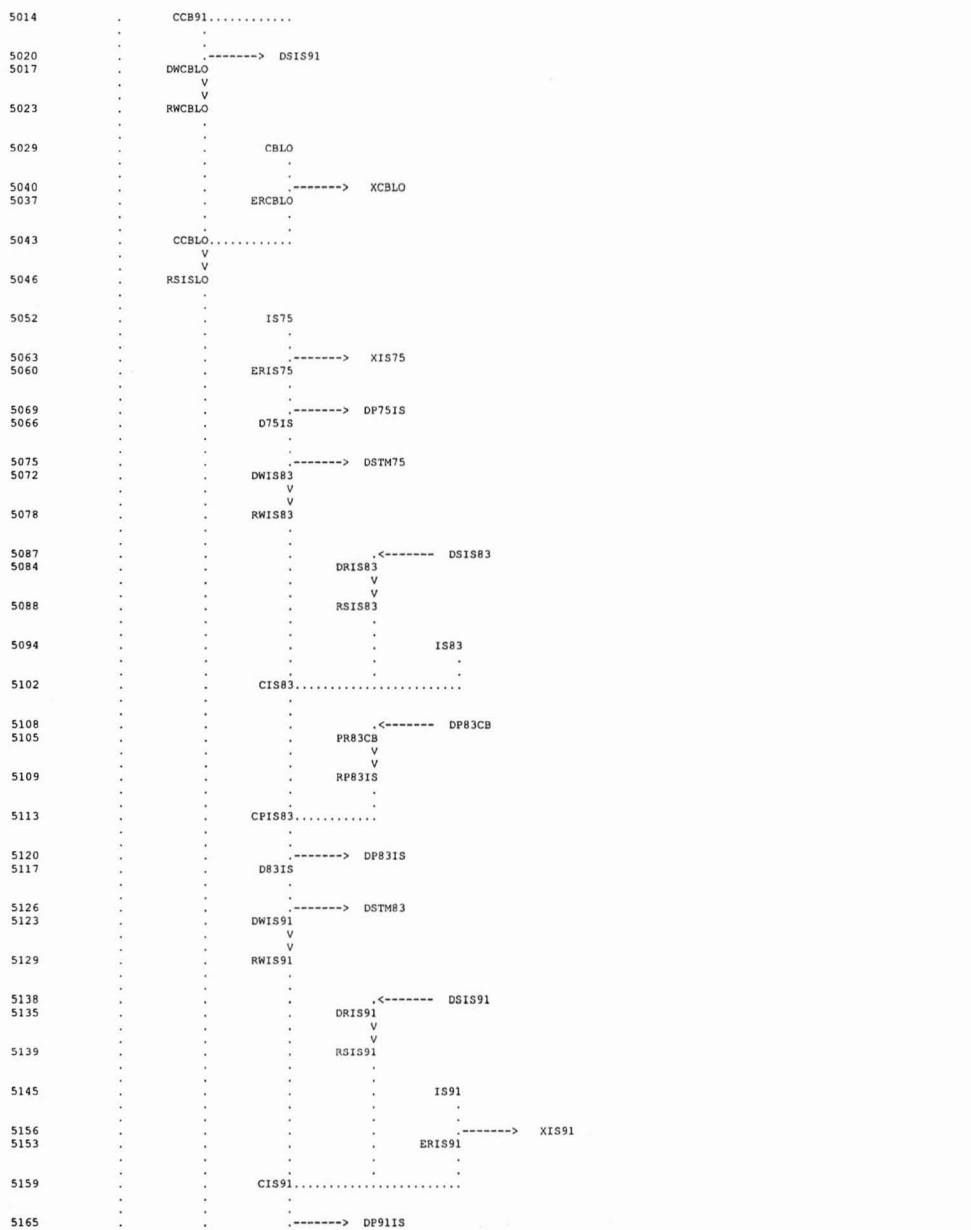
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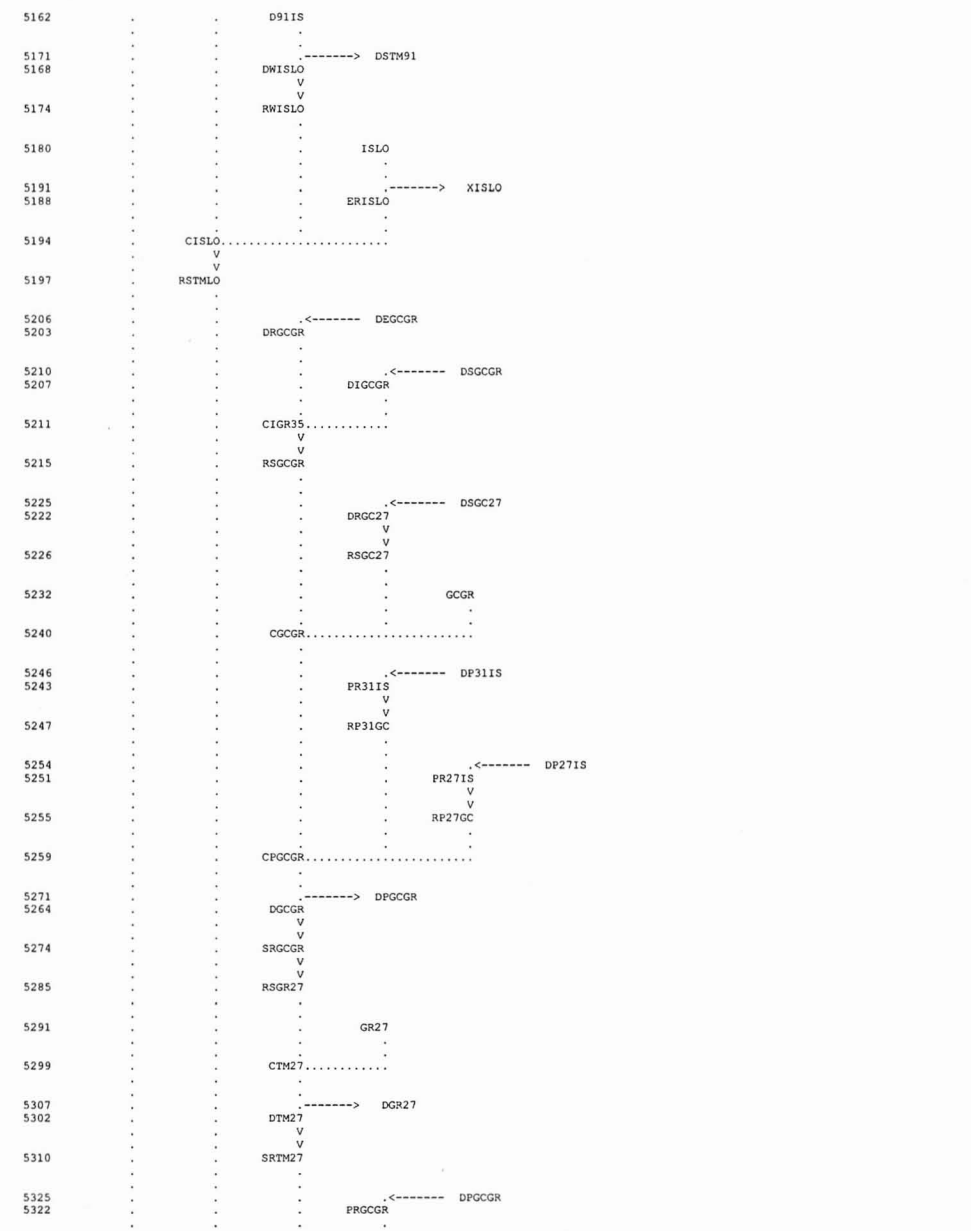
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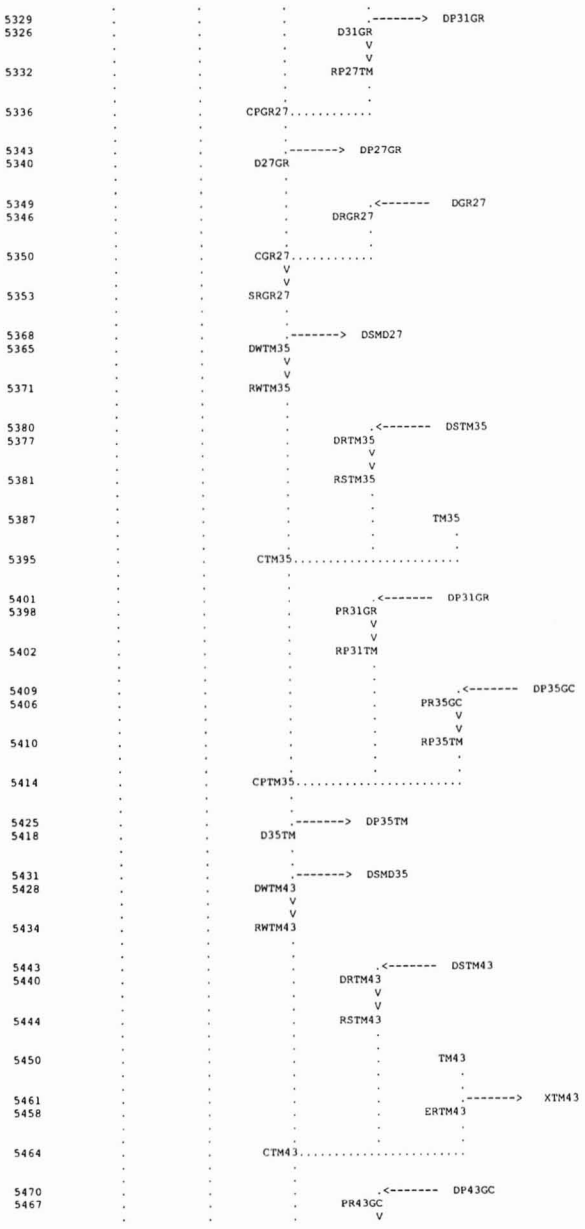
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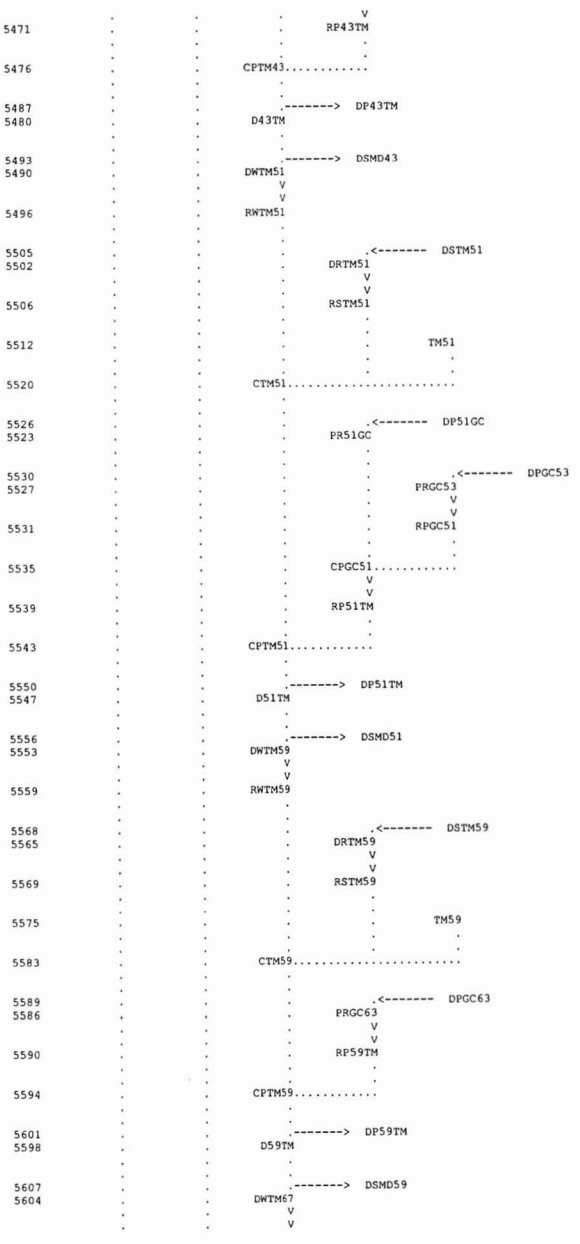
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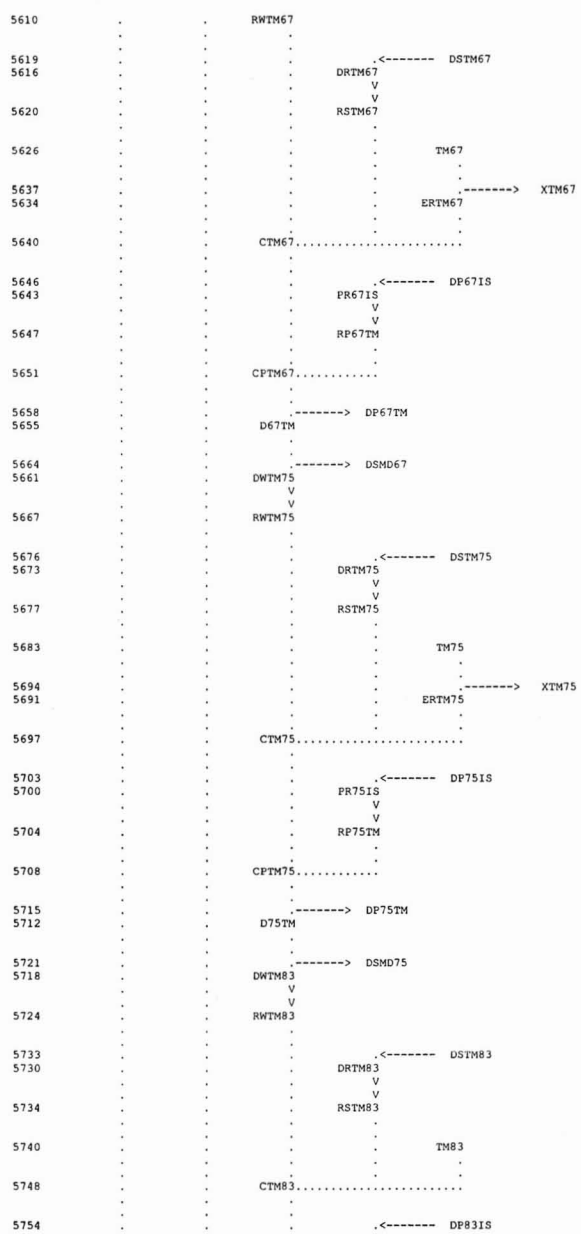
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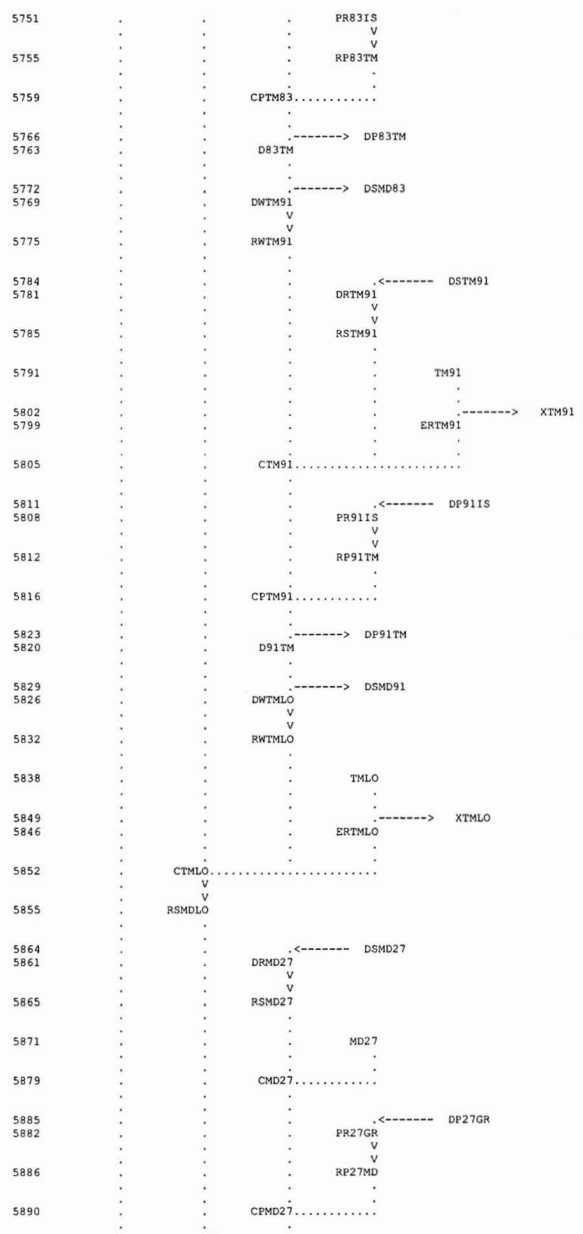
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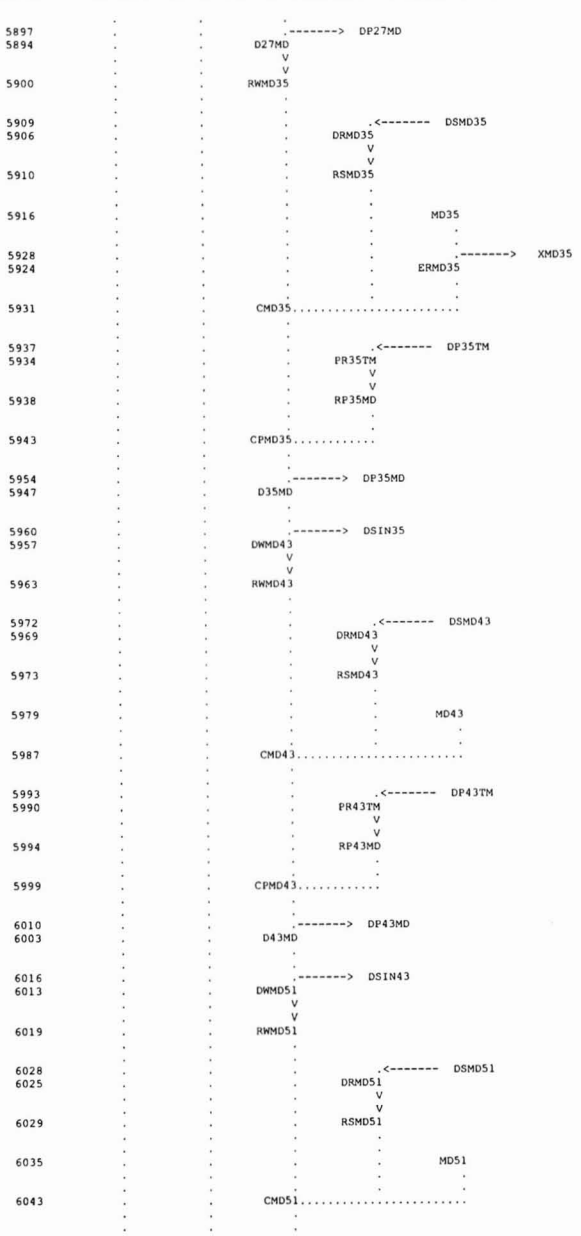
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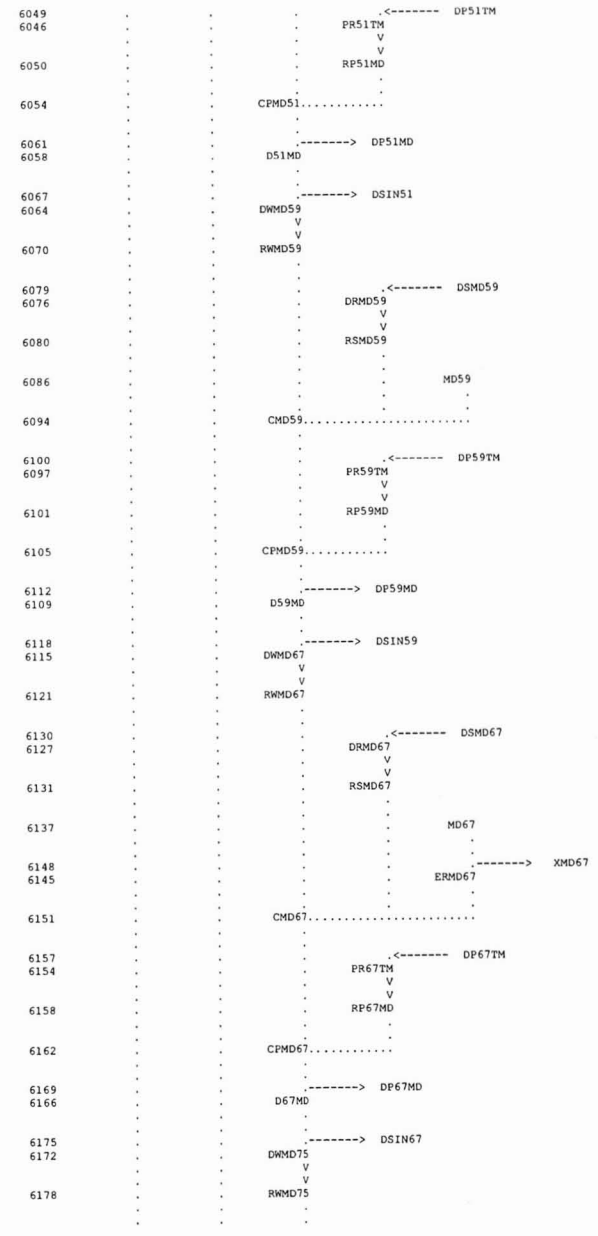
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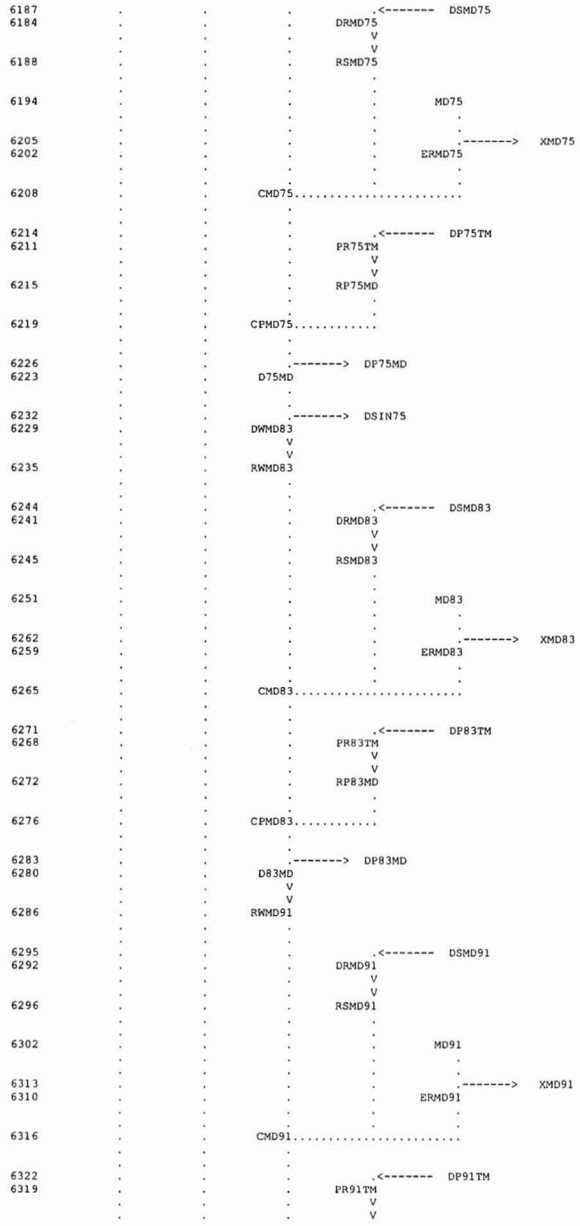
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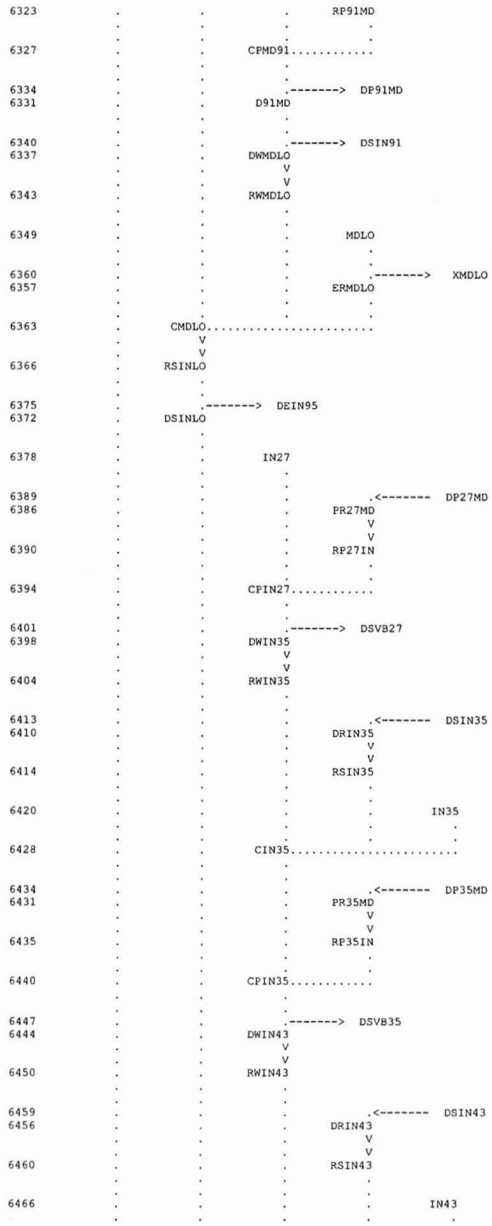
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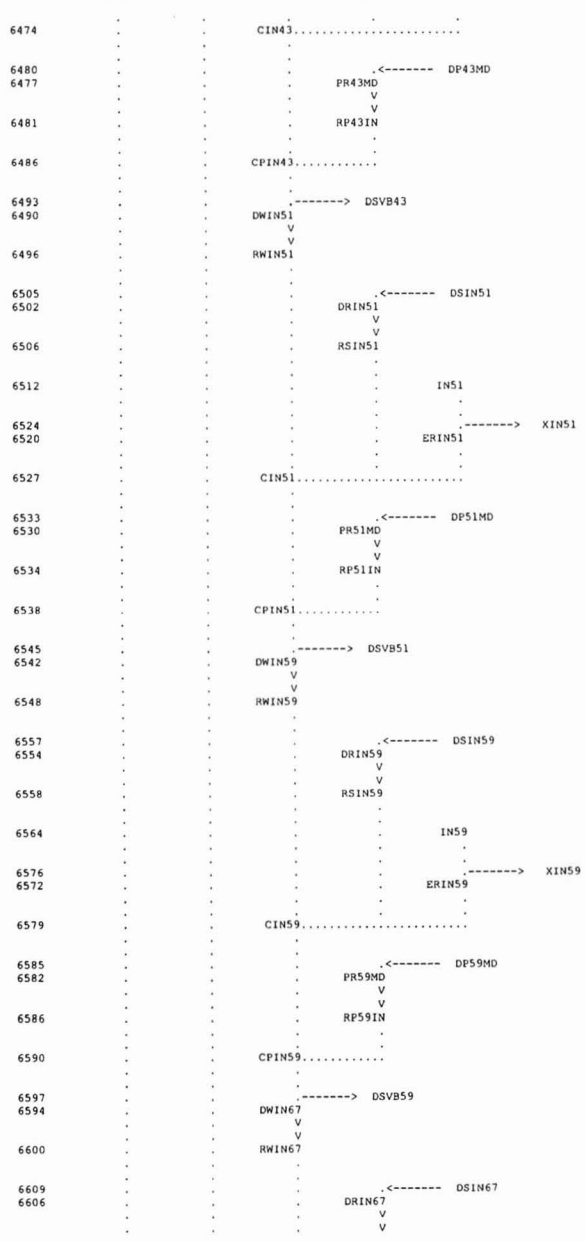
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DRIN59
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PR59MD
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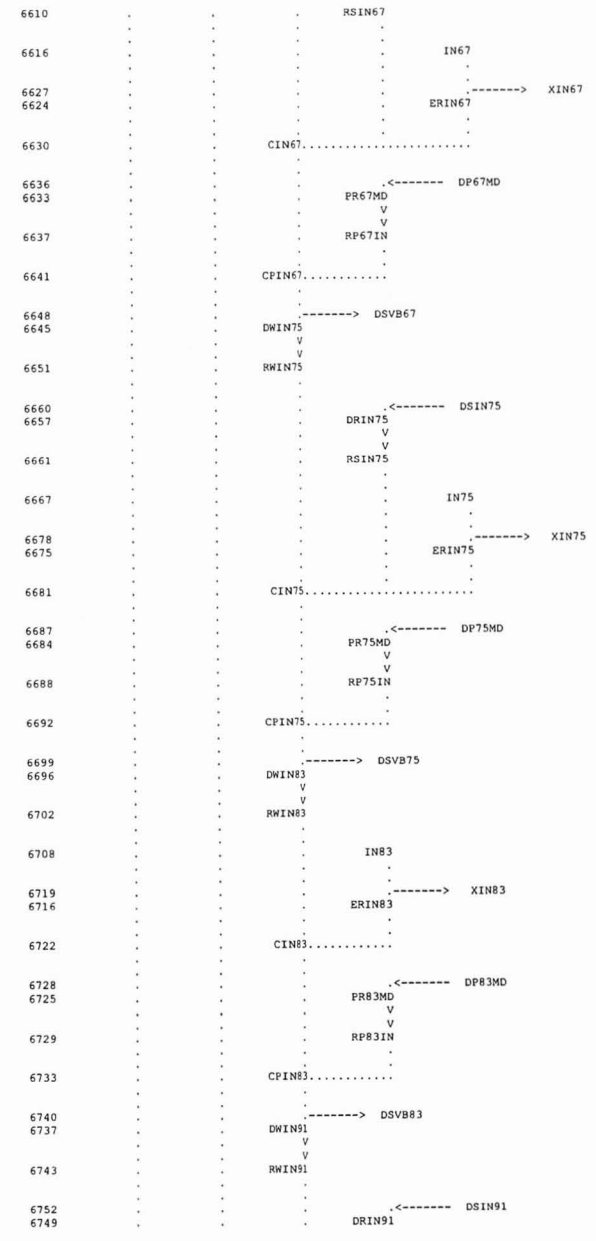
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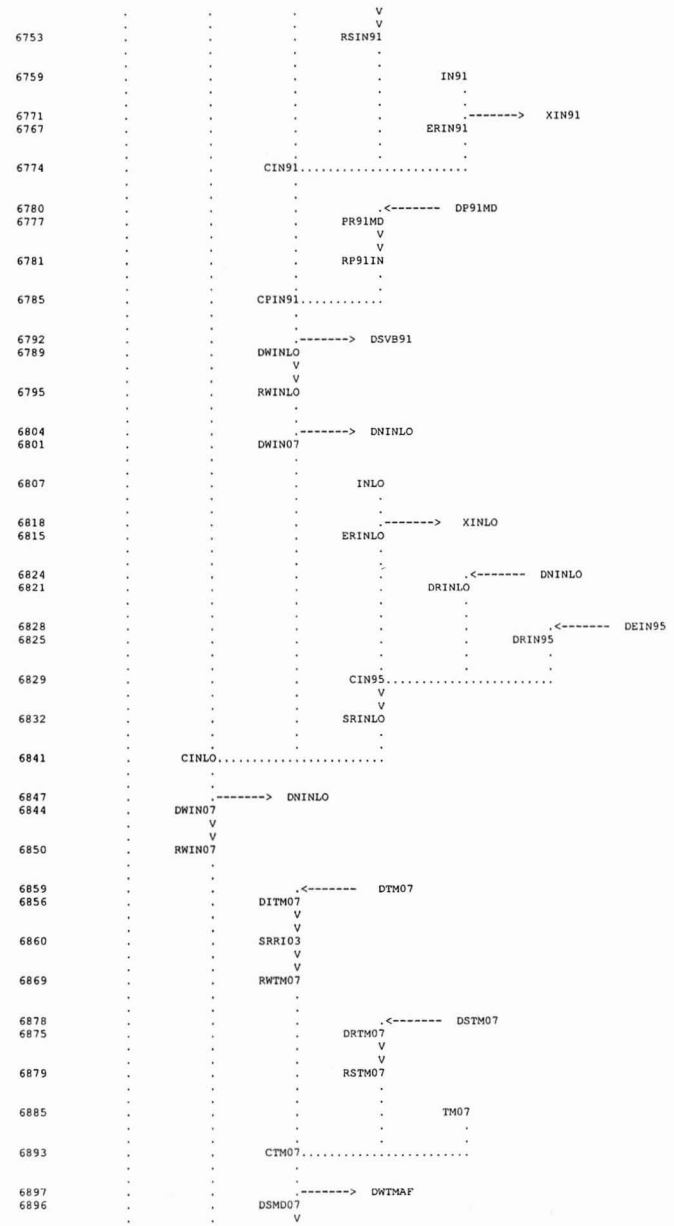
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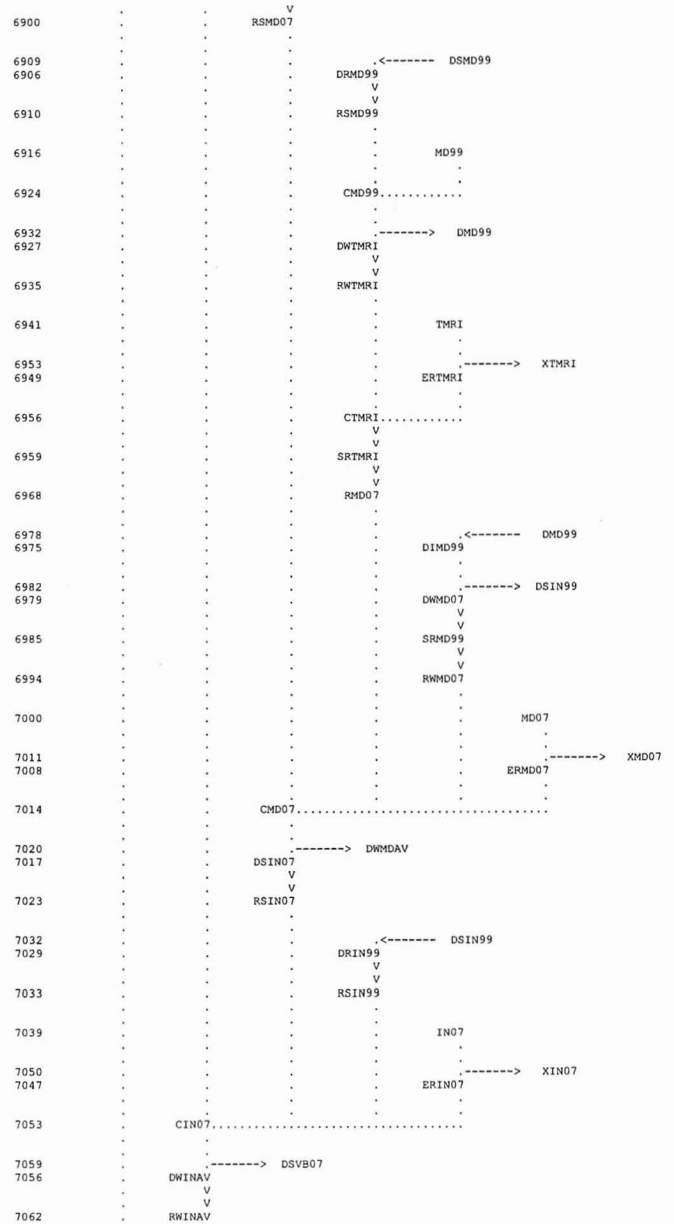
6789 DWINLO
6795 RWINLO
6804 DNINLO
6801 DWIN07
6807 INLO
6818 XINLO
6815 ERINLO
6824 DNINLO
6821 DRINLO
6828 DEIN95
6825 DRIN95
6829 CIN95
6832 SRINLO
6841 CINLO
6847 DNINLO
6844 DWIN07
6850 RWIN07
6859 DTM07
6856 DITM07
6860 SRRI03
6869 RWTM07
6878 DSTM07
6875 DRTM07
6879 RSTM07
6885 TM07
6893 CTM07
6897 DWTMAF
6896 DSMD07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6953 XTMRI
6949 ERTMRI
6956 CTMRI
6959 SRTMRI
6968 RMD07
6978 DMD99
6975 DIMD99
6982 DSIN99
6979 DWMD07
6985 SRMD99
6994 RWMD07
7000 MD07
7011 XMD07
7008 ERMD07
7014 CMD07
7020 DWMDAV
7017 DSIN07
7023 RSIN07
7032 DSIN99
7029 DRIN99
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7059 DSVB07
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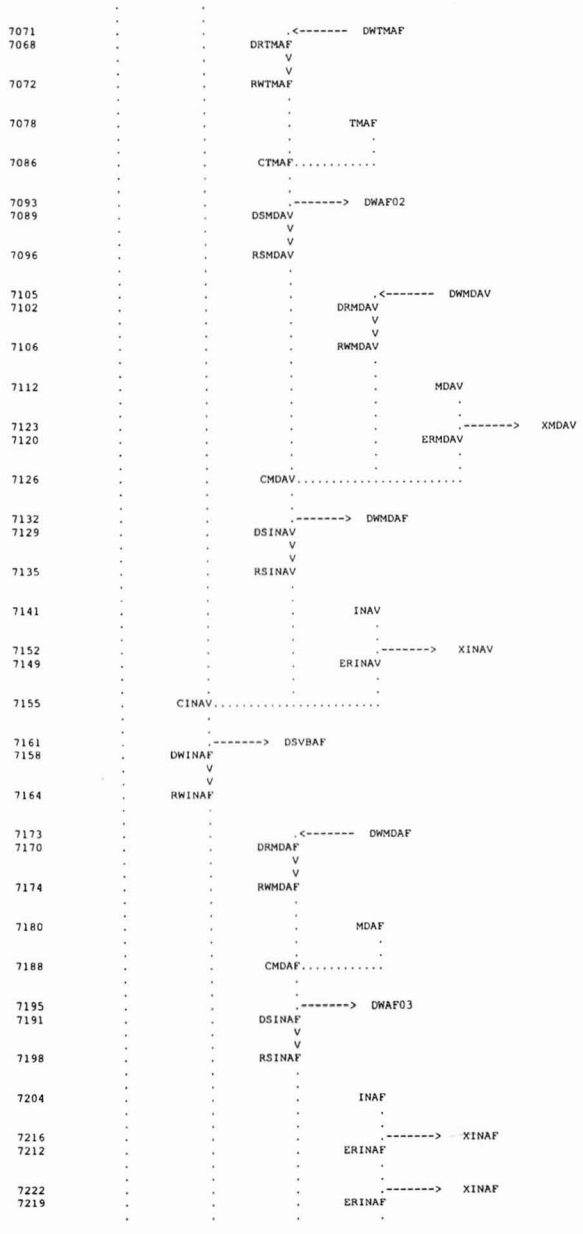
7062 RWINAV

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 7225          CINAF.....

 (***) RUNOFF ALSO COMPUTED AT THIS LOCATION
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*   FLOOD HYDROGRAPH PACKAGE  (HEC-1)*
*             JUN  1998              *
*          VERSION 4.1               *
*                                    *
* RUN DATE   01NOV10  TIME  11:14:13 *
*                                    *
**************************************
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**************************************
*                                    *
*    U.S. ARMY CORPS OF ENGINEERS    *
*    HYDROLOGIC ENGINEERING CENTER   *
*         609 SECOND STREET          *
*       DAVIS, CALIFORNIA 95616      *
*           (916) 756-1104           *
*                                    *
**************************************
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GLENDALE STORMWATER MANAGEMENT PLAN
Model for Maryvale Watershed
Future Conditions

Prepared for the City of Glendale
In Association with the Flood Control District of Maricopa County
City Project Number 089017

Prepared by Kimley-Horn and Associates, Inc.
KHA Project Number 091910009
October 2010

MODELING PARAMETERS
- 100 Year 24 Hour Storm Event
- NOAA 14 Rainfall Data
- Clark Unit Hydrograph
- Green and Ampt Rainfall Loss Method

Topo data extracted from Flood Control District database July 24, 2009
Land use obtained from City of Glendale General Plan August 2009, City of Phoenix General Plan August 2009, and MAG General Plan Land Use 2007

Storage routing data obtained from As-built records where possible
When As-built data was not available data was obtained from HEC-1 models and checked for accuracy. HEC-1 models used include:
- Maryvale ADMS, February 1997
- Maryvale model modified by DMJM for improvements along the Bethany Home Outfall Channel, file BHGC00C6.dat, November 2004
- Update to ponding areas along Grand Canal in the City of Glendale for a CLOMR by PEC, February 2008

The source of data is identified on each individual storage routing card

****

MODELING NOMENCLATURE
SUBBASIN HYDROGRAPH:
Example: OL51 - the subbasin northeast of Olive and 51st Avenue

STORM DRAIN DIVERSION:
Example: DOL51 - flow from subbasin OL51 is diverted to a storm drain

SUBBASIN DIVERSION:
Example: DWOL59 - flow is diverted west towards Olive and 59th Avenue
Example: DSNO51 - flow is diverted south towards Northern and 51st Ave

ROUTE HYDROGRAPH:
Example: RWOL59 - flow is routed west towards Olive and 59th Avenue
Example: RSNO59 - flow is routed south towards Northern and 59th Ave

COMBINE HYDROGRAPH:
Example: COL59 - combine flow at Olive and 59th Avenue

NAME ABBREVIATIONS

Jomax Road	JM
Happy Valley Road	HV
Pinnacle Peak Road	PP
Deer Valley Road	DV
Loop 101	LO
Beardsley Road	BY
Union Hills Drive	UH
Bell Road	BL
Greenway Road	GW
Thunderbird Road	TB
Cactus Road	CT
Peoria Avenue	PE
Olive Avenue	OL
Northern Avenue	NO
Glendale Avenue	GL
Bethany Home Road	BH
Camelback Road	CB
Indian School Road	IS
Thomas Road	TM
McDowell Road	MD
Interstate 10	IN
Van Buren Street	VB

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                              Avondale Boulevard     AV
                              Grand Avenue           GR
                              Grand Canal            GC
                              Brown Street           BR
                              Mountain View Road     MV
                              Orangewood Avenue      OW
                              Mitchell Drive         ML
                              Agua Fria River        AF
                              New River              NR
                              Skunk Creek            SK
                              Roosevelt Irrigation   RI

                           PREFIXES FOR MODELING OPERATIONS
                              RW     Routing flow in the west direction
                              RS     Routing flow in the south direction
                              RP     Routing storm drain pipe flow
                              C      Combination point
                              CI     Combination point at an intersection
                              CP     Combination point for storm drain pipe flow
                              SR     Storage for detention/retention basins
                              DW     Divert flow to the west
                              DE     Divert flow to the east
                              DS     Divert flow to the south
                              DN     Divert flow to the north
                              ER     Divert flow for existing 100-yr 2-hr retention
                              X      Existing retention divertion does not return to model
                              DR     Divert retrieval from surface flow
                              DI     Divert retrieval from intersection flow
                              D      Divert surface flow (remains after storm drain divert)
                              DP     Divert flow to a storm drain pipe
                              PR     Divert retrieval from a storm drain pipe

                           ***********************************************************************

111 IO          OUTPUT CONTROL VARIABLES
                      IPRNT          5  PRINT CONTROL
                      IPLOT          0  PLOT CONTROL
                      QSCAL          0.  HYDROGRAPH PLOT SCALE

    IT          HYDROGRAPH TIME DATA
                       NMIN          5  MINUTES IN COMPUTATION INTERVAL
                      IDATE      1   0  STARTING DATE
                      ITIME       0000  STARTING TIME
                         NQ       1000  NUMBER OF HYDROGRAPH ORDINATES
                     NDDATE      4   0  ENDING DATE
                     NDTIME       1115  ENDING TIME
                      ICENT         19  CENTURY MARK

                  COMPUTATION INTERVAL     .08 HOURS
                       TOTAL TIME BASE   83.25 HOURS

          ENGLISH UNITS
               DRAINAGE AREA         SQUARE MILES
               PRECIPITATION DEPTH   INCHES
               LENGTH, ELEVATION     FEET
               FLOW                  CUBIC FEET PER SECOND
               STORAGE VOLUME        ACRE-FEET
               SURFACE AREA          ACRES
               TEMPERATURE           DEGREES FAHRENHEIT

112 JD          INDEX STORM NO. 1
                      STRM        3.45  PRECIPITATION DEPTH
                      TRDA         .00  TRANSPOSITION DRAINAGE AREA

113 PI            PRECIPITATION PATTERN
                      .00     .00     .00     .00     .00     .00     .00     .00     .00     .00
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                      .03     .09     .09     .09     .01     .01     .01     .01     .01     .01
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                      .00     .00     .00     .00     .00     .00     .00     .00

123 JD          INDEX STORM NO. 2
                      STRM        3.28  PRECIPITATION DEPTH
                      TRDA       10.00  TRANSPOSITION DRAINAGE AREA

  0 PI            PRECIPITATION PATTERN
                      .00     .00     .00     .00     .00     .00     .00     .00     .00     .00
                      .00     .00     .00     .00     .00     .00     .00     .00     .00     .00
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                      .01     .01     .01     .01     .01     .01     .01     .01     .03     .03
                      .03     .09     .09     .09     .01     .01     .01     .01     .01     .01
                      .01     .01     .01     .01     .01     .01     .00     .00     .00     .00
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124 JD          INDEX STORM NO. 3
                      STRM        3.11  PRECIPITATION DEPTH
                      TRDA       30.00  TRANSPOSITION DRAINAGE AREA

  0 PI            PRECIPITATION PATTERN
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                      .03     .09     .09     .09     .01     .01     .01     .01     .01     .01
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125 JD          INDEX STORM NO. 4
                      STRM        3.00  PRECIPITATION DEPTH
                      TRDA       60.00  TRANSPOSITION DRAINAGE AREA

  0 PI            PRECIPITATION PATTERN
                      .00     .00     .00     .00     .00     .00     .00     .00     .00     .00
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126 JD INDEX STORM NO. 5
STRM 2.94 PRECIPITATION DEPTH
TRDA 90.00 TRANSPOSITION DRAINAGE AREA

0 PI PRECIPITATION PATTERN

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.03	.09	.09	.09	.01	.01	.01	.01	.01	.01
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.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
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.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
.00	.00	.00	.00	.00	.00	.00	.00		

127 JD INDEX STORM NO. 6
STRM 2.90 PRECIPITATION DEPTH
TRDA 120.00 TRANSPOSITION DRAINAGE AREA

0 PI PRECIPITATION PATTERN

.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
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.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
.00	.00	.00	.00	.00	.00	.00	.01	.00	.01
.01	.01	.01	.01	.01	.01	.01	.01	.03	.03
.03	.09	.09	.09	.01	.01	.01	.01	.01	.01
.01	.01	.01	.01	.01	.01	.00	.00	.00	.00
.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
.00	.00	.00	.00	.00	.00	.00	.00		

WARNING EXCESS AT PONDING LESS THAN ZERO FOR PERIOD. EXCESS SET TO ZERO

*** FDKRUT WARNING TIME STEP CALCULATION FAILED TO CONVERGE. STABILITY PROBLEMS MAY RESULT

*** Multiple FDKRUT Warnings deleted from model for brevity and in consideration of the environment when printing ***

*** Warning from RWGC83:

WARNING --- ROUTED OUTFLOW (1702.) IS GREATER THAN MAXIMUM OUTFLOW (1682.) IN STORAGE-OUTFLOW TABLE

WARNING --- ROUTED OUTFLOW (1713.) IS GREATER THAN MAXIMUM OUTFLOW (1682.) IN STORAGE-OUTFLOW TABLE

WARNING --- ROUTED OUTFLOW (1715.) IS GREATER THAN MAXIMUM OUTFLOW (1682.) IN STORAGE-OUTFLOW TABLE

WARNING --- ROUTED OUTFLOW (1712.) IS GREATER THAN MAXIMUM OUTFLOW (1682.) IN STORAGE-OUTFLOW TABLE

WARNING --- ROUTED OUTFLOW (1707.) IS GREATER THAN MAXIMUM OUTFLOW (1682.) IN STORAGE-OUTFLOW TABLE

WARNING --- ROUTED OUTFLOW (1699.) IS GREATER THAN MAXIMUM OUTFLOW (1682.) IN STORAGE-OUTFLOW TABLE

WARNING --- ROUTED OUTFLOW (1689.) IS GREATER THAN MAXIMUM OUTFLOW (1682.) IN STORAGE-OUTFLOW TABLE

WARNING --- ROUTED OUTFLOW (1695.) IS GREATER THAN MAXIMUM OUTFLOW (1682.) IN STORAGE-OUTFLOW TABLE

WARNING --- ROUTED OUTFLOW (1704.) IS GREATER THAN MAXIMUM OUTFLOW (1682.) IN STORAGE-OUTFLOW TABLE

WARNING --- ROUTED OUTFLOW (1707.) IS GREATER THAN MAXIMUM OUTFLOW (1682.) IN STORAGE-OUTFLOW TABLE

WARNING --- ROUTED OUTFLOW (1705.) IS GREATER THAN MAXIMUM OUTFLOW (1682.) IN STORAGE-OUTFLOW TABLE

WARNING --- ROUTED OUTFLOW (1699.) IS GREATER THAN MAXIMUM OUTFLOW (1682.) IN STORAGE-OUTFLOW TABLE

WARNING --- ROUTED OUTFLOW (1691.) IS GREATER THAN MAXIMUM OUTFLOW (1682.) IN STORAGE-OUTFLOW TABLE

WARNING --- ROUTED OUTFLOW (1682.) IS GREATER THAN MAXIMUM OUTFLOW (1682.) IN STORAGE-OUTFLOW TABLE

*** Several similar warnings for routed outflow greater than maximum outflow deleted (this route only) for brevity and in consideration of the environment when printing

WARNING EXCESS AT PONDING LESS THAN ZERO FOR PERIOD. EXCESS SET TO ZERO
WARNING EXCESS AT PONDING LESS THAN ZERO FOR PERIOD. EXCESS SET TO ZERO

1

RUNOFF SUMMARY
FLOW IN CUBIC FEET PER SECOND
TIME IN HOURS, AREA IN SQUARE MILES

	OPERATION	STATION	PEAK FLOW	TIME OF PEAK	AVERAGE FLOW FOR MAXIMUM PERIOD 6-HOUR	24-HOUR	72-HOUR	BASIN AREA	MAXIMUM STAGE	TIME OF MAX STAGE
+	HYDROGRAPH AT	GW83	122.	12.58	42.	13.	4.	.29		
+	DIVERSION TO	DPGW83	45.	12.08	27.	9.	3.	.29		
+	HYDROGRAPH AT	DGW83	77.	12.58	14.	4.	1.	.29		
+	DIVERSION TO	DWSK01	44.	12.58	8.	2.	1.	.29		
+	HYDROGRAPH AT	DSTB83	33.	12.58	6.	2.	1.	.29		
+	ROUTED TO	RSTB83	26.	13.75	6.	2.	1.	.29		
+	HYDROGRAPH AT	TB67	269.	12.25	50.	14.	5.	.26		
+	DIVERSION TO	DSCT67	107.	12.25	20.	6.	2.	.26		
+	HYDROGRAPH AT	DWTB75	161.	12.25	30.	8.	3.	.26		
+	ROUTED TO	RWTB75	139.	12.75	30.	8.	3.	.26		
+	HYDROGRAPH AT	TB75	707.	12.50	179.	53.	18.	1.03		
+	DIVERSION TO	XTB75	23.	10.25	15.	5.	2.	1.03		
+	HYDROGRAPH AT	ERTB75	707.	12.50	179.	49.	16.	1.03		
+	2 COMBINED AT	CTB75	797.	12.67	208.	57.	19.	1.18		
+	DIVERSION TO	DPTB75	161.	12.00	94.	28.	10.	1.18		
+	HYDROGRAPH AT	DTB75	636.	12.67	114.	29.	10.	1.18		

+	DIVERSION TO	DSCT75	286.	12.67	51.	13.	4.	1.18
+	HYDROGRAPH AT	DWTB83	350.	12.67	63.	16.	5.	1.18
+	ROUTED TO	RWTB83	331.	13.00	63.	16.	5.	1.18
+	HYDROGRAPH AT	TB83	480.	12.67	160.	48.	16.	.99
+	DIVERSION TO	XTB83	308.	12.33	32.	10.	3.	.99
+	HYDROGRAPH AT	ERTB83	480.	12.67	143.	38.	13.	.99
+	3 COMBINED AT	CTB83	787.	12.92	211.	55.	18.	1.77
+	HYDROGRAPH AT	PRTB75	161.	12.00	94.	28.	10.	1.18
+	ROUTED TO	RPTB83	161.	12.17	94.	29.	10.	1.18
+	2 COMBINED AT	CPTB83	948.	12.92	301.	84.	28.	1.77
+	DIVERSION TO	DPTB83	247.	12.42	153.	47.	16.	1.77
+	HYDROGRAPH AT	DTB83	701.	12.92	148.	37.	12.	1.77
+	DIVERSION TO	DSCT83	498.	12.92	105.	26.	9.	1.77
+	HYDROGRAPH AT	DWTBLO	203.	12.92	43.	11.	4.	1.77
+	ROUTED TO	RWTBLO	200.	13.00	43.	11.	4.	1.77
+	HYDROGRAPH AT	TBLO	69.	12.42	23.	8.	3.	.10
+	DIVERSION TO	XTBLO	69.	12.42	19.	5.	2.	.10
+	HYDROGRAPH AT	ERTBLO	21.	14.08	7.	2.	1.	.10
+	2 COMBINED AT	CTBLO	201.	13.00	49.	13.	4.	.62
+	HYDROGRAPH AT	PRTB83	247.	12.42	153.	47.	16.	1.77
+	ROUTED TO	RPTBLO	247.	12.50	153.	47.	16.	1.77
+	2 COMBINED AT	CPTBLO	448.	13.00	202.	60.	20.	.62
+	ROUTED TO	RSCTLO	437.	13.17	202.	60.	20.	.62
+	HYDROGRAPH AT	CT59	233.	12.42	55.	16.	5.	.30
+	DIVERSION TO	XCT59	233.	12.42	47.	12.	4.	.30
+	HYDROGRAPH AT	ERCT59	67.	13.58	13.	4.	1.	.30
+	DIVERSION TO	DP59CT	18.	13.50	8.	3.	1.	.30
+	HYDROGRAPH AT	D59CT	49.	13.58	5.	1.	0.	.30
+	DIVERSION TO	DSPE59	33.	13.58	3.	1.	0.	.30
+	HYDROGRAPH AT	DWCT67	16.	13.58	1.	0.	0.	.30
+	ROUTED TO	RWCT67	9.	14.50	1.	0.	0.	.30

+	HYDROGRAPH AT	DRCT67	107.	12.25	20.	6.	2.	.26
+	ROUTED TO	RSCT67	94.	12.75	20.	6.	2.	.26
+	HYDROGRAPH AT	CT67	610.	12.50	153.	45.	15.	.91
+	DIVERSION TO	XCT67	557.	12.33	48.	14.	5.	.91
+	HYDROGRAPH AT	ERCT67	610.	12.50	117.	31.	10.	.91
+	3 COMBINED AT	CCT67	678.	12.58	137.	37.	12.	1.11
+	DIVERSION TO	DPCT67	268.	12.50	94.	26.	9.	1.11
+	HYDROGRAPH AT	DCT67	410.	12.58	43.	11.	4.	1.11
+	DIVERSION TO	DSPE67	176.	12.58	18.	5.	2.	1.11
+	HYDROGRAPH AT	DWCT75	234.	12.58	24.	6.	2.	1.11
+	ROUTED TO	RWCT75	182.	13.17	24.	6.	2.	1.11
+	HYDROGRAPH AT	DRCT75	286.	12.67	51.	13.	4.	1.18
+	ROUTED TO	RSCT75	274.	12.92	51.	13.	4.	1.18
+	HYDROGRAPH AT	CT75	540.	12.67	181.	52.	18.	1.00
+	DIVERSION TO	XCT75	514.	12.50	52.	15.	5.	1.00
+	HYDROGRAPH AT	ERCT75	540.	12.67	142.	38.	13.	1.00
+	3 COMBINED AT	CCT75	879.	13.17	216.	57.	19.	2.17
+	HYDROGRAPH AT	PRCT67	268.	12.50	94.	26.	9.	1.11
+	ROUTED TO	RPCT75	268.	12.67	94.	26.	9.	1.11
+	2 COMBINED AT	CPCT75	1147.	13.17	310.	83.	28.	2.17
+	DIVERSION TO	DPCT75	651.	12.67	244.	66.	22.	2.17
+	HYDROGRAPH AT	DCT75	496.	13.17	67.	17.	6.	2.17
+	DIVERSION TO	DSPE75	248.	13.17	33.	8.	3.	2.17
+	HYDROGRAPH AT	DWCT83	248.	13.17	33.	8.	3.	2.17
+	ROUTED TO	RWCT83	213.	13.50	33.	8.	3.	2.17
+	HYDROGRAPH AT	DRCT83	498.	12.92	105.	26.	9.	1.77
+	ROUTED TO	RSCT83	473.	13.17	105.	26.	9.	1.77
+	HYDROGRAPH AT	CT83	546.	12.67	186.	55.	18.	1.01
+	DIVERSION TO	XCT83	493.	12.50	51.	15.	5.	1.01
+	HYDROGRAPH AT	ERCT83	546.	12.67	150.	40.	13.	1.01
+	3 COMBINED AT	CCT83	1050.	13.33	286.	74.	25.	3.34

+	HYDROGRAPH AT	PRCT75	651.	12.67	244.	66.	22.	2.17
+	ROUTED TO	RPCT83	651.	12.83	243.	66.	22.	2.17
+	2 COMBINED AT	CPCT83	1701.	13.33	529.	140.	47.	3.34
+	DIVERSION TO	DPCT83	663.	12.67	321.	88.	29.	3.34
+	HYDROGRAPH AT	DCT83	1038.	13.33	208.	52.	17.	3.34
+	DIVERSION TO	DSPE83	426.	13.33	85.	21.	7.	3.34
+	HYDROGRAPH AT	DWCTLO	613.	13.33	123.	31.	10.	3.34
+	ROUTED TO	RWCTLO	580.	13.58	123.	31.	10.	3.34
+	HYDROGRAPH AT	CTLO	459.	12.67	167.	53.	18.	.87
+	DIVERSION TO	XCTLO	459.	12.67	82.	23.	8.	.87
+	HYDROGRAPH AT	ERCTLO	409.	13.08	105.	30.	10.	.87
+	3 COMBINED AT	CCTLO	1285.	13.50	424.	119.	40.	3.46
+	HYDROGRAPH AT	PRCT83	663.	12.67	321.	88.	29.	3.34
+	ROUTED TO	RPCTLO	663.	12.83	320.	88.	29.	3.34
+	2 COMBINED AT	CPCTLO	1948.	13.50	740.	207.	69.	3.46
+	DIVERSION TO	DWNR01	1927.	13.42	739.	207.	69.	3.46
+	HYDROGRAPH AT	DSCTLO	21.	13.50	1.	0.	0.	3.46
+	DIVERSION TO	DSGR91	0.	.00	0.	0.	0.	3.46
+	HYDROGRAPH AT	DSPELO	21.	13.50	1.	0.	0.	3.46
+	HYDROGRAPH AT	PE51	342.	12.42	83.	25.	8.	.42
+	DIVERSION TO	DSOL51	137.	12.42	33.	10.	3.	.42
+	HYDROGRAPH AT	DWPE59	205.	12.42	50.	15.	5.	.42
+	ROUTED TO	RWPE59	186.	12.92	50.	15.	5.	.42
+	HYDROGRAPH AT	DRPE59	33.	13.58	3.	1.	0.	.30
+	ROUTED TO	RSPE59	19.	14.50	3.	1.	0.	.30
+	HYDROGRAPH AT	PE59	599.	12.58	189.	55.	18.	.99
+	DIVERSION TO	XPE59	20.	10.33	13.	4.	1.	.99
+	HYDROGRAPH AT	ERPE59	599.	12.58	189.	51.	17.	.99
+	3 COMBINED AT	CPE59	750.	12.83	241.	66.	22.	1.44
+	HYDROGRAPH AT	PR59CT	18.	13.50	8.	3.	1.	.30
+	2 COMBINED AT	CPPE59	750.	12.83	247.	69.	23.	1.44

+	DIVERSION TO	DP59PE	235.	12.08	144.	43.	14.	1.44
+	HYDROGRAPH AT	D59PE	515.	12.83	103.	26.	9.	1.44
+	DIVERSION TO	DSOL59	294.	12.83	59.	15.	5.	1.44
+	HYDROGRAPH AT	DWPE67	221.	12.83	44.	11.	4.	1.44
+	ROUTED TO	RWPE67	201.	13.25	44.	11.	4.	1.44
+	HYDROGRAPH AT	DRPE67	176.	12.58	18.	5.	2.	1.11
+	ROUTED TO	RSPE67	129.	13.33	18.	5.	2.	1.11
+	HYDROGRAPH AT	PE67	545.	12.58	175.	53.	18.	.96
+	DIVERSION TO	XPE67	545.	12.58	103.	28.	9.	.96
+	HYDROGRAPH AT	ERPE67	410.	13.25	89.	25.	8.	.96
+	3 COMBINED AT	CPE67	732.	13.25	149.	40.	13.	2.06
+	ROUTED TO	SRPE67	687.	13.42	128.	35.	12.	2.06
+	DIVERSION TO	DP67PE	162.	13.33	71.	20.	7.	2.06
+	HYDROGRAPH AT	D67PE	525.	13.42	57.	14.	5.	2.06
+	DIVERSION TO	DSOL67	199.	13.42	22.	5.	2.	2.06
+	HYDROGRAPH AT	DWPE75	325.	13.42	35.	9.	3.	2.06
+	ROUTED TO	RWPE75	228.	14.00	35.	9.	3.	2.06
+	HYDROGRAPH AT	DRPE75	248.	13.17	33.	8.	3.	2.17
+	ROUTED TO	RSPE75	214.	13.50	33.	8.	3.	2.17
+	HYDROGRAPH AT	PE75	538.	12.67	185.	55.	18.	1.01
+	DIVERSION TO	XPE75	22.	10.50	14.	5.	2.	1.01
+	HYDROGRAPH AT	ERPE75	538.	12.67	185.	51.	17.	1.01
+	3 COMBINED AT	CPE75	602.	13.92	252.	67.	22.	3.36
+	DIVERSION TO	DP75PE	179.	12.08	121.	35.	12.	3.36
+	HYDROGRAPH AT	D75PE	423.	13.92	131.	33.	11.	3.36
+	DIVERSION TO	DSOL75	220.	13.92	68.	17.	6.	3.36
+	HYDROGRAPH AT	DWPE83	203.	13.92	63.	16.	5.	3.36
+	ROUTED TO	RWPE83	185.	14.08	63.	16.	5.	3.36
+	HYDROGRAPH AT	DRPE83	426.	13.33	85.	21.	7.	3.34
+	ROUTED TO	RSPE83	405.	13.67	85.	21.	7.	3.34
+	HYDROGRAPH AT	PE83	556.	12.75	208.	61.	21.	1.00

+	DIVERSION TO HYDROGRAPH AT	XPE83	544.	12.58	66.	19.	6.	1.00
+	3 COMBINED AT	ERPE83	556.	12.75	160.	43.	14.	1.00
+	DIVERSION TO HYDROGRAPH AT	CPE83	953.	13.58	306.	80.	27.	3.97
+	DIVERSION TO HYDROGRAPH AT	DPPE83	112.	12.67	80.	23.	8.	3.97
+	DIVERSION TO HYDROGRAPH AT	DPE83	841.	13.58	226.	56.	19.	3.97
+	HYDROGRAPH AT	DSGR83	404.	13.58	108.	27.	9.	3.97
+	DIVERSION TO HYDROGRAPH AT	DWGR91	437.	13.58	118.	29.	10.	3.97
+	HYDROGRAPH AT	DWPE91	157.	13.58	42.	11.	4.	3.97
+	HYDROGRAPH AT	DGR91	280.	13.58	75.	19.	6.	3.97
+	HYDROGRAPH AT	DRGR91	0.	.00	0.	0.	0.	3.46
+	ROUTED TO HYDROGRAPH AT	RSGR91	0.	.00	0.	0.	0.	3.46
+	DIVERSION TO HYDROGRAPH AT	GR91	462.	12.42	110.	33.	11.	.51
+	HYDROGRAPH AT	XGR91	462.	12.42	52.	14.	5.	.51
+	3 COMBINED AT	ERGR91	421.	12.58	68.	19.	6.	.51
+	DIVERSION TO HYDROGRAPH AT	CGR91	518.	12.75	142.	37.	12.	3.58
+	HYDROGRAPH AT	DSPE91	347.	12.75	95.	25.	8.	3.58
+	2 COMBINED AT	DWGRLO	171.	12.75	47.	12.	4.	3.58
+	ROUTED TO HYDROGRAPH AT	CGRLO	171.	12.75	48.	13.	4.	2.91
+	DIVERSION TO HYDROGRAPH AT	RSPELO	155.	12.92	48.	13.	4.	2.91
+	HYDROGRAPH AT	DWNR02	155.	12.92	48.	13.	4.	2.91
+	HYDROGRAPH AT	DSOLLO	0.	.00	0.	0.	0.	2.91
+	ROUTED TO HYDROGRAPH AT	DRPE91	347.	12.75	95.	25.	8.	3.58
+	HYDROGRAPH AT	SRGR91	317.	12.92	84.	22.	7.	3.58
+	2 COMBINED AT	DIPE91	157.	13.58	42.	11.	4.	3.97
+	ROUTED TO HYDROGRAPH AT	CIPEGR	436.	13.50	127.	33.	11.	3.14
+	HYDROGRAPH AT	RWPE91	425.	13.75	126.	33.	11.	3.14
+	DIVERSION TO HYDROGRAPH AT	PE91	486.	12.33	109.	34.	11.	.51
+	HYDROGRAPH AT	XPE91	110.	11.83	20.	7.	2.	.51
+	2 COMBINED AT	ERPE91	486.	12.33	100.	27.	9.	.51
+	HYDROGRAPH AT	CPE91	518.	13.58	223.	60.	20.	3.65
+		PRPE83	112.	12.67	80.	23.	8.	3.97

+	ROUTED TO HYDROGRAPH AT	RPPE91	112.	12.83	80.	23.	8.	3.97
+	2 COMBINED AT	CPPE91	630.	13.58	301.	83.	28.	3.65
+	DIVERSION TO HYDROGRAPH AT	DPPE91	147.	12.00	126.	39.	13.	3.65
+	DIVERSION TO HYDROGRAPH AT	DPE91	483.	13.58	175.	44.	15.	3.65
+	HYDROGRAPH AT	DSOL91	265.	13.58	96.	24.	8.	3.65
+	ROUTED TO HYDROGRAPH AT	DWPELO	217.	13.58	79.	20.	7.	3.65
+	HYDROGRAPH AT	RWPELO	215.	13.67	79.	20.	7.	3.65
+	DIVERSION TO HYDROGRAPH AT	PELO	177.	12.42	52.	17.	6.	.27
+	HYDROGRAPH AT	XPELO	132.	12.25	15.	5.	2.	.27
+	3 COMBINED AT	ERPELO	177.	12.42	44.	12.	4.	.27
+	HYDROGRAPH AT	CPELO	304.	12.50	121.	32.	11.	4.81
+	ROUTED TO HYDROGRAPH AT	PRPE91	147.	12.00	126.	39.	13.	3.65
+	2 COMBINED AT	RPPELO	147.	12.08	126.	39.	13.	3.65
+	DIVERSION TO HYDROGRAPH AT	CPPELO	451.	12.50	247.	70.	23.	4.81
+	HYDROGRAPH AT	DPPELO	255.	12.33	190.	56.	19.	4.81
+	ROUTED TO HYDROGRAPH AT	DPELO	196.	12.50	57.	14.	5.	4.81
+	HYDROGRAPH AT	RSOLLO	165.	13.75	57.	14.	5.	4.81
+	DIVERSION TO HYDROGRAPH AT	OL35	154.	12.33	41.	13.	5.	.21
+	HYDROGRAPH AT	DP35OL	61.	12.00	30.	11.	4.	.21
+	DIVERSION TO HYDROGRAPH AT	D35OL	93.	12.33	12.	3.	1.	.21
+	HYDROGRAPH AT	DSNO35	65.	12.33	8.	2.	1.	.21
+	ROUTED TO HYDROGRAPH AT	DWOL43	28.	12.33	3.	1.	0.	.21
+	HYDROGRAPH AT	RWOL43	18.	13.50	3.	1.	0.	.21
+	2 COMBINED AT	OL43	342.	12.50	99.	30.	10.	.63
+	DIVERSION TO HYDROGRAPH AT	COL43	342.	12.50	102.	31.	10.	.70
+	HYDROGRAPH AT	DP43OL	85.	12.00	52.	18.	6.	.70
+	DIVERSION TO HYDROGRAPH AT	D43OL	257.	12.50	51.	13.	4.	.70
+	HYDROGRAPH AT	DSNO43	152.	12.50	30.	7.	2.	.70
+	ROUTED TO HYDROGRAPH AT	DWOL51	105.	12.50	21.	5.	2.	.70
+	HYDROGRAPH AT	RWOL51	98.	13.08	21.	5.	2.	.70
+		DROL51	137.	12.42	33.	10.	3.	.42

+	ROUTED TO	RSOL51	122.	13.00	33.	10.	3.	.42
+	HYDROGRAPH AT	OL51	555.	12.58	178.	54.	18.	.99
+	DIVERSION TO	XOL51	14.	7.83	11.	3.	1.	.99
+	HYDROGRAPH AT	EROL51	555.	12.58	178.	51.	17.	.99
+	3 COMBINED AT	COL51	709.	12.92	231.	66.	22.	1.45
+	DIVERSION TO	DPOL51	297.	12.25	160.	48.	16.	1.45
+	HYDROGRAPH AT	DOL51	412.	12.92	71.	18.	6.	1.45
+	DIVERSION TO	DSNO51	140.	12.92	24.	6.	2.	1.45
+	HYDROGRAPH AT	DWOL59	272.	12.92	47.	12.	4.	1.45
+	ROUTED TO	RWOL59	246.	13.33	47.	12.	4.	1.45
+	HYDROGRAPH AT	DROL59	294.	12.83	59.	15.	5.	1.44
+	ROUTED TO	RSOL59	262.	13.25	59.	15.	5.	1.44
+	HYDROGRAPH AT	OL59	568.	12.67	191.	57.	19.	.99
+	DIVERSION TO	XOL59	339.	12.25	36.	11.	4.	.99
+	HYDROGRAPH AT	EROL59	568.	12.67	171.	46.	15.	.99
+	3 COMBINED AT	COL59	944.	13.25	275.	72.	24.	2.78
+	HYDROGRAPH AT	PR59PE	235.	12.08	144.	43.	14.	1.44
+	ROUTED TO	RP59BR	235.	12.17	144.	43.	14.	1.44
+	DIVERSION TO	DPBR59	161.	12.00	112.	35.	12.	1.44
+	HYDROGRAPH AT	DBR59	74.	12.17	32.	8.	3.	1.44
+	ROUTED TO	RP59OL	74.	12.25	32.	8.	3.	1.44
+	HYDROGRAPH AT	PROL51	297.	12.25	160.	48.	16.	1.45
+	ROUTED TO	RPOL59	297.	12.42	160.	48.	16.	1.45
+	3 COMBINED AT	CPOL59	1311.	13.25	462.	127.	42.	4.22
+	DIVERSION TO	DPOL59	475.	12.33	272.	80.	27.	4.22
+	HYDROGRAPH AT	DOL59	836.	13.25	190.	48.	16.	4.22
+	DIVERSION TO	DSNO59	510.	13.25	116.	29.	10.	4.22
+	HYDROGRAPH AT	DWOL67	326.	13.25	74.	19.	6.	4.22
+	ROUTED TO	RWOL67	307.	13.50	74.	19.	6.	4.22
+	HYDROGRAPH AT	DROL67	199.	13.42	22.	5.	2.	2.06
+	ROUTED TO	RSOL67	137.	14.00	22.	5.	2.	2.06

+	HYDROGRAPH AT	OL67	608.	12.50	180.	54.	18.	.96
+	DIVERSION TO	XOL67	608.	12.50	71.	20.	7.	.96
+	HYDROGRAPH AT	EROL67	578.	12.75	125.	34.	11.	.96
+	3 COMBINED AT	COL67	659.	13.25	219.	58.	19.	2.84
+	HYDROGRAPH AT	PRBR59	161.	12.00	112.	35.	12.	1.44
+	ROUTED TO	RPBR63	161.	12.08	112.	35.	12.	1.44
+	ROUTED TO	SRBR63	162.	12.50	104.	35.	12.	1.44
+	ROUTED TO	RP63OL	162.	12.58	104.	35.	12.	1.44
+	HYDROGRAPH AT	PROL59	475.	12.33	272.	80.	27.	4.22
+	ROUTED TO	RPOL63	475.	12.42	272.	80.	27.	4.22
+	2 COMBINED AT	CPOL63	637.	12.58	375.	115.	38.	2.84
+	ROUTED TO	RPOL67	636.	12.67	375.	115.	38.	2.84
+	HYDROGRAPH AT	PR67PE	162.	13.33	71.	20.	7.	2.06
+	ROUTED TO	RP67MV	162.	13.42	71.	20.	7.	2.06
+	ROUTED TO	SR67MV	162.	13.83	67.	20.	7.	2.06
+	ROUTED TO	RP67OL	162.	13.92	67.	20.	7.	2.06
+	3 COMBINED AT	CPOL67	1343.	13.92	652.	192.	64.	5.68
+	DIVERSION TO	DPOL67	662.	12.67	435.	137.	46.	5.68
+	HYDROGRAPH AT	DOL67	681.	13.92	217.	54.	18.	5.68
+	DIVERSION TO	DSNO67	300.	13.92	96.	24.	8.	5.68
+	HYDROGRAPH AT	DWOL75	381.	13.92	122.	30.	10.	5.68
+	ROUTED TO	RWOL75	372.	14.17	122.	30.	10.	5.68
+	HYDROGRAPH AT	DROL75	220.	13.92	68.	17.	6.	3.36
+	ROUTED TO	RSOL75	203.	13.67	68.	17.	6.	3.36
+	HYDROGRAPH AT	OL75	563.	12.67	187.	55.	18.	1.00
+	DIVERSION TO	XOL75	563.	12.67	74.	21.	7.	1.00
+	HYDROGRAPH AT	EROL75	546.	12.83	129.	35.	12.	1.00
+	3 COMBINED AT	COL75	917.	13.33	316.	82.	27.	4.34
+	HYDROGRAPH AT	PROL67	662.	12.67	435.	137.	46.	5.68
+	ROUTED TO	RPOL71	662.	12.75	435.	137.	46.	5.68
+	2 COMBINED AT	CPOL71	1579.	13.33	750.	219.	73.	4.34

+	ROUTED TO SROL71	1530.	13.67	604.	218.	73.	4.34
+	DIVERSION TO DPOL71	386.	13.42	295.	141.	47.	4.34
+	HYDROGRAPH AT DOL71	1144.	13.67	310.	77.	26.	4.34
+	HYDROGRAPH AT PR75PE	179.	12.08	121.	35.	12.	3.36
+	ROUTED TO RP75OL	179.	12.25	121.	35.	12.	3.36
+	HYDROGRAPH AT PROL71	386.	13.42	295.	141.	47.	4.34
+	ROUTED TO RPOL75	386.	13.50	295.	141.	47.	4.34
+	3 COMBINED AT CPOL75	1709.	13.67	704.	253.	85.	4.34
+	DIVERSION TO DPOL75	239.	12.33	237.	136.	46.	4.34
+	HYDROGRAPH AT DOL75	1470.	13.67	467.	117.	39.	4.34
+	DIVERSION TO DSGR75	750.	13.67	238.	60.	20.	4.34
+	HYDROGRAPH AT DWGR83	720.	13.67	229.	57.	19.	4.34
+	HYDROGRAPH AT DRGR83	404.	13.58	108.	27.	9.	3.97
+	DIVERSION TO DSOL83	113.	13.58	30.	8.	3.	3.97
+	HYDROGRAPH AT D83GR	291.	13.58	78.	20.	7.	3.97
+	ROUTED TO RSGR83	250.	14.67	77.	20.	7.	3.97
+	HYDROGRAPH AT GR83	421.	12.33	106.	34.	11.	.47
+	DIVERSION TO XGR83	421.	12.33	58.	16.	5.	.47
+	HYDROGRAPH AT ERGR83	358.	12.67	61.	17.	6.	.47
+	3 COMBINED AT CGR83	892.	14.50	362.	94.	31.	3.99
+	ROUTED TO SRGR83	820.	14.83	249.	65.	22.	3.99
+	DIVERSION TO DS75NO	820.	14.83	249.	65.	22.	3.99
+	HYDROGRAPH AT DWOL83	0.	.00	0.	0.	0.	3.99
+	ROUTED TO RWOL83	0.	.00	0.	0.	0.	3.99
+	HYDROGRAPH AT DIOL83	113.	13.58	30.	8.	3.	3.97
+	ROUTED TO RSOL83	106.	14.08	30.	8.	3.	3.97
+	HYDROGRAPH AT OL83	470.	12.42	120.	37.	12.	.54
+	DIVERSION TO XOL83	470.	12.42	66.	19.	6.	.54
+	HYDROGRAPH AT EROL83	380.	12.75	67.	19.	6.	.54
+	3 COMBINED AT COL83	379.	12.75	98.	27.	9.	1.06
+	HYDROGRAPH AT NO27	81.	12.42	28.	9.	3.	.13

+	DIVERSION TO DP27NO	81.	12.42	28.	9.	3.	.13
+	HYDROGRAPH AT D27NO	0.	.00	0.	0.	0.	.13
+	DIVERSION TO DSGL27	0.	.00	0.	0.	0.	.13
+	HYDROGRAPH AT DWNO35	0.	.00	0.	0.	0.	.13
+	ROUTED TO RWNO35	0.	.00	0.	0.	0.	.13
+	HYDROGRAPH AT DRNO35	65.	12.33	8.	2.	1.	.21
+	ROUTED TO RSNO35	48.	13.25	8.	2.	1.	.21
+	HYDROGRAPH AT NO35	486.	12.67	163.	51.	17.	.99
+	3 COMBINED AT CNO35	498.	12.75	171.	53.	18.	1.14
+	HYDROGRAPH AT PR27NO	81.	12.42	28.	9.	3.	.13
+	2 COMBINED AT CPNO29	571.	12.67	198.	61.	21.	1.14
+	DIVERSION TO DP29NO	114.	12.00	86.	33.	11.	1.14
+	HYDROGRAPH AT D29NO	457.	12.67	112.	28.	9.	1.14
+	HYDROGRAPH AT PR35OL	61.	12.00	30.	11.	4.	.21
+	ROUTED TO RP35NO	61.	12.25	30.	11.	4.	.21
+	2 COMBINED AT CPNO35	518.	12.67	142.	39.	13.	1.14
+	DIVERSION TO DP35NO	113.	12.08	55.	17.	6.	1.14
+	HYDROGRAPH AT D35NO	405.	12.67	87.	22.	7.	1.14
+	DIVERSION TO DSGL35	186.	12.67	40.	10.	3.	1.14
+	HYDROGRAPH AT DWNO43	219.	12.67	47.	12.	4.	1.14
+	ROUTED TO RWNO43	206.	13.33	47.	12.	4.	1.14
+	HYDROGRAPH AT DRNO43	152.	12.50	30.	7.	2.	.70
+	ROUTED TO RSNO43	141.	13.08	30.	7.	2.	.70
+	HYDROGRAPH AT NO43	474.	12.67	162.	49.	16.	1.00
+	3 COMBINED AT CNO43	724.	13.17	238.	68.	23.	2.02
+	HYDROGRAPH AT PR43OL	85.	12.00	52.	18.	6.	.70
+	ROUTED TO RP43NO	85.	12.17	52.	18.	6.	.70
+	2 COMBINED AT CPNO43	809.	13.17	289.	86.	29.	2.02
+	DIVERSION TO DP43NO	241.	12.17	158.	54.	18.	2.02
+	HYDROGRAPH AT D43NO	568.	13.17	131.	33.	11.	2.02
+	DIVERSION TO DSGL43	290.	13.17	67.	17.	6.	2.02

+	HYDROGRAPH AT	DWNO51	279.	13.17	64.	16.	5.	2.02
+	ROUTED TO	RWNO51	256.	13.58	64.	16.	5.	2.02
+	HYDROGRAPH AT	DRNO51	140.	12.92	24.	6.	2.	1.45
+	ROUTED TO	RSNO51	123.	13.50	24.	6.	2.	1.45
+	HYDROGRAPH AT	NO51	476.	12.67	163.	50.	17.	.99
+	3 COMBINED AT	CNO51	682.	13.50	250.	72.	24.	2.47
+	DIVERSION TO	DPNO51	168.	12.17	118.	39.	13.	2.47
+	HYDROGRAPH AT	DNO51	514.	13.50	132.	33.	11.	2.47
+	DIVERSION TO	DSGL51	226.	13.50	58.	15.	5.	2.47
+	HYDROGRAPH AT	DWNO59	288.	13.50	74.	19.	6.	2.47
+	ROUTED TO	RWNO59	268.	13.75	74.	19.	6.	2.47
+	HYDROGRAPH AT	DRNO59	510.	13.25	116.	29.	10.	4.22
+	ROUTED TO	RSNO59	479.	13.58	116.	29.	10.	4.22
+	HYDROGRAPH AT	NO59	540.	12.67	176.	53.	18.	.99
+	DIVERSION TO	XNO59	373.	12.33	38.	11.	4.	.99
+	HYDROGRAPH AT	ERNO59	540.	12.67	155.	42.	14.	.99
+	3 COMBINED AT	CNO59	1039.	13.50	343.	89.	30.	4.06
+	ROUTED TO	SRNO59	1038.	13.58	328.	85.	28.	4.06
+	HYDROGRAPH AT	PRNO51	168.	12.17	118.	39.	13.	2.47
+	ROUTED TO	RPNO59	168.	12.33	118.	39.	13.	2.47
+	2 COMBINED AT	CPNO59	1206.	13.58	443.	124.	41.	4.06
+	DIVERSION TO	DPNO59	134.	12.17	112.	41.	14.	4.06
+	HYDROGRAPH AT	DNO59	1072.	13.58	331.	83.	28.	4.06
+	DIVERSION TO	DSGL59	354.	13.58	109.	27.	9.	4.06
+	HYDROGRAPH AT	DWNO67	718.	13.58	221.	55.	18.	4.06
+	ROUTED TO	RWNO67	704.	13.83	221.	55.	18.	4.06
+	HYDROGRAPH AT	DRNO67	300.	13.92	96.	24.	8.	5.68
+	ROUTED TO	RSNO67	290.	14.25	96.	24.	8.	5.68
+	HYDROGRAPH AT	NO67	550.	12.67	194.	60.	20.	.96
+	DIVERSION TO	XNO67	550.	12.67	98.	27.	9.	.96
+	HYDROGRAPH AT	ERNO67	488.	13.08	117.	33.	11.	.96

+	3 COMBINED AT	CNO67	1274.	13.67	431.	111.	37.	4.93
+	DIVERSION TO	DSGR67	828.	13.67	280.	72.	24.	4.93
+	HYDROGRAPH AT	DWGR75	446.	13.67	151.	39.	13.	4.93
+	DIVERSION TO	DWNO75	147.	13.67	50.	13.	4.	4.93
+	HYDROGRAPH AT	DGR75	299.	13.67	101.	26.	9.	4.93
+	ROUTED TO	RWGR75	287.	14.42	99.	26.	9.	4.93
+	HYDROGRAPH AT	DRGR75	750.	13.67	238.	60.	20.	4.34
+	DIVERSION TO	DSNO75	270.	13.67	86.	21.	7.	4.34
+	HYDROGRAPH AT	D75GR	480.	13.67	152.	38.	13.	4.34
+	HYDROGRAPH AT	GR75	461.	12.33	106.	34.	11.	.50
+	DIVERSION TO	XGR75	461.	12.33	55.	16.	5.	.50
+	HYDROGRAPH AT	ERGR75	404.	12.58	63.	18.	6.	.50
+	3 COMBINED AT	CGR75	766.	14.25	310.	82.	27.	3.09
+	ROUTED TO	SRGR75	685.	14.75	176.	79.	27.	3.09
+	HYDROGRAPH AT	PROL75	239.	12.33	237.	136.	46.	4.34
+	2 COMBINED AT	CPOLGR	924.	14.75	407.	213.	73.	3.09
+	DIVERSION TO	DOLGR	685.	14.75	168.	45.	15.	3.09
+	HYDROGRAPH AT	DPOLGR	239.	12.33	239.	168.	58.	3.09
+	ROUTED TO	RPOL83	239.	12.58	239.	168.	58.	3.09
+	2 COMBINED AT	CPOL83	616.	12.75	335.	194.	67.	4.15
+	ROUTED TO	SROL83	486.	13.17	316.	193.	67.	4.15
+	DIVERSION TO	DPOL83	243.	13.00	243.	174.	61.	4.15
+	HYDROGRAPH AT	DOL83	243.	13.17	74.	19.	6.	4.15
+	DIVERSION TO	DSNO83	95.	13.17	29.	7.	2.	4.15
+	HYDROGRAPH AT	DWOL91	148.	13.17	45.	12.	4.	4.15
+	ROUTED TO	RWOL91	115.	13.92	45.	12.	4.	4.15
+	HYDROGRAPH AT	DROL91	265.	13.58	96.	24.	8.	3.65
+	ROUTED TO	RSOL91	255.	14.00	96.	24.	8.	3.65
+	HYDROGRAPH AT	OL91	617.	12.58	209.	64.	21.	1.02
+	DIVERSION TO	XOL91	617.	12.58	85.	24.	8.	1.02
+	HYDROGRAPH AT	EROL91	592.	12.83	145.	40.	13.	1.02

+	3 COMBINED AT COL91	675.	12.92	283.	75.	25.	3.68
+	HYDROGRAPH AT PROL83	243.	13.00	243.	174.	61.	4.15
+	ROUTED TO RPOL91	243.	13.17	243.	174.	61.	4.15
+	2 COMBINED AT CPOL91	880.	13.17	518.	249.	86.	3.68
+	DIVERSION TO DSNO91	590.	13.17	347.	167.	57.	3.68
+	HYDROGRAPH AT DWOLLO	290.	13.17	171.	82.	28.	3.68
+	ROUTED TO RWOLLO	288.	13.92	171.	82.	28.	3.68
+	HYDROGRAPH AT OLLO	130.	12.33	38.	13.	4.	.16
+	DIVERSION TO XOLLO	130.	12.33	19.	6.	2.	.16
+	HYDROGRAPH AT EROLLO	115.	12.58	25.	7.	2.	.16
+	3 COMBINED AT COLLO	503.	12.92	248.	103.	35.	6.18
+	ROUTED TO RSNOLO	476.	13.33	246.	103.	35.	6.18
+	HYDROGRAPH AT DROLGR	685.	14.75	168.	45.	15.	3.09
+	HYDROGRAPH AT DI75NO	270.	13.67	86.	21.	7.	4.34
+	HYDROGRAPH AT DR75NO	820.	14.83	249.	65.	22.	3.99
+	3 COMBINED AT CIGR75	1701.	14.75	492.	129.	43.	7.85
+	ROUTED TO RSNO75	1593.	15.00	490.	129.	43.	7.85
+	HYDROGRAPH AT DINO75	147.	13.67	50.	13.	4.	4.93
+	ROUTED TO RWNO75	145.	14.00	50.	13.	4.	4.93
+	HYDROGRAPH AT NO75	518.	12.33	119.	40.	13.	.51
+	DIVERSION TO XNO75	126.	11.83	29.	10.	3.	.51
+	HYDROGRAPH AT ERNO75	518.	12.33	108.	30.	10.	.51
+	3 COMBINED AT CNO75	1710.	15.00	622.	171.	57.	8.93
+	DIVERSION TO DPNO75	161.	12.00	160.	56.	19.	8.93
+	HYDROGRAPH AT DNO75	1549.	15.00	462.	116.	39.	8.93
+	DIVERSION TO DSOW75	743.	15.00	222.	55.	18.	8.93
+	HYDROGRAPH AT DWNO83	805.	15.00	240.	60.	20.	8.93
+	ROUTED TO RWNO83	776.	15.25	239.	60.	20.	8.93
+	HYDROGRAPH AT DRNO83	95.	13.17	29.	7.	2.	4.15
+	ROUTED TO RSNO83	81.	13.75	29.	7.	2.	4.15
+	HYDROGRAPH AT NO83	643.	12.58	234.	79.	27.	1.00

+	DIVERSION TO XNO83	643.	12.58	129.	38.	13.	1.00
+	HYDROGRAPH AT ERNO83	552.	13.08	144.	42.	14.	1.00
+	3 COMBINED AT CNO83	933.	15.25	407.	109.	36.	6.05
+	HYDROGRAPH AT PRNO75	161.	12.00	160.	56.	19.	8.93
+	ROUTED TO RPNO83	161.	12.17	160.	56.	19.	8.93
+	2 COMBINED AT CPNO83	1094.	15.25	566.	165.	55.	6.05
+	DIVERSION TO DPNO83	233.	12.50	230.	81.	27.	6.05
+	HYDROGRAPH AT DNO83	861.	15.25	336.	84.	28.	6.05
+	ROUTED TO RWNO91	830.	15.58	334.	84.	28.	6.05
+	HYDROGRAPH AT DRNO91	590.	13.17	347.	167.	57.	3.68
+	ROUTED TO RSNO91	572.	14.17	342.	167.	57.	3.68
+	HYDROGRAPH AT NO91	523.	12.67	182.	54.	18.	.99
+	DIVERSION TO XNO91	523.	12.67	100.	27.	9.	.99
+	HYDROGRAPH AT ERNO91	437.	13.25	99.	27.	9.	.99
+	3 COMBINED AT CNO91	1316.	13.50	767.	276.	94.	9.52
+	HYDROGRAPH AT PRNO83	233.	12.50	230.	81.	27.	6.05
+	ROUTED TO RPNO91	233.	12.67	230.	81.	27.	6.05
+	2 COMBINED AT CPNO91	1549.	13.50	990.	357.	121.	9.52
+	ROUTED TO SRNO91	1526.	13.67	921.	328.	121.	9.52
+	DIVERSION TO DPNO91	69.	13.58	69.	62.	33.	9.52
+	HYDROGRAPH AT DNO91	1457.	13.67	852.	265.	88.	9.52
+	DIVERSION TO DSGL91	772.	13.67	451.	141.	47.	9.52
+	HYDROGRAPH AT DWNOLO	685.	13.67	400.	125.	42.	9.52
+	ROUTED TO RWNOLO	652.	15.67	394.	125.	42.	9.52
+	HYDROGRAPH AT NOLO	203.	12.42	66.	23.	8.	.28
+	DIVERSION TO XNOLO	203.	12.42	34.	10.	3.	.28
+	HYDROGRAPH AT ERNOLO	173.	12.75	43.	13.	4.	.28
+	3 COMBINED AT CNOLO	1142.	14.08	650.	238.	80.	10.91
+	HYDROGRAPH AT PRNO91	69.	13.58	69.	62.	33.	9.52
+	ROUTED TO RPNOLO	69.	13.75	69.	62.	33.	9.52
+	2 COMBINED AT CPNOLO	1211.	14.08	712.	299.	113.	10.91

+	DIVERSION TO HYDROGRAPH AT	DPNOLO	15.	12.50	15.	15.	12.	10.91
+	DIVERSION TO HYDROGRAPH AT	DNOLO	1196.	14.08	697.	284.	101.	10.91
+	ROUTED TO HYDROGRAPH AT	DWNR03	917.	14.00	664.	276.	98.	10.91
+	ROUTED TO HYDROGRAPH AT	DSGLLO	279.	14.08	34.	8.	3.	10.91
+	2 COMBINED AT HYDROGRAPH AT	RSGLLO	269.	14.17	34.	8.	3.	10.91
+	ROUTED TO HYDROGRAPH AT	DRGL43	290.	13.17	67.	17.	6.	2.02
+	2 COMBINED AT HYDROGRAPH AT	RSGL43	273.	13.50	67.	17.	6.	2.02
+	DIVERSION TO HYDROGRAPH AT	GL43	535.	12.67	181.	55.	18.	1.00
+	ROUTED TO HYDROGRAPH AT	CGL43	660.	13.33	247.	71.	24.	2.03
+	DIVERSION TO HYDROGRAPH AT	PR43NO	241.	12.17	158.	54.	18.	2.02
+	2 COMBINED AT HYDROGRAPH AT	RP43GL	241.	12.33	158.	54.	18.	2.02
+	DIVERSION TO HYDROGRAPH AT	CPGL43	901.	13.33	405.	125.	42.	2.03
+	ROUTED TO HYDROGRAPH AT	DP43GL	385.	12.17	262.	89.	30.	2.03
+	2 COMBINED AT HYDROGRAPH AT	D43GL	516.	13.33	143.	36.	12.	2.03
+	DIVERSION TO HYDROGRAPH AT	DSBH43	305.	13.33	85.	21.	7.	2.03
+	ROUTED TO HYDROGRAPH AT	DWGL51	212.	13.33	59.	15.	5.	2.03
+	ROUTED TO HYDROGRAPH AT	RWGL51	203.	13.75	59.	15.	5.	2.03
+	2 COMBINED AT HYDROGRAPH AT	DRGL51	226.	13.50	58.	15.	5.	2.47
+	DIVERSION TO HYDROGRAPH AT	RSGL51	211.	13.83	58.	15.	5.	2.47
+	3 COMBINED AT HYDROGRAPH AT	GL51	459.	12.67	167.	53.	18.	1.00
+	DIVERSION TO HYDROGRAPH AT	CGL51	685.	13.58	283.	82.	27.	2.91
+	DIVERSION TO HYDROGRAPH AT	DSBH51	322.	13.58	133.	38.	13.	2.91
+	DIVERSION TO HYDROGRAPH AT	DWGL59	363.	13.58	150.	43.	15.	2.91
+	HYDROGRAPH AT ROUTED TO	DP47GL	360.	13.58	150.	43.	14.	2.91
+	HYDROGRAPH AT ROUTED TO	D47GL	3.	13.58	0.	0.	0.	2.91
+	HYDROGRAPH AT ROUTED TO	RWGL59	1.	14.33	0.	0.	0.	2.91
+	HYDROGRAPH AT ROUTED TO	DRGL59	354.	13.58	109.	27.	9.	4.06
+	HYDROGRAPH AT DIVERSION TO	RSGL59	345.	13.92	109.	27.	9.	4.06
+	HYDROGRAPH AT	GL59	532.	12.58	176.	57.	19.	1.01
+		XGL59	202.	12.08	34.	11.	4.	1.01
+		ERGL59	532.	12.58	165.	46.	15.	1.01

+	3 COMBINED AT HYDROGRAPH AT	CGL59	607.	13.50	272.	72.	24.	3.91
+	DIVERSION TO HYDROGRAPH AT	DP59GL	217.	12.25	148.	41.	14.	3.91
+	DIVERSION TO HYDROGRAPH AT	D59GL	390.	13.50	125.	31.	10.	3.91
+	HYDROGRAPH AT DIVERSION TO	DSGR59	179.	13.50	57.	14.	5.	3.91
+	HYDROGRAPH AT DIVERSION TO	DWGR67	210.	13.50	67.	17.	6.	3.91
+	HYDROGRAPH AT HYDROGRAPH AT	DWGL67	55.	13.50	18.	4.	1.	3.91
+	ROUTED TO HYDROGRAPH AT	DGR67	156.	13.50	50.	12.	4.	3.91
+	HYDROGRAPH AT ROUTED TO	DRGL35	186.	12.67	40.	10.	3.	1.14
+	HYDROGRAPH AT 2 COMBINED AT	RSGL35	178.	13.17	40.	10.	3.	1.14
+	HYDROGRAPH AT DIVERSION TO	GL35	459.	12.67	162.	50.	17.	1.00
+	HYDROGRAPH AT ROUTED TO	CGL35	587.	13.08	202.	59.	20.	1.53
+	HYDROGRAPH AT 2 COMBINED AT	PR35NO	113.	12.08	55.	17.	6.	1.14
+	HYDROGRAPH AT DIVERSION TO	RP35GL	113.	12.25	55.	17.	6.	1.14
+	2 COMBINED AT HYDROGRAPH AT	CPGL35	700.	13.08	257.	76.	26.	1.53
+	DIVERSION TO HYDROGRAPH AT	DP35GL	226.	12.17	141.	48.	16.	1.53
+	DIVERSION TO HYDROGRAPH AT	D35GL	474.	13.08	115.	29.	10.	1.53
+	HYDROGRAPH AT HYDROGRAPH AT	DSBH35	289.	13.08	70.	18.	6.	1.53
+	HYDROGRAPH AT ROUTED TO	DEGL27	185.	13.08	45.	11.	4.	1.53
+	HYDROGRAPH AT 3 COMBINED AT	DRGL27	0.	.00	0.	0.	0.	.13
+	HYDROGRAPH AT HYDROGRAPH AT	RSGL27	0.	.00	0.	0.	0.	.13
+	3 COMBINED AT HYDROGRAPH AT	GL27	174.	12.42	49.	15.	5.	.26
+	ROUTED TO HYDROGRAPH AT	CGL27	305.	13.00	93.	26.	9.	.98
+	2 COMBINED AT DIVERSION TO	PR29NO	114.	12.00	86.	33.	11.	1.14
+	HYDROGRAPH AT 2 COMBINED AT	RP27GL	114.	12.17	86.	33.	11.	1.14
+	DIVERSION TO HYDROGRAPH AT	CPGL27	419.	13.00	179.	60.	20.	.98
+	ROUTED TO HYDROGRAPH AT	DP27GL	132.	12.00	101.	40.	14.	.98
+	HYDROGRAPH AT DIVERSION TO	D27GL	287.	13.00	77.	19.	6.	.98
+	HYDROGRAPH AT	RSBH27	271.	13.17	77.	19.	6.	.98
+	2 COMBINED AT HYDROGRAPH AT	BH27	182.	12.33	48.	16.	5.	.26
+		CBH27	374.	12.83	124.	35.	12.	1.24
+		PR27GL	132.	12.00	101.	40.	14.	.98

+	ROUTED TO	RP27BH	132.	12.17	101.	40.	14.	.98
+	2 COMBINED AT	CPBH27	506.	12.83	226.	75.	25.	1.24
+	DIVERSION TO	DP27BH	132.	11.92	110.	46.	16.	1.24
+	HYDROGRAPH AT	D27BH	374.	12.83	115.	29.	10.	1.24
+	DIVERSION TO	DSCB27	374.	12.83	115.	29.	10.	1.24
+	HYDROGRAPH AT	DWBH35	0.	.00	0.	0.	0.	1.24
+	ROUTED TO	RWBH35	0.	.00	0.	0.	0.	1.24
+	HYDROGRAPH AT	DRBH35	289.	13.08	70.	18.	6.	1.53
+	ROUTED TO	RSBH35	274.	13.42	70.	18.	6.	1.53
+	HYDROGRAPH AT	BH35	904.	12.33	161.	50.	17.	1.00
+	DIVERSION TO	XBH35	12.	4.50	6.	2.	1.	1.00
+	HYDROGRAPH AT	ERBH35	904.	12.33	161.	48.	16.	1.00
+	3 COMBINED AT	CBH35	902.	12.33	230.	66.	22.	1.94
+	HYDROGRAPH AT	PR35GL	226.	12.17	141.	48.	16.	1.53
+	ROUTED TO	RP35BH	226.	12.33	142.	48.	16.	1.53
+	2 COMBINED AT	CPBH35	1128.	12.33	371.	113.	38.	1.94
+	DIVERSION TO	DP35BH	226.	11.92	169.	63.	21.	1.94
+	HYDROGRAPH AT	D35BH	902.	12.33	201.	50.	17.	1.94
+	DIVERSION TO	DSCB35	902.	12.33	201.	50.	17.	1.94
+	HYDROGRAPH AT	DWBH43	0.	.00	0.	0.	0.	1.94
+	ROUTED TO	RWBH43	0.	.00	0.	0.	0.	1.94
+	HYDROGRAPH AT	DRBH43	305.	13.33	85.	21.	7.	2.03
+	ROUTED TO	RSBH43	297.	13.58	85.	21.	7.	2.03
+	HYDROGRAPH AT	BH43	420.	12.67	148.	45.	15.	.99
+	3 COMBINED AT	CBH43	619.	13.17	232.	66.	22.	2.19
+	HYDROGRAPH AT	PR43GL	385.	12.17	262.	89.	30.	2.03
+	ROUTED TO	RP43BH	385.	12.33	262.	89.	30.	2.03
+	2 COMBINED AT	CPBH43	1004.	13.17	493.	155.	52.	2.19
+	DIVERSION TO	DP43BH	385.	12.17	290.	104.	35.	2.19
+	HYDROGRAPH AT	D43BH	619.	13.17	203.	51.	17.	2.19
+	DIVERSION TO	DSCB43	316.	13.17	104.	26.	9.	2.19

+	HYDROGRAPH AT	DWBH51	304.	13.17	100.	25.	8.	2.19
+	ROUTED TO	RWBH51	296.	13.67	100.	25.	8.	2.19
+	HYDROGRAPH AT	DRBH51	322.	13.58	133.	38.	13.	2.91
+	ROUTED TO	RSBH51	319.	13.92	133.	38.	13.	2.91
+	HYDROGRAPH AT	BH51	468.	12.75	173.	54.	18.	1.00
+	3 COMBINED AT	CBH51	915.	13.50	402.	117.	39.	3.42
+	HYDROGRAPH AT	PR47GL	360.	13.58	150.	43.	14.	2.91
+	ROUTED TO	RP51BH	360.	13.58	150.	43.	14.	2.91
+	2 COMBINED AT	CPBH51	1274.	13.50	551.	161.	54.	3.42
+	ROUTED TO	SRBH51	1270.	13.58	551.	157.	54.	3.42
+	DIVERSION TO	DSGR43	406.	13.58	176.	50.	17.	3.42
+	HYDROGRAPH AT	DWGR59	864.	13.58	375.	107.	37.	3.42
+	DIVERSION TO	DWBH59	199.	13.58	86.	25.	8.	3.42
+	HYDROGRAPH AT	DGR59	665.	13.58	288.	82.	28.	3.42
+	HYDROGRAPH AT	DRGR59	179.	13.50	57.	14.	5.	3.91
+	DIVERSION TO	DSBH59	93.	13.50	30.	7.	2.	3.91
+	HYDROGRAPH AT	D59GR	86.	13.50	28.	7.	2.	3.91
+	HYDROGRAPH AT	GR59	580.	12.25	102.	34.	11.	.52
+	3 COMBINED AT	CGR59	809.	13.50	414.	121.	42.	3.18
+	DIVERSION TO	DBH59	404.	13.50	207.	61.	21.	3.18
+	HYDROGRAPH AT	DNGR67	404.	13.50	207.	61.	21.	3.18
+	DIVERSION TO	DPGRGL	234.	12.08	154.	47.	16.	3.18
+	HYDROGRAPH AT	DGRGL	170.	13.50	53.	13.	4.	3.18
+	2 COMBINED AT	CIGR59	327.	13.50	103.	26.	9.	3.15
+	ROUTED TO	RWGR67	307.	14.17	103.	26.	9.	3.15
+	HYDROGRAPH AT	DRGR67	828.	13.67	280.	72.	24.	4.93
+	HYDROGRAPH AT	GR67	486.	12.33	96.	30.	10.	.50
+	DIVERSION TO	XGR67	6.	2.75	2.	1.	0.	.50
+	HYDROGRAPH AT	ERGR67	486.	12.33	96.	29.	10.	.50
+	3 COMBINED AT	CGR67	1123.	13.75	467.	126.	42.	6.83
+	HYDROGRAPH AT	PRNO59	134.	12.17	112.	41.	14.	4.06

+	ROUTED TO	RPNO67	134.	12.33	112.	41.	14.	4.06
+	HYDROGRAPH AT	PR59GL	217.	12.25	148.	41.	14.	3.91
+	HYDROGRAPH AT	PRGRGL	234.	12.08	154.	47.	16.	3.18
+	2 COMBINED AT	CPGL59	451.	12.25	299.	89.	30.	1.42
+	ROUTED TO	RPGR67	451.	12.42	299.	89.	30.	1.42
+	3 COMBINED AT	CPGR67	1705.	13.75	876.	255.	86.	8.25
+	ROUTED TO	SRGR67	283.	16.75	273.	215.	86.	8.25
+	DIVERSION TO	DP67GR	283.	16.75	273.	215.	86.	8.25
+	HYDROGRAPH AT	D67GR	0.	.00	0.	0.	0.	8.25
+	ROUTED TO	RSOW67	0.	.00	0.	0.	0.	8.25
+	HYDROGRAPH AT	OW67	167.	12.17	28.	9.	3.	.12
+	DIVERSION TO	XOW67	6.	9.17	4.	1.	0.	.12
+	HYDROGRAPH AT	EROW67	167.	12.17	28.	8.	3.	.12
+	2 COMBINED AT	COW67	164.	12.17	27.	8.	3.	6.95
+	HYDROGRAPH AT	PRGR67	283.	16.75	273.	215.	86.	8.25
+	ROUTED TO	RPOW67	283.	16.83	273.	215.	86.	8.25
+	2 COMBINED AT	CPOW67	287.	16.67	277.	221.	89.	6.95
+	DIVERSION TO	DPOW67	181.	12.00	181.	176.	74.	6.95
+	HYDROGRAPH AT	DOW67	106.	16.67	96.	45.	15.	6.95
+	DIVERSION TO	DSGL67	54.	16.67	49.	23.	8.	6.95
+	HYDROGRAPH AT	DWOW75	52.	16.67	47.	22.	7.	6.95
+	ROUTED TO	RWOW75	52.	17.17	47.	22.	7.	6.95
+	HYDROGRAPH AT	DROW75	743.	15.00	222.	55.	18.	8.93
+	ROUTED TO	RSOW75	718.	15.17	221.	55.	18.	8.93
+	HYDROGRAPH AT	OW75	411.	12.33	109.	35.	12.	.50
+	DIVERSION TO	XOW75	411.	12.33	50.	14.	5.	.50
+	HYDROGRAPH AT	EROW75	377.	12.58	73.	21.	7.	.50
+	3 COMBINED AT	COW75	771.	15.17	320.	98.	33.	8.17
+	HYDROGRAPH AT	PROW67	181.	12.00	181.	176.	74.	6.95
+	ROUTED TO	RPOW71	181.	12.08	181.	176.	74.	6.95
+	2 COMBINED AT	CPOW71	952.	15.17	500.	274.	106.	8.17

+	ROUTED TO	SROW75	882.	15.50	482.	269.	103.	8.17
+	DIVERSION TO	DPOW71	44.	12.58	44.	44.	23.	8.17
+	HYDROGRAPH AT	DOW71	838.	15.50	438.	225.	80.	8.17
+	HYDROGRAPH AT	PROW71	44.	12.58	44.	44.	23.	8.17
+	ROUTED TO	RPOW75	44.	12.75	44.	44.	23.	8.17
+	2 COMBINED AT	CPOW75	882.	15.50	482.	269.	103.	8.17
+	DIVERSION TO	DPOW75	66.	12.58	66.	66.	32.	8.17
+	HYDROGRAPH AT	DOW75	816.	15.50	416.	203.	71.	8.17
+	DIVERSION TO	DSGL75	620.	15.50	316.	154.	54.	8.17
+	HYDROGRAPH AT	DWOW83	196.	15.50	100.	49.	17.	8.17
+	ROUTED TO	RWOW83	192.	15.83	99.	48.	17.	8.17
+	HYDROGRAPH AT	OW83	266.	12.67	91.	27.	9.	.50
+	DIVERSION TO	XOW83	260.	12.50	29.	8.	3.	.50
+	HYDROGRAPH AT	EROW83	266.	12.67	70.	19.	6.	.50
+	2 COMBINED AT	COW83	264.	12.67	165.	67.	23.	2.46
+	HYDROGRAPH AT	PROW75	66.	12.58	66.	66.	32.	8.17
+	ROUTED TO	RPOW83	66.	12.83	66.	66.	32.	8.17
+	2 COMBINED AT	CPOW83	325.	12.75	230.	133.	56.	2.46
+	DIVERSION TO	DP83OW	255.	12.67	215.	129.	54.	2.46
+	HYDROGRAPH AT	D83OW	70.	12.75	15.	4.	1.	2.46
+	DIVERSION TO	DSGL83	60.	12.75	13.	3.	1.	2.46
+	HYDROGRAPH AT	DWOW91	11.	12.75	2.	1.	0.	2.46
+	ROUTED TO	RWOW91	8.	13.92	2.	1.	0.	2.46
+	HYDROGRAPH AT	DIGL67	55.	13.50	18.	4.	1.	3.91
+	ROUTED TO	RWGL67	49.	14.25	18.	4.	1.	3.91
+	HYDROGRAPH AT	GL67	355.	12.25	72.	24.	8.	.36
+	HYDROGRAPH AT	DRGL67	54.	16.67	49.	23.	8.	6.95
+	ROUTED TO	RSGL67	54.	16.83	49.	23.	8.	6.95
+	3 COMBINED AT	CGL67	361.	12.25	114.	49.	17.	4.47
+	DIVERSION TO	DSBH67	177.	12.25	56.	24.	8.	4.47
+	HYDROGRAPH AT	DWGL75	184.	12.25	58.	25.	9.	4.47

+	ROUTED TO	RWGL75	161.	12.75	57.	25.	9.	4.47
+	HYDROGRAPH AT	DRGL75	620.	15.50	316.	154.	54.	8.17
+	ROUTED TO	RSGL75	612.	15.67	314.	154.	54.	8.17
+	HYDROGRAPH AT	GL75	287.	12.58	102.	31.	11.	.50
+	DIVERSION TO	XGL75	287.	12.58	78.	21.	7.	.50
+	HYDROGRAPH AT	ERGL75	134.	13.92	35.	10.	3.	.50
+	3 COMBINED AT	CGL75	694.	15.58	395.	186.	66.	8.97
+	DIVERSION TO	DSBH75	347.	15.58	197.	93.	33.	8.97
+	HYDROGRAPH AT	DWGL83	347.	15.58	197.	93.	33.	8.97
+	ROUTED TO	RWGL83	340.	15.92	195.	93.	33.	8.97
+	HYDROGRAPH AT	DRGL83	60.	12.75	13.	3.	1.	2.46
+	ROUTED TO	RSGL83	51.	13.50	13.	3.	1.	2.46
+	HYDROGRAPH AT	GL83	265.	12.58	85.	25.	8.	.50
+	DIVERSION TO	XGL83	265.	12.58	33.	9.	3.	.50
+	HYDROGRAPH AT	ERGL83	259.	12.75	60.	16.	5.	.50
+	3 COMBINED AT	CGL83	379.	15.92	260.	112.	39.	7.11
+	HYDROGRAPH AT	PR83OW	255.	12.67	215.	129.	54.	2.46
+	ROUTED TO	RP83GL	255.	12.75	214.	129.	54.	2.46
+	2 COMBINED AT	CPGL83	634.	15.92	473.	240.	93.	7.11
+	DIVERSION TO	DPGL83	374.	12.75	353.	210.	83.	7.11
+	HYDROGRAPH AT	DGL83	260.	15.92	121.	30.	10.	7.11
+	DIVERSION TO	DSBH83	164.	15.92	76.	19.	6.	7.11
+	HYDROGRAPH AT	DWGL91	96.	15.92	45.	11.	4.	7.11
+	ROUTED TO	RWGL91	92.	16.33	45.	11.	4.	7.11
+	HYDROGRAPH AT	DRGL91	772.	13.67	451.	141.	47.	9.52
+	ROUTED TO	RSGL91	730.	15.75	442.	141.	47.	9.52
+	HYDROGRAPH AT	GL91	471.	12.75	166.	50.	17.	.98
+	DIVERSION TO	XGL91	471.	12.75	121.	33.	11.	.98
+	HYDROGRAPH AT	ERGL91	254.	13.83	62.	18.	6.	.98
+	4 COMBINED AT	CGL91	957.	14.17	544.	169.	56.	9.02
+	HYDROGRAPH AT	PRGL83	374.	12.75	353.	210.	83.	7.11

+	ROUTED TO	RPGL91	374.	12.92	352.	210.	83.	7.11
+	2 COMBINED AT	CPGL91	1331.	14.17	878.	379.	139.	9.02
+	DIVERSION TO	DPGL91	449.	13.67	443.	270.	103.	9.02
+	HYDROGRAPH AT	DGL91	882.	14.17	435.	109.	36.	9.02
+	DIVERSION TO	DSBH91	547.	14.17	270.	67.	22.	9.02
+	HYDROGRAPH AT	DWGLLO	335.	14.17	165.	41.	14.	9.02
+	ROUTED TO	RWGLLO	324.	14.50	165.	41.	14.	9.02
+	HYDROGRAPH AT	GLLO	524.	12.58	191.	65.	22.	.85
+	DIVERSION TO	XGLLO	524.	12.58	132.	38.	13.	.85
+	HYDROGRAPH AT	ERGLLO	335.	13.50	91.	28.	9.	.85
+	3 COMBINED AT	CGLLO	625.	14.33	259.	70.	23.	15.23
+	HYDROGRAPH AT	PRGL91	449.	13.67	443.	270.	103.	9.02
+	ROUTED TO	RPGLLO	449.	13.75	443.	270.	103.	9.02
+	2 COMBINED AT	CPGLLO	1074.	14.33	701.	337.	124.	15.23
+	ROUTED TO	RSBHLO	1044.	14.58	699.	336.	124.	15.23
+	HYDROGRAPH AT	DIBH59	199.	13.58	86.	25.	8.	3.42
+	HYDROGRAPH AT	DRBH59	404.	13.50	207.	61.	21.	3.18
+	ROUTED TO	SRGR59	241.	14.58	125.	37.	12.	3.18
+	2 COMBINED AT	CIBHGR	393.	14.17	205.	61.	21.	2.13
+	ROUTED TO	RWBH59	389.	14.50	203.	61.	21.	2.13
+	HYDROGRAPH AT	DI59BH	93.	13.50	30.	7.	2.	3.91
+	ROUTED TO	RSBH59	89.	14.00	30.	7.	2.	3.91
+	HYDROGRAPH AT	BH59	526.	12.25	104.	35.	12.	.49
+	DIVERSION TO	XBH59	11.	4.50	6.	2.	1.	.49
+	HYDROGRAPH AT	ERBH59	526.	12.25	104.	33.	11.	.49
+	3 COMBINED AT	CBH59	532.	12.25	317.	101.	34.	3.58
+	DIVERSION TO	DSCB59	223.	12.25	133.	42.	14.	3.58
+	HYDROGRAPH AT	DWBH67	308.	12.25	184.	58.	20.	3.58
+	ROUTED TO	RWBH67	284.	14.67	180.	58.	20.	3.58
+	HYDROGRAPH AT	DRBH67	177.	12.25	56.	24.	8.	4.47
+	ROUTED TO	RSBH67	146.	13.00	55.	24.	8.	4.47

+	HYDROGRAPH AT	BH67	452.	12.67	160.	50.	17.	.97
+	3 COMBINED AT	CBH67	792.	12.83	387.	131.	45.	5.24
+	DIVERSION TO	DSCB67	349.	12.83	170.	58.	20.	5.24
+	HYDROGRAPH AT	DWBH75	444.	12.83	217.	73.	25.	5.24
+	ROUTED TO	RWBH75	430.	13.17	215.	73.	25.	5.24
+	HYDROGRAPH AT	DRBH75	347.	15.58	197.	93.	33.	8.97
+	ROUTED TO	RSBH75	338.	16.00	195.	92.	33.	8.97
+	HYDROGRAPH AT	BH75	559.	12.67	200.	60.	20.	1.00
+	DIVERSION TO	XBH75	559.	12.67	130.	35.	12.	1.00
+	HYDROGRAPH AT	ERBH75	368.	13.58	89.	25.	8.	1.00
+	3 COMBINED AT	CBH75	850.	13.58	481.	185.	66.	8.42
+	DIVERSION TO	DPBH75	560.	13.50	446.	176.	63.	8.42
+	HYDROGRAPH AT	DBH75	290.	13.58	35.	9.	3.	8.42
+	DIVERSION TO	DSCB75	154.	13.58	19.	5.	2.	8.42
+	HYDROGRAPH AT	DWBH83	136.	13.58	17.	4.	1.	8.42
+	ROUTED TO	RWBH83	93.	14.17	17.	4.	1.	8.42
+	HYDROGRAPH AT	DRBH83	164.	15.92	76.	19.	6.	7.11
+	ROUTED TO	RSBH83	155.	16.42	76.	19.	6.	7.11
+	HYDROGRAPH AT	BH83	549.	12.58	176.	52.	17.	1.00
+	DIVERSION TO	XBH83	549.	12.58	117.	31.	10.	1.00
+	HYDROGRAPH AT	ERBH83	353.	13.42	74.	21.	7.	1.00
+	3 COMBINED AT	CBH83	396.	14.17	163.	43.	14.	9.47
+	HYDROGRAPH AT	PRBH75	560.	13.50	446.	176.	63.	8.42
+	ROUTED TO	RPBH83	560.	13.67	445.	176.	63.	8.42
+	2 COMBINED AT	CPBH83	956.	14.17	607.	219.	77.	9.47
+	DIVERSION TO	DSGCB3	325.	14.17	206.	74.	26.	9.47
+	HYDROGRAPH AT	DWBH91	631.	14.17	400.	145.	51.	9.47
+	HYDROGRAPH AT	DRCB27	374.	12.83	115.	29.	10.	1.24
+	ROUTED TO	RSCB27	370.	13.17	115.	29.	10.	1.24
+	HYDROGRAPH AT	CB27	182.	12.42	49.	16.	5.	.26
+	2 COMBINED AT	CCB27	475.	13.00	163.	44.	15.	1.50

+	HYDROGRAPH AT	PR27BH	132.	11.92	110.	46.	16.	1.24
+	ROUTED TO	RP27CB	132.	12.08	110.	46.	16.	1.24
+	2 COMBINED AT	CPCB27	607.	13.00	273.	91.	30.	1.50
+	DIVERSION TO	DP27CB	132.	11.92	118.	52.	17.	1.50
+	HYDROGRAPH AT	D27CB	475.	13.00	155.	39.	13.	1.50
+	DIVERSION TO	DSIS27	475.	13.00	155.	39.	13.	1.50
+	HYDROGRAPH AT	DWCB35	0.	.00	0.	0.	0.	1.50
+	ROUTED TO	RWCB35	0.	.00	0.	0.	0.	1.50
+	HYDROGRAPH AT	DRCB35	902.	12.33	201.	50.	17.	1.94
+	ROUTED TO	RSCB35	822.	12.58	201.	50.	17.	1.94
+	HYDROGRAPH AT	CB35	442.	12.67	159.	50.	17.	1.00
+	3 COMBINED AT	CCB35	1253.	12.58	358.	100.	33.	2.94
+	HYDROGRAPH AT	PR27CB	132.	11.92	118.	52.	17.	1.50
+	2 COMBINED AT	CPCB29	1385.	12.58	476.	152.	51.	2.94
+	DIVERSION TO	DP29CB	132.	11.58	128.	65.	22.	2.94
+	HYDROGRAPH AT	D29CB	1253.	12.58	348.	87.	29.	2.94
+	HYDROGRAPH AT	PR35BH	226.	11.92	169.	63.	21.	1.94
+	ROUTED TO	RP35CB	226.	12.08	169.	63.	21.	1.94
+	2 COMBINED AT	CPCB35	1479.	12.58	517.	150.	50.	2.94
+	DIVERSION TO	DP35CB	253.	11.92	200.	71.	24.	2.94
+	HYDROGRAPH AT	D35CB	1226.	12.58	317.	79.	26.	2.94
+	DIVERSION TO	DSIS35	1226.	12.58	317.	79.	26.	2.94
+	HYDROGRAPH AT	DWCB43	0.	.00	0.	0.	0.	2.94
+	ROUTED TO	RWCB43	0.	.00	0.	0.	0.	2.94
+	HYDROGRAPH AT	DRCB43	316.	13.17	104.	26.	9.	2.19
+	ROUTED TO	RSCB43	309.	13.50	104.	26.	9.	2.19
+	HYDROGRAPH AT	CB43	843.	12.33	154.	47.	16.	1.00
+	3 COMBINED AT	CCB43	843.	12.33	255.	73.	24.	2.12
+	HYDROGRAPH AT	PR43BH	385.	12.17	290.	104.	35.	2.19
+	ROUTED TO	RP43CB	385.	12.25	290.	104.	35.	2.19
+	2 COMBINED AT	CPCB43	1228.	12.33	545.	177.	60.	2.12

+	DIVERSION TO	DP39CB	268.	11.83	239.	101.	34.	2.12
+	HYDROGRAPH AT	D39CB	960.	12.33	306.	76.	25.	2.12
+	DIVERSION TO	DP43CB	155.	12.00	100.	25.	8.	2.12
+	HYDROGRAPH AT	D43CB	805.	12.33	206.	51.	17.	2.12
+	DIVERSION TO	DSGR35	459.	12.33	117.	29.	10.	2.12
+	HYDROGRAPH AT	DWGR43	346.	12.33	88.	22.	7.	2.12
+	DIVERSION TO	DCB51	87.	12.33	22.	6.	2.	2.12
+	HYDROGRAPH AT	DGR43	260.	12.33	66.	17.	6.	2.12
+	HYDROGRAPH AT	DRGR43	406.	13.58	176.	50.	17.	3.42
+	ROUTED TO	RSGR43	396.	14.17	175.	50.	17.	3.42
+	HYDROGRAPH AT	GR43	463.	12.33	93.	30.	10.	.51
+	DIVERSION TO	XGR43	15.	9.25	10.	3.	1.	.51
+	HYDROGRAPH AT	ERGR43	463.	12.33	93.	27.	9.	.51
+	3 COMBINED AT	CGR43	731.	12.33	327.	93.	32.	2.28
+	ROUTED TO	SRGR43	106.	16.50	55.	20.	7.	2.28
+	DIVERSION TO	DEGR35	37.	16.50	19.	7.	2.	2.28
+	HYDROGRAPH AT	DGR35	69.	16.50	36.	13.	5.	2.28
+	DIVERSION TO	DSIS43	45.	16.50	23.	9.	3.	2.28
+	HYDROGRAPH AT	DWCB51	24.	16.50	13.	5.	2.	2.28
+	HYDROGRAPH AT	DICB51	87.	12.33	22.	6.	2.	2.12
+	2 COMBINED AT	CICBGR	87.	12.33	31.	10.	4.	.74
+	ROUTED TO	RWCB51	69.	13.00	29.	10.	4.	.74
+	HYDROGRAPH AT	CB51	681.	12.17	108.	37.	12.	.48
+	2 COMBINED AT	CCB51	678.	12.17	128.	46.	16.	1.23
+	DIVERSION TO	DSIS51	346.	12.17	65.	23.	8.	1.23
+	HYDROGRAPH AT	DWCB59	332.	12.17	63.	22.	8.	1.23
+	ROUTED TO	RWCB59	261.	12.50	63.	22.	8.	1.23
+	HYDROGRAPH AT	DRCB59	223.	12.25	133.	42.	14.	3.58
+	ROUTED TO	RSCB59	206.	14.67	131.	42.	14.	3.58
+	HYDROGRAPH AT	CB59	733.	12.42	213.	72.	24.	1.01
+	DIVERSION TO	XCB59	38.	9.08	26.	8.	3.	1.01

+	HYDROGRAPH AT	ERCB59	733.	12.42	213.	64.	21.	1.01
+	3 COMBINED AT	CCB59	1132.	12.50	395.	127.	43.	3.11
+	DIVERSION TO	DPCB59	351.	12.08	272.	97.	33.	3.11
+	HYDROGRAPH AT	DCB59	781.	12.50	123.	31.	10.	3.11
+	DIVERSION TO	DSIS59	414.	12.50	65.	16.	5.	3.11
+	HYDROGRAPH AT	DWCB67	367.	12.50	58.	15.	5.	3.11
+	ROUTED TO	RWCB67	313.	12.92	58.	15.	5.	3.11
+	HYDROGRAPH AT	DRCB67	349.	12.83	170.	58.	20.	5.24
+	ROUTED TO	RSCB67	334.	13.17	168.	58.	20.	5.24
+	HYDROGRAPH AT	CB67	520.	12.67	178.	54.	18.	.97
+	DIVERSION TO	XCB67	11.	5.42	6.	2.	1.	.97
+	HYDROGRAPH AT	ERCB67	520.	12.67	178.	52.	17.	.97
+	3 COMBINED AT	CCB67	1102.	13.00	397.	124.	42.	4.73
+	HYDROGRAPH AT	PRCB59	351.	12.08	272.	97.	33.	3.11
+	ROUTED TO	RPCB67	351.	12.17	272.	97.	33.	3.11
+	2 COMBINED AT	CPCB67	1453.	13.00	668.	220.	75.	4.73
+	DIVERSION TO	DPCB67	504.	12.08	429.	161.	55.	4.73
+	HYDROGRAPH AT	DCB67	949.	13.00	239.	60.	20.	4.73
+	DIVERSION TO	DSGC67	408.	13.00	103.	26.	9.	4.73
+	HYDROGRAPH AT	DWCB75	541.	13.00	136.	34.	11.	4.73
+	ROUTED TO	RWCB75	512.	13.33	136.	34.	11.	4.73
+	HYDROGRAPH AT	DRCB75	154.	13.58	19.	5.	2.	8.42
+	ROUTED TO	RSCB75	78.	14.58	19.	5.	2.	8.42
+	HYDROGRAPH AT	CB75	494.	12.75	174.	52.	18.	1.00
+	DIVERSION TO	XCB75	402.	12.42	43.	13.	4.	1.00
+	HYDROGRAPH AT	ERCB75	494.	12.75	148.	40.	13.	1.00
+	3 COMBINED AT	CCB75	916.	13.25	300.	78.	26.	8.14
+	HYDROGRAPH AT	PRCB67	504.	12.08	429.	161.	55.	4.73
+	ROUTED TO	RPCB75	504.	12.25	429.	161.	55.	4.73
+	2 COMBINED AT	CPCB75	1420.	13.25	726.	238.	81.	8.14
+	DIVERSION TO	DSGC75	625.	13.25	319.	105.	35.	8.14

+	HYDROGRAPH AT	DWGC83	795.	13.25	406.	133.	45.	8.14
+	HYDROGRAPH AT	DRIS27	475.	13.00	155.	39.	13.	1.50
+	ROUTED TO	RSIS27	467.	13.25	155.	39.	13.	1.50
+	HYDROGRAPH AT	IS27	147.	12.50	49.	16.	5.	.24
+	2 COMBINED AT	CIS27	572.	13.17	203.	55.	18.	1.74
+	HYDROGRAPH AT	PR29CB	132.	11.58	128.	65.	22.	2.94
+	ROUTED TO	RP27IS	132.	11.75	128.	65.	22.	2.94
+	2 COMBINED AT	CPIS27	704.	13.17	332.	119.	40.	1.74
+	DIVERSION TO	DP27IS	151.	11.75	147.	73.	25.	1.74
+	HYDROGRAPH AT	D27IS	553.	13.17	185.	46.	15.	1.74
+	DIVERSION TO	DSGC27	553.	13.17	185.	46.	15.	1.74
+	HYDROGRAPH AT	DWIS35	0.	.00	0.	0.	0.	1.74
+	ROUTED TO	RWIS35	0.	.00	0.	0.	0.	1.74
+	HYDROGRAPH AT	DRIS35	1226.	12.58	317.	79.	26.	2.94
+	ROUTED TO	RSIS35	1148.	12.92	317.	79.	26.	2.94
+	HYDROGRAPH AT	IS35	1008.	12.33	175.	52.	17.	.99
+	3 COMBINED AT	CIS35	1629.	12.83	488.	130.	43.	3.93
+	HYDROGRAPH AT	PR35CB	253.	11.92	200.	71.	24.	2.94
+	ROUTED TO	RP35IS	253.	12.00	200.	71.	24.	2.94
+	2 COMBINED AT	CPIS35	1882.	12.83	688.	201.	67.	3.93
+	DIVERSION TO	DP31IS	268.	11.83	230.	86.	29.	3.93
+	HYDROGRAPH AT	D31IS	1614.	12.83	458.	115.	38.	3.93
+	DIVERSION TO	DP35IS	40.	11.83	27.	7.	2.	3.93
+	HYDROGRAPH AT	D35IS	1574.	12.83	431.	108.	36.	3.93
+	DIVERSION TO	DSGC35	1574.	12.83	431.	108.	36.	3.93
+	HYDROGRAPH AT	DWGR35	0.	.00	0.	0.	0.	3.93
+	HYDROGRAPH AT	DIGR35	37.	16.50	19.	7.	2.	2.28
+	HYDROGRAPH AT	DRGR35	459.	12.33	117.	29.	10.	2.12
+	DIVERSION TO	DS43IS	165.	12.33	42.	11.	4.	2.12
+	HYDROGRAPH AT	D35GR	294.	12.33	75.	19.	6.	2.12
+	2 COMBINED AT	CIGR43	294.	12.33	87.	26.	9.	1.58

+	ROUTED TO	RSGR35	236.	12.92	84.	26.	9.	1.58
+	HYDROGRAPH AT	GR35	459.	12.33	95.	31.	10.	.53
+	3 COMBINED AT	CGR35	478.	12.83	170.	55.	19.	2.11
+	HYDROGRAPH AT	PR39CB	268.	11.83	239.	101.	34.	2.12
+	ROUTED TO	RP39GR	268.	11.92	239.	101.	34.	2.12
+	2 COMBINED AT	CPGR35	746.	12.83	409.	156.	53.	2.11
+	DIVERSION TO	D39GR	495.	12.83	171.	43.	14.	2.11
+	HYDROGRAPH AT	DP39GR	251.	11.75	238.	113.	39.	2.11
+	ROUTED TO	RP39IS	251.	11.83	238.	113.	39.	2.11
+	HYDROGRAPH AT	DRIS43	45.	16.50	23.	9.	3.	2.28
+	HYDROGRAPH AT	DI43IS	165.	12.33	42.	11.	4.	2.12
+	2 COMBINED AT	CICB43	166.	12.33	57.	19.	7.	1.40
+	ROUTED TO	RSIS43	143.	12.67	55.	19.	7.	1.40
+	HYDROGRAPH AT	IS43	658.	12.17	104.	36.	12.	.47
+	2 COMBINED AT	CIS43	656.	12.17	148.	53.	18.	1.87
+	HYDROGRAPH AT	PR43CB	155.	12.00	100.	25.	8.	2.12
+	ROUTED TO	RP43IS	155.	12.17	100.	25.	8.	2.12
+	3 COMBINED AT	CPIS43	1059.	12.17	485.	190.	65.	3.98
+	DIVERSION TO	DP43IS	406.	11.83	364.	160.	55.	3.98
+	HYDROGRAPH AT	D43IS	653.	12.17	121.	30.	10.	3.98
+	DIVERSION TO	DSGC43	542.	12.17	100.	25.	8.	3.98
+	HYDROGRAPH AT	DWIS51	111.	12.17	21.	5.	2.	3.98
+	ROUTED TO	RWIS51	54.	13.58	20.	5.	2.	3.98
+	HYDROGRAPH AT	DRIS51	346.	12.17	65.	23.	8.	1.23
+	ROUTED TO	RSIS51	281.	12.42	65.	23.	8.	1.23
+	HYDROGRAPH AT	IS51	607.	12.50	190.	63.	21.	.99
+	DIVERSION TO	XIS51	607.	12.50	85.	25.	8.	.99
+	HYDROGRAPH AT	ERIS51	571.	12.75	132.	38.	13.	.99
+	3 COMBINED AT	CIS51	751.	12.75	212.	66.	22.	1.94
+	DIVERSION TO	DP51IS	244.	12.33	150.	50.	17.	1.94
+	HYDROGRAPH AT	D51IS	507.	12.75	63.	16.	5.	1.94

+	DIVERSION TO	DSGC51	314.	12.75	39.	10.	3.	1.94
+	HYDROGRAPH AT	DWIS59	193.	12.75	24.	6.	2.	1.94
+	ROUTED TO	RWIS59	130.	13.58	24.	6.	2.	1.94
+	HYDROGRAPH AT	DRIS59	414.	12.50	65.	16.	5.	3.11
+	ROUTED TO	RSIS59	366.	12.92	65.	16.	5.	3.11
+	HYDROGRAPH AT	IS59	491.	12.67	171.	54.	18.	1.01
+	3 COMBINED AT	CIS59	831.	12.83	258.	76.	25.	3.38
+	DIVERSION TO	DP59IS	353.	12.33	183.	57.	19.	3.38
+	HYDROGRAPH AT	D59IS	478.	12.83	75.	19.	6.	3.38
+	DIVERSION TO	DSGC59	287.	12.83	45.	11.	4.	3.38
+	HYDROGRAPH AT	DWGC67	191.	12.83	30.	7.	2.	3.38
+	ROUTED TO	RWGC67	163.	13.25	30.	7.	2.	3.38
+	HYDROGRAPH AT	DRGC67	408.	13.00	103.	26.	9.	4.73
+	ROUTED TO	RSGC67	382.	13.42	103.	26.	9.	4.73
+	HYDROGRAPH AT	GC67	548.	12.58	158.	46.	15.	.94
+	3 COMBINED AT	CGC67	887.	13.25	288.	79.	26.	4.34
+	DIVERSION TO	DP67IS	175.	12.08	122.	38.	13.	4.34
+	HYDROGRAPH AT	D67IS	712.	13.25	166.	41.	14.	4.34
+	DIVERSION TO	DSISGC	363.	13.25	85.	21.	7.	4.34
+	HYDROGRAPH AT	DWGC75	349.	13.25	81.	20.	7.	4.34
+	HYDROGRAPH AT	DRGR39	495.	12.83	171.	43.	14.	2.11
+	DIVERSION TO	DEGCGR	238.	12.83	82.	20.	7.	2.11
+	HYDROGRAPH AT	DGC35	257.	12.83	89.	22.	7.	2.11
+	HYDROGRAPH AT	DRGC35	1574.	12.83	431.	108.	36.	3.93
+	DIVERSION TO	DSGCGR	393.	12.83	108.	27.	9.	3.93
+	HYDROGRAPH AT	DS35GC	1180.	12.83	323.	81.	27.	3.93
+	2 COMBINED AT	CIIS35	1443.	12.83	414.	103.	34.	2.06
+	ROUTED TO	RSGC35	1419.	12.83	414.	103.	34.	2.06
+	HYDROGRAPH AT	GC35	115.	12.08	17.	6.	2.	.08
+	2 COMBINED AT	CGC35	1437.	12.83	430.	109.	36.	2.14
+	HYDROGRAPH AT	PR35IS	40.	11.83	27.	7.	2.	3.93

+	ROUTED TO	RP35GC	40.	11.92	27.	7.	2.	3.93
+	2 COMBINED AT	CPGC35	1477.	12.83	457.	116.	39.	2.14
+	DIVERSION TO	DP35GC	40.	11.83	33.	10.	3.	2.14
+	HYDROGRAPH AT	D35GC	1437.	12.83	424.	106.	35.	2.14
+	DIVERSION TO	DSTM35	1222.	12.83	360.	90.	30.	2.14
+	HYDROGRAPH AT	DWGC43	216.	12.83	64.	16.	5.	2.14
+	ROUTED TO	RWGC43	199.	13.25	63.	16.	5.	2.14
+	HYDROGRAPH AT	DRGC43	542.	12.17	100.	25.	8.	3.98
+	ROUTED TO	RSGC43	471.	12.25	100.	25.	8.	3.98
+	HYDROGRAPH AT	GC43	276.	12.42	83.	28.	10.	.37
+	3 COMBINED AT	CGC43	736.	12.33	245.	69.	23.	2.23
+	HYDROGRAPH AT	PR43IS	406.	11.83	364.	160.	55.	3.98
+	ROUTED TO	RP43GC	406.	11.92	364.	160.	55.	3.98
+	2 COMBINED AT	CPGC43	1142.	12.33	609.	230.	78.	2.23
+	DIVERSION TO	DP43GC	406.	11.75	377.	172.	59.	2.23
+	HYDROGRAPH AT	D43GC	736.	12.33	233.	58.	19.	2.23
+	ROUTED TO	SRGC43	737.	12.33	233.	58.	19.	2.23
+	DIVERSION TO	DSTM43	537.	12.33	111.	28.	9.	2.23
+	HYDROGRAPH AT	DWGC51	200.	12.00	122.	30.	10.	2.23
+	ROUTED TO	RWGC51	200.	13.42	121.	30.	10.	2.23
+	HYDROGRAPH AT	DRGC51	314.	12.75	39.	10.	3.	1.94
+	ROUTED TO	RSGC51	277.	12.92	39.	10.	3.	1.94
+	HYDROGRAPH AT	GC51	173.	12.75	69.	22.	7.	.45
+	3 COMBINED AT	CGC51	643.	12.92	228.	62.	21.	2.04
+	HYDROGRAPH AT	PR51IS	244.	12.33	150.	50.	17.	1.94
+	ROUTED TO	RP51ML	244.	12.42	150.	50.	17.	1.94
+	2 COMBINED AT	CPML51	887.	12.92	377.	112.	38.	2.04
+	DIVERSION TO	DPML51	136.	12.17	125.	49.	17.	2.04
+	HYDROGRAPH AT	DML51	751.	12.92	252.	63.	21.	2.04
+	DIVERSION TO	DP51GC	113.	12.25	79.	20.	7.	2.04
+	HYDROGRAPH AT	D51GC	638.	12.92	173.	43.	14.	2.04

+	ROUTED TO	SRGC51	373.	13.92	167.	43.	14.	2.04
+	DIVERSION TO	DSTM51	73.	13.92	11.	3.	1.	2.04
+	HYDROGRAPH AT	DWGC53	300.	13.83	155.	40.	13.	2.04
+	ROUTED TO	RWGC53	301.	13.50	155.	40.	13.	2.04
+	HYDROGRAPH AT	DRGC59	287.	12.83	45.	11.	4.	3.38
+	ROUTED TO	RSGC59	266.	13.08	45.	11.	4.	3.38
+	HYDROGRAPH AT	GC59	259.	12.42	71.	22.	7.	.41
+	2 COMBINED AT	CGC55	443.	13.00	116.	33.	11.	2.42
+	DIVERSION TO	DWGC59	138.	13.00	19.	5.	2.	2.42
+	HYDROGRAPH AT	DEGC53	305.	13.00	96.	28.	10.	2.42
+	HYDROGRAPH AT	PRML51	136.	12.17	125.	49.	17.	2.04
+	ROUTED TO	RPML53	136.	12.25	125.	49.	17.	2.04
+	3 COMBINED AT	CGC53	675.	13.42	371.	118.	40.	2.27
+	ROUTED TO	SRGC53	506.	14.42	242.	111.	40.	2.27
+	DIVERSION TO	DPGC53	20.	9.67	20.	20.	9.	2.27
+	HYDROGRAPH AT	DGC53	486.	14.42	222.	91.	31.	2.27
+	HYDROGRAPH AT	PR59IS	353.	12.33	183.	57.	19.	3.38
+	ROUTED TO	RP59GC	353.	12.42	183.	57.	19.	3.38
+	HYDROGRAPH AT	DRGC59	138.	13.00	19.	5.	2.	2.42
+	2 COMBINED AT	CPGC59	493.	13.00	204.	62.	21.	1.24
+	DIVERSION TO	DP59GC	258.	12.25	153.	50.	17.	1.24
+	HYDROGRAPH AT	D59GC	235.	13.00	51.	13.	4.	1.24
+	2 COMBINED AT	CGC59	512.	14.25	266.	104.	35.	3.50
+	DIVERSION TO	DSTM59	460.	14.25	216.	61.	20.	3.50
+	HYDROGRAPH AT	DWISGC	53.	14.17	50.	42.	14.	3.50
+	ROUTED TO	RWISGC	51.	14.50	50.	42.	14.	3.50
+	HYDROGRAPH AT	DRISGC	363.	13.25	85.	21.	7.	4.34
+	ROUTED TO	RSISGC	356.	13.33	85.	21.	7.	4.34
+	HYDROGRAPH AT	ISGC	58.	12.92	27.	8.	3.	.16
+	3 COMBINED AT	CISGC	459.	13.33	158.	71.	24.	3.33
+	HYDROGRAPH AT	PR59GC	258.	12.25	153.	50.	17.	1.24

+	2 COMBINED AT	CPISGC	717.	13.33	306.	116.	41.	3.33
+	DIVERSION TO	DPGC63	258.	12.25	187.	86.	31.	3.33
+	HYDROGRAPH AT	DGC63	459.	13.33	119.	30.	10.	3.33
+	ROUTED TO	SRISGC	249.	14.08	96.	30.	10.	3.33
+	DIVERSION TO	DSTM67	0.	.00	0.	0.	0.	3.33
+	HYDROGRAPH AT	DPGC67	249.	14.08	96.	30.	10.	3.33
+	HYDROGRAPH AT	DRGC75	625.	13.25	319.	105.	35.	8.14
+	HYDROGRAPH AT	GC75	159.	12.92	73.	22.	8.	.41
+	4 COMBINED AT	CGC75	1194.	13.25	559.	175.	59.	9.44
+	ROUTED TO	SRGC75	945.	14.08	558.	175.	59.	9.44
+	2 COMBINED AT	CICB75	1594.	13.50	934.	300.	101.	14.03
+	ROUTED TO	RWGC83	1571.	13.83	933.	299.	101.	14.03
+	HYDROGRAPH AT	DRGC83	325.	14.17	206.	74.	26.	9.47
+	HYDROGRAPH AT	GC83	155.	12.92	74.	23.	8.	.43
+	DIVERSION TO	XGC83	155.	12.92	59.	16.	5.	.43
+	HYDROGRAPH AT	ERGC83	67.	15.00	24.	7.	2.	.43
+	3 COMBINED AT	CGC83	1846.	13.83	1113.	366.	126.	17.67
+	2 COMBINED AT	CIBH83	2375.	13.75	1419.	481.	167.	23.92
+	ROUTED TO	RWBH91	2351.	14.08	1416.	481.	167.	23.92
+	HYDROGRAPH AT	DRBH91	547.	14.17	270.	67.	22.	9.02
+	ROUTED TO	RSBH91	514.	14.58	269.	67.	22.	9.02
+	HYDROGRAPH AT	BH91	508.	12.75	178.	52.	17.	1.03
+	DIVERSION TO	XBH91	271.	12.25	28.	9.	3.	1.03
+	HYDROGRAPH AT	ERBH91	508.	12.75	164.	44.	15.	1.03
+	3 COMBINED AT	CBH91	2659.	14.50	1711.	559.	193.	30.54
+	ROUTED TO	RWBHLO	2641.	14.67	1704.	559.	193.	30.54
+	HYDROGRAPH AT	BHLO	746.	12.33	183.	62.	21.	.79
+	DIVERSION TO	XBHLO	581.	12.17	67.	21.	7.	.79
+	HYDROGRAPH AT	ERBHLO	746.	12.33	145.	41.	14.	.79
+	3 COMBINED AT	CBHLO	3329.	14.75	2275.	867.	308.	46.47
+	ROUTED TO	RWBH99	3330.	14.75	2275.	867.	308.	46.47

+	HYDROGRAPH AT	BH99	95.	12.67	41.	14.	5.	.18
+	2 COMBINED AT	CBH99	3359.	14.75	2304.	877.	313.	46.65
+	ROUTED TO	RWBHRI	3349.	14.83	2303.	877.	313.	46.65
+	HYDROGRAPH AT	GLNR	235.	12.75	104.	36.	12.	.48
+	DIVERSION TO	XGLNR	235.	12.75	54.	16.	5.	.48
+	HYDROGRAPH AT	ERGLNR	211.	13.25	69.	20.	7.	.48
+	DIVERSION TO	DWNR04	211.	13.25	69.	20.	7.	.48
+	HYDROGRAPH AT	DSBHRI	0.	.00	0.	0.	0.	.48
+	ROUTED TO	RSBHRI	0.	.00	0.	0.	0.	.48
+	HYDROGRAPH AT	BHRI	307.	12.58	113.	38.	13.	.51
+	DIVERSION TO	XBHRI	307.	12.58	81.	23.	8.	.51
+	HYDROGRAPH AT	ERBHRI	183.	13.58	51.	16.	5.	.51
+	DIVERSION TO	DWBHAF	144.	13.58	40.	12.	4.	.51
+	HYDROGRAPH AT	DBHNR	38.	13.58	11.	3.	1.	.51
+	3 COMBINED AT	CBHRI	3357.	14.83	2307.	879.	313.	47.17
+	ROUTED TO	RWBHNR	3348.	14.83	2304.	879.	313.	47.17
+	HYDROGRAPH AT	BHNR	187.	12.42	55.	19.	6.	.26
+	DIVERSION TO	XBHNR	187.	12.42	38.	11.	4.	.26
+	HYDROGRAPH AT	ERBHNR	115.	13.17	26.	8.	3.	.26
+	2 COMBINED AT	CBHNR	3366.	14.83	2322.	884.	315.	47.42
+	HYDROGRAPH AT	CB99	120.	12.58	46.	16.	5.	.20
+	DIVERSION TO	XCB99	120.	12.58	26.	8.	3.	.20
+	HYDROGRAPH AT	ERCB99	98.	13.08	28.	8.	3.	.20
+	DIVERSION TO	DSIS99	48.	13.08	14.	4.	1.	.20
+	HYDROGRAPH AT	DWCBRI	50.	13.08	14.	4.	1.	.20
+	ROUTED TO	RWCBRI	41.	13.75	14.	4.	1.	.20
+	HYDROGRAPH AT	CBRI	305.	12.83	123.	38.	13.	.70
+	DIVERSION TO	XCBRI	305.	12.83	117.	32.	11.	.70
+	HYDROGRAPH AT	ERCBRI	47.	16.08	18.	6.	2.	.70
+	2 COMBINED AT	CCBRI	59.	16.08	29.	10.	3.	.80
+	DIVERSION TO	DSIS07	41.	16.08	20.	7.	2.	.80

+	HYDROGRAPH AT	DWCB07	18.	16.08	9.	3.	1.	.80
+	HYDROGRAPH AT	CB07	108.	12.67	35.	9.	3.	.32
+	2 COMBINED AT	CCB07	108.	12.67	43.	12.	4.	.56
+	DIVERSION TO	DIS07	74.	12.67	30.	9.	3.	.56
+	HYDROGRAPH AT	DWCBNR	33.	12.67	13.	4.	1.	.56
+	ROUTED TO	RWCBNR	32.	13.33	13.	4.	1.	.56
+	HYDROGRAPH AT	CBNR	160.	12.58	50.	13.	4.	.47
+	DIVERSION TO	XCBNR	120.	12.33	7.	2.	1.	.47
+	HYDROGRAPH AT	ERCBNR	160.	12.58	45.	11.	4.	.47
+	2 COMBINED AT	CCBNR	161.	12.58	58.	15.	5.	.64
+	HYDROGRAPH AT	DRIS99	48.	13.08	14.	4.	1.	.20
+	ROUTED TO	RSIS99	36.	14.00	13.	4.	1.	.20
+	HYDROGRAPH AT	IS99	307.	12.25	77.	26.	9.	.32
+	2 COMBINED AT	CIS99	306.	12.25	86.	30.	10.	.42
+	DIVERSION TO	DSTM99	80.	12.25	22.	8.	3.	.42
+	HYDROGRAPH AT	DWIS07	227.	12.25	64.	22.	7.	.42
+	ROUTED TO	RWIS07	207.	12.67	64.	22.	7.	.42
+	HYDROGRAPH AT	DI07IS	74.	12.67	30.	9.	3.	.56
+	HYDROGRAPH AT	DRIS07	41.	16.08	20.	7.	2.	.80
+	2 COMBINED AT	CICB07	80.	13.67	46.	15.	5.	.94
+	ROUTED TO	RSIS07	72.	14.17	45.	15.	5.	.94
+	HYDROGRAPH AT	IS07	537.	12.67	183.	54.	18.	1.02
+	DIVERSION TO	XIS07	231.	12.17	28.	9.	3.	1.02
+	HYDROGRAPH AT	ERIS07	537.	12.67	171.	46.	15.	1.02
+	3 COMBINED AT	CIS07	749.	12.75	275.	82.	28.	2.28
+	DIVERSION TO	DSRI07	187.	12.75	69.	21.	7.	2.28
+	HYDROGRAPH AT	DWISAF	562.	12.75	206.	62.	21.	2.28
+	ROUTED TO	RWISAF	541.	13.33	200.	62.	21.	2.28
+	HYDROGRAPH AT	ISAF	423.	12.75	168.	54.	18.	.99
+	2 COMBINED AT	CISAF	906.	13.25	358.	115.	39.	2.69
+	HYDROGRAPH AT	DRTM99	80.	12.25	22.	8.	3.	.42

+	ROUTED TO	RSTM99	69.	12.92	22.	8.	3.	.42
+	HYDROGRAPH AT	TM99	427.	12.33	119.	40.	13.	.50
+	2 COMBINED AT	CTM99	434.	12.33	139.	48.	16.	.62
+	DIVERSION TO	DSMD99	200.	12.33	64.	22.	7.	.62
+	HYDROGRAPH AT	DWRI07	235.	12.33	75.	26.	9.	.62
+	ROUTED TO	RWRI07	226.	12.92	75.	26.	9.	.62
+	HYDROGRAPH AT	DRRI07	187.	12.75	69.	21.	7.	2.28
+	ROUTED TO	RSRI07	183.	13.08	68.	21.	7.	2.28
+	HYDROGRAPH AT	RI07	503.	12.58	164.	52.	18.	.76
+	DIVERSION TO	XRI07	503.	12.58	119.	33.	11.	.76
+	HYDROGRAPH AT	ERRI07	283.	13.50	66.	19.	6.	.76
+	3 COMBINED AT	CRI07	604.	13.50	202.	65.	22.	1.67
+	DIVERSION TO	DTM07	296.	13.50	99.	32.	11.	1.67
+	HYDROGRAPH AT	DRIAF	308.	13.50	103.	33.	11.	1.67
+	DIVERSION TO	DSTM07	191.	13.50	64.	21.	7.	1.67
+	HYDROGRAPH AT	DWRIAF	117.	13.50	39.	13.	4.	1.67
+	ROUTED TO	RWRIAF	87.	14.75	37.	13.	4.	1.67
+	HYDROGRAPH AT	RIAF	273.	12.83	115.	36.	12.	.66
+	2 COMBINED AT	CRIAF	275.	12.83	147.	48.	16.	.98
+	HYDROGRAPH AT	DRBHAF	144.	13.58	40.	12.	4.	.51
+	ROUTED TO	SRBHRI	0.	26.00	0.	0.	0.	.51
+	5 COMBINED AT	CAF01	5079.	14.58	3369.	1213.	434.	4.31
+	HYDROGRAPH AT	CB83	446.	12.42	93.	26.	9.	.55
+	DIVERSION TO	XCB83	438.	12.33	33.	9.	3.	.55
+	HYDROGRAPH AT	ERCB83	431.	12.50	65.	17.	6.	.55
+	DIVERSION TO	DP83CB	10.	12.42	8.	3.	1.	.55
+	HYDROGRAPH AT	D83CB	421.	12.50	57.	14.	5.	.55
+	DIVERSION TO	DSIS83	185.	12.50	25.	6.	2.	.55
+	HYDROGRAPH AT	DWCB91	236.	12.50	32.	8.	3.	.55
+	ROUTED TO	RWCB91	182.	13.08	32.	8.	3.	.55
+	HYDROGRAPH AT	CB91	506.	12.67	175.	51.	17.	.96

+	DIVERSION TO	XCB91	506.	12.67	125.	33.	11.	.96
+	HYDROGRAPH AT	ERCB91	288.	13.75	63.	18.	6.	.96
+	2 COMBINED AT	CCB91	364.	13.75	93.	25.	8.	1.32
+	DIVERSION TO	DSIS91	171.	13.75	44.	12.	4.	1.32
+	HYDROGRAPH AT	DWCBLO	193.	13.75	49.	14.	5.	1.32
+	ROUTED TO	RWCBLO	156.	14.25	49.	14.	5.	1.32
+	HYDROGRAPH AT	CBLO	542.	12.50	170.	54.	18.	.82
+	DIVERSION TO	XCBLO	542.	12.50	99.	28.	9.	.82
+	HYDROGRAPH AT	ERCBLO	418.	13.08	91.	26.	9.	.82
+	2 COMBINED AT	CCBLO	418.	13.08	139.	39.	13.	1.52
+	ROUTED TO	RSISLO	378.	13.42	137.	39.	13.	1.52
+	HYDROGRAPH AT	IS75	440.	12.50	117.	36.	12.	.62
+	DIVERSION TO	XIS75	6.	2.50	2.	0.	0.	.62
+	HYDROGRAPH AT	ERIS75	440.	12.50	117.	36.	12.	.62
+	DIVERSION TO	DP75IS	123.	12.00	66.	23.	8.	.62
+	HYDROGRAPH AT	D75IS	317.	12.50	52.	13.	4.	.62
+	DIVERSION TO	DSTM75	111.	12.50	18.	5.	2.	.62
+	HYDROGRAPH AT	DWIS83	206.	12.50	34.	8.	3.	.62
+	ROUTED TO	RWIS83	184.	13.00	34.	8.	3.	.62
+	HYDROGRAPH AT	DRIS83	185.	12.50	25.	6.	2.	.55
+	ROUTED TO	RSIS83	136.	13.25	25.	6.	2.	.55
+	HYDROGRAPH AT	IS83	509.	12.67	169.	51.	17.	.99
+	3 COMBINED AT	CIS83	726.	13.17	227.	65.	22.	1.64
+	HYDROGRAPH AT	PR83CB	10.	12.42	8.	3.	1.	.55
+	ROUTED TO	RP83IS	10.	12.83	8.	3.	1.	.55
+	2 COMBINED AT	CPIS83	736.	13.17	233.	68.	23.	1.64
+	DIVERSION TO	DP83IS	187.	12.17	119.	40.	13.	1.64
+	HYDROGRAPH AT	D83IS	549.	13.17	114.	28.	9.	1.64
+	DIVERSION TO	DSTM83	302.	13.17	63.	16.	5.	1.64
+	HYDROGRAPH AT	DWIS91	247.	13.17	51.	13.	4.	1.64
+	ROUTED TO	RWIS91	226.	13.42	51.	13.	4.	1.64

+	HYDROGRAPH AT	DRIS91	171.	13.75	44.	12.	4.	1.32
+	ROUTED TO	RSIS91	132.	14.50	43.	12.	4.	1.32
+	HYDROGRAPH AT	IS91	554.	12.67	199.	60.	20.	1.00
+	DIVERSION TO	XIS91	363.	12.33	41.	12.	4.	1.00
+	HYDROGRAPH AT	ERIS91	554.	12.67	176.	47.	16.	1.00
+	3 COMBINED AT	CIS91	667.	13.25	267.	72.	24.	2.36
+	DIVERSION TO	DP91IS	190.	12.42	131.	38.	13.	2.36
+	HYDROGRAPH AT	D91IS	477.	13.25	136.	34.	11.	2.36
+	DIVERSION TO	DSTM91	272.	13.25	78.	19.	6.	2.36
+	HYDROGRAPH AT	DWISLO	205.	13.25	59.	15.	5.	2.36
+	ROUTED TO	RWISLO	200.	13.33	59.	15.	5.	2.36
+	HYDROGRAPH AT	ISLO	521.	12.42	149.	47.	16.	.68
+	DIVERSION TO	XISLO	521.	12.42	105.	29.	10.	.68
+	HYDROGRAPH AT	ERISLO	288.	13.25	61.	18.	6.	.68
+	3 COMBINED AT	CISLO	817.	13.33	249.	71.	24.	3.22
+	ROUTED TO	RSTMLO	783.	13.58	248.	71.	24.	3.22
+	HYDROGRAPH AT	DRGCGR	238.	12.83	82.	20.	7.	2.11
+	HYDROGRAPH AT	DIGCGR	393.	12.83	108.	27.	9.	3.93
+	2 COMBINED AT	CIGR35	630.	12.83	189.	47.	16.	3.97
+	ROUTED TO	RSGCGR	603.	13.00	189.	47.	16.	3.97
+	HYDROGRAPH AT	DRGC27	553.	13.17	185.	46.	15.	1.74
+	ROUTED TO	RSGC27	551.	13.25	185.	46.	15.	1.74
+	HYDROGRAPH AT	GCGR	754.	12.00	83.	28.	9.	.38
+	3 COMBINED AT	CGCGR	1165.	13.00	449.	121.	40.	6.09
+	HYDROGRAPH AT	PR31IS	268.	11.83	230.	86.	29.	3.93
+	ROUTED TO	RP31GC	268.	11.92	230.	86.	29.	3.93
+	HYDROGRAPH AT	PR27IS	151.	11.75	147.	73.	25.	1.74
+	ROUTED TO	RP27GC	151.	11.83	147.	73.	25.	1.74
+	3 COMBINED AT	CPGCGR	1584.	13.00	825.	279.	94.	6.09
+	DIVERSION TO	DPGCGR	422.	11.67	395.	172.	58.	6.09
+	HYDROGRAPH AT	DGCGR	1162.	13.00	430.	108.	36.	6.09

+	ROUTED TO	SRGCGR	785.	13.83	412.	108.	36.	6.09
+	ROUTED TO	RSGR27	780.	14.08	411.	108.	36.	6.09
+	HYDROGRAPH AT	GR27	482.	12.25	90.	29.	10.	.41
+	2 COMBINED AT	CTM27	810.	14.00	482.	137.	46.	6.50
+	DIVERSION TO	DGR27	405.	14.00	241.	68.	23.	6.50
+	HYDROGRAPH AT	DTM27	405.	14.00	241.	68.	23.	6.50
+	ROUTED TO	SRTM27	405.	14.08	209.	68.	23.	6.50
+	HYDROGRAPH AT	PRGCGR	422.	11.67	395.	172.	58.	6.09
+	DIVERSION TO	DP31GR	257.	11.17	256.	137.	46.	6.09
+	HYDROGRAPH AT	D31GR	165.	11.67	138.	35.	12.	6.09
+	ROUTED TO	RP27TM	165.	11.75	138.	35.	12.	6.09
+	2 COMBINED AT	CPGR27	560.	14.08	329.	101.	34.	12.59
+	DIVERSION TO	DP27GR	195.	11.75	182.	64.	22.	12.59
+	HYDROGRAPH AT	D27GR	365.	14.08	147.	37.	12.	12.59
+	HYDROGRAPH AT	DRGR27	405.	14.00	241.	68.	23.	6.50
+	2 COMBINED AT	CGR27	779.	14.08	393.	106.	35.	6.50
+	ROUTED TO	SRGR27	779.	14.08	309.	91.	35.	6.50
+	DIVERSION TO	DSMD27	530.	14.08	210.	62.	24.	6.50
+	HYDROGRAPH AT	DWTM35	249.	14.08	99.	29.	11.	6.50
+	ROUTED TO	RWTM35	240.	14.67	98.	29.	11.	6.50
+	HYDROGRAPH AT	DRTM35	1222.	12.83	360.	90.	30.	2.14
+	ROUTED TO	RSTM35	1198.	12.92	360.	90.	30.	2.14
+	HYDROGRAPH AT	TM35	483.	12.25	91.	31.	10.	.39
+	3 COMBINED AT	CTM35	1336.	12.92	532.	146.	51.	4.31
+	HYDROGRAPH AT	PR31GR	257.	11.17	256.	137.	46.	6.09
+	ROUTED TO	RP31TM	257.	11.25	256.	137.	46.	6.09
+	HYDROGRAPH AT	PR35GC	40.	11.83	33.	10.	3.	2.14
+	ROUTED TO	RP35TM	40.	12.00	33.	10.	3.	2.14
+	3 COMBINED AT	CPTM35	1633.	12.92	819.	293.	101.	4.31
+	DIVERSION TO	DP35TM	300.	11.17	300.	163.	58.	4.31
+	HYDROGRAPH AT	D35TM	1333.	12.92	519.	130.	43.	4.31

+	DIVERSION TO HYDROGRAPH AT	DSMD35	1120.	12.92	436.	109.	36.	4.31
+	ROUTED TO HYDROGRAPH AT	DWTM43	213.	12.92	83.	21.	7.	4.31
+	ROUTED TO HYDROGRAPH AT	RWTM43	193.	13.67	80.	21.	7.	4.31
+	ROUTED TO HYDROGRAPH AT	DRTM43	537.	12.33	111.	28.	9.	2.23
+	DIVERSION TO HYDROGRAPH AT	RSTM43	475.	12.50	111.	28.	9.	2.23
+	3 COMBINED AT HYDROGRAPH AT	TM43	341.	12.67	124.	37.	13.	.64
+	HYDROGRAPH AT DIVERSION TO	XTM43	7.	4.75	3.	1.	0.	.64
+	HYDROGRAPH AT 3 COMBINED AT	ERTM43	341.	12.67	124.	37.	12.	.64
+	HYDROGRAPH AT ROUTED TO	CTM43	794.	12.58	311.	85.	28.	3.16
+	2 COMBINED AT DIVERSION TO	PR43GC	406.	11.75	377.	172.	59.	2.23
+	HYDROGRAPH AT DIVERSION TO	RP43TM	406.	11.83	377.	172.	59.	2.23
+	HYDROGRAPH AT ROUTED TO	CPTM43	1200.	12.58	685.	256.	87.	3.16
+	2 COMBINED AT DIVERSION TO	DP43TM	629.	12.17	531.	218.	74.	3.16
+	HYDROGRAPH AT DIVERSION TO	D43TM	571.	12.58	154.	39.	13.	3.16
+	HYDROGRAPH AT ROUTED TO	DSMD43	451.	12.58	122.	30.	10.	3.16
+	HYDROGRAPH AT ROUTED TO	DWTM51	120.	12.58	32.	8.	3.	3.16
+	HYDROGRAPH AT ROUTED TO	RWTM51	108.	13.92	32.	8.	3.	3.16
+	HYDROGRAPH AT ROUTED TO	DRTM51	73.	13.92	11.	3.	1.	2.04
+	HYDROGRAPH AT 3 COMBINED AT	RSTM51	66.	14.17	11.	3.	1.	2.04
+	HYDROGRAPH AT HYDROGRAPH AT	TM51	243.	12.75	90.	27.	9.	.55
+	HYDROGRAPH AT ROUTED TO	CTM51	282.	14.08	133.	38.	13.	2.15
+	2 COMBINED AT ROUTED TO	PR51GC	113.	12.25	79.	20.	7.	2.04
+	2 COMBINED AT DIVERSION TO	PRGC53	20.	9.67	20.	20.	9.	2.27
+	HYDROGRAPH AT DIVERSION TO	RPGC51	20.	9.75	20.	20.	9.	2.27
+	HYDROGRAPH AT HYDROGRAPH AT	CPGC51	133.	12.25	99.	40.	16.	2.15
+	HYDROGRAPH AT ROUTED TO	RP51TM	133.	12.33	99.	40.	16.	2.15
+	2 COMBINED AT DIVERSION TO	CPTM51	410.	14.08	230.	76.	28.	4.30
+	HYDROGRAPH AT DIVERSION TO	DP51TM	244.	12.33	177.	63.	24.	4.30
+	HYDROGRAPH AT HYDROGRAPH AT	D51TM	166.	14.08	53.	13.	4.	4.30
+	DIVERSION TO HYDROGRAPH AT	DSMD51	106.	14.08	34.	8.	3.	4.30
+		DWTM59	60.	14.08	19.	5.	2.	4.30

+	ROUTED TO HYDROGRAPH AT	RWTM59	56.	14.58	19.	5.	2.	4.30
+	ROUTED TO HYDROGRAPH AT	DRTM59	460.	14.25	216.	61.	20.	3.50
+	ROUTED TO HYDROGRAPH AT	RSTM59	444.	14.42	215.	61.	20.	3.50
+	3 COMBINED AT HYDROGRAPH AT	TM59	319.	12.58	97.	29.	10.	.60
+	HYDROGRAPH AT ROUTED TO	CTM59	575.	14.33	325.	94.	32.	3.90
+	2 COMBINED AT DIVERSION TO	PRGC63	258.	12.25	187.	86.	31.	3.33
+	HYDROGRAPH AT DIVERSION TO	RP59TM	258.	12.33	187.	86.	31.	3.33
+	HYDROGRAPH AT ROUTED TO	CPTM59	833.	14.33	511.	179.	62.	3.90
+	DIVERSION TO HYDROGRAPH AT	DP59TM	389.	12.25	339.	136.	48.	3.90
+	DIVERSION TO HYDROGRAPH AT	D59TM	444.	14.33	173.	43.	14.	3.90
+	HYDROGRAPH AT ROUTED TO	DSMD59	182.	14.33	71.	18.	6.	3.90
+	ROUTED TO HYDROGRAPH AT	DWTM67	262.	14.33	102.	25.	8.	3.90
+	HYDROGRAPH AT ROUTED TO	RWTM67	238.	15.00	102.	25.	8.	3.90
+	DIVERSION TO HYDROGRAPH AT	DRTM67	0.	.00	0.	0.	0.	3.33
+	HYDROGRAPH AT 3 COMBINED AT	RSTM67	0.	.00	0.	0.	0.	3.33
+	HYDROGRAPH AT HYDROGRAPH AT	TM67	461.	12.67	152.	46.	15.	.81
+	HYDROGRAPH AT ROUTED TO	XTM67	7.	3.08	2.	1.	0.	.81
+	3 COMBINED AT HYDROGRAPH AT	ERTM67	461.	12.67	152.	45.	15.	.81
+	HYDROGRAPH AT ROUTED TO	CTM67	470.	13.33	250.	71.	24.	3.12
+	2 COMBINED AT DIVERSION TO	PR67IS	175.	12.08	122.	38.	13.	4.34
+	HYDROGRAPH AT DIVERSION TO	RP67TM	175.	12.25	122.	38.	13.	4.34
+	HYDROGRAPH AT HYDROGRAPH AT	CPTM67	645.	13.33	373.	108.	36.	3.12
+	DIVERSION TO HYDROGRAPH AT	DP67TM	273.	12.08	221.	70.	23.	3.12
+	DIVERSION TO HYDROGRAPH AT	D67TM	372.	13.33	152.	38.	13.	3.12
+	HYDROGRAPH AT ROUTED TO	DSMD67	167.	13.33	68.	17.	6.	3.12
+	HYDROGRAPH AT ROUTED TO	DWTM75	205.	13.33	83.	21.	7.	3.12
+	HYDROGRAPH AT ROUTED TO	RWTM75	199.	13.67	83.	21.	7.	3.12
+	HYDROGRAPH AT ROUTED TO	DRTM75	111.	12.50	18.	5.	2.	.62
+	HYDROGRAPH AT HYDROGRAPH AT	RSTM75	98.	13.08	18.	5.	2.	.62
+	DIVERSION TO HYDROGRAPH AT	TM75	604.	12.58	203.	61.	21.	1.00
+		XTM75	10.	3.58	4.	1.	0.	1.00

+	HYDROGRAPH AT	ERTM75	604.	12.58	203.	61.	20.	1.00
+	3 COMBINED AT	CTM75	775.	13.08	302.	86.	29.	2.92
+	HYDROGRAPH AT	PR75IS	123.	12.00	66.	23.	8.	.62
+	ROUTED TO	RP75TM	123.	12.17	66.	23.	8.	.62
+	2 COMBINED AT	CPTM75	898.	13.08	367.	108.	36.	2.92
+	DIVERSION TO	DP75TM	303.	12.08	217.	71.	24.	2.92
+	HYDROGRAPH AT	D75TM	595.	13.08	150.	38.	13.	2.92
+	DIVERSION TO	DSMD75	285.	13.08	72.	18.	6.	2.92
+	HYDROGRAPH AT	DWTM83	309.	13.08	78.	20.	7.	2.92
+	ROUTED TO	RWTM83	292.	13.42	78.	20.	7.	2.92
+	HYDROGRAPH AT	DRTM83	302.	13.17	63.	16.	5.	1.64
+	ROUTED TO	RSTM83	276.	13.50	63.	16.	5.	1.64
+	HYDROGRAPH AT	TM83	507.	12.67	175.	53.	18.	.99
+	3 COMBINED AT	CTM83	942.	13.33	313.	87.	29.	3.41
+	HYDROGRAPH AT	PR83IS	187.	12.17	119.	40.	13.	1.64
+	ROUTED TO	RP83TM	187.	12.33	119.	40.	13.	1.64
+	2 COMBINED AT	CPTM83	1129.	13.33	432.	127.	42.	3.41
+	DIVERSION TO	DP83TM	283.	12.17	205.	70.	24.	3.41
+	HYDROGRAPH AT	D83TM	846.	13.33	227.	57.	19.	3.41
+	DIVERSION TO	DSMD83	195.	13.33	52.	13.	4.	3.41
+	HYDROGRAPH AT	DWTM91	652.	13.33	175.	44.	15.	3.41
+	ROUTED TO	RWTM91	617.	13.67	175.	44.	15.	3.41
+	HYDROGRAPH AT	DRTM91	272.	13.25	78.	19.	6.	2.36
+	ROUTED TO	RSTM91	260.	13.58	78.	19.	6.	2.36
+	HYDROGRAPH AT	TM91	518.	12.67	182.	55.	18.	1.00
+	DIVERSION TO	XTM91	93.	12.00	22.	7.	2.	1.00
+	HYDROGRAPH AT	ERTM91	518.	12.67	177.	48.	16.	1.00
+	3 COMBINED AT	CTM91	1205.	13.50	426.	110.	37.	4.96
+	HYDROGRAPH AT	PR91IS	190.	12.42	131.	38.	13.	2.36
+	ROUTED TO	RP91TM	190.	12.58	131.	38.	13.	2.36
+	2 COMBINED AT	CPTM91	1395.	13.50	554.	148.	49.	4.96

+	DIVERSION TO	DP91TM	287.	12.25	226.	66.	22.	4.96
+	HYDROGRAPH AT	D91TM	1108.	13.50	328.	82.	27.	4.96
+	DIVERSION TO	DSMD91	853.	13.50	252.	63.	21.	4.96
+	HYDROGRAPH AT	DWTMLO	255.	13.50	75.	19.	6.	4.96
+	ROUTED TO	RWTMLO	250.	13.67	75.	19.	6.	4.96
+	HYDROGRAPH AT	TMLO	430.	12.33	115.	38.	13.	.50
+	DIVERSION TO	XTMLO	430.	12.33	69.	20.	7.	.50
+	HYDROGRAPH AT	ERTMLO	331.	12.75	63.	19.	6.	.50
+	3 COMBINED AT	CTMLO	1154.	13.58	382.	108.	36.	4.87
+	ROUTED TO	RSMDLO	1111.	13.75	379.	108.	36.	4.87
+	HYDROGRAPH AT	DRMD27	530.	14.08	210.	62.	24.	6.50
+	ROUTED TO	RSMD27	519.	14.42	209.	62.	24.	6.50
+	HYDROGRAPH AT	MD27	278.	12.17	56.	19.	6.	.24
+	2 COMBINED AT	CMD27	538.	14.42	249.	76.	30.	4.65
+	HYDROGRAPH AT	PR27GR	195.	11.75	182.	64.	22.	12.59
+	ROUTED TO	RP27MD	195.	11.92	182.	64.	22.	12.59
+	2 COMBINED AT	CPMD27	733.	14.42	431.	140.	52.	4.65
+	DIVERSION TO	DP27MD	246.	11.83	241.	92.	36.	4.65
+	HYDROGRAPH AT	D27MD	487.	14.42	190.	48.	16.	4.65
+	ROUTED TO	RWMD35	478.	14.92	189.	48.	16.	4.65
+	HYDROGRAPH AT	DRMD35	1120.	12.92	436.	109.	36.	4.31
+	ROUTED TO	RSMD35	1070.	13.08	433.	109.	36.	4.31
+	HYDROGRAPH AT	MD35	656.	12.58	224.	72.	24.	1.00
+	DIVERSION TO	XMD35	13.	2.33	3.	1.	0.	1.00
+	HYDROGRAPH AT	ERMD35	656.	12.58	224.	71.	24.	1.00
+	3 COMBINED AT	CMD35	1766.	12.92	829.	226.	75.	9.29
+	HYDROGRAPH AT	PR35TM	300.	11.17	300.	163.	58.	4.31
+	ROUTED TO	RP35MD	300.	11.33	300.	163.	58.	4.31
+	2 COMBINED AT	CPMD35	2066.	12.92	1126.	389.	133.	9.29
+	DIVERSION TO	DP35MD	507.	12.00	499.	232.	81.	9.29
+	HYDROGRAPH AT	D35MD	1559.	12.92	627.	157.	52.	9.29

+	DIVERSION TO	DSIN35	982.	12.92	395.	99.	33.	9.29
+	HYDROGRAPH AT	DWMD43	577.	12.92	232.	58.	19.	9.29
+	ROUTED TO	RWMD43	541.	13.58	227.	58.	19.	9.29
+	HYDROGRAPH AT	DRMD43	451.	12.58	122.	30.	10.	3.16
+	ROUTED TO	RSMD43	423.	13.42	122.	30.	10.	3.16
+	HYDROGRAPH AT	MD43	1039.	12.33	205.	62.	21.	1.00
+	3 COMBINED AT	CMD43	1140.	13.42	533.	149.	50.	6.96
+	HYDROGRAPH AT	PR43TM	629.	12.17	531.	218.	74.	3.16
+	ROUTED TO	RP43MD	629.	12.33	531.	218.	74.	3.16
+	2 COMBINED AT	CPMD43	1769.	13.42	1063.	366.	124.	6.96
+	DIVERSION TO	DP43MD	629.	11.83	598.	250.	85.	6.96
+	HYDROGRAPH AT	D43MD	1140.	13.42	465.	116.	39.	6.96
+	DIVERSION TO	DSIN43	1140.	13.42	465.	116.	39.	6.96
+	HYDROGRAPH AT	DWMD51	0.	.00	0.	0.	0.	6.96
+	ROUTED TO	RWMD51	0.	.00	0.	0.	0.	6.96
+	HYDROGRAPH AT	DRMD51	106.	14.08	34.	8.	3.	4.30
+	ROUTED TO	RSMD51	103.	14.33	34.	8.	3.	4.30
+	HYDROGRAPH AT	MD51	507.	12.75	185.	56.	19.	1.00
+	3 COMBINED AT	CMD51	515.	12.83	218.	64.	21.	2.37
+	HYDROGRAPH AT	PR51TM	244.	12.33	177.	63.	24.	4.30
+	ROUTED TO	RP51MD	244.	12.50	177.	63.	24.	4.30
+	2 COMBINED AT	CPMD51	759.	12.83	395.	126.	45.	2.37
+	DIVERSION TO	DP51MD	368.	12.25	277.	96.	35.	2.37
+	HYDROGRAPH AT	D51MD	391.	12.83	119.	30.	10.	2.37
+	DIVERSION TO	DSIN51	153.	12.83	46.	12.	4.	2.37
+	HYDROGRAPH AT	DWMD59	239.	12.83	72.	18.	6.	2.37
+	ROUTED TO	RWMD59	233.	13.42	72.	18.	6.	2.37
+	HYDROGRAPH AT	DRMD59	182.	14.33	71.	18.	6.	3.90
+	ROUTED TO	RSMD59	170.	14.83	71.	18.	6.	3.90
+	HYDROGRAPH AT	MD59	508.	12.75	181.	54.	18.	1.00
+	3 COMBINED AT	CMD59	778.	13.25	322.	89.	30.	4.05

+	HYDROGRAPH AT	PR59TM	389.	12.25	339.	136.	48.	3.90
+	ROUTED TO	RP59MD	389.	12.42	339.	136.	48.	3.90
+	2 COMBINED AT	CPMD59	1167.	13.25	659.	222.	78.	4.05
+	DIVERSION TO	DP59MD	468.	12.17	414.	161.	57.	4.05
+	HYDROGRAPH AT	D59MD	699.	13.25	244.	61.	20.	4.05
+	DIVERSION TO	DSIN59	350.	13.25	122.	31.	10.	4.05
+	HYDROGRAPH AT	DWMD67	350.	13.25	122.	31.	10.	4.05
+	ROUTED TO	RWMD67	333.	13.67	122.	31.	10.	4.05
+	HYDROGRAPH AT	DRMD67	167.	13.33	68.	17.	6.	3.12
+	ROUTED TO	RSMD67	163.	13.67	68.	17.	6.	3.12
+	HYDROGRAPH AT	MD67	542.	12.67	177.	52.	17.	.98
+	DIVERSION TO	XMD67	90.	11.92	19.	6.	2.	.98
+	HYDROGRAPH AT	ERMD67	542.	12.67	172.	46.	15.	.98
+	3 COMBINED AT	CMD67	817.	13.50	359.	93.	31.	4.41
+	HYDROGRAPH AT	PR67TM	273.	12.08	221.	70.	23.	3.12
+	ROUTED TO	RP67MD	273.	12.25	221.	70.	23.	3.12
+	2 COMBINED AT	CPMD67	1090.	13.50	579.	163.	54.	4.41
+	DIVERSION TO	DP67MD	400.	12.17	331.	101.	34.	4.41
+	HYDROGRAPH AT	D67MD	690.	13.50	248.	62.	21.	4.41
+	DIVERSION TO	DSIN67	104.	13.50	37.	9.	3.	4.41
+	HYDROGRAPH AT	DWMD75	587.	13.50	211.	53.	18.	4.41
+	ROUTED TO	RWMD75	580.	13.75	211.	53.	18.	4.41
+	HYDROGRAPH AT	DRMD75	285.	13.08	72.	18.	6.	2.92
+	ROUTED TO	RSMD75	271.	13.42	72.	18.	6.	2.92
+	HYDROGRAPH AT	MD75	552.	12.67	189.	58.	19.	1.00
+	DIVERSION TO	XMD75	22.	9.58	15.	5.	2.	1.00
+	HYDROGRAPH AT	ERMD75	552.	12.67	189.	53.	18.	1.00
+	3 COMBINED AT	CMD75	1186.	13.42	465.	123.	41.	6.14
+	HYDROGRAPH AT	PR75TM	303.	12.08	217.	71.	24.	2.92
+	ROUTED TO	RP75MD	303.	12.25	217.	71.	24.	2.92
+	2 COMBINED AT	CPMD75	1489.	13.42	681.	193.	64.	6.14

+	DIVERSION TO	DP75MD	364.	12.08	305.	100.	33.	6.14
+	HYDROGRAPH AT	D75MD	1125.	13.42	375.	94.	31.	6.14
+	DIVERSION TO	DSIN75	394.	13.42	131.	33.	11.	6.14
+	HYDROGRAPH AT	DWMD83	731.	13.42	244.	61.	20.	6.14
+	ROUTED TO	RWMD83	716.	13.67	244.	61.	20.	6.14
+	HYDROGRAPH AT	DRMD83	195.	13.33	52.	13.	4.	3.41
+	ROUTED TO	RSMD83	184.	13.67	52.	13.	4.	3.41
+	HYDROGRAPH AT	MD83	865.	12.33	230.	77.	26.	.99
+	DIVERSION TO	XMD83	808.	12.25	92.	28.	9.	.99
+	HYDROGRAPH AT	ERMD83	860.	12.42	173.	49.	16.	.99
+	3 COMBINED AT	CMD83	1148.	13.50	466.	123.	41.	5.80
+	HYDROGRAPH AT	PR83TM	283.	12.17	205.	70.	24.	3.41
+	ROUTED TO	RP83MD	283.	12.33	205.	70.	24.	3.41
+	2 COMBINED AT	CPMD83	1431.	13.50	667.	193.	64.	5.80
+	DIVERSION TO	DP83MD	340.	12.33	268.	93.	31.	5.80
+	HYDROGRAPH AT	D83MD	1091.	13.50	399.	100.	33.	5.80
+	ROUTED TO	RWMD91	1071.	13.83	399.	100.	33.	5.80
+	HYDROGRAPH AT	DRMD91	853.	13.50	252.	63.	21.	4.96
+	ROUTED TO	RSMD91	835.	13.83	252.	63.	21.	4.96
+	HYDROGRAPH AT	MD91	573.	12.67	202.	62.	21.	1.01
+	DIVERSION TO	XMD91	342.	12.25	42.	13.	4.	1.01
+	HYDROGRAPH AT	ERMD91	573.	12.67	181.	49.	16.	1.01
+	3 COMBINED AT	CMD91	2194.	13.75	820.	209.	70.	10.61
+	HYDROGRAPH AT	PR91TM	287.	12.25	226.	66.	22.	4.96
+	ROUTED TO	RP91MD	287.	12.42	226.	66.	22.	4.96
+	2 COMBINED AT	CPMD91	2481.	13.75	1044.	274.	91.	10.61
+	DIVERSION TO	DP91MD	345.	12.42	287.	85.	28.	10.61
+	HYDROGRAPH AT	D91MD	2136.	13.75	757.	189.	63.	10.61
+	DIVERSION TO	DSIN91	427.	13.75	151.	38.	13.	10.61
+	HYDROGRAPH AT	DWMDLO	1708.	13.75	605.	151.	50.	10.61
+	ROUTED TO	RWMDLO	1693.	13.92	605.	151.	50.	10.61

+	HYDROGRAPH AT	MDLO	603.	12.42	142.	44.	15.	.67
+	DIVERSION TO	XMDLO	603.	12.42	113.	31.	10.	.67
+	HYDROGRAPH AT	ERMDLO	242.	13.25	44.	13.	4.	.67
+	3 COMBINED AT	CMDLO	2772.	13.83	978.	260.	87.	14.07
+	ROUTED TO	RSINLO	2771.	13.83	977.	260.	87.	14.07
+	DIVERSION TO	DEIN95	0.	.00	0.	0.	0.	14.07
+	HYDROGRAPH AT	DSINLO	2771.	13.83	977.	260.	87.	14.07
+	HYDROGRAPH AT	IN27	117.	12.17	24.	8.	3.	.10
+	HYDROGRAPH AT	PR27MD	246.	11.83	241.	92.	36.	4.65
+	ROUTED TO	RP27IN	246.	11.92	241.	92.	36.	4.65
+	2 COMBINED AT	CPIN27	363.	12.17	264.	100.	39.	.10
+	DIVERSION TO	DSVB27	262.	12.17	190.	72.	28.	.10
+	HYDROGRAPH AT	DWIN35	102.	12.17	74.	28.	11.	.10
+	ROUTED TO	RWIN35	95.	12.75	73.	28.	11.	.10
+	HYDROGRAPH AT	DRIN35	982.	12.92	395.	99.	33.	9.29
+	ROUTED TO	RSIN35	981.	13.00	395.	99.	33.	9.29
+	HYDROGRAPH AT	IN35	486.	12.08	56.	18.	6.	.24
+	3 COMBINED AT	CIN35	1110.	13.00	515.	144.	50.	6.11
+	HYDROGRAPH AT	PR35MD	507.	12.00	499.	232.	81.	9.29
+	ROUTED TO	RP35IN	507.	12.08	499.	232.	81.	9.29
+	2 COMBINED AT	CPIN35	1617.	13.00	1014.	376.	131.	6.11
+	DIVERSION TO	DSVB35	1407.	13.00	882.	327.	114.	6.11
+	HYDROGRAPH AT	DWIN43	210.	13.00	132.	49.	17.	6.11
+	ROUTED TO	RWIN43	205.	13.33	131.	49.	17.	6.11
+	HYDROGRAPH AT	DRIN43	1140.	13.42	465.	116.	39.	6.96
+	ROUTED TO	RSIN43	1136.	13.42	465.	116.	39.	6.96
+	HYDROGRAPH AT	IN43	405.	12.17	55.	17.	6.	.26
+	3 COMBINED AT	CIN43	1400.	12.33	643.	181.	61.	7.99
+	HYDROGRAPH AT	PR43MD	629.	11.83	598.	250.	85.	6.96
+	ROUTED TO	RP43IN	629.	11.92	598.	250.	85.	6.96
+	2 COMBINED AT	CPIN43	2029.	12.33	1241.	431.	146.	7.99

+	DIVERSION TO	DSVB43	1643.	12.33	1005.	349.	119.	7.99
+	HYDROGRAPH AT	DWIN51	385.	12.33	236.	82.	28.	7.99
+	ROUTED TO	RWIN51	373.	13.58	235.	82.	28.	7.99
+	HYDROGRAPH AT	DRIN51	153.	12.83	46.	12.	4.	2.37
+	ROUTED TO	RSIN51	152.	13.00	46.	12.	4.	2.37
+	HYDROGRAPH AT	IN51	218.	12.25	55.	19.	6.	.23
+	DIVERSION TO	XIN51	6.	4.42	3.	1.	0.	.23
+	HYDROGRAPH AT	ERIN51	218.	12.25	55.	18.	6.	.23
+	3 COMBINED AT	CIN51	634.	12.75	334.	112.	38.	2.68
+	HYDROGRAPH AT	PR51MD	368.	12.25	277.	96.	35.	2.37
+	ROUTED TO	RP51IN	368.	12.33	277.	96.	35.	2.37
+	2 COMBINED AT	CPIN51	1002.	12.75	611.	207.	73.	2.68
+	DIVERSION TO	DSVB51	0.	.00	0.	0.	0.	2.68
+	HYDROGRAPH AT	DWIN59	1002.	12.75	611.	207.	73.	2.68
+	ROUTED TO	RWIN59	990.	12.92	610.	207.	73.	2.68
+	HYDROGRAPH AT	DRIN59	350.	13.25	122.	31.	10.	4.05
+	ROUTED TO	RSIN59	349.	13.25	122.	31.	10.	4.05
+	HYDROGRAPH AT	IN59	109.	12.67	44.	14.	5.	.20
+	DIVERSION TO	XIN59	5.	7.75	3.	1.	0.	.20
+	HYDROGRAPH AT	ERIN59	109.	12.67	44.	13.	4.	.20
+	3 COMBINED AT	CIN59	1393.	13.17	773.	250.	87.	4.90
+	HYDROGRAPH AT	PR59MD	468.	12.17	414.	161.	57.	4.05
+	ROUTED TO	RP59IN	468.	12.25	414.	161.	57.	4.05
+	2 COMBINED AT	CPIN59	1861.	13.17	1186.	409.	145.	4.90
+	DIVERSION TO	DSVB59	0.	.00	0.	0.	0.	4.90
+	HYDROGRAPH AT	DWIN67	1861.	13.17	1186.	409.	145.	4.90
+	ROUTED TO	RWIN67	1855.	13.33	1185.	409.	145.	4.90
+	HYDROGRAPH AT	DRIN67	104.	13.50	37.	9.	3.	4.41
+	ROUTED TO	RSIN67	104.	13.50	37.	9.	3.	4.41
+	HYDROGRAPH AT	IN67	93.	12.75	42.	14.	5.	.20
+	DIVERSION TO	XIN67	93.	12.75	17.	5.	2.	.20

+	HYDROGRAPH AT	ERIN67	89.	13.08	30.	9.	3.	.20
+	3 COMBINED AT	CIN67	2036.	13.33	1250.	427.	151.	5.78
+	HYDROGRAPH AT	PR67MD	400.	12.17	331.	101.	34.	4.41
+	ROUTED TO	RP67IN	400.	12.25	331.	101.	34.	4.41
+	2 COMBINED AT	CPIN67	2436.	13.33	1580.	526.	184.	5.78
+	DIVERSION TO	DSVB67	0.	.00	0.	0.	0.	5.78
+	HYDROGRAPH AT	DWIN75	2436.	13.33	1580.	526.	184.	5.78
+	ROUTED TO	RWIN75	2429.	13.42	1578.	526.	184.	5.78
+	HYDROGRAPH AT	DRIN75	394.	13.42	131.	33.	11.	6.14
+	ROUTED TO	RSIN75	393.	13.42	131.	33.	11.	6.14
+	HYDROGRAPH AT	IN75	106.	12.58	41.	14.	5.	.20
+	DIVERSION TO	XIN75	16.	11.67	7.	2.	1.	.20
+	HYDROGRAPH AT	ERIN75	106.	12.58	40.	11.	4.	.20
+	3 COMBINED AT	CIN75	2890.	13.42	1745.	569.	199.	8.11
+	HYDROGRAPH AT	PR75MD	364.	12.08	305.	100.	33.	6.14
+	ROUTED TO	RP75IN	364.	12.17	305.	100.	33.	6.14
+	2 COMBINED AT	CPIN75	3254.	13.42	2044.	668.	232.	8.11
+	DIVERSION TO	DSVB75	0.	.00	0.	0.	0.	8.11
+	HYDROGRAPH AT	DWIN83	3254.	13.42	2044.	668.	232.	8.11
+	ROUTED TO	RWIN83	3243.	13.50	2041.	668.	232.	8.11
+	HYDROGRAPH AT	IN83	109.	12.58	41.	14.	5.	.20
+	DIVERSION TO	XIN83	109.	12.58	21.	6.	2.	.20
+	HYDROGRAPH AT	ERIN83	96.	13.00	26.	8.	3.	.20
+	2 COMBINED AT	CIN83	3311.	13.50	2066.	675.	234.	8.31
+	HYDROGRAPH AT	PR83MD	340.	12.33	268.	93.	31.	5.80
+	ROUTED TO	RP83IN	340.	12.42	268.	93.	31.	5.80
+	2 COMBINED AT	CPIN83	3651.	13.50	2333.	766.	265.	8.31
+	DIVERSION TO	DSVB83	0.	.00	0.	0.	0.	8.31
+	HYDROGRAPH AT	DWIN91	3651.	13.50	2333.	766.	265.	8.31
+	ROUTED TO	RWIN91	3642.	13.58	2330.	766.	265.	8.31
+	HYDROGRAPH AT	DRIN91	427.	13.75	151.	38.	13.	10.61

+	ROUTED TO	RSIN91	427.	13.75	151.	38.	13.	10.61
+	HYDROGRAPH AT	IN91	185.	12.25	44.	15.	5.	.19
+	DIVERSION TO	XIN91	7.	8.67	5.	2.	1.	.19
+	HYDROGRAPH AT	ERIN91	185.	12.25	44.	13.	4.	.19
+	3 COMBINED AT	CIN91	4088.	13.58	2509.	814.	281.	10.57
+	HYDROGRAPH AT	PR91MD	345.	12.42	287.	85.	28.	10.61
+	ROUTED TO	RP91IN	345.	12.50	287.	85.	28.	10.61
+	2 COMBINED AT	CPIN91	4433.	13.58	2795.	899.	309.	10.57
+	DIVERSION TO	DSVB91	0.	.00	0.	0.	0.	10.57
+	HYDROGRAPH AT	DWINLO	4433.	13.58	2795.	899.	309.	10.57
+	ROUTED TO	RWINLO	4425.	13.67	2792.	899.	309.	10.57
+	DIVERSION TO	DNINLO	0.	.00	0.	0.	0.	10.57
+	HYDROGRAPH AT	DWIN07	4425.	13.67	2792.	899.	309.	10.57
+	HYDROGRAPH AT	INLO	167.	12.17	35.	12.	4.	.15
+	DIVERSION TO	XINLO	84.	11.92	11.	3.	1.	.15
+	HYDROGRAPH AT	ERINLO	167.	12.17	29.	8.	3.	.15
+	HYDROGRAPH AT	DRINLO	0.	.00	0.	0.	0.	10.57
+	HYDROGRAPH AT	DRIN95	0.	.00	0.	0.	0.	14.07
+	3 COMBINED AT	CIN95	167.	12.17	29.	8.	3.	24.79
+	ROUTED TO	SRINLO	18.	13.83	16.	7.	3.	24.79
+	3 COMBINED AT	CINLO	6829.	13.83	3572.	1105.	378.	24.79
+	DIVERSION TO	DNINLO	0.	.00	0.	0.	0.	24.79
+	HYDROGRAPH AT	DWIN07	6829.	13.83	3572.	1105.	378.	24.79
+	ROUTED TO	RWIN07	6793.	13.92	3568.	1105.	378.	24.79
+	HYDROGRAPH AT	DITM07	296.	13.50	99.	32.	11.	1.67
+	ROUTED TO	SRRI03	0.	26.83	0.	0.	0.	1.67
+	ROUTED TO	RWTM07	0.	27.50	0.	0.	0.	1.67
+	HYDROGRAPH AT	DRTM07	191.	13.50	64.	21.	7.	1.67
+	ROUTED TO	RSTM07	174.	13.67	64.	21.	7.	1.67
+	HYDROGRAPH AT	TM07	125.	12.75	46.	13.	4.	.26
+	3 COMBINED AT	CTM07	257.	13.67	108.	33.	11.	1.61

+	DIVERSION TO	DWTMAF	167.	13.67	70.	22.	7.	1.61
+	HYDROGRAPH AT	DSMD07	90.	13.67	38.	12.	4.	1.61
+	ROUTED TO	RSMD07	84.	14.25	37.	12.	4.	1.61
+	HYDROGRAPH AT	DRMD99	200.	12.33	64.	22.	7.	.62
+	ROUTED TO	RSMD99	191.	13.00	64.	22.	7.	.62
+	HYDROGRAPH AT	MD99	233.	12.42	75.	25.	9.	.32
+	2 COMBINED AT	CMD99	377.	12.75	139.	47.	16.	.60
+	DIVERSION TO	DMD99	211.	12.75	78.	26.	9.	.60
+	HYDROGRAPH AT	DWTMRI	166.	12.75	61.	21.	7.	.60
+	ROUTED TO	RWTMRI	164.	12.92	61.	21.	7.	.60
+	HYDROGRAPH AT	TMRI	388.	12.08	49.	15.	5.	.24
+	DIVERSION TO	XTMRI	312.	12.00	20.	6.	2.	.24
+	HYDROGRAPH AT	ERTMRI	371.	12.17	33.	9.	3.	.24
+	2 COMBINED AT	CTMRI	430.	12.17	93.	30.	10.	.51
+	ROUTED TO	SRTMRI	235.	12.58	75.	22.	7.	.51
+	ROUTED TO	RMD07	216.	13.17	73.	22.	7.	.51
+	HYDROGRAPH AT	DIMD99	211.	12.75	78.	26.	9.	.60
+	DIVERSION TO	DSIN99	106.	12.75	39.	13.	4.	.60
+	HYDROGRAPH AT	DWMD07	106.	12.75	39.	13.	4.	.60
+	ROUTED TO	SRMD99	0.	28.00	0.	0.	0.	.60
+	ROUTED TO	RWMD07	0.	28.75	0.	0.	0.	.60
+	HYDROGRAPH AT	MD07	446.	12.67	156.	48.	16.	.78
+	DIVERSION TO	XMD07	446.	12.67	99.	27.	9.	.78
+	HYDROGRAPH AT	ERMD07	327.	13.42	73.	21.	7.	.78
+	4 COMBINED AT	CMD07	577.	13.42	179.	54.	18.	2.50
+	DIVERSION TO	DWMDAV	433.	13.42	135.	40.	14.	2.50
+	HYDROGRAPH AT	DSIN07	144.	13.42	45.	13.	5.	2.50
+	ROUTED TO	RSIN07	141.	13.58	45.	13.	5.	2.50
+	HYDROGRAPH AT	DRIN99	106.	12.75	39.	13.	4.	.60
+	ROUTED TO	RSIN99	102.	13.25	39.	13.	4.	.60
+	HYDROGRAPH AT	IN07	256.	12.25	61.	21.	7.	.26

+	DIVERSION TO	XIN07	256.	12.25	30.	9.	3.	.26
+	HYDROGRAPH AT	ERIN07	232.	12.42	41.	12.	4.	.26
+	4 COMBINED AT	CIN07	6962.	13.92	3652.	1132.	387.	27.09
+	DIVERSION TO	DSVB07	0.	.00	0.	0.	0.	27.09
+	HYDROGRAPH AT	DWINAV	6962.	13.92	3652.	1132.	387.	27.09
+	ROUTED TO	RWINAV	6941.	14.00	3649.	1131.	387.	27.09
+	HYDROGRAPH AT	DRTMAF	167.	13.67	70.	22.	7.	1.61
+	ROUTED TO	RWTMAF	157.	14.17	69.	22.	7.	1.61
+	HYDROGRAPH AT	TMAF	338.	12.75	135.	42.	14.	.76
+	2 COMBINED AT	CTMAF	406.	13.42	200.	63.	21.	1.33
+	DIVERSION TO	DWAF02	362.	13.42	178.	56.	19.	1.33
+	HYDROGRAPH AT	DSMDAV	45.	13.42	22.	7.	2.	1.33
+	ROUTED TO	RSMDAV	43.	14.08	22.	7.	2.	1.33
+	HYDROGRAPH AT	DRMDAV	433.	13.42	135.	40.	14.	2.50
+	ROUTED TO	RWMDAV	389.	13.92	132.	40.	14.	2.50
+	HYDROGRAPH AT	MDAV	470.	12.75	170.	50.	17.	.95
+	DIVERSION TO	XMDAV	470.	12.75	153.	41.	14.	.95
+	HYDROGRAPH AT	ERMDAV	106.	15.00	31.	9.	3.	.95
+	3 COMBINED AT	CMDAV	432.	13.92	182.	56.	19.	1.72
+	DIVERSION TO	DWMDAF	316.	13.92	133.	41.	14.	1.72
+	HYDROGRAPH AT	DSINAV	117.	13.92	49.	15.	5.	1.72
+	ROUTED TO	RSINAV	114.	14.00	49.	15.	5.	1.72
+	HYDROGRAPH AT	INAV	234.	12.25	56.	19.	6.	.23
+	DIVERSION TO	XINAV	221.	12.17	26.	8.	3.	.23
+	HYDROGRAPH AT	ERINAV	214.	12.42	38.	11.	4.	.23
+	3 COMBINED AT	CINAV	7034.	14.00	3702.	1149.	393.	28.58
+	DIVERSION TO	DSVBAF	0.	.00	0.	0.	0.	28.58
+	HYDROGRAPH AT	DWINAF	7034.	14.00	3702.	1149.	393.	28.58
+	ROUTED TO	RWINAF	6963.	14.08	3691.	1149.	393.	28.58
+	HYDROGRAPH AT	DRMDAF	316.	13.92	133.	41.	14.	1.72
+	ROUTED TO	RWMDAF	290.	14.42	129.	41.	14.	1.72

+	HYDROGRAPH AT	MDAF	321.	12.75	129.	41.	14.	.83
+	2 COMBINED AT	CMDAF	430.	14.42	244.	81.	27.	1.30
+	DIVERSION TO	DWAF03	327.	14.42	185.	61.	21.	1.30
+	HYDROGRAPH AT	DSINAF	103.	14.42	58.	19.	7.	1.30
+	ROUTED TO	RSINAF	101.	14.50	58.	19.	7.	1.30
+	HYDROGRAPH AT	INAF	278.	12.42	81.	25.	8.	.47
+	DIVERSION TO	XINAF	278.	12.42	37.	11.	4.	.47
+	HYDROGRAPH AT	ERINAF	250.	12.75	53.	15.	5.	.47
+	DIVERSION TO	XINAF	250.	12.75	43.	11.	4.	.47
+	HYDROGRAPH AT	ERINAF	33.	15.00	13.	4.	1.	.47
+	3 COMBINED AT	CINAF	6993.	14.17	3735.	1166.	399.	29.36

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SUMMARY OF KINEMATIC WAVE - MUSKINGUM-CUNGE ROUTING
(FLOW IS DIRECT RUNOFF WITHOUT BASE FLOW)

ISTAQ	ELEMENT	DT	PEAK	TIME TO PEAK	VOLUME	INTERPOLATED TO COMPUTATION INTERVAL DT	PEAK	TIME TO PEAK	VOLUME
		(MIN)	(CFS)	(MIN)	(IN)	(MIN)	(CFS)	(MIN)	(IN)
FOR STORM = 1 STORM AREA (SQ MI) = .00									
RPTB83	MANE	3.24	161.00	726.58	.93	5.00	161.00	730.00	.93
CONTINUITY SUMMARY (AC-FT) - INFLOW= .5833E+02 EXCESS= .0000E+00 OUTFLOW= .5834E+02 BASIN STORAGE= .3214E-09 PERCENT ERROR= .0									
FOR STORM = 2 STORM AREA (SQ MI) = 10.00									
RPTB83	MANE	3.29	161.00	727.00	.89	5.00	161.00	730.00	.89
CONTINUITY SUMMARY (AC-FT) - INFLOW= .5615E+02 EXCESS= .0000E+00 OUTFLOW= .5618E+02 BASIN STORAGE= .4772E-09 PERCENT ERROR= -.1									
FOR STORM = 3 STORM AREA (SQ MI) = 30.00									
RPTB83	MANE	3.16	161.00	727.78	.86	5.00	161.00	730.00	.86
CONTINUITY SUMMARY (AC-FT) - INFLOW= .5392E+02 EXCESS= .0000E+00 OUTFLOW= .5394E+02 BASIN STORAGE= .4073E-09 PERCENT ERROR= .0									
FOR STORM = 4 STORM AREA (SQ MI) = 60.00									
RPTB83	MANE	3.14	161.00	728.86	.84	5.00	161.00	730.00	.84
CONTINUITY SUMMARY (AC-FT) - INFLOW= .5259E+02 EXCESS= .0000E+00 OUTFLOW= .5266E+02 BASIN STORAGE= .3612E-09 PERCENT ERROR= -.1									
FOR STORM = 5 STORM AREA (SQ MI) = 90.00									
RPTB83	MANE	3.27	161.00	729.12	.82	5.00	161.00	730.00	.82
CONTINUITY SUMMARY (AC-FT) - INFLOW= .5179E+02 EXCESS= .0000E+00 OUTFLOW= .5181E+02 BASIN STORAGE= .5261E-09 PERCENT ERROR= .0									
FOR STORM = 6 STORM AREA (SQ MI) = 120.00									
RPTB83	MANE	3.22	161.00	726.82	.82	5.00	161.00	730.00	.82
CONTINUITY SUMMARY (AC-FT) - INFLOW= .5131E+02 EXCESS= .0000E+00 OUTFLOW= .5135E+02 BASIN STORAGE= .5393E-09 PERCENT ERROR= -.1									
FOR STORM = 1 STORM AREA (SQ MI) = .00									
RPTBLO	MANE	.74	247.00	741.82	1.02	5.00	247.00	745.00	1.02
CONTINUITY SUMMARY (AC-FT) - INFLOW= .9638E+02 EXCESS= .0000E+00 OUTFLOW= .9638E+02 BASIN STORAGE= .2876E-09 PERCENT ERROR= .0									
FOR STORM = 2 STORM AREA (SQ MI) = 10.00									

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            RPTBLO  MANE          .73    247.00    746.60       .98      5.00    247.00    750.00         .98

CONTINUITY SUMMARY (AC-FT) - INFLOW= .9274E+02 EXCESS= .0000E+00 OUTFLOW= .9274E+02 BASIN STORAGE= .2707E-09 PERCENT ERROR=    .0

          FOR STORM = 3  STORM AREA (SQ MI) =      30.00
            RPTBLO  MANE          .88    247.00    747.44       .95      5.00    247.00    750.00         .95

CONTINUITY SUMMARY (AC-FT) - INFLOW= .8949E+02 EXCESS= .0000E+00 OUTFLOW= .8949E+02 BASIN STORAGE= .2779E-09 PERCENT ERROR=    .0

          FOR STORM = 4  STORM AREA (SQ MI) =      60.00
            RPTBLO  MANE          .81    247.00    747.10       .93      5.00    247.00    750.00         .93

CONTINUITY SUMMARY (AC-FT) - INFLOW= .8764E+02 EXCESS= .0000E+00 OUTFLOW= .8763E+02 BASIN STORAGE= .2772E-09 PERCENT ERROR=    .0

          FOR STORM = 5  STORM AREA (SQ MI) =      90.00
            RPTBLO  MANE          .75    247.00    751.82       .91      5.00    247.00    755.00         .91

CONTINUITY SUMMARY (AC-FT) - INFLOW= .8611E+02 EXCESS= .0000E+00 OUTFLOW= .8610E+02 BASIN STORAGE= .3021E-09 PERCENT ERROR=    .0

          FOR STORM = 6  STORM AREA (SQ MI) =     120.00
            RPTBLO  MANE          .74    247.00    751.72       .90      5.00    247.00    755.00         .90

CONTINUITY SUMMARY (AC-FT) - INFLOW= .8518E+02 EXCESS= .0000E+00 OUTFLOW= .8518E+02 BASIN STORAGE= .2969E-09 PERCENT ERROR=    .0

          FOR STORM = 1  STORM AREA (SQ MI) =        .00
            RPCT75  MANE          1.76    268.00    810.11       .92      5.00    268.00    810.00         .92

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5447E+02 EXCESS= .0000E+00 OUTFLOW= .5466E+02 BASIN STORAGE= .2724E-09 PERCENT ERROR=   -.3

          FOR STORM = 2  STORM AREA (SQ MI) =      10.00
            RPCT75  MANE          2.72    268.00    756.98       .88      5.00    268.00    760.00         .88

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5210E+02 EXCESS= .0000E+00 OUTFLOW= .5213E+02 BASIN STORAGE= .2950E-09 PERCENT ERROR=    .0

          FOR STORM = 3  STORM AREA (SQ MI) =      30.00
            RPCT75  MANE          2.69    268.06    810.11       .82      5.00    268.05    810.00         .82

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4835E+02 EXCESS= .0000E+00 OUTFLOW= .4837E+02 BASIN STORAGE= .3619E-09 PERCENT ERROR=    .0

          FOR STORM = 4  STORM AREA (SQ MI) =      60.00
            RPCT75  MANE          2.73    268.00    758.02       .80      5.00    268.00    760.00         .80

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4712E+02 EXCESS= .0000E+00 OUTFLOW= .4728E+02 BASIN STORAGE= .3130E-09 PERCENT ERROR=   -.3

          FOR STORM = 5  STORM AREA (SQ MI) =      90.00
            RPCT75  MANE          1.67    268.00    757.55       .79      5.00    268.00    760.00         .79

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4642E+02 EXCESS= .0000E+00 OUTFLOW= .4652E+02 BASIN STORAGE= .2779E-09 PERCENT ERROR=   -.2

          FOR STORM = 6  STORM AREA (SQ MI) =     120.00
            RPCT75  MANE          2.80    268.00    762.94       .77      5.00    268.00    765.00         .77

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4568E+02 EXCESS= .0000E+00 OUTFLOW= .4570E+02 BASIN STORAGE= .2345E-09 PERCENT ERROR=    .0

          FOR STORM = 1  STORM AREA (SQ MI) =        .00
            RPCT83  MANE          1.62    651.00    760.45      1.19      5.00    651.00    765.00        1.19

 *** The remainder of the continuity summary has been deleted for brevity, but the entire output is included on the CD ***

*** NORMAL END OF HEC-1 ***
```

```
1**************************************
*                                    *
*   FLOOD HYDROGRAPH PACKAGE  (HEC-1)*
*             JUN  1998              *
*           VERSION 4.1              *
*                                    *
* RUN DATE   01NOV10  TIME  14:01:46 *
*                                    *
**************************************
```

```
**************************************
*                                    *
*   U.S. ARMY CORPS OF ENGINEERS     *
*   HYDROLOGIC ENGINEERING CENTER    *
*        609 SECOND STREET           *
*     DAVIS, CALIFORNIA 95616        *
*         (916) 756-1104             *
*                                    *
**************************************
```

```
X     X  XXXXXXX   XXXXX          X
X     X  X       X     X        XX
X     X  X       X              X
XXXXXXX  XXXX    X       XXXXX  X
X     X  X       X              X
X     X  X       X     X        X
X     X  XXXXXXX   XXXXX        XXX
```

THIS PROGRAM REPLACES ALL PREVIOUS VERSIONS OF HEC-1 KNOWN AS HEC1 (JAN 73), HEC1GS, HEC1DB, AND HEC1KW.

THE DEFINITIONS OF VARIABLES -RTIMP- AND -RTIOR- HAVE CHANGED FROM THOSE USED WITH THE 1973-STYLE INPUT STRUCTURE.
THE DEFINITION OF -AMSKK- ON RM-CARD WAS CHANGED WITH REVISIONS DATED 28 SEP 81. THIS IS THE FORTRAN77 VERSION
NEW OPTIONS: DAMBREAK OUTFLOW SUBMERGENCE , SINGLE EVENT DAMAGE CALCULATION, DSS:WRITE STAGE FREQUENCY,
DSS:READ TIME SERIES AT DESIRED CALCULATION INTERVAL LOSS RATE:GREEN AND AMPT INFILTRATION
KINEMATIC WAVE: NEW FINITE DIFFERENCE ALGORITHM

1 HEC-1 INPUT PAGE 1

```
LINE          ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

    1         ID      GLENDALE STORMWATER MANAGEMENT PLAN
    2         ID      Model for Glendale/Peoria Watershed
    3         ID      Future Conditions
    4         ID
    5         ID      Prepared for the City of Glendale
    6         ID      In Association with the Flood Control District of Maricopa County
    7         ID      City Project Number 089017
    8         ID
    9         ID      Prepared by Kimley-Horn and Associates, Inc.
   10         ID      KHA Project Number 091910009
   11         ID      October 2010
   12         ID
   13         ID      MODELING PARAMETERS
   14         ID      - 100 Year 24 Hour Storm Event
   15         ID      - NOAA 14 Rainfall Data
   16         ID      - Clark Unit Hydrograph
   17         ID      - Green and Ampt Rainfall Loss Method
   18         ID
   19         ID      Topo data extracted from Flood Control District database July 24, 2009
   20         ID      Land use obtained from City of Glendale General Plan August 2009, City of
   21         ID           Phoenix General Plan August 2009, and MAG General Plan Land Use 2007
   22         ID
   23         ID      Storage routing data obtained from As-built Records or Final Drainage
   24         ID           Reports where possible
   25         ID      When As-built data/Drainage reports were not available data was obtained
   26         ID           from HEC-1 models and checked for accuracy.
   27         ID      Storage routing data obtained from the following HEC-1 models:
   28         ID           - Glendale/Peoria ADMPU, May 2001
   29         ID           - Glendale/Peoria ADMP Northwest Region Update, May 2007
   30         ID      The source of data is identified on each individual storage routing card
   31         ID
   32         ID   **********************************************************************
   33         ID
   34         ID      MODELING NOMENCLATURE
   35         ID      SUBBASIN HYDROGRAPH:
   36         ID         Example: JMRS   - the subbasin upstream of Jomax and Rock Springs Wash
   37         ID
   38         ID      STORM DRAIN DIVERSION:
   39         ID         Example: DBL59  - flow from subbasin BL59 is diverted to a storm drain
   40         ID
   41         ID      SUBBASIN DIVERSION:
   42         ID         Example: DWBL59 - flow is diverted west towards Bell and 59th Avenue
   43         ID         Example: DSGW51 - flow is diverted south towards Greenway and 51st Ave
   44         ID
   45         ID      ROUTE HYDROGRAPH:
   46         ID         Example: RWBL51 - flow is routed west towards Bell and 51st Avenue
   47         ID         Example: RSGW59 - flow is routed south towards Greenway and 59th Ave
   48         ID
   49         ID      COMBINE HYDROGRAPH:
   50         ID         Example: CJMRS  - combine flow at Jomax and Rock Springs Wash
   51         ID
   52         ID      STREET NAME ABBREVIATIONS
   53         ID         Jomax Road              JM
   54         ID         Happy Valley Road       HV
   55         ID         Pinnacle Peak Road      PP
```


1 HEC-1 INPUT PAGE 2

```
LINE          ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

   56         ID      Deer Valley Road        DV
   57         ID      SR Loop 101             LO
   58         ID      Beardsley Road          BY
   59         ID      Union Hills Drive       UH
   60         ID      Bell Road               BL
   61         ID      Greenway Road           GW
   62         ID      Thunderbird Road        TB
   63         ID      Cactus Road             CT
   64         ID      Peoria Avenue           PE
   65         ID      Olive Avenue            OL
   66         ID      Northern Avenue         NO
   67         ID      Glendale Avenue         GL
   68         ID      Bethany Home Road       BH
   69         ID      Camelback Road          CB
   70         ID      Indian School Road      IS
   71         ID      Thomas Road             TM
   72         ID      McDowell Road           MD
   73         ID      Interstate 10           IN
   74         ID      Grand Avenue            GR
   75         ID      Mountain View Road      MV
   76         ID      Pinnacle Hill Road      PH
   77         ID      Greenbriar Drive        GB
   78         ID      Utopia Road             UT
   79         ID      Pyramid Peak Boulevard  PY
   80         ID      Bent Tree Drive         BT
   81         ID      Glen Harbor Boulevard   GH
   82         ID      Black Rock Boulevard    BR
   83         ID      Rose Garden Lane        RG
   84         ID      Calle Lejos             CL
   85         ID      Rock Springs Wash       RS
   86         ID      Williams Road           WL
   87         ID      Del Webb Boulevard      DW
   88         ID      Westwing Parkway        WW
   89         ID      Lake Pleasant Parkway   LP
   90         ID      Thunderbird Park Road   TP
   91         ID      Talisman Road           TL
   92         ID      Royal Oak Road          RO
   93         ID      Yearling Road           YL
   94         ID      Meade Drive             ME
   95         ID      Acoma Drive             AM
   96         ID      Athens Street           AT
   97         ID
   98         ID
   99         ID    PREFIXES FOR MODELING OPERATIONS
  100         ID       RW     Routing flow in the west direction
  101         ID       RS     Routing flow in the south direction
  102         ID       RP     Routing storm drain pipe flow
  103         ID       C      Combination point
  104         ID       CI     Combination point at an intersection
  105         ID       CP     Combination point for storm drain pipe flow
  106         ID       SR     Storage for detention/retention basins
  107         ID       DW     Divert flow to the west
  108         ID       DE     Divert flow to the east
  109         ID       DS     Divert flow to the south
  110         ID       DN     Divert flow to the north
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1 HEC-1 INPUT PAGE 3

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LINE          ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

  111         ID       ER     Divert flow for existing 100-yr 2-hr retention
  112         ID       X      Existing retention diversion does not return to model
  113         ID       DR     Divert retrieval from surface flow
  114         ID       DI     Divert retrieval from intersection flow
  115         ID       D      Divert surface flow (remains after storm drain divert)
  116         ID       DP     Divert flow to a storm drain pipe
  117         ID       PR     Divert retrieval from a storm drain pipe
  118         ID
  119         ID   **********************************************************************
  120         IT     5       0       0    1000
  121         IN    15
  122         IO     5
              *DIAGRAM
              *
  123         JD  3.606  0.0001
  124         PC  0.000  0.002  0.005  0.008  0.011  0.014  0.017  0.020  0.023  0.026
  125         PC  0.029  0.032  0.035  0.038  0.041  0.044  0.048  0.052  0.056  0.060
  126         PC  0.064  0.068  0.072  0.076  0.080  0.085  0.090  0.095  0.100  0.105
  127         PC  0.110  0.115  0.120  0.126  0.133  0.140  0.147  0.155  0.163  0.172
  128         PC  0.181  0.191  0.203  0.218  0.236  0.257  0.283  0.387  0.663  0.707
  129         PC  0.735  0.758  0.776  0.791  0.804  0.815  0.825  0.834  0.842  0.849
  130         PC  0.856  0.863  0.869  0.875  0.881  0.887  0.893  0.898  0.903  0.908
  131         PC  0.913  0.918  0.922  0.926  0.930  0.934  0.938  0.942  0.946  0.950
  132         PC  0.953  0.956  0.959  0.962  0.965  0.968  0.971  0.974  0.977  0.980
  133         PC  0.983  0.986  0.989  0.992  0.995  0.998  1.000
  134         JD  3.426   10.0
  135         JD  3.245   30.0
  136         JD  3.137   60.0
  137         JD  3.072   90.0
  138         JD  3.033  120.0
```

```
                *
          139   KK    UH35   BASIN
          140   KM   Runoff hydrograph for subbasin UH35 northeast of the intersection of Union
          141   KM   Hills Drive and 35th Avenue
          142   BA   1.136
          143   LG    0.20    0.13   10.10    0.03      51
          144   UC   1.034   0.647
          145   UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
          146   UA     100
                *
          147   KK  ERUH35  DIVERT
          148   KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
          149   KM   retention developed after 1990 in subbasin UH35
          150   DT   XUH35     47.3      0.0
          151   DI       0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
          152   DQ       0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
                *
1                                        HEC-1 INPUT                                          PAGE  4
         LINE   ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10
          153   KK   DUH35  DIVERT
          154   KM   Divert calculated full flow capacity of 875 cfs into a 114-inch storm drain
          155   KM   pipe at the intersection of Union Hills Drive and 35th Avenue
          156   DT  DPUH35      0.0   875.0
          157   DI       0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
          158   DQ       0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
                *
          159   KK  DSBL35  DIVERT
          160   KM   Divert remaining runoff hydrograph from subbasin UH35 south to combination
          161   KM   point CBL35
          162   DT  DWUH43      0.0     0.0
          163   DI       0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
          164   DQ       0.0    51.0   102.0   255.0   510.0  1020.0  2040.0  5100.0 10200.0 25500.0
                *
          165   KK  RSBL35   ROUTE
          166   KM   Route diversion DSBL35 south to combination point CBL35
          167   RS       7    FLOW
          168   RC   0.035   0.015   0.035    5280  0.0030    0.00
          169   RX    0.00    0.00   76.50   76.50  372.50  372.50  449.00  449.00
          170   RY    3.00    1.27    0.50    0.00    0.00    0.50    1.27    3.00
                *
          171   KK    BL35   BASIN
          172   KM   Runoff hydrograph for subbasin BL35 northeast of the intersection of Bell
          173   KM   Road and 35th Avenue
          174   BA   1.139
          175   LG    0.22    0.15    7.30    0.09      42
          176   UC   1.212   0.767
          177   UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
          178   UA     100
                *
          179   KK  ERBL35  DIVERT
          180   KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
          181   KM   retention developed after 1990 in subbasin BL35
          182   DT   XBL35      8.0     0.0
          183   DI       0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
          184   DQ       0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
                *
          185   KK   CBL35 COMBINE
          186   KM   Combine route RSBL35 and subbasin BL35
          187   HC       2    1.70
                *
          188   KK   D35BL  DIVERT
          189   KM   Divert calculated full flow capacity of 158 cfs into a 60-inch storm drain
          190   KM   pipe at the intersection of Bell Road and 35th Avenue
          191   DT  DP35BL      0.0   158.0
          192   DI       0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
          193   DQ       0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
                *
1                                        HEC-1 INPUT                                          PAGE  5
         LINE   ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10
          194   KK  DSGW35  DIVERT
          195   KM   Divert remaining runoff hydrograph from combination point CBL35 south to
          196   KM   combination point CGW35
          197   DT  DWBL43      0.0     0.0
          198   DI       0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
          199   DQ       0.0    66.0   132.0   330.0   660.0  1320.0  2640.0  6600.0 13200.0 33000.0
                *
          200   KK  RSGW35   ROUTE
          201   KM   Route diversion DSGW35 south to combination point CGW35
```



```
          202   RS       3    FLOW
          203   RC   0.035   0.015   0.035    5280  0.0041    0.00
          204   RX    0.00    0.00   45.00   45.00  229.00  229.00  274.00  274.00
          205   RY    3.00    0.95    0.50    0.00    0.00    0.50    0.95    3.00
                *
          206   KK    GW35   BASIN
          207   KM   Runoff hydrograph for subbasin GW35 northeast of the intersection of Greenway
          208   KM   Road and 35th Avenue
          209   BA   1.008
          210   LG    0.21    0.17    6.80    0.12      45
          211   UC   1.356   0.892
          212   UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
          213   UA     100
                *
          214   KK   CGW35 COMBINE
          215   KM   Combine route RSGW35 and subbasin GW35
          216   HC       2    1.58
                *
          217   KK  PR35BLRETRIEVE
          218   KM   Retrieve full flow capacity of 158 cfs from 60-inch storm drain pipe at the
          219   KM   intersection of Bell Road and 35th Avenue
          220   DR  DP35BL
                *
          221   KK  RP35GW   ROUTE
          222   KM   Route full flow capacity of 158 cfs through 60-inch storm drain pipe in
          223   KM   35th Avenue to the intersection of Greenway Road and 35th Avenue
          224   RK    5260  0.0037   0.015            CIRC   5.000
                *
          225   KK  CPGW35 COMBINE
          226   KM   Combine pipe return PR35BL with the runoff hydrograph at combination point
          227   KM   CGW35 at the intersection of Greenway Road and 35th Avenue
          228   HC       2
                *
1                                        HEC-1 INPUT                                          PAGE  6
         LINE   ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10
          229   KK   D35GW  DIVERT
          230   KM   Divert calculated full flow capacity of 318 cfs into a 78-inch storm drain
          231   KM   pipe at the intersection of Greenway Road and 35th Avenue
          232   DT  DP35GW      0.0   318.0
          233   DI       0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
          234   DQ       0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
                *
          235   KK  DSTB35  DIVERT
          236   KM   Divert remaining runoff hydrograph from combination point CGW35 south to
          237   KM   combination point CTB35
          238   DT  DWGW43      0.0     0.0
          239   DI       0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
          240   DQ       0.0    58.0   116.0   290.0   580.0  1160.0  2320.0  5800.0 11600.0 29000.0
                *
          241   KK  RSTB35   ROUTE
          242   KM   Route diversion DSTB35 south to combination point CTB35
          243   RS       3    FLOW
          244   RC   0.035   0.015   0.035    5280  0.0035    0.00
          245   RX    0.00    0.00   54.50   54.50  269.50  269.50  324.00  324.00
          246   RY    3.00    1.04    0.50    0.00    0.00    0.50    1.04    3.00
                *
          247   KK    TB35   BASIN
          248   KM   Runoff hydrograph for subbasin TB35 northeast of the intersection of
          249   KM   Thunderbird Road and 35th Avenue
          250   BA   0.976
          251   LG    0.23    0.15    7.60    0.08      36
          252   UC   1.465   0.986
          253   UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
          254   UA     100
                *
          255   KK   CTB35 COMBINE
          256   KM   Combine route RSTB35 and subbasin TB35
          257   HC       2    1.65
                *
          258   KK  PR35GWRETRIEVE
          259   KM   Retrieve full flow capacity of 318 cfs from 78-inch storm drain pipe at the
          260   KM   intersection of Greenway Road and 35th Avenue
          261   DR  DP35GW
                *
          262   KK  RP35TB   ROUTE
          263   KM   Route full flow capacity of 318 cfs through 78-inch storm drain pipe in
          264   KM   35th Avenue to the intersection of Thunderbird Road and 35th Avenue
          265   RK    5252  0.0037   0.015            CIRC   6.500
                *
```

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1                                        HEC-1 INPUT                                        PAGE  7

      LINE      ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

        266     KK  CPTB35 COMBINE
        267     KM   Combine pipe return PR35GW with the runoff hydrograph at combination point
        268     KM   CTB35 at the intersection of Thunderbird Road and 35th Avenue
        269     HC       2
                *
        270     KK   D35TB  DIVERT
        271     KM   Divert calculated full flow capacity of 554 cfs into a 96-inch storm drain
        272     KM   pipe at the intersection of Thunderbird Road and 35th Avenue
        273     DT  DP35TB      0.0   554.0
        274     DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
        275     DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
                *
        276     KK  DSCT35  DIVERT
        277     KM   Divert remaining runoff hydrograph from combination point CTB35 south to
        278     KM   combination point CCT35
        279     DT  DWTB43      0.0     0.0
        280     DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
        281     DQ     0.0    52.0   104.0   260.0   520.0  1040.0  2080.0  5200.0 10400.0 26000.0
                *
        282     KK  RSCT35   ROUTE
        283     KM   Route diversion DSCT35 south to combination point CCT35
        284     RS       4     FLOW
        285     RC   0.035   0.015   0.035    5280  0.0036    0.00
        286     RX    0.00    0.00   86.00   86.00  413.00  413.00  499.00  499.00
        287     RY    3.00    1.36    0.50    0.00    0.00    0.50    1.36    3.00
                *
        288     KK    CT35   BASIN
        289     KM   Runoff hydrograph for subbasin CT35 northeast of the intersection of Cactus
        290     KM   Road and 35th Avenue
        291     BA   0.976
        292     LG    0.21    0.25    5.20    0.21      48
        293     UC   1.352   0.902
        294     UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
        295     UA     100
                *
        296     KK   CCT35 COMBINE
        297     KM   Combine route RSCT35 and subbasin CT35
        298     HC       2    1.76
                *
        299     KK  PR35TBRETRIEVE
        300     KM   Retrieve full flow capacity of 554 cfs from 96-inch storm drain pipe at the
        301     KM   intersection of Thunderbird Road and 35th Avenue
        302     DR  DP35TB
                *

1                                        HEC-1 INPUT                                        PAGE  8

      LINE      ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

        303     KK  RP35CT   ROUTE
        304     KM   Route full flow capacity of 554 cfs through 96-inch storm drain pipe in
        305     KM   35th Avenue to the intersection of Cactus Road and 35th Avenue
        306     RK    5200  0.0037   0.015             CIRC   8.000
                *
        307     KK  CPCT35 COMBINE
        308     KM   Combine pipe return PR35TB with the runoff hydrograph at combination point
        309     KM   CCT35 at the intersection of Cactus Road and 35th Avenue
        310     HC       2
                *
        311     KK   D35CT  DIVERT
        312     KM   Divert calculated full flow capacity of 554 cfs into a 96-inch storm drain
        313     KM   pipe at the intersection of Cactus Road and 35th Avenue
        314     DT  DP35CT      0.0   554.0
        315     DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
        316     DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
                *
        317     KK  DSPE35  DIVERT
        318     KM   Divert remaining runoff hydrograph from combination point CCT35 south to
        319     KM   combination point CPE35
        320     DT  DWCT43      0.0     0.0
        321     DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
        322     DQ     0.0    58.0   116.0   290.0   580.0  1160.0  2320.0  5800.0 11600.0 29000.0
                *
        323     KK  RSPE35   ROUTE
        324     KM   Route diversion DSPE35 south to combination point CPE35
        325     RS       4     FLOW
        326     RC   0.035   0.015   0.035    5280  0.0023    0.00
        327     RX    0.00    0.00   67.00   67.00  332.00  332.00  399.00  399.00
```



```
        328     RY    3.00    1.17    0.50    0.00    0.00    0.50    1.17    3.00
                *
        329     KK    PE35   BASIN
        330     KM   Runoff hydrograph for subbasin PE35 northeast of the intersection of Peoria
        331     KM   Avenue and 35th Avenue
        332     BA   0.977
        333     LG    0.23    0.24    4.70    0.27      40
        334     UC   1.500   1.016
        335     UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
        336     UA     100
                *
        337     KK   CPE35 COMBINE
        338     KM   Combine route RSPE35 and subbasin PE35
        339     HC       2    1.71
                *

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      LINE      ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

        340     KK  PR35CTRETRIEVE
        341     KM   Retrieve full flow capacity of 554 cfs from 96-inch storm drain pipe at the
        342     KM   intersection of Cactus Road and 35th Avenue
        343     DR  DP35CT
                *
        344     KK  RP35PE   ROUTE
        345     KM   Route full flow capacity of 554 cfs through 96-inch storm drain pipe in
        346     KM   35th Avenue to the intersection of Peoria Avenue and 35th Avenue
        347     RK    5256  0.0037   0.015             CIRC   8.000
                *
        348     KK  CPPE35 COMBINE
        349     KM   Combine pipe return PR35CT with the runoff hydrograph at combination point
        350     KM   CPE35 at the intersection of Peoria Avenue and 35th Avenue
        351     HC       2
                *
        352     KK   D35PE  DIVERT
        353     KM   Divert calculated full flow capacity of 466 cfs into a 90-inch storm drain
        354     KM   pipe at the intersection of Peoria Avenue and 35th Avenue
        355     DT  DP35PE      0.0   466.0
        356     DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
        357     DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
                *
        358     KK  DSAC35  DIVERT
        359     KM   Divert remaining runoff hydrograph from combination point CPE35 south to
        360     KM   combination pointCAC01
        361     DT  DWPE43      0.0     0.0
        362     DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
        363     DQ     0.0    70.0   140.0   350.0   700.0  1400.0  2800.0  7000.0 14000.0 35000.0
                *
        364     KK  RSAC35   ROUTE
        365     KM   Route diversion DSAC35 south to combination pointCAC01
        366     RS       2     FLOW
        367     RC   0.035   0.015   0.035    3447  0.0041    0.00
        368     RX    0.00    0.00   41.00   41.00  184.00  184.00  225.00  225.00
        369     RY    3.00    0.91    0.50    0.00    0.00    0.50    0.91    3.00
                *
        370     KK    AC35   BASIN
        371     KM   Runoff hydrograph for subbasin AC35 northeast of the intersection of the ACDC
        372     KM   Canal and 35th Avenue
        373     BA   0.755
        374     LG    0.15    0.25    5.30    0.20      67
        375     UC   0.882   0.583
        376     UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
        377     UA     100
                *

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      LINE      ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

        378     KK   CAC01 COMBINE
        379     KM   Combine route RSAC35 and subbasin AC35
        380     HC       2    1.27
                *
        381     KK  PR35PERETRIEVE
        382     KM   Retrieve full flow capacity of 446 cfs from 90-inch storm drain pipe at the
        383     KM   intersection of Peoria Avenue and 35th Avenue
        384     DR  DP35PE
                *
        385     KK  RP35AC   ROUTE
        386     KM   Route full flow capacity of 446 cfs through 90-inch storm drain pipe in
        387     KM   35th Avenue to the intersection of ACDC and 35th Avenue
        388     RK    3523  0.0037   0.015             CIRC   7.500
```

```
                *
          389   KK  CPAC01 COMBINE
          390   KM   Combine pipe return PR35PE with the runoff hydrograph at combination point
          391   KM   CAC01 at the intersection of ACDC and 35th Avenue
          392   HC       2
                *
          393   KK  DRUH43RETRIEVE
          394   KM   Retrieve divert DRUH43 from combination point CUH35 and divert west to
          395   KM   combination point CUH43
          396   DR  DWUH43
                *
          397   KK  RWUH43   ROUTE
          398   KM   Route diversion retrieval DRUH43 west to combination point CUH43
          399   RS       6    FLOW
          400   RC   0.035   0.015   0.035    5280  0.0041    0.00
          401   RX    0.00    0.00   67.00   67.00  332.00  332.00  399.00  399.00
          402   RY    3.00    1.17    0.50    0.00    0.00    0.50    1.17    3.00
                *
          403   KK    UH43   BASIN
          404   KM   Runoff hydrograph for subbasin UH43 northeast of the intersection of Unioin
          405   KM   Hills Drive and 43rd Avenue
          406   BA   1.025
          407   LG    0.26    0.17    7.30    0.11      18
          408   UC   1.307   0.855
          409   UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
          410   UA     100
                *
          411   KK  ERUH43  DIVERT
          412   KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
          413   KM   retention developed after 1990 in subbasin UH43
          414   DT   XUH43     26.8      0.0
          415   DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
          416   DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
                *
1                                      HEC-1 INPUT                                                PAGE 11
         LINE   ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10
          417   KK   CUH43 COMBINE
          418   KM   Combine route RSUH43 and subbasin UH43
          419   HC       2    1.60
                *
          420   KK  PRUH35RETRIEVE
          421   KM   Retrieve full flow capacity of 875 cfs from 114-inch storm drain pipe at the
          422   KM   intersection of Union Hills Drive and 35th Avenue
          423   DR  DPUH35
                *
          424   KK  RPUH43   ROUTE
          425   KM   Route full flow capacity of 875 cfs through 114-inch storm drain pipe in
          426   KM   Union Hills Drive to the intersection of Union Hills Drive and 43rd Avenue
          427   RK    5324  0.0037   0.015            CIRC   9.500
                *
          428   KK  CPUH43 COMBINE
          429   KM   Combine pipe return PRUH35 with the runoff hydrograph at combination point
          430   KM   CUH43 at the intersection of Union Hills Drive and 43rd Avenue
          431   HC       2
                *
          432   KK   DUH43  DIVERT
          433   KM   Divert calculated full flow capacity of 1268 cfs into a 132-inch storm drain
          434   KM   pipe at the intersection of Union Hills Drive and 43rd Avenue
          435   DT  DPUH43      0.0  1268.0
          436   DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
          437   DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
                *
          438   KK  DSBL43  DIVERT
          439   KM   Divert remaining runoff hydrograph from combination point CUH43 south to
          440   KM   combination point CBL43
          441   DT  DWUH51      0.0      0.0
          442   DI     0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0  10000.0  20000.0  50000.0
          443   DQ     0.0     42.0     84.0    210.0    420.0    840.0   1680.0   4200.0   8400.0  21000.0
                *
          444   KK  RSBL43   ROUTE
          445   KM   Route diversion DSBL43 south to combination point CBL43
          446   RS       5    FLOW
          447   RC   0.035   0.015   0.035    5280  0.0037    0.00
          448   RX    0.00    0.00   48.00   48.00  251.00  251.00  299.00  299.00
          449   RY    3.00    0.98    0.50    0.00    0.00    0.50    0.98    3.00
                *
          450   KK  DRBL43RETRIEVE
          451   KM   Retrieve divert DRBL43 from combination point CBL35 and divert west to
```



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          452   KM   combination point CBL43
          453   DR  DWBL43
                *
1                                      HEC-1 INPUT                                                PAGE 12
         LINE   ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10
          454   KK  RWBL43   ROUTE
          455   KM   Route diversion retrieval DRBL43 west to combination point CBL43
          456   RS       3    FLOW
          457   RC   0.035   0.015   0.035    5280  0.0047    0.00
          458   RX    0.00    0.00   86.00   86.00  413.00  413.00  499.00  499.00
          459   RY    3.00    1.36    0.50    0.00    0.00    0.50    1.36    3.00
                *
          460   KK    BL43   BASIN
          461   KM   Runoff hydrograph for subbasin BL43 northeast of the intersection of Bell
          462   KM   Road and 43rd Avenue
          463   BA   1.049
          464   LG    0.24    0.15    8.00    0.07      33
          465   UC   1.306   0.857
          466   UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
          467   UA     100
                *
          468   KK   CBL43 COMBINE
          469   KM   Combine route RSBL43, route RWBL43, and subbasin BL43
          470   HC       3    3.10
                *
          471   KK   D43BL  DIVERT
          472   KM   Divert calculated full flow capacity of 117 cfs into a 54-inch storm drain
          473   KM   pipe at the intersection of Bell Road and 43rd Avenue
          474   DT  DP43BL      0.0    117.0
          475   DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
          476   DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
                *
          477   KK  DSGW43  DIVERT
          478   KM   Divert remaining runoff hydrograph from combination point CBL43 south to
          479   KM   combination point CGW43
          480   DT  DWBL51      0.0      0.0
          481   DI     0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0  10000.0  20000.0  50000.0
          482   DQ     0.0     46.0     92.0    230.0    460.0    920.0   1840.0   4600.0   9200.0  23000.0
                *
          483   KK  RSGW43   ROUTE
          484   KM   Route diversion DSGW43 south to combination point CGW43
          485   RS       3    FLOW
          486   RC   0.035   0.015   0.035    5280  0.0028    0.00
          487   RX    0.00    0.00   57.50   57.50  291.50  291.50  349.00  349.00
          488   RY    3.00    1.08    0.50    0.00    0.00    0.50    1.08    3.00
                *
          489   KK  DRGW43RETRIEVE
          490   KM   Retrieve divert DRGW43 from combination point CGW35 and divert west to
          491   KM   combination point CGW43
          492   DR  DWGW43
                *
1                                      HEC-1 INPUT                                                PAGE 13
         LINE   ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10
          493   KK  RWGW43   ROUTE
          494   KM   Route diversion retrieval DRGW43 west to combination point CGW43
          495   RS       3    FLOW
          496   RC   0.035   0.015   0.035    5280  0.0034    0.00
          497   RX    0.00    0.00   76.50   76.50  372.50  372.50  449.00  449.00
          498   RY    3.00    1.27    0.50    0.00    0.00    0.50    1.27    3.00
                *
          499   KK    GW43   BASIN
          500   KM   Runoff hydrograph for subbasin GW43 northeast of the intersection of Greenway
          501   KM   Road and 43rd Avenue
          502   BA   0.987
          503   LG    0.24    0.19    6.60    0.13      37
          504   UC   1.235   0.820
          505   UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
          506   UA     100
                *
          507   KK  ERGW43  DIVERT
          508   KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
          509   KM   retention developed after 1990 in subbasin GW43
          510   DT   XGW43      6.2      0.0
          511   DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
          512   DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
                *
          513   KK   CGW43 COMBINE
          514   KM   Combine route RSGW43, route RWGW43, and subbasin GW43
```

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515          HC       3    3.57
             *

516          KK  PR43BLRETRIEVE
517          KM   Retrieve full flow capacity of 117 cfs from 54-inch storm drain pipe at the
518          KM   intersection of Bell Road and 43rd Avenue
519          DR  DP43BL
             *

520          KK  RP43GW    ROUTE
521          KM   Route full flow capacity of 117 cfs through 54-inch storm drain pipe in
522          KM   43rd Avenue to the intersection of Greenway Road and 43rd Avenue
523          RK    5150  0.0035    0.015            CIRC    4.500
             *

524          KK  CPGW43 COMBINE
525          KM   Combine pipe return PR43BL with the runoff hydrograph at combination point
526          KM   CGW43 at the intersection of Greenway Road and 43rd Avenue
527          HC       2
             *
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        LINE ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

528          KK   D43GW  DIVERT
529          KM   Divert calculated full flow capacity of 155 cfs into a 60-inch storm drain
530          KM   pipe at the intersection of Greenway Road and 43rd Avenue
531          DT  DP43GW      0.0    155.0
532          DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
533          DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
             *

534          KK  DSTB43  DIVERT
535          KM   Divert remaining runoff hydrograph from combination point CGW43 south to
536          KM   combination point CTB43
537          DT  DWGW51      0.0      0.0
538          DI      0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0  10000.0  20000.0  50000.0
539          DQ      0.0     53.0    106.0    265.0    530.0   1060.0   2120.0   5300.0  10600.0  26500.0
             *

540          KK  RSTB43   ROUTE
541          KM   Route diversion DSTB43 south to combination point CTB43
542          RS       2    FLOW
543          RC   0.035   0.015   0.035    5280  0.0038    0.00
544          RX    0.00    0.00   67.00   67.00  332.00  332.00  399.00  399.00
545          RY    3.00    1.17    0.50    0.00    0.00    0.50    1.17    3.00
             *

546          KK  DRTB43RETRIEVE
547          KM   Retrieve divert DRTB43 from combination point CTB35 and divert west to
548          KM   combination point CTB43
549          DR  DWTB43
             *

550          KK  RWTB43   ROUTE
551          KM   Route diversion retrieval DRTB43 west to combination point CTB43
552          RS       4    FLOW
553          RC   0.035   0.015   0.035    5280  0.0037    0.00
554          RX    0.00    0.00   95.50   95.50  453.50  453.50  549.00  549.00
555          RY    3.00    1.46    0.50    0.00    0.00    0.50    1.46    3.00
             *

556          KK   TB43   BASIN
557          KM   Runoff hydrograph for subbasin TB43 northeast of the intersection of
558          KM   Thunderbird Road and 43rd Avenue
559          BA   0.995
560          LG    0.26    0.15    7.30    0.10      25
561          UC   1.352   0.903
562          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
563          UA     100
             *

564          KK   CTB43 COMBINE
565          KM   Combine route RSTB43, route RWTB43, and subbasin TB43
566          HC       3    3.55
             *
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        LINE ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

567          KK  PR43GWRETRIEVE
568          KM   Retrieve full flow capacity of 155 cfs from 60-inch storm drain pipe at the
569          KM   intersection of Greenway Road and 43rd Avenue
570          DR  DP43GW
             *

571          KK  RP43TB   ROUTE
572          KM   Route full flow capacity of 155 cfs through 60-inch storm drain pipe in
573          KM   43rd Avenue to the intersection of Thunderbird Road and 43rd Avenue
574          RK    5245  0.0035    0.015            CIRC    5.000
             *
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575          KK  CPTB43 COMBINE
576          KM   Combine pipe return PR43GW with the runoff hydrograph at combination point
577          KM   CTB43 at the intersection of Thunderbird Road and 43rd Avenue
578          HC       2
             *

579          KK   D43TB  DIVERT
580          KM   Divert calculated full flow capacity of 312 cfs into a 78-inch storm drain
581          KM   pipe at the intersection of Tunderbird Road and 43rd Avenue
582          DT  DP43TB      0.0    312.0
583          DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
584          DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
             *

585          KK  DSCT43  DIVERT
586          KM   Divert remaining runoff hydrograph from combination point CTB43 south to
587          KM   combination point CCT43
588          DT  DWTB51      0.0      0.0
589          DI      0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0  10000.0  20000.0  50000.0
590          DQ      0.0     63.0    126.0    315.0    630.0   1260.0   2520.0   6300.0  12600.0  31500.0
             *

591          KK  RSCT43   ROUTE
592          KM   Route diversion DSCT43 south to combination point CCT43
593          RS       3    FLOW
594          RC   0.035   0.015   0.035    5280  0.0030    0.00
595          RX    0.00    0.00   48.00   48.00  251.00  251.00  299.00  299.00
596          RY    3.00    0.98    0.50    0.00    0.00    0.50    0.98    3.00
             *

597          KK  DRCT43RETRIEVE
598          KM   Retrieve divert DRCT43 from combination point CCT35 and divert west to
599          KM   combination point CCT43
600          DR  DWCT43
             *

601          KK  RWCT43   ROUTE
602          KM   Route diversion retrieval DRCT43 west to combination point CCT43
603          RS       4    FLOW
604          RC   0.035   0.015   0.035    5280  0.0029    0.00
605          RX    0.00    0.00   86.00   86.00  413.00  413.00  499.00  499.00
606          RY    3.00    1.36    0.50    0.00    0.00    0.50    1.36    3.00
             *
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        LINE ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

607          KK   CT43   BASIN
608          KM   Runoff hydrograph for subbasin CT43 northeast of the intersection of Cactus
609          KM   Road and 43rd Avenue
610          BA   0.996
611          LG    0.23    0.15    8.00    0.07      37
612          UC   1.292   0.858
613          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
614          UA     100
             *

615          KK  ERCT43  DIVERT
616          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
617          KM   retention developed after 1990 in subbasin CT43
618          DT  XCT43     41.4      0.0
619          DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
620          DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
             *

621          KK   CCT43 COMBINE
622          KM   Combine route RSCT43, route RWCT43, and subbasin CT43
623          HC       3    3.35
             *

624          KK  PR43TBRETRIEVE
625          KM   Retrieve full flow capacity of 312 cfs from 78-inch storm drain pipe at the
626          KM   intersection of Thunderbird Road and 43rd Avenue
627          DR  DP43TB
             *

628          KK  RP43CT   ROUTE
629          KM   Route full flow capacity of 312 cfs through 78-inch storm drain pipe in
630          KM   43rd Avenue to the intersection of Cactus Road and 43rd Avenue
631          RK    5194  0.0035    0.015            CIRC    6.500
             *

632          KK  CPCT43 COMBINE
633          KM   Combine pipe return PR43TB with the runoff hydrograph at combination point
634          KM   CCT43 at the intersection of Cactus Road and 43rd Avenue
635          HC       2
             *

636          KK   D43CT  DIVERT
637          KM   Divert calculated full flow capacity of 380 cfs into an 84-inch storm drain
638          KM   pipe at the intersection of Cactus Road and 43rd Avenue
```

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639          DT  DP43CT      0.0    380.0
640          DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
641          DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
             *
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        LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

642          KK  DSPE43   DIVERT
643          KM   Divert remaining runoff hydrograph from combination point CCT43 south to
644          KM   combination point CPE43
645          DT  DWCT51      0.0      0.0
646          DI      0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0  10000.0  20000.0  50000.0
647          DQ      0.0     63.0    126.0    315.0    630.0   1260.0   2520.0   6300.0  12600.0  31500.0
             *

648          KK  RSPE43   ROUTE
649          KM   Route diversion DSPE43 south to combination point CPE43
650          RS       3    FLOW
651          RC   0.035    0.015    0.035     5280   0.0024     0.00
652          RX    0.00     0.00    48.00    48.00   251.00   251.00   299.00   299.00
653          RY    3.00     0.98     0.50     0.00     0.00     0.50     0.98     3.00
             *

654          KK  DRPE43RETRIEVE
655          KM   Retrieve divert DRPE43 from combination point CPE35 and divert west to
656          KM   combination point CPE43
657          DR  DWPE43
             *

658          KK  RWPE43   ROUTE
659          KM   Route diversion retrieval DRPE43 west to combination point CPE43
660          RS       4    FLOW
661          RC   0.035    0.015    0.035     5280   0.0030     0.00
662          RX    0.00     0.00   105.00   105.00   494.00   494.00   599.00   599.00
663          RY    3.00     1.55     0.50     0.00     0.00     0.50     1.55     3.00
             *

664          KK    PE43   BASIN
665          KM   Runoff hydrograph for subbasin PE43 northeast of the intersection of Peoria
666          KM   Avenue and 43rd Avenue
667          BA   0.997
668          LG    0.24     0.25     5.70     0.19       32
669          UC   1.452    0.976
670          UA       0      5.0     16.0     30.0     65.0     77.0     84.0     90.0     94.0     97.0
671          UA     100
             *

672          KK   CPE43 COMBINE
673          KM   Combine route RSPE43, route RWPE43, and subbasin PE43
674          HC       3     3.42
             *

675          KK  PR43CTRETRIEVE
676          KM   Retrieve full flow capacity of 380 cfs from 84-inch storm drain pipe at the
677          KM   intersection of Cactus Road and 43rd Avenue
678          DR  DP43CT
             *
1                                        HEC-1 INPUT                                                    PAGE 18

        LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

679          KK  RP43PE   ROUTE
680          KM   Route full flow capacity of 380 cfs through 84-inch storm drain pipe in
681          KM   43rd Avenue to the intersection of Peoria Avenue and 43rd Avenue
682          RK    4928  0.0035   0.015             CIRC    7.000
             *

683          KK  CPPE43 COMBINE
684          KM   Combine pipe return PR43CT with the runoff hydrograph at combination point
685          KM   CPE43 at the intersection of Peoria Avenue and 43rd Avenue
686          HC       2
             *

687          KK   D43PE  DIVERT
688          KM   Capacity of storm drain in Peoria Avenue and 43rd Avenue diverted together.
689          KM   Divert combined calculated full flow capacity of 456 cfs in the 90-inch storm
690          KM   drain pipe in Peoria Avenue and 64 cfs in the 42-inch storm drain pipe in
691          KM   43rd Avenue. The total calculated combined full flow capacity diverted at the
692          KM   intersection of Peoria Avenue and 43rd Avenue is 520 cfs in an equivalent
693          KM   diameter pipe of 96 inches
694          DT  DP43PE      0.0    520.0
695          DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
696          DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
             *

697          KK  DSAC43   DIVERT
698          KM   Divert remaining runoff hydrograph from combination point CPE43 south to
699          KM   combination point CAC02
700          DT  DWAC51      0.0      0.0
701          DI      0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0  10000.0  20000.0  50000.0
```



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702          DQ      0.0     38.0     76.0    190.0    380.0    760.0   1520.0   3800.0   7600.0  19000.0
             *

703          KK    AC43   BASIN
704          KM   Runoff hydrograph for subbasin AC43 northeast of the intersection of the ACDC
705          KM   Canal and 43rd Avenue
706          BA   0.362
707          LG    0.23     0.25     4.35     0.35       37
708          UC   1.246    1.349
709          UA       0      5.0     16.0     30.0     65.0     77.0     84.0     90.0     94.0     97.0
710          UA     100
             *

711          KK   CAC02 COMBINE
712          KM   Combine divert DSAC43, subbasin AC43, and combination point CPAC01
713          HC       3     3.75
             *

714          KK  PR43PERETRIEVE
715          KM   Retrieve combined full flow capacity of 520 cfs from 96-inch equivalent
716          KM   diameter pipe at the intersection of Peoria Avenue and 43rd Avenue
717          DR  DP43PE
             *
1                                        HEC-1 INPUT                                                    PAGE 19

        LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

718          KK  CPAC02 COMBINE
719          KM   Combine pipe return PR43PE with the runoff hydrograph at combination point
720          KM   CAC02 at the intersection of ACDC and 43rd Avenue
721          HC       2
             *

722          KK  DRUH51RETRIEVE
723          KM   Retrieve divert DRUH51 from combination point CUH43 and divert west to
724          KM   combination point CUH51
725          DR  DWUH51
             *

726          KK  RWUH51   ROUTE
727          KM   Route diversion retrieval DRUH51 west to combination point CUH51
728          RS       6    FLOW
729          RC   0.035    0.015    0.035     5280   0.0037     0.00
730          RX    0.00     0.00    76.50    76.50   372.50   372.50   449.00   449.00
731          RY    3.00     1.27     0.50     0.00     0.00     0.50     1.27     3.00
             *

732          KK    UH51   BASIN
733          KM   Runoff hydrograph for subbasin UH51 northeast of the intersection of Union
734          KM   Hills Drive and 51st Avenue
735          BA   0.990
736          LG    0.23     0.26     4.60     0.29       37
737          UC   1.442    0.965
738          UA       0      5.0     16.0     30.0     65.0     77.0     84.0     90.0     94.0     97.0
739          UA     100
             *

740          KK  ERUH51  DIVERT
741          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
742          KM   retention developed after 1990 in subbasin UH51
743          DT  XUH51      48.6      0.0
744          DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
745          DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
             *

746          KK   CUH51 COMBINE
747          KM   Combine route RWUH51 and subbasin UH51
748          HC       2     1.66
             *

749          KK  DSBL51   DIVERT
750          KM   Divert remaining runoff hydrograph from combination point CUH51 south to
751          KM   combination point CBL51
752          DT  DWUHSK      0.0      0.0
753          DI      0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0  10000.0  20000.0  50000.0
754          DQ      0.0     61.0    122.0    305.0    610.0   1220.0   2440.0   6100.0  12200.0  30500.0
             *
1                                        HEC-1 INPUT                                                    PAGE 20

        LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

755          KK  PRUH43RETRIEVE
756          KM   Retrieve full flow capacity of 1268 cfs from 132-inch storm drain pipe at the
757          KM   intersection of Union Hills Drive and 43rd Avenue
758          DR  DPUH43
             *

759          KK  RPUH51   ROUTE
760          KM   Route full flow capacity of 1268 cfs through 132-inch storm drain pipe in
761          KM   Union Hills Drive to the intersection of Union Hills Drive and 51st Avenue
762          RK    5152  0.0035   0.015             CIRC   11.000
```

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                *
          763   KK  CPUH51 COMBINE
          764   KM   Combine pipe return PRUH43 with diversion DSBL51 at the intersection of Union
          765   KM   Hills Drive and 51st Avenue
          766   HC       2
                *
          767   KK   DUH51  DIVERT
          768   KM   Divert calculated full flow capacity of 1548 cfs into a 144-inch storm drain
          769   KM   pipe at the intersection of Union Hills Drive and 51st Avenue.
          770   KM   Storm drain flow discharges to Skunk Creek and is not returned to the model.
          771   DT  DPUH51      0.0  1548.0
          772   DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
          773   DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
                *
          774   KK  RSBL51   ROUTE
          775   KM   Route diversion DSBL51 south to combination point CBL51
          776   RS       5     FLOW
          777   RC   0.035   0.015   0.035    5280  0.0040     0.00
          778   RX    0.00    0.00   48.00   48.00  251.00  251.00  299.00  299.00
          779   RY    3.00    0.98    0.50    0.00    0.00    0.50    0.98    3.00
                *
          780   KK  DRBL51RETRIEVE
          781   KM   Retrieve divert DRBL51 from combination point CBL43 and divert west to
          782   KM   combination point CBL51
          783   DR  DWBL51
                *
          784   KK  RWBL51   ROUTE
          785   KM   Route diversion retrieval DRBL51 west to combination point CBL51
          786   RS       3     FLOW
          787   RC   0.035   0.015   0.035    5280  0.0040     0.00
          788   RX    0.00    0.00   38.50   38.50  210.50  210.50  249.00  249.00
          789   RY    3.00    0.88    0.50    0.00    0.00    0.50    0.88    3.00
                *
1                                        HEC-1 INPUT                                        PAGE 21
      LINE        ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10
          790   KK    BL51   BASIN
          791   KM   Runoff hydrograph for subbasin BL51 northeast of the intersection of Bell
          792   KM   Road and 51st Avenue
          793   BA   1.045
          794   LG    0.22    0.19    6.60    0.14      31
          795   UC   1.267   0.834
          796   UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
          797   UA     100
                *
          798   KK  ERBL51  DIVERT
          799   KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
          800   KM   retention developed after 1990 in subbasin BL51
          801   DT   XBL51     23.0      0.0
          802   DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
          803   DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
                *
          804   KK   CBL51 COMBINE
          805   KM   Combine route RSBL51, route RWBL51, and subbasin BL51
          806   HC       3    3.12
                *
          807   KK   D51BL  DIVERT
          808   KM   Divert calculated full flow capacity of 38 cfs into a 36-inch storm drain
          809   KM   pipe at the intersection of Bell Road and 51st Avenue
          810   DT  DP51BL      0.0     38.0
          811   DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
          812   DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
                *
          813   KK  DSGW51  DIVERT
          814   KM   Divert remaining runoff hydrograph from combination point CBL51 south to
          815   KM   combination point CGW51
          816   DT  DWBL59      0.0      0.0
          817   DI      0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0  10000.0  20000.0  50000.0
          818   DQ      0.0     52.0    104.0    260.0    520.0   1040.0   2080.0   5200.0  10400.0  26000.0
                *
          819   KK  RSGW51   ROUTE
          820   KM   Route diversion DSGW51 south to combination point CGW51
          821   RS       1     FLOW
          822   RC   0.035   0.015   0.035    5280  0.0035     0.00
          823   RX    0.00    0.00   48.00   48.00  251.00  251.00  299.00  299.00
          824   RY    3.00    0.98    0.50    0.00    0.00    0.50    0.98    3.00
                *
          825   KK  DRGW51RETRIEVE
          826   KM   Retrieve divert DRGW51 from combination point CGW43 and divert west to
          827   KM   combination point CGW51
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          828   DR  DWGW51
                *
1                                        HEC-1 INPUT                                        PAGE 22
      LINE        ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10
          829   KK  RWGW51   ROUTE
          830   KM   Route diversion retrieval DRGW51 west to combination point CGW51
          831   RS       2     FLOW
          832   RC   0.035   0.015   0.035    5280  0.0047     0.00
          833   RX    0.00    0.00   67.00   67.00  332.00  332.00  399.00  399.00
          834   RY    3.00    1.17    0.50    0.00    0.00    0.50    1.17    3.00
                *
          835   KK    GW51   BASIN
          836   KM   Runoff hydrograph for subbasin GW51 northeast of the intersection of Greenway
          837   KM   Road and 51st Avenue
          838   BA   0.962
          839   LG    0.26    0.21    6.40    0.17      21
          840   UC   1.336   0.898
          841   UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
          842   UA     100
                *
          843   KK  ERGW51  DIVERT
          844   KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
          845   KM   retention developed after 1990 in subbasin GW51
          846   DT   XGW51      1.3      0.0
          847   DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
          848   DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
                *
          849   KK   CGW51 COMBINE
          850   KM   Combine route RSGW51, route RWGW51, and subbasin GW51
          851   HC       3    4.34
                *
          852   KK  PR51BLRETRIEVE
          853   KM   Retrieve full flow capacity of 38 cfs from 36-inch storm drain pipe at the
          854   KM   intersection of Bell Road and 51st Avenue
          855   DR  DP51BL
                *
          856   KK  RP51GW   ROUTE
          857   KM   Route full flow capacity of 38 cfs through 36-inch storm drain pipe in
          858   KM   51st Avenue to the intersection of Greenway Road and 51st Avenue
          859   RK    4986  0.0033   0.015            CIRC   3.000
                *
          860   KK  CPGW51 COMBINE
          861   KM   Combine pipe return PR51BL with the runoff hydrograph at combination point
          862   KM   CGW51 at the intersection of Greenway Road and 51st Avenue
          863   HC       2
                *
1                                        HEC-1 INPUT                                        PAGE 23
      LINE        ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10
          864   KK   D51GW  DIVERT
          865   KM   Divert calculated full flow capacity of 150 cfs into a 60-inch storm drain
          866   KM   pipe at the intersection of Greenway Road and 51st Avenue
          867   DT  DP51GW      0.0     150.0
          868   DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
          869   DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
                *
          870   KK  DSTB51  DIVERT
          871   KM   Divert remaining runoff hydrograph from combination point CGW51 south to
          872   KM   combination point CTB51
          873   DT  DWGW59      0.0      0.0
          874   DI      0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0  10000.0  20000.0  50000.0
          875   DQ      0.0     65.0    130.0    325.0    650.0   1300.0   2600.0   6500.0  13000.0  32500.0
                *
          876   KK  RSTB51   ROUTE
          877   KM   Route diversion DSTB51 south to combination point CTB51
          878   RS       3     FLOW
          879   RC   0.035   0.015   0.035    5280  0.0027     0.00
          880   RX    0.00    0.00   38.50   38.50  210.50  210.50  249.00  249.00
          881   RY    3.00    0.88    0.50    0.00    0.00    0.50    0.88    3.00
                *
          882   KK  DRTB51RETRIEVE
          883   KM   Retrieve divert DRTB51 from combination point CTB43 and divert west to
          884   KM   combination point CTB51
          885   DR  DWTB51
                *
          886   KK  RWTB51   ROUTE
          887   KM   Route diversion retrieval DRTB51 west to combination point CTB51
          888   RS       3     FLOW
```

```
889          RC   0.035   0.015   0.035    5280  0.0037    0.00
890          RX    0.00    0.00   76.50   76.50  372.50  372.50  449.00  449.00
891          RY    3.00    1.27    0.50    0.00    0.00    0.50    1.27    3.00
             *
892          KK    TB51   BASIN
893          KM   Runoff hydrograph for subbasin TB51 northeast of the intersection of
894          KM   Thunderbird Road and 51st Avenue
895          BA   0.990
896          LG    0.27    0.19    6.60    0.15      21
897          UC   1.352   0.902
898          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
899          UA     100
             *
900          KK   CTB51 COMBINE
901          KM   Combine route RSTB51, route RWTB51, and subbasin TB51
902          HC       3    4.70
             *
1                                        HEC-1 INPUT                                    PAGE 24

LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9.....10

903          KK  PR51GWRETRIEVE
904          KM   Retrieve full flow capacity of 150 cfs from 60-inch storm drain pipe at the
905          KM   intersection of Greenway Road and 51st Avenue
906          DR  DP51GW
             *
907          KK  RP51TB   ROUTE
908          KM   Route full flow capacity of 150 cfs through 60-inch storm drain pipe in
909          KM   51st Avenue to the intersection of Thunderbird Road and 51st Avenue
910          RK    5283  0.0033   0.015            CIRC   5.000
             *
911          KK  CPTB51 COMBINE
912          KM   Combine pipe return PR51GW with the runoff hydrograph at combination point
913          KM   CTB51 at the intersection of Thunderbird Road and 51st Avenue
914          HC       2
             *
915          KK   D51TB  DIVERT
916          KM   Divert calculated full flow capacity of 244 cfs into a 72-inch storm drain
917          KM   pipe at the intersection of Thunderbird Road and 51st Avenue
918          DT  DP51TB      0.0   244.0
919          DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
920          DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
             *
921          KK  DSCT51  DIVERT
922          KM   Divert remaining runoff hydrograph from combination point CTB51 south to
923          KM   combination point CCT51
924          DT  DWTB59      0.0      0.0
925          DI      0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0  10000.0  20000.0  50000.0
926          DQ      0.0     61.0    122.0    305.0    610.0   1220.0   2440.0   6100.0  12200.0  30500.0
             *
927          KK  RSCT51   ROUTE
928          KM   Route diversion DSCT51 south to combination point CCT51
929          RS       3    FLOW
930          RC   0.035   0.015   0.035    5280  0.0026    0.00
931          RX    0.00    0.00   26.00   26.00  148.00  148.00  174.00  174.00
932          RY    3.00    0.76    0.50    0.00    0.00    0.50    0.76    3.00
             *
933          KK  DRCT51RETRIEVE
934          KM   Retrieve divert DRCT51 from combination point CCT43 and divert west to
935          KM   combination point CCT51
936          DR  DWCT51
             *
937          KK  RWCT51   ROUTE
938          KM   Route diversion retrieval DRCT51 west to combination point CCT51
939          RS       3    FLOW
940          RC   0.035   0.015   0.035    5280  0.0032    0.00
941          RX    0.00    0.00   76.50   76.50  372.50  372.50  449.00  449.00
942          RY    3.00    1.27    0.50    0.00    0.00    0.50    1.27    3.00
             *
1                                        HEC-1 INPUT                                    PAGE 25

LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9.....10

943          KK    CT51   BASIN
944          KM   Runoff hydrograph for subbasin CT51 northeast of the intersection of Cactus
945          KM   Road and 51st Avenue
946          BA   0.988
947          LG    0.18    0.21    6.40    0.13      56
948          UC   1.089   0.710
949          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
950          UA     100
             *
```



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951          KK  ERCT51  DIVERT
952          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
953          KM   retention developed after 1990 in subbasin CT51
954          DT   XCT51     57.8      0.0
955          DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
956          DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
             *
957          KK   CCT51 COMBINE
958          KM   Combine route RSCT51, route RWCT51, and subbasin CT51
959          HC       3    4.94
             *
960          KK  PR51TBRETRIEVE
961          KM   Retrieve full flow capacity of 244 cfs from 72-inch storm drain pipe at the
962          KM   intersection of Thunderbird Road and 51st Avenue
963          DR  DP51TB
             *
964          KK  RP51CT   ROUTE
965          KM   Route full flow capacity of 244 cfs through 72-inch storm drain pipe in
966          KM   51st Avenue to the intersection of Cactus Road and 51st Avenue
967          RK    5189  0.0033   0.015            CIRC   6.000
             *
968          KK  CPCT51 COMBINE
969          KM   Combine pipe return PR51TB with the runoff hydrograph at combination point
970          KM   CCT51 at the intersection of Cactus Road and 51st Avenue
971          HC       2
             *
972          KK   D51CT  DIVERT
973          KM   Divert calculated full flow capacity of 244 cfs into a 72-inch storm drain
974          KM   pipe at the intersection of Cactus Road and 51st Avenue
975          DT  DP51CT      0.0   244.0
976          DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
977          DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
             *
1                                        HEC-1 INPUT                                    PAGE 26

LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9.....10

978          KK  DSAC51  DIVERT
979          KM   Divert remaining runoff hydrograph from combination point CCT51 south to
980          KM   combination point CAC03
981          DT  DWAC59      0.0      0.0
982          DI      0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0  10000.0  20000.0  50000.0
983          DQ      0.0     33.0     66.0    165.0    330.0    660.0   1320.0   3300.0   6600.0  16500.0
             *
984          KK  DRAC51RETRIEVE
985          KM   Retrieve divert DRAC51 from combination point CPE43 and divert west to
986          KM   combination point CAC03
987          DR  DWAC51
             *
988          KK    AC51   BASIN
989          KM   Runoff hydrograph for subbasin AC51 northeast of the intersection of the ACDC
990          KM   Canal and 51st Avenue
991          BA   0.576
992          LG    0.24    0.15    8.00    0.07      35
993          UC   1.461   1.576
994          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
995          UA     100
             *
996          KK  ERAC51  DIVERT
997          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
998          KM   retention developed after 1990 in subbasin AC51
999          DT   XAC51      0.6      0.0
1000         DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
1001         DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
             *
1002         KK   CAC03 COMBINE
1003         KM   Combine divert DSAC51, subbasin AC51, divert retrieval DRAC51, and
1004         KM   combination point CPAC02
1005         HC       4    8.95
             *
1006         KK  PR51CTRETRIEVE
1007         KM   Retrieve full flow capacity of 244 cfs from 72-inch storm drain pipe at the
1008         KM   intersection of Cactus Road and 51st Avenue
1009         DR  DP51CT
             *
1010         KK  CPAC03 COMBINE
1011         KM   Combine pipe return PR51CT with the runoff hydrograph at combination point
1012         KM   CAC03 at the intersection of ACDC and 51st Avenue
1013         HC       2
             *
```

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1                                        HEC-1 INPUT                                        PAGE 27

      LINE          ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

      1014          KK  DRBL59RETRIEVE
      1015          KM   Retrieve divert DRBL59 from combination point CBL51 and divert west to
      1016          KM   combination point CBL59
      1017          DR  DWBL59
                    *
      1018          KK  RWBL59   ROUTE
      1019          KM   Route diversion retrieval DRBL59 west to combination point CBL59
      1020          RS       2    FLOW
      1021          RC   0.035   0.015   0.035    5280  0.0031    0.00
      1022          RX    0.00    0.00   51.50   51.50  296.50  296.50  348.00  348.00
      1023          RY    3.00    1.02    0.50    0.00    0.00    0.50    1.02    3.00
                    *
      1024          KK    BL59   BASIN
      1025          KM   Runoff hydrograph for subbasin BL59 northeast of the intersection of Bell
      1026          KM   Road and 59th Avenue
      1027          BA   1.075
      1028          LG    0.23    0.17    6.80    0.12      40
      1029          UC   1.215   0.789
      1030          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
      1031          UA     100
                    *
      1032          KK  ERBL59  DIVERT
      1033          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
      1034          KM   retention developed after 1990 in subbasin BL59
      1035          DT   XBL59    75.9     0.0
      1036          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
      1037          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
                    *
      1038          KK   CBL59 COMBINE
      1039          KM   Combine route RWBL59 and subbasin BL59
      1040          HC       2    2.71
                    *
      1041          KK   D59BL  DIVERT
      1042          KM   Divert calculated full flow capacity of 108 cfs into 54-inch storm drain
      1043          KM   pipe at the intersection of Bell Road and 59th Avenue
      1044          DT   DP59BL     0.0   108.0
      1045          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
      1046          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
                    *
      1047          KK  DSGW59  DIVERT
      1048          KM   Divert remaining runoff hydrograph from combination point CBL59 south to
      1049          KM   combination point CGW59
      1050          DT   DWBL67     0.0     0.0
      1051          DI      0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
      1052          DQ      0.0    31.0    62.0   155.0   310.0   620.0  1240.0  3100.0  6200.0 15500.0
                    *
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      LINE          ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

      1053          KK  RSGW59   ROUTE
      1054          KM   Route diversion DSGW59 south to combination point CGW59
      1055          RS       5    FLOW
      1056          RC   0.035   0.015   0.035    5280  0.0038    0.00
      1057          RX    0.00    0.00   38.50   38.50  241.50  241.50  280.00  280.00
      1058          RY    3.00    0.88    0.50    0.00    0.00    0.50    0.88    3.00
                    *
      1059          KK  DRGW59RETRIEVE
      1060          KM   Retrieve divert DRGW59 from combination point CGW51 and divert west to
      1061          KM   combination point CGW59
      1062          DR  DWGW59
                    *
      1063          KK  RWGW59   ROUTE
      1064          KM   Route diversion retrieval DRGW59 west to combination point CGW59
      1065          RS       2    FLOW
      1066          RC   0.035   0.015   0.035    5280  0.0033    0.00
      1067          RX    0.00    0.00   68.50   68.50  359.50  359.50  428.00  428.00
      1068          RY    3.00    1.18    0.50    0.00    0.00    0.50    1.18    3.00
                    *
      1069          KK    GW59   BASIN
      1070          KM   Runoff hydrograph for subbasin GW59 northeast of the intersection of Greenway
      1071          KM   Road and 59th Avenue
      1072          BA   0.944
      1073          LG    0.21    0.15    7.30    0.10      43
      1074          UC   1.272   0.855
      1075          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
      1076          UA     100
                    *
```



```
      1077          KK  ERGW59  DIVERT
      1078          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
      1079          KM   retention developed after 1990 in subbasin GW59
      1080          DT   XGW59    35.9     0.0
      1081          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
      1082          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
                    *
      1083          KK   CGW59 COMBINE
      1084          KM   Combine route RSGW59, route RWGW59, and subbasin GW59
      1085          HC       3    5.64
                    *
      1086          KK  PR59BLRETRIEVE
      1087          KM   Retrieve full flow capacity of 108 cfs from 54-inch storm drain pipe at the
      1088          KM   intersection of Bell Road and 59th Avenue
      1089          DR  DP59BL
                    *
1                                        HEC-1 INPUT                                        PAGE 29

      LINE          ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

      1090          KK  RP59GW   ROUTE
      1091          KM   Route full flow capacity of 108 cfs through 54-inch storm drain pipe in
      1092          KM   59th Avenue to the intersection of Greenway Road and 59th Avenue
      1093          RK    4995  0.0030   0.015             CIRC   4.500
                    *
      1094          KK  CPGW59 COMBINE
      1095          KM   Combine pipe return PR59BL with the runoff hydrograph at combination point
      1096          KM   CGW59 at the intersection of Greenway Road and 59th Avenue
      1097          HC       2
                    *
      1098          KK   D59GW  DIVERT
      1099          KM   Divert calculated full flow capacity of 273 cfs into 78-inch storm drain
      1100          KM   pipe at the intersection of Greenway Road and 59th Avenue
      1101          DT   DP59GW     0.0   273.0
      1102          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
      1103          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
                    *
      1104          KK  DSTB59  DIVERT
      1105          KM   Divert remaining runoff hydrograph from combination point CPGW59 south to
      1106          KM   combination point CTB59
      1107          DT   DWGW67     0.0     0.0
      1108          DI      0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
      1109          DQ      0.0    45.0    90.0   225.0   450.0   900.0  1800.0  4500.0  9000.0 22500.0
                    *
      1110          KK  RSTB59   ROUTE
      1111          KM   Route diversion DSTB59 south to combination point CTB59
      1112          RS       3    FLOW
      1113          RC   0.035   0.015   0.035    5280  0.0026    0.00
      1114          RX    0.00    0.00   65.50   65.50  382.50  382.50  448.00  448.00
      1115          RY    3.00    1.16    0.50    0.00    0.00    0.50    1.16    3.00
                    *
      1116          KK  DRTB59RETRIEVE
      1117          KM   Retrieve divert DRTB59 from combination point CTB51 and divert west to
      1118          KM   combination point CTB59
      1119          DR  DWTB59
                    *
      1120          KK  RWTB59   ROUTE
      1121          KM   Route diversion retrieval DRTB59 west to combination point CTB59
      1122          RS       3    FLOW
      1123          RC   0.035   0.015   0.035    5280  0.0032    0.00
      1124          RX    0.00    0.00   37.50   37.50  210.50  210.50  248.00  248.00
      1125          RY    3.00    0.88    0.50    0.00    0.00    0.50    0.88    3.00
                    *
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      LINE          ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

      1126          KK    TB59   BASIN
      1127          KM   Runoff hydrograph for subbasin TB59 northeast of the intersection of
      1128          KM   Thunderbird Road and 59th Avenue
      1129          BA   0.995
      1130          LG    0.22    0.23    6.20    0.15      43
      1131          UC   1.315   0.876
      1132          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
      1133          UA     100
                    *
      1134          KK   CTB59 COMBINE
      1135          KM   Combine route RSTB59, route RWTB59, and subbasin TB59
      1136          HC       3    6.96
                    *
```

```
1137          KK  PR59GWRETRIEVE
1138          KM   Retrieve full flow capacity of 273 cfs from 78-inch storm drain pipe at the
1139          KM   intersection of Greenway Road and 59th Avenue
1140          DR  DP59GW
              *

1141          KK  RP59AM    ROUTE
1142          KM   Route full flow capacity of 273 cfs through 78-inch storm drain pipe in
1143          KM   59th Avenue to the intersection of Acoma Drive and 59th Avenue
1144          RK    2519  0.0027   0.015            CIRC   6.500
              *

1145          KK  SRAM59 STORAGE
1146          KM   Storage route pipe flow PR59GW through the regional retention basin located
1147          KM     in subbasin TB59 near the intersection of Acoma Drive and 59th Avenue
1148          KM   Stage-storage data from 59th Avenue Detention Basin As-built records, 1990
1149          RS       1    STOR
1150          SV            0.20    2.80   10.90   11.80   12.70   14.90
1151          SQ            3.00  118.00  206.00  478.00  970.00 2354.00
1152          SE  1214.5 1215.00 1218.00 1224.00 1224.50 1225.00 1226.00
              *

1153          KK  RP59TB    ROUTE
1154          KM   Route full flow capacity of 135 cfs through 60-inch storm drain pipe in
1155          KM   59th Avenue to the intersection of Thunderbird Road and 59th Avenue
1156          RK    2759  0.0027   0.015            CIRC   5.000
              *

1157          KK  CPTB59 COMBINE
1158          KM   Combine pipe return PR59GW with the runoff hydrograph at combination point
1159          KM   CTB59 at the intersection of Thunderbird Road and 59th Avenue
1160          HC       2
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1161          KK   DTB59  DIVERT
1162          KM   Divert calculated full flow capacity of 578 cfs into 96-inch storm drain
1163          KM   pipe at the intersection of Olive Avenue and 43rd Avenue
1164          DT  DPTB59      0.0   578.0
1165          DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
1166          DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

1167          KK  DSAC59  DIVERT
1168          KM   Divert remaining runoff hydrograph from combination point CPTB59 south to
1169          KM   combination point CAC04
1170          DT  DWAC67      0.0      0.0
1171          DI      0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0  10000.0  20000.0  50000.0
1172          DQ      0.0     41.0     82.0    205.0    410.0    820.0   1640.0   4100.0   8200.0  20500.0
              *

1173          KK  DRAC59RETRIEVE
1174          KM   Retrieve divert DRAC59 from combination point CCT51 and divert west to
1175          KM   combination point CAC04
1176          DR  DWAC59
              *

1177          KK    AC59   BASIN
1178          KM   Runoff hydrograph for subbasin AC59 northeast of the intersection of the ACDC
1179          KM   Canal and 59th Avenue
1180          BA   0.742
1181          LG    0.18    0.15    8.00    0.08      39
1182          UC   1.410   1.362
1183          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
1184          UA     100
              *

1185          KK  ERAC59  DIVERT
1186          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
1187          KM   retention developed after 1990 in subbasin AC59
1188          DT   XAC59     56.9      0.0
1189          DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
1190          DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

1191          KK   CAC04 COMBINE
1192          KM   Combine divert DSAC59 and subbasin AC59
1193          HC       4   15.39
              *

1194          KK  PRTB59RETRIEVE
1195          KM   Retrieve full flow capacity of 578 cfs from 96-inch storm drain pipe at the
1196          KM   intersection of Thunderbird Road and 59th Avenue
1197          DR  DPTB59
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10
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1198          KK  CPAC04 COMBINE
1199          KM   Combine pipe return PRTB59 with the runoff hydrograph at combination point
1200          KM   CAC04 at the intersection of the ACDC canal and 59th Avenue
1201          HC       2
              *

1202          KK  DRBL67RETRIEVE
1203          KM   Retrieve divert DRBL67 from combination point CBL59 and divert west to
1204          KM   combination point CBL67
1205          DR  DWBL67
              *

1206          KK   DBL67  DIVERT
1207          KM   Divert portion of diversion retrieval DRBL67 west to subbasin SK67 and the
1208          KM   remaining flow follow to subbasin BL67 at combination point CBL67
1209          DT  DWSK67      0.0      0.0
1210          DI      0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0  10000.0  20000.0  50000.0
1211          DQ      0.0     74.0    148.0    370.0    740.0   1480.0   2960.0   7400.0  14800.0  37000.0
              *

1212          KK  RWBL67    ROUTE
1213          KM   Route diversion retrieval DRBL67 west to combination point CBL67
1214          RS       8    FLOW
1215          RC   0.035   0.015   0.035    5280  0.0037    0.00
1216          RX    0.00    0.00   17.50   17.50  112.50  112.50  130.00  130.00
1217          RY    3.00    0.68    0.50    0.00    0.00    0.50    0.68    3.00
              *

1218          KK    BL67   BASIN
1219          KM   Runoff hydrograph for subbasin BL67 northeast of the intersection of Bell
1220          KM   Road and 67th Avenue
1221          BA   0.233
1222          LG    0.18    0.23    6.20    0.16      52
1223          UC   0.904   0.878
1224          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
1225          UA     100
              *

1226          KK  ERBL67  DIVERT
1227          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
1228          KM   retention developed after 1990 in subbasin BL67
1229          DT   XBL67     15.7      0.0
1230          DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
1231          DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

1232          KK   CBL67 COMBINE
1233          KM   Combine route RWBL67 and subbasin BL67
1234          HC       2    0.46
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1235          KK   D67BL  DIVERT
1236          KM   Divert calculated full flow capacity of 32 cfs into 36-inch storm drain
1237          KM   pipe at the intersection of Bell Road and 67th Avenue
1238          DT  DP67BL      0.0     32.0
1239          DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
1240          DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

1241          KK  DSGW67  DIVERT
1242          KM   Divert remaining runoff hydrograph from combination point CBL67 south to
1243          KM   combination point CGW67
1244          DT  DWBL75      0.0      0.0
1245          DI      0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0  10000.0  20000.0  50000.0
1246          DQ      0.0     61.0    122.0    305.0    610.0   1220.0   2440.0   6100.0  12200.0  30500.0
              *

1247          KK  RSGW67    ROUTE
1248          KM   Route diversion DSGW67 south to combination point CGW67
1249          RS      10    FLOW
1250          RC   0.035   0.015   0.035    5280  0.0025    0.00
1251          RX    0.00    0.00   44.50   44.50  253.50  253.50  298.00  298.00
1252          RY    3.00    0.94    0.50    0.00    0.00    0.50    0.94    3.00
              *

1253          KK  DRGW67RETRIEVE
1254          KM   Retrieve divert DRGW67 from combination point CGW59 and divert west to
1255          KM   combination point CGW67
1256          DR  DWGW67
              *

1257          KK  RWGW67    ROUTE
1258          KM   Route diversion retrieval DRGW67 west to combination point CGW67
1259          RS       3    FLOW
1260          RC   0.035   0.015   0.035    5280  0.0025    0.00
1261          RX    0.00    0.00   61.50   61.50  316.50  316.50  378.00  378.00
1262          RY    3.00    1.12    0.50    0.00    0.00    0.50    1.12    3.00
              *
```

```
KK    GW67   BASIN
KM   Runoff hydrograph for subbasin GW67 northeast of the intersection of Greenway
KM   Road and 67th Avenue
BA   0.892
LG    0.23    0.15    8.40    0.06      39
UC   1.230   0.830
UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
UA     100
*

KK  ERGW67  DIVERT
KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
KM   retention developed after 1990 in subbasin GW67
DT   XGW67     50.2      0.0
DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
*
```



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LINE  ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

KK   CGW67 COMBINE
KM   Combine route RSGW67, route RWGW67, and subbasin GW67
HC        3     3.64
*

KK  PR67BLRETRIEVE
KM   Retrieve full flow capacity of 32 cfs from 36-inch storm drain pipe at the
KM   intersection of Bell Road and 67th Avenue
DR  DP67BL
*

KK  RP67GW   ROUTE
KM   Route full flow capacity of 32 cfs through 36-inch storm drain pipe in
KM   67th Avenue to the intersection of Greenway Road and 67th Avenue
RK     5072  0.0023    0.015             CIRC    3.000
*

KK  CPGW67 COMBINE
KM   Combine pipe return PR67BL with the runoff hydrograph at combination point
KM   CGW67 at the intersection of Greenway Road and 67th Avenue
HC        2
*

KK   D67GW  DIVERT
KM   Divert calculated full flow capacity of 608 cfs into 84-inch storm drain
KM   pipe at the intersection of Greenway Road and 67th Avenue
DT  DP67GW       0.0     608.0
DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
*

KK  DSAC67  DIVERT
KM   Divert remaining runoff hydrograph from combination point CPGW67 south to
KM   combination point CAC05
DT  DWAC75       0.0      0.0
DI       0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0  10000.0  20000.0  50000.0
DQ       0.0     84.0    168.0    420.0    840.0   1680.0   3360.0   8400.0  16800.0  42000.0
*

KK  RSAC67   ROUTE
KM   Route diversion DSAC67 south to combination point CAC05
RS        1     FLOW
RC    0.035    0.015    0.035     1216   0.0020     0.00
RX     0.00     0.00    34.00    34.00   184.00   184.00   218.00   218.00
RY     3.00     0.84     0.50     0.00     0.00     0.50     0.84     3.00
*

KK  DRAC67RETRIEVE
KM   Retrieve divert DRAC67 from combination point CPTB59 and divert west to
KM   combination point CAC05
DR  DWAC67
*
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LINE  ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

KK  RWAC67   ROUTE
KM   Route diversion retrieval DRAC67 west to combination point CAC05
RS        1     FLOW
RC    0.035    0.015    0.035     1071   0.0029     0.00
RX     0.00     0.00    28.00    28.00   172.00   172.00   200.00   200.00
RY     3.00     0.78     0.50     0.00     0.00     0.50     0.78     3.00
*

KK    AC67   BASIN
KM   Runoff hydrograph for subbasin AC67 northeast of the intersection of the ACDC
KM   Canal and 67th Avenue
BA   0.698
LG    0.22    0.15    8.40    0.07      29
UC   1.358   1.246
```



```
UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
UA     100
*

KK   CAC05 COMBINE
KM   Combine route RSAC67, and subbasin AC67
HC        4   19.62
*

KK  PR67GWRETRIEVE
KM   Retrieve full flow capacity of 608 cfs from 84-inch storm drain pipe at the
KM   intersection of Greenway Road and 67th Avenue
DR  DP67GW
*

KK  RP67AC   ROUTE
KM   Route full flow capacity of 608 cfs through 84-inch storm drain pipe in
KM   67th Avenue to the intersection of the ACDC canal and 67th Avenue
RK     1168  0.0090    0.015             CIRC    7.000
*

KK  CPAC05 COMBINE
KM   Combine pipe return PR67GW with the runoff hydrograph at combination point
KM   CAC05 at the intersection of the ACDC canal and 67th Avenue
HC        2   19.55
*

KK  DRAC75RETRIEVE
KM   Retrieve divert DRAC75 from combination point CPGW67 and divert west to
KM   combination point CAC06
DR  DWAC75
*

KK    AC75   BASIN
KM   Runoff hydrograph for subbasin AC75 near the intersection of the ACDC Canal
KM   75th Avenue
BA   0.842
LG    0.20    0.25    5.80    0.18      34
UC   1.324   1.089
UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
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LINE  ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

UA     100
*

KK  ERAC75  DIVERT
KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
KM   retention developed after 1990 in subbasin AC75
DT   XAC75     17.3      0.0
DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
*

KK   CAC06 COMBINE
KM   Combine route RAC75 and subbasin AC75
HC        3   23.44
*

KK    HV55   BASIN
KM   Runoff hydrograph for subbasin HV55 near the intersection of Happy Valley
KM   Road and 55th Avenue
BA   2.054
LG    0.21    0.28    4.40    0.35      34
UC   1.117   0.600
UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
UA     100
*

KK  ERHV55  DIVERT
KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
KM   retention developed after 1990 in subbasin HV55
DT   XHV55     110.2      0.0
DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
*

KK   RCL57   ROUTE
KM   Route runoff hydrograph at subbasin HV55 to combination point CCL57
RS        3     FLOW
RC    0.045    0.035    0.045     5676   0.0078     0.00
RX     0.00     0.00    40.00    50.00    60.00    70.00   110.00   110.00
RY     6.20     5.20     5.00     0.00     0.00     5.00     5.20     6.20
*

KK    CL57   BASIN
KM   Runoff hydrograph for subbasin CL57 near the intersection of Pinnacle Hill
KM   Road and 57th Avenue
BA   0.746
LG    0.23    0.27    4.55    0.33      31
UC   0.878   0.464
UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
```

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1391          UA     100
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


1392          KK  ERCL57  DIVERT
1393          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
1394          KM   retention developed after 1990 in subbasin CL57
1395          DT   XCL57     43.7      0.0
1396          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
1397          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *


1398          KK   CCL57 COMBINE
1399          KM   Combine route RCL57 and subbasin CL57
1400          HC       2     2.80
              *


1401          KK   RWL59   ROUTE
1402          KM   Route runoff hydrograph at combination point CCL57 to combination point CWL59
1403          RS       5     FLOW
1404          RC   0.045   0.035   0.045    8099  0.0061    0.00
1405          RX    0.00    0.00   40.00   50.00   60.00   70.00  110.00  110.00
1406          RY    6.20    5.20    5.00    0.00    0.00    5.00    5.20    6.20
              *


1407          KK    WL59   BASIN
1408          KM   Runoff hydrograph for subbasin WL59 near the intersection of Williams Road
1409          KM   and 59th Avenue
1410          BA   0.562
1411          LG    0.17    0.32    4.70    0.29      22
1412          UC   1.111   0.858
1413          UA        0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
1414          UA      100
              *


1415          KK  ERWL59  DIVERT
1416          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
1417          KM   retention developed after 1990 in subbasin WL59
1418          DT   XWL59     11.1      0.0
1419          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
1420          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *


1421          KK   CWL59 COMBINE
1422          KM   Combine route RWL59 and subbasin WL59
1423          HC       2     3.36
              *


1424          KK    DV56   BASIN
1425          KM   Runoff hydrograph for subbasin DV56 near the intersection of Deer Valley Road
1426          KM   and 56th Avenue
1427          BA   0.287
1428          LG    0.10    0.33    4.65    0.27      38
1429          UC   0.571   0.314
1430          UA        0     3.0     5.0     8.0    12.0    20.0    43.0    75.0    90.0    96.0
1431          UA      100
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


1432          KK   CDV56 COMBINE
1433          KM   Combine route RDV56 and subbasin DV56
1434          HC       2     3.65
              *


1435          KK  SRDV56 STORAGE
1436          KM   Storage route runoff hydrograph from combination point CDV56 through
1437          KM     regional detention basin located in subbasin DV56 (Arrowhead Lake 1)
1438          KM   Stage-storage-discharge data from Glendale/Peoria ADMPU Arrowhead Lakes
1439          KM     Hydrology Report (Volume AL), 2001
1440          RS       1     STOR
1441          SV            8.50   17.19   26.06   35.12   44.34   53.71   63.24   72.91
1442          SQ          139.00  399.00  732.00 1146.00 1639.00 2202.00 2814.00 3516.00
1443          SE            0.50    1.00    1.50    2.00    2.50    3.00    3.50    4.00
              *


1444          KK    LO51   BASIN
1445          KM   Runoff hydrograph for subbasin LO51 near the intersection of SR Loop 101
1446          KM   51st Avenue
1447          BA   1.130
1448          LG    0.16    0.23    4.25    0.35      47
1449          UC   1.317   0.750
1450          UA        0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
1451          UA      100
              *


1452          KK   CLO51 COMBINE
1453          KM   Combine route RLO51 and subbasin LO51
```



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1454          HC       2     4.78
              *


1455          KK   D51LO  DIVERT
1456          KM   Divert calculated full flow capacity of 38 cfs into a 36-inch storm drain
1457          KM   pipe at the intersection of SR Loop 101 and 51st Avenue.
1458          KM   Storm drain flow discharges to Skunk Creek and is not returned to the model.
1459          DT   DP51LO      0.0     38.0
1460          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
1461          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *


1462          KK  SRLO51 STORAGE
1463          KM   Storage route runoff hydrograph from combination point CLO51 through
1464          KM     regional detention basin located in subbasin LO51 (Arrowhead Lakes 2-5)
1465          KM   Stage-storage-discharge data from Glendale/Peoria ADMPU Arrowhead Lakes
1466          KM     Hydrology Report (Volume AL), 2001
1467          RS       1     STOR
1468          SV           62.29  129.43  199.09  270.01  340.91  411.82  482.73  582.60
1469          SQ          120.00  346.00  634.00  993.00 1421.00 1908.00 2439.00 3047.00
1470          SE            0.50    1.00    1.50    2.00    2.50    3.00    3.50    4.00
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


1471          KK  RUHSKA   ROUTE
1472          KM   Route runoff hydrograph at combination point CLO51 to combination point CSK01
1473          RS       4     FLOW
1474          RC   0.045   0.035   0.045    4440  0.0034    0.00
1475          RX    0.00    0.00   55.00   75.00  100.00  120.00  175.00  175.00
1476          RY   11.20   10.20   10.00    0.00    0.00   10.00   10.20   11.20
              *


1477          KK  DRUHSKRETRIEVE
1478          KM   Retrieve divert DRUHSK from combination point CUH51 and divert west to
1479          KM   combination point CUHSK
1480          DR  DWUHSK
              *


1481          KK   D51SK  DIVERT
1482          KM   Divert calculated full flow capacity of 24 cfs into a 30-inch storm drain
1483          KM   pipe near the intersection of Skunk Creek and 51st Avenue
1484          KM   Storm drain flow discharges to Skunk Creek and is not returned to the model.
1485          DT   DP51SK      0.0     24.0
1486          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
1487          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *


1488          KK  RUHSKB   ROUTE
1489          KM   Route diversion D51SK to combination point CSK01
1490          RS       6     FLOW
1491          RC   0.035   0.015   0.035    6960  0.0034    0.00
1492          RX    0.00    0.00   17.50   17.50  112.50  112.50  130.00  130.00
1493          RY    3.00    0.68    0.50    0.00    0.00    0.50    0.68    3.00
              *


1494          KK    UHSK   BASIN
1495          KM   Runoff hydrograph for subbasin UHSK northeast of the intersection of Union
1496          KM   Hills Drive and 59th Avenue
1497          BA   0.933
1498          LG    0.22    0.27    5.00    0.25      31
1499          UC   1.067   0.689
1500          UA        0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
1501          UA      100
              *


1502          KK  ERUHSK  DIVERT
1503          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
1504          KM   retention developed after 1990 in subbasin UHSK
1505          DT   XUHSK     19.7      0.0
1506          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
1507          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


1508          KK   CSK01 COMBINE
1509          KM   Combine route RUHSKA, route RUHSKB, and subbasin UHSK
1510          HC       3     6.73
              *


1511          KK   DUHSK  DIVERT
1512          KM   Divert calculated full flow capacity of 10 cfs into 24-inch storm drain
1513          KM   pipe at the intersection of Union Hills Drive and 59th Avenue
1514          DT   DPUHSK      0.0     10.0
1515          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
1516          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *
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1517          KK  DRSK67RETRIEVE
1518          KM   Retrieve divert DRSK67 from combination point CBL59 and divert west to
1519          KM   combination point CSK67
1520          DR  DWSK67
              *

1521          KK   RSK67   ROUTE
1522          KM   Route diversion retrieval DRSK67 to combination point CSK67
1523          RS       8    FLOW
1524          RC  0.035   0.015   0.035    5113  0.0037    0.00
1525          RX   0.00    0.00   68.50   68.50  359.50  359.50  428.00  428.00
1526          RY   3.00    1.18    0.50    0.00    0.00    0.50    1.18    3.00
              *

1527          KK    SK67   BASIN
1528          KM   Runoff hydrograph for subbasin SK67 northeast of the intersection of
1529          KM   Greenbriar Drive and 67th Avenue
1530          BA   0.942
1531          LG    0.25    0.26    5.20    0.24      30
1532          UC   1.096   0.586
1533          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
1534          UA     100
              *

1535          KK  ERSK67  DIVERT
1536          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
1537          KM   retention developed after 1990 in subbasin SK67
1538          DT   XSK67    28.3     0.0
1539          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
1540          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

1541          KK   CSK02 COMBINE
1542          KM   Combine route RSK67 and subbasin SK67
1543          HC       3    8.30
              *
```



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LINE          ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

1544          KK  PRUHSKRETRIEVE
1545          KM   Retrieve full flow capacity of 10 cfs from 24-inch storm drain pipe at the
1546          KM   intersection of Union Hills Drive and 59th Avenue
1547          DR  DPUHSK
              *

1548          KK  RPSK67   ROUTE
1549          KM   Route full flow capacity of 10 cfs through 24-inch storm drain pipe in
1550          KM   67th Avenue to the intersection of Greenbriar Drive and 67th Avenue
1551          RK    6044  0.0020   0.015             CIRC   2.000
              *

1552          KK  CPSK02 COMBINE
1553          KM   Combine pipe return PRUHSK with the runoff hydrograph at combination point
1554          KM   CSK67 at the intersection of Greenbriar Drive and 67th Avenue
1555          HC       2
              *

1556          KK    UH67   BASIN
1557          KM   Runoff hydrograph for subbasin UH67 near the intersection of Utopia Road
1558          KM   67th Avenue
1559          BA   0.784
1560          LG    0.23    0.25    5.80    0.17      44
1561          UC   1.035   0.726
1562          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
1563          UA     100
              *

1564          KK  ERUH67  DIVERT
1565          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
1566          KM   retention developed after 1990 in subbasin UH67
1567          DT   XUH67    66.8     0.0
1568          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
1569          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

1570          KK   RUH75   ROUTE
1571          KM   Route runoff hydrograph at subbasin UH67 to combination point CUH75
1572          RS      10    FLOW
1573          RC   0.045   0.035   0.045    7047  0.0021    0.00
1574          RX    0.00    0.00   19.00   25.00   30.00   36.00   55.00   55.00
1575          RY    4.10    3.10    3.00    0.00    0.00    3.00    3.10    4.10
              *

1576          KK    UH75   BASIN
1577          KM   Runoff hydrograph for subbasin UH75 near the intersection of Union Hills
1578          KM   Road and 75th Avenue
1579          BA   0.814
1580          LG    0.22    0.15    7.30    0.11      29
1581          UC   1.500   1.021
1582          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
1583          UA     100
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LINE          ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

1584          KK  ERUH75  DIVERT
1585          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
1586          KM   retention developed after 1990 in subbasin UH75
1587          DT   XUH75    65.2     0.0
1588          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
1589          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

1590          KK   CUH75 COMBINE
1591          KM   Combine route RUH75 and subbasin UH75
1592          HC       2    1.60
              *

1593          KK  RBL75A   ROUTE
1594          KM   Route runoff hydrograph at combination point CUH75 to combination point CSK03
1595          RS       6    FLOW
1596          RC   0.045   0.035   0.045    4730  0.0037    0.00
1597          RX    0.00    0.00   19.00   25.00   30.00   36.00   55.00   55.00
1598          RY    4.10    3.10    3.00    0.00    0.00    3.00    3.10    4.10
              *

1599          KK  DRBL75RETRIEVE
1600          KM   Retrieve divert DRBL75 from combination point CBL67 and divert west to
1601          KM   combination point CSK03
1602          DR  DWBL75
              *

1603          KK  RBL75B   ROUTE
1604          KM   Route diversion retrieval DRBL75 to combination point CSK03
1605          RS       3    FLOW
1606          RC   0.035   0.015   0.035    2940  0.0048    0.00
1607          RX    0.00    0.00   17.50   17.50  112.50  112.50  130.00  130.00
1608          RY    3.00    0.68    0.50    0.00    0.00    0.50    0.68    3.00
              *

1609          KK    BL75   BASIN
1610          KM   Runoff hydrograph for subbasin BL75 near the intersection of Bell Road
1611          KM   75th Avenue
1612          BA   1.063
1613          LG    0.24    0.26    5.20    0.24      30
1614          UC   1.226   0.783
1615          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
1616          UA     100
              *

1617          KK  ERBL75  DIVERT
1618          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
1619          KM   retention developed after 1990 in subbasin BL75
1620          DT   XBL75    13.2     0.0
1621          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
1622          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *
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LINE          ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

1623          KK   CSK03 COMBINE
1624          KM   Combine route RBL75A, route RBL75B and subbasin BL75
1625          HC       4   11.22
              *

1626          KK    UHLO   BASIN
1627          KM   Runoff hydrograph for subbasin UHLO near the intersection of SR Loop 101 and
1628          KM   Union Hills Drive
1629          BA   0.822
1630          LG    0.21    0.25    5.80    0.19      31
1631          UC   0.976   0.472
1632          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
1633          UA     100
              *

1634          KK  ERUHLO  DIVERT
1635          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
1636          KM   retention developed after 1990 in subbasin UHLO
1637          DT   XUHLO    66.5     0.0
1638          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
1639          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

1640          KK   RBLLO   ROUTE
1641          KM   Route runoff hydrograph at subbasin UHLO to combination point CBLLO
1642          RS      10    FLOW
1643          RC   0.035   0.015   0.035    9255  0.0033    0.00
1644          RX    0.00    0.00   17.50   17.50  112.50  112.50  130.00  130.00
1645          RY    3.00    0.68    0.50    0.00    0.00    0.50    0.68    3.00
              *
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1646          KK    BLLO   BASIN
1647          KM   Runoff hydrograph for subbasin BLLO near the intersection of Bell Road and
1648          KM   SR Loop 101
1649          BA   0.765
1650          LG    0.18    0.25    4.35    0.34      55
1651          UC   1.076   0.732
1652          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
1653          UA     100
              *

1654          KK  ERBLLO  DIVERT
1655          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
1656          KM   retention developed after 1990 in subbasin BLLO
1657          DT   XBLLO    70.9     0.0
1658          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
1659          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1660          KK   CBLLO COMBINE
1661          KM   Combine route RBLLO and subbasin BLLO
1662          HC       2    1.59
              *

1663          KK   DBLLO  DIVERT
1664          KM   Divert calculated full flow capacity of 169 cfs into 84-inch storm drain
1665          KM   pipe at the intersection of Bell Road and SR Loop 101
1666          DT  DPBLLO     0.0   169.0
1667          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
1668          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

1669          KK   RGWLO   ROUTE
1670          KM   Route diversion DBLLO to combination point CSK04
1671          RS       9    FLOW
1672          RC   0.035   0.015   0.035    6833  0.0066    0.00
1673          RX    0.00    0.00   16.50   16.50  107.50  107.50  124.00  124.00
1674          RY    3.00    0.66    0.50    0.00    0.00    0.50    0.66    3.00
              *

1675          KK    GWLO   BASIN
1676          KM   Runoff hydrograph for subbasin GWLO near the intersection of Greenway Road
1677          KM   and SR Loop 101
1678          BA   0.814
1679          LG    0.10    0.25    4.20    0.43      60
1680          UC   0.614   0.375
1681          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
1682          UA     100
              *

1683          KK  ERGWLO  DIVERT
1684          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
1685          KM   retention developed after 1990 in subbasin GWLO
1686          DT   XGWLO    54.1     0.0
1687          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
1688          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

1689          KK   CSK04 COMBINE
1690          KM   Combine route RGWLO and subbasin GWLO
1691          HC       4   37.07
              *

1692          KK  PRBLLORETRIEVE
1693          KM   Retrieve full flow capacity of 169 cfs from 84-inch storm drain pipe at the
1694          KM   intersection of Bell Road and SR Loop 101
1695          DR  DPBLLO
              *
1                                        HEC-1 INPUT                                        PAGE 45

LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1696          KK  RPGWLO   ROUTE
1697          KM   Route full flow capacity of 169 cfs through 84-inch storm drain pipe in
1698          KM   Greenway Road to the intersection of Greenway Road and SR Loop 101
1699          RK    2236  0.0007   0.015            CIRC   7.000
              *

1700          KK  CPSK04 COMBINE
1701          KM   Combine pipe return PRBLLO with the runoff hydrograph at combination point
1702          KM   CSK04 at the intersection of Greenway Road and SR Loop 101
1703          HC       2
              *

1704          KK    JM63   BASIN
1705          KM   Runoff hydrograph for subbasin JM63 near the intersection of Pyramid Peak
1706          KM   Boulevard and Bent Tree Drive
1707          BA   0.840
```



```
1708          LG    0.20    0.28    5.10    0.24      24
1709          UC   0.828   0.429
1710          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
1711          UA     100
              *

1712          KK  ERJM63  DIVERT
1713          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
1714          KM   retention developed after 1990 in subbasin JM63
1715          DT   XJM63    50.3     0.0
1716          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
1717          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

1718          KK   RJM67   ROUTE
1719          KM   Route runoff hydrograph at subbasin JM63 to combination point CJM67
1720          RS       2    FLOW
1721          RC   0.045   0.020   0.045    4129  0.0076    0.00
1722          RX    0.00    0.00   19.00   25.00   30.00   36.00   55.00   55.00
1723          RY    4.10    3.10    3.00    0.00    0.00    3.00    3.10    4.10
              *

1724          KK    JM67   BASIN
1725          KM   Runoff hydrograph for subbasin JM67 near the intersection of Pyramid Peak
1726          KM   Boulevard and and 67th Avenue
1727          BA   0.381
1728          LG    0.23    0.27    4.35    0.36      36
1729          UC   0.775   0.526
1730          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
1731          UA     100
              *

1732          KK  ERJM67  DIVERT
1733          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
1734          KM   retention developed after 1990 in subbasin JM67
1735          DT   XJM67    23.6     0.0
1736          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
1737          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *
1                                        HEC-1 INPUT                                        PAGE 46

LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1738          KK   CJM67 COMBINE
1739          KM   Combine route RJM67 and subbasin JM67
1740          HC       2    1.22
              *

1741          KK   RHV75   ROUTE
1742          KM   Route runoff hydrograph at combination point CJM67 to combination point CHV75
1743          RS       2    FLOW
1744          RC   0.045   0.020   0.045    7197  0.0099    0.00
1745          RX    0.00    0.00   40.00   50.00   60.00   70.00  110.00  110.00
1746          RY    6.20    5.20    5.00    0.00    0.00    5.00    5.20    6.20
              *

1747          KK    HV75   BASIN
1748          KM   Runoff hydrograph for subbasin HV75 near the intersection of Happy Valley
1749          KM   Road and 75th Avenue
1750          BA   0.958
1751          LG    0.24    0.26    4.10    0.41      28
1752          UC   1.022   0.571
1753          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
1754          UA     100
              *

1755          KK  ERHV75  DIVERT
1756          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
1757          KM   retention developed after 1990 in subbasin HV75
1758          DT   XHV75    70.2     0.0
1759          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
1760          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

1761          KK   CHV75 COMBINE
1762          KM   Combine route RHV75 and subbasin HV75
1763          HC       2    2.18
              *

1764          KK    JM80   BASIN
1765          KM   Runoff hydrograph for subbasin JM80 near the intersection of Jomax Road
1766          KM   and 80th Avenue
1767          BA   0.164
1768          LG    0.24    0.25    3.88    0.42      34
1769          UC   0.645   0.468
1770          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
1771          UA     100
              *

1772          KK    JM76   BASIN
1773          KM   Runoff hydrograph for subbasin JM76 near the intersection of Jomax Road
1774          KM   and 76th Avenue
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```
1775          BA   0.169
1776          LG    0.21    0.28    3.92    0.41      22
1777          UC   0.829   0.706
1778          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
1779          UA     100
              *
1                                        HEC-1 INPUT                                        PAGE 47

LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


1780          KK  ERJM76  DIVERT
1781          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
1782          KM   retention developed after 1990 in subbasin JM76
1783          DT   XJM76     6.5       0.0
1784          DI       0.0 50000.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0
1785          DQ       0.0 50000.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0
              *


1786          KK    JMNR    BASIN
1787          KM   Runoff hydrograph for subbasin JMNR near the intersection of Jomax Road
1788          KM   and New River
1789          BA   0.149
1790          LG    0.17    0.31    3.29    0.63      13
1791          UC   1.071   1.182
1792          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
1793          UA     100
              *


1794          KK   CNR01 COMBINE
1795          KM   Combine route subbasin JM76, and subbasin JMNR
1796          HC       3    0.48
              *


1797          KK    JM75    BASIN
1798          KM   Runoff hydrograph for subbasin JM75 near the intersection of Jomax Road
1799          KM   and 75th Avenue
1800          BA   1.112
1801          LG    0.18    0.30    4.30    0.34      26
1802          UC   0.686   0.305
1803          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
1804          UA     100
              *


1805          KK  ERJM75  DIVERT
1806          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
1807          KM   retention developed after 1990 in subbasin JM75
1808          DT   XJM75     43.3       0.0
1809          DI       0.0 50000.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0
1810          DQ       0.0 50000.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0
              *


1811          KK    HVNR    BASIN
1812          KM   Runoff hydrograph for subbasin HVNR near the intersection of Happy Valley
1813          KM   Road and New River
1814          BA   0.202
1815          LG    0.10    0.35    3.48    0.55       0
1816          UC   1.157   1.210
1817          UA       0     3.0     5.0     8.0    12.0    20.0    43.0    75.0    90.0    96.0
1818          UA     100
              *
1                                        HEC-1 INPUT                                        PAGE 48

LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


1819          KK   CNR02 COMBINE
1820          KM   Combine subbasin HVNR
1821          HC       4    3.98
              *


1822          KK    HV67    BASIN
1823          KM   Runoff hydrograph for subbasin HV67 near the intersection of Happy Valley
1824          KM   Road and 67th Avenue
1825          BA   0.544
1826          LG    0.22    0.27    4.20    0.41      59
1827          UC   0.597   0.351
1828          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
1829          UA     100
              *


1830          KK  ERHV67  DIVERT
1831          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
1832          KM   retention developed after 1990 in subbasin HV67
1833          DT   XHV67     31.6       0.0
1834          DI       0.0 50000.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0
1835          DQ       0.0 50000.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0
              *


1836          KK   RCL67   ROUTE
1837          KM   Route runoff hydrograph at subbasin HV67 to combination point CCL67
1838          RS       2    FLOW
1839          RC   0.045   0.035   0.045    3990  0.0076    0.00
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1840          RX    0.00    0.00   40.00   50.00   60.00   70.00  110.00  110.00
1841          RY    6.20    5.20    5.00    0.00    0.00    5.00    5.20    6.20
              *


1842          KK    CL67    BASIN
1843          KM   Runoff hydrograph for subbasin CL67 near the intersection of Calle Lejos Road
1844          KM   67th Avenue
1845          BA   0.275
1846          LG    0.22    0.27    4.40    0.38      24
1847          UC   0.928   0.872
1848          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
1849          UA     100
              *


1850          KK  ERCL67  DIVERT
1851          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
1852          KM   retention developed after 1990 in subbasin CL67
1853          DT   XCL67     16.7       0.0
1854          DI       0.0 50000.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0
1855          DQ       0.0 50000.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0
              *
1                                        HEC-1 INPUT                                        PAGE 49

LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


1856          KK   CCL67 COMBINE
1857          KM   Combine route RCL67 and subbasin CL67
1858          HC       2    0.82
              *


1859          KK  RPP73A   ROUTE
1860          KM   Route runoff hydrograph at combination point CCL67 to combination point CPP73
1861          RS       4    FLOW
1862          RC   0.045   0.035   0.045    5599  0.0045    0.00
1863          RX    0.00    0.00   40.00   50.00   60.00   70.00  110.00  110.00
1864          RY    6.20    5.20    5.00    0.00    0.00    5.00    5.20    6.20
              *


1865          KK    PP67    BASIN
1866          KM   Runoff hydrograph for subbasin PP67 near the intersection of Pinnacle Peak
1867          KM   Road and 67th Avenue
1868          BA   0.096
1869          LG    0.30    0.25    4.55    0.41       6
1870          UC   0.912   0.988
1871          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
1872          UA     100
              *


1873          KK  ERPP67  DIVERT
1874          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
1875          KM   retention developed after 1990 in subbasin PP67
1876          DT   XPP67     5.8       0.0
1877          DI       0.0 50000.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0
1878          DQ       0.0 50000.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0
              *


1879          KK  DWPP73  DIVERT
1880          KM   Divert remaining runoff hydrograph at subbasin PP67 west to combination point
1881          KM   CPP73
1882          DT   DSWL67       0.0       0.0
1883          DI       0.0     100.0     200.0     500.0    1000.0    2000.0    4000.0   10000.0   20000.0   50000.0
1884          DQ       0.0      32.0      64.0     160.0     320.0     640.0    1280.0    3200.0    6400.0   16000.0
              *


1885          KK  RPP73B   ROUTE
1886          KM   Route diversion DWPP73 west to combination point CPP73
1887          RS       1    FLOW
1888          RC   0.035   0.015   0.035    3886  0.0064    0.00
1889          RX    0.00    0.00   16.50   16.50  107.50  107.50  124.00  124.00
1890          RY    3.00    0.66    0.50    0.00    0.00    0.50    0.66    3.00
              *


1891          KK    PP73    BASIN
1892          KM   Runoff hydrograph for subbasin PP73 near the intersection of Pinnacle Peak
1893          KM   Road and 73rd Avenue
1894          BA   0.545
1895          LG    0.29    0.25    4.70    0.31      18
1896          UC   0.964   0.604
1897          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
1                                        HEC-1 INPUT                                        PAGE 50

LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


1898          UA     100
              *


1899          KK  ERPP73  DIVERT
1900          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
1901          KM   retention developed after 1990 in subbasin PP73
1902          DT   XPP73     10.3       0.0
1903          DI       0.0 50000.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0
1904          DQ       0.0 50000.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0
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                *
1905            KK  CPP73 COMBINE
1906            KM  Combine route RPP73A, route RPP73B, and subbasin PP73
1907            HC       3    1.43
                *

1908            KK  DWPP75  DIVERT
1909            KM   Divert remaining runoff hydrograph at combination point CPP73 west to
1910            KM   combination point CPP75
1911            DT  DSWL75      0.0      0.0
1912            DI     0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0  10000.0  20000.0  50000.0
1913            DQ     0.0     41.0     82.0    205.0    410.0    820.0   1640.0   4100.0   8200.0  20500.0
                *

1914            KK   RPPNR   ROUTE
1915            KM  Route diversion DWPP75 west to combination point CNR03
1916            RS       1    FLOW
1917            RC   0.045   0.020   0.045    1225  0.0052     0.00
1918            RX    0.00    0.00   40.00   50.00   60.00   70.00  110.00  110.00
1919            RY    6.20    5.20    5.00    0.00    0.00    5.00    5.20    6.20
                *

1920            KK    PP75   BASIN
1921            KM  Runoff hydrograph for subbasin PP75 near the intersection of Pinnacle Peak
1922            KM  Road and 75th Avenue
1923            BA   0.420
1924            LG    0.26    0.26    4.25    0.42      30
1925            UC   0.807   0.557
1926            UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
1927            UA     100
                *

1928            KK  ERPP75  DIVERT
1929            KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
1930            KM   retention developed after 1990 in subbasin PP75
1931            DT  XPP75     20.3      0.0
1932            DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
1933            DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
                *
1                                        HEC-1 INPUT                                                    PAGE 51
LINE            ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1934            KK    PPNR  BASIN
1935            KM  Runoff hydrograph for subbasin PPNR near the intersection of Pinnacle Peak
1936            KM  Road and New River
1937            BA   0.237
1938            LG    0.18    0.31    3.53    0.53       6
1939            UC   1.173   1.099
1940            UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
1941            UA     100
                *

1942            KK  ERPPNR  DIVERT
1943            KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
1944            KM   retention developed after 1990 in subbasin PPNR
1945            DT  XPPNR      5.1      0.0
1946            DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
1947            DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
                *

1948            KK   CNR03 COMBINE
1949            KM  Combine route RPPNR and subbasin PPNR
1950            HC       4    5.47
                *

1951            KK  DRWL75RETRIEVE
1952            KM   Retrieve divert DRWL75 from combination point CPP73 and divert to
1953            KM   combination point CWL75
1954            DR  DSWL75
                *

1955            KK  RWL75B   ROUTE
1956            KM   Route diversion retrieval DRWL75 to combination point CWL75
1957            RS       1    FLOW
1958            RC   0.035   0.015   0.035    2577  0.0049     0.00
1959            RX    0.00    0.00    7.00    7.00   43.00   43.00   50.00   50.00
1960            RY    3.00    0.57    0.50    0.00    0.00    0.50    0.57    3.00
                *

1961            KK  DRWL67RETRIEVE
1962            KM   Retrieve divert DRWL67 from subbasin PP67 and divert to combination point
1963            KM   CTB67
1964            DR  DSWL67
                *

1965            KK   RWL67   ROUTE
1966            KM  Route diversion retrieval DRWL67 to combination point CWL67
1967            RS       1    FLOW
1968            RC   0.035   0.015   0.035    1195  0.0014     0.00
1969            RX    0.00    0.00   20.50   20.50   89.50   89.50  110.00  110.00
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1970            RY    3.00    0.70    0.50    0.00    0.00    0.50    0.70    3.00
                *
1                                        HEC-1 INPUT                                                    PAGE 52
LINE            ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1971            KK    WL67   BASIN
1972            KM  Runoff hydrograph for subbasin WL67 near the intersection of Thunderbird Park
1973            KM  Road and 67th Avenue
1974            BA   0.103
1975            LG    0.24    0.28    4.70    0.34       6
1976            UC   0.943   1.006
1977            UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
1978            UA     100
                *

1979            KK  ERWL67  DIVERT
1980            KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
1981            KM   retention developed after 1990 in subbasin WL67
1982            DT  XWL67      4.3      0.0
1983            DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
1984            DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
                *

1985            KK   CWL67 COMBINE
1986            KM  Combine route RWL67 and subbasin WL67
1987            HC       2    0.13
                *

1988            KK  RWL75A   ROUTE
1989            KM   Route runoff hydrograph at combination point CWL67 to combination point CWL75
1990            RS       9    FLOW
1991            RC   0.035   0.015   0.035    5062  0.0072     0.00
1992            RX    0.00    0.00    7.00    7.00   43.00   43.00   50.00   50.00
1993            RY    3.00    0.57    0.50    0.00    0.00    0.50    0.57    3.00
                *

1994            KK    WL75   BASIN
1995            KM  Runoff hydrograph for subbasin WL75 near the intersection of Williams Road
1996            KM  Road and 75th Avenue
1997            BA   0.475
1998            LG    0.29    0.25    4.70    0.31      25
1999            UC   0.903   0.577
2000            UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
2001            UA     100
                *

2002            KK  ERWL75  DIVERT
2003            KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
2004            KM   retention developed after 1990 in subbasin WL75
2005            DT  XWL75     18.0      0.0
2006            DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
2007            DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
                *
1                                        HEC-1 INPUT                                                    PAGE 53
LINE            ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

2008            KK   CWL75 COMBINE
2009            KM  Combine route RWL75A, route RWL75B, and subbasin WL75
2010            HC       3    1.20
                *

2011            KK    WWBR   BASIN
2012            KM  Runoff hydrograph for subbasin WWBR near the intersection of Westwing Parkway
2013            KM  and Black Rock Boulevard
2014            BA   0.184
2015            LG    0.22    0.19    7.00    0.10      26
2016            UC   0.378   0.231
2017            UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
2018            UA     100
                *

2019            KK  ERWWBR  DIVERT
2020            KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
2021            KM   retention developed after 1990 in subbasin WWBR
2022            DT  XWWBR     12.2      0.0
2023            DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
2024            DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
                *

2025            KK   RWWRS   ROUTE
2026            KM  Route runoff hydrograph at subbasin WWBR to combination point CWWRS
2027            RS       2    FLOW
2028            RC   0.045   0.035   0.045    2599  0.0063     0.00
2029            RX    0.00    0.00   19.00   25.00   30.00   36.00   55.00   55.00
2030            RY    4.10    3.10    3.00    0.00    0.00    3.00    3.10    4.10
                *

2031            KK    WWRS   BASIN
2032            KM  Runoff hydrograph for subbasin WWRS near the intersection of Westwing Parkway
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2033          KM   and Rock Springs wash
2034          BA   0.144
2035          LG    0.20    0.26    4.30    0.44      32
2036          UC   0.564   0.474
2037          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
2038          UA     100
              *

2039          KK  ERWWRS  DIVERT
2040          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
2041          KM   retention developed after 1990 in subbasin WWRS
2042          DT   XWWRS      7.1      0.0
2043          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
2044          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *
1                                        HEC-1 INPUT                                                    PAGE 54

LINE          ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10


2045          KK   CWWRS COMBINE
2046          KM   Combine route RWWRS and subbasin WWRS
2047          HC       2    0.33
              *

2048          KK   RJMRS   ROUTE
2049          KM   Route runoff hydrograph at combination point CWWRS to combination point CJMRS
2050          RS       3    FLOW
2051          RC   0.045   0.035   0.045    4005  0.0060    0.00
2052          RX    0.00    0.00   40.00   50.00   60.00   70.00  110.00  110.00
2053          RY    6.20    5.20    5.00    0.00    0.00    5.00    5.20    6.20
              *

2054          KK    JMRS   BASIN
2055          KM   Runeff hydrograph for subbasin JMRS near the intersection of Jomax Road and
2056          KM   Rock Springs wash
2057          BA   0.567
2058          LG    0.23    0.27    5.30    0.21      29
2059          UC   0.826   0.541
2060          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
2061          UA     100
              *

2062          KK  ERJMRS  DIVERT
2063          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
2064          KM   retention developed after 1990 in subbasin JMRS
2065          DT   XJMRS     37.8      0.0
2066          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
2067          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

2068          KK   CJMRS COMBINE
2069          KM   Combine route RJMRS and subbasin JMRS
2070          HC       2    0.90
              *

2071          KK  RHVRSB   ROUTE
2072          KM   Route runoff hydrograph at combination point CJMRS to combination point CHVRS
2073          RS       6    FLOW
2074          RC   0.045   0.035   0.045    5791  0.0051    0.00
2075          RX    0.00    0.00   19.00   25.00   30.00   36.00   55.00   55.00
2076          RY    4.10    3.10    3.00    0.00    0.00    3.00    3.10    4.10
              *

2077          KK    83RS   BASIN
2078          KM   Runoff hydrograph for subbasin 83RS near the intersection of 83rd Avenue and
2079          KM   Rock Springs wash
2080          BA   0.638
2081          LG    0.22    0.27    4.50    0.31      47
2082          UC   0.511   0.211
2083          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
2084          UA     100
              *
1                                        HEC-1 INPUT                                                    PAGE 55

LINE          ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10


2085          KK  ER83RS  DIVERT
2086          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
2087          KM   retention developed after 1990 in subbasin 83RS
2088          DT   X83RS     41.0      0.0
2089          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
2090          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

2091          KK  RHVRSA   ROUTE
2092          KM   Route runoff hydrograph at subbasin 83RS to combination point CHVRS
2093          RS       4    FLOW
2094          RC   0.045   0.035   0.045    6390  0.0071    0.00
2095          RX    0.00    0.00   40.00   50.00   60.00   70.00  110.00  110.00
2096          RY    6.20    5.20    5.00    0.00    0.00    5.00    5.20    6.20
              *
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2097          KK    HVRS   BASIN
2098          KM   Runoff hydrograph for subbasin HVRS near the intersection of Happy Valley
2099          KM   Road and Rock Springs wash
2100          BA   0.630
2101          LG    0.23    0.27    4.10    0.40      25
2102          UC   1.062   0.693
2103          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
2104          UA     100
              *

2105          KK  ERHVRS  DIVERT
2106          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
2107          KM   retention developed after 1990 in subbasin HVRS
2108          DT   XHVRS     38.8      0.0
2109          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
2110          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

2111          KK   CHVRS COMBINE
2112          KM   Combine route RHVRSA, route RHVRSB, and subbasin HVRS
2113          HC       3    2.16
              *

2114          KK  RCL77B   ROUTE
2115          KM   Route runoff hydrograph at combination point CHVRS to combination point CCL77
2116          RS       2    FLOW
2117          RC   0.045   0.035   0.045    2864  0.0057    0.00
2118          RX    0.00  480.00  500.00  518.00  544.00  609.00  900.00 1121.00
2119          RY   11.00   10.00    0.00    0.20   10.00   11.00   12.00   13.00
              *

2120          KK    HV83   BASIN
2121          KM   Runoff hydrograph for subbasin HV83 near the intersection of Happy Valley
2122          KM   Road and 83rd Avenue
2123          BA   0.035
2124          LG    0.27    0.25    4.15    0.41      42
2125          UC   0.323   0.329
2126          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
1                                        HEC-1 INPUT                                                    PAGE 56

LINE          ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

2127          UA     100
              *

2128          KK  ERHV83  DIVERT
2129          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
2130          KM   retention developed after 1990 in subbasin HV83
2131          DT   XHV83      2.3      0.0
2132          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
2133          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

2134          KK  RCL77A   ROUTE
2135          KM   Route runoff hydrograph at subbasin HV83 to combination point CCL77
2136          RS       2    FLOW
2137          RC   0.045   0.035   0.045    3884  0.0111    0.00
2138          RX    0.00    0.00   19.00   25.00   30.00   36.00   55.00   55.00
2139          RY    4.10    3.10    3.00    0.00    0.00    3.00    3.10    4.10
              *

2140          KK    CL77   BASIN
2141          KM   Runoff hydrograph for subbasin CL77 near the intersection of Calle Lejos Road
2142          KM   and 77th Avenue
2143          BA   0.316
2144          LG    0.28    0.26    4.40    0.38      14
2145          UC   0.697   0.436
2146          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
2147          UA     100
              *

2148          KK  ERCL77  DIVERT
2149          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
2150          KM   retention developed after 1990 in subbasin CL77
2151          DT   XCL77     19.1      0.0
2152          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
2153          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

2154          KK   CCL77 COMBINE
2155          KM   Combine route RCL77A, route RCL77B, and subbasin CL77
2156          HC       3    2.51
              *

2157          KK   RPP77   ROUTE
2158          KM   Route runoff hydrograph at combination point CCL77 to combination point CPP77
2159          RS      10    FLOW
2160          RC   0.045   0.035   0.045    2947  0.0041    0.00
2161          RX    0.00  480.00  500.00  518.00  544.00  609.00  900.00 1121.00
2162          RY   11.00   10.00    0.00    0.20   10.00   11.00   12.00   13.00
              *
1                                        HEC-1 INPUT                                                    PAGE 57
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     LINE          ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

     2163          KK    PP77   BASIN
     2164          KM    Runoff hydrograph for subbasin PP77 near the intersection of Pinnacle Peak
     2165          KM    Road and 77th Avenue
     2166          BA    0.270
     2167          LG     0.30    0.25    4.20    0.45      14
     2168          UC    1.119   1.003
     2169          UA        0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
     2170          UA      100
                   *

     2171          KK  ERPP77  DIVERT
     2172          KM    Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
     2173          KM    retention developed after 1990 in subbasin PP77
     2174          DT    XPP77      8.9      0.0
     2175          DI      0.0 50000.0      0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
     2176          DQ      0.0 50000.0      0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
                   *

     2177          KK    CPP77 COMBINE
     2178          KM    Combine route RPP77 and subbasin PP77
     2179          HC         2    2.78
                   *

     2180          KK    RWLNR    ROUTE
     2181          KM    Route runoff hydrograph at combination point CPP77 to combination point CNR04
     2182          RS         2     FLOW
     2183          RC     0.045    0.035    0.045    3822   0.0048     0.00
     2184          RX      0.00   256.00   372.00  397.00  407.00  419.00  464.00  800.00
     2185          RY     12.00    10.00     8.00    0.00    0.00    6.00    8.00   12.00
                   *

     2186          KK     WLNR   BASIN
     2187          KM    Runoff hydrograph for subbasin WLNR near the intersection of Williams Road
     2188          KM    New River
     2189          BA    0.390
     2190          LG     0.24    0.26    4.70    0.29      33
     2191          UC    0.899   0.576
     2192          UA        0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
     2193          UA      100
                   *

     2194          KK    CNR04 COMBINE
     2195          KM    Combine route RWLNR and subbasin WLNR
     2196          HC         4    9.84
                   *

     2197          KK     DV75   BASIN
     2198          KM    Runoff hydrograph for subbasin DV75 near the intersection of Deer Valley Road
     2199          KM    and 75th Avenue
     2200          BA    0.501
     2201          LG     0.24    0.25    4.90    0.26      34
     2202          UC    1.077   0.815
     2203          UA        0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
     2204          UA      100
                   *
1                                        HEC-1 INPUT                                          PAGE 58
     LINE          ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

     2205          KK  ERDV75  DIVERT
     2206          KM    Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
     2207          KM    retention developed after 1990 in subbasin DV75
     2208          DT    XDV75     22.6      0.0
     2209          DI      0.0 50000.0      0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
     2210          DQ      0.0 50000.0      0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
                   *

     2211          KK  DWDVNR  DIVERT
     2212          KM    Divert remaining runoff hydrograph at subbasin DV75 west to combination point
     2213          KM    CNR05
     2214          DT  DSLO75      0.0      0.0
     2215          DI      0.0     1.0     92.0   274.0   365.0   456.0   546.0   700.0   800.0  1000.0
     2216          DQ      0.0     0.0     26.0    70.0    87.0   109.0   131.0   167.0   191.0   239.0
                   *

     2217          KK    RDVNR    ROUTE
     2218          KM    Route diversion DWDVNR west to combination point CNR05
     2219          RS         2     FLOW
     2220          RC     0.045    0.015    0.045    2707   0.0015     0.00
     2221          RX      0.00     0.00    19.00   25.00   30.00   36.00   55.00   55.00
     2222          RY      4.10     3.10     3.00    0.00    0.00    3.00    3.10    4.10
                   *

     2223          KK     DVNR   BASIN
     2224          KM    Runoff hydrograph for subbasin DVNR near the intersection of Deer Valley Road
     2225          KM    and New River
     2226          BA    0.401
     2227          LG     0.23    0.26    4.35    0.34      33
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     2228          UC    1.095   0.749
     2229          UA        0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
     2230          UA      100
                   *

     2231          KK    CNR05 COMBINE
     2232          KM    Combine route RDVNR and subbasin DVNR
     2233          HC         3   10.50
                   *

     2234          KK     DV67   BASIN
     2235          KM    Runoff hydrograph for subbasin DV67 near the intersection of Deer Valley Road
     2236          KM    and 67th Avenue
     2237          BA    0.503
     2238          LG     0.18    0.29    4.55    0.32      38
     2239          UC    0.415   0.160
     2240          UA        0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
     2241          UA      100
                   *
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     LINE          ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

     2242          KK  SRDV67 STORAGE
     2243          KM    Storage route runoff hydrograph from combination point CDV67 thru regional
     2244          KM      detention basin located in subbasin DV67 (Arrowhead Lakes 6, 7, and 11-13)
     2245          KM    Stage-storage-discharge data from Glendale/Peoria ADMPU Arrowhead Lakes
     2246          KM      Hydrology Report (Volume AL), 2001
     2247          RS         1     STOR
     2248          SV              4.49    9.21   14.15   19.27   24.51   29.86   35.24   40.67
     2249          SQ             91.00  285.00  566.00  886.00 1243.00 1638.00 2064.00 2523.00
     2250          SE              0.50    1.00    1.50    2.00    2.50    3.00    3.50    4.00
                   *

     2251          KK     LO67   BASIN
     2252          KM    Runoff hydrograph for subbasin LO67 near the intersection of SR Loop 101 and
     2253          KM    67th Avenue
     2254          BA    1.217
     2255          LG     0.20    0.25    5.70    0.20      33
     2256          UC    1.051   0.489
     2257          UA        0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
     2258          UA      100
                   *

     2259          KK    CLO67 COMBINE
     2260          KM    Combine route RLO67 and subbasin LO67
     2261          HC         2    1.72
                   *

     2262          KK  SRLO67 STORAGE
     2263          KM    Storage route runoff hydrograph from combination point CLO67 thru regional
     2264          KM      detention basin located in subbasin LO67 (Arrowhead Lakes 8-10 and 14-20)
     2265          KM    Stage-storage-discharge data from Glendale/Peoria ADMPU Arrowhead Lakes
     2266          KM      Hydrology Report (Volume AL), 2001
     2267          RS         1     STOR
     2268          SV             12.86   26.19   39.86   53.86   69.64   84.08  100.17  114.88  149.69
     2269          SV    188.50
     2270          SQ         9      41     100     175     245     326     396     502     657     703
     2271          SQ       749
     2272          SE      0.00    0.50    1.00    1.50    2.00    2.50    3.00    3.50    4.00    4.50
     2273          SE      5.00
                   *

     2274          KK     LO75   BASIN
     2275          KM    Runoff hydrograph for subbasin LO75 near the intersection of SR Loop 101 and
     2276          KM    75th Avenue
     2277          BA    0.970
     2278          LG     0.24    0.25    6.00    0.16      34
     2279          UC    1.059   0.531
     2280          UA        0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
     2281          UA      100
                   *
1                                        HEC-1 INPUT                                          PAGE 60
     LINE          ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

     2282          KK  ERLO75  DIVERT
     2283          KM    Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
     2284          KM    retention developed after 1990 in subbasin LO75
     2285          DT    XLO75     34.3      0.0
     2286          DI      0.0 50000.0      0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
     2287          DQ      0.0 50000.0      0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
                   *

     2288          KK    CLO75 COMBINE
     2289          KM    Combine storage route SRLO67 and subbasin LO75
     2290          HC         2    2.69
                   *

     2291          KK  SRLO75 STORAGE
     2292          KM    Storage route runoff hydrograph from combination point CLO75 thru regional
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2293          KM     detention basin located in subbasin LO75 (Arrowhead Lakes L21AP1 to L21AP5)
2294          KM   Stage-storage-discharge data from Glendale/Peoria ADMPU Arrowhead Lakes
2295          KM     Hydrology Report (Volume AL), 2001
2296          RS       1     STOR
2297          SV            12.58   31.24   52.02
2298          SQ            46.00  418.00  768.00
2299          SE             0.50    1.00    1.50
              *

2300          KK  DRLO75RETRIEVE
2301          KM   Retrieve divert DROL75 from subbasin DV75 and divert to combination point
2302          KM   CLO75
2303          DR  DSLO75
              *

2304          KK   RLO75    ROUTE
2305          KM   Route diversion DRLO75 to combination point CLO75
2306          RS       8     FLOW
2307          RC   0.035   0.015   0.035    7499  0.0047    0.00
2308          RX    0.00    0.00   13.00   13.00   55.00   55.00   68.00   68.00
2309          RY    3.00    0.63    0.50    0.00    0.00    0.50    0.63    3.00
              *

2310          KK  CILO75 COMBINE
2311          KM   Combine route RLO75A and storage route SRLO75
2312          HC       2    2.94
              *

2313          KK  RBYNRB    ROUTE
2314          KM   Route runoff hydrograph at combination point CLO75 to combination point CBYNR
2315          RS       1     FLOW
2316          RC   0.045   0.015   0.045    3176  0.0058    0.00
2317          RX    0.00    3.00    5.00   29.00   41.00   65.00   67.00   70.00
2318          RY   13.00   12.00   12.00    0.00    0.00   12.00   12.00   13.00
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9.....10

2319          KK    PP81    BASIN
2320          KM   Runoff hydrograph for subbasin PP81 near the intersection of Pinnacle Peak
2321          KM   Road and 81st Avenue
2322          BA   0.197
2323          LG    0.30    0.25    6.00    0.18      15
2324          UC   0.684   0.391
2325          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
2326          UA     100
              *

2327          KK  ERPP81  DIVERT
2328          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
2329          KM   retention developed after 1990 in subbasin PP81
2330          DT   XPP81    12.8     0.0
2331          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
2332          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

2333          KK   RWL83    ROUTE
2334          KM   Route runoff hydrograph at subbasin PP81 to combination point CWL83
2335          RS       4     FLOW
2336          RC   0.045   0.035   0.045    3222  0.0050    0.00
2337          RX    0.00    0.00   19.00   25.00   30.00   36.00   55.00   55.00
2338          RY    4.10    3.10    3.00    0.00    0.00    3.00    3.10    4.10
              *

2339          KK    WL83    BASIN
2340          KM   Runoff hydrograph for subbasin WL83 near the intersection of Williams Road
2341          KM   and 83rd Avenue
2342          BA   0.125
2343          LG    0.30    0.10   11.20    0.02      15
2344          UC   0.852   0.797
2345          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
2346          UA     100
              *

2347          KK  ERWL83  DIVERT
2348          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
2349          KM   retention developed after 1990 in subbasin WL83
2350          DT   XWL83     4.3     0.0
2351          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
2352          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

2353          KK   CWL83 COMBINE
2354          KM   Combine route RW183 and subbasin WL83
2355          HC       2    0.32
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9.....10
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2356          KK    HV87    BASIN
2357          KM   Runoff hydrograph for subbasin HV87 near the intersection of Happy Valley
2358          KM   Road and 87th Avenue
2359          BA   0.285
2360          LG    0.13    0.34    4.00    0.39      37
2361          UC   0.338   0.134
2362          UA       0     3.0     5.0     8.0    12.0    20.0    43.0    75.0    90.0    96.0
2363          UA     100
              *

2364          KK   RPP87    ROUTE
2365          KM   Route runoff hydrograph at subbasin HV87 to combination point CPP87
2366          RS       1     FLOW
2367          RC   0.045   0.020   0.045    5446  0.0172    0.00
2368          RX    0.00    0.00   40.00   50.00   60.00   70.00  110.00  110.00
2369          RY    6.20    5.20    5.00    0.00    0.00    5.00    5.20    6.20
              *

2370          KK    PP87    BASIN
2371          KM   Runoff hydrograph for subbasin PP87 near the intersection of Pinnacle Peak
2372          KM   Road and 87th Avenue
2373          BA   0.981
2374          LG    0.30    0.25    4.45    0.38      15
2375          UC   0.694   0.255
2376          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
2377          UA     100
              *

2378          KK  ERPP87  DIVERT
2379          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
2380          KM   retention developed after 1990 in subbasin PP87
2381          DT   XPP87    42.5     0.0
2382          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
2383          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

2384          KK   CPP87 COMBINE
2385          KM   Combine route RPP87 and subbasin PP87
2386          HC       2    1.27
              *

2387          KK  SRPP87 STORAGE
2388          KM   Storage route runoff hydrograph from combination point CPP87 through the
2389          KM     regional detention basin located near the intersection of Pinnacle Peak Rd
2390          KM     and 87th Avenue
2391          KM   Stage-storage-discharge data from 83rd Avenue/Pinnacle Peak Road Drainage
2392          KM     Improvements Final Drainage Report, 2006
2393          RS       1     STOR
2394          SV             0.81    3.43    7.18   11.20   15.45   19.87   24.47   29.24   32.60
2395          SV    34.10   36.28   38.47
2396          SQ                    34.13   53.39   68.62   81.63   93.17  103.66  113.33  120.0
2397          SQ    208.0   499.0   814.0
2398          SE   1313.0 1314.00 1315.00 1316.00 1317.00 1318.00 1319.00 1320.00 1321.00  1321.7
2399          SE   1322.0  1322.5  1322.9
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9.....10

2400          KK   DPP87  DIVERT
2401          KM   Divert calculated full flow capacity of 128 cfs into 48-inch storm drain
2402          KM   pipe at the intersection of Pinnacle Peak Road and 87th Avenue
2403          DT  DPPP87       0.0   128.0
2404          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
2405          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

2406          KK  PRPP87RETRIEVE
2407          KM   Retrieve full flow capacity of 128 cfs from 48-inch storm drain pipe at the
2408          KM   intersection of Pinnacle Peak Road and 87th Avenue
2409          DR  DPPP87
              *

2410          KK  RP87PP    ROUTE
2411          KM   Route full flow capacity of 128 cfs through 48-inch storm drain pipe in
2412          KM   87th Avenue to the intersection of Pinnacle Peak Road and 87th Avenue
2413          RK    1251  0.0079   0.015            CIRC   4.000
              *

2414          KK    PP91    BASIN
2415          KM   Runoff hydrograph for subbasin PP91 near the intersection of Pinnacle Peak
2416          KM   Road and 91st Avenue
2417          BA   0.161
2418          LG    0.30    0.25    4.20    0.44      15
2419          UC   0.942   0.779
2420          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
2421          UA     100
              *

2422          KK  ERPP91  DIVERT
2423          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
2424          KM   retention developed after 1990 in subbasin PP91
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2425          DT   XPP91      7.7      0.0
2426          DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
2427          DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

2428          KK  DPPP91  DIVERT
2429          KM   Divert calculated full flow capacity of 88 cfs into 54-inch storm drain
2430          KM   pipe at the intersection of Pinnacle Peak Road and 91st Avenue
2431          DT   DPP91      0.0      0.0
2432          DI      0.0     88.0     88.1 50000.0      0.0      0.0      0.0      0.0      0.0      0.0
2433          DQ      0.0      0.0      0.1 49912.0      0.0      0.0      0.0      0.0      0.0      0.0
              *
              * KKRPPP87   ROUTE
              * KM Route full flow capacity of 88 cfs through 54-inch storm drain pipe in
              * KM Pinnacle Peak Road to the intersection of Pinnacle Peak Road and 87th Avenu
              * RK  2635  0.0020   0.015            CIRC   4.500
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

2434          KK  CPPP87 COMBINE
2435          KM   Combine pipe flow DPPP91 with pipe return flow PRPP87 at the intersection of
2436          KM   Pinnacle Peak Road and 87th Avenue
2437          HC       2
              *

2438          KK  RPPP83   ROUTE
2439          KM   Route full flow capacity of 127 cfs through 72-inch storm drain pipe in
2440          KM   Pinnacle Peak Road to the intersection of Pinnacle Peak Road and 83rd Avenue
2441          RK    1891  0.0009   0.015            CIRC   6.000
              *

2442          KK  CPPP83 COMBINE
2443          KM   Combine pipe flow from combination point CPPP87 with the runoff hydrograph at
2444          KM   combination point CPP87 at the intersection of Pinnacle Peak Road and 83rd
2445          KM   Avenue
2446          HC       2
              *

2447          KK  SRPP83 STORAGE
2448          KM   Storage route runoff hydrograph from combination point CPPP83 through the
2449          KM     regional detention basin located near the intersection of Pinnacle Peak Rd
2450          KM     and 83rd Avenue
2451          KM   Stage-storage-discharge data from 83rd Avenue/Pinnacle Peak Road Drainage
2452          KM     Improvements Final Drainage Report, 2006
2453          RS       1    STOR
2454          SV    0.41     1.96     4.32     6.86     9.60    12.51    15.62    18.93    22.43    26.13
2455          SV   30.04    34.15    38.47    43.00    47.74    52.69
2456          SQ                                      1.03     2.10    11.31    13.59    15.65    17.54
2457          SQ   19.29    20.95    22.51    24.00    25.43    26.79
2458          SE 1298.0  1299.0  1300.0  1301.0  1302.0  1303.0  1304.0  1305.0  1306.0  1307.0
2459          SE 1308.0  1309.0  1310.0  1311.0  1312.0  1313.0
              *

2460          KK  DP83PP  DIVERT
2461          KM   Divert calculated full flow capacity of 31 cfs into 36-inch storm drain
2462          KM   pipe at the intersection of Pinnacle Peak Road and 83rd Avenue
2463          DT   D83PP      0.0      0.0
2464          DI      0.0     31.0     31.1 50000.0      0.0      0.0      0.0      0.0      0.0      0.0
2465          DQ      0.0      0.0      0.1 49969.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

2466          KK  RP83WL   ROUTE
2467          KM   Route full flow capacity of 31 cfs through 36-inch storm drain pipe in
2468          KM   83rd Avenue to the intersection of Williams Road and 83rd Avenue
2469          RK    2980  0.0022   0.015            CIRC   3.000
              *

2470          KK  CPWL83 COMBINE
2471          KM   Combine pipe flow DP83PP with the runoff hydrograph at combination point
2472          KM   CWL83 at the intersection of Williams Road and 83rd Avenue
2473          HC       2
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

2474          KK   RDV83   ROUTE
2475          KM   Route runoff hydrograph at combination point CPWL83 to combination point
2476          KM   CDV83
2477          RS       2    FLOW
2478          RC   0.045    0.015    0.045     2933  0.0051     0.00
2479          RX    0.00     0.00    40.00    50.00    60.00    70.00   110.00   110.00
2480          RY    6.20     5.20     5.00     0.00     0.00     5.00     5.20     6.20
              *

2481          KK    DV83   BASIN
2482          KM   Runoff hydrograph for subbasin DV83 near the intersection of Deer Valley
2483          KM   Road and 83rd Avenue
2484          BA   0.107
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2485          LG    0.25     0.10    11.20     0.02       30
2486          UC   0.956    1.052
2487          UA       0      5.0     16.0     30.0     65.0     77.0     84.0     90.0     94.0     97.0
2488          UA     100
              *

2489          KK  ERDV83  DIVERT
2490          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
2491          KM   retention developed after 1990 in subbasin DV83
2492          DT   XDV83      1.7      0.0
2493          DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
2494          DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

2495          KK   CDV83 COMBINE
2496          KM   Combine route RDV83 and subbasin DV83
2497          HC       2     0.43
              *

2498          KK  RBYNRA   ROUTE
2499          KM   Route runoff hydrograph at combination point CDV83 to combination point CBYNR
2500          RS       5    FLOW
2501          RC   0.045    0.035    0.045     6713  0.0060     0.00
2502          RX    0.00     0.00    19.00    25.00    30.00    36.00    55.00    55.00
2503          RY    4.10     3.10     3.00     0.00     0.00     3.00     3.10     4.10
              *

2504          KK    BYNR   BASIN
2505          KM   Runoff hydrograph for subbasin BYNR near the intersection of Beardsley Road
2506          KM   Road and New River
2507          BA   1.034
2508          LG    0.22     0.26     5.80     0.17       31
2509          UC   1.103    0.584
2510          UA       0      5.0     16.0     30.0     65.0     77.0     84.0     90.0     94.0     97.0
2511          UA     100
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

2512          KK  ERBYNR  DIVERT
2513          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
2514          KM   retention developed after 1990 in subbasin BYNR
2515          DT   XBYNR      9.3      0.0
2516          DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
2517          DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

2518          KK   CNR06 COMBINE
2519          KM   Combine route RBYNRA, route RBYNRB, and subbasin BYNR
2520          HC       4    14.90
              *

2521          KK  DR83PPRETRIEVE
2522          KM   Retrieve divert DR83PP from combination point CPPP83 and divert to
2523          KM   combination point CDV87
2524          DR   D83PP
              *

2525          KK   RDV87   ROUTE
2526          KM   Route diversion retrieval DR83PP to combination point CDV87
2527          RS       2    FLOW
2528          RC   0.035    0.015    0.035     5316  0.0063     0.00
2529          RX    0.00     0.00    12.50    12.50    62.50    62.50    75.00    75.00
2530          RY    3.00     0.62     0.50     0.00     0.00     0.50     0.62     3.00
              *

2531          KK    DV87   BASIN
2532          KM   Runoff hydrograph for subbasin DV87 near the intersection of Deer Valley Road
2533          KM   and 87th Avenue
2534          BA   1.004
2535          LG    0.30     0.17     6.80     0.13       15
2536          UC   0.841    0.307
2537          UA       0      5.0     16.0     30.0     65.0     77.0     84.0     90.0     94.0     97.0
2538          UA     100
              *

2539          KK  ERDV87  DIVERT
2540          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
2541          KM   retention developed after 1990 in subbasin DV87
2542          DT   XDV87      5.3      0.0
2543          DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
2544          DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

2545          KK   CDV87 COMBINE
2546          KM   Combine route RDV87 and subbasin DV87
2547          HC       2     2.27
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10
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2548          KK   RBY87   ROUTE
2549          KM   Route runoff hydrograph at combination point CDV87 to combination point CBY87
2550          RS       3    FLOW
2551          RC   0.045   0.035   0.045    6699  0.0045    0.00
2552          RX    0.00    0.00   55.00   75.00  100.00  120.00  175.00  175.00
2553          RY   11.20   10.20   10.00    0.00    0.00   10.00   10.20   11.20
              *

2554          KK    BY87   BASIN
2555          KM   Runoff hydrograph for subbasin BY87 near the intersection of Beardsley Road
2556          KM   and 87th Avenue
2557          BA   0.959
2558          LG    0.24    0.15    8.00    0.08      33
2559          UC   1.013   0.500
2560          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
2561          UA     100
              *

2562          KK  ERBY87  DIVERT
2563          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
2564          KM   retention developed after 1990 in subbasin BY87
2565          DT   XBY87    76.7     0.0
2566          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
2567          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

2568          KK   CBY87 COMBINE
2569          KM   Combine route RBY87 and subbasin BY87
2570          HC       2    3.23
              *

2571          KK   RUH87   ROUTE
2572          KM   Route runoff hydrograph at combination point CBY87 to combination point CUH87
2573          RS       5    FLOW
2574          RC   0.045   0.035   0.045    6701  0.0037    0.00
2575          RX    0.00    0.00   40.00   50.00   60.00   70.00  110.00  110.00
2576          RY    6.20    5.20    5.00    0.00    0.00    5.00    5.20    6.20
              *

2577          KK    UH87   BASIN
2578          KM   Runoff hydrograph for subbasin UH87 near the intersection of Union Hills
2579          KM   Drive and 87th Avenue
2580          BA   0.998
2581          LG    0.21    0.15    7.60    0.10      26
2582          UC   0.925   0.435
2583          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
2584          UA     100
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

2585          KK  ERUH87  DIVERT
2586          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
2587          KM   retention developed after 1990 in subbasin UH87
2588          DT   XUH87    71.9     0.0
2589          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
2590          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

2591          KK   CUH87 COMBINE
2592          KM   Combine route RUH87 and subbasin UH87
2593          HC       2    4.23
              *

2594          KK  DSBLNR  DIVERT
2595          KM   Divert remaining runoff hydrograph from combination point CUH87 south to
2596          KM   combination point CBLNR
2597          DT  DSBL91     0.0     0.0
2598          DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
2599          DQ     0.0    59.0   118.0   295.0   590.0  1180.0  2360.0  5900.0 11800.0 29500.0
              *

2600          KK  DPUHNR  DIVERT
2601          KM   Divert calculated full flow capacity of 50 cfs into 42-inch storm drain
2602          KM   pipe at the intersection of Union Hills Drive and 87th Avenue
2603          DT   DUHNR     0.0     0.0
2604          DI     0.0    50.0    50.1 50000.0     0.0     0.0     0.0     0.0     0.0     0.0
2605          DQ     0.0     0.0     0.1 49950.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

2606          KK  RPUHNR   ROUTE
2607          KM   Route full flow capacity of 50 cfs through 42-inch storm drain pipe in
2608          KM   Union Hills Drive to the intersection of Union Hills Drive and New River
2609          RK    1703  0.0025   0.015            CIRC   3.500
              *

2610          KK    UHNR   BASIN
2611          KM   Runoff hydrograph for subbasin UHNR near the intersection of Union Hills
2612          KM   Drive and New River
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2613          BA   0.386
2614          LG    0.16    0.28    4.60    0.28      42
2615          UC   0.936   0.698
2616          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
2617          UA     100
              *

2618          KK  ERUHNR  DIVERT
2619          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
2620          KM   retention developed after 1990 in subbasin UHNR
2621          DT   XUHNR     2.9     0.0
2622          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
2623          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

2624          KK   CNR07 COMBINE
2625          KM   Combine route RPUHNR, and subbasin UHNR
2626          HC       3   15.29
              *

2627          KK  DRUHNRRETRIEVE
2628          KM   Retrieve divert DRUHNR from combination point CUH87 and divert to
2629          KM   combination point CNR08
2630          DR   DUHNR
              *

2631          KK   RBLNR   ROUTE
2632          KM   Route diversion retrieval DRUHNR to combination point CNR08
2633          RS       1    FLOW
2634          RC   0.035   0.015   0.035    2700  0.0028    0.00
2635          RX    0.00    0.00    7.00    7.00   43.00   43.00   50.00   50.00
2636          RY    3.00    0.57    0.50    0.00    0.00    0.50    0.57    3.00
              *

2637          KK    BLNR   BASIN
2638          KM   Runoff hydrograph for subbasin BLNR near the intersection of Bell Road and
2639          KM   New River
2640          BA   0.603
2641          LG    0.18    0.26    5.20    0.21      50
2642          UC   0.926   0.610
2643          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
2644          UA     100
              *

2645          KK  ERBLNR  DIVERT
2646          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
2647          KM   retention developed after 1990 in subbasin BLNR
2648          DT   XBLNR     9.3     0.0
2649          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
2650          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

2651          KK   CNR08 COMBINE
2652          KM   Combine route RBLNR and subbasin BLNR
2653          HC       3   17.63
              *

2654          KK    RG93   BASIN
2655          KM   Runoff hydrograph for subbasin RG93 near the intersection of Rose Garden Lane
2656          KM   93rd Avenue
2657          BA   0.248
2658          LG    0.25    0.25    4.60    0.30      30
2659          UC   0.995   0.702
2660          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
2661          UA     100
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

2662          KK  ERRG93  DIVERT
2663          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
2664          KM   retention developed after 1990 in subbasin RG93
2665          DT   XRG93    20.3     0.0
2666          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
2667          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

2668          KK  DSBY91  DIVERT
2669          KM   Divert remaining runoff hydrograph from combination point CRG93 south to
2670          KM   combination point CBY91
2671          DT  DWRGLP     0.0     0.0
2672          DI     0.0     5.0     9.0    50.0    84.0   113.0   140.0   205.0     0.0     0.0
2673          DQ     0.0     0.0     0.0    35.0    66.0    93.0   118.0   182.0     0.0     0.0
              *

2674          KK   RBY91   ROUTE
2675          KM   Route diversion DSBY91 south to combination point CBY91
```

```
2676          RS       7    FLOW
2677          RC   0.045   0.035   0.045    2901  0.0041    0.00
2678          RX    0.00    0.00   19.00   25.00   30.00   36.00   55.00   55.00
2679          RY    4.10    3.10    3.00    0.00    0.00    3.00    3.10    4.10
              *

2680          KK    BY91   BASIN
2681          KM   Runoff hydrograph for subbasin BY91 near the intersection of Beardsley Road
2682          KM   91st Avenue
2683          BA   0.501
2684          LG    0.23    0.25    4.50    0.34      27
2685          UC   0.747   0.335
2686          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
2687          UA     100
              *

2688          KK  ERBY91  DIVERT
2689          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
2690          KM   retention developed after 1990 in subbasin BY91
2691          DT   XBY91    38.6     0.0
2692          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
2693          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

2694          KK   CBY91 COMBINE
2695          KM   Combine route RBY91 and subbasin BY91
2696          HC       2    0.63
              *

2697          KK   RUH91   ROUTE
2698          KM   Route runoff hydrograph at combination point CBY91 to combination point CUH91
2699          RS      10    FLOW
2700          RC   0.045   0.035   0.045    9978  0.0027    0.00
2701          RX    0.00    0.00   19.00   25.00   30.00   36.00   55.00   55.00
2702          RY    4.10    3.10    3.00    0.00    0.00    3.00    3.10    4.10
              *
```



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LINE          ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

2703          KK    UH91   BASIN
2704          KM   Runoff hydrograph for subbasin UH91 near the intersection of Union Hills
2705          KM   Drive and 91st Avenue
2706          BA   0.929
2707          LG    0.21    0.25    4.80    0.31      27
2708          UC   1.491   1.059
2709          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
2710          UA     100
              *

2711          KK  ERUH91  DIVERT
2712          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
2713          KM   retention developed after 1990 in subbasin UH91
2714          DT   XUH91     4.0     0.0
2715          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
2716          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

2717          KK   CUH91 COMBINE
2718          KM   Combine route RUH91 and subbasin UH91
2719          HC       2    1.55
              *

2720          KK  DRBL91RETRIEVE
2721          KM   Retrieve divert DRBL91 from combination point CBL59 and divert to
2722          KM   combination point CIUH91
2723          DR  DSBL91
              *

2724          KK   DUH91  DIVERT
2725          KM   Capacity of storm drain in 89th Avenue and 91st Avenue diverted together.
2726          KM   Divert combined calculated full flow capacity of 454 cfs in the 78-inch storm
2727          KM   drain pipe in 89th Avenue and 129 cfs in the 54-inch storm drain pipe in
2728          KM   91st Avenue. The total calculated combined full flow capacity diverted at the
2729          KM   intersection of 91st Avenue and Union Hills Drive is 583 cfs in an equivalent
2730          KM   diameter pipe of 96 inches
2731          DT   DPUH91      0.0   583.0
2732          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
2733          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

2734          KK   CIUH91 COMBINE
2735          KM   Combine diversion DUH91 with runoff hydrograph at combination point CUH91
2736          KM   at the intersection of 91st Avenue and Union Hills Drive
2737          HC       2    4.04
              *

2738          KK   RBL91   ROUTE
2739          KM   Route runoff hydrograph at combination point CIUH91 to combination point CBL9
2740          RS       2    FLOW
2741          RC   0.035   0.015   0.035    5280  0.0045    0.00
2742          RX    0.00    0.00   38.50   38.50  210.50  210.50  249.00  249.00
```



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2743          RY    3.00    0.88    0.50    0.00    0.00    0.50    0.88    3.00
              *
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LINE          ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

2744          KK    BL91   BASIN
2745          KM   Runoff hydrograph for subbasin BL91 near the intersection of Bell Road and
2746          KM   91st Avenue
2747          BA   0.901
2748          LG    0.19    0.15    7.00    0.10      54
2749          UC   0.967   0.489
2750          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
2751          UA     100
              *

2752          KK  ERBL91  DIVERT
2753          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
2754          KM   retention developed after 1990 in subbasin BL91
2755          DT   XBL91    79.1     0.0
2756          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
2757          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

2758          KK   CBL91 COMBINE
2759          KM   Combine route RBL91 and subbasin BL91
2760          HC       2    4.94
              *

2761          KK  PRUH91RETRIEVE
2762          KM   Retrieve combined full flow capacity of 583 cfs from 96-inch equivalent
2763          KM   diameter pipe at the intersection of Union Hills Drive and 91st Avenue
2764          DR  DPUH91
              *

2765          KK  RP91AT   ROUTE
2766          KM   Route the combined full flow capacity of 583 cfs through an equivalent storm
2767          KM   drain pipe diameter of 96 inches in 91st Avenue to the intersection of
2768          KM   91st Avenue and Athens Street
2769          RK    1467  0.0043   0.015            CIRC   8.000
              *

2770          KK  SRAT91 STORAGE
2771          KM   Storage route pipe flow PRUH91 through the regional detention basin located
2772          KM     in subbasin BL91 near the intersection of Athens Street and 91st Avenue
2773          KM   Storage routing ID S-DET in Glendale/Peoria ADMPU, May 2001
2774          KM   Comments from ADMPU:
2775          KM   * PROPOSED DESERT AMETHYST DETENTION BASIN
2776          KM   * **** LTM: Use design-level storage volume/elevation data provided by Wood
2777          KM   *      Patel. Basin size reduced to accommodate potential landscaping req'mts
2778          RS       1    STOR
2779          SV            0.00    0.04    0.38    1.53    3.87    7.06   10.53   14.03   17.61
2780          SV   21.25  24.973  28.766  32.634  36.576  40.594  44.688  44.689    44.8    44.9
2781          SQ       0      60      68      80      96     117     148     188     237     288
2782          SQ     329     333     337     341     345     348     357     500    1000    1500
2783          SE  1201.6  1203.0  1203.5  1204.0  1204.5  1205.0  1205.5  1206.0  1206.5  1207.0
2784          SE  1207.5  1208.0  1208.5  1209.0  1209.5  1210.0  1210.5  1210.6  1211.0  1211.3
              *
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LINE          ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

2785          KK  RP91BL   ROUTE
2786          KM   Route full flow capacity of 311 cfs through 78-inch storm drain pipe in
2787          KM   91st Avenue to the intersection of Bell Road and 91st Avenue
2788          RK    3333  0.0035   0.015            CIRC   6.500
              *

2789          KK  CPBL91 COMBINE
2790          KM   Combine pipe return PRUH91 with the runoff hydrograph at combination point
2791          KM   CBL91 at the intersection of Bell Road and 87th Avenue
2792          HC       2
              *

2793          KK  DSGWNR  DIVERT
2794          KM   Divert remaining runoff hydrograph from combination point CPBL91 south to
2795          KM   combination point CNR09
2796          DT   DSGW91      0.0     0.0
2797          DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
2798          DQ     0.0    58.0   116.0   290.0   580.0  1160.0  2320.0  5800.0 11600.0 29000.0
              *

2799          KK  DPBLNR  DIVERT
2800          KM   Divert calculated full flow capacity of 159 cfs into 72-inch storm drain
2801          KM   pipe at the intersection of Bell Road and 87th Avenue
2802          DT   DBLNR      0.0     0.0
2803          DI     0.0   159.0   159.1 50000.0     0.0     0.0     0.0     0.0     0.0     0.0
2804          DQ     0.0     0.0     0.1 49841.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

2805          KK  RPBLNR   ROUTE
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2806          KM   Route full flow capacity of 159 cfs through 72-inch storm drain pipe in
2807          KM   Bell Road to the intersection of Bell Road and New River
2808          RK    1896  0.0014    0.015            CIRC    6.000
              *

2809          KK  CPNR08 COMBINE
2810          KM   Combine pipe flow DPBLNR with the runoff hydrograph at combination point
2811          KM   CNR08 at the intersection of Bell Road and New River
2812          HC       2   17.63
              *

2813          KK  DRBLNRRETRIEVE
2814          KM   Retrieve divert DRBLNR from combination point CPBL91 and divert to
2815          KM   combination point CNR09
2816          DR   DBLNR
              *

2817          KK  RGWNRB    ROUTE
2818          KM   Route diversion retrieval DRBLNR to combination point CNR09
2819          RS       5     FLOW
2820          RC   0.035   0.015   0.035    9106  0.0029    0.00
2821          RX    0.00    0.00   12.50   12.50   62.50   62.50   75.00   75.00
2822          RY    3.00    0.62    0.50    0.00    0.00    0.50    0.62    3.00
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9.....10

2823          KK  DRGW91RETRIEVE
2824          KM   Retrieve divert DRGW91 from combination point CPBL91 and divert to
2825          KM   combination point CGW91
2826          DR  DSGW91
              *

2827          KK   RGW91    ROUTE
2828          KM   Route diversion retrieval DRGW91 to combination point CGW91
2829          RS       3     FLOW
2830          RC   0.035   0.015   0.035    5450  0.0039    0.00
2831          RX    0.00    0.00   16.50   16.50  107.50  107.50  124.00  124.00
2832          RY    3.00    0.66    0.50    0.00    0.00    0.50    0.66    3.00
              *

2833          KK    GW91    BASIN
2834          KM   Runoff hydrograph for subbasin GW91 near the intersection of Greenway Road
2835          KM   91st Avenue
2836          BA   0.477
2837          LG    0.20    0.25    5.60    0.19      43
2838          UC   0.865   0.492
2839          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
2840          UA     100
              *

2841          KK  ERGW91  DIVERT
2842          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
2843          KM   retention developed after 1990 in subbasin GW91
2844          DT   XGW91    22.0     0.0
2845          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
2846          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

2847          KK   CGW91 COMBINE
2848          KM   Combine route RGW91 and subbasin GW91
2849          HC       2    3.35
              *

2850          KK  DEGWNR  DIVERT
2851          KM   Divert remaining runoff hydrograph at combination point CGW91 east to
2852          KM   combination point CNR09
2853          DT  DSTBNR      0.0     0.0
2854          DI      0.0  1350.0  1350.1 50000.0     0.0     0.0     0.0     0.0     0.0     0.0
2855          DQ      0.0     0.0  1350.1 50000.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

2856          KK  RGWNRA    ROUTE
2857          KM   Route diversion DEGWNR east to combination point CNR09
2858          RS       6     FLOW
2859          RC   0.045   0.015   0.045    6001  0.0010    0.00
2860          RX    0.00    0.00   40.00   50.00   60.00   70.00  110.00  110.00
2861          RY    6.20    5.20    5.00    0.00    0.00    5.00    5.20    6.20
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9.....10

2862          KK    GWNR    BASIN
2863          KM   Runoff hydrograph for subbasin GWNR near the intersection of Greenway Road
2864          KM   and New River
2865          BA   0.696
2866          LG    0.18    0.27    4.65    0.29      36
2867          UC   1.060   0.714
2868          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
```



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2869          UA     100
              *

2870          KK  ERGWNR  DIVERT
2871          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
2872          KM   retention developed after 1990 in subbasin GWNR
2873          DT   XGWNR    26.6     0.0
2874          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
2875          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

2876          KK   CNR09 COMBINE
2877          KM   Combine route RGWNRA, route RGWNRB and subbasin
2878          KM   DV87
2879          HC       5   59.13
              *

2880          KK  DRTBNRRETRIEVE
2881          KM   Retrieve divert DRTBNR from combination point CGW91 and divert to
2882          KM   combination point CNR10
2883          DR  DSTBNR
              *

2884          KK   RTBNR    ROUTE
2885          KM   Route diversion retrieval DRTBNR to combination point CNR10
2886          RS       1     FLOW
2887          RC   0.035   0.015   0.035    6342  0.0031    0.00
2888          RX    0.00    0.00   16.50   16.50  107.50  107.50  124.00  124.00
2889          RY    3.00    0.66    0.50    0.00    0.00    0.50    0.66    3.00
              *

2890          KK    TBNR    BASIN
2891          KM   Runoff hydrograph for subbasin TBNR near the intersection of Thunderbird Road
2892          KM   and New River
2893          BA   1.123
2894          LG    0.19    0.24    4.65    0.30      31
2895          UC   1.170   0.537
2896          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
2897          UA     100
              *

2898          KK  ERTBNR  DIVERT
2899          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
2900          KM   retention developed after 1990 in subbasin TBNR
2901          DT   XTBNR    15.5     0.0
2902          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
2903          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9.....10

2904          KK   CNR10 COMBINE
2905          KM   Combine route RTBNR and subbasin TBNR
2906          HC       3   61.93
              *

2907          KK    HV93    BASIN
2908          KM   Runoff hydrograph for subbasin HV93 near the intersection of Happy Valley
2909          KM   Road and 93rd Avenue
2910          BA   0.172
2911          LG    0.25    0.28    4.15    0.43      30
2912          UC   0.434   0.290
2913          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
2914          UA     100
              *

2915          KK  DSPPLP  DIVERT
2916          KM   Divert remaining runoff hydrograph from subbasin HV93 south to combination
2917          KM   point CPPLP
2918          DT  DWHVLP      0.0     0.0
2919          DI      0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
2920          DQ      0.0    42.0    84.0   210.0   420.0   840.0  1680.0  4200.0  8400.0 21000.0
              *

2921          KK  RPPLPA    ROUTE
2922          KM   Route diversion DSPPLP south to combination point CPPLP
2923          RS       4     FLOW
2924          RC   0.035   0.015   0.035    8751  0.0066    0.00
2925          RX    0.00    0.00    9.50    9.50   40.50   40.50   50.00   50.00
2926          RY    3.00    0.60    0.50    0.00    0.00    0.50    0.60    3.00
              *

2927          KK  DRPP91RETRIEVE
2928          KM   Retrieve divert DRPP91 from subbasin PP91 and divert to combination point
2929          KM   CPPLP
2930          DR   DPP91
              *

2931          KK  RPPLPB    ROUTE
2932          KM   Route diversion retrieval DRPP91 to combination point CPPLP
2933          RS       1     FLOW
```

```
2934          RC   0.040   0.040   0.040    5844  0.0020    0.00
2935          RX    0.00  100.00  140.00  160.00  200.00  300.00  400.00  500.00
2936          RY   10.00    9.00    0.00    0.00    9.00   10.00   11.00   12.00
              *

2937          KK    PPLP   BASIN
2938          KM   Runoff hydrograph for subbasin PPLP near the intersection of Pinnacle Peak
2939          KM   Road and Lake Pleasant Parkway
2940          BA   0.885
2941          LG    0.23    0.25    4.35    0.38      37
2942          UC   0.973   0.670
2943          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
2944          UA     100
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

2945          KK  ERPPLP  DIVERT
2946          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
2947          KM   retention developed after 1990 in subbasin PPLP
2948          DT   XPPLP     45.6      0.0
2949          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
2950          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

2951          KK   CPPLP COMBINE
2952          KM   Combine route RPPLP and subbasin PPLP
2953          HC       3    1.15
              *

2954          KK  DSDV99  DIVERT
2955          KM   Divert remaining runoff hydrograph from combination point CPPLP south to
2956          KM   combination point CDV99
2957          DT  DWPP03      0.0      0.0
2958          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
2959          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

2960          KK   DDV99  DIVERT
2961          KM   Divert portion of diversion DSDV99 south to subbasin DVLP and the
2962          KM   remaining flow follow to subbasin DV99 at combination point CDV99
2963          DT  DSDVLP      0.0      0.0
2964          DI     0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0  10000.0  20000.0  50000.0
2965          DQ     0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

2966          KK    DV99   BASIN
2967          KM   Runoff hydrograph for subbasin DV99 near the intersection of Deer Valley
2968          KM   Road and 99th Avenue
2969          BA   1.217
2970          LG    0.28    0.25    4.40    0.38      22
2971          UC   0.911   0.322
2972          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
2973          UA     100
              *

2974          KK  ERDV99  DIVERT
2975          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
2976          KM   retention developed after 1990 in subbasin DV99
2977          DT   XDV99     81.4      0.0
2978          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
2979          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

2980          KK   CDV99 COMBINE
2981          KM   Combine divert DDV99 and subbasin DV99
2982          HC       2    1.22
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

2983          KK  RRGLPA   ROUTE
2984          KM   Route runoff hydrograph at combination point CDV99 to combination point CRGLP
2985          RS       2    FLOW
2986          RC   0.045   0.020   0.045    2633  0.0048    0.00
2987          RX    0.00    0.00   40.00   50.00   60.00   70.00  110.00  110.00
2988          RY    6.20    5.20    5.00    0.00    0.00    5.00    5.20    6.20
              *

2989          KK  DRRGLPRETRIEVE
2990          KM   Retrieve divert DRRGLP from combination point CRG93 and divert to
2991          KM   combination point CRGLP
2992          DR  DWRGLP
              *

2993          KK  RRGLPB   ROUTE
2994          KM   Route diversion retrieval DRRGLP to combination point CRGLP
2995          RS      10    FLOW
2996          RC   0.045   0.020   0.045    3160  0.0003    0.00
```



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2997          RX    0.00    0.00   19.00   25.00   30.00   36.00   55.00   55.00
2998          RY    4.10    3.10    3.00    0.00    0.00    3.00    3.10    4.10
              *

2999          KK    RGLP   BASIN
3000          KM   Runoff hydrograph for subbasin RGLP near the intersection of Rose Garden Lane
3001          KM   and Lake Pleasant Parkway
3002          BA   0.410
3003          LG    0.22    0.25    4.35    0.34      42
3004          UC   1.046   0.692
3005          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
3006          UA     100
              *

3007          KK  ERRGLP  DIVERT
3008          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
3009          KM   retention developed after 1990 in subbasin RGLP
3010          DT   XRGLP     38.4      0.0
3011          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
3012          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

3013          KK   CRGLP COMBINE
3014          KM   Combine route RRGLPA, route RRGLPB, and subbasin RGLP
3015          HC       3    1.75
              *

3016          KK  DSBY07  DIVERT
3017          KM   Divert remaining runoff hydrograph from combination point CRGLP south to
3018          KM   combination point CBY07
3019          DT  DWRG07      0.0      0.0
3020          DI     0.0     50.0    100.0    300.0    750.0   1200.0   2000.0      0.0      0.0      0.0
3021          DQ     0.0     40.0     80.0    240.0    600.0   1050.0   1850.0      0.0      0.0      0.0
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

3022          KK   RBY99   ROUTE
3023          KM   Route diversion DSBY07 south to combination point CBY99
3024          RS       7    FLOW
3025          RC   0.045   0.035   0.045    3939  0.0041    0.00
3026          RX    0.00    1.00   16.00   36.00   51.00  123.00  148.00  648.00
3027          RY   16.00    8.00    0.00    0.00    8.00    8.00    9.00   11.00
              *

3028          KK    BY07   BASIN
3029          KM   Runoff hydrograph for subbasin BY07 near the intersection of Beardsley Road
3030          KM   and 87th Avenue
3031          BA   0.513
3032          LG    0.23    0.25    5.10    0.23      38
3033          UC   0.856   0.426
3034          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
3035          UA     100
              *

3036          KK  ERBY07  DIVERT
3037          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
3038          KM   retention developed after 1990 in subbasin BY07
3039          DT   XBY07     38.7      0.0
3040          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
3041          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

3042          KK   CBY07 COMBINE
3043          KM   Combine route RBY99 and subbasin BY07
3044          HC       2    1.39
              *

3045          KK  DSUH99  DIVERT
3046          KM   Divert remaining runoff hydrograph from combination point CBY07 south to
3047          KM   combination point CUH99
3048          DT  DWBYAF      0.0      0.0
3049          DI     0.0     10.0     30.0     50.0    100.0    500.0    700.0   1000.0      0.0      0.0
3050          DQ     0.0     10.0     30.0     50.0    100.0    420.0    450.0    500.0      0.0      0.0
              *

3051          KK   RUH99   ROUTE
3052          KM   Route diversion DSUH99 south to combination point CUH99
3053          RS       5    FLOW
3054          RC   0.045   0.015   0.045    5347  0.0042    0.00
3055          RX    0.00    0.00   19.00   25.00   30.00   36.00   55.00   55.00
3056          RY    4.10    3.10    3.00    0.00    0.00    3.00    3.10    4.10
              *

3057          KK    UH99   BASIN
3058          KM   Runoff hydrograph for subbasin UH99 near the intersection of Union Hills
3059          KM   Drive and 99th Avenue
3060          BA   0.563
3061          LG    0.25    0.15    7.00    0.10      35
3062          UC   1.294   0.945
3063          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
```

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     LINE          ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

     3064          UA     100
                   *

     3065          KK   CUH99 COMBINE
     3066          KM   Combine route RUH99 and subbasin UH99
     3067          HC       2    1.26
                   *

     3068          KK  RDW99A   ROUTE
     3069          KM   Route runoff hydrograph at combination point CUH99 to combination point CDW99
     3070          RS       1    FLOW
     3071          RC   0.045   0.015   0.045    2292  0.0029    0.00
     3072          RX    0.00    0.00   40.00   50.00   60.00   70.00  110.00  110.00
     3073          RY    6.20    5.20    5.00    0.00    0.00    5.00    5.20    6.20
                   *

     3074          KK    UH97   BASIN
     3075          KM   Runoff hydrograph for subbasin UH97 near the intersection of Happy Valley
     3076          KM   Road and Palo Verde Drive
     3077          BA   0.272
     3078          LG    0.21    0.25    5.60    0.22      28
     3079          UC   1.007   0.912
     3080          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
     3081          UA     100
                   *

     3082          KK  RDW99B   ROUTE
     3083          KM   Route runoff hydrograph at subbasin UH97 to combination point CDW99
     3084          RS       4    FLOW
     3085          RC   0.045   0.035   0.045    2848  0.0034    0.00
     3086          RX    0.00    0.00   19.00   25.00   30.00   36.00   55.00   55.00
     3087          RY    4.10    3.10    3.00    0.00    0.00    3.00    3.10    4.10
                   *

     3088          KK    DW99   BASIN
     3089          KM   Runoff hydrograph for subbasin DW99 near the intersection of Del Webb
     3090          KM   Boulevard and 99th Avenue
     3091          BA   0.155
     3092          LG    0.18    0.16    7.00    0.12      35
     3093          UC   0.794   0.728
     3094          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
     3095          UA     100
                   *

     3096          KK   CDW99 COMBINE
     3097          KM   Combine route RDW99 and subbasin DW99
     3098          HC       3    1.68
                   *

     3099          KK  DSBL99   DIVERT
     3100          KM   Divert remaining runoff hydrograph from combination point CDW99 south to
     3101          KM   combination point CBL99
     3102          DT  DWDW07       0.0    550.0
     3103          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
     3104          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
                   *

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     LINE          ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

     3105          KK   RBL99   ROUTE
     3106          KM   Route diversion DSBL99 south to combination point CBL99
     3107          RS       5    FLOW
     3108          RC   0.035   0.015   0.035    3206  0.0041    0.00
     3109          RX    0.00    0.00   16.50   16.50  107.50  107.50  124.00  124.00
     3110          RY    3.00    0.66    0.50    0.00    0.00    0.50    0.66    3.00
                   *

     3111          KK    BL99   BASIN
     3112          KM   Runoff hydrograph for subbasin BL99 near the intersection of Bell Road and
     3113          KM   99th Avenue
     3114          BA   1.133
     3115          LG    0.22    0.21    6.40    0.14      36
     3116          UC   1.153   0.588
     3117          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
     3118          UA     100
                   *

     3119          KK   CBL99 COMBINE
     3120          KM   Combine route RBL99 and subbasin BL99
     3121          HC       2    1.98
                   *

     3122          KK   RBN99   ROUTE
     3123          KM   Route runoff hydrograph at combination point CBL99 to combination point CBN99
     3124          RS       1    FLOW
     3125          RC   0.045   0.015   0.045    3854  0.0052    0.00
     3126          RX    0.00    0.00   40.00   50.00   60.00   70.00  110.00  110.00
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     3127          RY    6.20    5.20    5.00    0.00    0.00    5.00    5.20    6.20
                   *

     3128          KK    BN99   BASIN
     3129          KM   Runoff hydrograph for subbasin BN99 near the intersection of Burns Road and
     3130          KM   99th Avenue
     3131          BA   1.037
     3132          LG    0.21    0.25    6.00    0.17      34
     3133          UC   1.119   0.534
     3134          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
     3135          UA     100
                   *

     3136          KK   CBN99 COMBINE
     3137          KM   Combine route RBN99 and subbasin BN99
     3138          HC       2    3.01
                   *

     3139          KK   RTB99   ROUTE
     3140          KM   Route runoff hydrograph at combination point CBN99 to combination point CTB99
     3141          RS       3    FLOW
     3142          RC   0.045   0.015   0.045    6842  0.0039    0.00
     3143          RX    0.00    0.00   40.00   50.00   60.00   70.00  110.00  110.00
     3144          RY    6.20    5.20    5.00    0.00    0.00    5.00    5.20    6.20
                   *

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     LINE          ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

     3145          KK    TB99   BASIN
     3146          KM   Runoff hydrograph for subbasin TB99 near the intersection of Thunderbird Road
     3147          KM   and 99th Avenue
     3148          BA   0.976
     3149          LG    0.23    0.25    5.80    0.18      30
     3150          UC   1.208   0.694
     3151          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
     3152          UA     100
                   *

     3153          KK   CTB99 COMBINE
     3154          KM   Combine route RTB99 and subbasin TB99
     3155          HC       2    3.99
                   *

     3156          KK  RGRNRA   ROUTE
     3157          KM   Route runoff hydrograph at combination point CTB99 to combination point CNR11
     3158          RS       1    FLOW
     3159          RC   0.045   0.015   0.045    6205  0.0045    0.00
     3160          RX    0.00    0.00   55.00   75.00  100.00  120.00  175.00  175.00
     3161          RY   11.20   10.20   10.00    0.00    0.00   10.00   10.20   11.20
                   *

     3162          KK  DRDW07RETRIEVE
     3163          KM   Retrieve divert DRDW07 from combination point CDW99 and divert to
     3164          KM   combination point CDW07
     3165          DR  DWDW07
                   *

     3166          KK   RDW07   ROUTE
     3167          KM   Route diversion retrieval DRDW07 to combination point CDW07
     3168          RS       3    FLOW
     3169          RC   0.045   0.015   0.045    4743  0.0007    0.00
     3170          RX    0.00    0.00   40.00   50.00   60.00   70.00  110.00  110.00
     3171          RY    6.20    5.20    5.00    0.00    0.00    5.00    5.20    6.20
                   *

     3172          KK    DW07   BASIN
     3173          KM   Runoff hydrograph for subbasin DW07 near the intersection of Del Webb
     3174          KM   Boulevard and 107th Avenue
     3175          BA   0.484
     3176          LG    0.19    0.19    6.60    0.16      28
     3177          UC   1.258   0.885
     3178          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
     3179          UA     100
                   *

     3180          KK   CDW07 COMBINE
     3181          KM   Combine route RDW07 and subbasin DW07
     3182          HC       2    1.33
                   *

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     LINE          ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

     3183          KK  DSTL07   DIVERT
     3184          KM   Divert remaining runoff hydrograph from combination point CDW07 south to
     3185          KM   combination point CTL07
     3186          DT  DWBL15       0.0    550.0
     3187          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
     3188          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
                   *
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3189          KK   RTL07   ROUTE
3190          KM   Route diversion DSTL07 south to combination point CTL07
3191          RS       5    FLOW
3192          RC  0.035   0.015   0.035    8131  0.0048    0.00
3193          RX   0.00    0.00   16.50   16.50  107.50  107.50  124.00  124.00
3194          RY   3.00    0.66    0.50    0.00    0.00    0.50    0.66    3.00
              *

3195          KK    TL07   BASIN
3196          KM   Runoff hydrograph for subbasin TL07 near the intersection of Talisman Road
3197          KM   and 107th Avenue
3198          BA   0.580
3199          LG    0.21    0.25    5.00    0.29      27
3200          UC   1.074   0.788
3201          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
3202          UA     100
              *

3203          KK   CTL07 COMBINE
3204          KM   Combine route RTL07 and subbasin TL07
3205          HC       2    1.24
              *

3206          KK  RGR99A   ROUTE
3207          KM   Route runoff hydrograph at combination point CTL07 to combination point CGR99
3208          RS       5    FLOW
3209          RC  0.045   0.020   0.045   12358  0.0025    0.00
3210          RX   0.00    0.00   40.00   50.00   60.00   70.00  110.00  110.00
3211          RY   6.20    5.20    5.00    0.00    0.00    5.00    5.20    6.20
              *

3212          KK    RO99   BASIN
3213          KM   Runoff hydrograph for subbasin RO99 near the intersection of Royal Oak Road
3214          KM   and 99th Avenue
3215          BA   0.414
3216          LG    0.20    0.22    4.70    0.26      38
3217          UC   1.341   1.185
3218          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
3219          UA     100
              *
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LINE          ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

3220          KK  RGR99B   ROUTE
3221          KM   Route runoff hydrograph at subbasin RO99 to combination point CGR99
3222          RS       1    FLOW
3223          RC  0.045   0.015   0.045    1046  0.0060    0.00
3224          RX   0.00    0.00   19.00   25.00   30.00   36.00   55.00   55.00
3225          RY   4.10    3.10    3.00    0.00    0.00    3.00    3.10    4.10
              *

3226          KK    GR99   BASIN
3227          KM   Runoff hydrograph for subbasin GR99 near the intersection of Grand Avenue
3228          KM   and 99th Avenue
3229          BA   1.309
3230          LG    0.20    0.17    6.80    0.12      41
3231          UC   1.500   1.089
3232          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
3233          UA     100
              *

3234          KK   CGR99 COMBINE
3235          KM   Combine route RGR99A, route RGR99B, and subbasin GR99
3236          HC       3    2.97
              *

3237          KK  RGRNRB   ROUTE
3238          KM   Route runoff hydrograph at combination point CGR99 to combination point CNR11
3239          RS       1    FLOW
3240          RC  0.045   0.015   0.045    3071  0.0051    0.00
3241          RX   0.00    0.00   55.00   75.00  100.00  120.00  175.00  175.00
3242          RY  11.20   10.20   10.00    0.00    0.00   10.00   10.20   11.20
              *

3243          KK    GRNR   BASIN
3244          KM   Runoff hydrograph for subbasin GRNR near the intersection of Grand Avenue
3245          KM   and New River
3246          BA   0.947
3247          LG    0.17    0.26    5.00    0.23      48
3248          UC   0.875   0.421
3249          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
3250          UA     100
              *

3251          KK  ERGRNR  DIVERT
3252          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
3253          KM   retention developed after 1990 in subbasin GRNR
3254          DT   XGRNR     18.5      0.0
3255          DI     0.0 50000.0      0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
3256          DQ     0.0 50000.0      0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
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LINE          ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

3257          KK   CNR11 COMBINE
3258          KM   Combine route RGRNRA, route RGRNRB and subbasin GRNR
3259          HC       4   69.83
              *

3260          KK    PE99   BASIN
3261          KM   Runoff hydrograph for subbasin PE99 near the intersection of Peoria Avenue
3262          KM   and 99th Avenue
3263          BA   0.294
3264          LG    0.21    0.25    4.90    0.28      33
3265          UC   1.362   1.662
3266          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
3267          UA     100
              *

3268          KK  DEPE97  DIVERT
3269          KM   Divert remaining runoff hydrograph at subbasin PE99 east to combination point
3270          KM   CNR12
3271          DT  DSOL99      0.0      0.0
3272          DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
3273          DQ     0.0    30.0    60.0   150.0   300.0   600.0  1200.0  3000.0  6000.0 15000.0
              *

3274          KK   RPE97   ROUTE
3275          KM   Route diversion DEPE97 east to combination point CNR12
3276          RS       2    FLOW
3277          RC  0.035   0.015   0.035    1508  0.0023    0.00
3278          RX   0.00    0.00   64.00   64.00  310.00  310.00  374.00  374.00
3279          RY   3.00    1.14    0.50    0.00    0.00    0.50    1.14    3.00
              *

3280          KK    PENR   BASIN
3281          KM   Runoff hydrograph for subbasin PENR near the intersection of Peoria Avenue
3282          KM   and New River
3283          BA   0.197
3284          LG    0.10    0.25    4.70    0.28      70
3285          UC   0.950   0.678
3286          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
3287          UA     100
              *

3288          KK  ERPENR  DIVERT
3289          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
3290          KM   retention developed after 1990 in subbasin PENR
3291          DT   XPENR      6.9      0.0
3292          DI     0.0 50000.0      0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
3293          DQ     0.0 50000.0      0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *
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LINE          ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

3294          KK  DWPE99  DIVERT
3295          KM   Divert remaining runoff hydrograph at subbasin PENR west to combination point
3296          KM   CNR12
3297          DT  DSOLNR      0.0      0.0
3298          DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
3299          DQ     0.0    44.0    88.0   220.0   440.0   880.0  1760.0  4400.0  8800.0 22000.0
              *

3300          KK    PE97   BASIN
3301          KM   Runoff hydrograph for subbasin PE97 near the intersection of Peoria Avenue
3302          KM   Road and 97th Avenue
3303          BA   0.560
3304          LG    0.18    0.26    4.65    0.31      30
3305          UC   1.022   0.772
3306          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
3307          UA     100
              *

3308          KK  ERPE97  DIVERT
3309          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
3310          KM   retention developed after 1990 in subbasin PE97
3311          DT   XPE97      0.8      0.0
3312          DI     0.0 50000.0      0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
3313          DQ     0.0 50000.0      0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

3314          KK   CNR12 COMBINE
3315          KM   Combine route RPE97, divert DWPE99, and subbasin PE97
3316          HC       4   70.71
              *

3317          KK  DROL99RETRIEVE
3318          KM   Retrieve divert DROL99 from subbasin PE99 and divert to combination point
3319          KM   CNR13
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3320          DR  DSOL99
              *
3321          KK  ROL99A   ROUTE
3322          KM   Route diversion retrieval DROL99 to combination point CNR13
3323          RS       8     FLOW
3324          RC   0.035   0.015   0.035    5677  0.0038    0.00
3325          RX    0.00    0.00   16.50   16.50  107.50  107.50  124.00  124.00
3326          RY    3.00    0.66    0.50    0.00    0.00    0.50    0.66    3.00
              *
3327          KK   PE11   BASIN
3328          KM   Runoff hydrograph for subbasin PE11 near the intersection of Peoria Avenue
3329          KM   and 111th Avenue
3330          BA   0.924
3331          LG    0.20    0.25    6.00    0.18      30
3332          UC   1.490   1.095
3333          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
3334          UA     100
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

3335          KK  ROL03A   ROUTE
3336          KM   Route runoff hydrograph at subbasin PE11 to combination point COL03
3337          RS       2     FLOW
3338          RC   0.045   0.015   0.045    7132  0.0024    0.00
3339          RX    0.00    0.00   40.00   50.00   60.00   70.00  110.00  110.00
3340          RY    6.20    5.20    5.00    0.00    0.00    5.00    5.20    6.20
              *
3341          KK   PE07   BASIN
3342          KM   Runoff hydrograph for subbasin PE07 near the intersection of Peoria Avenue
3343          KM   and 107th Avenue
3344          BA   0.575
3345          LG    0.18    0.25    5.30    0.27      23
3346          UC   1.238   1.010
3347          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
3348          UA     100
              *
3349          KK  ROL03B   ROUTE
3350          KM   Route runoff hydrograph at subbasin PE07 to combination point COL03
3351          RS       4     FLOW
3352          RC   0.035   0.015   0.035    6517  0.0026    0.00
3353          RX    0.00    0.00    9.50    9.50   40.50   40.50   50.00   50.00
3354          RY    3.00    0.60    0.50    0.00    0.00    0.50    0.60    3.00
              *
3355          KK   PE03   BASIN
3356          KM   Runoff hydrograph for subbasin PE03 near the intersection of Peoria Avenue
3357          KM   and 103rd Avenue
3358          BA   0.409
3359          LG    0.20    0.25    4.80    0.32      29
3360          UC   1.108   0.940
3361          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
3362          UA     100
              *
3363          KK  ROL03C   ROUTE
3364          KM   Route runoff hydrograph at subbasin PE03 to combination point COL03
3365          RS       5     FLOW
3366          RC   0.035   0.015   0.035    5865  0.0030    0.00
3367          RX    0.00    0.00   12.50   12.50   62.50   62.50   75.00   75.00
3368          RY    3.00    0.62    0.50    0.00    0.00    0.50    0.62    3.00
              *
3369          KK   OL03   BASIN
3370          KM   Runoff hydrograph for subbasin OL03 near the intersection of Olive Avenue and
3371          KM   103rd Avenue
3372          BA   1.099
3373          LG    0.22    0.25    5.20    0.24      33
3374          UC   1.289   0.731
3375          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
3376          UA     100
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

3377          KK   COL03 COMBINE
3378          KM   Combine route ROL03A, route ROL03B, route ROL03C, and subbasin OL03
3379          HC       4    3.01
              *
3380          KK  ROL99B   ROUTE
3381          KM   Route runoff hydrograph at combination point COL03 to combination point CNR13
3382          RS       1     FLOW
3383          RC   0.045   0.015   0.045    1627  0.0124    0.00
3384          RX    0.00    0.00   40.00   50.00   60.00   70.00  110.00  110.00
```



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3385          RY    6.20    5.20    5.00    0.00    0.00    5.00    5.20    6.20
              *
3386          KK  DROLNRRETRIEVE
3387          KM   Retrieve divert DROLNR from subbasin PENR and divert to combination point
3388          KM   COLNR
3389          DR  DSOLNR
              *
3390          KK   ROLNR   ROUTE
3391          KM   Route diversion retreival DROLNR to combination point COLNR
3392          RS       8     FLOW
3393          RC   0.035   0.015   0.035    8150  0.0031    0.00
3394          RX    0.00    0.00   12.50   12.50   62.50   62.50   75.00   75.00
3395          RY    3.00    0.62    0.50    0.00    0.00    0.50    0.62    3.00
              *
3396          KK    OLNR   BASIN
3397          KM   Runoff hydrograph for subbasin OLNR near the intersection of Olive Avenue
3398          KM   and New River
3399          BA   0.696
3400          LG    0.23    0.17    6.80    0.11      38
3401          UC   1.399   1.061
3402          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
3403          UA     100
              *
3404          KK  EROLNR   DIVERT
3405          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
3406          KM   retention developed after 1990 in subbasin OLNR
3407          DT   XOLNR     31.6      0.0
3408          DI     0.0 50000.0      0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
3409          DQ     0.0 50000.0      0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *
3410          KK   COLNR COMBINE
3411          KM   Combine route ROLNR and subbasin OLNR
3412          HC       2    0.78
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

3413          KK  DWOL99   DIVERT
3414          KM   Divert runoff hydrograph at combination point COLNR west to combination point
3415          KM   CNR13
3416          DT   DSNONR      0.0      0.0
3417          DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
3418          DQ     0.0    33.0    66.0   165.0   330.0   660.0  1320.0  3300.0  6600.0 16500.0
              *
3419          KK    OL99   BASIN
3420          KM   Runoff hydrograph for subbasin OL99 near the intersection of Olive Avenue
3421          KM   and 99th Avenue
3422          BA   0.436
3423          LG    0.19    0.27    4.25    0.38      28
3424          UC   1.070   0.872
3425          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
3426          UA     100
              *
3427          KK   CNR13 COMBINE
3428          KM   Combine route ROL99A, route ROL99B and subbasin OL99
3429          HC       5   74.76
              *
3430          KK  DRNONRRETRIEVE
3431          KM   Retrieve divert DRNONR from subbasin OLNR and divert to combination point
3432          KM   CNONR
3433          DR  DSNONR
              *
3434          KK   RNONR   ROUTE
3435          KM   Route diversion retrieval DRNONR to combination point CNONR
3436          RS       9     FLOW
3437          RC   0.035   0.015   0.035    8560  0.0031    0.00
3438          RX    0.00    0.00   12.50   12.50   62.50   62.50   75.00   75.00
3439          RY    3.00    0.62    0.50    0.00    0.00    0.50    0.62    3.00
              *
3440          KK    NONR   BASIN
3441          KM   Runoff hydrograph for subbasin NONR near the intersection of Northern Avenue
3442          KM   and New River
3443          BA   0.830
3444          LG    0.22    0.15    7.60    0.08      41
3445          UC   1.383   1.031
3446          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
3447          UA     100
              *
3448          KK  ERNONR   DIVERT
3449          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
```

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3450          KM   retention developed after 1990 in subbasin NONR
3451          DT   XNONR     48.0      0.0
3452          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
3453          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


3454          KK   CNONR COMBINE
3455          KM   Combine route RNONR and subbasin NONR
3456          HC        2    1.09
              *

3457          KK    NO99   BASIN
3458          KM   Runoff hydrograph for subbasin NO99 near the intersection of Northern Avenue
3459          KM   and 99th Avenue
3460          BA   0.858
3461          LG    0.21    0.26    4.25    0.38      28
3462          UC   1.500   0.932
3463          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
3464          UA     100
              *

3465          KK   ERNO99  DIVERT
3466          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
3467          KM   retention developed after 1990 in subbasin NO99
3468          DT   XNO99     26.3      0.0
3469          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
3470          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

3471          KK   CNR14 COMBINE
3472          KM   Combine combination point CNONR, and subbasin NO99
3473          HC        3   76.71
              *

3474          KK    GL03   BASIN
3475          KM   Runoff hydrograph for subbasin GL03 near the intersection of Glendale Avenue
3476          KM   and 103rd Avenue
3477          BA   0.649
3478          LG    0.10    0.27    4.10    0.38      69
3479          UC   0.981   0.617
3480          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
3481          UA     100
              *

3482          KK   ERGL03  DIVERT
3483          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
3484          KM   retention developed after 1990 in subbasin GL03
3485          DT   XGL03     49.8      0.0
3486          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
3487          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

3488          KK   CNR15 COMBINE
3489          KM   Combine subbasin GL03
3490          HC        2   77.36
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


3491          KK    GLGH   BASIN
3492          KM   Runoff hydrograph for subbasin GLGH near the intersection of Glendale Avenue
3493          KM   and Glen Harbor Boulevard
3494          BA   0.079
3495          LG    0.10    0.25    4.40    0.32      95
3496          UC   0.567   0.473
3497          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
3498          UA     100
              *

3499          KK   RGHNR   ROUTE
3500          KM   Route runoff hydrograph at subbasin GLGH to combination point CNR16
3501          RS        6    FLOW
3502          RC    0.045   0.035   0.045    7516  0.0045    0.00
3503          RX     0.00    0.00   19.00   25.00   30.00   36.00   55.00   55.00
3504          RY     4.10    3.10    3.00    0.00    0.00    3.00    3.10    4.10
              *

3505          KK    GHNR   BASIN
3506          KM   Runoff hydrograph for subbasin GHNR near the intersection of Glen Harbor
3507          KM   Boulevard and New River
3508          BA   0.841
3509          LG    0.14    0.28    3.71    0.47      47
3510          UC   1.060   0.697
3511          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
3512          UA     100
              *
```



```
3513          KK   ERGHNR  DIVERT
3514          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
3515          KM   retention developed after 1990 in subbasin GHNR
3516          DT   XGHNR     14.8      0.0
3517          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
3518          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

3519          KK   CNR16 COMBINE
3520          KM   Combine route RGHNR and subbasin GHNR
3521          HC        3   78.28
              *

3522          KK    AF11   BASIN
3523          KM   Runoff hydrograph for subbasin AF11 near the intersection of the Agua Fria
3524          KM   River and 111th Avenue
3525          BA   0.375
3526          LG    0.15    0.28    3.07    0.74      80
3527          UC   0.480   0.247
3528          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
3529          UA     100
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


3530          KK    GHAF   BASIN
3531          KM   Runoff hydrograph for subbasin GHAF near the intersection of Glen Harbor
3532          KM   Boulevard and the Agua Fria River
3533          BA   0.563
3534          LG    0.15    0.28    3.03    0.76      79
3535          UC   0.640   0.414
3536          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
3537          UA     100
              *

3538          KK   ERGHAF  DIVERT
3539          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
3540          KM   retention developed after 1990 in subbasin GHAF
3541          DT   XGHAF     48.5      0.0
3542          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
3543          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

3544          KK   CAF06 COMBINE
3545          KM   Combine combination point CNR16, subbasin AF11, and subbasin GHAF
3546          HC        3   79.22
              *

3547          KK    JMAF   BASIN
3548          KM   Runoff hydrograph for subbasin JMAF near the intersection of Jomax Road and
3549          KM   the Agua Fria River
3550          BA   0.147
3551          LG    0.19    0.29    4.90    0.24      24
3552          UC   0.510   0.454
3553          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
3554          UA     100
              *

3555          KK   ERJMAF  DIVERT
3556          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
3557          KM   retention developed after 1990 in subbasin JMAF
3558          DT   XJMAF      5.8      0.0
3559          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
3560          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

3561          KK    HV07   BASIN
3562          KM   Runoff hydrograph for subbasin HV07 near the intersection of Happy Valley
3563          KM   Road and 107th Avenue
3564          BA   0.304
3565          LG    0.25    0.25    3.92    0.41      31
3566          UC   0.467   0.214
3567          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
3568          UA     100
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


3569          KK   ERHV07  DIVERT
3570          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
3571          KM   retention developed after 1990 in subbasin HV07
3572          DT   XHV07     13.1      0.0
3573          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
3574          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

3575          KK   RHVAF   ROUTE
3576          KM   Route runoff hydrograph at subbasin HV07 to combination point CHVAF
3577          RS        3    FLOW
```

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3578          RC   0.045   0.020   0.045    2397  0.0013    0.00
3579          RX    0.00    0.00   19.00   25.00   30.00   36.00   55.00   55.00
3580          RY    4.10    3.10    3.00    0.00    0.00    3.00    3.10    4.10
              *

3581          KK    HVAF   BASIN
3582          KM   Runoff hydrograph for subbasin HVAF near the intersection of Happy Valley
3583          KM   Road and the Agua Fria River
3584          BA   0.215
3585          LG    0.25    0.25    3.92    0.41      32
3586          UC   0.551   0.242
3587          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
3588          UA     100
              *

3589          KK  ERHVAF  DIVERT
3590          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
3591          KM   retention developed after 1990 in subbasin HVAF
3592          DT   XHVAF    12.4     0.0
3593          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
3594          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

3595          KK    JM99   BASIN
3596          KM   Runoff hydrograph for subbasin HV07 near the intersection of Jomax Road and
3597          KM   99th Avenue
3598          BA   0.568
3599          LG    0.24    0.13   10.10    0.03      33
3600          UC   0.757   0.405
3601          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
3602          UA     100
              *

3603          KK  ERJM99  DIVERT
3604          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
3605          KM   retention developed after 1990 in subbasin JM99
3606          DT   XJM99    42.7     0.0
3607          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
3608          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

3609          KK    WWLP   BASIN
3610          KM   Runoff hydrograph for subbasin WWLP near the intersection of Westwing Parkway
3611          KM   and Lake Pleasant Parkway
3612          BA   0.136
3613          LG    0.20    0.17    7.00    0.10      44
3614          UC   0.257   0.118
3615          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
3616          UA     100
              *

3617          KK  ERWWLP  DIVERT
3618          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
3619          KM   retention developed after 1990 in subbasin WWLP
3620          DT   XWWLP    10.1     0.0
3621          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
3622          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

3623          KK   RJMLP   ROUTE
3624          KM   Route runoff hydrograph at subbasin WWLP to combination point CJMLP
3625          RS       5    FLOW
3626          RC   0.045   0.035   0.045    5973  0.0084    0.00
3627          RX    0.00    0.00   40.00   50.00   60.00   70.00  110.00  110.00
3628          RY    6.20    5.20    5.00    0.00    0.00    5.00    5.20    6.20
              *

3629          KK    JMLP   BASIN
3630          KM   Runoff hydrograph for subbasin JMLP near the intersection of Jomax Road and
3631          KM   Lake Pleasant Parkway
3632          BA   0.705
3633          LG    0.24    0.25    6.00    0.16      36
3634          UC   0.754   0.397
3635          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
3636          UA     100
              *

3637          KK  ERJMLP  DIVERT
3638          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
3639          KM   retention developed after 1990 in subbasin JMLP
3640          DT   XJMLP    50.3     0.0
3641          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
3642          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

3643          KK   CJMLP COMBINE
3644          KM   Combine route RJMLP, subbasin JM99, and subbasin JMLP
3645          HC       3    1.41
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

3646          KK  RHV01A   ROUTE
3647          KM   Route runoff hydrograph at combination point CJMLP to combination point CHV01
3648          RS       3    FLOW
3649          RC   0.045   0.035   0.045    5774  0.0093    0.00
3650          RX    0.00    0.00   55.00   75.00  100.00  120.00  175.00  175.00
3651          RY   11.20   10.20   10.00    0.00    0.00   10.00   10.20   11.20
              *

3652          KK    YLLP   BASIN
3653          KM   Runoff hydrograph for subbasin YLLP near the intersection of Yearling Road
3654          KM   and Lake Pleasant Parkway
3655          BA   0.595
3656          LG    0.25    0.26    4.35    0.38      34
3657          UC   0.718   0.484
3658          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
3659          UA     100
              *

3660          KK  ERYLLP  DIVERT
3661          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
3662          KM   retention developed after 1990 in subbasin YLLP
3663          DT   XYLLP    13.8     0.0
3664          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
3665          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

3666          KK  RHV01B   ROUTE
3667          KM   Route runoff hydrograph at subbasin YLLP to combination point CHV01
3668          RS       1    FLOW
3669          RC   0.045   0.035   0.045    2017  0.0107    0.00
3670          RX    0.00    0.00   40.00   50.00   60.00   70.00  110.00  110.00
3671          RY    6.20    5.20    5.00    0.00    0.00    5.00    5.20    6.20
              *

3672          KK  DRHVLPRETRIEVE
3673          KM   Retrieve divert DRHVLP from subbasin HV93 and divert to combination point
3674          KM   CHVLP
3675          DR  DWHVLP
              *

3676          KK   RHVLP   ROUTE
3677          KM   Route diversion retrieval DRHVLP to combination point CHVLP
3678          RS       2    FLOW
3679          RC   0.045   0.020   0.045    4021  0.0052    0.00
3680          RX    0.00    0.00   19.00   25.00   30.00   36.00   55.00   55.00
3681          RY    4.10    3.10    3.00    0.00    0.00    3.00    3.10    4.10
              *

3682          KK    HVLP   BASIN
3683          KM   Runoff hydrograph for subbasin HVLP near the intersection of Happy Valley
3684          KM   Road and Lake Pleasant Parkway
3685          BA   0.198
3686          LG    0.20    0.25    4.30    0.37      48
3687          UC   0.627   0.577
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

3688          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
3689          UA     100
              *

3690          KK  ERHVLP  DIVERT
3691          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
3692          KM   retention developed after 1990 in subbasin HVLP
3693          DT   XHVLP     9.2     0.0
3694          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
3695          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

3696          KK   CHVLP COMBINE
3697          KM   Combine route RHVLP and subbasin HVLP
3698          HC       2    0.27
              *

3699          KK  RHV01C   ROUTE
3700          KM   Route runoff hydrograph at combination point CHVLP to combination point CHV01
3701          RS       1    FLOW
3702          RC   0.045   0.020   0.045    1200  0.0174    0.00
3703          RX    0.00    0.00   40.00   50.00   60.00   70.00  110.00  110.00
3704          RY    6.20    5.20    5.00    0.00    0.00    5.00    5.20    6.20
              *

3705          KK    HV01   BASIN
3706          KM   Runoff hydrograph for subbasin HV01 near the intersection of Happy Valley
3707          KM   Road and 101st Avenue
3708          BA   0.444
3709          LG    0.19    0.25    5.30    0.20      52
```

```
3710          UC   0.675   0.407
3711          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
3712          UA     100
              *

3713          KK  ERHV01  DIVERT
3714          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
3715          KM   retention developed after 1990 in subbasin HV01
3716          DT   XHV01     29.2      0.0
3717          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
3718          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

3719          KK   CHV01 COMBINE
3720          KM   Combine route RHV01A, route RHV01B, route RHV01C, and subbasin HV01
3721          HC       4    2.72
              *

3722          KK   RCL07   ROUTE
3723          KM   Route runoff hydrograph at combination point CHV01 to combination point CCL07
3724          RS       1    FLOW
3725          RC   0.045   0.035   0.045    5019  0.0120    0.00
3726          RX    0.00    0.00   55.00   75.00  100.00  120.00  175.00  175.00
3727          RY   11.20   10.20   10.00    0.00    0.00   10.00   10.20   11.20
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

3728          KK  RCLAFA   ROUTE
3729          KM   Route runoff hydrograph from route RCL07 to combination point CCLAF
3730          RS       1    FLOW
3731          RC   0.045   0.020   0.045    2211  0.0045    0.00
3732          RX    0.00    0.00   40.00   50.00   60.00   70.00  110.00  110.00
3733          RY    6.20    5.20    5.00    0.00    0.00    5.00    5.20    6.20
              *

3734          KK    CL07   BASIN
3735          KM   Runoff hydrograph for subbasin CL07 near the intersection of Calle Lejos Road
3736          KM   and 107th Avenue
3737          BA   0.524
3738          LG    0.21    0.27    4.55    0.30      26
3739          UC   0.861   0.600
3740          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
3741          UA     100
              *

3742          KK  ERCL07  DIVERT
3743          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
3744          KM   retention developed after 1990 in subbasin CL07
3745          DT   XCL07     31.0      0.0
3746          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
3747          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

3748          KK  DWCLAF  DIVERT
3749          KM   Divert remaining runoff hydrograph at subbasin CL07 west to combination point
3750          KM   CCLAF
3751          DT   DSPP03      0.0      0.0
3752          DI     0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0  10000.0  20000.0  50000.0
3753          DQ     0.0     12.0     24.0     60.0    120.0    240.0    480.0   1200.0   2400.0   6000.0
              *

3754          KK  RCLAFB   ROUTE
3755          KM   Route diversion DWCLAF west to combination point CCLAF
3756          RS       3    FLOW
3757          RC   0.045   0.035   0.045    2215  0.0045    0.00
3758          RX    0.00    0.00   19.00   25.00   30.00   36.00   55.00   55.00
3759          RY    4.10    3.10    3.00    0.00    0.00    3.00    3.10    4.10
              *

3760          KK    CLAF   BASIN
3761          KM   Runoff hydrograph for subbasin CLAF near the intersection of Calle Lejos Road
3762          KM   and the Agua Fria River
3763          BA   0.289
3764          LG    0.16    0.29    3.95    0.40      25
3765          UC   0.756   0.510
3766          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
3767          UA     100
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

3768          KK  ERCLAF  DIVERT
3769          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
3770          KM   retention developed after 1990 in subbasin CLAF
3771          DT   XCLAF     10.4      0.0
3772          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
3773          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *
```



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3774          KK   CCLAF COMBINE
3775          KM   Combine route RCLAFA, route RCLAFB, and subbasin CLAF
3776          HC       3    3.47
              *

3777          KK   CAF01 COMBINE
3778          KM   Combine route RHVAF, subbasin JMAF, subbasin HVAF, and combination point
3779          KM   CCLAF
3780          HC       4    4.13
              *

3781          KK  DR03PPRETRIEVE
3782          KM   Retrieve divert DR03PP from combination point CPPLP and divert to
3783          KM   combination point CPP03
3784          DR  DWPP03
              *

3785          KK  RPP03B   ROUTE
3786          KM   Route diversion retrieval DR03PP to combination point CPP03
3787          RS       1    FLOW
3788          RC   0.040   0.040   0.040    1960  0.0072    0.00
3789          RX    0.00  100.00  140.00  160.00  200.00  300.00  400.00  500.00
3790          RY   10.00    9.00    0.00    0.00    9.00   10.00   11.00   12.00
              *

3791          KK  DRPP03RETRIEVE
3792          KM   Retrieve divert DRPP03 from subbasin CL07 and divert to combination point
3793          KM   CPP03
3794          DR  DSPP03
              *

3795          KK  RPP03A   ROUTE
3796          KM   Route diversion retrieval DRPP03 to combination point CPP03
3797          RS       5    FLOW
3798          RC   0.045   0.035   0.045    2970  0.0057    0.00
3799          RX    0.00    0.00   19.00   25.00   30.00   36.00   55.00   55.00
3800          RY    4.10    3.10    3.00    0.00    0.00    3.00    3.10    4.10
              *

3801          KK    PP03   BASIN
3802          KM   Runoff hydrograph for subbasin PP03 near the intersection of Pinnacle Peak
3803          KM   Road and 103rd Avenue
3804          BA   0.325
3805          LG    0.30    0.25    4.45    0.38      15
3806          UC   1.316   1.050
3807          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

3808          UA     100
              *

3809          KK  ERPP03  DIVERT
3810          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
3811          KM   retention developed after 1990 in subbasin PP03
3812          DT   XPP03      3.4      0.0
3813          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
3814          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

3815          KK   CPP03 COMBINE
3816          KM   Combine route RPP03A, route RPP03B, and subbasin PP03
3817          HC       3    1.53
              *

3818          KK  DWPP07  DIVERT
3819          KM   Divert remaining runoff hydrograph at combination point CPP03 west to
3820          KM   combination point CPP07
3821          DT   DSDV07      0.0      0.0
3822          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
3823          DQ     0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

3824          KK   RPP07   ROUTE
3825          KM   Route diversion DWPP07 west to combination point CPP07
3826          RS       2    FLOW
3827          RC   0.050   0.050   0.050    2468  0.0158    0.00
3828          RX    0.00  100.00  140.00  160.00  200.00  300.00  400.00  500.00
3829          RY   10.00    9.00    0.00    0.00    9.00   10.00   11.00   12.00
              *

3830          KK    PP07   BASIN
3831          KM   Runoff hydrograph for subbasin PP07 near the intersection of Pinnacle Peak
3832          KM   Road and 107th Avenue
3833          BA   0.195
3834          LG    0.27    0.27    5.30    0.24      13
3835          UC   0.676   0.493
3836          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
3837          UA     100
              *
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3838          KK  ERPP07  DIVERT
3839          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
3840          KM   retention developed after 1990 in subbasin PP07
3841          DT   XPP07     3.9      0.0
3842          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
3843          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *
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LINE          ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10


3844          KK   CPP07 COMBINE
3845          KM   Combine route RPP07 and subbasin PP07
3846          HC        2     1.73
              *

3847          KK   RPPAF   ROUTE
3848          KM   Route runoff hydrograph at combination point CPP07 to combination point CDVAF
3849          RS        1     FLOW
3850          RC    0.050    0.050    0.050     1553  0.0300     0.00
3851          RX     0.00   100.00   140.00   170.00   210.00   310.00   410.00   510.00
3852          RY    10.00     9.00     0.00     0.00     9.00    10.00    11.00    12.00
              *

3853          KK    PPAF   BASIN
3854          KM   Runoff hydrograph for subbasin PPAF near the intersection of Pinnacle Peak
3855          KM   Road and the Agua Fria River
3856          BA    0.270
3857          LG     0.15     0.25     4.20     0.36       80
3858          UC    0.325    0.217
3859          UA        0      5.0     16.0     30.0     65.0     77.0     84.0     90.0     94.0     97.0
3860          UA      100
              *

3861          KK   CPPAF COMBINE
3862          KM   Combine route RDVAF and subbasin DVAF
3863          HC        2     2.00
              *

3864          KK    DVAF   BASIN
3865          KM   Runoff hydrograph for subbasin DVAF near the intersection of Deer Valley Road
3866          KM   and the Agua Fria River
3867          BA    0.412
3868          LG     0.15     0.33     5.60     0.18       10
3869          UC    0.776    0.452
3870          UA        0      5.0     16.0     30.0     65.0     77.0     84.0     90.0     94.0     97.0
3871          UA      100
              *

3872          KK  ERDVAF  DIVERT
3873          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
3874          KM   retention developed after 1990 in subbasin DVAF
3875          DT   XDVAF    11.3      0.0
3876          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
3877          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

3878          KK   CAF02 COMBINE
3879          KM   Combine combination point CDVAF and subbasin PPAF
3880          HC        2     2.41
              *
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LINE          ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10


3881          KK  DRDV07RETRIEVE
3882          KM   Retrieve divert DRDV07 from combination point CPP03 and divert to
3883          KM   combination point CDV07
3884          DR  DSDV07
              *

3885          KK   RDV07   ROUTE
3886          KM   Route diversion retrieval DRDV07 to combination point CDV07
3887          RS        1     FLOW
3888          RC    0.045    0.035    0.045     6455  0.0071     0.00
3889          RX     0.00     0.00    40.00    50.00    60.00    70.00   110.00   110.00
3890          RY     6.20     5.20     5.00     0.00     0.00     5.00     5.20     6.20
              *

3891          KK    DV07   BASIN
3892          KM   Runoff hydrograph for subbasin DV07 near the intersection of Deer Valley Road
3893          KM   and 107th Avenue
3894          BA    0.645
3895          LG     0.26     0.25     4.65     0.29       27
3896          UC    0.956    0.575
3897          UA        0      5.0     16.0     30.0     65.0     77.0     84.0     90.0     94.0     97.0
3898          UA      100
              *

3899          KK  ERDV07  DIVERT
3900          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
```



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3901          KM   retention developed after 1990 in subbasin DV07
3902          DT   XDV07    45.8      0.0
3903          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
3904          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

3905          KK   CDV07 COMBINE
3906          KM   Combine route RDV07 and subbasin DV07
3907          HC        2     0.65
              *

3908          KK  RRG07A   ROUTE
3909          KM   Route runoff hydrograph at combination point CDV07 to combination point CRG07
3910          RS        2     FLOW
3911          RC    0.045    0.015    0.045     2573  0.0027     0.00
3912          RX     0.00     0.00    19.00    25.00    30.00    36.00    55.00    55.00
3913          RY     4.10     3.10     3.00     0.00     0.00     3.00     3.10     4.10
              *

3914          KK  DRRG07RETRIEVE
3915          KM   Retrieve divert DRRG07 from combination point CRGLP and divert to
3916          KM   combination point CRG07
3917          DR  DWRG07
              *
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LINE          ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10


3918          KK  RRG07C   ROUTE
3919          KM   Route diversion retrieval DRRG07 to combination point CRG07
3920          RS        4     FLOW
3921          RC    0.045    0.020    0.045     4816  0.0056     0.00
3922          RX     0.00     0.00    40.00    50.00    60.00    70.00   110.00   110.00
3923          RY     6.20     5.20     5.00     0.00     0.00     5.00     5.20     6.20
              *

3924          KK  DRDVLPRETRIEVE
3925          KM   Retrieve divert DRDVLP from combination point CPPLP and divert to
3926          KM   combination point CDVLP
3927          DR  DSDVLP
              *

3928          KK   RDVLP   ROUTE
3929          KM   Route diversion retrieval DRDVLP to combination point CDVLP
3930          RS        1     FLOW
3931          RC    0.045    0.035    0.045     5616  0.0059     0.00
3932          RX     0.00     0.00    19.00    25.00    30.00    36.00    55.00    55.00
3933          RY     4.10     3.10     3.00     0.00     0.00     3.00     3.10     4.10
              *

3934          KK    DVLP   BASIN
3935          KM   Runoff hydrograph for subbasin DVLP near the intersection of Deer Valley Road
3936          KM   and Lake Pleasant Parkway
3937          BA    0.136
3938          LG     0.23     0.25     4.45     0.33       38
3939          UC    0.911    1.082
3940          UA        0      5.0     16.0     30.0     65.0     77.0     84.0     90.0     94.0     97.0
3941          UA      100
              *

3942          KK  ERDVLP  DIVERT
3943          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
3944          KM   retention developed after 1990 in subbasin DVLP
3945          DT   XDVLP     8.7      0.0
3946          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
3947          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

3948          KK   CDVLP COMBINE
3949          KM   Combine route RDVLP and subbasin DVLP
3950          HC        2     0.14
              *

3951          KK  RRG07B   ROUTE
3952          KM   Route runoff hydrograph at combination point CDVLP to combination point CRG07
3953          RS        6     FLOW
3954          RC    0.045    0.020    0.045     5903  0.0059     0.00
3955          RX     0.00     0.00    40.00    50.00    60.00    70.00   110.00   110.00
3956          RY     6.20     5.20     5.00     0.00     0.00     5.00     5.20     6.20
              *
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LINE          ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10


3957          KK    RG07   BASIN
3958          KM   Runoff hydrograph for subbasin RG07 near the intersection of Rose Garden Lane
3959          KM   and 107th Avenue
3960          BA    0.350
3961          LG     0.23     0.25     4.55     0.31       35
3962          UC    1.100    0.802
3963          UA        0      5.0     16.0     30.0     65.0     77.0     84.0     90.0     94.0     97.0
```

```
3964          UA     100
              *

3965          KK  ERRG07  DIVERT
3966          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
3967          KM   retention developed after 1990 in subbasin RG07
3968          DT   XRG07     41.1      0.0
3969          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
3970          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

3971          KK   CRG07 COMBINE
3972          KM   Combine route RRG07A, route RRG07B, route RRG07C, and subbasin RG07
3973          HC       4    2.01
              *

3974          KK   RRGAF   ROUTE
3975          KM   Route runoff hydrograph at combination point CRG07 to combination point CRGAF
3976          RS       1    FLOW
3977          RC   0.045   0.020   0.045    4328  0.0083     0.00
3978          RX    0.00    0.00   40.00   50.00   60.00   70.00  110.00  110.00
3979          RY    6.20    5.20    5.00    0.00    0.00    5.00    5.20    6.20
              *

3980          KK    RGAF   BASIN
3981          KM   Runoff hydrograph for subbasin RGAF near the intersection of Rose Garden Lane
3982          KM   and the Agua Fria River
3983          BA   0.332
3984          LG    0.16    0.33    6.20    0.14      12
3985          UC   1.043   0.897
3986          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
3987          UA     100
              *

3988          KK  ERRGAF  DIVERT
3989          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
3990          KM   retention developed after 1990 in subbasin RGAF
3991          DT   XRGAF     10.4      0.0
3992          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
3993          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

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LINE          ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

3994          KK   CRGAF COMBINE
3995          KM   Combine route RRGAF and subbasin RGAF
3996          HC       2    2.34
              *

3997          KK  DRBYAFRETRIEVE
3998          KM   Retrieve divert DRBYAF from combination point CBY07 and divert to
3999          KM   combination point CBYAF
4000          DR  DWBYAF
              *

4001          KK   RBY07   ROUTE
4002          KM   Route diversion retrieval DRBYAF to route RBYAF
4003          RS       4    FLOW
4004          RC   0.045   0.020   0.045    3085  0.0019     0.00
4005          RX    0.00    1.00   16.00   36.00   51.00  123.00  148.00  648.00
4006          RY   16.00    8.00    0.00    0.00    8.00    8.00    9.00   11.00
              *

4007          KK   RBYAF   ROUTE
4008          KM   Route runoff hydrograph at route RBY07 to combination point CBYAF
4009          RS       6    FLOW
4010          RC   0.045   0.035   0.045    8144  0.0065     0.00
4011          RX    0.00    0.00   19.00   25.00   30.00   36.00   55.00   55.00
4012          RY    4.10    3.10    3.00    0.00    0.00    3.00    3.10    4.10
              *

4013          KK    BYAF   BASIN
4014          KM   Runoff hydrograph for subbasin BYAF near the intersection of Beardsley Road
4015          KM   and the Agua Fria River
4016          BA   0.609
4017          LG    0.17    0.27    4.70    0.26      30
4018          UC   0.931   0.735
4019          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
4020          UA     100
              *

4021          KK  ERBYAF  DIVERT
4022          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
4023          KM   retention developed after 1990 in subbasin BYAF
4024          DT   XBYAF     26.1      0.0
4025          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
4026          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

4027          KK   CBYAF COMBINE
4028          KM   Combine route RBYAF and subbasin BYAF
```



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4029          HC       2    1.30
              *

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LINE          ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

4030          KK    UHAF   BASIN
4031          KM   Runoff hydrograph for subbasin UHAF near the intersection of Union Hills
4032          KM   Drive and the Agua Fria River
4033          BA   0.489
4034          LG    0.15    0.30    3.50    0.54      12
4035          UC   1.469   1.260
4036          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
4037          UA     100
              *

4038          KK  ERUHAF  DIVERT
4039          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
4040          KM   retention developed after 1990 in subbasin UHAF
4041          DT   XUHAF     19.8      0.0
4042          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
4043          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

4044          KK   CAF03 COMBINE
4045          KM   Combine combination point CRGAF, combination point CBYAF, and subbasin UHAF
4046          HC       3    4.13
              *

4047          KK    UH07   BASIN
4048          KM   Runoff hydrograph for subbasin UH07 near the intersection of Union Hills
4049          KM   Drive and 107th Avenue
4050          BA   0.252
4051          LG    0.20    0.25    4.80    0.34      22
4052          UC   1.276   1.320
4053          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
4054          UA     100
              *

4055          KK   RUH11   ROUTE
4056          KM   Route runoff hydrograph at subbasin UH07 to route RUH15
4057          RS       1    FLOW
4058          RC   0.045   0.020   0.045    2740  0.0090     0.00
4059          RX    0.00    1.00   13.00   23.00   53.00   83.00  108.00  109.00
4060          RY   14.00    6.00    0.00    0.00    6.00    6.00    7.00   15.00
              *

4061          KK   RUH15   ROUTE
4062          KM   Route runoff hydrograph at route RUH11 to combination point CUH15
4063          RS       2    FLOW
4064          RC   0.045   0.035   0.045    2598  0.0120     0.00
4065          RX    0.00   50.00   62.00   72.00   84.00  104.00  139.00  640.00
4066          RY    9.00    6.00    0.00    0.00    6.00    7.00    7.00    9.00
              *

1                                        HEC-1 INPUT                                                    PAGE106

LINE          ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

4067          KK    UH15   BASIN
4068          KM   Runoff hydrograph for subbasin UH15 near the intersection of Union Hills
4069          KM   Drive and 115th Avenue
4070          BA   1.019
4071          LG    0.20    0.25    5.80    0.16      47
4072          UC   0.950   0.486
4073          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
4074          UA     100
              *

4075          KK  ERUH15  DIVERT
4076          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
4077          KM   retention developed after 1990 in subbasin UH15
4078          DT   XUH15     63.8      0.0
4079          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
4080          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

4081          KK   CUH15 COMBINE
4082          KM   Combine route RUH15 and subbasin UH15
4083          HC       2    1.27
              *

4084          KK  RBL15B   ROUTE
4085          KM   Route runoff hydrograph at combination point CUH15 to combination point CBL15
4086          RS       4    FLOW
4087          RC   0.045   0.035   0.045    4894  0.0020     0.00
4088          RX    0.00  100.00  112.00  147.00  159.00  179.00  214.00  580.00
4089          RY    8.00    6.00    0.00    0.00    6.00    7.00    7.00    9.00
              *

4090          KK  DRBL15RETRIEVE
4091          KM   Retrieve divert DRBL15 from combination point CDW07 and divert to
```

```
4092          KM   combination point CBL15
4093          DR  DWBL15
              *
4094          KK  RBL15A   ROUTE
4095          KM   Route diversion retrieval DRBL15 to combination point CBL15
4096          RS       2    FLOW
4097          RC   0.045   0.015   0.045    6041  0.0082    0.00
4098          RX    0.00    0.00   40.00   50.00   60.00   70.00  110.00  110.00
4099          RY    6.20    5.20    5.00    0.00    0.00    5.00    5.20    6.20
              *
4100          KK    BL15   BASIN
4101          KM   Runoff hydrograph for subbasin Bl15 near the intersection of Bell Road and
4102          KM   115th Avenue
4103          BA   0.962
4104          LG    0.22    0.25    4.60    0.32      28
4105          UC   1.040   0.523
4106          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
4107          UA     100
              *
1                                        HEC-1 INPUT                                        PAGE107

LINE          ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

4108          KK  ERBL15  DIVERT
4109          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
4110          KM   retention developed after 1990 in subbasin BL15
4111          DT   XBL15    37.0     0.0
4112          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
4113          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *
4114          KK   CBL15 COMBINE
4115          KM   Combine route RBL15A, route RBL15B, and subbasin BL15
4116          HC       3    2.90
              *
4117          KK   RMEAF   ROUTE
4118          KM   Route runoff hydrograph at combination point CBL15 to combination point CMEAF
4119          RS       2    FLOW
4120          RC   0.045   0.020   0.045    5783  0.0053    0.00
4121          RX    0.00    0.00   40.00   50.00   60.00   70.00  110.00  110.00
4122          RY    6.20    5.20    5.00    0.00    0.00    5.00    5.20    6.20
              *
4123          KK    MEAF   BASIN
4124          KM   Runoff hydrograph for subbasin MEAF near the intersection of Meade Drive and
4125          KM   the Agua Fria River
4126          BA   1.369
4127          LG    0.19    0.26    4.65    0.31      35
4128          UC   0.917   0.462
4129          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
4130          UA     100
              *
4131          KK  ERMEAF  DIVERT
4132          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
4133          KM   retention developed after 1990 in subbasin MEAF
4134          DT   XMEAF    39.2     0.0
4135          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
4136          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *
4137          KK   CMEAF COMBINE
4138          KM   Combine route RMEAF and subbasin MEAF
4139          HC       2    4.27
              *
4140          KK    BLAF   BASIN
4141          KM   Runoff hydrograph for subbasin BLAF near the intersection of Bell Road and
4142          KM   the Agua Fria River
4143          BA   0.283
4144          LG    0.20    0.28    3.55    0.52      20
4145          UC   1.500   1.613
4146          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
4147          UA     100
              *
1                                        HEC-1 INPUT                                        PAGE108

LINE          ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

4148          KK  ERBLAF  DIVERT
4149          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
4150          KM   retention developed after 1990 in subbasin BLAF
4151          DT   XBLAF    15.4     0.0
4152          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
4153          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *
4154          KK    GRAF   BASIN
```



```
4155          KM   Runoff hydrograph for subbasin GRAF near the intersection of Grand Avenue and
4156          KM   the Agua Fria River
4157          BA   0.859
4158          LG    0.23    0.15    7.00    0.11      37
4159          UC   1.190   0.903
4160          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
4161          UA     100
              *
4162          KK  ERGRAF  DIVERT
4163          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
4164          KM   retention developed after 1990 in subbasin GRAF
4165          DT   XGRAF     7.0     0.0
4166          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
4167          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *
4168          KK    PEAF   BASIN
4169          KM   Runoff hydrograph for subbasin PEAF near the intersection of Kansas Avenue
4170          KM   and the Agua Fria River
4171          BA   0.531
4172          LG    0.19    0.25    4.20    0.36      48
4173          UC   0.710   0.337
4174          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
4175          UA     100
              *
4176          KK   CAF04 COMBINE
4177          KM   Combine combination point CMEAF, subbasin BLAF, subbasin GRAF, and subbasin
4178          KM   PEAF
4179          HC       4    5.94
              *
4180          KK    OL11   BASIN
4181          KM   Runoff hydrograph for subbasin OL11 near the intersection of Olive Avenue and
4182          KM   111th Avenue
4183          BA   0.339
4184          LG    0.26    0.25    4.25    0.43      22
4185          UC   0.891   0.515
4186          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
4187          UA     100
              *
1                                        HEC-1 INPUT                                        PAGE109

LINE          ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

4188          KK  EROL11  DIVERT
4189          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
4190          KM   retention developed after 1990 in subbasin OL11
4191          DT   XOL11     2.9     0.0
4192          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
4193          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *
4194          KK   RNO11   ROUTE
4195          KM   Route runoff hydrograph at subbasin OL11 to combination point CNO11
4196          RS       3    FLOW
4197          RC   0.045   0.020   0.045    6339  0.0057    0.00
4198          RX    0.00    0.00   19.00   25.00   30.00   36.00   55.00   55.00
4199          RY    4.10    3.10    3.00    0.00    0.00    3.00    3.10    4.10
              *
4200          KK    NO11   BASIN
4201          KM   Runoff hydrograph for subbasin NO11 near the intersection of Northern Avenue
4202          KM   and 111th Avenue
4203          BA   0.860
4204          LG    0.20    0.25    3.95    0.40      52
4205          UC   0.738   0.353
4206          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
4207          UA     100
              *
4208          KK  ERNO11  DIVERT
4209          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
4210          KM   retention developed after 1990 in subbasin NO11
4211          DT   XNO11    23.2     0.0
4212          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
4213          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *
4214          KK   CNO11 COMBINE
4215          KM   Combine route RNO11 and subbasin NO11
4216          HC       2    1.20
              *
4217          KK  RGL14A   ROUTE
4218          KM   Route runoff hydrograph at combination point CNO11 to combination point CGL14
4219          RS       7    FLOW
4220          RC   0.045   0.035   0.045    7959  0.0008    0.00
4221          RX    0.00    0.00   55.00   75.00  100.00  120.00  175.00  175.00
4222          RY   11.20   10.20   10.00    0.00    0.00   10.00   10.20   11.20
              *
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4223          KK    NO07   BASIN
4224          KM   Runoff hydrograph for subbasin NO07 near the intersection of Northern Avenue
4225          KM   and 107th Avenue
4226          BA   0.340
4227          LG    0.21    0.25    4.55    0.36      29
4228          UC   0.992   0.684
4229          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
1                                        HEC-1 INPUT                                        PAGE110

LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

4230          UA     100
              *

4231          KK  ERNO07  DIVERT
4232          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
4233          KM   retention developed after 1990 in subbasin NO07
4234          DT   XNO07    10.9     0.0
4235          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
4236          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

4237          KK   RGL11   ROUTE
4238          KM   Route runoff hydrograph at subbasin NO07 to combination point CGL11
4239          RS       5    FLOW
4240          RC   0.035   0.015   0.035    5370  0.0041    0.00
4241          RX    0.00    0.00   13.00   13.00   55.00   55.00   68.00   68.00
4242          RY    3.00    0.63    0.50    0.00    0.00    0.50    0.63    3.00
              *

4243          KK    GL11   BASIN
4244          KM   Runoff hydrograph for subbasin GL11 near the intersection of Glendale Avenue
4245          KM   and 111th Avenue
4246          BA   0.426
4247          LG    0.19    0.25    4.35    0.33      60
4248          UC   0.952   0.574
4249          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
4250          UA     100
              *

4251          KK  ERGL11  DIVERT
4252          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
4253          KM   retention developed after 1990 in subbasin GL11
4254          DT   XGL11    38.8     0.0
4255          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
4256          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

4257          KK   CGL11 COMBINE
4258          KM   Combine route RG111 and subbasin GL11
4259          HC       2    0.77
              *

4260          KK  RGL14B   ROUTE
4261          KM   Route runoff hydrograph at combination point CGL11 to combination point CGL14
4262          RS       4    FLOW
4263          RC   0.045   0.035   0.045    4950  0.0021    0.00
4264          RX    0.00    0.00   40.00   50.00   60.00   70.00  110.00  110.00
4265          RY    6.20    5.20    5.00    0.00    0.00    5.00    5.20    6.20
              *
1                                        HEC-1 INPUT                                        PAGE111

LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

4266          KK    GL14   BASIN
4267          KM   Runoff hydrograph for subbasin GL14 near the intersection of Glendale Avenue
4268          KM   and 114th Avenue
4269          BA   0.481
4270          LG    0.15    0.25    3.81    0.44      80
4271          UC   0.673   0.476
4272          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
4273          UA     100
              *

4274          KK   CGL14 COMBINE
4275          KM   Combine route RGL14A, RGL14B, and subbasin GL14
4276          HC       3    2.45
              *

4277          KK   RGLAF   ROUTE
4278          KM   Route runoff hydrograph at combination point CGL14 to combination point CGLAF
4279          RS       2    FLOW
4280          RC   0.045   0.035   0.045    3487  0.0023    0.00
4281          RX    0.00    0.00   55.00   75.00  100.00  120.00  175.00  175.00
4282          RY   11.20   10.20   10.00    0.00    0.00   10.00   10.20   11.20
              *

4283          KK    GLAF   BASIN
4284          KM   Runoff hydrograph for subbasin GLAF near the intersection of Glendale Avenue
4285          KM   and the Agua Fria River
4286          BA   0.388
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4287          LG    0.15    0.28    3.07    0.74      80
4288          UC   0.764   0.696
4289          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
4290          UA     100
              *

4291          KK  ERGLAF  DIVERT
4292          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
4293          KM   retention developed after 1990 in subbasin GLAF
4294          DT   XGLAF     7.3     0.0
4295          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
4296          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

4297          KK   CGLAF COMBINE
4298          KM   Combine route RGLAF and subbasin GLAF
4299          HC       2    2.83
              *

4300          KK    OLAF   BASIN
4301          KM   Runoff hydrograph for subbasin OLAF near the intersection of Olive Avenue and
4302          KM   the Agua Fria River
4303          BA   1.026
4304          LG    0.20    0.28    3.60    0.50      26
4305          UC   1.305   0.846
4306          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
4307          UA     100
              *
1                                        HEC-1 INPUT                                        PAGE112

LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

4308          KK  EROLAF  DIVERT
4309          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
4310          KM   retention developed after 1990 in subbasin OLAF
4311          DT   XOLAF    38.2     0.0
4312          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
4313          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

4314          KK    NOAF   BASIN
4315          KM   Runoff hydrograph for subbasin NOAF near the intersection of Northern Avenue
4316          KM   and the Agua Fria River
4317          BA   0.285
4318          LG    0.11    0.30    2.92    0.82      26
4319          UC   0.755   0.624
4320          UA       0     3.0     5.0     8.0    12.0    20.0    43.0    75.0    90.0    96.0
4321          UA     100
              *

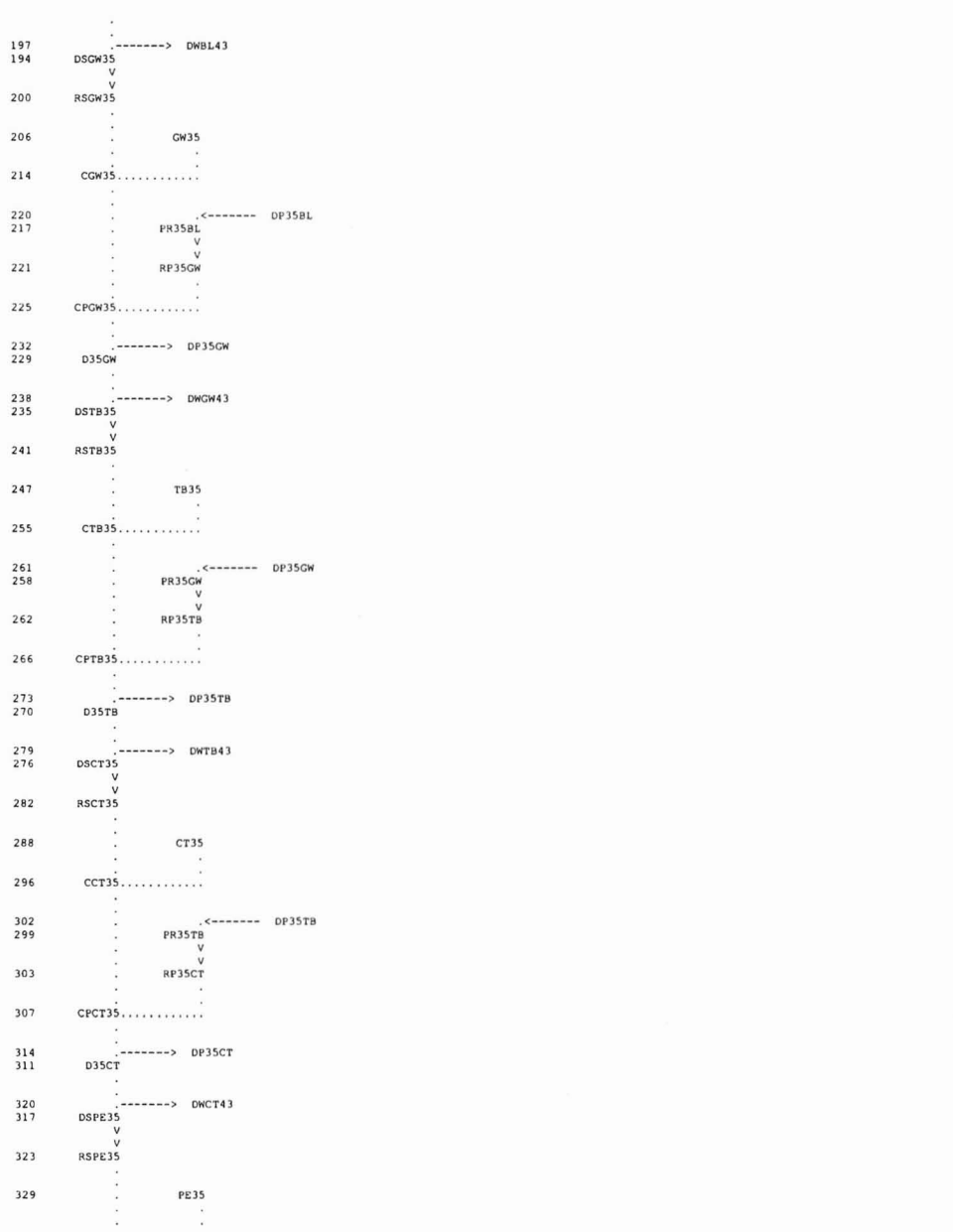
4322          KK   CAF05 COMBINE
4323          KM   Combine combination point CGLAF, subbasin OLAF, and subbasin NOAF
4324          HC       3    4.15
              *
4325          ZZ
1
```

SCHEMATIC DIAGRAM OF STREAM NETWORK

```
 INPUT
  LINE     (V) ROUTING          (--->) DIVERSION OR PUMP FLOW

   NO.     (.) CONNECTOR        (<---) RETURN OF DIVERTED OR PUMPED FLOW

   139       UH35
               .
   150         .-------->   XUH35
   147     ERUH35
               .
               .
   156         .-------->  DPUH35
   153      DUH35
               .
               .
   162         .-------->  DWUH43
   159     DSBL35
             V
             V
   165     RSBL35
               .
               .
   171         .        BL35
               .          .
               .          .
   182         .          .-------->   XBL35
   179         .      ERBL35
               .          .
               .          .
   185      CBL35.........
               .
               .
   191         .-------->  DP35BL
   188      D35BL
```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194 DSGW35
200 RSGW35
206 GW35
214 CGW35.....
220 .<------- DP35BL
217 PR35BL
221 RP35GW
225 CPGW35.....
232 .-------> DP35GW
229 D35GW
238 .-------> DWGW43
235 DSTB35
241 RSTB35
247 TB35
255 CTB35.....
261 .<------- DP35GW
258 PR35GW
262 RP35TB
266 CPTB35.....
273 .-------> DP35TB
270 D35TB
279 .-------> DWTB43
276 DSCT35
282 RSCT35
288 CT35
296 CCT35.....
302 .<------- DP35TB
299 PR35TB
303 RP35CT
307 CPCT35.....
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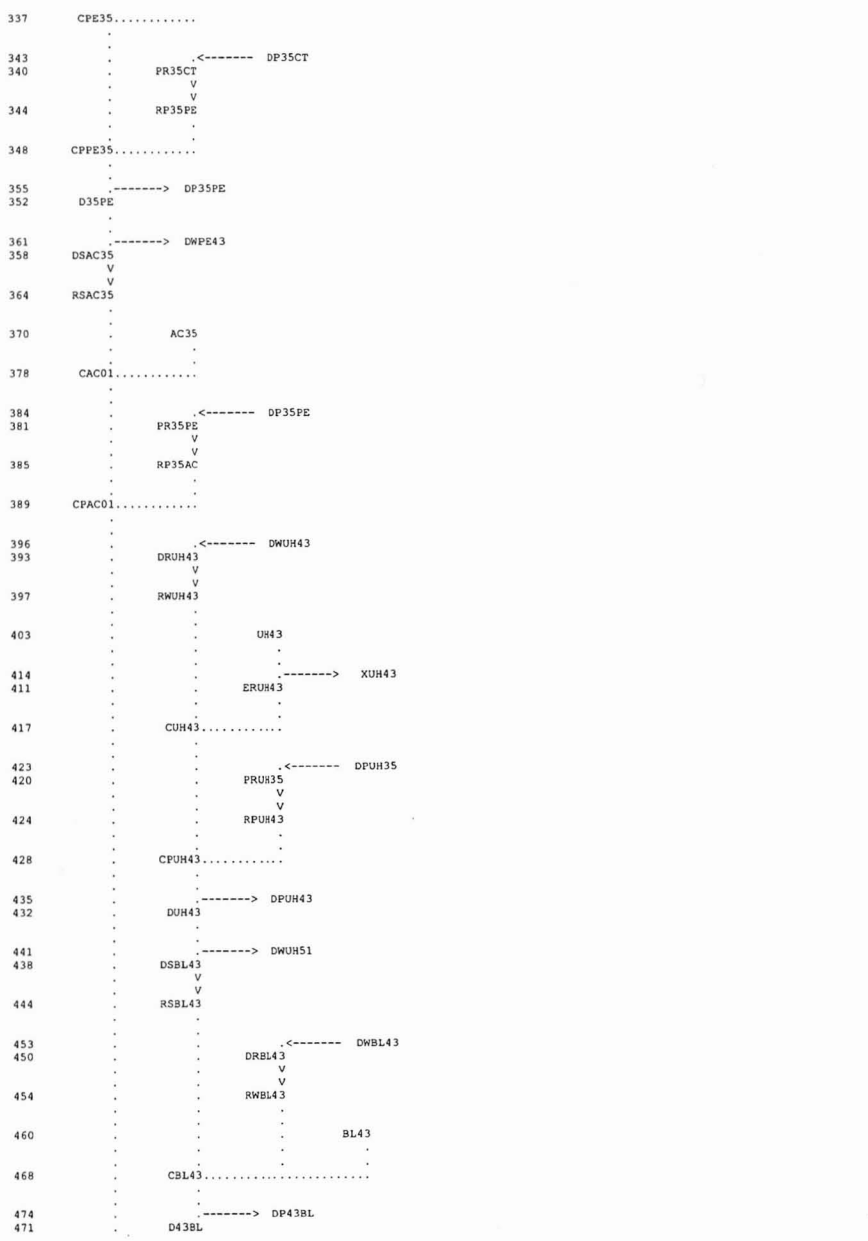
311 D35CT
320 .-------> DWCT43
317 DSPE35
323 RSPE35
329 PE35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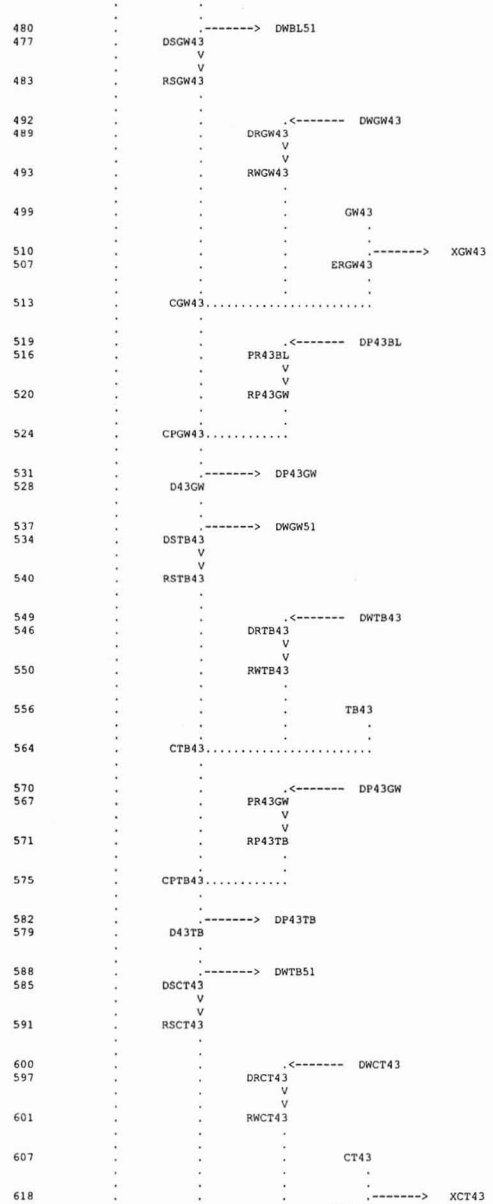
340 PR35CT
344 RP35PE
348 CPPE35.....
355 .-------> DP35PE
352 D35PE
361 .-------> DWPE43
358 DSAC35
364 RSAC35
370 AC35
378 CAC01.....
384 .<------- DP35PE
381 PR35PE
385 RP35AC
389 CPAC01.....
396 .<------- DWUH43
393 DRUH43
397 RWUH43
403 UH43
414 .-------> XUH43
411 ERUH43
417 CUH43.....
423 .<------- DPUH35
420 PRUH35
424 RPUH43
428 CPUH43.....
435 .-------> DPUH43
432 DUH43
441 .-------> DWUH51
438 DSBL43
444 RSBL43
453 .<------- DWBL43
450 DRBL43
454 RWBL43
460 BL43
468 CBL43.....
474 .-------> DP43BL
471 D43BL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492 DWGW43
489 DRGW43
493 RWGW43
499 GW43
510 XGW43
507 ERGW43
513 CGW43
519 DP43BL
516 PR43BL
520 RP43GW
524 CPGW43
531 DP43GW
528 D43GW
537 DWGW51
534 DSTB43
540 RSTB43
549 DWTB43
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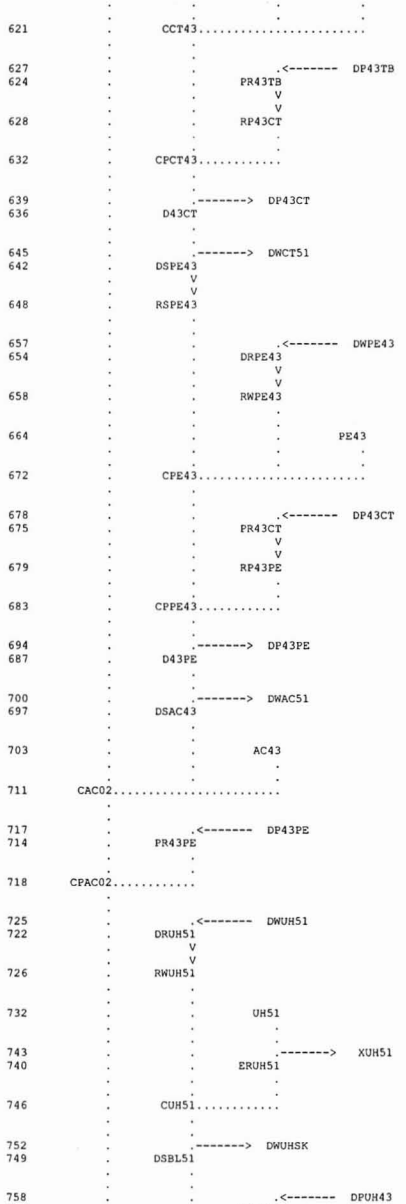
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654 DRPE43
658 RWPE43
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672 CPE43
678 DP43CT
675 PR43CT
679 RP43PE
683 CPPE43
694 DP43PE
687 D43PE
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697 DSAC43
703 AC43
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717 DP43PE
714 PR43PE
718 CPAC02
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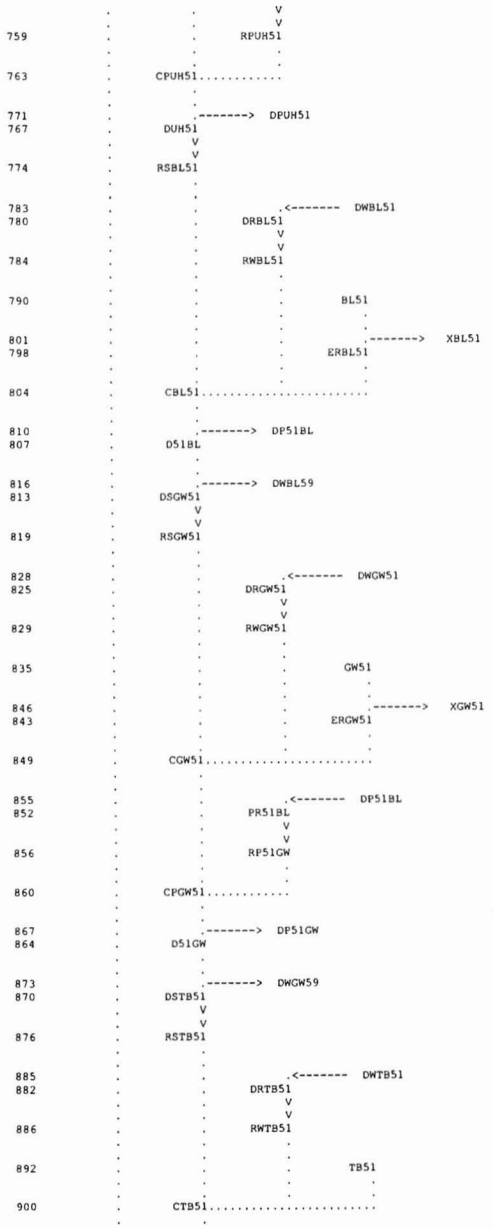
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804 CBL51
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807 D51BL
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DWGW51
829 RWGW51
835 GW51
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XGW51
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852 PR51BL
DP51BL
856 RP51GW
860 CPGW51
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864 D51GW
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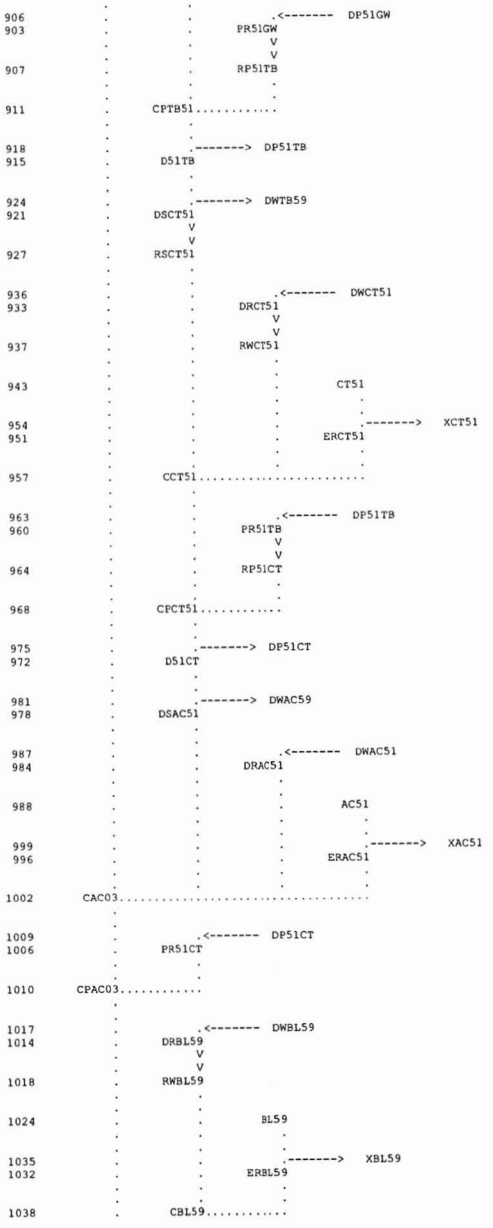
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984 DRAC51
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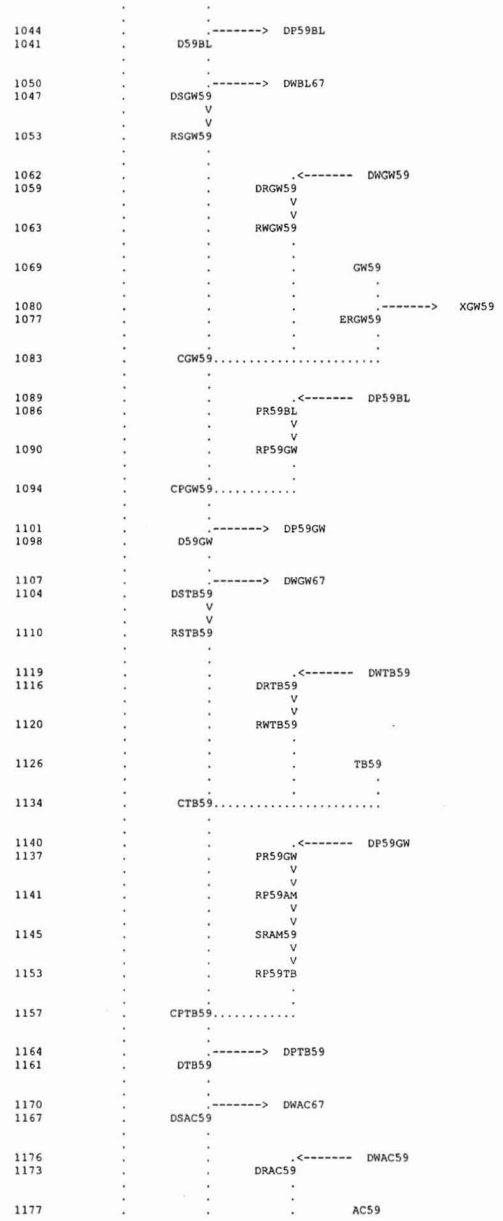
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1094 CPGW59
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1137 PR59GW
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1167 DSAC59
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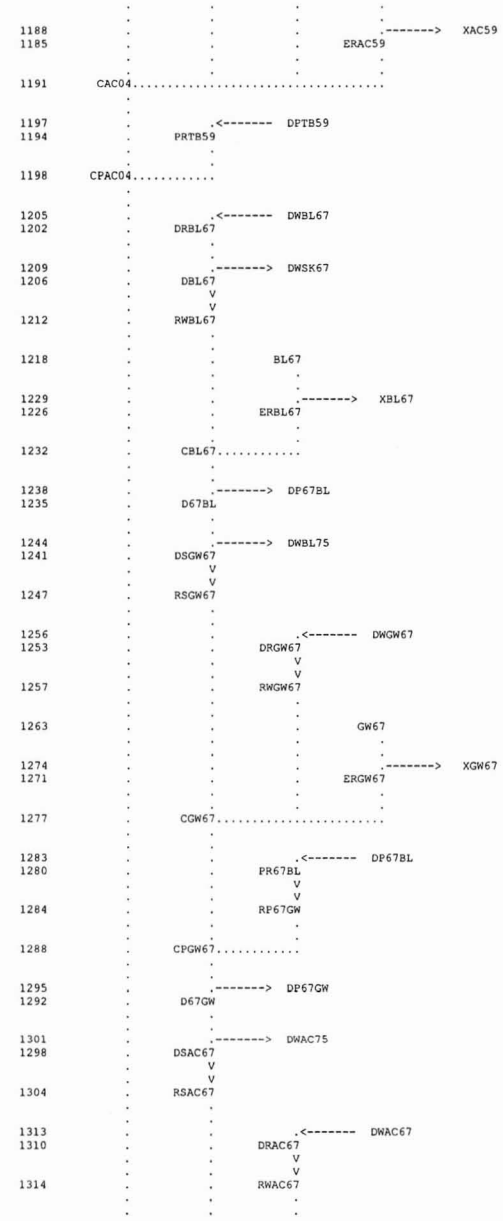
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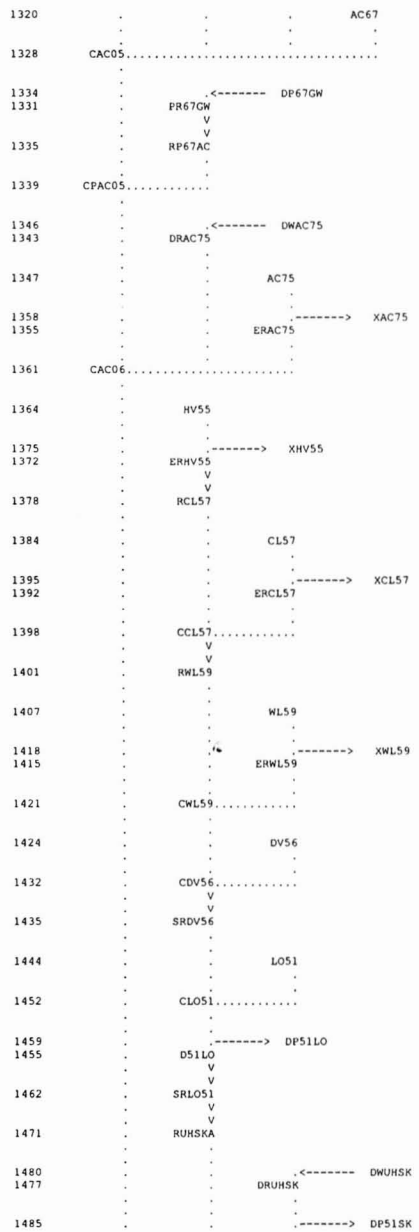
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1335 RP67AC
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1346 DWAC75
1343 DRAC75
1347 AC75
1358 XAC75
1355 ERAC75
1361 CAC06
1364 HV55
1375 XHV55
1372 ERHV55
1378 RCL57
1384 CL57
1395 XCL57
1392 ERCL57
1398 CCL57
1401 RWL59
1407 WL59
1418 XWL59
1415 ERWL59
1421 CWL59
1424 DV56
1432 CDV56
1435 SRDV56
1444 LO51
1452 CLO51
1459 DP51LO
1455 D51LO
1462 SRLO51
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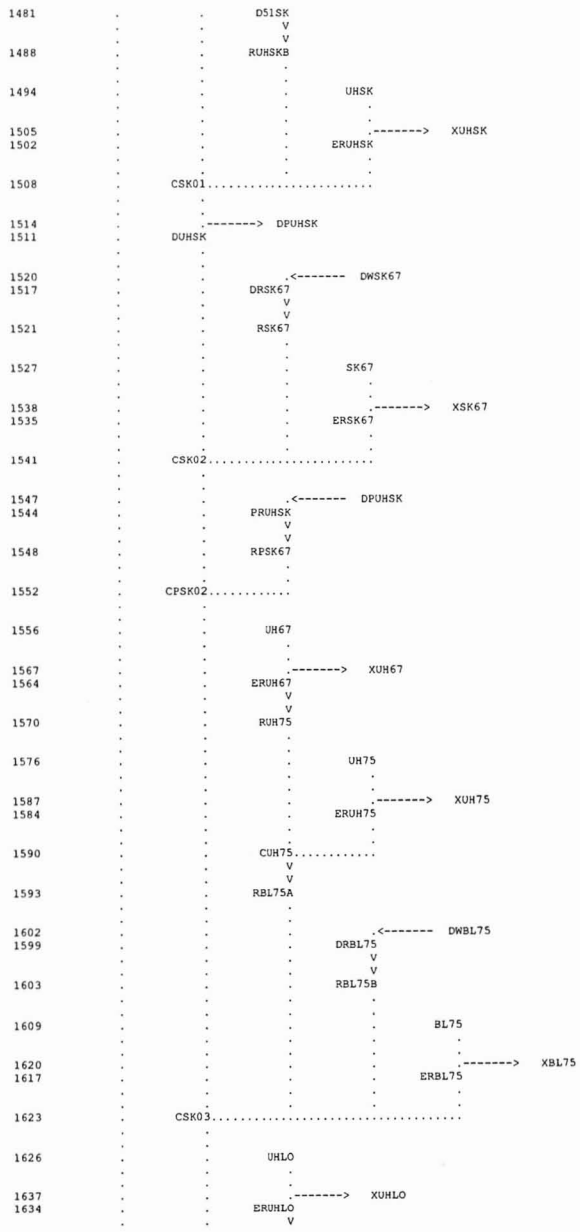
1485 DP51SK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1514 DPUHSK
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1517 DRSK67
1521 RSK67
1527 SK67
1538 XSK67
1535 ERSK67
1541 CSK02
1547 DPUHSK
1544 PRUHSK
1548 RPSK67
1552 CPSK02
1556 UH67
1567 XUH67
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1570 RUH75
1576 UH75
1587 XUH75
1584 ERUH75
1590 CUH75
1593 RBL75A
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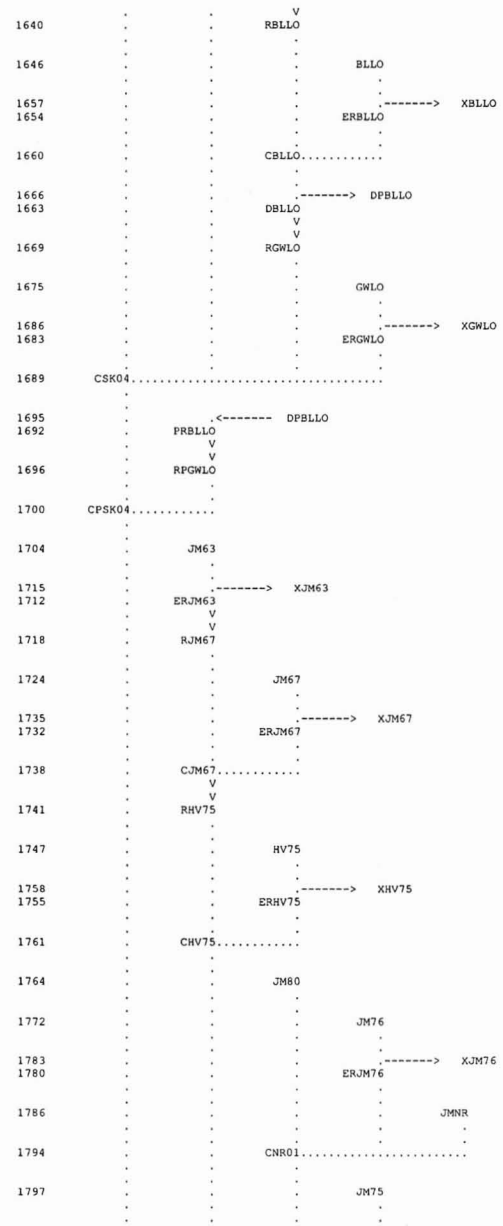
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1689 CSK04
1695 DPBLLO
1692 PRBLLO
1696 RPGWLO
1700 CPSK04
1704 JM63
1715 XJM63
1712 ERJM63
1718 RJM67
1724 JM67
1735 XJM67
1732 ERJM67
1738 CJM67
1741 RHV75
1747 HV75
1758 XHV75
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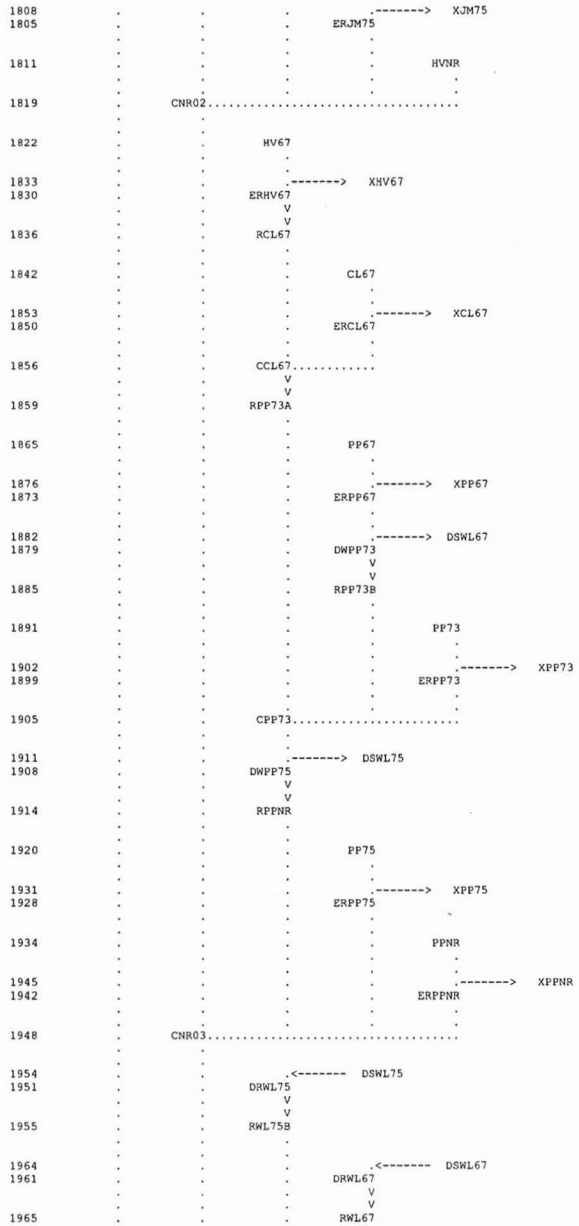
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1822 HV67
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1836 RCL67
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1850 ERCL67
1856 CCL67
1859 RPP73A
1865 PP67
1876 XPP67
1873 ERPP67
1882 DSWL67
1879 DWPP73
1885 RPP73B
1891 PP73
1902 XPP73
1899 ERPP73
1905 CPP73
1911 DSWL75
1908 DWPP75
1914 RPPNR
1920 PP75
1931 XPP75
1928 ERPP75
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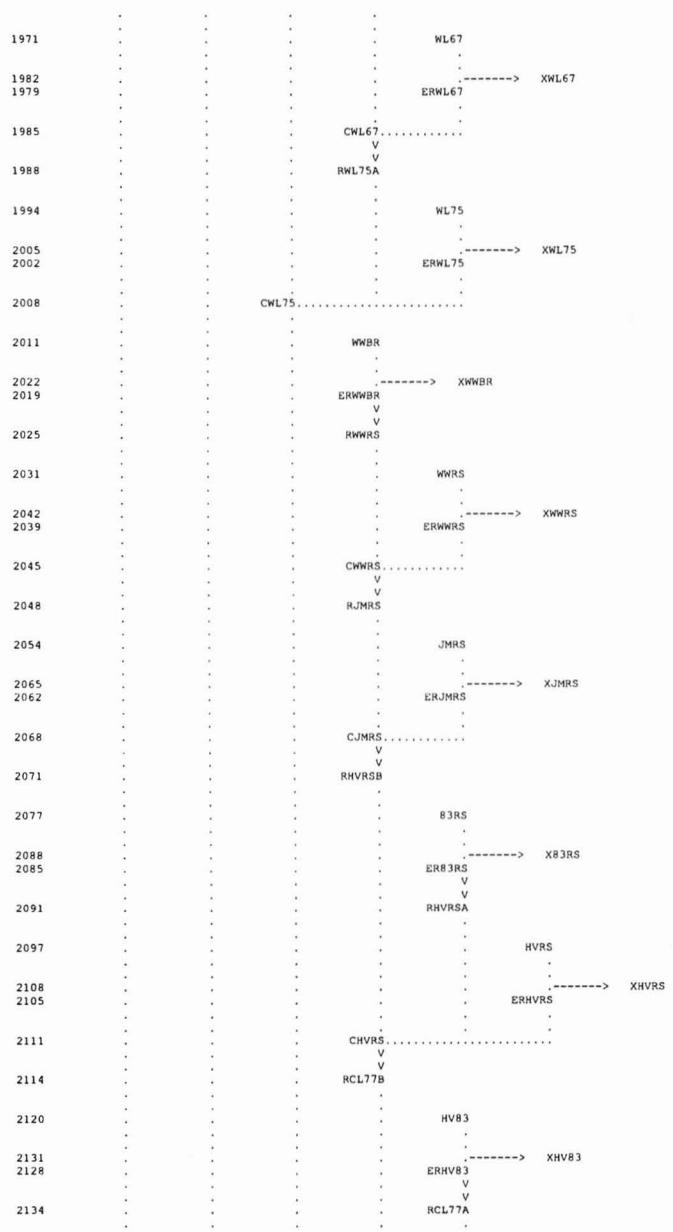
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XWL67
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CWL67
1988
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WL75
2005
2002
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XWL75
2008
CWL75
2011
WWBR
2022
2019
ERWWBR
XWWBR
2025
RWWRS
2031
WWRS
2042
2039
ERWWRS
XWWRS
2045
CWWRS
2048
RJMRS
2054
JMRS
2065
2062
ERJMRS
XJMRS
2068
CJMRS
2071
RHVRSB
2077
83RS
2088
2085
ER83RS
X83RS
2091
RHVRSA
2097
HVRS
2108
2105
ERHVRS
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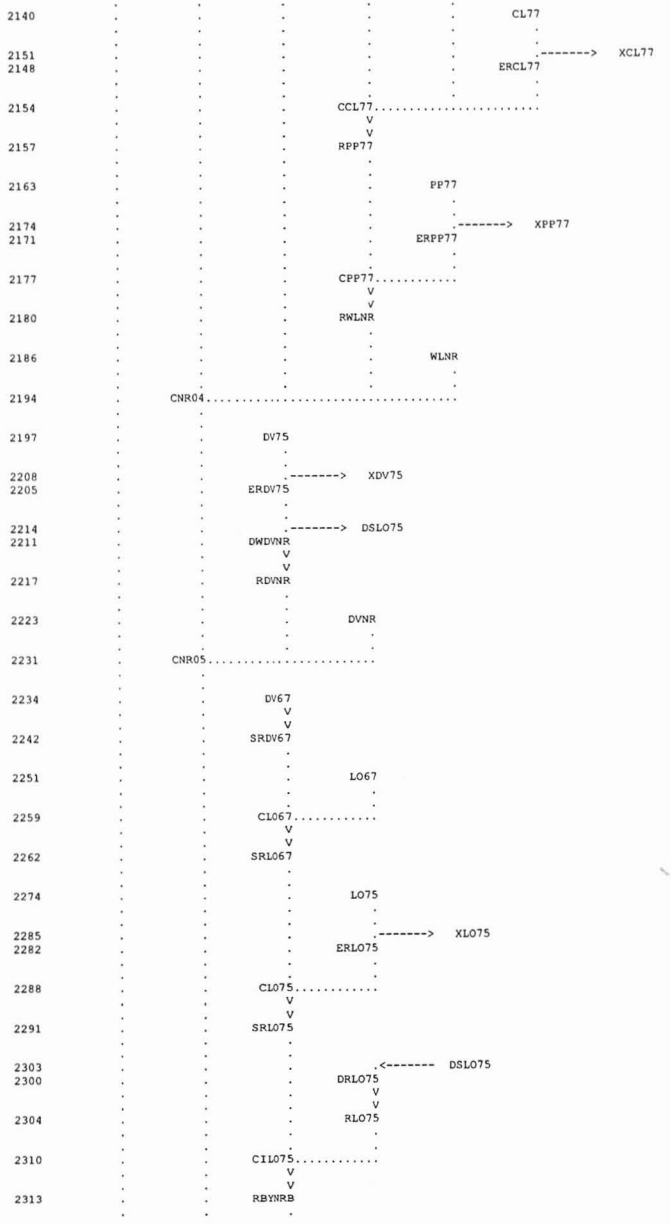
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CCL77
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RPP77
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CPP77
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RWLNR
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CNR04
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LO67
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SRL067
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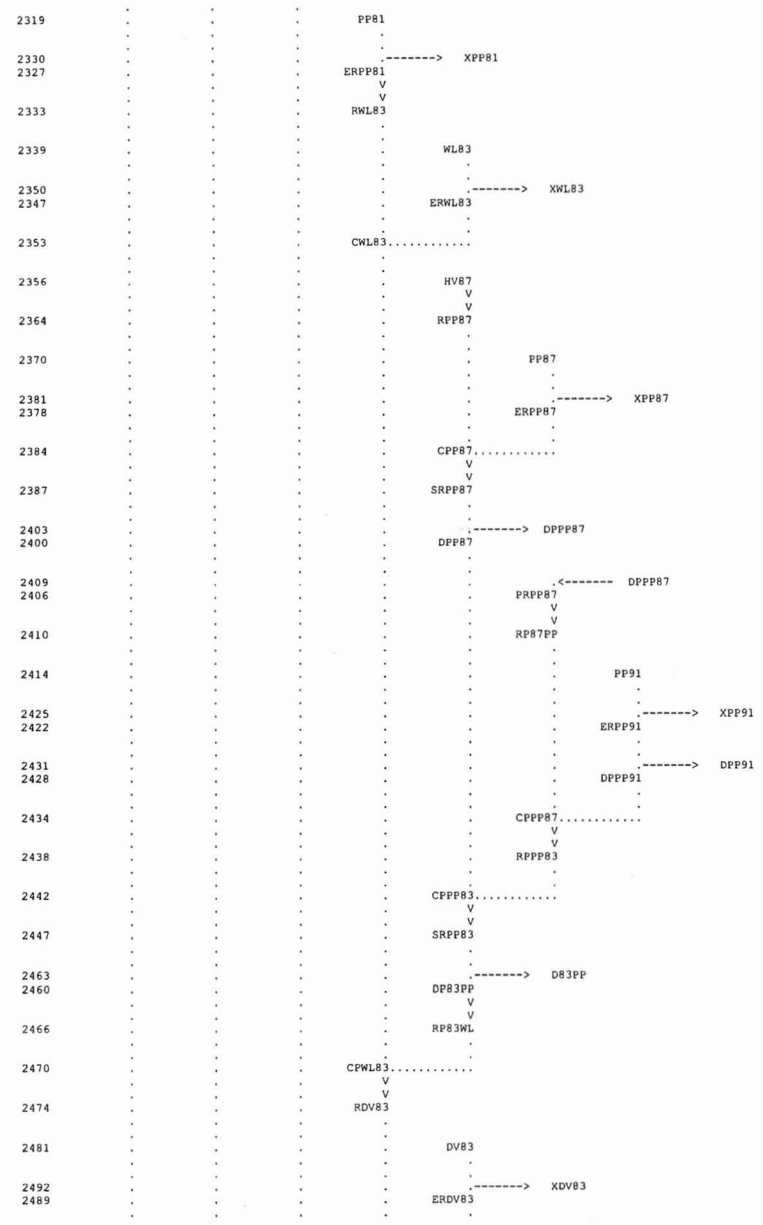
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2370 PP87
2381 XPP87
2378 ERPP87
2384 CPP87
2387 SRPP87
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2400 DPP87
2409 DPPP87
2406 PRPP87
2410 RP87PP
2414 PP91
2425 XPP91
2422 ERPP91
2431 DPP91
2428 DPPP91
2434 CPPP87
2438 RPPP83
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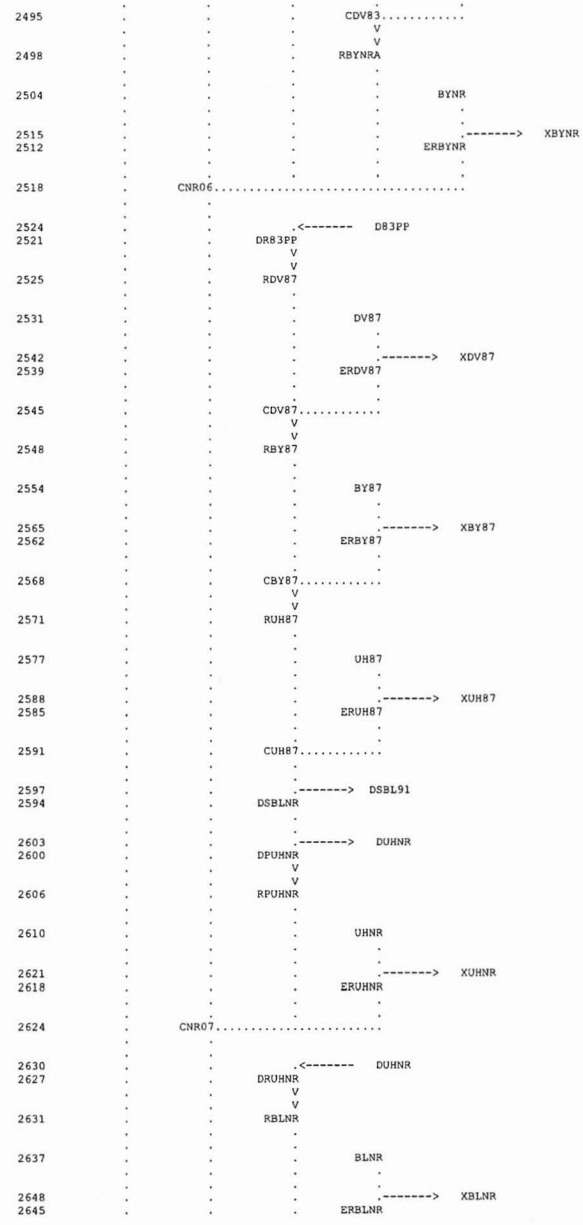
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2525 RDV87
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2542 XDV87
2539 ERDV87
2545 CDV87
2548 RBY87
2554 BY87
2565 XBY87
2562 ERBY87
2568 CBY87
2571 RUH87
2577 UH87
2588 XUH87
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2591 CUH87
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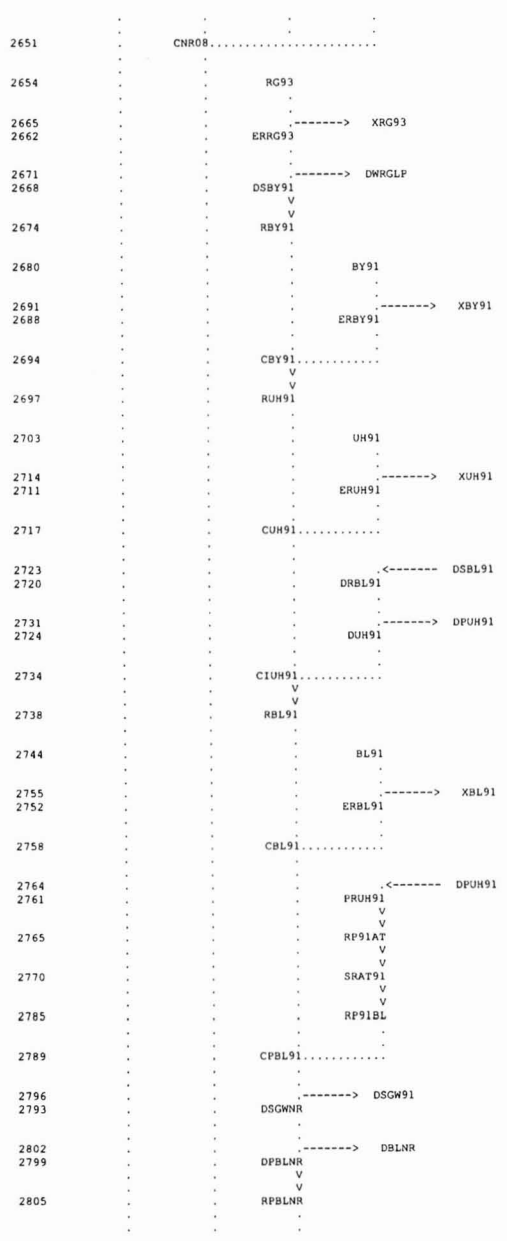
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2697 RUH91
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2714 XUH91
2711 ERUH91
2717 CUH91
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2734 CIUH91
2738 RBL91
2744 BL91
2755 XBL91
2752 ERBL91
2758 CBL91
2764 DPUH91
2761 PRUH91
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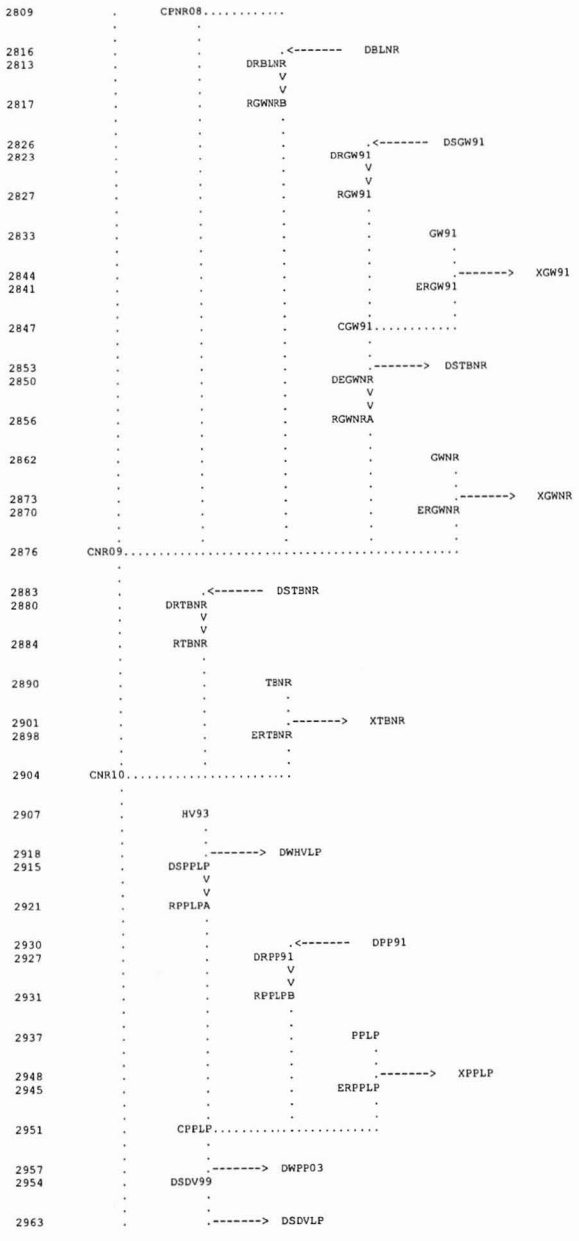
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2873 XGWNR
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2876 CNR09
2883 DSTBNR
2880 DRTBNR
2884 RTBNR
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2898 ERTBNR
2904 CNR10
2907 HV93
2918 DWHVLP
2915 DSPPLP
2921 RPPLPA
2930 DPP91
2927 DRPP91
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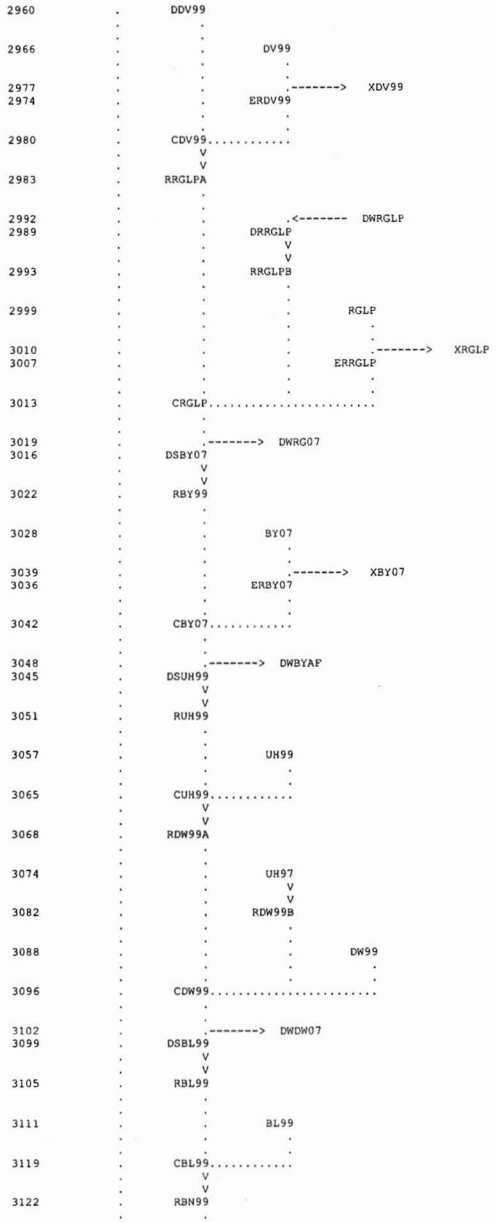
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3045 DSUH99
3051 RUH99
3057 UH99
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3068 RDW99A
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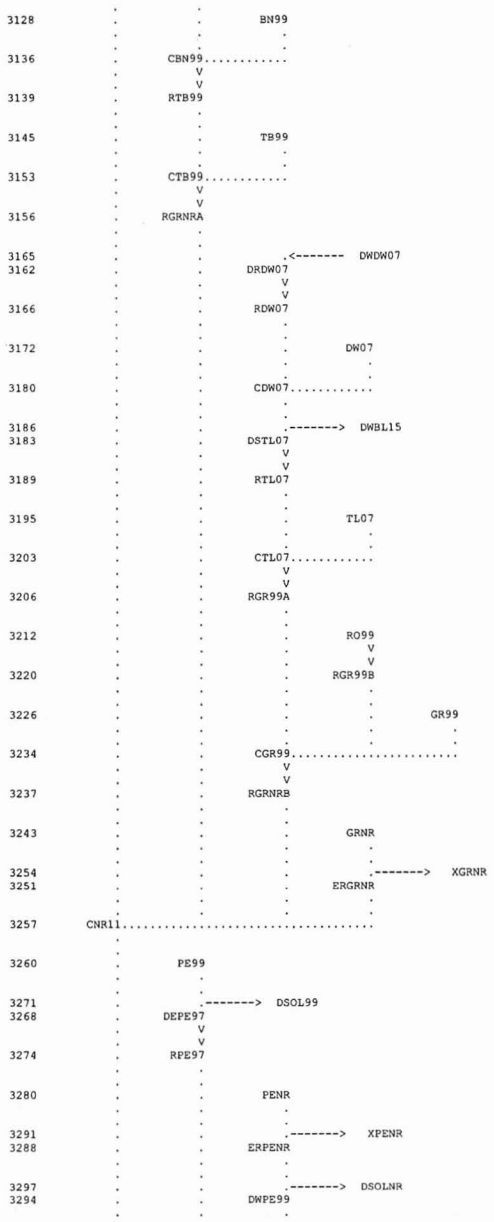
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3186 DWBL15
3183 DSTL07
3189 RTL07
3195 TL07
3203 CTL07
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3220 RGR99B
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3234 CGR99
3237 RGRNRB
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3251 ERGRNR
3257 CNR11
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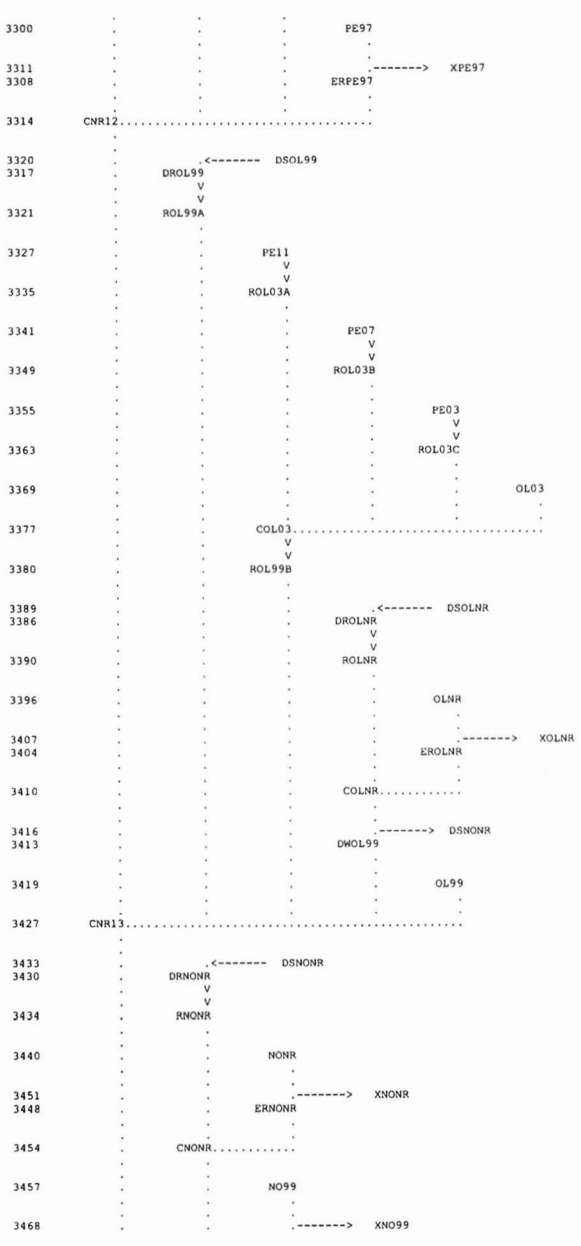
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3341 PE07
3349 ROL03B
3355 PE03
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3369 OL03
3377 COL03
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3419 OL99
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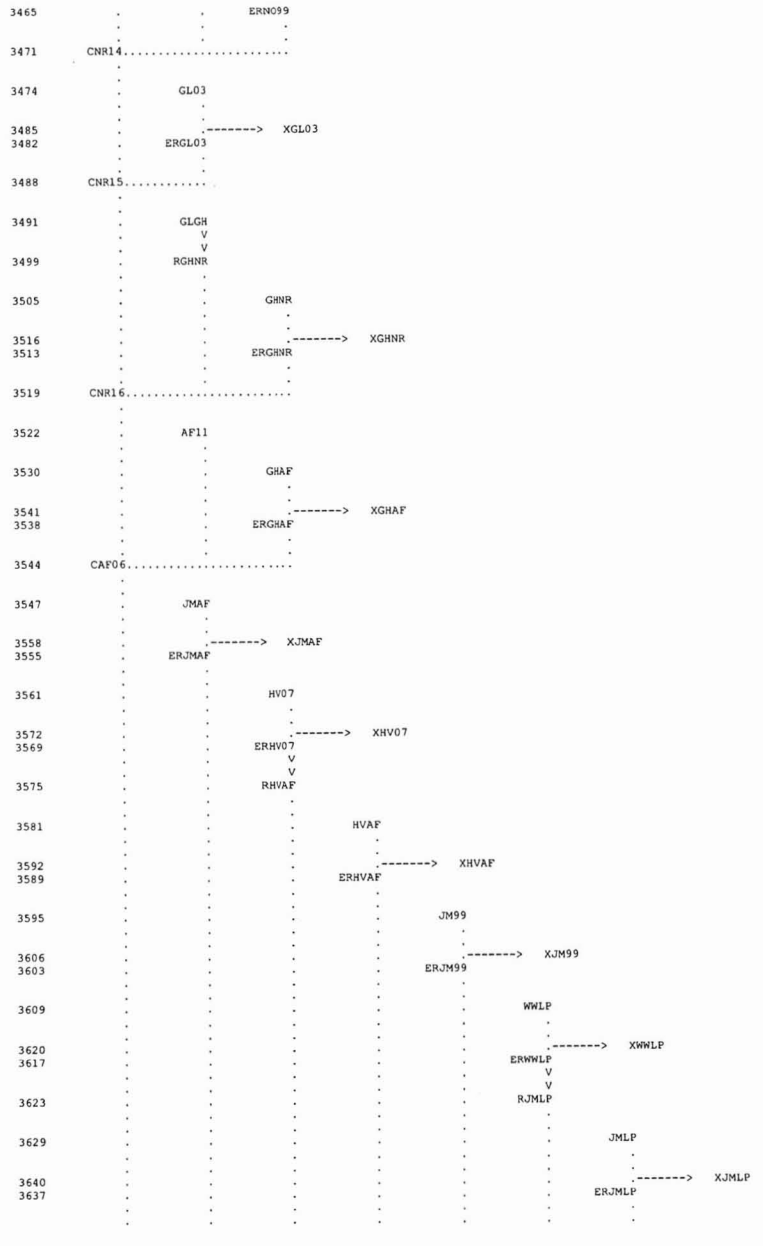
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3519 CNR16
3522 AF11
3530 GHAF
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3538 ERGHAF
XGHAF
3544 CAF06
3547 JMAF
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3575 RHVAF
3581 HVAF
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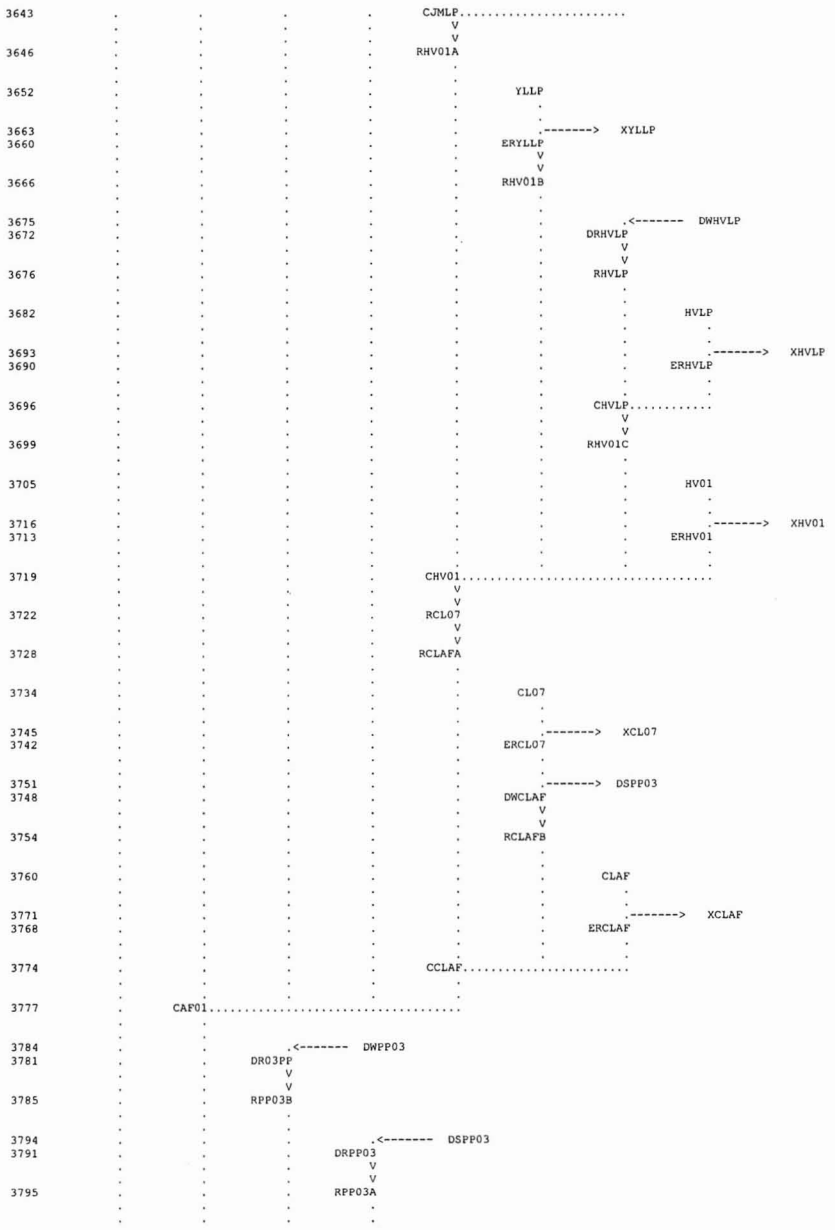
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3719 CHV01
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3728 RCLAFA
3734 CL07
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3785 RPP03B
3794 DSPP03
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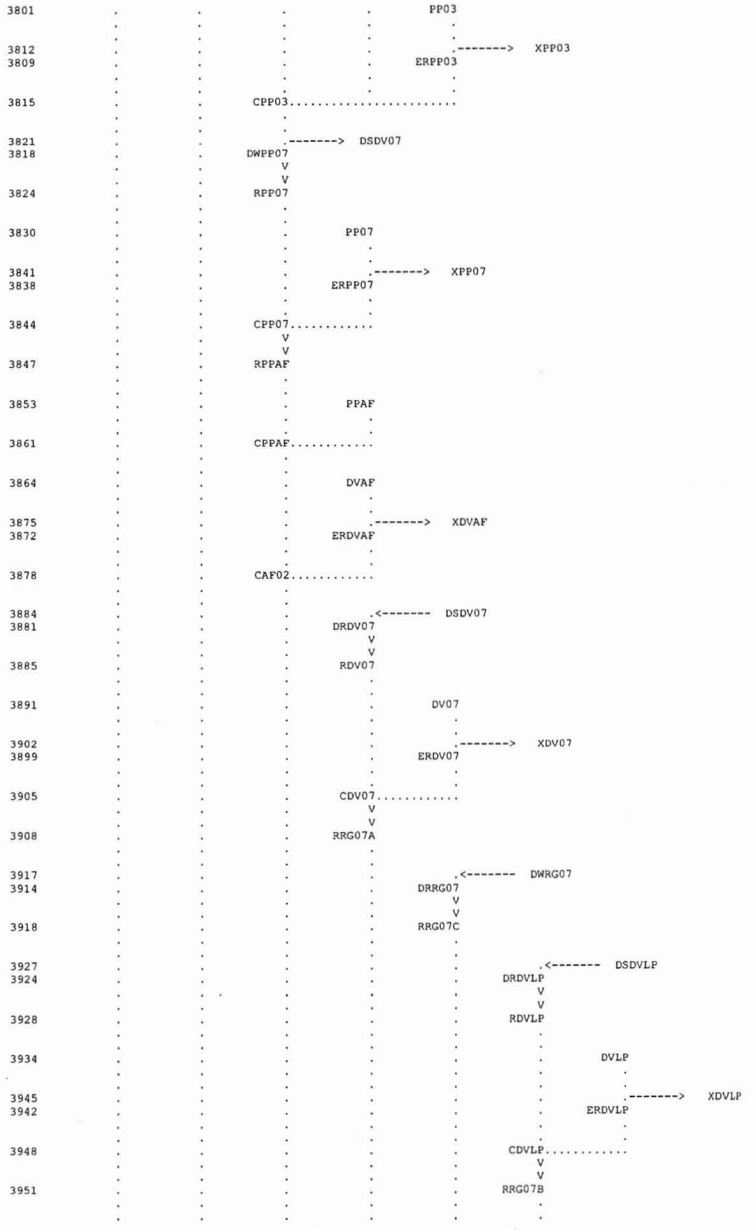
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3818 DWPP07
3824 RPP07
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3838 ERPP07
3844 CPP07
3847 RPPAF
3853 PPAF
3861 CPPAF
3864 DVAF
3875 XDVAF
3872 ERDVAF
3878 CAF02
3884 DSDV07
3881 DRDV07
3885 RDV07
3891 DV07
3902 XDV07
3899 ERDV07
3905 CDV07
3908 RRG07A
3917 DWRG07
3914 DRRG07
3918 RRG07C
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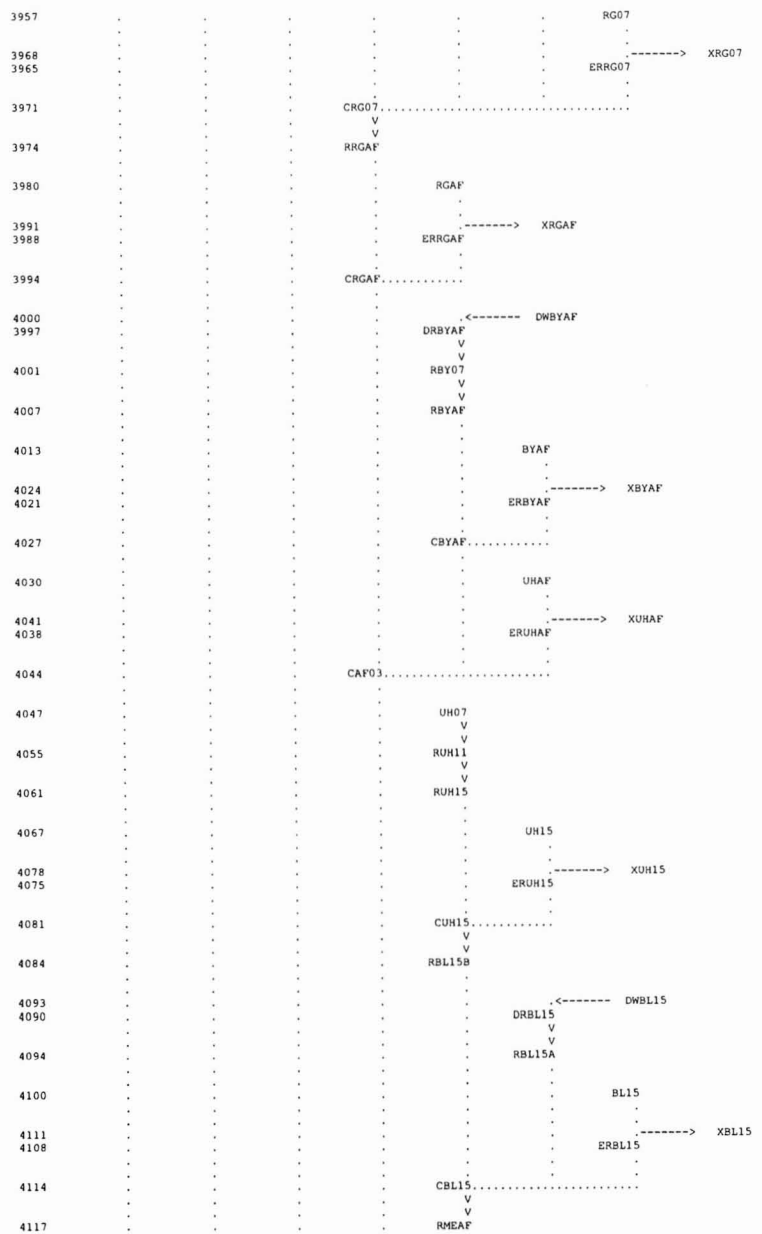
3951 RRG07B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RRGAF
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ERRGAF
3994
CRGAF
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XBYAF
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ERBYAF
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CBYAF
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RBL15B
4093
DWBL15
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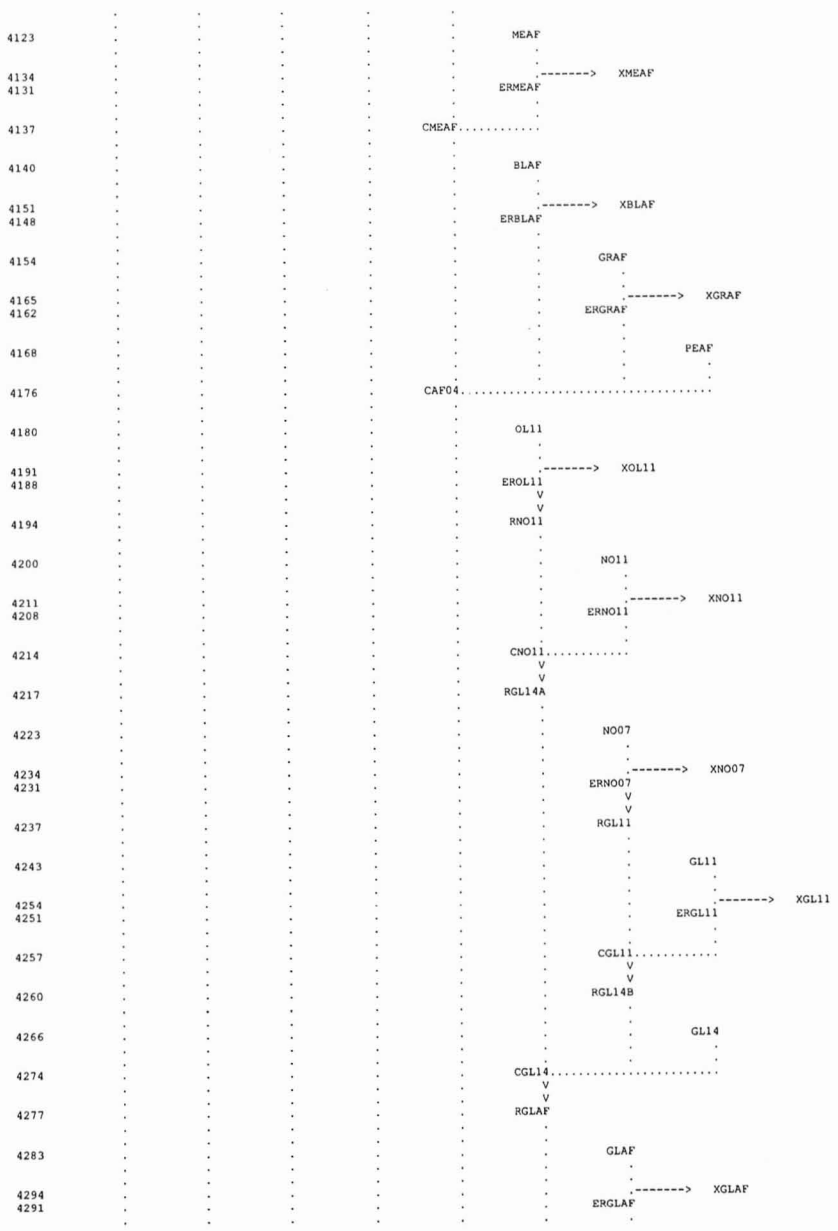
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ERMEAF
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CMEAF
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BLAF
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XBLAF
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ERBLAF
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GRAF
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XGRAF
4162
ERGRAF
4168
PEAF
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 4322           .         .         .         .         .      CAF05.....................

 (***) RUNOFF ALSO COMPUTED AT THIS LOCATION
1**************************************                  **************************************
*                                    *                  *                                    *
*   FLOOD HYDROGRAPH PACKAGE  (HEC-1)*                  *    U.S. ARMY CORPS OF ENGINEERS    *
*             JUN   1998             *                  *    HYDROLOGIC ENGINEERING CENTER   *
*          VERSION 4.1               *                  *         609 SECOND STREET          *
*                                    *                  *       DAVIS, CALIFORNIA 95616      *
*  RUN DATE   01NOV10  TIME  14:01:46*                  *           (916) 756-1104           *
*                                    *                  *                                    *
**************************************                  **************************************
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GLENDALE STORMWATER MANAGEMENT PLAN
Model for Glendale/Peoria Watershed
Future Conditions

Prepared for the City of Glendale
In Association with the Flood Control District of Maricopa County
City Project Number 089017

Prepared by Kimley-Horn and Associates, Inc.
KHA Project Number 091910009
October 2010

MODELING PARAMETERS
- 100 Year 24 Hour Storm Event
- NOAA 14 Rainfall Data
- Clark Unit Hydrograph
- Green and Ampt Rainfall Loss Method

Topo data extracted from Flood Control District database July 24, 2009
Land use obtained from City of Glendale General Plan August 2009, City of Phoenix General Plan August 2009, and MAG General Plan Land Use 2007

Storage routing data obtained from As-built Records or Final Drainage Reports where possible
When As-built data/Drainage reports were not available data was obtained from HEC-1 models and checked for accuracy.
Storage routing data obtained from the following HEC-1 models:
- Glendale/Peoria ADMPU, May 2001
- Glendale/Peoria ADMP Northwest Region Update, May 2007
The source of data is identified on each individual storage routing card

****

MODELING NOMENCLATURE
SUBBASIN HYDROGRAPH:
Example: JMRS - the subbasin upstream of Jomax and Rock Springs Wash

STORM DRAIN DIVERSION:
Example: DBL59 - flow from subbasin BL59 is diverted to a storm drain

SUBBASIN DIVERSION:
Example: DWBL59 - flow is diverted west towards Bell and 59th Avenue
Example: DSGW51 - flow is diverted south towards Greenway and 51st Ave

ROUTE HYDROGRAPH:
Example: RWBL51 - flow is routed west towards Bell and 51st Avenue
Example: RSGW59 - flow is routed south towards Greenway and 59th Ave

COMBINE HYDROGRAPH:
Example: CJMRS - combine flow at Jomax and Rock Springs Wash

STREET NAME ABBREVIATIONS

Jomax Road	JM
Happy Valley Road	HV
Pinnacle Peak Road	PP
Deer Valley Road	DV
SR Loop 101	LO
Beardsley Road	BY
Union Hills Drive	UH
Bell Road	BL
Greenway Road	GW
Thunderbird Road	TB

Cactus Road	CT
Peoria Avenue	PE
Olive Avenue	OL
Northern Avenue	NO
Glendale Avenue	GL
Bethany Home Road	BH
Camelback Road	CB
Indian School Road	IS
Thomas Road	TM
McDowell Road	MD
Interstate 10	IN
Grand Avenue	GR
Mountain View Road	MV
Pinnacle Hill Road	PH
Greenbriar Drive	GB
Utopia Road	UT
Pyramid Peak Boulevard	PY
Bent Tree Drive	BT
Glen Harbor Boulevard	GH
Black Rock Boulevard	BR
Rose Garden Lane	RG
Calle Lejos	CL
Rock Springs Wash	RS
Williams Road	WL
Del Webb Boulevard	DW
Westwing Parkway	WW
Lake Pleasant Parkway	LP
Thunderbird Park Road	TP
Talisman Road	TL
Royal Oak Road	RO
Yearling Road	YL
Meade Drive	ME
Acoma Drive	AM
Athens Street	AT

PREFIXES FOR MODELING OPERATIONS

RW	Routing flow in the west direction
RS	Routing flow in the south direction
RP	Routing storm drain pipe flow
C	Combination point
CI	Combination point at an intersection
CP	Combination point for storm drain pipe flow
SR	Storage for detention/retention basins
DW	Divert flow to the west
DE	Divert flow to the east
DS	Divert flow to the south
DN	Divert flow to the north
ER	Divert flow for existing 100-yr 2-hr retention
X	Existing retention diversion does not return to model
DR	Divert retrieval from surface flow
DI	Divert retrieval from intersection flow
D	Divert surface flow (remains after storm drain divert)
DP	Divert flow to a storm drain pipe
PR	Divert retrieval from a storm drain pipe

****

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122 IO          OUTPUT CONTROL VARIABLES
                     IPRNT          5  PRINT CONTROL
                     IPLOT          0  PLOT CONTROL
                     QSCAL          0.  HYDROGRAPH PLOT SCALE

    IT          HYDROGRAPH TIME DATA
                      NMIN          5  MINUTES IN COMPUTATION INTERVAL
                     IDATE      1   0  STARTING DATE
                     ITIME       0000  STARTING TIME
                        NQ       1000  NUMBER OF HYDROGRAPH ORDINATES
                    NDDATE      4   0  ENDING DATE
                    NDTIME       1115  ENDING TIME
                     ICENT         19  CENTURY MARK

                  COMPUTATION INTERVAL      .08 HOURS
                      TOTAL TIME BASE   83.25 HOURS

          ENGLISH UNITS
               DRAINAGE AREA          SQUARE MILES
               PRECIPITATION DEPTH    INCHES
               LENGTH, ELEVATION      FEET
               FLOW                   CUBIC FEET PER SECOND
               STORAGE VOLUME         ACRE-FEET
               SURFACE AREA           ACRES
               TEMPERATURE            DEGREES FAHRENHEIT

123 JD          INDEX STORM NO. 1
                      STRM       3.61  PRECIPITATION DEPTH
                      TRDA        .00  TRANSPOSITION DRAINAGE AREA

124 PI          PRECIPITATION PATTERN
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134 JD INDEX STORM NO. 2
STRM 3.43 PRECIPITATION DEPTH
TRDA 10.00 TRANSPOSITION DRAINAGE AREA

0 PI PRECIPITATION PATTERN

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135 JD INDEX STORM NO. 3
STRM 3.24 PRECIPITATION DEPTH
TRDA 30.00 TRANSPOSITION DRAINAGE AREA

0 PI PRECIPITATION PATTERN

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136 JD INDEX STORM NO. 4
STRM 3.14 PRECIPITATION DEPTH
TRDA 60.00 TRANSPOSITION DRAINAGE AREA

0 PI PRECIPITATION PATTERN

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137 JD INDEX STORM NO. 5
STRM 3.07 PRECIPITATION DEPTH
TRDA 90.00 TRANSPOSITION DRAINAGE AREA

0 PI PRECIPITATION PATTERN

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138 JD INDEX STORM NO. 6
STRM 3.03 PRECIPITATION DEPTH
TRDA 120.00 TRANSPOSITION DRAINAGE AREA

0 PI PRECIPITATION PATTERN

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.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
.00	.00	.00	.00	.00	.00	.00	.01	.00	.01
.01	.01	.01	.01	.01	.01	.01	.01	.03	.03
.03	.09	.09	.09	.01	.01	.01	.01	.01	.01

.01	.01	.01	.01	.01	.01	.00	.00	.00	.00
.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
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.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
.00	.00	.00	.00	.00	.00	.00	.00		

*** FDKRUT WARNING TIME STEP CALCULATION FAILED TO CONVERGE. STABILITY PROBLEMS MAY RESULT

*** Multiple FDKRUT Warnings deleted from model for brevity and in consideration of the environment when printing ***

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RUNOFF SUMMARY
FLOW IN CUBIC FEET PER SECOND
TIME IN HOURS, AREA IN SQUARE MILES

	OPERATION	STATION	PEAK FLOW	TIME OF PEAK	AVERAGE FLOW FOR MAXIMUM PERIOD 6-HOUR	24-HOUR	72-HOUR	BASIN AREA	MAXIMUM STAGE	TIME OF MAX STAGE
+	HYDROGRAPH AT	UH35	905.	12.42	263.	82.	27.	1.14		
+	DIVERSION TO	XUH35	754.	12.25	80.	24.	8.	1.14		
+	HYDROGRAPH AT	ERUH35	905.	12.42	212.	58.	19.	1.14		
+	DIVERSION TO	DPUH35	875.	12.42	211.	58.	19.	1.14		
+	HYDROGRAPH AT	DUH35	30.	12.42	1.	0.	0.	1.14		
+	DIVERSION TO	DWUH43	15.	12.42	1.	0.	0.	1.14		
+	HYDROGRAPH AT	DSBL35	15.	12.42	0.	0.	0.	1.14		
+	ROUTED TO	RSBL35	3.	13.25	0.	0.	0.	1.14		
+	HYDROGRAPH AT	BL35	747.	12.58	227.	70.	23.	1.14		
+	DIVERSION TO	XBL35	20.	7.50	15.	4.	1.	1.14		
+	HYDROGRAPH AT	ERBL35	747.	12.58	227.	66.	22.	1.14		
+	2 COMBINED AT	CBL35	745.	12.58	227.	66.	22.	1.70		
+	DIVERSION TO	DP35BL	158.	11.92	106.	36.	12.	1.70		
+	HYDROGRAPH AT	D35BL	587.	12.58	121.	30.	10.	1.70		
+	DIVERSION TO	DWBL43	387.	12.58	80.	20.	7.	1.70		
+	HYDROGRAPH AT	DSGW35	200.	12.58	41.	10.	3.	1.70		
+	ROUTED TO	RSGW35	180.	13.00	41.	10.	3.	1.70		
+	HYDROGRAPH AT	GW35	580.	12.67	196.	61.	21.	1.01		
+	2 COMBINED AT	CGW35	725.	12.83	236.	71.	24.	1.58		
+	HYDROGRAPH AT	PR35BL	158.	11.92	106.	36.	12.	1.70		
+	ROUTED TO	RP35GW	158.	12.08	106.	36.	12.	1.70		

+	2 COMBINED AT	CPGW35	883.	12.83	342.	107.	36.	1.58
+	DIVERSION TO	DP35GW	318.	12.08	216.	75.	25.	1.58
+	HYDROGRAPH AT	D35GW	565.	12.83	127.	32.	11.	1.58
+	DIVERSION TO	DWGW43	328.	12.83	73.	18.	6.	1.58
+	HYDROGRAPH AT	DSTB35	237.	12.83	53.	13.	4.	1.58
+	ROUTED TO	RSTB35	221.	13.17	53.	13.	4.	1.58
+	HYDROGRAPH AT	TB35	528.	12.75	190.	57.	19.	.98
+	2 COMBINED AT	CTB35	697.	13.08	242.	70.	24.	1.65
+	HYDROGRAPH AT	PR35GW	318.	12.08	216.	75.	25.	1.58
+	ROUTED TO	RP35TB	318.	12.25	216.	75.	25.	1.58
+	2 COMBINED AT	CPTB35	1015.	13.08	458.	146.	49.	1.65
+	DIVERSION TO	DP35TB	554.	12.25	359.	121.	41.	1.65
+	HYDROGRAPH AT	D35TB	461.	13.08	98.	25.	8.	1.65
+	DIVERSION TO	DWTB43	240.	13.08	51.	13.	4.	1.65
+	HYDROGRAPH AT	DSCT35	221.	13.08	47.	12.	4.	1.65
+	ROUTED TO	RSCT35	205.	13.50	47.	12.	4.	1.65
+	HYDROGRAPH AT	CT35	529.	12.58	181.	58.	19.	.98
+	2 COMBINED AT	CCT35	587.	13.25	227.	70.	23.	1.76
+	HYDROGRAPH AT	PR35TB	554.	12.25	359.	121.	41.	1.65
+	ROUTED TO	RP35CT	554.	12.33	359.	121.	41.	1.65
+	2 COMBINED AT	CPCT35	1141.	13.25	587.	190.	64.	1.76
+	DIVERSION TO	DP35CT	554.	12.08	400.	144.	48.	1.76
+	HYDROGRAPH AT	D35CT	587.	13.25	187.	47.	16.	1.76
+	DIVERSION TO	DWCT43	340.	13.25	108.	27.	9.	1.76
+	HYDROGRAPH AT	DSPE35	246.	13.25	78.	20.	7.	1.76
+	ROUTED TO	RSPE35	239.	13.58	78.	20.	7.	1.76
+	HYDROGRAPH AT	PE35	453.	12.67	165.	52.	17.	.98
+	2 COMBINED AT	CPE35	614.	13.08	243.	72.	24.	1.71
+	HYDROGRAPH AT	PR35CT	554.	12.08	400.	144.	48.	1.76
+	ROUTED TO	RP35PE	554.	12.25	400.	144.	48.	1.76
+	2 COMBINED AT	CPPE35	1168.	13.08	642.	215.	72.	1.71

+	DIVERSION TO	DP35PE	466.	12.08	383.	150.	51.	1.71
+	HYDROGRAPH AT	D35PE	702.	13.08	259.	65.	22.	1.71
+	DIVERSION TO	DWPE43	492.	13.08	181.	45.	15.	1.71
+	HYDROGRAPH AT	DSAC35	211.	13.08	78.	19.	6.	1.71
+	ROUTED TO	RSAC35	208.	13.33	78.	19.	6.	1.71
+	HYDROGRAPH AT	AC35	619.	12.42	163.	54.	18.	.75
+	2 COMBINED AT	CAC01	680.	12.58	239.	74.	25.	1.27
+	HYDROGRAPH AT	PR35PE	466.	12.08	383.	150.	51.	1.71
+	ROUTED TO	RP35AC	466.	12.17	383.	150.	51.	1.71
+	2 COMBINED AT	CPAC01	1146.	12.58	621.	224.	75.	1.27
+	HYDROGRAPH AT	DRUH43	15.	12.42	1.	0.	0.	1.14
+	ROUTED TO	RWUH43	4.	13.17	1.	0.	0.	1.14
+	HYDROGRAPH AT	UH43	565.	12.58	167.	47.	16.	1.02
+	DIVERSION TO	XUH43	553.	12.50	49.	14.	5.	1.02
+	HYDROGRAPH AT	ERUH43	563.	12.67	127.	33.	11.	1.02
+	2 COMBINED AT	CUH43	562.	12.67	127.	33.	11.	1.60
+	HYDROGRAPH AT	PRUH35	875.	12.42	211.	58.	19.	1.14
+	ROUTED TO	RPUH43	875.	12.50	211.	58.	19.	1.14
+	2 COMBINED AT	CPUH43	1428.	12.67	338.	91.	30.	1.60
+	DIVERSION TO	DPUH43	1268.	12.67	332.	90.	30.	1.60
+	HYDROGRAPH AT	DUH43	160.	12.67	5.	1.	0.	1.60
+	DIVERSION TO	DWUH51	67.	12.67	2.	1.	0.	1.60
+	HYDROGRAPH AT	DSBL43	93.	12.67	3.	1.	0.	1.60
+	ROUTED TO	RSBL43	21.	13.42	3.	1.	0.	1.60
+	HYDROGRAPH AT	DRBL43	387.	12.58	80.	20.	7.	1.70
+	ROUTED TO	RWBL43	357.	12.92	80.	20.	7.	1.70
+	HYDROGRAPH AT	BL43	634.	12.58	205.	61.	20.	1.05
+	3 COMBINED AT	CBL43	944.	12.92	286.	81.	27.	3.10
+	DIVERSION TO	DP43BL	117.	11.92	86.	31.	10.	3.10
+	HYDROGRAPH AT	D43BL	827.	12.92	199.	50.	17.	3.10
+	DIVERSION TO	DWBL51	381.	12.92	92.	23.	8.	3.10

+	HYDROGRAPH AT	DSGW43	447.	12.92	108.	27.	9.	3.10
+	ROUTED TO	RSGW43	426.	13.17	108.	27.	9.	3.10
+	HYDROGRAPH AT	DRGW43	328.	12.83	73.	18.	6.	1.58
+	ROUTED TO	RWGW43	305.	13.25	73.	18.	6.	1.58
+	HYDROGRAPH AT	GW43	586.	12.58	179.	55.	18.	.99
+	DIVERSION TO	XGW43	15.	7.58	11.	3.	1.	.99
+	HYDROGRAPH AT	ERGW43	586.	12.58	179.	52.	17.	.99
+	3 COMBINED AT	CGW43	1175.	13.08	358.	96.	32.	3.57
+	HYDROGRAPH AT	PR43BL	117.	11.92	86.	31.	10.	3.10
+	ROUTED TO	RP43GW	117.	12.08	86.	31.	10.	3.10
+	2 COMBINED AT	CPGW43	1292.	13.08	444.	127.	43.	3.57
+	DIVERSION TO	DP43GW	155.	11.92	131.	49.	16.	3.57
+	HYDROGRAPH AT	D43GW	1137.	13.08	313.	78.	26.	3.57
+	DIVERSION TO	DWGW51	602.	13.08	166.	42.	14.	3.57
+	HYDROGRAPH AT	DSTB43	534.	13.08	147.	37.	12.	3.57
+	ROUTED TO	RSTB43	504.	13.33	147.	37.	12.	3.57
+	HYDROGRAPH AT	DRTB43	240.	13.08	51.	13.	4.	1.65
+	ROUTED TO	RWTB43	222.	13.50	51.	13.	4.	1.65
+	HYDROGRAPH AT	TB43	549.	12.67	175.	51.	17.	1.00
+	3 COMBINED AT	CTB43	1113.	13.33	372.	100.	33.	3.55
+	HYDROGRAPH AT	PR43GW	155.	11.92	131.	49.	16.	3.57
+	ROUTED TO	RP43TB	155.	12.08	131.	49.	16.	3.57
+	2 COMBINED AT	CPTB43	1268.	13.33	502.	149.	50.	3.55
+	DIVERSION TO	DP43TB	312.	12.08	246.	85.	28.	3.55
+	HYDROGRAPH AT	D43TB	956.	13.33	256.	64.	21.	3.55
+	DIVERSION TO	DWTB51	602.	13.33	161.	40.	13.	3.55
+	HYDROGRAPH AT	DSCT43	354.	13.33	95.	24.	8.	3.55
+	ROUTED TO	RSCT43	339.	13.58	95.	24.	8.	3.55
+	HYDROGRAPH AT	DRCT43	340.	13.25	108.	27.	9.	1.76
+	ROUTED TO	RWCT43	331.	13.50	108.	27.	9.	1.76
+	HYDROGRAPH AT	CT43	608.	12.58	198.	60.	20.	1.00

+	DIVERSION TO HYDROGRAPH AT	XCT43	608.	12.58	74.	21.	7.	1.00
+	3 COMBINED AT	ERCT43	598.	12.75	143.	39.	13.	1.00
+	HYDROGRAPH AT	CCT43	1050.	13.25	344.	89.	30.	3.35
+	ROUTED TO	PR43TB	312.	12.08	246.	85.	28.	3.55
+	2 COMBINED AT	RP43CT	312.	12.25	246.	85.	28.	3.55
+	DIVERSION TO	CPCT43	1362.	13.25	586.	174.	58.	3.35
+	HYDROGRAPH AT	DP43CT	380.	12.67	298.	102.	34.	3.35
+	DIVERSION TO	D43CT	982.	13.25	288.	72.	24.	3.35
+	HYDROGRAPH AT	DWCT51	619.	13.25	181.	45.	15.	3.35
+	ROUTED TO	DSPE43	363.	13.25	107.	27.	9.	3.35
+	HYDROGRAPH AT	RSPE43	356.	13.67	106.	27.	9.	3.35
+	ROUTED TO	DRPE43	492.	13.08	181.	45.	15.	1.71
+	HYDROGRAPH AT	RWPE43	482.	13.42	181.	45.	15.	1.71
+	3 COMBINED AT	PE43	474.	12.67	162.	49.	17.	1.00
+	HYDROGRAPH AT	CPE43	1151.	13.42	447.	121.	40.	3.42
+	ROUTED TO	PR43CT	380.	12.67	298.	102.	34.	3.35
+	2 COMBINED AT	RP43PE	380.	12.83	298.	102.	34.	3.35
+	DIVERSION TO	CPPE43	1531.	13.42	746.	223.	75.	3.42
+	HYDROGRAPH AT	DP43PE	520.	12.25	421.	142.	47.	3.42
+	DIVERSION TO	D43PE	1011.	13.42	325.	81.	27.	3.42
+	HYDROGRAPH AT	DWAC51	384.	13.42	123.	31.	10.	3.42
+	HYDROGRAPH AT	DSAC43	627.	13.42	201.	50.	17.	3.42
+	3 COMBINED AT	AC43	139.	12.67	57.	18.	6.	.36
+	HYDROGRAPH AT	CAC02	1652.	13.25	876.	291.	98.	3.75
+	2 COMBINED AT	PR43PE	520.	12.25	421.	142.	47.	3.42
+	HYDROGRAPH AT	CPAC02	2172.	13.25	1295.	433.	145.	3.75
+	ROUTED TO	DRUH51	67.	12.67	2.	1.	0.	1.60
+	HYDROGRAPH AT	RWUH51	16.	13.42	2.	1.	0.	1.60
+	DIVERSION TO	UH51	461.	12.67	160.	50.	17.	.99
+	HYDROGRAPH AT	XUH51	461.	12.67	88.	25.	8.	.99
+		ERUH51	372.	13.25	91.	26.	9.	.99

+	2 COMBINED AT	CUH51	384.	13.25	93.	26.	9.	1.66
+	DIVERSION TO	DWUHSK	234.	13.25	57.	16.	5.	1.66
+	HYDROGRAPH AT	DSBL51	150.	13.25	36.	10.	3.	1.66
+	HYDROGRAPH AT	PRUH43	1268.	12.67	332.	90.	30.	1.60
+	ROUTED TO	RPUH51	1268.	12.75	331.	90.	30.	1.60
+	2 COMBINED AT	CPUH51	1268.	12.83	367.	100.	33.	1.66
+	DIVERSION TO	DPUH51	1268.	12.83	367.	100.	33.	1.66
+	HYDROGRAPH AT	DUH51	0.	.00	0.	0.	0.	1.66
+	ROUTED TO	RSBL51	0.	.00	0.	0.	0.	1.66
+	HYDROGRAPH AT	DRBL51	381.	12.92	92.	23.	8.	3.10
+	ROUTED TO	RWBL51	367.	13.08	92.	23.	8.	3.10
+	HYDROGRAPH AT	BL51	595.	12.58	180.	54.	18.	1.04
+	DIVERSION TO	XBL51	389.	12.25	38.	12.	4.	1.04
+	HYDROGRAPH AT	ERBL51	595.	12.58	157.	42.	14.	1.04
+	3 COMBINED AT	CBL51	863.	13.00	248.	65.	22.	3.12
+	DIVERSION TO	DP51BL	38.	12.33	32.	11.	4.	3.12
+	HYDROGRAPH AT	D51BL	825.	13.00	216.	54.	18.	3.12
+	DIVERSION TO	DWBL59	429.	13.00	112.	28.	9.	3.12
+	HYDROGRAPH AT	DSGW51	396.	13.00	104.	26.	9.	3.12
+	ROUTED TO	RSGW51	346.	13.25	103.	26.	9.	3.12
+	HYDROGRAPH AT	DRGW51	602.	13.08	166.	42.	14.	3.57
+	ROUTED TO	RWGW51	576.	13.33	166.	42.	14.	3.57
+	HYDROGRAPH AT	GW51	480.	12.58	146.	42.	14.	.96
+	DIVERSION TO	XGW51	5.	4.17	3.	1.	0.	.96
+	HYDROGRAPH AT	ERGW51	480.	12.58	146.	41.	14.	.96
+	3 COMBINED AT	CGW51	1262.	13.25	412.	108.	36.	4.34
+	HYDROGRAPH AT	PR51BL	38.	12.33	32.	11.	4.	3.12
+	ROUTED TO	RP51GW	38.	12.58	32.	11.	4.	3.12
+	2 COMBINED AT	CPGW51	1300.	13.25	442.	119.	40.	4.34
+	DIVERSION TO	DP51GW	150.	12.08	123.	40.	13.	4.34
+	HYDROGRAPH AT	D51GW	1150.	13.25	319.	80.	27.	4.34

+	DIVERSION TO	DWGW59	748.	13.25	207.	52.	17.	4.34
+	HYDROGRAPH AT	DSTB51	403.	13.25	112.	28.	9.	4.34
+	ROUTED TO	RSTB51	388.	13.50	112.	28.	9.	4.34
+	HYDROGRAPH AT	DRTB51	602.	13.33	161.	40.	13.	3.55
+	ROUTED TO	RWTB51	582.	13.50	161.	40.	13.	3.55
+	HYDROGRAPH AT	TB51	504.	12.58	154.	44.	15.	.99
+	3 COMBINED AT	CTB51	1270.	13.42	425.	112.	37.	4.70
+	HYDROGRAPH AT	PR51GW	150.	12.08	123.	40.	13.	4.34
+	ROUTED TO	RP51TB	150.	12.25	123.	40.	13.	4.34
+	2 COMBINED AT	CPTB51	1420.	13.42	547.	151.	51.	4.70
+	DIVERSION TO	DP51TB	244.	12.08	201.	65.	22.	4.70
+	HYDROGRAPH AT	D51TB	1176.	13.42	346.	87.	29.	4.70
+	DIVERSION TO	DWTB59	717.	13.42	211.	53.	18.	4.70
+	HYDROGRAPH AT	DSCT51	459.	13.42	135.	34.	11.	4.70
+	ROUTED TO	RSCT51	444.	13.67	135.	34.	11.	4.70
+	HYDROGRAPH AT	DRCT51	619.	13.25	181.	45.	15.	3.35
+	ROUTED TO	RWCT51	612.	13.58	181.	45.	15.	3.35
+	HYDROGRAPH AT	CT51	693.	12.50	203.	66.	22.	.99
+	DIVERSION TO	XCT51	693.	12.50	101.	29.	10.	.99
+	HYDROGRAPH AT	ERCT51	637.	12.75	129.	37.	12.	.99
+	3 COMBINED AT	CCT51	1340.	13.50	442.	115.	38.	4.94
+	HYDROGRAPH AT	PR51TB	244.	12.08	201.	65.	22.	4.70
+	ROUTED TO	RP51CT	244.	12.25	201.	65.	22.	4.70
+	2 COMBINED AT	CPCT51	1584.	13.50	640.	180.	60.	4.94
+	DIVERSION TO	DP51CT	244.	12.25	214.	74.	25.	4.94
+	HYDROGRAPH AT	D51CT	1340.	13.50	426.	106.	35.	4.94
+	DIVERSION TO	DWAC59	442.	13.50	140.	35.	12.	4.94
+	HYDROGRAPH AT	DSAC51	898.	13.50	285.	71.	24.	4.94
+	HYDROGRAPH AT	DRAC51	384.	13.42	123.	31.	10.	3.42
+	HYDROGRAPH AT	AC51	238.	12.92	110.	34.	11.	.58
+	DIVERSION TO	XAC51	4.	3.08	1.	0.	0.	.58

+	HYDROGRAPH AT	ERAC51	238.	12.92	110.	34.	11.	.58
+	4 COMBINED AT	CAC03	3622.	13.33	1804.	566.	190.	8.95
+	HYDROGRAPH AT	PR51CT	244.	12.25	214.	74.	25.	4.94
+	2 COMBINED AT	CPAC03	3866.	13.33	2014.	639.	214.	8.95
+	HYDROGRAPH AT	DRBL59	429.	13.00	112.	28.	9.	3.12
+	ROUTED TO	RWBL59	397.	13.25	112.	28.	9.	3.12
+	HYDROGRAPH AT	BL59	670.	12.58	203.	62.	21.	1.08
+	DIVERSION TO	XBL59	670.	12.58	140.	38.	13.	1.08
+	HYDROGRAPH AT	ERBL59	407.	13.33	84.	24.	8.	1.08
+	2 COMBINED AT	CBL59	800.	13.33	193.	52.	17.	2.71
+	DIVERSION TO	DP59BL	108.	12.75	75.	22.	7.	2.71
+	HYDROGRAPH AT	D59BL	692.	13.33	118.	30.	10.	2.71
+	DIVERSION TO	DWBL67	215.	13.33	37.	9.	3.	2.71
+	HYDROGRAPH AT	DSGW59	478.	13.33	82.	20.	7.	2.71
+	ROUTED TO	RSGW59	418.	13.67	82.	20.	7.	2.71
+	HYDROGRAPH AT	DRGW59	748.	13.25	207.	52.	17.	4.34
+	ROUTED TO	RWGW59	715.	13.50	207.	52.	17.	4.34
+	HYDROGRAPH AT	GW59	573.	12.58	186.	58.	19.	.94
+	DIVERSION TO	XGW59	530.	12.42	62.	18.	6.	.94
+	HYDROGRAPH AT	ERGW59	571.	12.67	145.	40.	13.	.94
+	3 COMBINED AT	CGW59	1387.	13.67	429.	111.	37.	5.64
+	HYDROGRAPH AT	PR59BL	108.	12.75	75.	22.	7.	2.71
+	ROUTED TO	RP59GW	108.	12.92	75.	22.	7.	2.71
+	2 COMBINED AT	CPGW59	1495.	13.67	504.	133.	44.	5.64
+	DIVERSION TO	DP59GW	273.	12.58	191.	55.	18.	5.64
+	HYDROGRAPH AT	D59GW	1222.	13.67	312.	78.	26.	5.64
+	DIVERSION TO	DWGW67	550.	13.67	141.	35.	12.	5.64
+	HYDROGRAPH AT	DSTB59	672.	13.67	172.	43.	14.	5.64
+	ROUTED TO	RSTB59	632.	13.92	172.	43.	14.	5.64
+	HYDROGRAPH AT	DRTB59	717.	13.42	211.	53.	18.	4.70
+	ROUTED TO	RWTB59	701.	13.67	211.	53.	18.	4.70

+	HYDROGRAPH AT	TB59	559.	12.58	183.	57.	19.	1.00
+	3 COMBINED AT	CTB59	1561.	13.75	561.	152.	51.	6.96
+	HYDROGRAPH AT	PR59GW	273.	12.58	191.	55.	18.	5.64
+	ROUTED TO	RP59AM	273.	12.67	191.	55.	18.	5.64
+	ROUTED TO	SRAM59	273.	13.83	190.	55.	18.	5.64
+	ROUTED TO	RP59TB	273.	13.92	190.	55.	18.	5.64
+	2 COMBINED AT	CPTB59	1817.	13.83	740.	207.	69.	6.96
+	DIVERSION TO	DPTB59	578.	12.58	435.	131.	44.	6.96
+	HYDROGRAPH AT	DTB59	1239.	13.83	305.	76.	25.	6.96
+	DIVERSION TO	DWAC67	508.	13.83	125.	31.	10.	6.96
+	HYDROGRAPH AT	DSAC59	731.	13.83	180.	45.	15.	6.96
+	HYDROGRAPH AT	DRAC59	442.	13.50	140.	35.	12.	4.94
+	HYDROGRAPH AT	AC59	338.	12.83	144.	45.	15.	.74
+	DIVERSION TO	XAC59	338.	12.83	105.	29.	10.	.74
+	HYDROGRAPH AT	ERAC59	177.	14.17	56.	16.	5.	.74
+	4 COMBINED AT	CAC04	4750.	13.50	2307.	713.	239.	15.39
+	HYDROGRAPH AT	PRTB59	578.	12.58	435.	131.	44.	6.96
+	2 COMBINED AT	CPAC04	5328.	13.50	2734.	842.	282.	15.39
+	HYDROGRAPH AT	DRBL67	215.	13.33	37.	9.	3.	2.71
+	DIVERSION TO	DWSK67	159.	13.33	27.	7.	2.	2.71
+	HYDROGRAPH AT	DBL67	56.	13.33	10.	2.	1.	2.71
+	ROUTED TO	RWBL67	45.	13.92	10.	2.	1.	2.71
+	HYDROGRAPH AT	BL67	147.	12.50	46.	15.	5.	.23
+	DIVERSION TO	XBL67	147.	12.50	28.	8.	3.	.23
+	HYDROGRAPH AT	ERBL67	102.	13.08	24.	7.	2.	.23
+	2 COMBINED AT	CBL67	102.	13.08	33.	9.	3.	.46
+	DIVERSION TO	DP67BL	32.	13.00	19.	6.	2.	.46
+	HYDROGRAPH AT	D67BL	70.	13.08	15.	4.	1.	.46
+	DIVERSION TO	DWBL75	43.	13.08	9.	2.	1.	.46
+	HYDROGRAPH AT	DSGW67	27.	13.08	6.	1.	0.	.46
+	ROUTED TO	RSGW67	20.	14.75	6.	1.	0.	.46

+	HYDROGRAPH AT	DRGW67	550.	13.67	141.	35.	12.	5.64
+	ROUTED TO	RWGW67	516.	13.92	140.	35.	12.	5.64
+	HYDROGRAPH AT	GW67	570.	12.58	183.	55.	18.	.89
+	DIVERSION TO	XGW67	570.	12.58	91.	25.	8.	.89
+	HYDROGRAPH AT	ERGW67	495.	13.00	109.	30.	10.	.89
+	3 COMBINED AT	CGW67	766.	13.83	254.	66.	22.	3.64
+	HYDROGRAPH AT	PR67BL	32.	13.00	19.	6.	2.	.46
+	ROUTED TO	RP67GW	32.	13.25	19.	6.	2.	.46
+	2 COMBINED AT	CPGW67	798.	13.83	272.	72.	24.	3.64
+	DIVERSION TO	DP67GW	608.	13.25	247.	66.	22.	3.64
+	HYDROGRAPH AT	D67GW	190.	13.83	25.	6.	2.	3.64
+	DIVERSION TO	DWAC75	159.	13.83	21.	5.	2.	3.64
+	HYDROGRAPH AT	DSAC67	30.	13.83	4.	1.	0.	3.64
+	ROUTED TO	RSAC67	26.	13.92	4.	1.	0.	3.64
+	HYDROGRAPH AT	DRAC67	508.	13.83	125.	31.	10.	6.96
+	ROUTED TO	RWAC67	501.	13.83	125.	31.	10.	6.96
+	HYDROGRAPH AT	AC67	333.	12.75	131.	39.	13.	.70
+	4 COMBINED AT	CAC05	5872.	13.50	2928.	895.	300.	19.62
+	HYDROGRAPH AT	PR67GW	608.	13.25	247.	66.	22.	3.64
+	ROUTED TO	RP67AC	608.	13.33	247.	66.	22.	3.64
+	2 COMBINED AT	CPAC05	6481.	13.50	3158.	957.	320.	19.55
+	HYDROGRAPH AT	DRAC75	159.	13.83	21.	5.	2.	3.64
+	HYDROGRAPH AT	AC75	392.	12.67	140.	43.	14.	.84
+	DIVERSION TO	XAC75	236.	12.25	28.	9.	3.	.84
+	HYDROGRAPH AT	ERAC75	392.	12.67	127.	35.	12.	.84
+	3 COMBINED AT	CAC06	6706.	13.50	3241.	979.	328.	23.44
+	HYDROGRAPH AT	HV55	1267.	12.50	314.	97.	33.	2.05
+	DIVERSION TO	XHV55	1267.	12.50	201.	56.	19.	2.05
+	HYDROGRAPH AT	ERHV55	872.	13.00	146.	42.	14.	2.05
+	ROUTED TO	RCL57	732.	13.25	145.	42.	14.	2.05
+	HYDROGRAPH AT	CL57	567.	12.33	112.	34.	11.	.75

+	DIVERSION TO	XCL57	567.	12.33	81.	22.	7.	.75
+	HYDROGRAPH AT	ERCL57	295.	12.92	42.	12.	4.	.75
+	2 COMBINED AT	CCL57	894.	13.25	185.	54.	18.	2.80
+	ROUTED TO	RWL59	764.	13.67	182.	54.	18.	2.80
+	HYDROGRAPH AT	WL59	271.	12.50	77.	23.	8.	.56
+	DIVERSION TO	XWL59	232.	12.33	19.	6.	2.	.56
+	HYDROGRAPH AT	ERWL59	271.	12.50	64.	17.	6.	.56
+	2 COMBINED AT	CWL59	876.	13.58	239.	71.	24.	3.36
+	HYDROGRAPH AT	DV56	325.	12.33	48.	15.	5.	.29
+	2 COMBINED AT	CDV56	900.	13.58	279.	85.	28.	3.65
+	ROUTED TO	SRDV56	752.	13.83	275.	85.	28.	3.65
+	HYDROGRAPH AT	LO51	652.	12.58	200.	64.	22.	1.13
+	2 COMBINED AT	CLO51	998.	13.75	465.	147.	50.	4.78
+	DIVERSION TO	DP51LO	38.	9.75	38.	33.	11.	4.78
+	HYDROGRAPH AT	D51LO	960.	13.75	427.	115.	38.	4.78
+	ROUTED TO	SRLO51	358.	15.00	273.	112.	38.	4.78
+	ROUTED TO	RUHSKA	357.	15.25	273.	111.	38.	4.78
+	HYDROGRAPH AT	DRUHSK	234.	13.25	57.	16.	5.	1.66
+	DIVERSION TO	DP51SK	24.	13.17	19.	7.	2.	1.66
+	HYDROGRAPH AT	D51SK	210.	13.25	38.	9.	3.	1.66
+	ROUTED TO	RUHSKB	168.	13.83	38.	9.	3.	1.66
+	HYDROGRAPH AT	UHSK	562.	12.42	146.	44.	15.	.93
+	DIVERSION TO	XUHSK	347.	12.17	32.	10.	3.	.93
+	HYDROGRAPH AT	ERUHSK	562.	12.42	128.	34.	11.	.93
+	3 COMBINED AT	CSK01	563.	12.50	401.	154.	52.	6.73
+	DIVERSION TO	DPUHSK	10.	12.25	10.	10.	4.	6.73
+	HYDROGRAPH AT	DUHSK	553.	12.50	391.	144.	48.	6.73
+	HYDROGRAPH AT	DRSK67	159.	13.33	27.	7.	2.	2.71
+	ROUTED TO	RSK67	129.	13.92	27.	7.	2.	2.71
+	HYDROGRAPH AT	SK67	619.	12.42	147.	44.	15.	.94
+	DIVERSION TO	XSK67	575.	12.33	50.	14.	5.	.94

+	HYDROGRAPH AT	ERSK67	616.	12.50	111.	30.	10.	.94
+	3 COMBINED AT	CSK02	1160.	12.50	526.	180.	60.	8.30
+	HYDROGRAPH AT	PRUHSK	10.	12.25	10.	10.	4.	6.73
+	ROUTED TO	RPSK67	10.	12.75	10.	10.	4.	6.73
+	2 COMBINED AT	CPSK02	1164.	12.50	535.	190.	64.	8.30
+	HYDROGRAPH AT	UH67	512.	12.42	144.	45.	15.	.78
+	DIVERSION TO	XUH67	512.	12.42	123.	34.	11.	.78
+	HYDROGRAPH AT	ERUH67	154.	13.83	38.	12.	4.	.78
+	ROUTED TO	RUH75	111.	14.75	36.	12.	4.	.78
+	HYDROGRAPH AT	UH75	409.	12.75	145.	43.	14.	.81
+	DIVERSION TO	XUH75	409.	12.75	123.	33.	11.	.81
+	HYDROGRAPH AT	ERUH75	131.	14.50	34.	10.	3.	.81
+	2 COMBINED AT	CUH75	227.	14.58	69.	22.	7.	1.60
+	ROUTED TO	RBL75A	206.	15.08	68.	22.	7.	1.60
+	HYDROGRAPH AT	DRBL75	43.	13.08	9.	2.	1.	.46
+	ROUTED TO	RBL75B	35.	14.17	9.	2.	1.	.46
+	HYDROGRAPH AT	BL75	575.	12.50	165.	50.	17.	1.06
+	DIVERSION TO	XBL75	59.	11.83	20.	7.	2.	1.06
+	HYDROGRAPH AT	ERBL75	575.	12.50	161.	43.	14.	1.06
+	4 COMBINED AT	CSK03	1717.	12.50	736.	251.	85.	11.22
+	HYDROGRAPH AT	UHLO	652.	12.42	134.	40.	13.	.82
+	DIVERSION TO	XUHLO	652.	12.42	125.	34.	11.	.82
+	HYDROGRAPH AT	ERUHLO	87.	13.83	21.	7.	2.	.82
+	ROUTED TO	RBLLO	46.	15.00	20.	7.	2.	.82
+	HYDROGRAPH AT	BLLO	487.	12.50	145.	48.	16.	.76
+	DIVERSION TO	XBLLO	487.	12.50	127.	36.	12.	.76
+	HYDROGRAPH AT	ERBLLO	128.	14.08	38.	12.	4.	.76
+	2 COMBINED AT	CBLLO	131.	14.08	55.	19.	6.	1.59
+	DIVERSION TO	DPBLLO	131.	14.08	55.	19.	6.	1.59
+	HYDROGRAPH AT	DBLLO	4.	14.25	0.	0.	0.	1.59
+	ROUTED TO	RGWLO	2.	15.00	0.	0.	0.	1.59

+	HYDROGRAPH AT	GWLO	838.	12.25	159.	53.	18.	.81
+	DIVERSION TO	XGWLO	838.	12.25	95.	27.	9.	.81
+	HYDROGRAPH AT	ERGWLO	633.	12.50	88.	26.	9.	.81
+	4 COMBINED AT	CSK04	7375.	13.42	3814.	1174.	398.	37.07
+	HYDROGRAPH AT	PRBLLO	131.	14.08	55.	19.	6.	1.59
+	ROUTED TO	RPGWLO	121.	14.25	54.	18.	6.	1.59
+	2 COMBINED AT	CPSK04	7375.	13.42	3833.	1186.	402.	37.07
+	HYDROGRAPH AT	JM63	695.	12.33	123.	36.	12.	.84
+	DIVERSION TO	XJM63	695.	12.33	95.	25.	8.	.84
+	HYDROGRAPH AT	ERJM63	265.	12.92	38.	11.	4.	.84
+	ROUTED TO	RJM67	236.	13.08	37.	11.	4.	.84
+	HYDROGRAPH AT	JM67	284.	12.33	60.	19.	6.	.38
+	DIVERSION TO	XJM67	284.	12.33	43.	12.	4.	.38
+	HYDROGRAPH AT	ERJM67	131.	13.00	23.	7.	2.	.38
+	2 COMBINED AT	CJM67	349.	13.08	60.	18.	6.	1.22
+	ROUTED TO	RHV75	294.	13.25	59.	18.	6.	1.22
+	HYDROGRAPH AT	HV75	595.	12.42	135.	41.	14.	.96
+	DIVERSION TO	XHV75	595.	12.42	130.	35.	12.	.96
+	HYDROGRAPH AT	ERHV75	44.	14.67	16.	6.	2.	.96
+	2 COMBINED AT	CHV75	291.	13.33	73.	23.	8.	2.18
+	HYDROGRAPH AT	JM80	133.	12.25	25.	8.	3.	.16
+	HYDROGRAPH AT	JM76	95.	12.33	22.	7.	2.	.17
+	DIVERSION TO	XJM76	95.	12.33	12.	3.	1.	.17
+	HYDROGRAPH AT	ERJM76	70.	12.75	12.	3.	1.	.17
+	HYDROGRAPH AT	JMNR	45.	12.58	15.	4.	1.	.15
+	3 COMBINED AT	CNR01	184.	12.75	51.	15.	5.	.48
+	HYDROGRAPH AT	JM75	1073.	12.25	157.	47.	16.	1.11
+	DIVERSION TO	XJM75	1059.	12.25	79.	22.	7.	1.11
+	HYDROGRAPH AT	ERJM75	888.	12.42	92.	25.	8.	1.11
+	HYDROGRAPH AT	HVNR	58.	12.83	16.	4.	1.	.20
+	4 COMBINED AT	CNR02	1058.	12.42	222.	67.	22.	3.98

+	HYDROGRAPH AT	HV67	576.	12.25	105.	35.	12.	.54
+	DIVERSION TO	XHV67	557.	12.17	54.	16.	5.	.54
+	HYDROGRAPH AT	ERHV67	480.	12.42	66.	19.	6.	.54
+	ROUTED TO	RCL67	407.	12.58	65.	19.	6.	.54
+	HYDROGRAPH AT	CL67	134.	12.42	37.	11.	4.	.28
+	DIVERSION TO	XCL67	134.	12.42	31.	8.	3.	.28
+	HYDROGRAPH AT	ERCL67	36.	14.00	9.	3.	1.	.28
+	2 COMBINED AT	CCL67	407.	12.58	74.	22.	7.	.82
+	ROUTED TO	RPP73A	336.	12.92	72.	22.	7.	.82
+	HYDROGRAPH AT	PP67	37.	12.42	10.	3.	1.	.10
+	DIVERSION TO	XPP67	37.	12.42	10.	3.	1.	.10
+	HYDROGRAPH AT	ERPP67	0.	.00	0.	0.	0.	.10
+	DIVERSION TO	DSWL67	0.	.00	0.	0.	0.	.10
+	HYDROGRAPH AT	DWPP73	0.	.00	0.	0.	0.	.10
+	ROUTED TO	RPP73B	0.	.00	0.	0.	0.	.10
+	HYDROGRAPH AT	PP73	331.	12.42	71.	21.	7.	.55
+	DIVERSION TO	XPP73	264.	12.25	18.	5.	2.	.55
+	HYDROGRAPH AT	ERPP73	331.	12.42	58.	15.	5.	.55
+	3 COMBINED AT	CPP73	572.	12.83	128.	37.	12.	1.43
+	DIVERSION TO	DSWL75	234.	12.83	53.	15.	5.	1.43
+	HYDROGRAPH AT	DWPP75	337.	12.83	76.	22.	7.	1.43
+	ROUTED TO	RPPNR	331.	12.92	76.	22.	7.	1.43
+	HYDROGRAPH AT	PP75	283.	12.33	60.	18.	6.	.42
+	DIVERSION TO	XPP75	283.	12.33	37.	10.	3.	.42
+	HYDROGRAPH AT	ERPP75	180.	12.75	29.	8.	3.	.42
+	HYDROGRAPH AT	PPNR	73.	12.58	22.	6.	2.	.24
+	DIVERSION TO	XPPNR	73.	12.58	10.	3.	1.	.24
+	HYDROGRAPH AT	ERPPNR	60.	13.08	13.	3.	1.	.24
+	4 COMBINED AT	CNR03	1240.	12.42	335.	99.	33.	5.47
+	HYDROGRAPH AT	DRWL75	234.	12.83	53.	15.	5.	1.43
+	ROUTED TO	RWL75B	221.	12.92	52.	15.	5.	1.43

+	HYDROGRAPH AT	DRWL67	0.	.00	0.	0.	0.	.10
+	ROUTED TO	RWL67	0.	.00	0.	0.	0.	.10
+	HYDROGRAPH AT	WL67	41.	12.50	11.	3.	1.	.10
+	DIVERSION TO	XWL67	41.	12.50	8.	2.	1.	.10
+	HYDROGRAPH AT	ERWL67	14.	13.83	3.	1.	0.	.10
+	2 COMBINED AT	CWL67	14.	13.83	3.	1.	0.	.13
+	ROUTED TO	RWL75A	11.	14.50	3.	1.	0.	.13
+	HYDROGRAPH AT	WL75	310.	12.42	68.	20.	7.	.47
+	DIVERSION TO	XWL75	310.	12.42	33.	9.	3.	.47
+	HYDROGRAPH AT	ERWL75	261.	12.67	40.	11.	4.	.47
+	3 COMBINED AT	CWL75	421.	12.83	95.	27.	9.	1.20
+	HYDROGRAPH AT	WWBR	266.	12.08	33.	9.	3.	.18
+	DIVERSION TO	XWWBR	266.	12.08	23.	6.	2.	.18
+	HYDROGRAPH AT	ERWWBR	139.	12.42	12.	3.	1.	.18
+	ROUTED TO	RWWRS	98.	12.58	12.	3.	1.	.18
+	HYDROGRAPH AT	WWRS	117.	12.25	21.	7.	2.	.14
+	DIVERSION TO	XWWRS	117.	12.25	13.	4.	1.	.14
+	HYDROGRAPH AT	ERWWRS	78.	12.58	11.	3.	1.	.14
+	2 COMBINED AT	CWWRS	175.	12.58	22.	6.	2.	.33
+	ROUTED TO	RJMRS	133.	12.83	22.	6.	2.	.33
+	HYDROGRAPH AT	JMRS	432.	12.33	90.	27.	9.	.57
+	DIVERSION TO	XJMRS	432.	12.33	71.	19.	6.	.57
+	HYDROGRAPH AT	ERJMRS	161.	13.17	26.	8.	3.	.57
+	2 COMBINED AT	CJMRS	245.	13.17	47.	14.	5.	.90
+	ROUTED TO	RHVRSB	184.	13.67	46.	14.	5.	.90
+	HYDROGRAPH AT	83RS	850.	12.17	114.	37.	12.	.64
+	DIVERSION TO	X83RS	850.	12.17	74.	21.	7.	.64
+	HYDROGRAPH AT	ER83RS	554.	12.33	55.	16.	5.	.64
+	ROUTED TO	RHVRSA	383.	12.67	53.	16.	5.	.64
+	HYDROGRAPH AT	HVRS	339.	12.42	86.	26.	9.	.63
+	DIVERSION TO	XHVRS	339.	12.42	73.	20.	7.	.63

+	HYDROGRAPH AT	ERHVRS	97.	13.75	21.	6.	2.	.63
+	3 COMBINED AT	CHVRS	380.	12.67	118.	36.	12.	2.16
+	ROUTED TO	RCL77B	325.	12.83	115.	35.	12.	2.16
+	HYDROGRAPH AT	HV83	40.	12.17	6.	2.	1.	.04
+	DIVERSION TO	XHV83	40.	12.17	4.	1.	0.	.04
+	HYDROGRAPH AT	ERHV83	19.	12.50	2.	1.	0.	.04
+	ROUTED TO	RCL77A	10.	12.92	2.	1.	0.	.04
+	HYDROGRAPH AT	CL77	233.	12.25	38.	11.	4.	.32
+	DIVERSION TO	XCL77	233.	12.25	37.	10.	3.	.32
+	HYDROGRAPH AT	ERCL77	10.	13.42	3.	1.	0.	.32
+	3 COMBINED AT	CCL77	333.	12.83	119.	37.	12.	2.51
+	ROUTED TO	RPP77	342.	12.92	118.	37.	12.	2.51
+	HYDROGRAPH AT	PP77	102.	12.50	31.	9.	3.	.27
+	DIVERSION TO	XPP77	102.	12.50	17.	4.	1.	.27
+	HYDROGRAPH AT	ERPP77	74.	13.17	16.	4.	1.	.27
+	2 COMBINED AT	CPP77	342.	12.92	133.	41.	14.	2.78
+	ROUTED TO	RWLNR	316.	14.17	131.	41.	14.	2.78
+	HYDROGRAPH AT	WLNR	270.	12.42	61.	19.	6.	.39
+	4 COMBINED AT	CNR04	1683.	12.75	602.	182.	61.	9.84
+	HYDROGRAPH AT	DV75	279.	12.50	81.	25.	8.	.50
+	DIVERSION TO	XDV75	279.	12.50	41.	11.	4.	.50
+	HYDROGRAPH AT	ERDV75	231.	12.92	49.	14.	5.	.50
+	DIVERSION TO	DSLO75	60.	12.92	13.	4.	1.	.50
+	HYDROGRAPH AT	DWDVNR	172.	12.92	35.	10.	3.	.50
+	ROUTED TO	RDVNR	158.	13.08	35.	10.	3.	.50
+	HYDROGRAPH AT	DVNR	223.	12.50	62.	19.	6.	.40
+	3 COMBINED AT	CNR05	1891.	13.08	689.	209.	70.	10.50
+	HYDROGRAPH AT	DV67	740.	12.08	82.	26.	9.	.50
+	ROUTED TO	SRDV67	515.	12.25	82.	26.	9.	.50
+	HYDROGRAPH AT	LO67	932.	12.42	201.	61.	20.	1.22
+	2 COMBINED AT	CLO67	1393.	12.33	281.	86.	29.	1.72

+	ROUTED TO	SRLO67	400.	13.33	242.	84.	34.	1.72
+	HYDROGRAPH AT	LO75	730.	12.42	165.	50.	17.	.97
+	DIVERSION TO	XLO75	694.	12.33	60.	17.	6.	.97
+	HYDROGRAPH AT	ERLO75	716.	12.50	121.	33.	11.	.97
+	2 COMBINED AT	CLO75	973.	12.58	361.	116.	45.	2.69
+	ROUTED TO	SRLO75	620.	13.42	346.	115.	45.	2.69
+	HYDROGRAPH AT	DRLO75	60.	12.92	13.	4.	1.	.50
+	ROUTED TO	RLO75	46.	13.58	13.	4.	1.	.50
+	2 COMBINED AT	CILO75	664.	13.50	358.	119.	46.	2.94
+	ROUTED TO	RBYNRB	662.	13.58	357.	119.	46.	2.94
+	HYDROGRAPH AT	PP81	180.	12.25	28.	8.	3.	.20
+	DIVERSION TO	XPP81	180.	12.25	25.	6.	2.	.20
+	HYDROGRAPH AT	ERPP81	28.	13.25	4.	1.	0.	.20
+	ROUTED TO	RWL83	19.	13.58	4.	1.	0.	.20
+	HYDROGRAPH AT	WL83	93.	12.42	28.	8.	3.	.13
+	DIVERSION TO	XWL83	89.	12.33	8.	2.	1.	.13
+	HYDROGRAPH AT	ERWL83	92.	12.50	22.	6.	2.	.13
+	2 COMBINED AT	CWL83	91.	12.50	25.	7.	2.	.32
+	HYDROGRAPH AT	HV87	464.	12.17	45.	14.	5.	.28
+	ROUTED TO	RPP87	413.	12.25	45.	14.	5.	.28
+	HYDROGRAPH AT	PP87	945.	12.25	118.	33.	11.	.98
+	DIVERSION TO	XPP87	945.	12.25	81.	21.	7.	.98
+	HYDROGRAPH AT	ERPP87	490.	12.58	44.	12.	4.	.98
+	2 COMBINED AT	CPP87	653.	12.50	86.	26.	9.	1.27
+	ROUTED TO	SRPP87	109.	13.17	79.	25.	8.	1.27
+	DIVERSION TO	DPPP87	109.	13.17	79.	25.	8.	1.27
+	HYDROGRAPH AT	DPP87	0.	.00	0.	0.	0.	1.27
+	HYDROGRAPH AT	PRPP87	109.	13.17	79.	25.	8.	1.27
+	ROUTED TO	RP87PP	109.	13.17	79.	25.	8.	1.27
+	HYDROGRAPH AT	PP91	76.	12.42	19.	5.	2.	.16
+	DIVERSION TO	XPP91	76.	12.42	15.	4.	1.	.16

+	HYDROGRAPH AT	ERPP91	26.	13.58	5.	2.	1.	.16
+	DIVERSION TO	DPP91	0.	.00	0.	0.	0.	.16
+	HYDROGRAPH AT	DPPP91	26.	13.58	5.	2.	1.	.16
+	2 COMBINED AT	CPPP87	134.	13.58	85.	28.	9.	.16
+	ROUTED TO	RPPP83	133.	13.67	85.	28.	9.	.16
+	2 COMBINED AT	CPPP83	131.	13.67	83.	27.	9.	1.43
+	ROUTED TO	SRPP83	23.	19.33	22.	18.	8.	1.43
+	DIVERSION TO	D83PP	0.	.00	0.	0.	0.	1.43
+	HYDROGRAPH AT	DP83PP	23.	19.33	22.	18.	8.	1.43
+	ROUTED TO	RP83WL	23.	19.50	22.	18.	8.	1.43
+	2 COMBINED AT	CPWL83	91.	12.50	40.	25.	10.	1.75
+	ROUTED TO	RDV83	88.	12.67	39.	24.	10.	1.75
+	HYDROGRAPH AT	DV83	67.	12.50	25.	7.	2.	.11
+	DIVERSION TO	XDV83	11.	11.67	3.	1.	0.	.11
+	HYDROGRAPH AT	ERDV83	67.	12.50	24.	6.	2.	.11
+	2 COMBINED AT	CDV83	154.	12.67	61.	31.	12.	.43
+	ROUTED TO	RBYNRA	140.	13.08	61.	31.	12.	.43
+	HYDROGRAPH AT	BYNR	715.	12.42	170.	51.	17.	1.03
+	DIVERSION TO	XBYNR	22.	10.00	14.	5.	2.	1.03
+	HYDROGRAPH AT	ERBYNR	715.	12.42	170.	47.	16.	1.03
+	4 COMBINED AT	CNR06	2831.	13.08	1196.	383.	137.	14.90
+	HYDROGRAPH AT	DR83PP	0.	.00	0.	0.	0.	1.43
+	ROUTED TO	RDV87	0.	.00	0.	0.	0.	1.43
+	HYDROGRAPH AT	DV87	1042.	12.33	155.	43.	14.	1.00
+	DIVERSION TO	XDV87	13.	10.58	8.	3.	1.	1.00
+	HYDROGRAPH AT	ERDV87	1042.	12.33	154.	40.	13.	1.00
+	2 COMBINED AT	CDV87	1037.	12.33	154.	40.	13.	2.27
+	ROUTED TO	RBY87	932.	12.50	153.	40.	13.	2.27
+	HYDROGRAPH AT	BY87	819.	12.42	184.	55.	18.	.96
+	DIVERSION TO	XBY87	819.	12.42	144.	39.	13.	.96
+	HYDROGRAPH AT	ERBY87	341.	13.25	55.	16.	5.	.96

+	2 COMBINED AT	CBY87	932.	12.50	204.	56.	19.	3.23
+	ROUTED TO	RUH87	801.	13.00	203.	56.	19.	3.23
+	HYDROGRAPH AT	UH87	903.	12.33	179.	52.	17.	1.00
+	DIVERSION TO	XUH87	903.	12.33	137.	36.	12.	1.00
+	HYDROGRAPH AT	ERUH87	383.	13.08	54.	15.	5.	1.00
+	2 COMBINED AT	CUH87	1163.	13.08	254.	70.	23.	4.23
+	DIVERSION TO	DSBL91	686.	13.08	150.	42.	14.	4.23
+	HYDROGRAPH AT	DSBLNR	477.	13.08	104.	29.	10.	4.23
+	DIVERSION TO	DUHNR	427.	13.08	70.	18.	6.	4.23
+	HYDROGRAPH AT	DPUHNR	50.	12.42	34.	11.	4.	4.23
+	ROUTED TO	RPUHNR	50.	12.50	33.	11.	4.	4.23
+	HYDROGRAPH AT	UHNR	251.	12.42	67.	21.	7.	.39
+	DIVERSION TO	XUHNR	7.	7.58	5.	1.	0.	.39
+	HYDROGRAPH AT	ERUHNR	251.	12.42	67.	20.	7.	.39
+	3 COMBINED AT	CNR07	3014.	13.08	1285.	411.	146.	15.29
+	HYDROGRAPH AT	DRUHNR	427.	13.08	70.	18.	6.	4.23
+	ROUTED TO	RBLNR	400.	13.17	70.	18.	6.	4.23
+	HYDROGRAPH AT	BLNR	451.	12.42	115.	37.	12.	.60
+	DIVERSION TO	XBLNR	22.	10.25	14.	5.	2.	.60
+	HYDROGRAPH AT	ERBLNR	451.	12.42	114.	32.	11.	.60
+	3 COMBINED AT	CNR08	3491.	13.08	1429.	451.	160.	17.63
+	HYDROGRAPH AT	RG93	148.	12.42	38.	11.	4.	.25
+	DIVERSION TO	XRG93	148.	12.42	37.	10.	3.	.25
+	HYDROGRAPH AT	ERRG93	6.	14.50	4.	1.	0.	.25
+	DIVERSION TO	DWRGLP	3.	14.50	0.	0.	0.	.25
+	HYDROGRAPH AT	DSBY91	6.	16.00	3.	1.	0.	.25
+	ROUTED TO	RBY91	5.	16.58	3.	1.	0.	.25
+	HYDROGRAPH AT	BY91	458.	12.25	73.	22.	7.	.50
+	DIVERSION TO	XBY91	458.	12.25	71.	19.	6.	.50
+	HYDROGRAPH AT	ERBY91	11.	13.50	6.	2.	1.	.50
+	2 COMBINED AT	CBY91	12.	16.58	9.	4.	1.	.63

+	ROUTED TO	RUH91	11.	17.92	9.	4.	1.	.63
+	HYDROGRAPH AT	UH91	378.	12.67	134.	41.	14.	.93
+	DIVERSION TO	XUH91	10.	7.58	7.	2.	1.	.93
+	HYDROGRAPH AT	ERUH91	378.	12.67	134.	39.	13.	.93
+	2 COMBINED AT	CUH91	377.	12.67	136.	42.	14.	1.55
+	HYDROGRAPH AT	DRBL91	686.	13.08	150.	42.	14.	4.23
+	DIVERSION TO	DPUH91	583.	13.00	146.	41.	14.	4.23
+	HYDROGRAPH AT	DUH91	103.	13.08	4.	1.	0.	4.23
+	2 COMBINED AT	CIUH91	446.	13.00	138.	43.	14.	4.04
+	ROUTED TO	RBL91	407.	13.17	138.	43.	14.	4.04
+	HYDROGRAPH AT	BL91	807.	12.42	191.	61.	20.	.90
+	DIVERSION TO	XBL91	807.	12.42	144.	40.	13.	.90
+	HYDROGRAPH AT	ERBL91	414.	13.08	70.	21.	7.	.90
+	2 COMBINED AT	CBL91	800.	13.08	203.	63.	21.	4.94
+	HYDROGRAPH AT	PRUH91	583.	13.00	146.	41.	14.	4.23
+	ROUTED TO	RP91AT	583.	13.08	146.	41.	14.	4.23
+	ROUTED TO	SRAT91	331.	13.75	146.	41.	14.	4.23
+	ROUTED TO	RP91BL	331.	13.83	146.	41.	14.	4.23
+	2 COMBINED AT	CPBL91	1005.	13.17	348.	103.	35.	4.94
+	DIVERSION TO	DSGW91	583.	13.17	202.	60.	20.	4.94
+	HYDROGRAPH AT	DSGWNR	422.	13.17	146.	43.	15.	4.94
+	DIVERSION TO	DBLNR	263.	13.17	44.	11.	4.	4.94
+	HYDROGRAPH AT	DPBLNR	159.	12.75	102.	32.	11.	4.94
+	ROUTED TO	RPBLNR	159.	12.83	102.	32.	11.	4.94
+	2 COMBINED AT	CPNR08	3650.	13.08	1527.	482.	170.	17.63
+	HYDROGRAPH AT	DRBLNR	263.	13.17	44.	11.	4.	4.94
+	ROUTED TO	RGWNRB	208.	13.83	44.	11.	4.	4.94
+	HYDROGRAPH AT	DRGW91	583.	13.17	202.	60.	20.	4.94
+	ROUTED TO	RGW91	551.	13.42	201.	60.	20.	4.94
+	HYDROGRAPH AT	GW91	402.	12.33	87.	27.	9.	.48
+	DIVERSION TO	XGW91	402.	12.33	39.	11.	4.	.48

+	HYDROGRAPH AT	ERGW91	375.	12.50	58.	16.	5.	.48
+	2 COMBINED AT	CGW91	656.	13.42	258.	76.	25.	3.35
+	DIVERSION TO	DSTBNR	0.	.00	0.	0.	0.	3.35
+	HYDROGRAPH AT	DEGWNR	656.	13.42	258.	76.	25.	3.35
+	ROUTED TO	RGWNRA	643.	13.67	256.	76.	25.	3.35
+	HYDROGRAPH AT	GWNR	415.	12.42	113.	35.	12.	.70
+	DIVERSION TO	XGWNR	415.	12.42	47.	13.	4.	.70
+	HYDROGRAPH AT	ERGWNR	390.	12.67	78.	22.	7.	.70
+	5 COMBINED AT	CNR09	10346.	13.33	5281.	1640.	563.	59.13
+	HYDROGRAPH AT	DRTBNR	0.	.00	0.	0.	0.	3.35
+	ROUTED TO	RTBNR	0.	.00	0.	0.	0.	3.35
+	HYDROGRAPH AT	TBNR	749.	12.50	174.	53.	18.	1.12
+	DIVERSION TO	XTBNR	80.	11.83	23.	8.	3.	1.12
+	HYDROGRAPH AT	ERTBNR	749.	12.50	167.	45.	15.	1.12
+	3 COMBINED AT	CNR10	10594.	13.25	5400.	1672.	573.	61.93
+	HYDROGRAPH AT	HV93	185.	12.17	25.	8.	3.	.17
+	DIVERSION TO	DWHVLP	78.	12.17	10.	3.	1.	.17
+	HYDROGRAPH AT	DSPPLP	107.	12.17	14.	4.	1.	.17
+	ROUTED TO	RPPLPA	82.	12.50	14.	4.	1.	.17
+	HYDROGRAPH AT	DRPP91	0.	.00	0.	0.	0.	.16
+	ROUTED TO	RPPLPB	0.	.00	0.	0.	0.	.16
+	HYDROGRAPH AT	PPLP	543.	12.42	140.	44.	15.	.88
+	DIVERSION TO	XPPLP	543.	12.42	82.	23.	8.	.88
+	HYDROGRAPH AT	ERPPLP	394.	12.92	73.	21.	7.	.88
+	3 COMBINED AT	CPPLP	440.	12.92	86.	25.	8.	1.15
+	DIVERSION TO	DWPP03	440.	12.92	86.	25.	8.	1.15
+	HYDROGRAPH AT	DSDV99	0.	.00	0.	0.	0.	1.15
+	DIVERSION TO	DSDVLP	0.	.00	0.	0.	0.	1.15
+	HYDROGRAPH AT	DDV99	0.	.00	0.	0.	0.	1.15
+	HYDROGRAPH AT	DV99	1014.	12.33	161.	47.	16.	1.22
+	DIVERSION TO	XDV99	1014.	12.33	154.	41.	14.	1.22

+	HYDROGRAPH AT	ERDV99	62.	13.75	19.	6.	2.	1.22
+	2 COMBINED AT	CDV99	62.	13.75	19.	6.	2.	1.22
+	ROUTED TO	RRGLPA	50.	13.92	18.	6.	2.	1.22
+	HYDROGRAPH AT	DRRGLP	3.	14.50	0.	0.	0.	.25
+	ROUTED TO	RRGLPB	1.	15.42	0.	0.	0.	.25
+	HYDROGRAPH AT	RGLP	254.	12.42	69.	22.	7.	.41
+	DIVERSION TO	XRGLP	254.	12.42	68.	19.	6.	.41
+	HYDROGRAPH AT	ERRGLP	12.	16.08	7.	3.	1.	.41
+	3 COMBINED AT	CRGLP	50.	13.92	23.	9.	3.	1.75
+	DIVERSION TO	DWRG07	40.	13.92	19.	7.	2.	1.75
+	HYDROGRAPH AT	DSBY07	10.	13.92	5.	2.	1.	1.75
+	ROUTED TO	RBY99	8.	14.50	5.	2.	1.	1.75
+	HYDROGRAPH AT	BY07	451.	12.33	88.	27.	9.	.51
+	DIVERSION TO	XBY07	451.	12.33	72.	20.	7.	.51
+	HYDROGRAPH AT	ERBY07	143.	13.08	25.	8.	3.	.51
+	2 COMBINED AT	CBY07	140.	13.08	29.	9.	3.	1.39
+	DIVERSION TO	DWBYAF	132.	13.08	29.	9.	3.	1.39
+	HYDROGRAPH AT	DSUH99	8.	13.08	0.	0.	0.	1.39
+	ROUTED TO	RUH99	3.	13.50	0.	0.	0.	1.39
+	HYDROGRAPH AT	UH99	316.	12.67	106.	32.	11.	.56
+	2 COMBINED AT	CUH99	314.	12.67	106.	32.	11.	1.26
+	ROUTED TO	RDW99A	313.	12.75	106.	32.	11.	1.26
+	HYDROGRAPH AT	UH97	143.	12.50	42.	13.	4.	.27
+	ROUTED TO	RDW99B	138.	12.83	42.	13.	4.	.27
+	HYDROGRAPH AT	DW99	112.	12.42	29.	9.	3.	.16
+	3 COMBINED AT	CDW99	542.	12.67	176.	53.	18.	1.68
+	DIVERSION TO	DWDW07	539.	12.67	176.	53.	18.	1.68
+	HYDROGRAPH AT	DSBL99	3.	12.67	0.	0.	0.	1.68
+	ROUTED TO	RBL99	1.	13.08	0.	0.	0.	1.68
+	HYDROGRAPH AT	BL99	813.	12.50	202.	61.	21.	1.13
+	2 COMBINED AT	CBL99	811.	12.50	201.	61.	20.	1.98

+	ROUTED TO	RBN99	799.	12.58	201.	61.	20.	1.98
+	HYDROGRAPH AT	BN99	759.	12.42	176.	53.	18.	1.04
+	2 COMBINED AT	CBN99	1541.	12.50	375.	114.	38.	3.01
+	ROUTED TO	RTB99	1487.	12.75	375.	114.	38.	3.01
+	HYDROGRAPH AT	TB99	596.	12.50	158.	47.	16.	.98
+	2 COMBINED AT	CTB99	2046.	12.67	532.	161.	54.	3.99
+	ROUTED TO	RGRNRA	2018.	12.75	531.	161.	54.	3.99
+	HYDROGRAPH AT	DRDW07	539.	12.67	176.	53.	18.	1.68
+	ROUTED TO	RDW07	531.	12.92	176.	53.	18.	1.68
+	HYDROGRAPH AT	DW07	261.	12.58	80.	24.	8.	.48
+	2 COMBINED AT	CDW07	775.	12.83	255.	76.	26.	1.33
+	DIVERSION TO	DWBL15	550.	12.50	230.	70.	24.	1.33
+	HYDROGRAPH AT	DSTL07	225.	12.83	25.	6.	2.	1.33
+	ROUTED TO	RTL07	191.	13.25	25.	6.	2.	1.33
+	HYDROGRAPH AT	TL07	311.	12.50	85.	26.	9.	.58
+	2 COMBINED AT	CTL07	376.	13.17	110.	32.	11.	1.24
+	ROUTED TO	RGR99A	342.	13.58	110.	32.	11.	1.24
+	HYDROGRAPH AT	RO99	181.	12.67	69.	22.	7.	.41
+	ROUTED TO	RGR99B	181.	12.67	69.	22.	7.	.41
+	HYDROGRAPH AT	GR99	647.	12.75	246.	77.	26.	1.31
+	3 COMBINED AT	CGR99	1084.	12.92	422.	129.	43.	2.97
+	ROUTED TO	RGRNRB	1080.	12.92	422.	129.	43.	2.97
+	HYDROGRAPH AT	GRNR	857.	12.33	176.	56.	19.	.95
+	DIVERSION TO	XGRNR	58.	11.33	27.	9.	3.	.95
+	HYDROGRAPH AT	ERGRNR	857.	12.33	170.	47.	16.	.95
+	4 COMBINED AT	CNR11	13221.	12.92	6301.	1945.	665.	69.83
+	HYDROGRAPH AT	PE99	98.	12.83	45.	14.	5.	.29
+	DIVERSION TO	DSOL99	29.	12.83	13.	4.	1.	.29
+	HYDROGRAPH AT	DEPE97	68.	12.83	31.	10.	3.	.29
+	ROUTED TO	RPE97	68.	13.00	31.	10.	3.	.29
+	HYDROGRAPH AT	PENR	147.	12.42	43.	14.	5.	.20

+	DIVERSION TO	XPENR	55.	12.00	11.	3.	1.	.20
+	HYDROGRAPH AT	ERPENR	147.	12.42	39.	11.	4.	.20
+	DIVERSION TO	DSOLNR	65.	12.42	17.	5.	2.	.20
+	HYDROGRAPH AT	DWPE99	83.	12.42	22.	6.	2.	.20
+	HYDROGRAPH AT	PE97	311.	12.42	85.	26.	9.	.56
+	DIVERSION TO	XPE97	4.	3.25	2.	0.	0.	.56
+	HYDROGRAPH AT	ERPE97	311.	12.42	85.	25.	8.	.56
+	4 COMBINED AT	CNR12	13525.	12.92	6410.	1979.	676.	70.71
+	HYDROGRAPH AT	DROL99	29.	12.83	13.	4.	1.	.29
+	ROUTED TO	ROL99A	27.	13.50	13.	4.	1.	.29
+	HYDROGRAPH AT	PE11	407.	12.75	148.	45.	15.	.92
+	ROUTED TO	ROL03A	398.	12.92	148.	45.	15.	.92
+	HYDROGRAPH AT	PE07	253.	12.58	82.	24.	8.	.57
+	ROUTED TO	ROL03B	245.	12.92	82.	24.	8.	.57
+	HYDROGRAPH AT	PE03	195.	12.50	61.	18.	6.	.41
+	ROUTED TO	ROL03C	188.	12.92	60.	18.	6.	.41
+	HYDROGRAPH AT	OL03	622.	12.58	177.	54.	18.	1.10
+	4 COMBINED AT	COL03	1372.	12.83	461.	140.	47.	3.01
+	ROUTED TO	ROL99B	1372.	12.83	461.	140.	47.	3.01
+	HYDROGRAPH AT	DROLNR	65.	12.42	17.	5.	2.	.20
+	ROUTED TO	ROLNR	58.	13.08	17.	5.	2.	.20
+	HYDROGRAPH AT	OLNR	355.	12.75	130.	40.	13.	.70
+	DIVERSION TO	XOLNR	355.	12.75	57.	16.	5.	.70
+	HYDROGRAPH AT	EROLNR	337.	13.00	88.	24.	8.	.70
+	2 COMBINED AT	COLNR	392.	13.00	104.	29.	10.	.78
+	DIVERSION TO	DSNONR	129.	13.00	34.	10.	3.	.78
+	HYDROGRAPH AT	DWOL99	262.	13.00	70.	19.	6.	.78
+	HYDROGRAPH AT	OL99	212.	12.50	62.	19.	6.	.44
+	5 COMBINED AT	CNR13	14798.	12.92	6892.	2126.	726.	74.76
+	HYDROGRAPH AT	DRNONR	129.	13.00	34.	10.	3.	.78
+	ROUTED TO	RNONR	110.	13.75	33.	10.	3.	.78

+	HYDROGRAPH AT	NONR	450.	12.67	165.	51.	17.	.83
+	DIVERSION TO	XNONR	450.	12.67	87.	24.	8.	.83
+	HYDROGRAPH AT	ERNONR	380.	13.25	96.	27.	9.	.83
+	2 COMBINED AT	CNONR	391.	13.58	129.	36.	12.	1.09
+	HYDROGRAPH AT	NO99	367.	12.67	122.	37.	12.	.86
+	DIVERSION TO	XNO99	367.	12.67	47.	13.	4.	.86
+	HYDROGRAPH AT	ERNO99	356.	12.83	88.	24.	8.	.86
+	3 COMBINED AT	CNR14	14918.	12.92	7035.	2168.	740.	76.71
+	HYDROGRAPH AT	GL03	492.	12.42	137.	46.	16.	.65
+	DIVERSION TO	XGL03	492.	12.42	87.	25.	8.	.65
+	HYDROGRAPH AT	ERGL03	361.	12.92	72.	21.	7.	.65
+	2 COMBINED AT	CNR15	15036.	13.08	7079.	2183.	745.	77.36
+	HYDROGRAPH AT	GLGH	86.	12.25	20.	7.	2.	.08
+	ROUTED TO	RGHNR	74.	12.75	20.	7.	2.	.08
+	HYDROGRAPH AT	GHNR	506.	12.50	144.	47.	16.	.84
+	DIVERSION TO	XGHNR	43.	11.25	22.	7.	2.	.84
+	HYDROGRAPH AT	ERGHNR	506.	12.50	141.	39.	13.	.84
+	3 COMBINED AT	CNR16	15361.	13.08	7208.	2220.	757.	78.28
+	HYDROGRAPH AT	AF11	507.	12.17	85.	29.	10.	.38
+	HYDROGRAPH AT	GHAF	572.	12.25	125.	43.	14.	.56
+	DIVERSION TO	XGHAF	572.	12.25	84.	24.	8.	.56
+	HYDROGRAPH AT	ERGHAF	364.	12.67	62.	19.	6.	.56
+	3 COMBINED AT	CAF06	15577.	12.92	7308.	2257.	770.	79.22
+	HYDROGRAPH AT	JMAF	131.	12.25	22.	6.	2.	.15
+	DIVERSION TO	XJMAF	131.	12.25	11.	3.	1.	.15
+	HYDROGRAPH AT	ERJMAF	109.	12.42	13.	4.	1.	.15
+	HYDROGRAPH AT	HV07	377.	12.17	45.	14.	5.	.30
+	DIVERSION TO	XHV07	354.	12.08	24.	7.	2.	.30
+	HYDROGRAPH AT	ERHV07	334.	12.25	26.	7.	2.	.30
+	ROUTED TO	RHVAF	226.	12.50	26.	7.	2.	.30
+	HYDROGRAPH AT	HVAF	246.	12.17	32.	10.	3.	.22

+	DIVERSION TO	XHVAF	246.	12.17	23.	6.	2.	.22
+	HYDROGRAPH AT	ERHVAF	130.	12.50	13.	4.	1.	.22
+	HYDROGRAPH AT	JM99	605.	12.33	126.	37.	12.	.57
+	DIVERSION TO	XJM99	605.	12.33	80.	22.	7.	.57
+	HYDROGRAPH AT	ERJM99	377.	12.75	55.	15.	5.	.57
+	HYDROGRAPH AT	WWLP	262.	12.08	27.	8.	3.	.14
+	DIVERSION TO	XWWLP	259.	12.08	19.	5.	2.	.14
+	HYDROGRAPH AT	ERWWLP	154.	12.17	12.	3.	1.	.14
+	ROUTED TO	RJMLP	81.	12.58	11.	3.	1.	.14
+	HYDROGRAPH AT	JMLP	672.	12.33	122.	37.	12.	.70
+	DIVERSION TO	XJMLP	672.	12.33	93.	25.	8.	.70
+	HYDROGRAPH AT	ERJMLP	273.	12.92	41.	12.	4.	.70
+	3 COMBINED AT	CJMLP	632.	12.83	105.	30.	10.	1.41
+	ROUTED TO	RHV01A	545.	13.08	104.	30.	10.	1.41
+	HYDROGRAPH AT	YLLP	459.	12.33	91.	28.	9.	.60
+	DIVERSION TO	XYLLP	217.	12.08	23.	7.	2.	.60
+	HYDROGRAPH AT	ERYLLP	459.	12.33	78.	21.	7.	.60
+	ROUTED TO	RHV01B	447.	12.42	78.	21.	7.	.60
+	HYDROGRAPH AT	DRHVLP	78.	12.17	10.	3.	1.	.17
+	ROUTED TO	RHVLP	69.	12.33	10.	3.	1.	.17
+	HYDROGRAPH AT	HVLP	156.	12.25	35.	11.	4.	.20
+	DIVERSION TO	XHVLP	156.	12.25	16.	5.	2.	.20
+	HYDROGRAPH AT	ERHVLP	146.	12.42	24.	7.	2.	.20
+	2 COMBINED AT	CHVLP	210.	12.42	34.	10.	3.	.27
+	ROUTED TO	RHV01C	208.	12.50	34.	10.	3.	.27
+	HYDROGRAPH AT	HV01	446.	12.25	86.	28.	9.	.44
+	DIVERSION TO	XHV01	446.	12.25	52.	15.	5.	.44
+	HYDROGRAPH AT	ERHV01	323.	12.58	45.	13.	4.	.44
+	4 COMBINED AT	CHV01	961.	13.00	254.	74.	25.	2.72
+	ROUTED TO	RCL07	910.	13.08	252.	74.	25.	2.72
+	ROUTED TO	RCLAFA	902.	13.17	251.	74.	25.	2.72

+	HYDROGRAPH AT	CL07	346.	12.33	76.	23.	8.	.52
+	DIVERSION TO	XCL07	346.	12.33	58.	16.	5.	.52
+	HYDROGRAPH AT	ERCL07	148.	13.17	25.	7.	2.	.52
+	DIVERSION TO	DSPP03	18.	13.17	3.	1.	0.	.52
+	HYDROGRAPH AT	DWCLAF	130.	13.17	22.	6.	2.	.52
+	ROUTED TO	RCLAFB	109.	13.42	21.	6.	2.	.52
+	HYDROGRAPH AT	CLAF	206.	12.33	40.	12.	4.	.29
+	DIVERSION TO	XCLAF	206.	12.33	19.	5.	2.	.29
+	HYDROGRAPH AT	ERCLAF	183.	12.50	25.	7.	2.	.29
+	3 COMBINED AT	CCLAF	978.	13.17	294.	86.	29.	3.47
+	4 COMBINED AT	CAF01	1189.	12.67	343.	100.	33.	4.13
+	HYDROGRAPH AT	DR03PP	440.	12.92	86.	25.	8.	1.15
+	ROUTED TO	RPP03B	383.	13.00	85.	25.	8.	1.15
+	HYDROGRAPH AT	DRPP03	18.	13.17	3.	1.	0.	.52
+	ROUTED TO	RPP03A	13.	13.58	3.	1.	0.	.52
+	HYDROGRAPH AT	PP03	120.	12.58	39.	11.	4.	.32
+	DIVERSION TO	XPP03	68.	12.25	6.	2.	1.	.32
+	HYDROGRAPH AT	ERPP03	120.	12.58	36.	9.	3.	.32
+	3 COMBINED AT	CPP03	488.	13.00	123.	35.	12.	1.53
+	DIVERSION TO	DSDV07	0.	.00	0.	0.	0.	1.53
+	HYDROGRAPH AT	DWPP07	488.	13.00	123.	35.	12.	1.53
+	ROUTED TO	RPP07	474.	13.17	123.	35.	12.	1.53
+	HYDROGRAPH AT	PP07	148.	12.25	25.	7.	2.	.19
+	DIVERSION TO	XPP07	130.	12.17	7.	2.	1.	.19
+	HYDROGRAPH AT	ERPP07	146.	12.33	19.	5.	2.	.19
+	2 COMBINED AT	CPP07	511.	13.17	141.	40.	13.	1.73
+	ROUTED TO	RPPAF	508.	13.17	141.	40.	13.	1.73
+	HYDROGRAPH AT	PPAF	426.	12.08	63.	22.	7.	.27
+	2 COMBINED AT	CPPAF	547.	13.17	196.	61.	20.	2.00
+	HYDROGRAPH AT	DVAF	330.	12.33	54.	15.	5.	.41
+	DIVERSION TO	XDVAF	320.	12.25	22.	6.	2.	.41

+	HYDROGRAPH AT	ERDVAF	313.	12.42	35.	9.	3.	.41
+	2 COMBINED AT	CAF02	651.	12.42	229.	70.	23.	2.41
+	HYDROGRAPH AT	DRDV07	0.	.00	0.	0.	0.	1.53
+	ROUTED TO	RDV07	0.	.00	0.	0.	0.	1.53
+	HYDROGRAPH AT	DV07	430.	12.42	96.	29.	10.	.64
+	DIVERSION TO	XDV07	430.	12.42	86.	23.	8.	.64
+	HYDROGRAPH AT	ERDV07	77.	13.83	17.	6.	2.	.64
+	2 COMBINED AT	CDV07	77.	13.83	17.	6.	2.	.65
+	ROUTED TO	RRG07A	66.	14.00	17.	6.	2.	.65
+	HYDROGRAPH AT	DRRG07	40.	13.92	19.	7.	2.	1.75
+	ROUTED TO	RRG07C	33.	14.25	18.	7.	2.	1.75
+	HYDROGRAPH AT	DRDVLP	0.	.00	0.	0.	0.	1.15
+	ROUTED TO	RDVLP	0.	.00	0.	0.	0.	1.15
+	HYDROGRAPH AT	DVLP	65.	12.50	22.	7.	2.	.14
+	DIVERSION TO	XDVLP	65.	12.50	16.	4.	1.	.14
+	HYDROGRAPH AT	ERDVLP	32.	13.67	9.	3.	1.	.14
+	2 COMBINED AT	CDVLP	32.	13.67	9.	3.	1.	.14
+	ROUTED TO	RRG07B	27.	14.17	9.	3.	1.	.14
+	HYDROGRAPH AT	RG07	193.	12.50	56.	17.	6.	.35
+	DIVERSION TO	XRG07	193.	12.50	56.	17.	6.	.35
+	HYDROGRAPH AT	ERRG07	0.	.00	0.	0.	0.	.35
+	4 COMBINED AT	CRG07	111.	14.17	43.	15.	5.	2.01
+	ROUTED TO	RRGAF	102.	14.33	42.	15.	5.	2.01
+	HYDROGRAPH AT	RGAF	171.	12.50	46.	13.	4.	.33
+	DIVERSION TO	XRGAF	171.	12.50	20.	5.	2.	.33
+	HYDROGRAPH AT	ERRGAF	150.	12.83	29.	7.	2.	.33
+	2 COMBINED AT	CRGAF	148.	12.83	67.	22.	7.	2.34
+	HYDROGRAPH AT	DRBYAF	132.	13.08	29.	9.	3.	1.39
+	ROUTED TO	RBY07	115.	13.42	28.	9.	3.	1.39
+	ROUTED TO	RBYAF	86.	13.92	27.	9.	3.	1.39
+	HYDROGRAPH AT	BYAF	368.	12.42	95.	29.	10.	.61

+	DIVERSION TO	XBYAF	368.	12.42	48.	13.	4.	.61
+	HYDROGRAPH AT	ERBYAF	315.	12.75	56.	16.	5.	.61
+	2 COMBINED AT	CBYAF	313.	12.75	82.	25.	8.	1.30
+	HYDROGRAPH AT	UHAF	138.	12.75	51.	14.	5.	.49
+	DIVERSION TO	XUHAF	138.	12.75	38.	10.	3.	.49
+	HYDROGRAPH AT	ERUHAF	60.	14.25	16.	5.	2.	.49
+	3 COMBINED AT	CAF03	437.	12.83	160.	51.	17.	4.13
+	HYDROGRAPH AT	UH07	88.	12.67	34.	10.	3.	.25
+	ROUTED TO	RUH11	87.	12.75	34.	10.	3.	.25
+	ROUTED TO	RUH15	87.	12.92	34.	10.	3.	.25
+	HYDROGRAPH AT	UH15	859.	12.42	193.	61.	20.	1.02
+	DIVERSION TO	XUH15	859.	12.42	115.	32.	11.	1.02
+	HYDROGRAPH AT	ERUH15	656.	12.75	101.	29.	10.	1.02
+	2 COMBINED AT	CUH15	739.	12.75	133.	39.	13.	1.27
+	ROUTED TO	RBL15B	584.	13.08	131.	39.	13.	1.27
+	HYDROGRAPH AT	DRBL15	550.	12.50	230.	70.	24.	1.33
+	ROUTED TO	RBL15A	550.	12.83	230.	70.	24.	1.33
+	HYDROGRAPH AT	BL15	655.	12.42	142.	43.	14.	.96
+	DIVERSION TO	XBL15	655.	12.42	67.	19.	6.	.96
+	HYDROGRAPH AT	ERBL15	561.	12.67	88.	24.	8.	.96
+	3 COMBINED AT	CBL15	1458.	13.08	441.	132.	44.	2.90
+	ROUTED TO	RMEAF	1365.	13.25	441.	132.	44.	2.90
+	HYDROGRAPH AT	MEAF	1057.	12.33	217.	67.	22.	1.37
+	DIVERSION TO	XMEAF	793.	12.17	66.	20.	7.	1.37
+	HYDROGRAPH AT	ERMEAF	1057.	12.33	174.	48.	16.	1.37
+	2 COMBINED AT	CMEAF	1771.	12.75	612.	179.	60.	4.27
+	HYDROGRAPH AT	BLAF	75.	12.83	33.	10.	3.	.28
+	DIVERSION TO	XBLAF	75.	12.83	29.	8.	3.	.28
+	HYDROGRAPH AT	ERBLAF	22.	15.50	8.	2.	1.	.28
+	HYDROGRAPH AT	GRAF	502.	12.58	162.	49.	16.	.86
+	DIVERSION TO	XGRAF	16.	9.00	11.	4.	1.	.86

+	HYDROGRAPH AT	ERGRAF	502.	12.58	162.	46.	15.	.86
+	HYDROGRAPH AT	PEAF	537.	12.25	95.	31.	10.	.53
+	4 COMBINED AT	CAF04	2503.	12.75	860.	256.	86.	5.94
+	HYDROGRAPH AT	OL11	220.	12.33	44.	13.	4.	.34
+	DIVERSION TO	XOL11	9.	11.17	4.	1.	0.	.34
+	HYDROGRAPH AT	EROL11	220.	12.33	43.	12.	4.	.34
+	ROUTED TO	RNO11	210.	12.58	43.	12.	4.	.34
+	HYDROGRAPH AT	NO11	841.	12.25	158.	51.	17.	.86
+	DIVERSION TO	XNO11	180.	11.83	35.	12.	4.	.86
+	HYDROGRAPH AT	ERNO11	841.	12.25	144.	40.	13.	.86
+	2 COMBINED AT	CNO11	973.	12.33	187.	51.	17.	1.20
+	ROUTED TO	RGL14A	828.	12.92	180.	51.	17.	1.20
+	HYDROGRAPH AT	NO07	199.	12.42	50.	15.	5.	.34
+	DIVERSION TO	XNO07	197.	12.42	19.	5.	2.	.34
+	HYDROGRAPH AT	ERNO07	189.	12.58	35.	10.	3.	.34
+	ROUTED TO	RGL11	164.	13.00	35.	10.	3.	.34
+	HYDROGRAPH AT	GL11	328.	12.42	85.	28.	9.	.43
+	DIVERSION TO	XGL11	328.	12.42	70.	20.	7.	.43
+	HYDROGRAPH AT	ERGL11	120.	13.42	27.	9.	3.	.43
+	2 COMBINED AT	CGL11	230.	13.42	61.	18.	6.	.77
+	ROUTED TO	RGL14B	191.	13.75	60.	18.	6.	.77
+	HYDROGRAPH AT	GL14	468.	12.25	110.	38.	13.	.48
+	3 COMBINED AT	CGL14	1056.	12.83	335.	105.	36.	2.45
+	ROUTED TO	RGLAF	1022.	13.00	334.	105.	36.	2.45
+	HYDROGRAPH AT	GLAF	294.	12.33	87.	30.	10.	.39
+	DIVERSION TO	XGLAF	17.	8.92	12.	4.	1.	.39
+	HYDROGRAPH AT	ERGLAF	294.	12.33	87.	27.	9.	.39
+	2 COMBINED AT	CGLAF	1206.	13.00	416.	132.	44.	2.83
+	HYDROGRAPH AT	OLAF	447.	12.58	136.	41.	14.	1.03
+	DIVERSION TO	XOLAF	447.	12.58	70.	19.	6.	1.03
+	HYDROGRAPH AT	EROLAF	382.	13.00	79.	22.	7.	1.03

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          HYDROGRAPH AT
+                        NOAF       158.   12.50          34.         10.          3.         .28

          3 COMBINED AT
+                        CAF05      1675.  13.00          523.        163.         55.        4.15
1
                                        SUMMARY OF KINEMATIC WAVE - MUSKINGUM-CUNGE ROUTING
                                           (FLOW IS DIRECT RUNOFF WITHOUT BASE FLOW)
                                                                                  INTERPOLATED TO
                                                                                  COMPUTATION INTERVAL
             ISTAQ     ELEMENT      DT        PEAK     TIME TO      VOLUME      DT        PEAK     TIME TO      VOLUME
                                                          PEAK                                        PEAK

                                    (MIN)      (CFS)      (MIN)       (IN)      (MIN)      (CFS)      (MIN)       (IN)

            FOR STORM = 1  STORM AREA (SQ MI) =          .00
              RP35GW  MANE          2.73     158.00     720.72        .80       5.00     158.00     725.00         .80

 CONTINUITY SUMMARY (AC-FT) - INFLOW= .7267E+02 EXCESS= .0000E+00 OUTFLOW= .7269E+02 BASIN STORAGE= .2335E-09 PERCENT ERROR=    .0

            FOR STORM = 2  STORM AREA (SQ MI) =        10.00
              RP35GW  MANE          2.80     158.00     721.73        .77       5.00     158.00     725.00         .77

 CONTINUITY SUMMARY (AC-FT) - INFLOW= .7004E+02 EXCESS= .0000E+00 OUTFLOW= .7005E+02 BASIN STORAGE= .2582E-09 PERCENT ERROR=    .0

            FOR STORM = 3  STORM AREA (SQ MI) =        30.00
              RP35GW  MANE          2.67     158.00     860.59        .74       5.00     158.00     860.00         .74

 CONTINUITY SUMMARY (AC-FT) - INFLOW= .6733E+02 EXCESS= .0000E+00 OUTFLOW= .6736E+02 BASIN STORAGE= .3097E-09 PERCENT ERROR=    .0

            FOR STORM = 4  STORM AREA (SQ MI) =        60.00
              RP35GW  MANE          2.71     158.00     726.72        .72       5.00     158.00     730.00         .72

 CONTINUITY SUMMARY (AC-FT) - INFLOW= .6566E+02 EXCESS= .0000E+00 OUTFLOW= .6567E+02 BASIN STORAGE= .3021E-09 PERCENT ERROR=    .0

            FOR STORM = 5  STORM AREA (SQ MI) =        90.00
              RP35GW  MANE          2.74     158.00     726.01        .71       5.00     158.00     730.00         .71

 CONTINUITY SUMMARY (AC-FT) - INFLOW= .6469E+02 EXCESS= .0000E+00 OUTFLOW= .6471E+02 BASIN STORAGE= .2959E-09 PERCENT ERROR=    .0

            FOR STORM = 6  STORM AREA (SQ MI) =       120.00
              RP35GW  MANE          2.73     158.00     726.64        .71       5.00     158.00     730.00         .71

 CONTINUITY SUMMARY (AC-FT) - INFLOW= .6411E+02 EXCESS= .0000E+00 OUTFLOW= .6412E+02 BASIN STORAGE= .2501E-09 PERCENT ERROR=    .0

            FOR STORM = 1  STORM AREA (SQ MI) =          .00
              RP35TB  MANE          2.31     318.00     725.79       1.83       5.00     318.00     730.00        1.83

 CONTINUITY SUMMARY (AC-FT) - INFLOW= .1545E+03 EXCESS= .0000E+00 OUTFLOW= .1545E+03 BASIN STORAGE= .9664E-09 PERCENT ERROR=    .0

            FOR STORM = 2  STORM AREA (SQ MI) =        10.00
              RP35TB  MANE          2.35     318.00     730.15       1.77       5.00     318.00     735.00        1.77

 CONTINUITY SUMMARY (AC-FT) - INFLOW= .1492E+03 EXCESS= .0000E+00 OUTFLOW= .1492E+03 BASIN STORAGE= .1205E-08 PERCENT ERROR=    .0

            FOR STORM = 3  STORM AREA (SQ MI) =        30.00
              RP35TB  MANE          2.26     318.00     731.01       1.71       5.00     318.00     735.00        1.71

 CONTINUITY SUMMARY (AC-FT) - INFLOW= .1439E+03 EXCESS= .0000E+00 OUTFLOW= .1439E+03 BASIN STORAGE= .1175E-08 PERCENT ERROR=    .0

            FOR STORM = 4  STORM AREA (SQ MI) =        60.00
              RP35TB  MANE          2.29     318.00     729.78       1.67       5.00     318.00     730.00        1.67

   *** The remainder of the continuity summary has been deleted for brevity, but the entire output is included on the CD ***

 *** NORMAL END OF HEC-1 ***
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1*************************************
*                                   *
*   FLOOD HYDROGRAPH PACKAGE  (HEC-1)   *
*             JUN  1998             *
*          VERSION 4.1              *
*                                   *
*  RUN DATE   01NOV10  TIME  11:12:12   *
*                                   *
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*                                   *
*    U.S. ARMY CORPS OF ENGINEERS     *
*    HYDROLOGIC ENGINEERING CENTER    *
*         609 SECOND STREET           *
*       DAVIS, CALIFORNIA 95616       *
*           (916) 756-1104            *
*                                   *
*************************************
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X     X  XXXXXXX   XXXXX          X
X     X  X       X     X        XX
X     X  X       X              X
XXXXXXX  XXXX    X        XXXXX X
X     X  X       X              X
X     X  X       X     X        X
X     X  XXXXXXX   XXXXX        XXX
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THIS PROGRAM REPLACES ALL PREVIOUS VERSIONS OF HEC-1 KNOWN AS HEC1 (JAN 73), HEC1GS, HEC1DB, AND HEC1KW.

THE DEFINITIONS OF VARIABLES -RTIMP- AND -RTIOR- HAVE CHANGED FROM THOSE USED WITH THE 1973-STYLE INPUT STRUCTURE.
THE DEFINITION OF -AMSKK- ON RM-CARD WAS CHANGED WITH REVISIONS DATED 28 SEP 81. THIS IS THE FORTRAN77 VERSION
NEW OPTIONS: DAMBREAK OUTFLOW SUBMERGENCE , SINGLE EVENT DAMAGE CALCULATION, DSS:WRITE STAGE FREQUENCY,
DSS:READ TIME SERIES AT DESIRED CALCULATION INTERVAL LOSS RATE:GREEN AND AMPT INFILTRATION
KINEMATIC WAVE: NEW FINITE DIFFERENCE ALGORITHM

1 HEC-1 INPUT PAGE 1

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LINE          ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10
    1         ID      GLENDALE STORMWATER MANAGEMENT PLAN
    2         ID      Model for Maryvale Watershed
    3         ID      Future Conditions
    4         ID
    5         ID      Prepared for the City of Glendale
    6         ID      In Association with the Flood Control District of Maricopa County
    7         ID      City Project Number 089017
    8         ID
    9         ID      Prepared by Kimley-Horn and Associates, Inc.
   10         ID      KHA Project Number 091910009
   11         ID      October 2010
   12         ID
   13         ID      MODELING PARAMETERS
   14         ID      - 10 Year  6 Hour Storm Event
   15         ID      - NOAA 14 Rainfall Data
   16         ID      - Clark Unit Hydrograph
   17         ID      - Green and Ampt Rainfall Loss Method
   18         ID
   19         ID      Topo data extracted from Flood Control District database July 24, 2009
   20         ID      Land use obtained from City of Glendale General Plan August 2009, City of
   21         ID           Phoenix General Plan August 2009, and MAG General Plan Land Use 2007
   22         ID
   23         ID      Storage routing data obtained from As-built records where possible
   24         ID      When As-built data was not available data was obtained from HEC-1 models
   25         ID           and checked for accuracy. HEC-1 models used include:
   26         ID           - Maryvale ADMS, February 1997
   27         ID           - Maryvale model modified by DMJM for improvements along the Bethany
   28         ID             Home Outfall Channel, file BHGC00C6.dat, November 2004
   29         ID           - Update to ponding areas along Grand Canal in the City of Glendale
   30         ID             for a CLOMR by PEC, February 2008
   31         ID      The source of data is identified on each individual storage routing card
   32         ID
   33         ID      ********************************************************************
   34         ID
   35         ID      MODELING NOMENCLATURE
   36         ID      SUBBASIN HYDROGRAPH:
   37         ID         Example: OL51   - the subbasin northeast of Olive and 51st Avenue
   38         ID
   39         ID      STORM DRAIN DIVERSION:
   40         ID         Example: DOL51  - flow from subbasin OL51 is diverted to a storm drain
   41         ID
   42         ID      SUBBASIN DIVERSION:
   43         ID         Example: DWOL59 - flow is diverted west towards Olive and 59th Avenue
   44         ID         Example: DSNO51 - flow is diverted south towards Northern and 51st Ave
   45         ID
   46         ID      ROUTE HYDROGRAPH:
   47         ID         Example: RWOL59 - flow is routed west towards Olive and 59th Avenue
   48         ID         Example: RSNO59 - flow is routed south towards Northern and 59th Ave
   49         ID
   50         ID      COMBINE HYDROGRAPH:
   51         ID         Example: COL59  - combine flow at Olive and 59th Avenue
   52         ID
   53         ID      NAME ABBREVIATIONS
   54         ID         Jomax Road             JM
   55         ID         Happy Valley Road      HV
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1 HEC-1 INPUT PAGE 2

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LINE          ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10
   56         ID         Pinnacle Peak Road     PP
   57         ID         Deer Valley Road       DV
   58         ID         Loop 101               LO
   59         ID         Beardsley Road         BY
   60         ID         Union Hills Drive      UH
   61         ID         Bell Road              BL
   62         ID         Greenway Road          GW
   63         ID         Thunderbird Road       TB
   64         ID         Cactus Road            CT
   65         ID         Peoria Avenue          PE
   66         ID         Olive Avenue           OL
   67         ID         Northern Avenue        NO
   68         ID         Glendale Avenue        GL
   69         ID         Bethany Home Road      BH
   70         ID         Camelback Road         CB
   71         ID         Indian School Road     IS
   72         ID         Thomas Road            TM
   73         ID         McDowell Road          MD
   74         ID         Interstate 10          IN
   75         ID         Van Buren Street       VB
   76         ID         Avondale Boulevard     AV
   77         ID         Grand Avenue           GR
   78         ID         Grand Canal            GC
   79         ID         Brown Street           BR
   80         ID         Mountain View Road     MV
   81         ID         Orangewood Avenue      OW
   82         ID         Mitchell Drive         ML
   83         ID         Agua Fria River        AF
   84         ID         New River              NR
   85         ID         Skunk Creek            SK
   86         ID         Roosevelt Irrigation   RI
   87         ID
   88         ID      PREFIXES FOR MODELING OPERATIONS
   89         ID         RW     Routing flow in the west direction
   90         ID         RS     Routing flow in the south direction
   91         ID         RP     Routing storm drain pipe flow
   92         ID         C      Combination point
   93         ID         CI     Combination point at an intersection
   94         ID         CP     Combination point for storm drain pipe flow
   95         ID         SR     Storage for detention/retention basins
   96         ID         DW     Divert flow to the west
   97         ID         DE     Divert flow to the east
   98         ID         DS     Divert flow to the south
   99         ID         DN     Divert flow to the north
  100         ID         ER     Divert flow for existing 100-yr 2-hr retention
  101         ID         X      Existing retention divertion does not return to model
  102         ID         DR     Divert retrieval from surface flow
  103         ID         DI     Divert retrieval from intersection flow
  104         ID         D      Divert surface flow (remains after storm drain divert)
  105         ID         DP     Divert flow to a storm drain pipe
  106         ID         PR     Divert retrieval from a storm drain pipe
  107         ID
  108         ID      ********************************************************************
  109         IT       5       0       0    1000
  110         IN      15
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1 HEC-1 INPUT PAGE 3

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LINE          ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10
  111         IO       5
              *DIAGRAM
              *
  112         JD   1.725  0.0001
  113         PC   0.000  0.008  0.016  0.025  0.033  0.041  0.050  0.058  0.066  0.074
  114         PC   0.087  0.099  0.118  0.138  0.216  0.377  0.834  0.911  0.931  0.950
  115         PC   0.962  0.972  0.983  0.991  1.000
  116         JD   1.715  0.5000
  117         PC   0.000  0.008  0.016  0.025  0.033  0.041  0.050  0.058  0.066  0.074
  118         PC   0.087  0.099  0.118  0.138  0.216  0.377  0.834  0.911  0.931  0.950
  119         PC   0.962  0.972  0.983  0.991  1.000
  120         JD   1.682    2.8
  121         PC   0.000  0.009  0.016  0.025  0.034  0.042  0.051  0.059  0.068  0.077
  122         PC   0.088  0.101  0.121  0.164  0.253  0.451  0.694  0.836  0.900  0.938
  123         PC   0.950  0.963  0.975  0.988  1.000
  124         JD   1.590   16.0
  125         PC   0.000  0.015  0.020  0.030  0.048  0.063  0.076  0.090  0.105  0.119
  126         PC   0.135  0.152  0.175  0.222  0.304  0.472  0.670  0.796  0.868  0.912
  127         PC   0.946  0.960  0.973  0.987  1.000
  128         JD   1.397   90.0
  129         PC   0.000  0.021  0.035  0.051  0.071  0.087  0.105  0.125  0.143  0.160
  130         PC   0.179  0.201  0.232  0.281  0.364  0.500  0.658  0.773  0.841  0.888
  131         PC   0.927  0.945  0.964  0.982  1.000
  132         JD   1.380   100.0
  133         PC   0.000  0.021  0.036  0.052  0.072  0.088  0.106  0.126  0.145  0.162
  134         PC   0.182  0.204  0.235  0.284  0.368  0.501  0.656  0.770  0.839  0.886
  135         PC   0.925  0.944  0.963  0.982  1.000
              *
  136         KK    GW83   BASIN
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137          KM   Runoff hydrograph for subbasin GW83 northeast of the intersection of Greenway
138          KM   Road and 83rd Avenue
139          BA   0.291
140          LG    0.25    0.25    4.70    0.28      30
141          UC   1.443   1.420
142          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
143          UA     100
             *

144          KK   DGW83  DIVERT
145          KM   Divert calculated full flow capapcity of 45 cfs into 42-inch storm drain
146          KM   pipe at the intersection of Greenway Road and 83rd Avenue
147          DT  DPGW83      0.0    45.0
148          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
149          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
             *

150          KK  DSTB83  DIVERT
151          KM   Divert portion of runoff hydrograph from subbasin GW83 south to the
152          KM   intersection of Thunderbird Road and 83rd Avenue and the remaining flow west
153          KM   to Skunk Creek. The diversion is based on topography
154          DT  DWSK01      0.0     0.0
155          DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
156          DQ     0.0    57.0   114.0   285.0   570.0  1140.0  2280.0  5700.0 11400.0 28500.0
             *
1                                        HEC-1 INPUT                                    PAGE  4

        LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9.....10

157          KK  RSTB83   ROUTE
158          KM   Route diversion DSTB83 south to combination point CTB83
159          RS      10    FLOW
160          RC   0.035   0.015   0.035    5280  0.0023     0.00
161          RX    0.00    0.00   48.00   48.00  251.00  251.00  299.00  299.00
162          RY    3.00    0.98    0.50    0.00    0.00    0.50    0.98    3.00
             *

163          KK    TB67   BASIN
164          KM   Runoff hydrograph for subbasin TB67 northeast of the intersection of
165          KM   Thunderbird Road and 67th Avenue
166          BA   0.265
167          LG    0.21    0.15    9.70    0.05      25
168          UC   0.836   0.497
169          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
170          UA     100
             *

171          KK  DWTB75  DIVERT
172          KM   Divert remaining runoff hydrograph from subbasin TB67 west to combination
173          KM   point CTB75
174          DT  DSCT67      0.0     0.0
175          DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
176          DQ     0.0    40.0    80.0   200.0   400.0   800.0  1600.0  4000.0  8000.0 20000.0
             *

177          KK  RWTB75   ROUTE
178          KM   Route diversion DWTB75 west to combination point CTB75
179          RS       5    FLOW
180          RC   0.035   0.015   0.035    5280  0.0027     0.00
181          RX    0.00    0.00   48.00   48.00  251.00  251.00  299.00  299.00
182          RY    3.00    0.98    0.50    0.00    0.00    0.50    0.98    3.00
             *

183          KK    TB75   BASIN
184          KM   Runoff hydrograph for subbasin TB75 northeast of the intersection of
185          KM   Thunderbird Road and 75th Avenue
186          BA   1.026
187          LG    0.23    0.15    7.00    0.11      33
188          UC   1.435   0.773
189          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
190          UA     100
             *

191          KK  ERTB75  DIVERT
192          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
193          KM   retention developed after 1990 in subbasin TB75
194          DT   XTB75      9.7     0.0
195          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
196          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
             *
1                                        HEC-1 INPUT                                    PAGE  5

        LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9.....10

197          KK   CTB75 COMBINE
198          KM   Combine route RWTB75 and subbasin TB75
199          HC       2    1.18
             *

200          KK   DTB75  DIVERT
201          KM   Divert calculated full flow capapcity of 161 cfs into 66-inch storm drain
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202          KM   pipe at the intersection of Thunderbird Road and 75th Avenue
203          DT  DPTB75      0.0   161.0
204          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
205          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
             *

206          KK  DWTB83  DIVERT
207          KM   Divert remaining runoff hydrograph from subbasin TB83 west to combination
208          KM   point CTB83
209          DT  DSCT75      0.0     0.0
210          DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
211          DQ     0.0    45.0    90.0   225.0   450.0   900.0  1800.0  4500.0  9000.0 22500.0
             *

212          KK  RWTB83   ROUTE
213          KM   Route diversion DWTB83 west to combination point CTB83
214          RS       3    FLOW
215          RC   0.035   0.015   0.035    5280  0.0034     0.00
216          RX    0.00    0.00   76.50   76.50  372.50  372.50  449.00  449.00
217          RY    3.00    1.27    0.50    0.00    0.00    0.50    1.27    3.00
             *

218          KK    TB83   BASIN
219          KM   Runoff hydrograph for square mile subbasin TB83 northeast of the intersection
220          KM   Thunderbird Road and 83rd Avenue
221          BA   0.994
222          LG    0.25    0.21    6.40    0.14      31
223          UC   1.500   1.018
224          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
225          UA     100
             *

226          KK  ERTB83  DIVERT
227          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
228          KM   retention developed after 1990 in subbasin TB83
229          DT   XTB83     19.4     0.0
230          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
231          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
             *

232          KK   CTB83 COMBINE
233          KM   Combine route RWTB83, route south RSTB83, and subbasin TB83
234          HC       3    1.77
             *
1                                        HEC-1 INPUT                                    PAGE  6

        LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9.....10

235          KK  PRTB75RETRIEVE
236          KM   Retrieve full flow capacity of 161 cfs from 66-inch storm drain pipe at the
237          KM   intersection of Thunderbird Road and 75th Avenue
238          DR  DPTB75
             *

239          KK  RPTB83   ROUTE
240          KM   Route full flow capacity of 161 cfs through 66-inch storm drain pipe in
241          KM   Thunderbird Road to the intersection of Thunderbird Road and 83rd Avenue
242          RK    5194  0.0023   0.015             CIRC   5.500
             *

243          KK  CPTB83 COMBINE
244          KM   Combine pipe return PRTB75 with the runoff hydrograph at combination point
245          KM   CTB83 at the intersection of Thunderbird Road and 83rd Avenue
246          HC       2
             *

247          KK   DTB83  DIVERT
248          KM   Divert calculated full flow capapcity of 247 cfs into 72-inch storm drain
249          KM   pipe at the intersection of Thunderbird Road and 83rd Avenue
250          DT  DPTB83      0.0   247.0
251          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
252          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
             *

253          KK  DWTBLO  DIVERT
254          KM   Divert remaining runoff hydrograph from subbasin TB83 west to combination
255          KM   point CTBLO
256          DT  DSCT83      0.0     0.0
257          DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
258          DQ     0.0    71.0   142.0   355.0   710.0  1420.0  2840.0  7100.0 14200.0 35500.0
             *

259          KK  RWTBLO   ROUTE
260          KM   Route diversion DWTBLO west to combination point CTBLO
261          RS       1    FLOW
262          RC   0.035   0.015   0.035    2002  0.0030     0.00
263          RX    0.00    0.00   16.50   16.50  107.50  107.50  124.00  124.00
264          RY    3.00    0.66    0.50    0.00    0.00    0.50    0.66    3.00
             *

265          KK    TBLO   BASIN
266          KM   Runoff hydrograph for subbasin TBLO northeast of the intersection of
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 267          KM   Thunderbird Road and SR Loop 101
 268          BA   0.099
 269          LG    0.14    0.15    8.80    0.05      72
 270          UC   0.866   1.064
 271          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
 272          UA     100
              *
1                                      HEC-1 INPUT                                          PAGE  7

LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


 273          KK  ERTBLO  DIVERT
 274          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
 275          KM   retention developed after 1990 in subbasin TBLO
 276          DT   XTBLO    10.8     0.0
 277          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
 278          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

 279          KK   CTBLO COMBINE
 280          KM   Combine route RWTBLO and subbasin TBLO
 281          HC       2    0.62
              *

 282          KK  PRTB83RETRIEVE
 283          KM   Retrieve full flow capacity of 247 cfs from 72-inch storm drain pipe at the
 284          KM   intersection of Thunderbird Road and 83rd Avenue
 285          DR  DPTB83
              *

 286          KK  RPTBLO   ROUTE
 287          KM   Route full flow capacity of 247 cfs through 72-inch storm drain pipe in
 288          KM   Thunderbird Road to the intersection of Thunderbird Road and 83rd Avenue
 289          RK    1532  0.0034   0.015            CIRC   6.000
              *

 290          KK  CPTBLO COMBINE
 291          KM   Combine pipe return PRTBLO with the runoff hydrograph at combination point
 292          KM   CTBLO at the intersection of Thunderbird Road and SR Loop 101
 293          HC       2
              *

 294          KK  RSCTLO   ROUTE
 295          KM   Route runoff hydrograph at combination point CPTBLO south to combination
 296          KM   point CCTLO
 297          RS       2    FLOW
 298          RC   0.035   0.015   0.035    4816  0.0016    0.00
 299          RX    0.00    3.00   13.00   29.00   39.00   55.00   65.00   68.00
 300          RY    9.00    8.00    8.00    0.00    0.00    8.00    8.00    9.00
              *

 301          KK    CT59   BASIN
 302          KM   Runoff hydrograph for subbasin CT59 northeast of the intersection of
 303          KM   Cactus Road and 59th Avenue
 304          BA   0.296
 305          LG    0.24    0.15    8.80    0.06      30
 306          UC   1.066   0.731
 307          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
 308          UA     100
              *
1                                      HEC-1 INPUT                                          PAGE  8

LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


 309          KK  ERCT59  DIVERT
 310          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
 311          KM   retention developed after 1990 in subbasin CT59
 312          DT   XCT59    24.6     0.0
 313          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
 314          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

 315          KK   D59CT  DIVERT
 316          KM   Divert calculated full flow capapcity of 18 cfs into 30-inch storm drain
 317          KM   pipe at the intersection of Cactus Road and 59th Avenue
 318          DT  DP59CT     0.0    18.0
 319          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
 320          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

 321          KK  DWCT67  DIVERT
 322          KM   Divert remaining runoff hydrograph from subbasin CT59 west to combination
 323          KM   point CCT67
 324          DT  DSPE59     0.0     0.0
 325          DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
 326          DQ     0.0    68.0   136.0   340.0   680.0  1360.0  2720.0  6800.0 13600.0 34000.0
              *

 327          KK  RWCT67   ROUTE
 328          KM   Route diversion DWCT67 west to combination point CCT67
 329          RS      10    FLOW
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 330          RC   0.035   0.015   0.035    5280  0.0041    0.00
 331          RX    0.00    0.00   33.50   33.50  144.50  144.50  178.00  178.00
 332          RY    3.00    0.84    0.50    0.00    0.00    0.50    0.84    3.00
              *

 333          KK  DRCT67RETRIEVE
 334          KM   Retrieve divert DRCT67 from subbasin TB67 and divert south to combination
 335          KM   point CCT67
 336          DR  DSCT67
              *

 337          KK  RSCT67   ROUTE
 338          KM   Route retrieval DRCT67 south to combination point CCT67
 339          RS       5    FLOW
 340          RC   0.035   0.015   0.035    5280  0.0035    0.00
 341          RX    0.00    0.00   24.50   24.50  155.50  155.50  180.00  180.00
 342          RY    3.00    0.74    0.50    0.00    0.00    0.50    0.74    3.00
              *

 343          KK    CT67   BASIN
 344          KM   Runoff hydrograph for subbasin CT67 northeast of the intersection of Cactus
 345          KM   Road and 67th Avenue
 346          BA   0.910
 347          LG    0.26    0.15    7.30    0.11      28
 348          UC   1.369   0.814
 349          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
 350          UA     100
              *
1                                      HEC-1 INPUT                                          PAGE  9

LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


 351          KK  ERCT67  DIVERT
 352          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
 353          KM   retention developed after 1990 in subbasin CT67
 354          DT   XCT67    26.8     0.0
 355          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
 356          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

 357          KK   CCT67 COMBINE
 358          KM   Combine route RWCT67, route RSCT67, and subbasin CT67
 359          HC       3    1.11
              *

 360          KK   DCT67  DIVERT
 361          KM   Divert calculated full flow capapcity of 268 cfs into 78-inch storm drain
 362          KM   pipe at the intersection of Cactus Road and 67th Avenue
 363          DT  DPCT67     0.0   268.0
 364          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
 365          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

 366          KK  DWCT75  DIVERT
 367          KM   Divert remaining runoff hydrograph from combination point CCT67 west to
 368          KM   combination point CCT75
 369          DT  DSPE67     0.0     0.0
 370          DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
 371          DQ     0.0    43.0    86.0   215.0   430.0   860.0  1720.0  4300.0  8600.0 21500.0
              *

 372          KK  RWCT75   ROUTE
 373          KM   Route diversion DWCT75 west to combination point CCT75
 374          RS       7    FLOW
 375          RC   0.035   0.015   0.035    5280  0.0030    0.00
 376          RX    0.00    0.00   76.50   76.50  372.50  372.50  449.00  449.00
 377          RY    3.00    1.27    0.50    0.00    0.00    0.50    1.27    3.00
              *

 378          KK  DRCT75RETRIEVE
 379          KM   Retrieve divert DRCT75 from combination point CTB75 and divert south to
 380          KM   combination point CCT75
 381          DR  DSCT75
              *

 382          KK  RSCT75   ROUTE
 383          KM   Route retrieval DRCT75 south to combination point CCT75
 384          RS       3    FLOW
 385          RC   0.035   0.015   0.035    5280  0.0038    0.00
 386          RX    0.00    0.00   57.50   57.50  291.50  291.50  349.00  349.00
 387          RY    3.00    1.08    0.50    0.00    0.00    0.50    1.08    3.00
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


 388          KK    CT75   BASIN
 389          KM   Runoff hydrograph for square mile subbasin CT75 northeast of the intersection
 390          KM   of Cactus Road and 75th Avenue
 391          BA   1.003
 392          LG    0.26    0.15    8.80    0.06      27
```

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393          UC   1.500    1.009
394          UA       0      5.0     16.0     30.0     65.0     77.0     84.0     90.0     94.0     97.0
395          UA     100
             *
396          KK  ERCT75  DIVERT
397          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
398          KM   retention developed after 1990 in subbasin CT75
399          DT   XCT75     29.2      0.0
400          DI       0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
401          DQ       0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
             *
402          KK   CCT75 COMBINE
403          KM   Combine route RWCT75, route RSCT75, and subbasin CT75
404          HC         3     2.17
             *
405          KK  PRCT67RETRIEVE
406          KM   Retrieve full flow capacity of 268 cfs from 78-inch storm drain pipe at the
407          KM   intersection of Cactus Road and 67th Avenue
408          DR  DPCT67
             *
409          KK  RPCT75   ROUTE
410          KM   Route full flow capacity of 268 cfs through 78-inch storm drain pipe in
411          KM   Cactus Road to the intersection of Cactus Road and 75th Avenue
412          RK    5321  0.0026   0.015             CIRC   6.500
             *
413          KK  CPCT75 COMBINE
414          KM   Combine pipe return PRCT67 with the runoff hydrograph at combination point
415          KM   CCT75 at the intersection of Cactus Road and 75th Avenue
416          HC         2
             *
417          KK   DCT75  DIVERT
418          KM   Divert calculated full flow capapcity of 651 cfs into 108-inch storm drain
419          KM   pipe at the intersection of Cactus Road and 75th Avenue
420          DT  DPCT75       0.0    651.0
421          DI       0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
422          DQ       0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
             *
1                                          HEC-1 INPUT                                          PAGE 11

LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

423          KK  DWCT83  DIVERT
424          KM   Divert remaining runoff hydrograph from combination point CCT75 west to
425          KM   combination point CCT83
426          DT  DSPE75       0.0      0.0
427          DI       0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0  10000.0  20000.0  50000.0
428          DQ       0.0     50.0    100.0    250.0    500.0   1000.0   2000.0   5000.0  10000.0  25000.0
             *
429          KK  RWCT83   ROUTE
430          KM   Route diversion DWCT83 west to combination point CCT83
431          RS         4     FLOW
432          RC     0.035    0.015    0.035     5280   0.0026      0.00
433          RX      0.00     0.00    57.50    57.50   291.50   291.50   349.00   349.00
434          RY      3.00     1.08     0.50     0.00     0.00     0.50     1.08     3.00
             *
435          KK  DRCT83RETRIEVE
436          KM   Retrieve divert DRCT83 from combination point CPTB83 and divert south to
437          KM   combination point CCT83
438          DR  DSCT83
             *
439          KK  RSCT83   ROUTE
440          KM   Route retrieval DRCT83 south to combination point CCT83
441          RS         4     FLOW
442          RC     0.035    0.015    0.035     5280   0.0030      0.00
443          RX      0.00     0.00    48.00    48.00   251.00   251.00   299.00   299.00
444          RY      3.00     0.98     0.50     0.00     0.00     0.50     0.98     3.00
             *
445          KK    CT83   BASIN
446          KM   Runoff hydrograph for square mile subbasin CT83 northeast of the intersection
447          KM   of Cactus Road and 83rd Avenue
448          BA   1.008
449          LG    0.25     0.15     8.40     0.06       30
450          UC   1.500    1.010
451          UA       0      5.0     16.0     30.0     65.0     77.0     84.0     90.0     94.0     97.0
452          UA     100
             *
453          KK  ERCT83  DIVERT
454          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
455          KM   retention developed after 1990 in subbasin CT83
456          DT   XCT83     28.8      0.0
457          DI       0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
```



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458          DQ       0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
             *
459          KK   CCT83 COMBINE
460          KM   Combine route RWCT83, route RSCT83, and subbasin CT83
461          HC         3     3.34
             *
1                                          HEC-1 INPUT                                          PAGE 12

LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

462          KK  PRCT75RETRIEVE
463          KM   Retrieve full flow capacity of 651 cfs from 108-inch storm drain pipe at the
464          KM   intersection of Cactus Road and 75th Avenue
465          DR  DPCT75
             *
466          KK  RPCT83   ROUTE
467          KM   Route full flow capacity of 651 cfs through 108-inch storm drain pipe in
468          KM   Cactus Road to the intersection of Cactus Road and 83rd Avenue
469          RK    5246  0.0027   0.015             CIRC   9.000
             *
470          KK  CPCT83 COMBINE
471          KM   Combine pipe return PRCT75 with the runoff hydrograph at combination point
472          KM   CCT83 at the intersection of Cactus Road and 83rd Avenue
473          HC         2
             *
474          KK   DCT83  DIVERT
475          KM   Divert calculated full flow capapcity of 663 cfs into 120-inch storm drain
476          KM   pipe at the intersection of Cactus Road and 83rd Avenue
477          DT  DPCT83       0.0    663.0
478          DI       0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
479          DQ       0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
             *
480          KK  DWCTLO  DIVERT
481          KM   Divert remaining runoff hydrograph from combination point CCT83 west to
482          KM   combination point CCTLO
483          DT  DSPE83       0.0      0.0
484          DI       0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0  10000.0  20000.0  50000.0
485          DQ       0.0     41.0     82.0    205.0    410.0    820.0   1640.0   4100.0   8200.0  20500.0
             *
486          KK  RWCTLO   ROUTE
487          KM   Route diversion DWCTLO west to combination point CCTLO
488          RS         4     FLOW
489          RC     0.035    0.015    0.035     6650   0.0048      0.00
490          RX      0.00     0.00    76.50    76.50   372.50   372.50   449.00   449.00
491          RY      3.00     1.27     0.50     0.00     0.00     0.50     1.27     3.00
             *
492          KK    CTLO   BASIN
493          KM   Runoff hydrograph for subbasin CTLO northeast of the intersection of Cactus
494          KM   Road and SR Loop 101
495          BA   0.865
496          LG    0.20     0.15     7.30     0.09       47
497          UC   1.500    1.210
498          UA       0      5.0     16.0     30.0     65.0     77.0     84.0     90.0     94.0     97.0
499          UA     100
             *
1                                          HEC-1 INPUT                                          PAGE 13

LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

500          KK  ERCTLO  DIVERT
501          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
502          KM   retention developed after 1990 in subbasin CTLO
503          DT   XCTLO     46.0      0.0
504          DI       0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
505          DQ       0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
             *
506          KK   CCTLO COMBINE
507          KM   Combine route RWCTLO, route RSCTLO, and subbasin CTLO
508          HC         3     3.46
             *
509          KK  PRCT83RETRIEVE
510          KM   Retrieve full flow capacity of 663 cfs from 120-inch storm drain pipe at the
511          KM   intersection of Cactus Road and 83rd Avenue
512          DR  DPCT83
             *
513          KK  RPCTLO   ROUTE
514          KM   Route full flow capacity of 663 cfs through 120-inch storm drain pipe in
515          KM   Cactus Road to the intersection of Cactus Road and SR Loop 101
516          RK    6334  0.0016   0.015             CIRC  10.000
             *
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517          KK  CPCTLO COMBINE
518          KM   Combine pipe return PRCT83 with the runoff hydrograph at combination point
519          KM   CCTLO at the intersection of Cactus Road and SR Loop 101
520          HC       2
             *

521          KK  DSCTLO  DIVERT
522          KM   Divert portion of runoff hydrograph from combination point CPCTLO south to
523          KM   combination point CGRLO
524          DT  DWNR01      0.0  1927.0
525          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
526          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
             *

527          KK  DSPELO  DIVERT
528          KM   Divert remainder of runoff hydrograph from divert DSCTLO south to
529          KM   combination point CGRLO
530          DT  DSGR91      0.0     0.0
531          DI     0.0  1299.0  1299.1 50000.0     0.0     0.0     0.0     0.0     0.0     0.0
532          DQ     0.0     0.0  1299.1 50000.0     0.0     0.0     0.0     0.0     0.0     0.0
             *

533          KK    PE51   BASIN
534          KM   Runoff hydrograph for subbasin PE51 northeast of the intersection of Peoria
535          KM   Avenue and 51st Avenue
536          BA   0.419
537          LG    0.22    0.15    8.80    0.05      37
538          UC   1.111   0.688
539          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
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LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

540          UA     100
             *

541          KK  DWPE59  DIVERT
542          KM   Divert remaining runoff hydrograph from subbasin PE59 west to combination
543          KM   point CPE59
544          DT  DSOL51      0.0     0.0
545          DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
546          DQ     0.0    40.0    80.0   200.0   400.0   800.0  1600.0  4000.0  8000.0 20000.0
             *

547          KK  RWPE59   ROUTE
548          KM   Route diversion DWPE59 west to combination point CPE59
549          RS       5    FLOW
550          RC   0.035   0.015   0.035    5280  0.0042     0.00
551          RX    0.00    0.00   79.50   79.50  468.50  468.50  548.00  548.00
552          RY    3.00    1.30    0.50    0.00    0.00    0.50    1.30    3.00
             *

553          KK  DRPE59RETRIEVE
554          KM   Retrieve divert DRPE59 from subbasin CPCT59 and divert south to combination
555          KM   point CPE59
556          DR  DSPE59
             *

557          KK  RSPE59   ROUTE
558          KM   Route diversion retrieval DRPE59 south to combination point CPE59
559          RS      10    FLOW
560          RC   0.035   0.015   0.035    5280  0.0037     0.00
561          RX    0.00    0.00   58.50   58.50  339.50  339.50  398.00  398.00
562          RY    3.00    1.08    0.50    0.00    0.00    0.50    1.08    3.00
             *

563          KK    PE59   BASIN
564          KM   Runoff hydrograph for square mile subbasin PE59 northeast of the intersection
565          KM   of Peoria Avenue and 59th Avenue
566          BA   0.989
567          LG    0.25    0.15    8.80    0.05      31
568          UC   1.500   0.988
569          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
570          UA     100
             *

571          KK  ERPE59  DIVERT
572          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
573          KM   retention developed after 1990 in subbasin PE59
574          DT  XPE59       8.6     0.0
575          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
576          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
             *
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LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

577          KK   CPE59 COMBINE
578          KM   Combine route RWPE59, route RSPE59, and subbasin PE59
579          HC       3    1.44
             *
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```
580          KK  PR59CTRETRIEVE
581          KM   Retrieve full flow capacity of 18 cfs from 30-inch storm drain pipe at the
582          KM   intersection of Cactus Road and 59th Avenue
583          DR  DP59CT
             *
             * KKRP59PE   ROUTE
             * KM Route full flow capacity of 18 cfs through 30-inch storm drain pipe in
             * KM 59th Avenue to the intersection of Peoria Avenue and 59th Avenue
             * RK  5358  0.0020   0.015            CIRC   2.500
             *

584          KK  CPPE59 COMBINE
585          KM   Combine pipe return PR59CT with the runoff hydrograph at combination point
586          KM   CPE59 at the intersection of Peoria Avenue and 59th Avenue
587          HC       2
             *

588          KK   D59PE  DIVERT
589          KM   Divert calculated full flow capapcity of 235 cfs into 78-inch storm drain
590          KM   pipe at the intersection of Peoria Avenue and 59th Avenue
591          DT  DP59PE      0.0   235.0
592          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
593          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
             *

594          KK  DWPE67  DIVERT
595          KM   Divert remaining runoff hydrograph from combination point CPPE59 west to
596          KM   combination point CPE67
597          DT  DSOL59      0.0     0.0
598          DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
599          DQ     0.0    57.0   114.0   285.0   570.0  1140.0  2280.0  5700.0 11400.0 28500.0
             *

600          KK  RWPE67   ROUTE
601          KM   Route diversion DWPE67 west to combination point CPE67
602          RS       5    FLOW
603          RC   0.035   0.015   0.035    5280  0.0026     0.00
604          RX    0.00    0.00   51.50   51.50  296.50  296.50  348.00  348.00
605          RY    3.00    1.02    0.50    0.00    0.00    0.50    1.02    3.00
             *

606          KK  DRPE67RETRIEVE
607          KM   Retrieve divert DRPE67 from combination point CCT67 and divert south to
608          KM   combination point CPE67
609          DR  DSPE67
             *
```



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LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

610          KK  RSPE67   ROUTE
611          KM   Route diversion retrieval DRPE67 south to combination point CPE67
612          RS       9    FLOW
613          RC   0.035   0.015   0.035    5280  0.0022     0.00
614          RX    0.00    0.00   58.50   58.50  339.50  339.50  398.00  398.00
615          RY    3.00    1.08    0.50    0.00    0.00    0.50    1.08    3.00
             *

616          KK    PE67   BASIN
617          KM   Runoff hydrograph for square mile subbasin PE67 northeast of the intersection
618          KM   of Peoria Avenue and 67th Avenue
619          BA   0.962
620          LG    0.23    0.15    7.60    0.09      37
621          UC   1.500   1.016
622          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
623          UA     100
             *

624          KK  ERPE67  DIVERT
625          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
626          KM   retention developed after 1990 in subbasin PE67
627          DT  XPE67      56.2     0.0
628          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
629          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
             *

630          KK   CPE67 COMBINE
631          KM   Combine route RWPE67, route RSPE67, and subbasin PE67
632          HC       3    2.06
             *

633          KK  SRPE67 STORAGE
634          KM   Storage route runoff hydrograph from combination point CPE67 through
635          KM     regional detention basin located in subbasin PE67
636          KM   Stage-storage data from Sunnyside Park As-built records, 1991
637          RS       1    STOR
638          SV            5.24   11.27   12.67   18.77   26.81   35.20
639          SQ                          217.00 2430.00 6873.0012627.00
640          SE   87.00   88.00   89.00   89.20   90.00   91.00   92.00
             *

641          KK   D67PE  DIVERT
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 642          KM   Divert calculated full flow capapcity of 162 cfs into 60-inch storm drain
 643          KM   pipe at the intersection of Peoria Avenue and 67th Avenue
 644          DT  DP67PE     0.0   162.0
 645          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
 646          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
                   *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


 647          KK  DWPE75  DIVERT
 648          KM   Divert remaining runoff hydrograph from combination point CPE67 west to
 649          KM   combination point CPE75
 650          DT  DSOL67     0.0     0.0
 651          DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
 652          DQ     0.0    38.0    76.0   190.0   380.0   760.0  1520.0  3800.0  7600.0 19000.0
                   *

 653          KK  RWPE75   ROUTE
 654          KM   Route diversion DWPE75 west to combination point CPE75
 655          RS       6    FLOW
 656          RC   0.035   0.015   0.035    5280  0.0035    0.00
 657          RX    0.00    0.00   86.00   86.00  413.00  413.00  499.00  499.00
 658          RY    3.00    1.36    0.50    0.00    0.00    0.50    1.36    3.00
                   *

 659          KK  DRPE75RETRIEVE
 660          KM   Retrieve divert DRPE75 from combination point CPCT75 and divert south to
 661          KM   combination point CPE75
 662          DR  DSPE75
                   *

 663          KK  RSPE75   ROUTE
 664          KM   Route diversion retrieval DRPE75 south to combination point CPE75
 665          RS       4    FLOW
 666          RC   0.035   0.015   0.035    5280  0.0027    0.00
 667          RX    0.00    0.00   57.50   57.50  291.50  291.50  349.00  349.00
 668          RY    3.00    1.08    0.50    0.00    0.00    0.50    1.08    3.00
                   *

 669          KK    PE75   BASIN
 670          KM   Runoff hydrograph for square mile subbasin PE75 northeast of the intersection
 671          KM   of Peoria Avenue and 75th Avenue
 672          BA   1.007
 673          LG    0.24    0.15    8.00    0.07      33
 674          UC   1.500   1.010
 675          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
 676          UA     100
                   *

 677          KK  ERPE75  DIVERT
 678          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
 679          KM   retention developed after 1990 in subbasin PE75
 680          DT  XPE75      9.4     0.0
 681          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
 682          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
                   *

 683          KK  CPE75 COMBINE
 684          KM   Combine route RWPE75, route RSPE75, and subbasin PE75
 685          HC       3    3.36
                   *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


 686          KK   D75PE  DIVERT
 687          KM   Divert calculated full flow capapcity of 179 cfs into 60-inch storm drain
 688          KM   pipe at the intersection of Peoria Avenue and 75th Avenue
 689          DT  DP75PE     0.0   179.0
 690          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
 691          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
                   *

 692          KK  DWPE83  DIVERT
 693          KM   Divert remaining runoff hydrograph from combination point CPE75 west to
 694          KM   combination point CPE83
 695          DT  DSOL75     0.0     0.0
 696          DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
 697          DQ     0.0    52.0   104.0   260.0   520.0  1040.0  2080.0  5200.0 10400.0 26000.0
                   *

 698          KK  RWPE83   ROUTE
 699          KM   Route diversion DWPE83 west to combination point CPE83
 700          RS       3    FLOW
 701          RC   0.035   0.015   0.035    5280  0.0023    0.00
 702          RX    0.00    0.00   57.50   57.50  291.50  291.50  349.00  349.00
 703          RY    3.00    1.08    0.50    0.00    0.00    0.50    1.08    3.00
                   *

 704          KK  DRPE83RETRIEVE
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 705          KM   Retrieve divert DRPE83 from combination point CPCT83 and divert south to
 706          KM   combination point CPE83
 707          DR  DSPE83
                   *

 708          KK  RSPE83   ROUTE
 709          KM   Route diversion retrieval DRPE83 south to combination point CPE83
 710          RS       4    FLOW
 711          RC   0.035   0.015   0.035    5280  0.0023    0.00
 712          RX    0.00    0.00   76.50   76.50  372.50  372.50  449.00  449.00
 713          RY    3.00    1.27    0.50    0.00    0.00    0.50    1.27    3.00
                   *

 714          KK    PE83   BASIN
 715          KM   Runoff hydrograph for square mile subbasin PE83 northeast of the intersection
 716          KM   of Peoria Avenue, 83rd Avenue, and Grand Avenue
 717          BA   1.000
 718          LG    0.24    0.13   10.10    0.03      35
 719          UC   1.500   1.010
 720          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
 721          UA     100
                   *

 722          KK  ERPE83  DIVERT
 723          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
 724          KM   retention developed after 1990 in subbasin PE83
 725          DT  XPE83     36.8     0.0
 726          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
 727          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
                   *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


 728          KK  CPE83 COMBINE
 729          KM   Combine route RWPE83, route RSPE83, and subbasin PE83
 730          HC       3    3.97
                   *

 731          KK   DPE83  DIVERT
 732          KM   Divert calculated full flow capapcity of 112 cfs into 48-inch storm drain
 733          KM   pipe at the intersection of Peoria Avenue and 83rd Avenue
 734          DT  DPPE83     0.0   112.0
 735          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
 736          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
                   *

 737          KK  DWGR91  DIVERT
 738          KM   Divert portion of runoff hydrograph from subbasin CPE83 west through subbasin
 739          KM   GR91 using the ratio of the widths and slopes od the streets going west and
 740          KM   the widths and slopes of the streets going south. The remaining flow is
 741          KM   diverted south through subbasin GR83
 742          DT  DSGR83     0.0     0.0
 743          DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
 744          DQ     0.0    48.0    96.0   240.0   480.0   960.0  1920.0  4800.0  9600.0 24000.0
                   *

 745          KK   DGR91  DIVERT
 746          KM   Divert portion of DWGR91 west to subbasin GR91 using the ratio of the width
 747          KM   of the collector and local streets and the width of the arterial street. The
 748          KM   remaining flow is diverted west to subbasin PE91 along Peoria Avenue
 749          DT  DWPE91     0.0     0.0
 750          DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
 751          DQ     0.0    36.0    72.0   180.0   360.0   720.0  1440.0  3600.0  7200.0 18000.0
                   *

 752          KK  DRGR91RETRIEVE
 753          KM   Retrieve divert DRGR91 from combination point CPCTLO and divert south to
 754          KM   combination point CGR91
 755          DR  DSGR91
                   *

 756          KK  RSGR91   ROUTE
 757          KM   Route diversion retrieval DRGR91 south to combination point CGR91
 758          RS       4    FLOW
 759          RC   0.035   0.015   0.035    4969  0.0024    0.00
 760          RX    0.00    0.00   57.50   57.50  291.50  291.50  349.00  349.00
 761          RY    3.00    1.08    0.50    0.00    0.00    0.50    1.08    3.00

 762          KK    GR91   BASIN
 763          KM   Runoff hydrograph for subbasin GR91 north of Grand Avenue and east of 91st
 764          KM   Avenue
 765          BA   0.514
 766          LG    0.23    0.13   10.10    0.03      40
 767          UC   1.118   0.582
 768          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
 769          UA     100
                   *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10
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770          KK  ERGR91  DIVERT
771          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
772          KM   retention developed after 1990 in subbasin GR91
773          DT   XGR91     28.6      0.0
774          DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
775          DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
             *

776          KK   CGR91 COMBINE
777          KM   Combine divert DGR91, route RSGR91, and subbasin GR91
778          HC        3     3.58
             *

779          KK  DWGRLO  DIVERT
780          KM   Divert portion of runoff hydrograph from combination point CGR91 west to the
781          KM   intersection of Grand Avenue and SR Loop 101 and the remaining flow south to
782          KM   the intersection of Peoria Avenue and Grand Avenue. The diversion is based on
783          KM   topography
784          DT  DSPE91      0.0       0.0
785          DI       0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0  10000.0  20000.0  50000.0
786          DQ       0.0     67.0    134.0    335.0    670.0   1340.0   2680.0   6700.0  13400.0  33500.0
             *

787          KK   CGRLO COMBINE
788          KM   Combine divert DWGRLO and divert DSPELO
789          HC        2     2.91
             *

790          KK  RSPELO   ROUTE
791          KM   Route hydrograph at combination point CGRLO south to combination point CIPEGR
792          RS        1     FLOW
793          RC    0.035    0.015    0.035     2704   0.0018     0.00
794          RX     0.00     3.00    13.00    25.00    35.00    47.00    57.00    60.00
795          RY     7.00     6.00     6.00     0.00     0.00     6.00     6.00     7.00
             *

796          KK  DSOLLO  DIVERT
797          KM   Divert remaining runoff hydrograph from combination point CPPELO south to
798          KM   combination point COLLO
799          DT  DWNR02      0.0   7462.0
800          DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
801          DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
             *

802          KK  DRPE91RETRIEVE
803          KM   Retrieve divert DRPE91 from combination point CPE83 and divert west to
804          KM   combination point CIPEGR
805          DR  DSPE91
             *
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LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

806          KK  SRGR91 STORAGE
807          KM   Storage route runoff hydrograph from divert retrieval DRPE91 through ponding
808          KM     area at Grand Avenue near the intersection of Peoria Avenue and 83rd Avenue
809          KM   Storage routing ID RES22 in Maryvale ADMS, Feb 1997 - comments from ADMS:
810          KM   PONDING AREA RESERVOIR ROUTE
811          KM   SUB-BASIN 22-31E
812          KM   PONDING AREA NORTHEAST OF GRAND AVENUE/RR EMBANKMENT
813          RS        1     STOR
814          SV              5.40     9.60    39.75
815          SQ              0.10  970.0010990.00
816          SE  1134.0 1136.00 1136.50 1138.00
             *

817          KK  DIPE91RETRIEVE
818          KM   Retrieve arterial street flow diverted to Peoria Avenue at the intersection
819          KM   of Peoria Avenue and Grand Avenue
820          DR  DWPE91
             *

821          KK  CIPEGR COMBINE
822          KM   Combine arterial street flow from Peoria Avenue DIPE91 with runoff hydrograph
823          KM   DRPE91 at the intersection of Peoria Avenue and Grand Avenue
824          HC        2     3.14
             *

825          KK  RWPE91   ROUTE
826          KM   Route hydrograph at combination point CIPEGR at the intersection of Peoria
827          KM   Avenue and Grand Avenue west to combination point CPE91
828          RS        3     FLOW
829          RC    0.035    0.015    0.035     5280   0.0037     0.00
830          RX     0.00     0.00    67.00    67.00   332.00   332.00   399.00   399.00
831          RY     3.00     1.17     0.50     0.00     0.00     0.50     1.17     3.00
             *

832          KK    PE91   BASIN
833          KM   Runoff hydrograph for subbasin PE91 northeast of the intersection of Peoria
834          KM   Avenue and 91st Avenue
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835          BA   0.509
836          LG    0.20     0.15     9.70     0.04       50
837          UC   1.008    0.548
838          UA       0      5.0     16.0     30.0     65.0     77.0     84.0     90.0     94.0     97.0
839          UA     100
             *

840          KK  ERPE91  DIVERT
841          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
842          KM   retention developed after 1990 in subbasin PE91
843          DT   XPE91     13.1      0.0
844          DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
845          DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
             *
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LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

846          KK   CPE91 COMBINE
847          KM   Combine route RWPE91 and subbasin PE91
848          HC        2     3.65
             *

849          KK  PRPE83RETRIEVE
850          KM   Retrieve full flow capacity of 112 cfs from 48-inch storm drain pipe at the
851          KM   intersection of Peoria Avenue and 83rd Avenue
852          DR  DPPE83
             *

853          KK  RPPE91   ROUTE
854          KM   Route full flow capacity of 112 cfs through 48-inch storm drain pipe in
855          KM   Peoria Avenue to the intersection of Peoria Avenue and 91st Avenue
856          RK     5350  0.0061    0.015             CIRC    4.000
             *

857          KK  CPPE91 COMBINE
858          KM   Combine pipe return PRPE83 with the runoff hydrograph at combination point
859          KM   CPE91 at the intersection of Peoria Avenue and 91st Avenue
860          HC        2
             *

861          KK   DPE91  DIVERT
862          KM   Divert calculated full flow capapcity of 147 cfs into 72-inch storm drain
863          KM   pipe at the intersection of Peoria Avenue and 91st Avenue
864          DT  DPPE91      0.0     147.0
865          DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
866          DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
             *

867          KK  DWPELO  DIVERT
868          KM   Divert remaining runoff hydrograph from combination point CPPE91 west to
869          KM   combination point CPELO
870          DT  DSOL91      0.0      0.0
871          DI      0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0  10000.0  20000.0  50000.0
872          DQ      0.0     55.0    110.0    275.0    550.0   1100.0   2200.0   5500.0  11000.0  27500.0
             *

873          KK  RWPELO   ROUTE
874          KM   Route diversion DWPELO west to combination point CPELO
875          RS        1     FLOW
876          RC    0.035    0.015    0.035     1289   0.0017     0.00
877          RX     0.00     0.00    73.50    73.50   350.50   350.50   424.00   424.00
878          RY     3.00     1.23     0.50     0.00     0.00     0.50     1.23     3.00
             *

879          KK    PELO   BASIN
880          KM   Runoff hydrograph for subbasin PELO northeast of the intersection of Peoria
881          KM   Avenue and SR Loop 101
882          BA   0.271
883          LG    0.19     0.21     6.40     0.13       52
884          UC   1.151    0.961
885          UA       0      5.0     16.0     30.0     65.0     77.0     84.0     90.0     94.0     97.0
                                                 HEC-1 INPUT                                                    PAGE 23

LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

886          UA     100
             *

887          KK  ERPELO  DIVERT
888          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
889          KM   retention developed after 1990 in subbasin PELO
890          DT   XPELO     9.1      0.0
891          DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
892          DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
             *

893          KK   CPELO COMBINE
894          KM   Combine route RWPELO, route RSPELO, and subbasin PELO
895          HC        3     4.81
             *
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 896          KK  PRPE91RETRIEVE
 897          KM   Retrieve full flow capacity of 147 cfs from 72-inch storm drain pipe at the
 898          KM   intersection of Peoria Avenue and 91st Avenue
 899          DR  DPPE91
              *

 900          KK  RPPELO   ROUTE
 901          KM   Route full flow capacity of 147 cfs through 72-inch storm drain pipe in
 902          KM   Peoria Avenue to the intersection of Peoria Avenue and St Loop 101
 903          RK    1594  0.0012   0.015            CIRC   6.000
              *

 904          KK  CPPELO COMBINE
 905          KM   Combine pipe return PRPE91 with the runoff hydrograph at combination point
 906          KM   CPELO at the intersection of Peoria Avenue and SR Loop 101
 907          HC       2
              *

 908          KK   DPELO  DIVERT
 909          KM   Divert calculated full flow capapcity of 255 cfs into 72-inch storm drain
 910          KM   pipe at the intersection of Peoria Avenue and Loop 101
 911          DT  DPPELO     0.0   255.0
 912          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
 913          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

 914          KK  RSOLLO   ROUTE
 915          KM   Route diversion DSOLLO south to combination point COLLO
 916          RS       2    FLOW
 917          RC   0.035   0.015   0.035    5324  0.0018    0.00
 918          RX    0.00    3.00   13.00   33.00   63.00   83.00   93.00   96.00
 919          RY   11.00   10.00   10.00    0.00    0.00   10.00   10.00   11.00
              *
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        LINE      ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

 920          KK    OL35   BASIN
 921          KM   Runoff hydrograph for subbasin OL35 northeast of the intersection of Olive
 922          KM   Avenue and 35th Avenue
 923          BA   0.214
 924          LG    0.10    0.25    5.40    0.23      58
 925          UC   0.848   0.870
 926          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
 927          UA     100
              *

 928          KK   D35OL  DIVERT
 929          KM   Divert calculated full flow capapcity of 61 cfs into 42-inch storm drain
 930          KM   pipe at the intersection of Olive Avenue and 35th Avenue
 931          DT  DP35OL     0.0    61.0
 932          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
 933          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

 934          KK  DWOL43  DIVERT
 935          KM   Divert remaining runoff hydrograph from subbasin OL35 west to combination
 936          KM   point COL43
 937          DT  DSNO35     0.0     0.0
 938          DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
 939          DQ     0.0    70.0   140.0   350.0   700.0  1400.0  2800.0  7000.0 14000.0 35000.0
              *

 940          KK  RWOL43   ROUTE
 941          KM   Route diversion DWOL43 west to combination point COL43
 942          RS      10    FLOW
 943          RC   0.035   0.015   0.035    5280  0.0022    0.00
 944          RX    0.00    0.00   35.50   35.50  188.50  188.50  224.00  224.00
 945          RY    3.00    0.86    0.50    0.00    0.00    0.50    0.86    3.00
              *

 946          KK    OL43   BASIN
 947          KM   Runoff hydrograph for subbasin OL43 northeast of the intersection of Olive
 948          KM   Avenue and 43rd Avenue
 949          BA   0.635
 950          LG    0.25    0.25    5.40    0.20      33
 951          UC   1.500   0.939
 952          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
 953          UA     100
              *

 954          KK   COL43 COMBINE
 955          KM   Combine route RWOL43 and subbasin OL43
 956          HC       2    0.70
              *
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        LINE      ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

 957          KK   D43OL  DIVERT
 958          KM   Divert calculated full flow capapcity of 85 cfs into 48-inch storm drain
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 959          KM   pipe at the intersection of Olive Avenue and 43rd Avenue
 960          DT  DP43OL     0.0    85.0
 961          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
 962          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

 963          KK  DWOL51  DIVERT
 964          KM   Divert remaining runoff hydrograph from combination point COL43 west to
 965          KM   combination point COL51
 966          DT  DSNO43     0.0     0.0
 967          DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
 968          DQ     0.0    59.0   118.0   295.0   590.0  1180.0  2360.0  5900.0 11800.0 29500.0
              *

 969          KK  RWOL51   ROUTE
 970          KM   Route diversion DWOL51 west to combination point COL51
 971          RS       6    FLOW
 972          RC   0.035   0.015   0.035    5280  0.0035    0.00
 973          RX    0.00    0.00   47.50   47.50  230.50  230.50  278.00  278.00
 974          RY    3.00    0.98    0.50    0.00    0.00    0.50    0.98    3.00
              *

 975          KK  DROL51RETRIEVE
 976          KM   Retrieve divert DROL51 from subbasin CPE51 and divert south to combination
 977          KM   point COL51
 978          DR  DSOL51
              *

 979          KK  RSOL51   ROUTE
 980          KM   Route diversion retrieval DROL51 south to combination point COL51
 981          RS       6    FLOW
 982          RC   0.035   0.015   0.035    5280  0.0031    0.00
 983          RX    0.00    0.00   68.50   68.50  359.50  359.50  428.00  428.00
 984          RY    3.00    1.18    0.50    0.00    0.00    0.50    1.18    3.00
              *

 985          KK    OL51   BASIN
 986          KM   Runoff hydrograph for square mile subbasin OL51 northeast of the intersection
 987          KM   of Olive Avenue and 51st Avenue
 988          BA   0.993
 989          LG    0.23    0.15    7.30    0.10      36
 990          UC   1.500   1.014
 991          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
 992          UA     100
              *

 993          KK  EROL51  DIVERT
 994          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
 995          KM   retention developed after 1990 in subbasin OL51
 996          DT   XOL51     6.0     0.0
 997          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
 998          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *
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        LINE      ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

 999          KK   COL51 COMBINE
1000          KM   Combine route RWOL51, route RSOL51, and subbasin OL51
1001          HC       3    1.45
              *

1002          KK   DOL51  DIVERT
1003          KM   Divert calculated full flow capapcity of 297 cfs into 78-inch storm drain
1004          KM   pipe at the intersection of Olive Avenue and 51st Avenue
1005          DT  DPOL51     0.0   297.0
1006          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
1007          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

1008          KK  DWOL59  DIVERT
1009          KM   Divert remaining runoff hydrograph from combination point COL51 west to
1010          KM   combination point COL59
1011          DT  DSNO51     0.0     0.0
1012          DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
1013          DQ     0.0    34.0    68.0   170.0   340.0   680.0  1360.0  3400.0  6800.0 17000.0
              *

1014          KK  RWOL59   ROUTE
1015          KM   Route diversion DWOL59 west to combination point COL59
1016          RS       4    FLOW
1017          RC   0.035   0.015   0.035    5280  0.0034    0.00
1018          RX    0.00    0.00   75.50   75.50  402.50  402.50  478.00  478.00
1019          RY    3.00    1.25    0.50    0.00    0.00    0.50    1.25    3.00
              *

1020          KK  DROL59RETRIEVE
1021          KM   Retrieve divert DROL59 from combination point CPPE59 and divert south to
1022          KM   combination point COL59
1023          DR  DSOL59
              *
```

```
1024          KK  RSOL59    ROUTE
1025          KM   Route diversion retrieval DROL59 south to combination point COL59
1026          RS       5     FLOW
1027          RC   0.035    0.015    0.035     5280  0.0023     0.00
1028          RX    0.00     0.00    72.50    72.50  425.50   425.50  498.00  498.00
1029          RY    3.00     1.23     0.50     0.00    0.00     0.50    1.23    3.00
              *

1030          KK    OL59    BASIN
1031          KM   Runoff hydrograph for square mile subbasin OL59 northeast of the intersection
1032          KM   of Olive Avenue and 59th Avenue
1033          BA   0.990
1034          LG    0.24     0.15     8.80     0.05       34
1035          UC   1.500    1.012
1036          UA       0      5.0     16.0     30.0     65.0     77.0     84.0     90.0     94.0     97.0
1037          UA     100
              *
1                                        HEC-1 INPUT                                          PAGE 27

              LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9.....10

1038          KK  EROL59   DIVERT
1039          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
1040          KM   retention developed after 1990 in subbasin OL59
1041          DT   XOL59     21.9      0.0
1042          DI       0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
1043          DQ       0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

1044          KK    COL59 COMBINE
1045          KM   Combine route RWOL59, route RSOL59, and subbasin OL59
1046          HC         3     2.78
              *

1047          KK   PR59PERETRIEVE
1048          KM    Retrieve full flow capacity of 235 cfs from 78-inch storm drain pipe at the
1049          KM    intersection of Peoria Avenue and 59th Avenue
1050          DR   DP59PE
              *

1051          KK  RP59BR    ROUTE
1052          KM   Route full flow capacity of 235 cfs through 78-inch storm drain pipe in
1053          KM   59th Avenue to the intersection of Brown Street and 59th Avenue
1054          RK     1231  0.0020    0.015              CIRC    6.500
              *

1055          KK    DBR59  DIVERT
1056          KM   Divert calculated full flow capapcity of 161 cfs into 60-inch storm drain
1057          KM   pipe at the intersection of Brown Street and 59th Avenue
1058          DT   DPBR59       0.0    161.0
1059          DI       0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
1060          DQ       0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

1061          KK  RP59OL    ROUTE
1062          KM   Route full flow capacity of 161 cfs through 60-inch storm drain pipe in
1063          KM   59th Avenue to the intersection of Olive Avenue and 59th Avenue
1064          RK     1446  0.0031    0.015              CIRC    3.500
              *

1065          KK  PROL51RETRIEVE
1066          KM   Retrieve full flow capacity of 297 cfs from 78-inch storm drain pipe at the
1067          KM   intersection of Olive Avenue and 51st Avenue
1068          DR   DPOL51
              *

1069          KK  RPOL59    ROUTE
1070          KM   Route full flow capacity of 297 cfs through 78-inch storm drain pipe in
1071          KM   Olive Avenue to the intersection of Olive Avenue and 59th Avenue
1072          RK     5117  0.0032    0.015              CIRC    6.500
              *
1                                        HEC-1 INPUT                                          PAGE 28

              LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9.....10

1073          KK  CPOL59 COMBINE
1074          KM   Combine pipe return PROL51 and the remainder of pipe return PR59PE with the
1075          KM   runoff hydrograph at combination point COL59 at the intersection of Olive
1076          KM   Avenue and 59th Avenue
1077          HC         3
              *

1078          KK    DOL59  DIVERT
1079          KM   Divert calculated full flow capapcity of 475 cfs into 90-inch storm drain
1080          KM   pipe at the intersection of Olive Avenue and 59th Avenue
1081          DT   DPOL59       0.0    475.0
1082          DI       0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
1083          DQ       0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

1084          KK  DWOL67  DIVERT
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1085          KM   Divert remaining runoff hydrograph from combination point CPOL59 west to
1086          KM   combination point COL67
1087          DT   DSNO59       0.0      0.0
1088          DI       0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0  10000.0  20000.0  50000.0
1089          DQ       0.0     61.0    122.0    305.0    610.0   1220.0   2440.0   6100.0  12200.0  30500.0
              *

1090          KK  RWOL67    ROUTE
1091          KM   Route diversion DWOL67 west to combination point COL67
1092          RS         3     FLOW
1093          RC   0.035    0.015    0.035     5280  0.0034     0.00
1094          RX    0.00     0.00    54.50    54.50  273.50   273.50  328.00  328.00
1095          RY    3.00     1.04     0.50     0.00    0.00     0.50    1.04    3.00
              *

1096          KK  DROL67RETRIEVE
1097          KM   Retrieve divert DROL67 from combination point CPE67 and divert south to
1098          KM   combination point COL67
1099          DR   DSOL67
              *

1100          KK  RSOL67    ROUTE
1101          KM   Route diversion retrieval DROL67 south to combination point COL67
1102          RS         7     FLOW
1103          RC   0.035    0.015    0.035     5280  0.0031     0.00
1104          RX    0.00     0.00    45.50    45.50  284.50   284.50  330.00  330.00
1105          RY    3.00     0.96     0.50     0.00    0.00     0.50    0.96    3.00
              *

1106          KK    OL67    BASIN
1107          KM   Runoff hydrograph for square mile subbasin OL67 northeast of the intersection
1108          KM   of Olive Avenue and 67th Avenue
1109          BA   0.960
1110          LG    0.23     0.15     8.40     0.07       36
1111          UC   1.412    0.952
1112          UA       0      5.0     16.0     30.0     65.0     77.0     84.0     90.0     94.0     97.0
1113          UA     100
              *
1                                        HEC-1 INPUT                                          PAGE 29

              LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9.....10

1114          KK  EROL67   DIVERT
1115          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
1116          KM   retention developed after 1990 in subbasin OL67
1117          DT   XOL67     39.8      0.0
1118          DI       0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
1119          DQ       0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

1120          KK    COL67 COMBINE
1121          KM   Combine route RWOL67, route RSOL67, and subbasin OL67
1122          HC         3     2.84
              *

1123          KK   PRBR59RETRIEVE
1124          KM    Retrieve full flow capacity of 161 cfs from 60-inch storm drain pipe at the
1125          KM    intersection of Brown Street and 59th Avenue
1126          DR   DPBR59
              *

1127          KK  RPBR63    ROUTE
1128          KM   Route full flow capacity of 161 cfs through 60-inch storm drain pipe in
1129          KM   63rd Avenue to the intersection of Brown Street and 63rd Avenue
1130          RK      528  0.0038    0.015              CIRC    5.000
              *

1131          KK  SRBR63 STORAGE
1132          KM   Storage route pipe flow PRBR59 from the storm drain in Brown Street
1133          KM      through regional detention basin located near the intersection of Brown
1134          KM      Street and 63rd Avenue
1135          KM   Stage-storage from Sahuaro Ranch Park - Phase VI Civil Survey, 1988
1136          RS         1     STOR
1137          SV              0.83     1.95     7.59     8.05     8.59
1138          SQ              9.00    25.00    52.00   201.00   474.00
1139          SE     57.00    58.00    59.00    63.00    63.30    63.50
              *

1140          KK  RP63OL    ROUTE
1141          KM   Route full flow capacity of 161 cfs through 60-inch storm drain pipe in
1142          KM   63rd Avenue to the intersection of Olive Avenue and 63rd Avenue
1143          RK     3878  0.0040    0.015              CIRC    2.500
              *

1144          KK  PROL59RETRIEVE
1145          KM   Retrieve full flow capacity of 475 cfs from 90-inch diameter pipe at the
1146          KM   intersection of Olive Avenue and 59th Avenue
1147          DR   DPOL59
              *

1148          KK  RPOL63    ROUTE
1149          KM   Route full flow capacity of 475 cfs through 90-inch storm drain pipe in
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1150          KM   in Olive Avenue to the intersection of Olive Avenue and 63rd Avenue
1151          RK    2835  0.0038   0.015            CIRC   7.500
              *
1                                        HEC-1 INPUT                                        PAGE 30

LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


1152          KK  CPOL63 COMBINE
1153          KM   Combine pipe return PROL67 with pipe return PRBR59 at the intersection of
1154          KM   Olive Avenue and 63rd Avenue
1155          HC       2    2.84
              *


1156          KK  RPOL67   ROUTE
1157          KM   Route full flow capacity of 161 cfs through 60inch storm drain pipe in
1158          KM   59th Avenue to the intersection of Olive Avenue and 59th Avenue
1159          RK    2409  0.0033   0.015            CIRC   7.500
              *


1160          KK  PR67PERETRIEVE
1161          KM   Retrieve full flow capacity of 161 cfs from 60-inch storm drain pipe at the
1162          KM   intersection of Olive Avenue and 67th Avenue
1163          DR  DP67PE
              *
              * KKRP67MV   ROUTE
              * KM Route full flow capacity of 162 cfs through 60-inch storm drain pipe in
              * KM 67th Avenue to the intersection of Mountain View Road and 67th Avenue
              * RK  2679  0.0039   0.015            CIRC   5.000
              *


1164          KK  SR67MV STORAGE
1165          KM   Storage route pipe flow PR67PE from storm drain in 67th Avenue through
1166          KM     regional detention basin located near the intersection of Mountain View
1167          KM     Road and 67th Avenue
1168          KM   Stage-storage from Chaparral Ranch Retention Basin Plans, 1984
1169          RS       1    STOR
1170          SV            2.29    2.93    3.65    5.28
1171          SQ           17.00  201.00  531.00 1457.00
1172          SE  1170.0 1171.00 1171.30 1171.50 1172.00
              *
              * KKRP67OL   ROUTE
              * KM Route full flow capacity of 175 cfs through 66-inch storm drain pipe in
              * KM 67th Avenue to the intersection of Olive Avenue and 67th Avenue
              * RK  2627  0.0027   0.015            CIRC   5.500
              *


1173          KK  CPOL67 COMBINE
1174          KM   Combine pipe return PR67PE with the runoff hydrograph at combination point
1175          KM   COL67 at the intersection of Olive Avenue and 67th Avenue
1176          HC       3
              *


1177          KK   DOL67  DIVERT
1178          KM   Divert calculated full flow capapcity of 662 cfs into 72-inch storm drain
1179          KM   pipe at the intersection of Olive Avenue and 67th Avenue
1180          DT  DPOL67     0.0   662.0
1181          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
1182          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *
1                                        HEC-1 INPUT                                        PAGE 31

LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


1183          KK  DWOL75  DIVERT
1184          KM   Divert remaining runoff hydrograph from combination point CPOL67 west to
1185          KM   combination point COL75
1186          DT  DSNO67      0.0     0.0
1187          DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
1188          DQ     0.0    44.0    88.0   220.0   440.0   880.0  1760.0  4400.0  8800.0 22000.0
              *


1189          KK  RWOL75   ROUTE
1190          KM   Route diversion DWOL75 west to combination point COL75
1191          RS       2    FLOW
1192          RC   0.035   0.015   0.035    5280  0.0031    0.00
1193          RX    0.00    0.00   67.00   67.00  332.00  332.00  399.00  399.00
1194          RY    3.00    1.17    0.50    0.00    0.00    0.50    1.17    3.00
              *


1195          KK  DROL75RETRIEVE
1196          KM   Retrieve divert DROL75 from combination point CPE75 and divert south to
1197          KM   combination point COL75
1198          DR  DSOL75
              *


1199          KK  RSOL75   ROUTE
1200          KM   Route diversion retrieval DROL75 south to combination point COL75
1201          RS       3    FLOW
1202          RC   0.035   0.015   0.035    5280  0.0027    0.00
1203          RX    0.00    0.00   57.50   57.50  291.50  291.50  349.00  349.00
1204          RY    3.00    1.08    0.50    0.00    0.00    0.50    1.08    3.00
```



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              *


1205          KK   OL75   BASIN
1206          KM   Runoff hydrograph for square mile subbasin OL75 northeast of the intersection
1207          KM   of Olive Avenue and 75th Avenue
1208          BA   1.004
1209          LG    0.23    0.15    8.80    0.06      32
1210          UC   1.500   1.012
1211          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
1212          UA     100
              *


1213          KK  EROL75  DIVERT
1214          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
1215          KM   retention developed after 1990 in subbasin OL75
1216          DT   XOL75    40.9     0.0
1217          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
1218          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *


1219          KK   COL75 COMBINE
1220          KM   Combine route RWOL75, route RSOL75, and subbasin OL75
1221          HC       3    4.34
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


1222          KK  PROL67RETRIEVE
1223          KM   Retrieve full flow capacity of 662 cfs from 72-inch storm drain pipe at the
1224          KM   intersection of Olive Avenue and 67th Avenue
1225          DR  DPOL67
              *


1226          KK  RPOL71   ROUTE
1227          KM   Route full flow capacity of 662 cfs through 72-inch storm drain pipe in
1228          KM   Olive Avenue to the intersection of Olive Avenue and 71st Avenue
1229          RK    2746  0.0243   0.015            CIRC   6.000
              *


1230          KK  CPOL71 COMBINE
1231          KM   Combine pipe return PROL67 with the runoff hydrograph at combination point
1232          KM   COL71 at the intersection of Olive Avenue and 71st Avenue
1233          HC       2
              *


1234          KK  SROL71 STORAGE
1235          KM   Storage route runoff hydrograph from combination point CPOL71 through
1236          KM     regional detention basin located near the intersection of Olive Avenue
1237          KM     and 71st Avenue
1238          KM   Stage-storage data from topography provided by FCDMC dated 3/28/1994
1239          RS       1    STOR
1240          SV            8.78   27.11   47.24   69.15   92.94  105.55  118.61
1241          SQ           57.00  147.00  148.00  184.00  213.00 2792.00 7494.00
1242          SE  1128.0 1130.00 1132.00 1134.00 1136.00 1138.00 1139.00 1140.00
              *


1243          KK   DOL71  DIVERT
1244          KM   Divert calculated full flow capapcity of 386 cfs into 78-inch storm drain
1245          KM   pipe at the intersection of Olive Avenue and 71st Avenue
1246          DT  DPOL71     0.0   386.0
1247          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
1248          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *


1249          KK  PR75PERETRIEVE
1250          KM   Retrieve full flow capacity of 179 cfs from 60-inch storm drain pipe at the
1251          KM   intersection of Peoria Avenue and 75th Avenue
1252          DR  DP75PE
              *


1253          KK  RP75OL   ROUTE
1254          KM   Route full flow capacity of 179 cfs through 60-inch storm drain pipe in
1255          KM   75th Avenue to the intersection of Olive Avenue and 75th Avenue
1256          RK    5035  0.0047   0.015            CIRC   5.000
              *
1                                        HEC-1 INPUT                                        PAGE 33

LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


1257          KK  PROL71RETRIEVE
1258          KM   Retrieve full flow capacity of 386 cfs from 78-inch storm drain pipe at the
1259          KM   intersection of Olive Avenue and 71st Avenue
1260          DR  DPOL71
              *


1261          KK  RPOL75   ROUTE
1262          KM   Route full flow capacity of 386 cfs through 78-inch storm drain pipe in
1263          KM   Olive Avenue to the intersection of Olive Avenue and 75th Avenue
1264          RK    2971  0.0054   0.015            CIRC   6.500
              *
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1265          KK  CPOL75 COMBINE
1266          KM   Combine pipe return PROL71 with the runoff hydrograph at combination point
1267          KM   COL75 at the intersection of Olive Avenue and 75th Avenue
1268          HC       3
              *
1269          KK   DOL75  DIVERT
1270          KM   Divert calculated full flow capapcity of 239 cfs into 90-inch storm drain
1271          KM   pipe at the intersection of Olive Avenue and 75th Avenue
1272          DT  DPOL75      0.0   239.0
1273          DI      0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
1274          DQ      0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *
1275          KK  DWGR83  DIVERT
1276          KM   Divert remaining runoff hydrograph from combination point CPOL75 west to
1277          KM   combination point CGR83
1278          DT  DSGR75      0.0     0.0
1279          DI      0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
1280          DQ      0.0    51.0   102.0   255.0   510.0  1020.0  2040.0  5100.0 10200.0 25500.0
              *
1281          KK  DRGR83RETRIEVE
1282          KM   Retrieve divert DRGR83 from combination point CPE83 and divert south to
1283          KM   combination point CGR83
1284          DR  DSGR83
              *
1285          KK   D83GR  DIVERT
1286          DT  DSOL83      0.0     0.0
1287          DI      0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
1288          DQ      0.0    28.0    56.0   140.0   280.0   560.0  1120.0  2800.0  5600.0 14000.0
              *
1289          KK  RSGR83   ROUTE
1290          KM   Route diversion D83GR south to combination point CGR83
1291          RS      10    FLOW
1292          RC   0.035   0.015   0.035    7145  0.0003    0.00
1293          RX    0.00    0.00   67.00   67.00  332.00  332.00  399.00  399.00
1294          RY    3.00    1.17    0.50    0.00    0.00    0.50    1.17    3.00
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9.....10

1295          KK    GR83   BASIN
1296          KM   Runoff hydrograph for subbasin GR83 southeast of the intersection of Grand
1297          KM   Avenue and 83rd Avenue
1298          BA   0.468
1299          LG    0.17    0.13   10.10    0.03      58
1300          UC   1.068   0.604
1301          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
1302          UA     100
              *
1303          KK  ERGR83  DIVERT
1304          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
1305          KM   retention developed after 1990 in subbasin GR83
1306          DT  XGR83     32.4     0.0
1307          DI      0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
1308          DQ      0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *
1309          KK   CGR83 COMBINE
1310          KM   Combine divert DWGR83, route RSGR83, and subbasin GR83
1311          HC       3    3.99
              *
1312          KK  SRGR83 STORAGE
1313          KM   Storage routing ID RES26S in Maryvale ADMS, Feb 1997 - comments from ADMS:
1314          KM   PONDING AREA RESERVOIR ROUTE
1315          KM   SUB-BASIN 26-31E
1316          KM   PONDING AREA NORTHEAST OF GRAND AVENUE/RR EMBANKMENT
1317          KM   OUTFLOW REPRESENTS BOTH FLOW WEST (OVER THE RR EMBANKEMENT) AND
1318          KM   FLOW SOUTH OVER OLIVE AVENUE
1319          KM   ------------------------------------------------------------------------------
1320          KM   REVISION TO MARYVALE ADMS MODEL KHA --> COMBINED STORAGE AT 75TH AND 83RD AVE
1321          KM
1322          KM   Storage route runoff hydrograph from combination point CGR83 through ponding
1323          KM     area at Grand Avenue between 75th Avenue and 83rd Avenue
1324          KM   ------------------------------------------------------------------------------
1325          RS       1    STOR
1326          SV              3.40   27.60   58.20  102.60  145.28  278.39  315.39  329.41  339.52
1327          SV    350.22  367.41
1328          SQ         0     0.1     0.2    0.35 2170.1 4810.15  51070.  51070.  51070.    5117
1329          SQ   51230.  52040.
1330          SE    1132.   1134.   1136.   1137.   1138. 1138.5   1140.   1141. 1141.3    1141
1331          SE  1141.7    1142.
              *
1332          KK  DWOL83  DIVERT
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1333          KM   Divert ID D26AW in Maryvale ADMS, Feb 1997
1334          KM   Divert remaining runoff hydrograph from combination point CGR83 west to
1335          KM   combination point COL83
1336          DT  DS75NO      0.0     0.0
1337          DI      0.0  2170.0  4810.0 52040.0     0.0     0.0     0.0     0.0     0.0     0.0
1338          DQ      0.0  2170.0  4160.0 51390.0     0.0     0.0     0.0     0.0     0.0     0.0
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9.....10

1339          KK  RWOL83   ROUTE
1340          KM   Route diversion DWOL83 west to combination point COL83
1341          RS       1    FLOW
1342          RC   0.035   0.015   0.035    5280  0.0027    0.00
1343          RX    0.00    0.00   26.00   26.00  148.00  148.00  174.00  174.00
1344          RY    3.00    0.76    0.50    0.00    0.00    0.50    0.76    3.00
              *
1345          KK  DIOL83RETRIEVE
1346          KM   Retrieve arterial street flow diverted to 83rd Avenue at the intersection
1347          KM   of 83rd Avenue and Grand Avenue
1348          DR  DSOL83
              *
1349          KK  RSOL83   ROUTE
1350          KM   Route diversion retrieval DIOL83 south to combination point COL83
1351          RS       6    FLOW
1352          RC   0.035   0.015   0.035    5280  0.0031    0.00
1353          RX    0.00    0.00   67.00   67.00  332.00  332.00  399.00  399.00
1354          RY    3.00    1.17    0.50    0.00    0.00    0.50    1.17    3.00
              *
1355          KK    OL83   BASIN
1356          KM   Runoff hydrograph for subbasin OL83 northeast of the intersection
1357          KM   of Olive Avenue and 83rd Avenue
1358          BA   0.537
1359          LG    0.19    0.13   10.10    0.03      53
1360          UC   1.141   0.625
1361          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
1362          UA     100
              *
1363          KK  EROL83  DIVERT
1364          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
1365          KM   retention developed after 1990 in subbasin OL83
1366          DT  XOL83     36.7     0.0
1367          DI      0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
1368          DQ      0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *
1369          KK   COL83 COMBINE
1370          KM   Combine route RWOL83, route RSOL83, and subbasin OL83
1371          HC       3    1.06
              *
1372          KK    NO27   BASIN
1373          KM   Runoff hydrograph for subbasin NO27 northeast of the intersection of Northern
1374          KM   Avenue and 27th Avenue
1375          BA   0.126
1376          LG    0.18    0.15    8.80    0.05      63
1377          UC   0.898   1.187
1378          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
1379          UA     100
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9.....10

1380          KK   D27NO  DIVERT
1381          KM   Divert calculated full flow capapcity of 114 cfs into 54-inch storm drain
1382          KM   pipe at the intersection of Northern Avenue and 27th Avenue
1383          DT  DP27NO      0.0   114.0
1384          DI      0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
1385          DQ      0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *
1386          KK  DWNO35  DIVERT
1387          KM   Divert remaining runoff hydrograph from subbasin NO27 west to combination
1388          KM   point CNO35
1389          DT  DSGL27      0.0     0.0
1390          DI      0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
1391          DQ      0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
              *
1392          KK  RWNO35   ROUTE
1393          KM   Route diversion DWNO35 west to combination point CNO35
1394          RS       1    FLOW
1395          RC   0.035   0.015   0.035    5280  0.0001    0.00
1396          RX    0.00    0.00   76.50   76.50  372.50  372.50  449.00  449.00
1397          RY    3.00    1.27    0.50    0.00    0.00    0.50    1.27    3.00
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                *
1398            KK  DRNO35RETRIEVE
1399            KM   Retrieve divert DRNO35 from subbasin OL35 and divert south to
1400            KM   combination point CNO35
1401            DR  DSNO35
                *
1402            KK  RSNO35   ROUTE
1403            KM   Route diversion retrieval DRNO35 south to combination point CNO35
1404            RS      10    FLOW
1405            RC   0.035   0.015   0.035    5280  0.0036    0.00
1406            RX    0.00    0.00   67.00   67.00  332.00  332.00  399.00  399.00
1407            RY    3.00    1.17    0.50    0.00    0.00    0.50    1.17    3.00
                *
1408            KK   NO35   BASIN
1409            KM   Runoff hydrograph for square mile subbasin NO35 northeast of the intersection
1410            KM   of Norhtern Avenue and 35th Avenue
1411            BA   0.991
1412            LG    0.24    0.25    5.80    0.17      38
1413            UC   1.500   0.921
1414            UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
1415            UA     100
                *
1416            KK   CNO35 COMBINE
1417            KM   Combine route RWNO35, route RSNO35, and subbasin NO35
1418            HC       3    1.14
                *
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LINE            ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1419            KK  PR27NORETRIEVE
1420            KM   Retrieve full flow capacity of 114 cfs from 54-inch diameter pipe at the
1421            KM   intersection of Northern Avenue and 27th Avenue
1422            DR  DP27NO
                *
1423            KK  CPNO29 COMBINE
1424            KM   Combine pipe return PR27NO with the runoff hydrograph at combination point
1425            KM   CNO29 at the intersection of Northern Avenue and 29th Avenue
1426            HC       2
                *
1427            KK   D29NO  DIVERT
1428            KM   Divert calculated full flow capapcity of 114 cfs into 54-inch storm drain
1429            KM   pipe at the intersection of Northern Avenue and 29th Avenue
1430            DT  DP29NO      0.0    114.0
1431            DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
1432            DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
                *
1433            KK  PR35OLRETRIEVE
1434            KM   Retrieve full flow capacity of 61 cfs from 42-inch diameter pipe at the
1435            KM    intersection of Northern Avenue and 35th Avenue
1436            DR  DP35OL
                *
1437            KK  RP35NO   ROUTE
1438            KM   Route full flow capacity of 61 cfs through 42-inch storm drain pipe in
1439            KM   35th Avenue to the intersection of Northern Avenue and 35th Avenue
1440            RK    5191  0.0037   0.015             CIRC   3.500
                *
1441            KK  CPNO35 COMBINE
1442            KM   Combine pipe return PR35OL with the runoff hydrograph at combination point
1443            KM   CNO35 at the intersection of Northern Avenue and 35th Avenue
1444            HC       2
                *
1445            KK   D35NO  DIVERT
1446            KM   Capacity of storm drain in 31st Avenue and 35th Avenue diverted together.
1447            KM   Divert combined calculated full flow capacity of 26 cfs in the 30-inch storm
1448            KM   drain pipe in 31st Avenue and 87 cfs in the 48-inch storm drain pipe in
1449            KM   35th Avenue. The total calculated combined full flow capacity diverted at the
1450            KM   intersection of 35th Avenue and Northern Avenue is 113 cfs in an equivalent
1451            KM   diameter pipe of 53 inches
1452            DT  DP35NO      0.0    113.0
1453            DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
1454            DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
                *
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LINE            ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1455            KK  DWNO43  DIVERT
1456            KM   Divert remaining runoff hydrograph from combination point CPNO353 west to
1457            KM   combination point CNO43
1458            DT  DSGL35      0.0     0.0
```



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1459            DI      0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
1460            DQ      0.0    46.0    92.0   230.0   460.0   920.0  1840.0  4600.0  9200.0 23000.0
                *
1461            KK  RWNO43   ROUTE
1462            KM   Route diversion DWNO43 west to combination point CNO43
1463            RS       7    FLOW
1464            RC   0.035   0.015   0.035    5280  0.0021    0.00
1465            RX    0.00    0.00  114.50  114.50  534.50  534.50  649.00  649.00
1466            RY    3.00    1.64    0.50    0.00    0.00    0.50    1.64    3.00
                *
1467            KK  DRNO43RETRIEVE
1468            KM   Retrieve divert DRNO43 from combination point COL43 and divert south to
1469            KM   combination point CNO43
1470            DR  DSNO43
                *
1471            KK  RSNO43   ROUTE
1472            KM   Route diversion retrieval DRNO43 south to combination point CNO43
1473            RS       6    FLOW
1474            RC   0.035   0.015   0.035    5280  0.0035    0.00
1475            RX    0.00    0.00   67.00   67.00  332.00  332.00  399.00  399.00
1476            RY    3.00    1.17    0.50    0.00    0.00    0.50    1.17    3.00
                *
1477            KK   NO43   BASIN
1478            KM   Runoff hydrograph for square mile subbasin NO43 northeast of the intersection
1479            KM   of Norhtern Avenue and 43rd Avenue
1480            BA   0.995
1481            LG    0.24    0.21    6.40    0.14      33
1482            UC   1.500   1.009
1483            UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
1484            UA     100
                *
1485            KK   CNO43 COMBINE
1486            KM   Combine route RWNO43, route RSNO43, and subbasin NO43
1487            HC       3    2.02
                *
1488            KK  PR43OLRETRIEVE
1489            KM   Retrieve full flow capacity of 85 cfs from 48-inch storm drain pipe at the
1490            KM   intersection of Olive Avenue and 43rd Avenue
1491            DR  DP43OL
                *
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LINE            ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1492            KK  RP43NO   ROUTE
1493            KM   Route full flow capacity of 85 cfs through 48-inch storm drain pipe in
1494            KM   43rd Avenue to the intersection of Northern Avenue and 43rd Avenue
1495            RK    5100  0.0035   0.015             CIRC   4.000
                *
1496            KK  CPNO43 COMBINE
1497            KM   Combine pipe return PR43OL with the runoff hydrograph at combination point
1498            KM   CPNO43 at the intersection of Northern Avenue and 43rd Avenue
1499            HC       2
                *
1500            KK   D43NO  DIVERT
1501            KM   Capacity of storm drain in 43rd Avenue and 39th Avenue diverted together.
1502            KM   Divert combined calculated full flow capacity of 124 cfs in the 54-inch storm
1503            KM   drain pipe in 39th AVenue and 117 cfs in the 54-inch storm drain pipe in
1504            KM   43rd Avenue. The total calculated combined full flow capacity diverted at the
1505            KM   intersection of 43rd Avenue and Northern Avenue is 241 cfs in an equivalent
1506            KM   diameter pipe of 71 inches
1507            DT  DP43NO      0.0    241.0
1508            DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
1509            DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
                *
1510            KK  DWNO51  DIVERT
1511            KM   Divert remaining runoff hydrograph from combination point CPNO43 west to
1512            KM   combination point CNO51
1513            DT  DSGL43      0.0     0.0
1514            DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
1515            DQ     0.0    51.0   102.0   255.0   510.0  1020.0  2040.0  5100.0 10200.0 25500.0
                *
1516            KK  RWNO51   ROUTE
1517            KM   Route diversion DWNO51 west to combination point CNO51
1518            RS       5    FLOW
1519            RC   0.035   0.015   0.035    5280  0.0019    0.00
1520            RX    0.00    0.00   65.50   65.50  382.50  382.50  448.00  448.00
1521            RY    3.00    1.16    0.50    0.00    0.00    0.50    1.16    3.00
                *
1522            KK  DRNO51RETRIEVE
1523            KM   Retrieve divert DRNO51 from combination point COL51 and divert south to
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1524          KM   combination point CNO51
1525          DR  DSNO51
              *
1526          KK  RSNO51   ROUTE
1527          KM   Route diversion retrieval DRNO51 south to combination point CNO51
1528          RS       6    FLOW
1529          RC   0.035   0.015   0.035    5280  0.0019    0.00
1530          RX    0.00    0.00   54.50   54.50  273.50  273.50  328.00  328.00
1531          RY    3.00    1.04    0.50    0.00    0.00    0.50    1.04    3.00
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1532          KK    NO51   BASIN
1533          KM   Runoff hydrograph for square mile subbasin NO51 northeast of the intersection
1534          KM   of Norhtern Avenue and 51st Avenue
1535          BA   0.993
1536          LG    0.24    0.25    6.00    0.16      37
1537          UC   1.500   1.010
1538          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
1539          UA     100
              *
1540          KK   CNO51 COMBINE
1541          KM   Combine route RWNO51, route RSNO51, and subbasin NO51
1542          HC       3    2.47
              *
1543          KK   DNO51  DIVERT
1544          KM   Divert calculated full flow capapcity of 168 cfs into 66-inch storm drain
1545          KM   pipe at the intersection of Northern Avenue and 51st Avenue
1546          DT  DPNO51      0.0   168.0
1547          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
1548          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *
1549          KK  DWNO59  DIVERT
1550          KM   Divert remaining runoff hydrograph from combination point CNO51 west to
1551          KM   combination point CNO59
1552          DT  DSGL51      0.0     0.0
1553          DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
1554          DQ     0.0    44.0    88.0   220.0   440.0   880.0  1760.0  4400.0  8800.0 22000.0
              *
1555          KK  RWNO59   ROUTE
1556          KM   Route diversion DWNO59 west to combination point CNO59
1557          RS       3    FLOW
1558          RC   0.035   0.015   0.035    5280  0.0040    0.00
1559          RX    0.00    0.00   58.50   58.50  339.50  339.50  398.00  398.00
1560          RY    3.00    1.08    0.50    0.00    0.00    0.50    1.08    3.00
              *
1561          KK  DRNO59RETRIEVE
1562          KM   Retrieve divert DRNO59 from combination point CPOL59 and divert south to
1563          KM   combination point CNO59
1564          DR  DSNO59
              *
1565          KK  RSNO59   ROUTE
1566          KM   Route diversion retrieval DRNO59 south to combination point CNO59
1567          RS       4    FLOW
1568          RC   0.035   0.015   0.035    5280  0.0024    0.00
1569          RX    0.00    0.00   86.50   86.50  511.50  511.50  598.00  598.00
1570          RY    3.00    1.36    0.50    0.00    0.00    0.50    1.36    3.00
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1571          KK    NO59   BASIN
1572          KM   Runoff hydrograph for square mile subbasin NO59 northeast of the intersection
1573          KM   of Norhtern Avenue and 59th Avenue
1574          BA   0.992
1575          LG    0.23    0.15    7.60    0.09      33
1576          UC   1.500   1.011
1577          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
1578          UA     100
              *
1579          KK  ERNO59  DIVERT
1580          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
1581          KM   retention developed after 1990 in subbasin NO59
1582          DT   XNO59     22.4     0.0
1583          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
1584          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *
1585          KK   CNO59 COMBINE
1586          KM   Combine route RWNO59, route RSNO59, and subbasin NO59
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1587          HC       3    4.06
              *
1588          KK  SRNO59 STORAGE
1589          KM   Storage route runoff hydrograph from combination point CNO59 through
1590          KM     regional detention basin located in subbasin NO59
1591          KM   Combined storage from two retention basins
1592          KM   Stage-storage data from Butler Park Detention Basin As-built record, 1991 and
1593          KM     Butler Park Street Improvements Retention Basin As-built record, 1990
1594          RS       1    STOR
1595          SV            1.87    4.65    7.68   15.59
1596          SQ                                 2430.00
1597          SE    96.00   97.00   98.00   99.00  100.00
              *
1598          KK  PRNO51RETRIEVE
1599          KM   Retrieve full flow capacity of 168 cfs from 66-inch storm drain pipe at the
1600          KM   intersection of Northern Avenue and 51st Avenue
1601          DR  DPNO51
              *
1602          KK  RPNO59   ROUTE
1603          KM   Route full flow capacity of 168 cfs through 66-inch storm drain pipe in
1604          KM   Northern Avenue to the intersection of Northern Avenue and 51st Avenue
1605          RK    5146  0.0025   0.015             CIRC   5.500
              *
1606          KK  CPNO59 COMBINE
1607          KM   Combine pipe return PRNO51 with the runoff hydrograph at combination point
1608          KM   CNO59 at the intersection of Northern Avenue and 59th Avenue
1609          HC       2
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1610          KK   DNO59  DIVERT
1611          KM   Divert calculated full flow capapcity of 134 cfs into 72-inch storm drain
1612          KM   pipe at the intersection of Northern Avenue and 59th Avenue
1613          DT  DPNO59      0.0   134.0
1614          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
1615          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *
1616          KK  DWNO67  DIVERT
1617          KM   Divert remaining runoff hydrograph from combination point CPNO59 west to
1618          KM   combination point CNO67
1619          DT  DSGL59      0.0     0.0
1620          DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
1621          DQ     0.0    33.0    66.0   165.0   330.0   660.0  1320.0  3300.0  6600.0 16500.0
              *
1622          KK  RWNO67   ROUTE
1623          KM   Route diversion DWNO67 west to combination point CNO67
1624          RS       3    FLOW
1625          RC   0.035   0.015   0.035    5280  0.0029    0.00
1626          RX    0.00    0.00   58.50   58.50  339.50  339.50  398.00  398.00
1627          RY    3.00    1.08    0.50    0.00    0.00    0.50    1.08    3.00
              *
1628          KK  DRNO67RETRIEVE
1629          KM   Retrieve divert DRNO67 from combination point CPOL67 and divert south to
1630          KM   combination point CNO67
1631          DR  DSNO67
              *
1632          KK  RSNO67   ROUTE
1633          KM   Route diversion retrieval DRNO67 south to combination point CNO67
1634          RS       3    FLOW
1635          RC   0.035   0.015   0.035    5280  0.0019    0.00
1636          RX    0.00    0.00   58.50   58.50  339.50  339.50  398.00  398.00
1637          RY    3.00    1.08    0.50    0.00    0.00    0.50    1.08    3.00
              *
1638          KK    NO67   BASIN
1639          KM   Runoff hydrograph for square mile subbasin NO67 northeast of the intersection
1640          KM   of Norhtern Avenue and 67th Avenue
1641          BA   0.956
1642          LG    0.22    0.15    8.80    0.05      45
1643          UC   1.500   1.020
1644          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
1645          UA     100
              *
1646          KK  ERNO67  DIVERT
1647          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
1648          KM   retention developed after 1990 in subbasin NO67
1649          DT   XNO67     54.3     0.0
1650          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
1651          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1652          KK   CNO67 COMBINE
1653          KM   Combine route RWNO67, route RSNO67, and subbasin NO67
1654          HC        3    4.93
              *

1655          KK  DWGR75  DIVERT
1656          KM   Divert portion of runoff hydrograph from subbasin CNO67 west through subbasin
1657          KM   GR75 using the ratio of the widths and slopes of the streets going west and
1658          KM   the widths and slopes of the streets going south. The remaining flow is
1659          KM   diverted south through subbasin GR67
1660          DT  DSGR67      0.0      0.0
1661          DI     0.0    100.0    200.0    500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
1662          DQ     0.0     65.0    130.0    325.0   650.0  1300.0  2600.0  6500.0 13000.0 32500.0
              *

1663          KK   DGR75  DIVERT
1664          KM   Divert portion of DWGR75 west to subbasin GR75 using the ratio of the width
1665          KM   of the collector and local streets and the width of the arterial street. The
1666          KM   remaining flow is diverted west to subbasin NO75 along Northern Avenue
1667          DT  DWNO75      0.0      0.0
1668          DI     0.0    100.0    200.0    500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
1669          DQ     0.0     33.0     66.0    165.0   330.0   660.0  1320.0  3300.0  6600.0 16500.0
              *

1670          KK  RWGR75   ROUTE
1671          KM   Route diversion DGR75 west to combination point CGR75
1672          RS       10    FLOW
1673          RC   0.035   0.015   0.035     7409  0.0008     0.00
1674          RX    0.00    0.00   44.50    44.50  253.50  253.50  298.00  298.00
1675          RY    3.00    0.94    0.50     0.00    0.00    0.50    0.94    3.00
              *

1676          KK  DRGR75RETRIEVE
1677          KM   Retrieve divert DRGR75 from combination point CPOL75 and divert south to
1678          KM   combination point CGR75
1679          DR  DSGR75
              *

1680          KK   D75GR  DIVERT
1681          KM   Divert portion of divert retrieval DRGR75 south to subbasin NO75 along
1682          KM   collector and local streets. The remaining flow is diverted south to subbasin
1683          KM   GR75 along 75th Avenue to combination point CGR75
1684          DT  DSNO75      0.0      0.0
1685          DI     0.0    100.0    200.0    500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
1686          DQ     0.0     36.0     72.0    180.0   360.0   720.0  1440.0  3600.0  7200.0 18000.0
              *

1687          KK    GR75   BASIN
1688          KM   Runoff hydrograph for subbasin GR75 southeast of the intersection of Grand
1689          KM   Avenue and 75th Avenue
1690          BA   0.496
1691          LG    0.21    0.15    8.80    0.05      55
1692          UC   1.038   0.566
1693          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
```



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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1694          UA     100
              *

1695          KK  ERGR75  DIVERT
1696          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
1697          KM   retention developed after 1990 in subbasin GR75
1698          DT   XGR75    31.1     0.0
1699          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
1700          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

1701          KK   CGR75 COMBINE
1702          KM   Combine runoff hydrographs from route RWGR75, divert D75GR, and subbasin GR75
1703          HC        3    3.09
              *

1704          KK  SRGR75 STORAGE
1705          KM   Storage route runoff hydrograph from combination point CGR75 through regional
1706          KM     detention basin located near the intersection of Grand Avenue and Olive
1707          KM     Avenue
1708          KM   Stage-storage-discharge data from State Highway Wickenburg-Phoenix Highway
1709          KM     (US 60), Grand Ave: 75th Ave-Olive Ave As-builts, ADOT, August 2004
1710          RS        1    STOR
1711          SV      0.0      0.4      2.1      4.8      7.7     14.0     21.0     28.7     37.2     46.3
1712          SV     56.2     66.9     72.6     75.5     78.4
1713          SQ      0.0      8.0     20.0     25.0     29.0     36.0     42.0     47.0     52.0     56.0
1714          SQ     60.0     64.0     66.0    305.0   1417.0
1715          SE   1118.0   1119.0   1120.0   1121.0   1122.0   1124.0   1126.0   1128.0   1130.0   1132.0
1716          SE   1134.0   1136.0   1137.0   1137.5   1138.0
              *
```



```
1717          KK  PROL75RETRIEVE
1718          KM   Retrieve full flow capacity of 239 cfs from 90-inch storm drain pipe at the
1719          KM   intersection of Olive Avenue and 75th Avenue
1720          DR  DPOL75
              *

1721          KK  CPOLGR COMBINE
1722          KM   Combine pipe return PROL75 with storage route SRGR75 at combination point
1723          KM   CPOLGR at the intersection of Olive Avenue and Grand Avenue
1724          HC        2
              *

1725          KK  DPOLGR  DIVERT
1726          KM   Divert calculated full flow capapcity of 239 cfs into 90-inch storm drain
1727          KM   pipe at the intersection of Olive Avenue and Grand Avenue. The pipe flow is
1728          KM   followed to combination point CPOL83 and the remaining surface flow is
1729          KM   diverted to combination point CIGR75 at the intersection of Grand Avenue and
1730          KM   75th Avenue
1731          DT   DOLGR      0.0      0.0
1732          DI     0.0    239.0    239.1 50000.0      0.0      0.0      0.0      0.0      0.0      0.0
1733          DQ     0.0      0.0      0.1 49761.0      0.0      0.0      0.0      0.0      0.0      0.0
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1734          KK  RFOL83   ROUTE
1735          KM   Route full flow capacity of 239 cfs through 90-inch storm drain pipe in
1736          KM   Olive Avenue to the intersection of Olive Avenue and 83rd Avenue
1737          RK    4974  0.0010   0.015            CIRC   7.500
              *

1738          KK  CPOL83 COMBINE
1739          KM   Combine pipe return PROL75 with the runoff hydrograph at combination point
1740          KM   COL83 at the intersection of Olive Avenue and 83rd Avenue
1741          HC        2
              *

1742          KK  SROL83 STORAGE
1743          KM   Storage route runoff hydrograph from combination point CPOL83 through
1744          KM     regional detention basin located near the intersection of Olive Avenue
1745          KM     and 83rd Avenue
1746          KM   Stage-storage data from topography provided by FCDMC dated 3/28/1994
1747          RS        1    STOR
1748          SV              5.45    13.07    21.61    23.90    26.31    31.42
1749          SQ             57.00   147.00   148.00   635.00 1517.00 4002.00
1750          SE   1118.0 1120.00 1122.00 1124.00 1124.50 1125.00 1126.00
              *

1751          KK   DOL83  DIVERT
1752          KM   Divert calculated full flow capapcity of 243 cfs into 90-inch storm drain
1753          KM   pipe at the intersection of Olive Avenue and 83rd Avenue
1754          DT  DPOL83      0.0    243.0
1755          DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
1756          DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

1757          KK  DWOL91  DIVERT
1758          KM   Divert remaining runoff hydrograph from combination point CPOL83 west to
1759          KM   combination point COL91
1760          DT  DSNO83      0.0      0.0
1761          DI     0.0    100.0    200.0    500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
1762          DQ     0.0     39.0     78.0    195.0   390.0   780.0  1560.0  3900.0  7800.0 19500.0
              *

1763          KK  RWOL91   ROUTE
1764          KM   Route diversion DWOL91 west to combination point COL91
1765          RS        6    FLOW
1766          RC   0.035   0.015   0.035     5280  0.0025     0.00
1767          RX    0.00    0.00   76.50    76.50  372.50  372.50  449.00  449.00
1768          RY    3.00    1.27    0.50     0.00    0.00    0.50    1.27    3.00
              *

1769          KK  DROL91RETRIEVE
1770          KM   Retrieve divert DROL91 from combination point CPPE91 and divert south to
1771          KM   combination point COL91
1772          DR  DSOL91
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1773          KK  RSOL91   ROUTE
1774          KM   Route diversion retrieval DROL91 south to combination point COL91
1775          RS        4    FLOW
1776          RC   0.035   0.015   0.035     5280  0.0019     0.00
1777          RX    0.00    0.00   86.00    86.00  413.00  413.00  499.00  499.00
1778          RY    3.00    1.36    0.50     0.00    0.00    0.50    1.36    3.00
              *

1779          KK    OL91   BASIN
```

```
1780          KM   Runoff hydrograph for square mile subbasin OL91 northeast of the intersection
1781          KM   of Olive Avenue and 91st Avenue
1782          BA   1.016
1783          LG    0.21    0.15    9.70    0.04      43
1784          UC   1.500   1.013
1785          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
1786          UA     100
              *

1787          KK  EROL91  DIVERT
1788          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
1789          KM   retention developed after 1990 in subbasin OL91
1790          DT   XOL91    47.7     0.0
1791          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
1792          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

1793          KK   COL91 COMBINE
1794          KM   Combine route RWOL91, route RSOL91, and subbasin OL91
1795          HC        3    3.68
              *

1796          KK  PROL83RETRIEVE
1797          KM   Retrieve full flow capacity of 243 cfs from 90-inch storm drain pipe at the
1798          KM   intersection of Olive Avenue and 83rd Avenue
1799          DR  DPOL83
              *

1800          KK  RPOL91   ROUTE
1801          KM   Route full flow capacity of 243 cfs through 90-inch storm drain pipe in
1802          KM   Olive Avenue to the intersection of Olive Avenue and 91st Avenue
1803          RK    5184  0.0010   0.015            CIRC   7.500
              *

1804          KK  CPOL91 COMBINE
1805          KM   Combine pipe return PROL83 with the runoff hydrograph at combination point
1806          KM   COL91 at the intersection of Olive Avenue and 91st Avenue
1807          HC        2
              *

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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1808          KK  DWOLLO  DIVERT
1809          KM   Divert remaining runoff hydrograph from combination point CPOL91 west to
1810          KM   combination point COLLO
1811          DT  DSNO91      0.0     0.0
1812          DI      0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
1813          DQ      0.0    67.0   134.0   335.0   670.0  1340.0  2680.0  6700.0 13400.0 33500.0
              *

1814          KK  RWOLLO   ROUTE
1815          KM   Route diversion DWOLLO west to combination point COLLO
1816          RS        1    FLOW
1817          RC   0.035   0.015   0.035     600  0.0039     0.00
1818          RX    0.00    0.00   16.50   16.50  107.50  107.50  124.00  124.00
1819          RY    3.00    0.66    0.50    0.00    0.00    0.50    0.66    3.00
              *

1820          KK    OLLO   BASIN
1821          KM   Runoff hydrograph for subbasin OLLO northeast of the intersection of Olive
1822          KM   Avenue and SR Loop 101
1823          BA   0.160
1824          LG    0.10    0.15    8.80    0.05      83
1825          UC   0.770   0.861
1826          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
1827          UA     100
              *

1828          KK  EROLLO  DIVERT
1829          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
1830          KM   retention developed after 1990 in subbasin OLLO
1831          DT   XOLLO    11.4     0.0
1832          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
1833          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

1834          KK   COLLO COMBINE
1835          KM   Combine route RWOLLO, route RSOLLO, and subbasin OLLO
1836          HC        3    6.18
              *

1837          KK  RSNOLO   ROUTE
1838          KM   Route hydrograph at combination point COLLO south to combination point CNOLO
1839          RS        2    FLOW
1840          RC   0.035   0.015   0.035    6136  0.0023     0.00
1841          RX    0.00    4.00   16.00   26.00   34.00   44.00   56.00   59.00
1842          RY    6.24    5.24    5.00    0.00    0.20    5.20    5.44    6.44
              *

1843          KK  DROLGRRETRIEVE
1844          KM   Retrieve remaining surface flow runoff hydrograph DROLGR following pipe
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1845          KM   diversion DPOLGR after combination point CPOLGR at the intersection of Grand
1846          KM   Avenue and Olive Avenue
1847          DR   DOLGR
              *

1                                        HEC-1 INPUT                                    PAGE 48

LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1848          KK  DI75NORETRIEVE
1849          KM   Retrieve arterial street flow diverted to 75th Avenue at the intersection
1850          KM   of 75th Avenue and Grand Avenue
1851          DR  DSNO75
              *

1852          KK  DR75NORETRIEVE
1853          KM   Retrieve divert DR75NO from combination point CGR83 and divert south to
1854          KM   combination point CIGR75
1855          DR  DS75NO
              *

1856          KK  CIGR75 COMBINE
1857          KM   Combine arterial street flow from 75th Avenue DI75NO, divert retrieval DR75NO
1858          KM   and storage route SRGR75 at the intersection of 75th Avenue and Grand Avenue
1859          HC        3    7.85
              *

1860          KK  RSNO75   ROUTE
1861          KM   Route hydrograph at intersection combination point CIGR75
1862          KM   south to combination point CNO75
1863          RS        3    FLOW
1864          RC   0.035   0.015   0.035    5280  0.0019     0.00
1865          RX    0.00    0.00   29.00   29.00  170.00  170.00  199.00  199.00
1866          RY    3.00    0.79    0.50    0.00    0.00    0.50    0.79    3.00
              *

1867          KK  DINO75RETRIEVE
1868          KM   Retrieve arterial street flow diverted to Northern Avenue and 75th Avenue
1869          KM   from the intersection of Northern Avenue and 67th Avenue
1870          DR  DWNO75
              *

1871          KK  RWNO75   ROUTE
1872          KM   Route diversion retrieval DINO75 at the intersection of Norhtern Avenue
1873          KM   and 75th Avenue west to combination point CNO75
1874          RS        4    FLOW
1875          RC   0.035   0.015   0.035    5280  0.0030     0.00
1876          RX    0.00    0.00   16.50   16.50  107.50  107.50  124.00  124.00
1877          RY    3.00    0.66    0.50    0.00    0.00    0.50    0.66    3.00
              *

1878          KK    NO75   BASIN
1879          KM   Runoff hydrograph for subbasin NO75 northeast of the intersection of
1880          KM   Norhtern Avenue and 75th Avenue
1881          BA   0.506
1882          LG    0.10    0.15    8.40    0.06      80
1883          UC   0.933   0.501
1884          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
1885          UA     100
              *

1                                        HEC-1 INPUT                                    PAGE 49

LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1886          KK  ERNO75  DIVERT
1887          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
1888          KM   retention developed after 1990 in subbasin NO75
1889          DT   XNO75    19.5     0.0
1890          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
1891          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

1892          KK   CNO75 COMBINE
1893          KM   Combine route RWNO75, route RSNO75, and subbasin NO75
1894          HC        3    8.93
              *

1895          KK   DNO75  DIVERT
1896          KM   Divert calculated full flow capapcity of 161 cfs into 60-inch storm drain
1897          KM   pipe at the intersection of Northern Avenue and 75th Avenue
1898          DT   DPNO75     0.0     161.0
1899          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
1900          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

1901          KK  DWNO83  DIVERT
1902          KM   Divert remaining runoff hydrograph from combination point CNO75 west to
1903          KM   combination point CNO83
1904          DT  DSOW75      0.0     0.0
1905          DI      0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
1906          DQ      0.0    48.0    96.0   240.0   480.0   960.0  1920.0  4800.0  9600.0 24000.0
              *
```

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1907          KK  RWNO83    ROUTE
1908          KM   Route diversion DWNO83 west to combination point CNO83
1909          RS        2     FLOW
1910          RC   0.035    0.015    0.035     5280   0.0048     0.00
1911          RX    0.00     0.00    35.50    35.50   188.50   188.50   224.00   224.00
1912          RY    3.00     0.86     0.50     0.00     0.00     0.50     0.86     3.00
              *

1913          KK  DRNO83RETRIEVE
1914          KM   Retrieve divert DRNO83 from combination point COL83 and divert south to
1915          KM   combination point CNO83
1916          DR  DSNO83
              *

1917          KK  RSNO83    ROUTE
1918          KM   Route diversion retrieval DRNO83 south to combination point CNO83
1919          RS        4     FLOW
1920          RC   0.035    0.015    0.035     5280   0.0040     0.00
1921          RX    0.00     0.00    35.50    35.50   188.50   188.50   224.00   224.00
1922          RY    3.00     0.86     0.50     0.00     0.00     0.50     0.86     3.00
              *
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LINE          ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

1923          KK    NO83    BASIN
1924          KM   Runoff hydrograph for square mile subbasin NO83 northeast of the intersection
1925          KM   of Norhtern Avenue and 83rd Avenue
1926          BA   1.005
1927          LG    0.10     0.15     8.80     0.05       80
1928          UC   1.500    1.012
1929          UA       0      5.0     16.0     30.0     65.0     77.0     84.0     90.0     94.0     97.0
1930          UA     100
              *

1931          KK  ERNO83   DIVERT
1932          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
1933          KM   retention developed after 1990 in subbasin NO83
1934          DT   XNO83     74.7      0.0
1935          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
1936          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

1937          KK   CNO83 COMBINE
1938          KM   Combine route RWNO83, route RSNO83, and subbasin NO83
1939          HC        3     6.05
              *

1940          KK  PRNO75RETRIEVE
1941          KM   Retrieve full flow capacity of 161 cfs from 60-inch storm drain pipe at the
1942          KM   intersection of Thunderbird Road and 75th Avenue
1943          DR  DPNO75
              *

1944          KK  RPNO83    ROUTE
1945          KM   Route full flow capacity of 161 cfs through 60-inch storm drain pipe in
1946          KM   Northern Avenue to the intersection of Northern Avenue and 83rd Avenue
1947          RK     5291  0.0038    0.015              CIRC    5.000
              *

1948          KK  CPNO83 COMBINE
1949          KM   Combine pipe return PRNO75 with the runoff hydrograph at combination point
1950          KM   CNO83 at the intersection of Northern Avenue and 83rd Avenue
1951          HC        2
              *

1952          KK   DNO83   DIVERT
1953          KM   Divert calculated full flow capapcity of 233 cfs into 72-inch storm drain
1954          KM   pipe at the intersection of Northern Avenue and 83rd Avenue
1955          DT   DPNO83       0.0    233.0
1956          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
1957          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *
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LINE          ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

1958          KK  RWNO91    ROUTE
1959          KM   Route diversion DWNO91 west to combination point CNO91
1960          RS        3     FLOW
1961          RC   0.035    0.015    0.035     5280   0.0014     0.00
1962          RX    0.00     0.00    45.00    45.00   229.00   229.00   274.00   274.00
1963          RY    3.00     0.95     0.50     0.00     0.00     0.50     0.95     3.00
              *

1964          KK  DRNO91RETRIEVE
1965          KM   Retrieve divert DRNO91 from combination point CPOL91 and divert south to
1966          KM   combination point CNO91
1967          DR  DSNO91
              *
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1968          KK  RSNO91    ROUTE
1969          KM   Route diversion retrieval DRNO91 south to combination point CNO91
1970          RS        3     FLOW
1971          RC   0.035    0.015    0.035     5280   0.0029     0.00
1972          RX    0.00     0.00    48.00    48.00   251.00   251.00   299.00   299.00
1973          RY    3.00     0.98     0.50     0.00     0.00     0.50     0.98     3.00
              *

1974          KK    NO91    BASIN
1975          KM   Runoff hydrograph for square mile subbasin NO91 northeast of the intersection
1976          KM   of Norhtern Avenue and 91st Avenue
1977          BA   0.993
1978          LG    0.24     0.15     8.00     0.07       33
1979          UC   1.500    1.014
1980          UA       0      5.0     16.0     30.0     65.0     77.0     84.0     90.0     94.0     97.0
1981          UA     100
              *

1982          KK  ERNO91   DIVERT
1983          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
1984          KM   retention developed after 1990 in subbasin NO91
1985          DT   XNO91     53.9      0.0
1986          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
1987          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

1988          KK   CNO91 COMBINE
1989          KM   Combine route RWNO91, route RSNO91, and subbasin NO91
1990          HC        3     9.52
              *

1991          KK  PRNO83RETRIEVE
1992          KM   Retrieve full flow capacity of 233 cfs from 72-inch storm drain pipe at the
1993          KM   intersection of Northern Avenue and 83rd Avenue
1994          DR  DPNO83
              *
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LINE          ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

1995          KK  RPNO91    ROUTE
1996          KM   Route full flow capacity of 233 cfs through 72-inch storm drain pipe in
1997          KM   Northern Avenue to the intersection of Northern Avenue and 91st Avenue
1998          RK     6941  0.0030    0.015              CIRC    6.000
              *

1999          KK  CPNO91 COMBINE
2000          KM   Combine pipe return PRNO83 with the runoff hydrograph at combination point
2001          KM   CNO91 at the intersection of Northern Avenue and 91st Avenue
2002          HC        2
              *

2003          KK  SRNO91 STORAGE
2004          KM   Storage route runoff hydrograph from combination point CPNO91 through
2005          KM     regional detention basin located near the intersection of Northern Avenue
2006          KM     and 87th Avenue
2007          KM   Stage-storage data from Northern and Butler Storm Drains Sub-Phase "A"
2008          KM     As-built records, 2001
2009          RS        1     STOR
2010          SV              7.00    21.80    62.20    67.50    72.90    84.00   107.20
2011          SQ             18.00    26.00    38.00  1526.00  4245.00 11934.00 33681.00
2012          SE   1089.2  1090.90  1092.50  1095.80  1096.20  1096.60  1097.50  1099.10
              *

2013          KK   DNO91   DIVERT
2014          KM   Divert calculated full flow capapcity of 69 cfs into 60-inch storm drain
2015          KM   pipe at the intersection of Northern Avenue and 29th Avenue
2016          DT   DPNO91       0.0     69.0
2017          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
2018          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

2019          KK  DWNOLO  DIVERT
2020          KM   Divert remaining runoff hydrograph from combination point CPNO91 west to
2021          KM   combination point CNOLO
2022          DT   DSGL91       0.0      0.0
2023          DI       0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0  10000.0  20000.0  50000.0
2024          DQ       0.0     53.0    106.0    265.0    530.0   1060.0   2120.0   5300.0  10600.0  26500.0
              *

2025          KK  RWNOLO    ROUTE
2026          KM   Route diversion DWNOLO west to combination point CNOLO
2027          RS        2     FLOW
2028          RC   0.035    0.015    0.035     3480   0.0026     0.00
2029          RX    0.00     0.00    45.00    45.00   229.00   229.00   274.00   274.00
2030          RY    3.00     0.95     0.50     0.00     0.00     0.50     0.95     3.00
              *

2031          KK    NOLO    BASIN
2032          KM   Runoff hydrograph for subbasin NOLO northeast of the intersection of Northern
2033          KM   Avenue and SR Loop 101
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2034          BA   0.280
2035          LG    0.10    0.15    7.30    0.09      84
2036          UC   0.882   0.997
1                                      HEC-1 INPUT                                    PAGE 53

LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

2037          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
2038          UA     100
              *

2039          KK  ERNOLO  DIVERT
2040          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
2041          KM   retention developed after 1990 in subbasin NOLO
2042          DT   XNOLO     19.9      0.0
2043          DI     0.0 50000.0      0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
2044          DQ     0.0 50000.0      0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

2045          KK   CNOLO COMBINE
2046          KM   Combine route RWNOLO, route RSNOLO, and subbasin NOLO
2047          HC        3   10.91
              *

2048          KK  PRNO91RETRIEVE
2049          KM   Retrieve full flow capacity of 69 cfs from 60-inch storm drain pipe at the
2050          KM   intersection of Northern Avenue and 91st Avenue
2051          DR  DPNO91
              *

2052          KK  RPNOLO   ROUTE
2053          KM   Route full flow capacity of 69cfs through 60-inch storm drain pipe in
2054          KM   Northern Avenue to the intersection of Northern Avenue and SR Loop 101
2055          RK    2827  0.0007   0.015             CIRC    5.000
              *

2056          KK   CPNOLO COMBINE
2057          KM   Combine pipe return PRNO91 with the runoff hydrograph at combination point
2058          KM   CNOLO at the intersection of Northern Avenue and SR Loop 101
2059          HC        2
              *

2060          KK   DNOLO  DIVERT
2061          KM   Divert calculated full flow capapcity of 15 cfs into 24-inch storm drain
2062          KM   pipe at the intersection of Northern Avenue and SR Loop 101
2063          DT   DPNOLO      0.0     15.0
2064          DI     0.0 50000.0      0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
2065          DQ     0.0 50000.0      0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

2066          KK  DSGLLO  DIVERT
2067          KM   Divert remaining runoff hydrograph from combination point CPNOLO south to
2068          KM   combination point CGLLO
2069          DT   DWNR03      0.0     917.0
2070          DI     0.0 50000.0      0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
2071          DQ     0.0 50000.0      0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *
1                                      HEC-1 INPUT                                    PAGE 54

LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

2072          KK  RSGLLO   ROUTE
2073          KM   Route diversion DSGLLO south to combination point CGLLO
2074          RS        1    FLOW
2075          RC   0.035   0.015   0.035    2381  0.0023     0.00
2076          RX    0.00    4.00   16.00   26.00   34.00   44.00   56.00   59.00
2077          RY    6.24    5.24    5.00    0.00    0.20    5.20    5.44    6.44
              *

2078          KK  DRGL43RETRIEVE
2079          KM   Retrieve divert DRGL43 from combination point CPNO43 and divert south to
2080          KM   combination point CGL43
2081          DR  DSGL43
              *

2082          KK  RSGL43   ROUTE
2083          KM   Route diversion retrieval DRGL43 south to combination point CGL43
2084          RS        4    FLOW
2085          RC   0.035   0.015   0.035    5280  0.0034     0.00
2086          RX    0.00    0.00   57.50   57.50  291.50  291.50  349.00  349.00
2087          RY    3.00    1.08    0.50    0.00    0.00    0.50    1.08    3.00
              *

2088          KK    GL43   BASIN
2089          KM   Runoff hydrograph for square mile subbasin GL43 northeast of the intersection
2090          KM   of Glendale Avenue and 43rd Avenue
2091          BA   0.998
2092          LG    0.24    0.15    7.30    0.09      36
2093          UC   1.500   1.007
2094          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
2095          UA     100
              *
```



```
2096          KK   CGL43 COMBINE
2097          KM   Combine route RSGL43, and subbasin GL43
2098          HC        2    2.03
              *

2099          KK  PR43NORETRIEVE
2100          KM   Retrieve combined full flow capacity of 241 cfs from 71-inch equivalent
2101          KM   diameter pipe at the intersection of Northern Avenue and 43rd Avenue
2102          DR  DP43NO
              *

2103          KK  RP43GL   ROUTE
2104          KM   Route the combined full flow capacity of 241 cfs through an equivalent storm
2105          KM   drain pipe diameter of 71 inches in 43rd Avenue to the intersection of
2106          KM   43rd Avenue and Glendale Avenue
2107          RK    5336  0.0035   0.015             CIRC    5.917
              *
1                                      HEC-1 INPUT                                    PAGE 55

LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

2108          KK   CPGL43 COMBINE
2109          KM   Combine pipe return PR43NO with the runoff hydrograph at combination point
2110          KM   CGL43 at the intersection of Glendale Avenue and 43rd Avenue
2111          HC        2
              *

2112          KK   043GL  DIVERT
2113          KM   Capacity of storm drain in 39th Avenue and 43rd Avenue diverted together.
2114          KM   Divert combined calculated full flow capacity of 268 cfs in the 72-inch storm
2115          KM   drain pipe in 39th Avenue and 117 cfs in the 54-inch storm drain pipe in
2116          KM   43rd Avenue. The total calculated combined full flow capacity diverted at the
2117          KM   intersection of 43rd Avenue and Glendale Avenue is 385 cfs in an equivalent
2118          KM   diameter pipe of 85 inches
2119          DT   DP43GL      0.0     385.0
2120          DI     0.0 50000.0      0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
2121          DQ     0.0 50000.0      0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

2122          KK  DWGL51  DIVERT
2123          KM   Divert remaining runoff hydrograph from combination point CPGL43 west to
2124          KM   combination point CGL51
2125          DT   DSBH43      0.0     0.0
2126          DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
2127          DQ     0.0    59.0   118.0   295.0   590.0  1180.0  2360.0  5900.0 11800.0 29500.0
              *

2128          KK  RWGL51   ROUTE
2129          KM   Route diversion DWGL51 west to combination point CGL51
2130          RS        5    FLOW
2131          RC   0.035   0.015   0.035    5280  0.0011     0.00
2132          RX    0.00    0.00   61.50   61.50  316.50  316.50  378.00  378.00
2133          RY    3.00    1.12    0.50    0.00    0.00    0.50    1.12    3.00
              *

2134          KK  DRGL51RETRIEVE
2135          KM   Retrieve divert DRGL51 from combination point CNO51 and divert south to
2136          KM   combination point CGL51
2137          DR  DSGL51
              *

2138          KK  RSGL51   ROUTE
2139          KM   Route diversion retrieval DRGL51 south to combination point CGL51
2140          RS        4    FLOW
2141          RC   0.035   0.015   0.035    5280  0.0027     0.00
2142          RX    0.00    0.00   61.50   61.50  316.50  316.50  378.00  378.00
2143          RY    3.00    1.12    0.50    0.00    0.00    0.50    1.12    3.00
              *

2144          KK    GL51   BASIN
2145          KM   Runoff hydrograph for square mile subbasin GL51 northeast of the intersection
2146          KM   of Glendale Avenue and 51st Avenue
2147          BA   1.002
2148          LG    0.23    0.25    5.40    0.20      42
2149          UC   1.500   1.009
1                                      HEC-1 INPUT                                    PAGE 56

LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

2150          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
2151          UA     100
              *

2152          KK   CGL51 COMBINE
2153          KM   Combine route RWGL51, route RSGL51, and subbasin GL51
2154          HC        3    2.91
              *

2155          KK  DWGL59  DIVERT
2156          KM   Divert remaining runoff hydrograph from combination point CGL51 west to
2157          KM   combination point CGL59
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2158          DT  DSBH51      0.0     0.0
2159          DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
2160          DQ     0.0    47.0    94.0   235.0   470.0   940.0  1880.0  4700.0  9400.0 23500.0
              *

2161          KK   D47GL  DIVERT
2162          KM   Capacity of storm drain in 47th Avenue and 49th Avenue diverted together.
2163          KM   Divert combined calculated full flow capacity of 284 cfs in the 60-inch storm
2164          KM   drain pipe in 47th Avenue and 96 cfs in the 48-inch storm drain pipe in
2165          KM   49th Avenue. The total calculated combined full flow capacity diverted at the
2166          KM   intersection of 47rd Avenue and Glendale Avenue is 379 cfs in an equivalent
2167          KM   diameter pipe of 85 inches
2168          DT  DP47GL      0.0   379.0
2169          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
2170          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

2171          KK  RWGL59    ROUTE
2172          KM   Route diversion DWGL59 west to combination point CGL59
2173          RS       5     FLOW
2174          RC   0.035   0.015   0.035    5280  0.0031     0.00
2175          RX    0.00    0.00   68.50   68.50  359.50  359.50  428.00  428.00
2176          RY    3.00    1.18    0.50    0.00    0.00    0.50    1.18    3.00
              *

2177          KK  DRGL59RETRIEVE
2178          KM   Retrieve divert DRGL59 from combination point CPNO59 and divert south to
2179          KM   combination point CGL59
2180          DR  DSGL59
              *

2181          KK  RSGL59    ROUTE
2182          KM   Route diversion retrieval DRGL59 south to combination point CGL59
2183          RS       4     FLOW
2184          RC   0.035   0.015   0.035    5280  0.0018     0.00
2185          RX    0.00    0.00   37.50   37.50  210.50  210.50  248.00  248.00
2186          RY    3.00    0.88    0.50    0.00    0.00    0.50    0.88    3.00
              *
1                                        HEC-1 INPUT                                    PAGE 57

LINE          ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

2187          KK    GL59    BASIN
2188          KM   Runoff hydrograph for square mile subbasin GL59 northeast of the intersection
2189          KM   of Glendale Avenue and 59th Avenue
2190          BA   1.015
2191          LG    0.20    0.25    5.20    0.22      47
2192          UC   1.500   1.014
2193          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
2194          UA     100
              *

2195          KK  ERGL59  DIVERT
2196          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
2197          KM   retention developed after 1990 in subbasin GL59
2198          DT   XGL59     22.3     0.0
2199          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
2200          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

2201          KK   CGL59 COMBINE
2202          KM   Combine route RWGL59, route RSGL59, and subbasin GL59
2203          HC       3    3.91
              *

2204          KK   D59GL  DIVERT
2205          KM   Divert calculated full flow capapcity of 217 cfs into 72-inch storm drain
2206          KM   pipe at the intersection of Glendale Avenue and 59th Avenue
2207          DT  DP59GL      0.0   217.0
2208          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
2209          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

2210          KK  DWGR67  DIVERT
2211          KM   Divert portion of runoff hydrograph from combination point CGL59 west through
2212          KM   subbasin GR67 using the ratio of the widths and slopes of the streets going
2213          KM   west and the widths and slopes of the streets going south. The remaining flow
2214          KM   is diverted south through subbasin GR59
2215          DT  DSGR59      0.0     0.0
2216          DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
2217          DQ     0.0    46.0    92.0   230.0   460.0   920.0  1840.0  4600.0  9200.0 23000.0
              *

2218          KK   DGR67  DIVERT
2219          KM   Divert portion of DWGR67 west to subbasin GR67 using the ratio of the width
2220          KM   of the collector and local streets and the width of the arterial street. The
2221          KM   remaining flow is diverted west to subbasin GL67 along Glendale Avenue
2222          DT  DWGL67      0.0     0.0
2223          DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
2224          DQ     0.0    26.0    52.0   130.0   260.0   520.0  1040.0  2600.0  5200.0 13000.0
              *
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LINE          ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

2225          KK  DRGL35RETRIEVE
2226          KM   Retrieve divert DRGL35 from combination point CPNO35 and divert south to
2227          KM   combination point CGL35
2228          DR  DSGL35
              *

2229          KK  RSGL35    ROUTE
2230          KM   Route diversion retrieval DRGL35 south to combination point CGL35
2231          RS       6     FLOW
2232          RC   0.035   0.015   0.035    5280  0.0032     0.00
2233          RX    0.00    0.00   76.50   76.50  372.50  372.50  449.00  449.00
2234          RY    3.00    1.27    0.50    0.00    0.00    0.50    1.27    3.00
              *

2235          KK    GL35    BASIN
2236          KM   Runoff hydrograph for square mile subbasin GL35 northeast of the intersection
2237          KM   of Glendale Avenue and 35th Avenue
2238          BA   1.004
2239          LG    0.23    0.23    6.20    0.15      34
2240          UC   1.500   1.012
2241          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
2242          UA     100
              *

2243          KK   CGL35 COMBINE
2244          KM   Combine route RSGL35, and subbasin GL35
2245          HC       2    1.53
              *

2246          KK  PR35NORETRIEVE
2247          KM   Retrieve combined full flow capacity of 113 cfs from 53-inch equivalent
2248          KM   diameter pipe at the intersection of Northern Avenue and 35th Avenue
2249          DR  DP35NO
              *

2250          KK  RP35GL    ROUTE
2251          KM   Route the combined full flow capacity of 113 cfs through an equivalent storm
2252          KM   drain pipe diameter of 53 inches in 35th Avenue to the intersection of
2253          KM   35th Avenue and Glendale Avenue
2254          RK    5335  0.0037   0.015            CIRC   4.417
              *

2255          KK  CPGL35 COMBINE
2256          KM   Combine pipe return PR35NO with the runoff hydrograph at combination point
2257          KM   CGL35 at the intersection of Glendale Avenue and 35th Avenue
2258          HC       2
              *

2259          KK   D35GL  DIVERT
2260          KM   Capacity of storm drain in 31st Avenue and 35th Avenue diverted together.
2261          KM   Divert combined calculated full flow capacity of 165 cfs in the 60-inch storm
2262          KM   drain pipe in 31st Avenue and 61 cfs in the 42-inch storm drain pipe in
2263          KM   49th Avenue. The total calculated combined full flow capacity diverted at the
2264          KM   intersection of 35th Avenue and Glendale Avenue is 226 cfs in an equivalent
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LINE          ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

2265          KM   diameter pipe of 69 inches
2266          DT  DP35GL      0.0   226.0
2267          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
2268          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

2269          KK  DEGL27  DIVERT
2270          KM   Divert remaining runoff hydrograph from combination point CPGL35 east to
2271          KM   combination point CGL27
2272          DT  DSBH35      0.0     0.0
2273          DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
2274          DQ     0.0    61.0   122.0   305.0   610.0  1220.0  2440.0  6100.0 12200.0 30500.0
              *

2275          KK  DRGL27RETRIEVE
2276          KM   Retrieve divert DRGL27 from subbasin NO27 and divert south to combination
2277          KM   point CGL27
2278          DR  DSGL27
              *

2279          KK  RSGL27    ROUTE
2280          KM   Route diversion retrieval DRGL27 south to combination point CGL27
2281          RS       1     FLOW
2282          RC   0.035   0.015   0.035    5280  0.0040     0.00
2283          RX    0.00    0.00   26.00   26.00  148.00  148.00  174.00  174.00
2284          RY    3.00    0.76    0.50    0.00    0.00    0.50    0.76    3.00
              *

2285          KK    GL27    BASIN
2286          KM   Runoff hydrograph for subbasin GL27 northeast of the intersection of Glendale
2287          KM   Avenue and 27th Avenue
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```
2288          BA   0.258
2289          LG    0.23    0.17    6.80    0.11      45
2290          UC   1.135   0.922
2291          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
2292          UA     100
              *
2293          KK   CGL27 COMBINE
2294          KM   Combine divert DEGL27, route RSGL27, and subbasin GL27
2295          HC       3    0.98
              *
2296          KK  PR29NORETRIEVE
2297          KM   Retrieve full flow capacity of 114 cfs from 54-inch diameter pipe at the
2298          KM   intersection of Northern Avenue and 29th Avenue
2299          DR  DP29NO
              *
2300          KK  RP27GL   ROUTE
2301          KM   Route full flow capacity of 114 cfs through 54-inch storm drain pipe in
2302          KM   in 27th Avenue to the intersection of 27th Avenue and Glendale Avenue
2303          RK    5260  0.0034   0.015             CIRC   4.500
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9.....10
2304          KK  CPGL27 COMBINE
2305          KM   Combine pipe return PR29NO with the runoff hydrograph at combination point
2306          KM   CGL27 at the intersection of Glendale Avenue and 27th Avenue
2307          HC       2
              *
2308          KK   D27GL  DIVERT
2309          KM   Divert calculated full flow capapcity of 132 cfs into 57-inch storm drain
2310          KM   pipe at the intersection of Glendale Avenue and 27th Avenue
2311          DT  DP27GL      0.0   132.0
2312          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
2313          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *
2314          KK  RSBH27   ROUTE
2315          KM   Route remainder of divert D27GL south to combination point CBH27
2316          RS       2    FLOW
2317          RC   0.035   0.015   0.035    5280  0.0039     0.00
2318          RX    0.00    0.00   26.00   26.00  148.00  148.00  174.00  174.00
2319          RY    3.00    0.76    0.50    0.00    0.00    0.50    0.76    3.00
              *
2320          KK    BH27   BASIN
2321          KM   Runoff hydrograph for subbasin BH27 northeast of the intersection of Bethany
2322          KM   Home Road and 27th Avenue
2323          BA   0.258
2324          LG    0.21    0.25    4.80    0.25      55
2325          UC   1.019   0.818
2326          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
2327          UA     100
              *
2328          KK   CBH27 COMBINE
2329          KM   Combine route RSBH27, and subbasin BH27
2330          HC       2    1.24
              *
2331          KK  PR27GLRETRIEVE
2332          KM   Retrieve full flow capacity of 132 cfs from 57-inch storm drain pipe at the
2333          KM   intersection of Glendale Avenue and 27th Avenue
2334          DR  DP27GL
              *
2335          KK  RP27BH   ROUTE
2336          KM   Route full flow capacity of 132 cfs through 57-inch storm drain pipe in
2337          KM   27th Avenue to the intersection of Bethany Home Road and 27th Avenue
2338          RK    5221  0.0034   0.015             CIRC   4.750
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9.....10
2339          KK  CPBH27 COMBINE
2340          KM   Combine pipe return PR27GL with the runoff hydrograph at combination point
2341          KM   CBH27 at the intersection of Bethany Home Road and 27th Avenue
2342          HC       2
              *
2343          KK   D27BH  DIVERT
2344          KM   Divert calculated full flow capapcity of 132 cfs into 57-inch storm drain
2345          KM   pipe at the intersection of Bethany Home Road and 27th Avenue
2346          DT  DP27BH      0.0   132.0
2347          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
2348          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
```



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              *
2349          KK  DWBH35  DIVERT
2350          KM   Divert remaining runoff hydrograph from combination point CPBH27 west to
2351          KM   combination point CBH35
2352          DT  DSCB27      0.0     0.0
2353          DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
2354          DQ     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
              *
2355          KK  RWBH35   ROUTE
2356          KM   Route diversion DWBH35 west to combination point CBH35
2357          RS       1    FLOW
2358          RC   0.035   0.015   0.035    5280  0.0002     0.00
2359          RX    0.00    0.00   86.00   86.00  413.00  413.00  499.00  499.00
2360          RY    3.00    1.36    0.50    0.00    0.00    0.50    1.36    3.00
              *
2361          KK  DRBH35RETRIEVE
2362          KM   Retrieve divert DRBH35 from combination point CGL35 and divert south to
2363          KM   combination point CBH35
2364          DR  DSBH35
              *
2365          KK  RSBH35   ROUTE
2366          KM   Route diversion retrieval DRBH35 south to combination point CBH35
2367          RS       3    FLOW
2368          RC   0.035   0.015   0.035    5280  0.0049     0.00
2369          RX    0.00    0.00   67.00   67.00  332.00  332.00  399.00  399.00
2370          RY    3.00    1.17    0.50    0.00    0.00    0.50    1.17    3.00
              *
2371          KK    BH35   BASIN
2372          KM   Runoff hydrograph for square mile subbasin BH35 northeast of the intersection
2373          KM   of Bethany Home Road and 35th Avenue
2374          BA   1.005
2375          LG    0.23    0.25    5.20    0.22      37
2376          UC   1.174   0.441
2377          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
2378          UA     100
              *
```



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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9.....10
2379          KK  ERBH35  DIVERT
2380          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
2381          KM   retention developed after 1990 and NOAA14 rainfall for future retention in
2382          KM   subbasin BH35
2383          DT   XBH35      3.2     0.0
2384          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
2385          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *
2386          KK   CBH35 COMBINE
2387          KM   Combine route RWBH35, route RSBH35, and subbasin BH35
2388          HC       3    1.94
              *
2389          KK  PR35GLRETRIEVE
2390          KM   Retrieve combined full flow capacity of 226 cfs from 69-inch equivalent
2391          KM   diameter pipe at the intersection of Glendale Avenue and 35th Avenue
2392          DR  DP35GL
              *
2393          KK  RP35BH   ROUTE
2394          KM   Route the combined full flow capacity of 226 cfs through an equivalent storm
2395          KM   drain pipe diameter of 69 inches in 35th Avenue to the intersection of
2396          KM   35th Avenue and Bethany Home Road
2397          RK    5147  0.0037   0.015             CIRC   5.750
              *
2398          KK  CPBH35 COMBINE
2399          KM   Combine pipe return PR35GL with the runoff hydrograph at combination point
2400          KM   CBH35 at the intersection of Bethany Home Road and 35th Avenue
2401          HC       2
              *
2402          KK   D35BH  DIVERT
2403          KM   Capacity of storm drain in 31st Avenue and 35th Avenue diverted together.
2404          KM   Divert combined calculated full flow capacity of 165 cfs in the 60-inch storm
2405          KM   drain pipe in 31st Avenue and 61 cfs in the 42-inch storm drain pipe in
2406          KM   49th Avenue. The total calculated combined full flow capacity diverted at the
2407          KM   intersection of 35th Avenue and Bethany Home Road is 226 cfs in an equivalent
2408          KM   diameter pipe of 69 inches
2409          DT  DP35BH      0.0   226.0
2410          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
2411          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *
2412          KK  DWBH43  DIVERT
2413          KM   Divert remaining runoff hydrograph from combination point CPBH35 west to
```

```
2414          KM   combination point CBH43
2415          DT  DSCB35      0.0      0.0
2416          DI     0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0 10000.0 20000.0 50000.0
2417          DQ     0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0 10000.0 20000.0 50000.0
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


2418          KK  RWBH43    ROUTE
2419          KM   Route diversion DWBH43 west to combination point CBH43
2420          RS       1    FLOW
2421          RC   0.035    0.015    0.035     5280   0.0001     0.00
2422          RX    0.00     0.00   133.50   133.50   615.50   615.50   749.00   749.00
2423          RY    3.00     1.84     0.50     0.00     0.00     0.50     1.84     3.00
              *

2424          KK  DRBH43RETRIEVE
2425          KM   Retrieve divert DRBH43 from combination point CGL43 and divert south to
2426          KM   combination point CBH43
2427          DR  DSBH43
              *

2428          KK  RSBH43    ROUTE
2429          KM   Route diversion retrieval DRBH43 south to combination point CBH43
2430          RS       3    FLOW
2431          RC   0.035    0.015    0.035     5280   0.0028     0.00
2432          RX    0.00     0.00    57.50    57.50   291.50   291.50   349.00   349.00
2433          RY    3.00     1.08     0.50     0.00     0.00     0.50     1.08     3.00
              *

2434          KK    BH43    BASIN
2435          KM   Runoff hydrograph for square mile subbasin BH43 northeast of the intersection
2436          KM   of Bethany Home Road and 43rd Avenue
2437          BA   0.993
2438          LG    0.23     0.25     5.20     0.24       32
2439          UC   1.500    1.014
2440          UA       0      5.0     16.0     30.0     65.0     77.0     84.0     90.0     94.0     97.0
2441          UA     100
              *

2442          KK   CBH43 COMBINE
2443          KM   Combine route RWBH43, route RSBH43, and subbasin BH43
2444          HC       3     2.19
              *

2445          KK  PR43GLRETRIEVE
2446          KM   Retrieve combined full flow capacity of 385 cfs from 85-inch equivalent
2447          KM   diameter pipe at the intersection of Glendale Avenue and 43rd Avenue
2448          DR  DP43GL
              *

2449          KK  RP43BH    ROUTE
2450          KM   Route the combined full flow capacity of 385 cfs through an equivalent storm
2451          KM   drain pipe diameter of 85 inches in 43rd Avenue to the intersection of
2452          KM   43rd Avenue and Bethany Home Road
2453          RK    5295  0.0035   0.015            CIRC   7.083
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


2454          KK  CPBH43 COMBINE
2455          KM   Combine pipe return PR43GL with the runoff hydrograph at combination point
2456          KM   CBH43 at the intersection of Bethany Home Road and 43rd Avenue
2457          HC       2
              *

2458          KK   D43BH  DIVERT
2459          KM   Capacity of storm drain in 39th Avenue and 43rd Avenue diverted together.
2460          KM   Divert combined calculated full flow capacity of 268 cfs in the 72-inch storm
2461          KM   drain pipe in 39th Avenue and 117 cfs in the 54-inch storm drain pipe in
2462          KM   43rd Avenue. The total calculated combined full flow capacity diverted at the
2463          KM   intersection of 43rd Avenue and Glendale Avenue is 385 cfs in an equivalent
2464          KM   diameter pipe of 85 inches
2465          DT  DP43BH      0.0    385.0
2466          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
2467          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

2468          KK  DWBH51  DIVERT
2469          KM   Divert remaining runoff hydrograph from combination point CPBH43 west to
2470          KM   combination point CBH51
2471          DT  DSCB43      0.0      0.0
2472          DI     0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0 10000.0 20000.0 50000.0
2473          DQ     0.0     51.0    102.0    255.0    510.0   1020.0   2040.0   5100.0 10200.0 25500.0
              *

2474          KK  RWBH51    ROUTE
2475          KM   Route diversion DWBH51 west to combination point CBH51
2476          RS       5    FLOW
```



```
2477          RC   0.035    0.015    0.035     5280   0.0016     0.00
2478          RX    0.00     0.00    75.50    75.50   402.50   402.50   478.00   478.00
2479          RY    3.00     1.25     0.50     0.00     0.00     0.50     1.25     3.00
              *

2480          KK  DRBH51RETRIEVE
2481          KM   Retrieve divert DRBH51 from combination point CGL51 and divert south to
2482          KM   combination point CBH51
2483          DR  DSBH51
              *

2484          KK  RSBH51    ROUTE
2485          KM   Route diversion retrieval DRBH51 south to combination point CBH51
2486          RS       5    FLOW
2487          RC   0.035    0.015    0.035     5280   0.0030     0.00
2488          RX    0.00     0.00    61.50    61.50   316.50   316.50   378.00   378.00
2489          RY    3.00     1.12     0.50     0.00     0.00     0.50     1.12     3.00
              *

2490          KK    BH51    BASIN
2491          KM   Runoff hydrograph for square mile subbasin BH51 northeast of the intersection
2492          KM   of Bethany Home Road and 51st Avenue
2493          BA   0.995
2494          LG    0.22     0.23     6.20     0.15       43
2495          UC   1.500    1.025
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


2496          UA       0      5.0     16.0     30.0     65.0     77.0     84.0     90.0     94.0     97.0
2497          UA     100
              *

2498          KK   CBH51 COMBINE
2499          KM   Combine route RWBH51, route RSBH51, and subbasin BH51
2500          HC       3     3.42
              *

2501          KK  PR47GLRETRIEVE
2502          KM   Retrieve combined full flow capacity of 379 cfs from 85-inch equivalent
2503          KM   diameter pipe at the intersection of Glendale Avenue and 47th Avenue
2504          DR  DP47GL
              *

2505          KK  RP51BH    ROUTE
2506          KM   Route the combined full flow capacity of 379 cfs through an equivalent storm
2507          KM   drain pipe diameter of 85 inches in 51st Avenue to the intersection of
2508          KM   51st Avenue and Bethany Home Road
2509          RK    2773  0.0118   0.015            CIRC   7.083
              *

2510          KK  CPBH51 COMBINE
2511          KM   Combine pipe return PR47GL with the runoff hydrograph at combination point
2512          KM   CBH51 at the intersection of Bethany Home Road and 51st Avenue
2513          HC       2
              *

2514          KK  SRBH51 STORAGE
2515          KM   Storage route runoff hydrograph from combination point CPBH51 through the
2516          KM     regional detention basin located near the intersection of Bethany Home Road
2517          KM     and 51st Avenue
2518          KM   Combined storage from two retention basins
2519          KM   Stage-storage data from topography provided by FCDMC dated 3/28/1994
2520          RS       1    STOR
2521          SV             1.99    12.41    22.30    22.30    31.52    42.36    53.20
2522          SQ             8.00    24.00  1649.00  1649.00  1649.00  1649.00  4349.00
2523          SE  1146.0 1148.00 1150.00 1151.00 1152.00 1154.00 1156.00 1157.00
              *

2524          KK  DWGR59  DIVERT
2525          KM   Divert portion of runoff hydrograph from combination point CPBH51 west
2526          KM   through subbasin GR59 using the ratio of the widths and slopes of the streets
2527          KM   going west and the widths and slopes of the streets going south. The
2528          KM   remaining flow is diverted south through subbasin GR43
2529          DT  DSGR43      0.0      0.0
2530          DI     0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0 10000.0 20000.0 50000.0
2531          DQ     0.0     32.0     64.0    160.0    320.0    640.0   1280.0   3200.0   6400.0 16000.0
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


2532          KK   DGR59  DIVERT
2533          KM   Divert portion of DWGR59 west to subbasin GR59 using the ratio of the width
2534          KM   of the collector and local streets and the width of the arterial street. The
2535          KM   remaining flow is diverted west to subbasin BH59 along Bethany Home Road
2536          DT  DWBH59      0.0      0.0
2537          DI     0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0 10000.0 20000.0 50000.0
2538          DQ     0.0     23.0     46.0    115.0    230.0    460.0    920.0   2300.0   4600.0 11500.0
              *

2539          KK  DRGR59RETRIEVE
```

```
2540          KM   Retrieve divert DRGR59 from combination point CGL59 and divert south to
2541          KM   combination point CGR59
2542          DR  DSGR59
              *
2543          KK   D59GR  DIVERT
2544          KM   Divert portion of divert retrieval DRGR59 south to subbasin BH59 along 59th
2545          KM   Avenue. Divert remaining runoff hydrograph south to combination point CGR59
2546          DT  DSBH59      0.0      0.0
2547          DI     0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0 10000.0 20000.0 50000.0
2548          DQ     0.0     52.0    104.0    260.0    520.0   1040.0   2080.0  5200.0 10400.0 26000.0
              *
2549          KK    GR59   BASIN
2550          KM   Runoff hydrograph for subbasin GR59 southeast of the intersection of Grand
2551          KM   Avenue and 59th Avenue
2552          BA   0.518
2553          LG    0.16    0.25    4.80    0.25      62
2554          UC   0.741   0.383
2555          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
2556          UA     100
              *
2557          KK   CGR59 COMBINE
2558          KM   Combine remainder of divert retrieval DRGR59, divert DGR59, and subbasin GR59
2559          HC       3    3.18
              *
2560          KK  DNGR67  DIVERT
2561          KM   Divert portion of runoff hydrograph from combination point CGR59 north to the
2562          KM   intersection of 67th Avenue and Grand Avenue and the remaining flow south
2563          KM   to the intersection of Bethany Home Road and Grand Avenue. The diversion is
2564          KM   based on topography
2565          DT   DBH59      0.0      0.0
2566          DI     0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0 10000.0 20000.0 50000.0
2567          DQ     0.0     50.0    100.0    250.0    500.0   1000.0   2000.0  5000.0 10000.0 25000.0
              *
2568          KK   DGRGL  DIVERT
2569          KM   Divert calculated full flow capapcity of 234 cfs into 60-inch storm drain
2570          KM   pipe at the intersection of Grand Avenue and Glendale Avenue
2571          DT  DPGRGL      0.0    234.0
2572          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
2573          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

2574          KK  CIGR59 COMBINE
2575          KM   Combine diverts DRGL and DGR67 at the intersection of Grand Avenue and 59th
2576          KM   Avenue
2577          HC       2    3.15
              *
2578          KK  RWGR67    ROUTE
2579          KM   Route diversion DGR67 west to combination point CGR67
2580          RS       8    FLOW
2581          RC   0.035   0.015   0.035    7222  0.0008    0.00
2582          RX    0.00    0.00   75.50   75.50  402.50  402.50  478.00  478.00
2583          RY    3.00    1.25    0.50    0.00    0.00    0.50    1.25    3.00
              *
2584          KK  DRGR67RETRIEVE
2585          KM   Retrieve divert DRGR67 from combination point CNO67 and divert south to
2586          KM   combination point CGR67
2587          DR  DSGR67
              *
2588          KK    GR67   BASIN
2589          KM   Runoff hydrograph for subbasin GR67 southeast of the intersection of Grand
2590          KM   Avenue and 67th Avenue
2591          BA   0.497
2592          LG    0.16    0.15    7.60    0.09      44
2593          UC   0.925   0.501
2594          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
2595          UA     100
              *
2596          KK  ERGR67  DIVERT
2597          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
2598          KM   retention developed after 1990 in subbasin GR67
2599          DT   XGR67     1.2      0.0
2600          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
2601          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *
2602          KK   CGR67 COMBINE
2603          KM   Combine route RWGR67, divert retrieval DRGR67, and subbasin GR67
2604          HC       3    6.83
              *
```



```
2605          KK  PRNO59RETRIEVE
2606          KM   Retrieve full flow capacity of 134 cfs from 72-inch storm drain pipe at the
2607          KM   intersection of Northern Avenue and 59th Avenue
2608          DR  DPNO59
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

2609          KK  RPNO67    ROUTE
2610          KM   Route full flow capacity of 134 cfs through 72-inch storm drain pipe in
2611          KM   Grand Avenue to the intersection of Grand Avenue and 67th Avenue
2612          RK    2688  0.0010   0.015             CIRC   6.000
              *
2613          KK  PR59GLRETRIEVE
2614          KM   Retrieve full flow capacity of 217 cfs from 72-inch storm drain pipe at the
2615          KM   intersection of Glendale Avenue and 59th Avenue
2616          DR  DP59GL
              *
2617          KK  PRGRGLRETRIEVE
2618          KM   Retrieve full flow capacity of 234 cfs from 60-inch storm drain pipe at the
2619          KM   intersection of Grand Avenue and Glendale Avenue
2620          DR  DPGRGL
              *
2621          KK  CPGL59 COMBINE
2622          KM   Combine pipe return PR59GL with pipe return PRGRGL at combination point
2623          KM   CGL59 near the intersection of Glendale Avenue and 59th Avenue
2624          HC       2    1.42
              *
2625          KK  RPGR67    ROUTE
2626          KM   Route combined full flow capacity of 451 cfs through 108-inch storm drain pip
2627          KM   Grand Avenue to the intersection of Grand Avenue and 67th Avenue
2628          RK    4247  0.0018   0.015             CIRC   9.000
              *
2629          KK  CPGR67 COMBINE
2630          KM   Combine pipe return PRNO59, pipe route RPGR67 and the runoff hydrograph at
2631          KM   combination point CGR67 at the intersection of Grand Avenue and 67th Avenue
2632          HC       3
              *
2633          KK  SRGR67 STORAGE
2634          KM   Storage route runoff hydrograph from combination point CPGR67 through
2635          KM     regional detention basin located near the intersection of Grand Avenue
2636          KM     and 67th Avenue
2637          KM   Stage-storage data from Orangewood Ave Storm Drain Sub-Phase "C" As-builts
2638          RS       1    STOR
2639          SV            2.25   11.38   31.32   57.76  140.64  378.04  409.71  478.76
2640          SQ           24.00   62.00  105.00  133.00  189.00  299.00 1529.00 6654.00
2641          SE  1130.0 1131.00 1132.00 1133.00 1134.00 1136.00 1142.00 1143.00 1145.00
              *
2642          KK   D67GR  DIVERT
2643          KM   Divert calculated full flow capapcity of 546 cfs into 108-inch storm drain
2644          KM   pipe at the intersection of Grand Avenue and 67th Avenue
2645          DT  DP67GR      0.0    546.0
2646          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
2647          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

2648          KK  RSOW67    ROUTE
2649          KM   Route remainder of divert D67GR south to combination point COW67
2650          RS       1    FLOW
2651          RC   0.035   0.015   0.035    2640  0.0035    0.00
2652          RX    0.00    0.00   17.50   17.50  112.50  112.50  130.00  130.00
2653          RY    3.00    0.68    0.50    0.00    0.00    0.50    0.68    3.00
              *
2654          KK    OW67   BASIN
2655          KM   Runoff hydrograph for subbasin OW67 northeast of the intersection of
2656          KM   Orangewood Avenue and 67th Avenue
2657          BA   0.119
2658          LG    0.15    0.15    8.00    0.07      80
2659          UC   0.464   0.319
2660          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
2661          UA     100
              *
2662          KK  EROW67  DIVERT
2663          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
2664          KM   retention developed after 1990 and NOAA14 rainfall for future retention in
2665          KM   subbasin OW67
2666          DT   XOW67      2.5      0.0
2667          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
```

```
2668          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

2669          KK   COW67 COMBINE
2670          KM   Combine route RWOW67 and subbasin OW67
2671          HC        2    6.95
              *

2672          KK  PRGR67RETRIEVE
2673          KM   Retrieve full flow capacity of 546 cfs from 108-inch storm drain pipe at the
2674          KM   intersection of Grand Avenue and 67th Avenue
2675          DR  DP67GR
              *

2676          KK  RPOW67   ROUTE
2677          KM   Route full flow capacity of 546 cfs through 108-inch storm drain pipe in
2678          KM   Orangewood Avenue to the intersection of Orangewood Avenue and 67th Avenue
2679          RK    2517  0.0019   0.015            CIRC   9.000
              *

2680          KK  CPOW67 COMBINE
2681          KM   Combine pipe return PRGR67 with the runoff hydrograph at combination point
2682          KM   COW67 at the intersection of Orangewood Avenue and 67th Avenue
2683          HC        2
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

2684          KK   DOW67  DIVERT
2685          KM   Divert calculated full flow capapcity of 181 cfs into 66-inch storm drain
2686          KM   pipe at the intersection of Orangewood Avenue and 67th Avenue
2687          DT  DPOW67      0.0    181.0
2688          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
2689          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

2690          KK  DWOW75  DIVERT
2691          KM   Divert remaining runoff hydrograph from combination point CPOW67 west to
2692          KM   combination point COW75
2693          DT  DSGL67      0.0     0.0
2694          DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
2695          DQ     0.0    51.0   102.0   255.0   510.0  1020.0  2040.0  5100.0 10200.0 25500.0
              *

2696          KK  RWOW75   ROUTE
2697          KM   Route diversion DWOW75 west to combination point COW75
2698          RS        9     FLOW
2699          RC    0.035   0.015   0.035    5280  0.0025    0.00
2700          RX     0.00    0.00   34.00   34.00  184.00  184.00  218.00  218.00
2701          RY     3.00    0.84    0.50    0.00    0.00    0.50    0.84    3.00
              *

2702          KK  DROW75RETRIEVE
2703          KM   Retrieve divert DROW75 from combination point CNO75 and divert south to
2704          KM   combination point COW75
2705          DR  DSOW75
              *

2706          KK  RSOW75   ROUTE
2707          KM   Route diversion retrieval DROW75 south to combination point COW75
2708          RS        1     FLOW
2709          RC    0.035   0.015   0.035    2640  0.0025    0.00
2710          RX     0.00    0.00   47.50   47.50  240.50  240.50  288.00  288.00
2711          RY     3.00    0.98    0.50    0.00    0.00    0.50    0.98    3.00
              *

2712          KK    OW75   BASIN
2713          KM   Runoff hydrograph for half square mile subbasin OW75 northeast of the
2714          KM   intersection of Orangewood Avenue and 75th Avenue
2715          BA   0.498
2716          LG    0.17    0.15    8.80    0.05      60
2717          UC   0.975   0.741
2718          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
2719          UA     100
              *

2720          KK  EROW75  DIVERT
2721          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
2722          KM   retention developed after 1990 in subbasin OW75
2723          DT   XOW75      28.5     0.0
2724          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
2725          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *
1                                        HEC-1 INPUT                                    PAGE 71

LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

2726          KK   COW75 COMBINE
2727          KM   Combine route RWOW75, route RSOW75, and subbasin OW75
2728          HC        3    8.17
```



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              *

2729          KK  PROW67RETRIEVE
2730          KM   Retrieve full flow capacity of 181 cfs from 66-inch storm drain pipe at the
2731          KM   intersection of Orangewood Avenue and 67th Avenue
2732          DR  DPOW67
              *

2733          KK  RPOW71   ROUTE
2734          KM   Route full flow capacity of 181 cfs through 66-inch storm drain pipe in
2735          KM   Orangewood Avenue to the intersection of Orangewood Avenue and 71st Avenue
2736          RK    2145  0.0029   0.015            CIRC   5.500
              *

2737          KK  CPOW71 COMBINE
2738          KM   Combine pipe return PROW67 with the runoff hydrograph at combination point
2739          KM   COW71 at the intersection of Orangewood Avenue and 71st Avenue
2740          HC        2
              *

2741          KK  SROW75 STORAGE
2742          KM   Storage route runoff hydrograph from combination point CPOW71 through
2743          KM     regional detention basin located near the intersection of Orangewood Avenue
2744          KM     and 71st Avenue
2745          KM   Stage-storage data from Orangewood Avenue Storm Drain As-builts, 1980
2746          RS        1    STOR
2747          SV             8.74   20.36   34.36   49.53   65.12   97.58  118.22
2748          SQ                                   42.00  400.00 1044.00 2459.00 3812.00
2749          SE  1121.0 1122.00 1123.00 1124.00 1125.00 1126.00 1128.00 1129.00
              *

2750          KK   DOW71  DIVERT
2751          KM   Divert calculated full flow capapcity of 44 cfs into 42-inch storm drain
2752          KM   pipe at the intersection of Orangewood Avenue and 71st Avenue
2753          DT  DPOW71      0.0     44.0
2754          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
2755          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

2756          KK  PROW71RETRIEVE
2757          KM   Retrieve full flow capacity of 44 cfs from 42-inch storm drain pipe at the
2758          KM   intersection of Orangewood Avenue and 71st Avenue
2759          DR  DPOW71
              *

2760          KK  RPOW75   ROUTE
2761          KM   Route full flow capacity of 44 cfs through 42-inch storm drain pipe in
2762          KM   Orangewood Avenue to the intersection of Orangewood Avenue and 75th Avenue
2763          RK    3391  0.0019   0.015            CIRC   3.500
              *
1                                        HEC-1 INPUT                                    PAGE 72

LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

2764          KK  CPOW75 COMBINE
2765          KM   Combine pipe return PROW71 with the runoff hydrograph at combination point
2766          KM   COW75 at the intersection of Orangewood Avenue and 75th Avenue
2767          HC        2
              *

2768          KK   DOW75  DIVERT
2769          KM   Divert calculated full flow capapcity of 66 cfs into 48-inch storm drain
2770          KM   pipe at the intersection of Orangewood Avenue and 75th Avenue
2771          DT  DPOW75      0.0     66.0
2772          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
2773          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

2774          KK  DWOW83  DIVERT
2775          KM   Divert remaining runoff hydrograph from combination point CPOW75 west to
2776          KM   combination point COW83
2777          DT  DSGL75      0.0     0.0
2778          DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
2779          DQ     0.0    76.0   152.0   380.0   760.0  1520.0  3040.0  7600.0 15200.0 38000.0
              *

2780          KK  RWOW83   ROUTE
2781          KM   Route diversion DWOW83 west to combination point COW83
2782          RS        4     FLOW
2783          RC    0.035   0.015   0.035    5280  0.0029    0.00
2784          RX     0.00    0.00   20.00   20.00   98.00   98.00  118.00  118.00
2785          RY     3.00    0.70    0.50    0.00    0.00    0.50    0.70    3.00
              *

2786          KK    OW83   BASIN
2787          KM   Runoff hydrograph for half square mile subbasin OW83 northeast of the
2788          KM   intersection of Orangewood Avenue and 83rd Avenue
2789          BA   0.496
2790          LG    0.25    0.15    8.40    0.07      33
2791          UC   1.500   1.197
2792          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
2793          UA     100
```

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                *
2794            KK  EROW83  DIVERT
2795            KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
2796            KM   retention developed after 1990 in subbasin OW83
2797            DT   XOW83     16.5     0.0
2798            DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
2799            DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
                *
2800            KK   COW83 COMBINE
2801            KM   Combine route RWOW83 and subbasin OW83
2802            HC        2     2.46
                *
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LINE            ID.......1.......2.......3.......4.......5.......6.......7.......8.......9.....10

2803            KK  PROW75RETRIEVE
2804            KM   Retrieve full flow capacity of 66 cfs from 48-inch storm drain pipe at the
2805            KM   intersection of Orangewood Avenue and 75th Avenue
2806            DR  DPOW75
                *
2807            KK  RPOW83   ROUTE
2808            KM   Route full flow capacity of 66 cfs through 48-inch storm drain pipe in
2809            KM   Orangewood Avenue to the intersection of Orangewood Avenue and 67th Avenue
2810            RK    5178  0.0021    0.015             CIRC   4.000
                *
2811            KK  CPOW83 COMBINE
2812            KM   Combine pipe return PROW75 with the runoff hydrograph at combination point
2813            KM   COW83 at the intersection of Orangewood Avenue and 83rd Avenue
2814            HC        2
                *
2815            KK   D83OW  DIVERT
2816            KM   Divert calculated full flow capapcity of 255 cfs into 72-inch storm drain
2817            KM   pipe at the intersection of Orangewood Avenue and 83rd Avenue
2818            DT  DP83OW      0.0    255.0
2819            DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
2820            DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
                *
2821            KK  DWOW91  DIVERT
2822            KM   Divert remaining runoff hydrograph from combination point CPOW83 west to
2823            KM   combination point CGL91
2824            DT  DSGL83      0.0      0.0
2825            DI     0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0  10000.0  20000.0  50000.0
2826            DQ     0.0     85.0    170.0    425.0    850.0   1700.0   3400.0   8500.0  17000.0  42500.0
                *
2827            KK  RWOW91   ROUTE
2828            KM   Route diversion DWOW91 west to combination point COW91
2829            RS       7     FLOW
2830            RC   0.035    0.015    0.035     5280   0.0038     0.00
2831            RX    0.00     0.00     7.00     7.00    43.00    43.00    50.00    50.00
2832            RY    3.00     0.57     0.50     0.00     0.00     0.50     0.57     3.00
                *
2833            KK  DIGL67RETRIEVE
2834            KM   Retrieve arterial street flow diverted to Glendale Avenue at the intersection
2835            KM   of Glendale Avenue and 67th Avenue
2836            DR  DWGL67
                *
2837            KK  RWGL67   ROUTE
2838            KM   Route diversion retrieval DIGL67 at the intersection of Glendale Avenue
2839            KM   and 67th Avenue west to combination point CGL67
2840            RS       4     FLOW
2841            RC   0.035    0.015    0.035     5280   0.0037     0.00
2842            RX    0.00     0.00    41.50    41.50   218.50   218.50   260.00   260.00
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LINE            ID.......1.......2.......3.......4.......5.......6.......7.......8.......9.....10

2843            RY    3.00     0.92     0.50     0.00     0.00     0.50     0.92     3.00
                *
2844            KK    GL67   BASIN
2845            KM   Runoff hydrograph for square mile subbasin GL67 northeast of the intersection
2846            KM   of Glendale Avenue and 67th Avenue
2847            BA   0.359
2848            LG    0.19     0.25     5.40     0.19       63
2849            UC   0.809    0.507
2850            UA       0      5.0     16.0     30.0     65.0     77.0     84.0     90.0     94.0     97.0
2851            UA     100
                *
2852            KK  DRGL67RETRIEVE
2853            KM   Retrieve divert DRGL67 from combination point CPOW67 and divert south to
2854            KM   combination point CGL67
```



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2855            DR  DSGL67
                *
2856            KK  RSGL67   ROUTE
2857            KM   Route diversion retrieval DRGL67 south to combination point CGL67
2858            RS       3     FLOW
2859            RC   0.035    0.015    0.035     2640   0.0052     0.00
2860            RX    0.00     0.00    27.50    27.50   132.50   132.50   160.00   160.00
2861            RY    3.00     0.78     0.50     0.00     0.00     0.50     0.78     3.00
                *
2862            KK   CGL67 COMBINE
2863            KM   Combine route RWGL67, route RSGL67, and subbasin GL67
2864            HC        3     4.47
                *
2865            KK  DWGL75  DIVERT
2866            KM   Divert remaining runoff hydrograph from combination point CGL67 west to
2867            KM   combination point CGL75
2868            DT  DSBH67      0.0      0.0
2869            DI     0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0  10000.0  20000.0  50000.0
2870            DQ     0.0     49.0     98.0    245.0    490.0    980.0   1960.0   4900.0   9800.0  24500.0
                *
2871            KK  RWGL75   ROUTE
2872            KM   Route diversion DWGL75 west to combination point CGL75
2873            RS       5     FLOW
2874            RC   0.035    0.015    0.035     5280   0.0034     0.00
2875            RX    0.00     0.00    47.00    47.00   283.00   283.00   330.00   330.00
2876            RY    3.00     0.97     0.50     0.00     0.00     0.50     0.97     3.00
                *
2877            KK  DRGL75RETRIEVE
2878            KM   Retrieve divert DRGL75 from combination point CPOW75 and divert south to
2879            KM   combination point CGL75
2880            DR  DSGL75
                *
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LINE            ID.......1.......2.......3.......4.......5.......6.......7.......8.......9.....10

2881            KK  RSGL75   ROUTE
2882            KM   Route diversion retrieval DRGL75 south to combination point CGL75
2883            RS       1     FLOW
2884            RC   0.035    0.015    0.035     2640   0.0035     0.00
2885            RX    0.00     0.00    54.50    54.50   283.50   283.50   338.00   338.00
2886            RY    3.00     1.04     0.50     0.00     0.00     0.50     1.04     3.00
                *
2887            KK    GL75   BASIN
2888            KM   Runoff hydrograph for half square mile subbasin GL75 northeast of the
2889            KM   intersection of Glendale Avenue and 75th Avenue
2890            BA   0.499
2891            LG    0.24     0.15     8.80     0.05       46
2892            UC   1.476    1.172
2893            UA       0      5.0     16.0     30.0     65.0     77.0     84.0     90.0     94.0     97.0
2894            UA     100
                *
2895            KK  ERGL75  DIVERT
2896            KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
2897            KM   retention developed after 1990 in subbasin GL75
2898            DT   XGL75     42.2      0.0
2899            DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
2900            DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
                *
2901            KK   CGL75 COMBINE
2902            KM   Combine route RWGL75, route RSGL75, and subbasin GL75
2903            HC        3     8.97
                *
2904            KK  DWGL83  DIVERT
2905            KM   Divert remaining runoff hydrograph from combination point CGL75 west to
2906            KM   combination point CGL83
2907            DT  DSBH75      0.0      0.0
2908            DI     0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0  10000.0  20000.0  50000.0
2909            DQ     0.0     50.0    100.0    250.0    500.0   1000.0   2000.0   5000.0  10000.0  25000.0
                *
2910            KK  RWGL83   ROUTE
2911            KM   Route diversion DWGL83 west to combination point CGL83
2912            RS       3     FLOW
2913            RC   0.035    0.015    0.035     5280   0.0032     0.00
2914            RX    0.00     0.00    47.00    47.00   283.00   283.00   330.00   330.00
2915            RY    3.00     0.97     0.50     0.00     0.00     0.50     0.97     3.00
                *
2916            KK  DRGL83RETRIEVE
2917            KM   Retrieve divert DRGL83 from combination point CPOW83 and divert south to
2918            KM   combination point CGL83
2919            DR  DSGL83
```

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                     *
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         LINE        ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

         2920        KK  RSGL83   ROUTE
         2921        KM   Route diversion retrieval DRGL83 south to combination point CGL83
         2922        RS       3    FLOW
         2923        RC   0.035   0.015   0.035    2640  0.0041    0.00
         2924        RX    0.00    0.00   38.50   38.50  241.50  241.50  280.00  280.00
         2925        RY    3.00    0.88    0.50    0.00    0.00    0.50    0.88    3.00
                     *

         2926        KK    GL83   BASIN
         2927        KM   Runoff hydrograph for half square mile subbasin GL83 northeast of the
         2928        KM   intersection of Glendale Avenue and 83rd Avenue
         2929        BA   0.495
         2930        LG    0.25    0.15    7.00    0.11      31
         2931        UC   1.485   1.179
         2932        UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
         2933        UA     100
                     *

         2934        KK  ERGL83  DIVERT
         2935        KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
         2936        KM   retention developed after 1990 in subbasin GL83
         2937        DT   XGL83    18.1     0.0
         2938        DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
         2939        DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
                     *

         2940        KK   CGL83 COMBINE
         2941        KM   Combine route RWGL83, route RSGL83, and subbasin GL83
         2942        HC       3    7.11
                     *

         2943        KK  PR83OWRETRIEVE
         2944        KM   Retrieve full flow capacity of 255 cfs from 72-inch storm drain pipe at the
         2945        KM   intersection of Orangewood Avenue and 83rd Avenue
         2946        DR  DP83OW
                     *

         2947        KK  RP83GL   ROUTE
         2948        KM   Route full flow capacity of 255 cfs through 72-inch storm drain pipe in
         2949        KM   83rd Avenue to the intersection of Glendale Avenue and 83rd Avenue
         2950        RK    2644  0.0036   0.015            CIRC   6.000
                     *

         2951        KK  CPGL83 COMBINE
         2952        KM   Combine pipe return PR83OW with the runoff hydrograph at combination point
         2953        KM   CGL83 at the intersection of Glendale Avenue and 83rd Avenue
         2954        HC       2
                     *
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         LINE        ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

         2955        KK   DGL83  DIVERT
         2956        KM   Divert calculated full flow capapcity of 374 cfs into 84-inch storm drain
         2957        KM   pipe at the intersection of Glendale Avenue and 83rd Avenue
         2958        DT  DPGL83     0.0   374.0
         2959        DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
         2960        DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
                     *

         2961        KK  DWGL91  DIVERT
         2962        KM   Divert remaining runoff hydrograph from combination point CPGL83 west to
         2963        KM   combination point CGL91
         2964        DT  DSBH83     0.0     0.0
         2965        DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
         2966        DQ     0.0    63.0   126.0   315.0   630.0  1260.0  2520.0  6300.0 12600.0 31500.0
                     *

         2967        KK  RWGL91   ROUTE
         2968        KM   Route diversion DWGL91 west to combination point CGL92
         2969        RS       4    FLOW
         2970        RC   0.035   0.015   0.035    5280  0.0032    0.00
         2971        RX    0.00    0.00   33.00   33.00  197.00  197.00  230.00  230.00
         2972        RY    3.00    0.83    0.50    0.00    0.00    0.50    0.83    3.00
                     *

         2973        KK  DRGL91RETRIEVE
         2974        KM   Retrieve divert DRGL91 from combination point CCPNO91 and divert south to
         2975        KM   combination point CGL91
         2976        DR  DSGL91
                     *

         2977        KK  RSGL91   ROUTE
         2978        KM   Route diversion retrieval DRGL91 south to combination point CGL91
         2979        RS       2    FLOW
         2980        RC   0.035   0.015   0.035    5280  0.0032    0.00
```



```
         2981        RX    0.00    0.00   38.50   38.50  241.50  241.50  280.00  280.00
         2982        RY    3.00    0.88    0.50    0.00    0.00    0.50    0.88    3.00
                     *

         2983        KK    GL91   BASIN
         2984        KM   Runoff hydrograph for square mile subbasin GL91 northeast of the intersection
         2985        KM   of Glendale Avenue and 91st Avenue
         2986        BA   0.979
         2987        LG    0.25    0.17    6.80    0.12      34
         2988        UC   1.500   1.019
         2989        UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
         2990        UA     100
                     *

         2991        KK  ERGL91  DIVERT
         2992        KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
         2993        KM   retention developed after 1990 in subbasin GL91
         2994        DT   XGL91    65.2     0.0
         2995        DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
         2996        DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
                     *
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         LINE        ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

         2997        KK   CGL91 COMBINE
         2998        KM   Combine route RWGL91, route RSGL91, route RWoW91, and subbasin GL91
         2999        HC       4    9.02
                     *

         3000        KK  PRGL83RETRIEVE
         3001        KM   Retrieve full flow capacity of 374 cfs from 84-inch storm drain pipe at the
         3002        KM   intersection of Glendale Avenue and 83rd Avenue
         3003        DR  DPGL83
                     *

         3004        KK  RPGL91   ROUTE
         3005        KM   Route full flow capacity of 374 cfs through 84-inch storm drain pipe in
         3006        KM   Glendale Avenue to the intersection of Glendale Avenue and 91st Avenue
         3007        RK    5306  0.0034   0.015            CIRC   7.000
                     *

         3008        KK  CPGL91 COMBINE
         3009        KM   Combine pipe return PRGL83 with the runoff hydrograph at combination point
         3010        KM   CGL91 at the intersection of Glendale Avenue and 91st Avenue
         3011        HC       2
                     *

         3012        KK   DGL91  DIVERT
         3013        KM   Divert calculated full flow capapcity of 449 cfs into 90-inch storm drain
         3014        KM   pipe at the intersection of Glendale Avenue and 91st Avenue
         3015        DT  DPGL91     0.0   449.0
         3016        DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
         3017        DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
                     *

         3018        KK  DWGLLO  DIVERT
         3019        KM   Divert remaining runoff hydrograph from combination point CPGL91 west to
         3020        KM   combination point CGLLO
         3021        DT  DSBH91     0.0     0.0
         3022        DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
         3023        DQ     0.0    62.0   124.0   310.0   620.0  1240.0  2480.0  6200.0 12400.0 31000.0
                     *

         3024        KK  RWGLLO   ROUTE
         3025        KM   Route diversion DWGLLO west to combination point CGLLO
         3026        RS       3    FLOW
         3027        RC   0.035   0.015   0.035    4441  0.0027    0.00
         3028        RX    0.00    0.00   19.00   19.00  111.00  111.00  130.00  130.00
         3029        RY    3.00    0.69    0.50    0.00    0.00    0.50    0.69    3.00
                     *

         3030        KK    GLLO   BASIN
         3031        KM   Runoff hydrograph for subbasin GLLO northeast of the intersection of Glendale
         3032        KM   Avenue and SR Loop 101
         3033        BA   0.848
         3034        LG    0.10    0.19    6.60    0.12      80
         3035        UC   1.500   1.025
         3036        UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
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         LINE        ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

         3037        UA     100
                     *

         3038        KK  ERGLLO  DIVERT
         3039        KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
         3040        KM   retention developed after 1990 in subbasin GLLO
         3041        DT  XGLLO     75.5     0.0
         3042        DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
         3043        DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
```

```
                *
3044            KK  CGLLO COMBINE
3045            KM  Combine route RWGLLO, route RSGLLO, and subbasin GLLO
3046            HC       3   15.23
                *
3047            KK  PRGL91RETRIEVE
3048            KM  Retrieve full flow capacity of 449 cfs from 90-inch storm drain pipe at the
3049            KM  intersection of Glendale Avenue and 91st Avenue
3050            DR  DPGL91
                *
3051            KK  RPGLLO   ROUTE
3052            KM  Route full flow capacity of 449 cfs through 90-inch storm drain pipe in
3053            KM  Glendale Avenue to the intersection of Glendale Avenue and SR Loop 101
3054            RK   4160  0.0034   0.015            CIRC   7.500
                *
3055            KK  CPGLLO COMBINE
3056            KM  Combine pipe return PRGL91 with the runoff hydrograph at combination point
3057            KM  CGLLO at the intersection of Glendale Avenue and SR Loop 101
3058            HC       2
                *
3059            KK  RSBHLO   ROUTE
3060            KM  Route hydrograph at combination point CPGLLO south to combination point CBHLO
3061            RS       2    FLOW
3062            RC   0.035   0.015   0.035    5165  0.0005    0.00
3063            RX    0.00    4.00   16.00   34.00   57.00   74.00   86.00   89.00
3064            RY   10.24    9.24    9.00    0.00    0.20    8.70    8.97    9.94
                *
3065            KK  DIBH59RETRIEVE
3066            KM  Retrieve arterial street flow diverted to Bethany Home Road at the intersecti
3067            KM  of Bethany Home Road and Grand Avenue
3068            DR  DWBH59
                *
3069            KK  DRBH59RETRIEVE
3070            KM  Retrieve divert DRBH59 from combination point CGR59 and divert south to
3071            KM  combination point CIBHGR
3072            DR  DBH59
                *
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LINE            ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

3073            KK  SRGR59 STORAGE
3074            KM  Storage route runoff hydrograph from divert retrieval DRBH59 through ponding
3075            KM    area at Grand Avenue between 51st and 59th Avenues
3076            KM  Storage routing ID RES8 in DMJM HEC-1 revision (model BHGC00C6, Nov 2004)
3077            KM  Comments from DMJM model:
3078            KM  PONDING AREA RESERVOIR ROUTE
3079            KM  PONDING AREA NORTHEAST OF GRAND AVENUE/RR EMBANKMENT
3080            KM  SUB-BASIN 8-22E
3081            RS       1    STOR
3082            SV           14.95   50.65   78.30  116.78  220.43
3083            SQ            0.10    0.20  310.00 1070.00 4090.00
3084            SE  1148.0 1149.00 1150.00 1150.50 1151.00 1152.00
                *
3085            KK  CIBHGR COMBINE
3086            KM  Combine arterial street flow from Bethany Home Road DIBH59 with runoff
3087            KM  hydrograph DRBH59 at the intersection of Bethany Home Road and Grand Avenue
3088            HC       2    2.13
                *
3089            KK  RWBH59   ROUTE
3090            KM  Route hydrograph at combination point CIBHGR at the intersection of Bethany
3091            KM  Home Road and Grand Avenue west to combination point CBH59
3092            RS       4    FLOW
3093            RC   0.035   0.015   0.035    5280  0.0025    0.00
3094            RX    0.00    0.00   47.50   47.50  230.50  230.50  278.00  278.00
3095            RY    3.00    0.98    0.50    0.00    0.00    0.50    0.98    3.00
                *
3096            KK  DI59BHRETRIEVE
3097            KM  Retrieve arterial street flow diverted to 59th Avenue at the intersection
3098            KM  of Bethany Home Road and Grand Avenue
3099            DR  DSBH59
                *
3100            KK  RSBH59   ROUTE
3101            KM  Route diversion retrieval DI59HB at the intersection of Bethany Home Road and
3102            KM  59th Avenue south to combination point CBH59
3103            RS       3    FLOW
3104            RC   0.035   0.015   0.035    5280  0.0024    0.00
3105            RX    0.00    0.00   30.50   30.50  167.50  167.50  198.00  198.00
3106            RY    3.00    0.80    0.50    0.00    0.00    0.50    0.80    3.00
                *
```



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3107            KK   BH59   BASIN
3108            KM  Runoff hydrograph for subbasin BH59 northeast of the intersection of Bethany
3109            KM  Home Road and 59th Avenue
3110            BA  0.493
3111            LG   0.16    0.25    5.00    0.23      71
3112            UC  0.807   0.436
3113            UA      0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
3114            UA    100
                *
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LINE            ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

3115            KK  ERBH59  DIVERT
3116            KM  Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
3117            KM  retention developed after 1990 and NOAA14 rainfall for future retention in
3118            KM  subbasin BH59
3119            DT  XBH59     3.1     0.0
3120            DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
3121            DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
                *
3122            KK  CBH59 COMBINE
3123            KM  Combine route RWBH59, route RSBH59, and subbasin BH59
3124            HC       3    3.58
                *
3125            KK  DWBH67  DIVERT
3126            KM  Divert remaining runoff hydrograph from combination point CBH59 west to
3127            KM  combination point CBH67
3128            DT  DSCB59      0.0     0.0
3129            DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
3130            DQ     0.0    42.0    84.0   210.0   420.0   840.0  1680.0  4200.0  8400.0 21000.0
                *
3131            KK  RWBH67   ROUTE
3132            KM  Route diversion DWBH67 west to combination point CBH67
3133            RS       4    FLOW
3134            RC   0.035   0.015   0.035    5280  0.0028    0.00
3135            RX    0.00    0.00   68.50   68.50  359.50  359.50  428.00  428.00
3136            RY    3.00    1.18    0.50    0.00    0.00    0.50    1.18    3.00
                *
3137            KK  DRBH67RETRIEVE
3138            KM  Retrieve divert DRBH67 from combination point CGL75 and divert south to
3139            KM  combination point CBH67
3140            DR  DSBH67
                *
3141            KK  RSBH67   ROUTE
3142            KM  Route diversion retrieval DRBH67 south to combination point CBH67
3143            RS       8    FLOW
3144            RC   0.035   0.015   0.035    5280  0.0015    0.00
3145            RX    0.00    0.00   75.50   75.50  402.50  402.50  478.00  478.00
3146            RY    3.00    1.25    0.50    0.00    0.00    0.50    1.25    3.00
                *
3147            KK   BH67   BASIN
3148            KM  Runoff hydrograph for square mile subbasin BH67 northeast of the intersection
3149            KM  of Bethany Home Road and 67th Avenue
3150            BA  0.971
3151            LG   0.23    0.25    5.60    0.19      40
3152            UC  1.500   1.015
3153            UA      0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
3154            UA    100
                *
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LINE            ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

3155            KK  CBH67 COMBINE
3156            KM  Combine route RWBH67, route RSBH67, and subbasin BH67
3157            HC       3    5.24
                *
3158            KK  DWBH75  DIVERT
3159            KM  Divert remaining runoff hydrograph from combination point CBH67 west to
3160            KM  combination point CBH75
3161            DT  DSCB67      0.0     0.0
3162            DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
3163            DQ     0.0    44.0    88.0   220.0   440.0   880.0  1760.0  4400.0  8800.0 22000.0
                *
3164            KK  RWBH75   ROUTE
3165            KM  Route diversion DWBH75 west to combination point CBH75
3166            RS       4    FLOW
3167            RC   0.035   0.015   0.035    5280  0.0038    0.00
3168            RX    0.00    0.00   61.50   61.50  316.50  316.50  378.00  378.00
3169            RY    3.00    1.12    0.50    0.00    0.00    0.50    1.12    3.00
                *
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3170          KK  DRBH75RETRIEVE
3171          KM   Retrieve divert DRBH75 from combination point CGL75 and divert south to
3172          KM   combination point CBH75
3173          DR  DSBH75
              *

3174          KK  RSBH75   ROUTE
3175          KM   Route diversion retrieval DRBH75 south to combination point CBH75
3176          RS       4    FLOW
3177          RC  0.035   0.015   0.035    5280  0.0019    0.00
3178          RX   0.00    0.00   68.50   68.50  359.50  359.50  428.00  428.00
3179          RY   3.00    1.18    0.50    0.00    0.00    0.50    1.18    3.00
              *

3180          KK   BH75   BASIN
3181          KM   Runoff hydrograph for square mile subbasin BH75 northeast of the intersection
3182          KM   of Bethany Home Road and 75th Avenue
3183          BA   1.003
3184          LG    0.24    0.15    9.70    0.04      37
3185          UC   1.500   1.009
3186          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
3187          UA     100
              *

3188          KK  ERBH75  DIVERT
3189          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
3190          KM   retention developed after 1990 in subbasin BH75
3191          DT   XBH75     69.9      0.0
3192          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
3193          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

3194          KK   CBH75 COMBINE
3195          KM   Combine route RWBH75, route RSBH75, and subbasin BH75
3196          HC       3    8.42
              *

3197          KK   DBH75  DIVERT
3198          KM   Divert calculated full flow capapcity of 560 cfs into 108-inch storm drain
3199          KM   pipe at the intersection of Bethany Home Road and 75th Avenue
3200          DT   DPBH75      0.0    560.0
3201          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
3202          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

3203          KK  DWBH83  DIVERT
3204          KM   Divert remaining runoff hydrograph from combination point CBH75 west to
3205          KM   combination point CBH83
3206          DT   DSCB75      0.0      0.0
3207          DI      0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0  10000.0  20000.0  50000.0
3208          DQ      0.0     53.0    106.0    265.0    530.0   1060.0   2120.0   5300.0  10600.0  26500.0
              *

3209          KK  RWBH83   ROUTE
3210          KM   Route diversion DWBH83 west to combination point CBH83
3211          RS      10    FLOW
3212          RC  0.035   0.015   0.035    5280  0.0034    0.00
3213          RX   0.00    0.00   47.50   47.50  230.50  230.50  278.00  278.00
3214          RY   3.00    0.98    0.50    0.00    0.00    0.50    0.98    3.00
              *

3215          KK  DRBH83RETRIEVE
3216          KM   Retrieve divert DRBH83 from combination point CGL83 and divert south to
3217          KM   combination point CBH83
3218          DR  DSBH83
              *

3219          KK  RSBH83   ROUTE
3220          KM   Route diversion retrieval DRBH83 south to combination point CBH83
3221          RS       5    FLOW
3222          RC  0.035   0.015   0.035    5280  0.0021    0.00
3223          RX   0.00    0.00   72.50   72.50  425.50  425.50  498.00  498.00
3224          RY   3.00    1.23    0.50    0.00    0.00    0.50    1.23    3.00
              *

3225          KK   BH83   BASIN
3226          KM   Runoff hydrograph for square mile subbasin BH83 northeast of the intersection
3227          KM   of Bethany Home Road and 83rd Avenue
3228          BA   0.998
3229          LG    0.22    0.15    7.60    0.09      31
3230          UC   1.500   1.016
3231          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
3232          UA     100
              *

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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10
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3233          KK  ERBH83  DIVERT
3234          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
3235          KM   retention developed after 1990 in subbasin BH83
3236          DT   XBH83     62.4      0.0
3237          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
3238          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

3239          KK   CBH83 COMBINE
3240          KM   Combine route RWBH83, route RSBH83, and subbasin BH83
3241          HC       3    9.47
              *

3242          KK  PRBH75RETRIEVE
3243          KM   Retrieve full flow capacity of 560 cfs from 108-inch storm drain pipe at the
3244          KM   intersection of Bethany Home Road and 75th Avenue
3245          DR  DPBH75
              *

3246          KK  RPBH83   ROUTE
3247          KM   Route full flow capacity of 560 cfs through 108-inch storm drain pipe in
3248          KM   Bethany Home Road to the intersection of Bethany Home Road and 83rd Avenue
3249          RK    4286  0.0020   0.015            CIRC   9.000
              *

3250          KK  CPBH83 COMBINE
3251          KM   Combine pipe return PRBH75 with the runoff hydrograph at combination point
3252          KM   CBH83 at the intersection of Bethany Home Road and 83rd Avenue
3253          HC       2
              *

3254          KK  DWBH91  DIVERT
3255          KM   Divert remaining runoff hydrograph from combination point CPBH83 west to
3256          KM   combination point CIBH83
3257          DT   DSGC83      0.0      0.0
3258          DI      0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0  10000.0  20000.0  50000.0
3259          DQ      0.0     34.0     68.0    170.0    340.0    680.0   1360.0   3400.0   6800.0  17000.0
              *

3260          KK  DRCB27RETRIEVE
3261          KM   Retrieve divert DRCB27 from combination point CPBH27 and divert south to
3262          KM   combination point CCB27
3263          DR  DSCB27
              *

3264          KK  RSCB27   ROUTE
3265          KM   Route diversion retrieval DRCB27 south to combination point CCB27
3266          RS       4    FLOW
3267          RC  0.035   0.015   0.035    5280  0.0037    0.00
3268          RX   0.00    0.00   26.00   26.00  148.00  148.00  174.00  174.00
3269          RY   3.00    0.76    0.50    0.00    0.00    0.50    0.76    3.00
              *

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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

3270          KK   CB27   BASIN
3271          KM   Runoff hydrograph for subbasin CB27 northeast of the intersection of
3272          KM   Camelback Road and 27th Avenue
3273          BA   0.262
3274          LG    0.20    0.25    5.10    0.22      54
3275          UC   1.047   0.842
3276          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
3277          UA     100
              *

3278          KK   CCB27 COMBINE
3279          KM   Combine route RSCB27, and subbasin CB27
3280          HC       2    1.50
              *

3281          KK  PR27BHRETRIEVE
3282          KM   Retrieve full flow capacity of 132 cfs from 57-inch diameter pipe at the
3283          KM   intersection of Bethany Home Road and 27th Avenue
3284          DR  DP27BH
              *

3285          KK  RP27CB   ROUTE
3286          KM   Route full flow capacity of 132 cfs through 57-inch storm drain pipe in
3287          KM   27th Avenue to the intersection of 27th Avenue and Camelback Road
3288          RK    5336  0.0034   0.015            CIRC   4.750
              *

3289          KK  CPCB27 COMBINE
3290          KM   Combine pipe return PR27BH with the runoff hydrograph at combination point
3291          KM   CGL83 at the intersection of Camelback Road and 27th Avenue
3292          HC       2
              *

3293          KK   D27CB  DIVERT
3294          KM   Divert calculated full flow capapcity of 132 cfs into 57-inch storm drain
3295          KM   pipe at the intersection of Camelback Road and 27th Avenue
```

```
3296          DT  DP27CB      0.0   132.0
3297          DI      0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
3298          DQ      0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

3299          KK  DWCB35  DIVERT
3300          KM   Divert remaining runoff hydrograph from combination point CPCB27 west to
3301          KM   combination point CCB35
3302          DT  DSIS27      0.0     0.0
3303          DI      0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
3304          DQ      0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9.....10

3305          KK  RWCB35   ROUTE
3306          KM   Route diversion DWCB35 west to combination point CCB35
3307          RS       1    FLOW
3308          RC   0.035   0.015   0.035    5280  0.0006    0.00
3309          RX    0.00    0.00  105.00  105.00  494.00  494.00  599.00  599.00
3310          RY    3.00    1.55    0.50    0.00    0.00    0.50    1.55    3.00
              *

3311          KK  DRCB35RETRIEVE
3312          KM   Retrieve divert DRCB35 from combination point CPBH35 and divert south to
3313          KM   combination point CCB35
3314          DR  DSCB35
              *

3315          KK  RSCB35   ROUTE
3316          KM   Route diversion retrieval DRCB35 south to combination point CCB35
3317          RS       3    FLOW
3318          RC   0.035   0.015   0.035    5280  0.0040    0.00
3319          RX    0.00    0.00   95.50   95.50  453.50  453.50  549.00  549.00
3320          RY    3.00    1.46    0.50    0.00    0.00    0.50    1.46    3.00
              *

3321          KK    CB35   BASIN
3322          KM   Runoff hydrograph for square mile subbasin CB35 northeast of the intersection
3323          KM   of Camelback Road and 35th Avenue
3324          BA   1.000
3325          LG    0.24    0.25    5.00    0.25      39
3326          UC   1.500   1.010
3327          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
3328          UA     100
              *

3329          KK   CCB35 COMBINE
3330          KM   Combine route RWCB35, route RSCB35, and subbasin CB35
3331          HC       3    2.94
              *

3332          KK  PR27CBRETRIEVE
3333          KM   Retrieve combined full flow capacity of 132 cfs from 57-inch equivalent
3334          KM   diameter pipe at the intersection of Camelback Road and 27th Avenue
3335          DR  DP27CB
              *

3336          KK  CPCB29 COMBINE
3337          KM   Combine pipe return PR27CB with the runoff hydrograph at combination point
3338          KM   CCB29 at the intersection of Camelback Road and 29thth Avenue
3339          HC       2
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9.....10

3340          KK   D29CB  DIVERT
3341          KM   Divert calculated full flow capapcity of 132 cfs into 57-inch storm drain
3342          KM   pipe at the intersection of Camelback Road and 29th Avenue
3343          DT  DP29CB      0.0   132.0
3344          DI      0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
3345          DQ      0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

3346          KK  PR35BHRETRIEVE
3347          KM   Retrieve combined full flow capacity of 226 cfs from 69-inch equivalent
3348          KM   diameter pipe at the intersection of Bethany Home Road and 35th Avenue
3349          DR  DP35BH
              *

3350          KK  RP35CB   ROUTE
3351          KM   Route the combined full flow capacity of 226 cfs through an equivalent storm
3352          KM   drain pipe diameter of 69 inches in 35th Avenue to the intersection of
3353          KM   35th Avenue and Camelback Road
3354          RK    5249  0.0037   0.015            CIRC   5.750
              *

3355          KK  CPCB35 COMBINE
3356          KM   Combine pipe return PR35BH with the runoff hydrograph at combination point
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3357          KM   CCB35 at the intersection of Camelback Road and 35th Avenue
3358          HC       2
              *

3359          KK   D35CB  DIVERT
3360          KM   Capacity of storm drain in 31st Avenue and 35th Avenue diverted together.
3361          KM   Divert combined calculated full flow capacity of 213 cfs in the 66-inch storm
3362          KM   drain pipe in 31st Avenue and 40 cfs in the 36-inch storm drain pipe in
3363          KM   35th Avenue. The total calculated combined full flow capacity diverted at the
3364          KM   intersection of 35th Avenue and Camelback Road is 253 cfs in an equivalent
3365          KM   diameter pipe of 73 inches
3366          DT  DP35CB      0.0   253.0
3367          DI      0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
3368          DQ      0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

3369          KK  DWCB43  DIVERT
3370          KM   Divert remaining runoff hydrograph from combination point CPCB35 west to
3371          KM   combination point CCB43
3372          DT  DSIS35      0.0     0.0
3373          DI      0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
3374          DQ      0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
              *

3375          KK  RWCB43   ROUTE
3376          KM   Route diversion DWCB43 west to combination point CCB43
3377          RS       1    FLOW
3378          RC   0.035   0.015   0.035    5280  0.0001    0.00
3379          RX    0.00    0.00   86.00   86.00  413.00  413.00  499.00  499.00
3380          RY    3.00    1.36    0.50    0.00    0.00    0.50    1.36    3.00
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9.....10

3381          KK  DRCB43RETRIEVE
3382          KM   Retrieve divert DRCB43 from combination point CPBH43 and divert south to
3383          KM   combination point CCB43
3384          DR  DSCB43
              *

3385          KK  RSCB43   ROUTE
3386          KM   Route diversion retrieval DRCB43 south to combination point CCB43
3387          RS       3    FLOW
3388          RC   0.035   0.015   0.035    5280  0.0032    0.00
3389          RX    0.00    0.00   57.50   57.50  291.50  291.50  349.00  349.00
3390          RY    3.00    1.08    0.50    0.00    0.00    0.50    1.08    3.00
              *

3391          KK    CB43   BASIN
3392          KM   Runoff hydrograph for square mile subbasin CB43 northeast of the intersection
3393          KM   of Camelback Road and 43rd Avenue
3394          BA   0.999
3395          LG    0.24    0.25    4.80    0.26      35
3396          UC   1.233   0.467
3397          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
3398          UA     100
              *

3399          KK   CCB43 COMBINE
3400          KM   Combine route RWCB43, route RSCB43, and subbasin CB43
3401          HC       3    2.12
              *

3402          KK  PR43BHRETRIEVE
3403          KM   Retrieve combined full flow capacity of 385 cfs from 85-inch equivalent
3404          KM   diameter pipe at the intersection of Bethany Home Road and 43rd Avenue
3405          DR  DP43BH
              *

3406          KK  RP43CB   ROUTE
3407          KM   Route the combined full flow capacity of 385 cfs through an equivalent storm
3408          KM   drain pipe diameter of 85 inches in 43rd Avenue to the intersection of
3409          KM   43rd Avenue and Camelback Road
3410          RK    5172  0.0035   0.015            CIRC   7.083
              *

3411          KK  CPCB43 COMBINE
3412          KM   Combine pipe return PR43BH with the runoff hydrograph at combination point
3413          KM   CCB43 at the intersection of Camelback Road and 43rd Avenue
3414          HC       2
              *

3415          KK   D39CB  DIVERT
3416          KM   Divert calculated full flow capapcity of 268 cfs into 72-inch storm drain
3417          KM   pipe at the intersection of Camelback Road and 39th Avenue
3418          DT  DP39CB      0.0   268.0
3419          DI      0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
3420          DQ      0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *
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LINE          ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

3421          KK   D43CB  DIVERT
3422          KM   Divert calculated full flow capapcity of 155 cfs into 60-inch storm drain
3423          KM   pipe at the intersection of Camelback Road and 43rd Avenue
3424          DT  DP43CB      0.0   155.0
3425          DI      0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
3426          DQ      0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

3427          KK  DWGR43  DIVERT
3428          KM   Divert portion of runoff hydrograph from combination point CPCB43 west
3429          KM   through subbasin GR43 using the ratio of the widths and slopes of the streets
3430          KM   going west and the widths and slopes of the streets going south. The
3431          KM   remaining flow is diverted south through subbasin IS43
3432          DT  DSGR35      0.0     0.0
3433          DI      0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
3434          DQ      0.0    57.0   114.0   285.0   570.0  1140.0  2280.0  5700.0 11400.0 28500.0
              *

3435          KK   DGR43  DIVERT
3436          KM   Divert portion of DWGR43 west to subbasin GR43 using the ratio of the width
3437          KM   of the collector and local streets and the width of the arterial street. The
3438          KM   remaining flow is diverted west to subbasin CB51 along Camelback Road
3439          DT   DCB51      0.0     0.0
3440          DI      0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
3441          DQ      0.0    25.0    50.0   125.0   250.0   500.0  1000.0  2500.0  5000.0 12500.0
              *

3442          KK  DRGR43RETRIEVE
3443          KM   Retrieve divert DRGR43 from combination point CPBH51 and divert south to
3444          KM   combination point CGR43
3445          DR  DSGR43
              *

3446          KK  RSGR43   ROUTE
3447          KM   Route diversion retrieval DRGR43 south to combination point CGR43
3448          RS        6    FLOW
3449          RC   0.035   0.015   0.035    7370  0.0013     0.00
3450          RX    0.00    0.00   31.50   31.50  143.50  143.50  175.00  175.00
3451          RY    3.00    0.82    0.50    0.00    0.00    0.50    0.82    3.00
              *

3452          KK    GR43   BASIN
3453          KM   Runoff hydrograph for subbasin GR43 northwest of the intersection of Grand
3454          KM   Avenue and 43rd Avenue
3455          BA   0.514
3456          LG    0.21    0.25    4.90    0.24      51
3457          UC   0.953   0.517
3458          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
3459          UA     100
              *
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LINE          ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

3460          KK  ERGR43  DIVERT
3461          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
3462          KM   retention developed after 1990 in subbasin GR43
3463          DT   XGR43     6.6     0.0
3464          DI      0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
3465          DQ      0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

3466          KK   CGR43 COMBINE
3467          KM   Combine route RSGR43, remainder of combination point CPCB43, and subbasin
3468          KM   GR43
3469          HC        3    2.28
              *

3470          KK  SRGR43 STORAGE
3471          KM   Combined storage routing IDs BCm1 and BCm2 from PEC model, Feb 2008
3472          KM   Storage routing through two basins along Grand Avenue between 51st Avenue and
3473          KM     Bethany Home and 43rd Avenue and Camelback
3474          RS        1    STOR
3475          SV            20.40   65.70  122.40  136.72  212.40  323.58  339.80
3476          SE  1126.0  1131.0  1136.0  1141.0  1142.0  1146.0  1150.0  1151.0
3477          SQ      0.0     0.0     0.0    10.0    17.0    40.0    80.0   100.0   160.0     200
3478          SQ    300.0   400.0   500.0   600.0   700.0   800.0   900.0  1000.0  1100.0
3479          SE  1126.0  1140.0  1142.5 1142.67  1142.7  1142.8 1142.91 1142.95 1143.05   1143.
3480          SE  1143.2 1143.38 1143.48 1143.58 1143.67 1143.75 1143.83 1143.91 1143.98
              *

3481          KK   DGR35  DIVERT
3482          KM   Divert portion of runoff hydrograph from combination point CGR43 west to
3483          KM   combination point CICBGR using the ratio of the widths and slopes of the
3484          KM   streets going east and the widths and slopes of the streets going south. The
3485          KM   remaining flow is diverted east through subbasin GR35 along Grand Avenue.
3486          DT  DEGR35      0.0     0.0
3487          DI      0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
3488          DQ      0.0    35.0    70.0   175.0   350.0   700.0  1400.0  3500.0  7000.0 17500.0
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              *

3489          KK  DWCB51  DIVERT
3490          KM   Divert portion of DGR35 south to subbasin IS43 using the ratio of the width
3491          KM   of the collector and local streets and the width of the arterial street. The
3492          KM   remaining flow is diverted west to combination point CICBGR at the
3493          KM   intersection of Camelback Road and 51st Avenue
3494          DT  DSIS43      0.0     0.0
3495          DI      0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
3496          DQ      0.0    65.0   130.0   325.0   650.0  1300.0  2600.0  6500.0 13000.0 32500.0
              *

3497          KK  DICB51RETRIEVE
3498          KM   Retrieve arterial street flow diverted to Camelback Road at the intersection
3499          KM   of Bethany Home Road and 51st Avenue
3500          DR   DCB51
              *
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LINE          ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

3501          KK  CICBGR COMBINE
3502          KM   Combine arterial street flow from Camelback Rd DICB51 with runoff hydrograph
3503          KM   DWCB51 at the intersection of Camelback Road and 51st Avenue
3504          HC        2    0.74
              *

3505          KK  RWCB51   ROUTE
3506          KM   Route hydrograph at combination point CICBGR at the intersection of Camelback
3507          KM   Road and 51st Avenue west to combination point CCB51
3508          RS        5    FLOW
3509          RC   0.035   0.015   0.035    5280  0.0014     0.00
3510          RX    0.00    0.00   16.50   16.50  107.50  107.50  124.00  124.00
3511          RY    3.00    0.66    0.50    0.00    0.00    0.50    0.66    3.00
              *

3512          KK   CB51   BASIN
3513          KM   Runoff hydrograph for subbasin CB51 northeast of the intersection
3514          KM   of Camelback Road and 51st Avenue
3515          BA   0.483
3516          LG    0.15    0.25    5.00    0.23      80
3517          UC   0.536   0.276
3518          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
3519          UA     100
              *

3520          KK   CCB51 COMBINE
3521          KM   Combine hydrograph at combination point CICBGR and subbasin CB51
3522          HC        2    1.23
              *

3523          KK  DWCB59  DIVERT
3524          KM   Divert remaining runoff hydrograph from combination point CCB51 west to
3525          KM   combination point CCB59
3526          DT  DSIS51      0.0     0.0
3527          DI      0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
3528          DQ      0.0    51.0   102.0   255.0   510.0  1020.0  2040.0  5100.0 10200.0 25500.0
              *

3529          KK  RWCB59   ROUTE
3530          KM   Route diversion DWCB59 west to combination point CCB59
3531          RS        4    FLOW
3532          RC   0.035   0.015   0.035    5280  0.0023     0.00
3533          RX    0.00    0.00   48.00   48.00  251.00  251.00  299.00  299.00
3534          RY    3.00    0.98    0.50    0.00    0.00    0.50    0.98    3.00
              *

3535          KK  DRCB59RETRIEVE
3536          KM   Retrieve divert DRCB59 from combination point CBH59 and divert south to
3537          KM   combination point CCB59
3538          DR   DSCB59
              *
```



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LINE          ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

3539          KK  RSCB59   ROUTE
3540          KM   Route diversion retrieval DRCB59 south to combination point CCB59
3541          RS        4    FLOW
3542          RC   0.035   0.015   0.035    5280  0.0030     0.00
3543          RX    0.00    0.00   48.00   48.00  251.00  251.00  299.00  299.00
3544          RY    3.00    0.98    0.50    0.00    0.00    0.50    0.98    3.00
              *

3545          KK   CB59   BASIN
3546          KM   Runoff hydrograph for square mile subbasin CB59 northeast of the intersection
3547          KM   of Camelback Road and 59th Avenue
3548          BA   1.010
3549          LG    0.16    0.25    5.10    0.22      72
3550          UC   1.216   0.802
3551          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
```

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3552          UA     100
              *

3553          KK  ERCB59  DIVERT
3554          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
3555          KM   retention developed after 1990 in subbasin CB59
3556          DT   XCB59     16.6      0.0
3557          DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
3558          DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

3559          KK   CCB59 COMBINE
3560          KM   Combine route RWCB59, route RSCB59, and subbasin CB59
3561          HC        3     3.11
              *

3562          KK   DCB59  DIVERT
3563          KM   Divert calculated full flow capapcity of 351 cfs into 84-inch storm drain
3564          KM   pipe at the intersection of Camelback Road and 59th Avenue
3565          KM   This is a future storm drain currently under design
3566          DT  DPCB59      0.0    351.0
3567          DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
3568          DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

3569          KK  DWCB67  DIVERT
3570          KM   Divert remaining runoff hydrograph from combination point CCB59 west to
3571          KM   combination point CCB67
3572          DT  DSIS59      0.0      0.0
3573          DI      0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0  10000.0  20000.0  50000.0
3574          DQ      0.0     53.0    106.0    265.0    530.0   1060.0   2120.0   5300.0  10600.0  26500.0
              *

3575          KK  RWCB67   ROUTE
3576          KM   Route diversion DWCB67 west to combination point CCB67
3577          RS        5     FLOW
3578          RC    0.035    0.015    0.035     5280   0.0025     0.00
3579          RX     0.00     0.00    67.00    67.00   332.00   332.00   399.00   399.00
3580          RY     3.00     1.17     0.50     0.00     0.00     0.50     1.17     3.00
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9.....10

3581          KK  DRCB67RETRIEVE
3582          KM   Retrieve divert DRCB67 from combination point CBH67 and divert south to
3583          KM   combination point CCB67
3584          DR  DSCB67
              *

3585          KK  RSCB67   ROUTE
3586          KM   Route diversion retrieval DRCB67 south to combination point CCB67
3587          RS        4     FLOW
3588          RC    0.035    0.015    0.035     5280   0.0027     0.00
3589          RX     0.00     0.00    57.50    57.50   291.50   291.50   349.00   349.00
3590          RY     3.00     1.08     0.50     0.00     0.00     0.50     1.08     3.00
              *

3591          KK    CB67   BASIN
3592          KM   Runoff hydrograph for square mile subbasin CB67 northeast of the intersection
3593          KM   of Camelback Road and 67th Avenue
3594          BA   0.970
3595          LG    0.24     0.15     7.60     0.08       36
3596          UC   1.500    1.016
3597          UA       0      5.0     16.0     30.0     65.0     77.0     84.0     90.0     94.0     97.0
3598          UA     100
              *

3599          KK  ERCB67  DIVERT
3600          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
3601          KM   retention developed after 1990 in subbasin CB67
3602          DT   XCB67      3.2      0.0
3603          DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
3604          DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

3605          KK   CCB67 COMBINE
3606          KM   Combine route RWCB67, route RSCB67, and subbasin CB67
3607          HC        3     4.73
              *

3608          KK  PRCB59RETRIEVE
3609          KM   Retrieve full flow capacity of 351 cfs from 84-inch diameter pipe at the
3610          KM   intersection of Camelback Road and 59th Avenue
3611          KM   This is a future storm drain currently under design
3612          DR  DPCB59
              *

3613          KK  RPCB67   ROUTE
3614          KM   Route full flow capacity of 351 cfs through 84-inch storm drain pipe in
3615          KM   Camelback Road to the intersection of 67th Avenue and Camelback Road
3616          KM   This is a future storm drain currently under design
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3617          RK    2642  0.0030   0.015            CIRC   7.000
              *
```



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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9.....10

3618          KK  CPCB67 COMBINE
3619          KM   Combine pipe return PRCB59 with the runoff hydrograph at combination point
3620          KM   CCB67 at the intersection of Camelback Road and 67th Avenue
3621          HC        2
              *

3622          KK   DCB67  DIVERT
3623          KM   Divert calculated full flow capapcity of 504 cfs into 102-inch storm drain
3624          KM   pipe at the intersection of Camelback Road and 67th Avenue
3625          KM   This is a future storm drain currently under design
3626          DT  DPCB67      0.0    504.0
3627          DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
3628          DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

3629          KK  DWCB75  DIVERT
3630          KM   Divert remaining runoff hydrograph from combination point CPCB67 west to
3631          KM   combination point CCB75
3632          DT  DSGC67      0.0      0.0
3633          DI      0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0  10000.0  20000.0  50000.0
3634          DQ      0.0     43.0     86.0    215.0    430.0    860.0   1720.0   4300.0   8600.0  21500.0
              *

3635          KK  RWCB75   ROUTE
3636          KM   Route diversion DWCB75 west to combination point CCB75
3637          RS        4     FLOW
3638          RC    0.035    0.015    0.035     5280   0.0024     0.00
3639          RX     0.00     0.00    86.00    86.00   413.00   413.00   499.00   499.00
3640          RY     3.00     1.36     0.50     0.00     0.00     0.50     1.36     3.00
              *

3641          KK  DRCB75RETRIEVE
3642          KM   Retrieve divert DRCB75 from combination point CBH75 and divert south to
3643          KM   combination point CCB75
3644          DR  DSCB75
              *

3645          KK  RSCB75   ROUTE
3646          KM   Route diversion retrieval DRCB75 south to combination point CCB75
3647          RS       10     FLOW
3648          RC    0.035    0.015    0.035     5280   0.0013     0.00
3649          RX     0.00     0.00    86.00    86.00   413.00   413.00   499.00   499.00
3650          RY     3.00     1.36     0.50     0.00     0.00     0.50     1.36     3.00
              *

3651          KK    CB75   BASIN
3652          KM   Runoff hydrograph for square mile subbasin CB75 northeast of the intersection
3653          KM   of Camelback Road and 75th Avenue
3654          BA   0.998
3655          LG    0.24     0.15     7.30     0.10       33
3656          UC   1.500    1.012
3657          UA       0      5.0     16.0     30.0     65.0     77.0     84.0     90.0     94.0     97.0
3658          UA     100
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9.....10

3659          KK  ERCB75  DIVERT
3660          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
3661          KM   retention developed after 1990 in subbasin CB75
3662          DT   XCB75     25.1      0.0
3663          DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
3664          DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

3665          KK   CCB75 COMBINE
3666          KM   Combine RWCB75, route RSCB75, and subbasin CB75
3667          HC        3     8.14
              *

3668          KK  PRCB67RETRIEVE
3669          KM   Retrieve full flow capacity of 504 cfs from 102-inch diameter pipe at the
3670          KM   intersection of Camelback Road and 67th Avenue
3671          KM   This is a future storm drain currently under design
3672          DR  DPCB67
              *

3673          KK  RPCB75   ROUTE
3674          KM   Route full flow capacity of 504 cfs through 102-inch storm drain pipe in
3675          KM   Camelback Road to the intersection of 75th Avenue and Camelback Road
3676          KM   This is a future storm drain currently under design
3677          RK    4997  0.0022   0.015            CIRC   8.500
              *
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3678          KK  CPCB75 COMBINE
3679          KM   Combine pipe return PRCB67 with the runoff hydrograph at combination point
3680          KM   CCB75 at the intersection of Camelback Road and 75th Avenue
3681          HC       2
              *

3682          KK  DWGC83  DIVERT
3683          KM   Divert remaining runoff hydrograph from combination point CPCB75 west to
3684          KM   combination point CICB75
3685          DT  DSGC75      0.0      0.0
3686          DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
3687          DQ     0.0    44.0    88.0   220.0   440.0   880.0  1760.0  4400.0  8800.0 22000.0
              *

3688          KK  DRIS27RETRIEVE
3689          KM   Retrieve divert DRIS27 from combination point CPCB27 and divert south to
3690          KM   combination point CIS27
3691          DR  DSIS27
              *

3692          KK  RSIS27   ROUTE
3693          KM   Route diversion retrieval DRIS27 south to combination point CIS27
3694          RS       3    FLOW
3695          RC   0.035   0.015   0.035    5280  0.0038    0.00
3696          RX    0.00    0.00   26.00   26.00  148.00  148.00  174.00  174.00
3697          RY    3.00    0.76    0.50    0.00    0.00    0.50    0.76    3.00
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9.....10

3698          KK    IS27   BASIN
3699          KM   Runoff hydrograph for subbasin IS27 northeast of the intersection of Indian
3700          KM   School Road and 27th Avenue
3701          BA   0.239
3702          LG    0.20    0.15    7.30    0.09      58
3703          UC   1.270   1.090
3704          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
3705          UA     100
              *

3706          KK  CIS27 COMBINE
3707          KM   Combine route RSIS27 and subbasin IS27
3708          HC       2    1.74
              *

3709          KK  PR29CBRETRIEVE
3710          KM   Retrieve full flow capacity of 132 cfs from 57-inch storm drain pipe at the
3711          KM   intersection of Camelback Road and 29th Avenue
3712          DR  DP29CB
              *

3713          KK  RP27IS   ROUTE
3714          KM   Route full flow capacity of 132 cfs through 57-inch storm drain pipe in
3715          KM   27th Avenue to the intersection of Indian School Road and 43rd Avenue
3716          RK    5210  0.0034   0.015            CIRC   4.750
              *

3717          KK  CPIS27 COMBINE
3718          KM   Combine pipe return PR29CB with the runoff hydrograph at combination point
3719          KM   CIS27 at the intersection of Indian School Road and 27th Avenue
3720          HC       2
              *

3721          KK   D27IS  DIVERT
3722          KM   Divert calculated full flow capapcity of 151 cfs into 60-inch storm drain
3723          KM   pipe at the intersection of Indian School Road and 27th Avenue
3724          DT  DP27IS      0.0   151.0
3725          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
3726          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

3727          KK  DWIS35  DIVERT
3728          KM   Divert remaining runoff hydrograph from combination point CIS27 west to
3729          KM   combination point CIS35
3730          DT  DSGC27      0.0      0.0
3731          DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
3732          DQ     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9.....10

3733          KK  RWIS35   ROUTE
3734          KM   Route diversion DWIS35 west to combination point CIS35
3735          RS       1    FLOW
3736          RC   0.035   0.015   0.035    5280  0.0006    0.00
3737          RX    0.00    0.00   95.50   95.50  453.50  453.50  549.00  549.00
3738          RY    3.00    1.46    0.50    0.00    0.00    0.50    1.46    3.00
              *
```



```
3739          KK  DRIS35RETRIEVE
3740          KM   Retrieve divert DRIS35 from combination point CPCB35 and divert south to
3741          KM   combination point CIS35
3742          DR  DSIS35
              *

3743          KK  RSIS35   ROUTE
3744          KM   Route diversion retrieval DRIS35 south to combination point CIS35
3745          RS       3    FLOW
3746          RC   0.035   0.015   0.035    5280  0.0038    0.00
3747          RX    0.00    0.00   86.00   86.00  413.00  413.00  499.00  499.00
3748          RY    3.00    1.36    0.50    0.00    0.00    0.50    1.36    3.00
              *

3749          KK    IS35   BASIN
3750          KM   Runoff hydrograph for square mile subbasin IS35 northeast of the intersection
3751          KM   Indian School Road and 35th Avenue
3752          BA   0.990
3753          LG    0.24    0.15    7.60    0.09      31
3754          UC   1.087   0.408
3755          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
3756          UA     100
              *

3757          KK   CIS35 COMBINE
3758          KM   Combine route RWIS35, route RSIS35, and subbasin IS35
3759          HC       3    3.93
              *

3760          KK  PR35CBRETRIEVE
3761          KM   Retrieve combined full flow capacity of 253 cfs from 73-inch equivalent
3762          KM   diameter pipe at the intersection of Camelback Road and 35th Avenue
3763          DR  DP35CB
              *

3764          KK  RP35IS   ROUTE
3765          KM   Route the combined full flow capacity of 253 cfs through an equivalent storm
3766          KM   drain pipe diameter of 73 inches in 35th Avenue to the intersection of
3767          KM   35th Avenue and Indian School Road
3768          RK    2083  0.0037   0.015            CIRC   6.083
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9.....10

3769          KK  CPIS35 COMBINE
3770          KM   Combine pipe return PR35CB with the runoff hydrograph at combination point
3771          KM   CIS35 at the intersection of Indian School Road and 35th Avenue
3772          HC       2
              *

3773          KK   D31IS  DIVERT
3774          KM   Divert calculated full flow capapcity of 268 cfs into 72-inch storm drain
3775          KM   pipe at the intersection of Indian School Road and 31st Avenue
3776          DT  DP31IS      0.0   268.0
3777          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
3778          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

3779          KK   D35IS  DIVERT
3780          KM   Divert calculated full flow capapcity of 40 cfs into 36-inch storm drain
3781          KM   pipe at the intersection of Indian School Road and 35th Avenue
3782          DT  DP35IS      0.0    40.0
3783          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
3784          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

3785          KK  DWGR35  DIVERT
3786          KM   Divert remaining runoff hydrograph from combination point CIS35 west to
3787          KM   combination point CGR35
3788          DT  DSGC35      0.0      0.0
3789          DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
3790          DQ     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
              *

3791          KK  DIGR35RETRIEVE
3792          KM   Retrieve arterial street flow diverted to Grand Avenue at the intersection
3793          KM   of Grand Avenue and 35th Avenue
3794          DR  DSGR35
              *

3795          KK  DRGR35RETRIEVE
3796          KM   Retrieve subbasin flow diverted to the intersection of 43rd Avenue and
3797          KM   Grand Avenue
3798          DR  DSGR35
              *

3799          KK   D35GR  DIVERT
3800          KM   Divert portion of divert return DRGR35 south to subbasin GR35 using the ratio
3801          KM   of the width of the collector and local streets and the width of the arterial
3802          KM   street. The remaining flow is diverted south to combination point CICB43
3803          KM   along 43rd Avenue
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3804          DT  DS43IS      0.0      0.0
3805          DI      0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0  10000.0  20000.0  50000.0
3806          DQ      0.0     36.0     72.0    180.0    360.0    720.0   1440.0   3600.0   7200.0  18000.0
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


3807          KK  CIGR43 COMBINE
3808          KM   Combine arterial street flow from Grand Avenue DIGR35 with runoff hydrograph
3809          KM   D35GR at the intersection of 43rd Avenue and Grand Avenue
3810          HC        2     1.58
              *

3811          KK  RSGR35    ROUTE
3812          KM   Route hydrograph at combination point CIGR43 at the intersection of Grand
3813          KM   Avenue and 43rd Avenue south to combination point CGR35
3814          RS        4     FLOW
3815          RC   0.035    0.015    0.035     7095   0.0033     0.00
3816          RX    0.00     0.00    48.00    48.00   251.00   251.00   299.00   299.00
3817          RY    3.00     0.98     0.50     0.00     0.00     0.50     0.98     3.00
              *

3818          KK     GR35    BASIN
3819          KM   Runoff hydrograph for subbasin GR35 northwest of the intersection of Grand
3820          KM   Avenue, 35th Avenue, and Indian School Road
3821          BA   0.531
3822          LG    0.20     0.25     4.80     0.26       51
3823          UC   0.994    0.548
3824          UA        0      5.0     16.0     30.0     65.0     77.0     84.0     90.0     94.0     97.0
3825          UA      100
              *

3826          KK   CGR35 COMBINE
3827          KM   Combine divert DWGR35, route RSGR35, and subbasin GR35
3828          HC        3     2.11
              *

3829          KK  PR39CBRETRIEVE
3830          KM   Retrieve full flow capacity of 268 cfs from 72-inch diameter pipe at the
3831          KM   intersection of Camelback Road and 39th Avenue
3832          DR  DP39CB
              *

3833          KK  RP39GR    ROUTE
3834          KM   Route the full flow capacity of 268 cfs through 72-inch storm drain pipe
3835          KM   diameter in 39th Avenue to the intersection of 39th Avenue and Indian School
3836          KM   Road
3837          RK     2846  0.0040    0.015             CIRC    6.000
              *

3838          KK  CPGR35 COMBINE
3839          KM   Combine pipe return PR39CB with the runoff hydrograph at combination point
3840          KM   CGC35 at the intersection of Grand Avenue and 35th Avenue
3841          HC        2
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


3842          KK  DP39GR  DIVERT
3843          KM   Divert calculated full flow capapcity of 251 cfs into 72-inch storm drain
3844          KM   pipe at the intersection of Grand Avenue and 39th Avenue. The pipe flow is
3845          KM   followed to combination point CPIS43 and the remaining surface flow is
3846          KM   diverted to combination point CIIS53 at the intersection of Indian School
3847          KM   Road and 35th Avenue
3848          DT  D39GR      0.0      0.0
3849          DI      0.0    251.0    251.1 50000.0      0.0      0.0      0.0      0.0      0.0      0.0
3850          DQ      0.0      0.0      0.1 49749.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

3851          KK  RP39IS    ROUTE
3852          KM   Route the full flow capacity of 251 cfs through 72-inch storm drain pipe
3853          KM   diameter in 39th Avenue to the intersection of 39th Avenue and Indian School
3854          KM   Road
3855          RK     2428  0.0035    0.015             CIRC    6.000
              *

3856          KK  DRIS43RETRIEVE
3857          KM   Retrieve divert DRIS43 in 43rd Avenue from combination point CGR43 and divert
3858          KM   south to intersection combination point CICB43
3859          DR  DSIS43
              *

3860          KK  DI43ISRETRIEVE
3861          KM   Retrieve subbasin flow diverted to the intersection of Camelback Road and
3862          KM   43rd Avenue
3863          DR  DS43IS
              *

3864          KK  CICB43 COMBINE
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3865          KM   Combine arterial street flow from 43rd Avenue DRIS43 with arterial street
3866          KM   flow DI43IS at the intersection of 43rd Avenue and Camelback Road
3867          HC        2     1.40
              *

3868          KK  RSIS43    ROUTE
3869          KM   Route hydrograph at intersection combination point CICB43 at the intersection
3870          KM   of Camelback Road and 43rd Avenue south to combination point CIS43
3871          RS        3     FLOW
3872          RC   0.035    0.015    0.035     5280   0.0048     0.00
3873          RX    0.00     0.00    16.50    16.50   107.50   107.50   124.00   124.00
3874          RY    3.00     0.66     0.50     0.00     0.00     0.50     0.66     3.00
              *

3875          KK     IS43    BASIN
3876          KM   Runoff hydrograph for subbasin IS43 northeast of the intersection of Indian
3877          KM   School Road and 43rd Avenue
3878          BA   0.467
3879          LG    0.15     0.25     4.80     0.25       80
3880          UC   0.544    0.274
3881          UA        0      5.0     16.0     30.0     65.0     77.0     84.0     90.0     94.0     97.0
3882          UA      100
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


3883          KK   CIS43 COMBINE
3884          KM   Combine route RSIS43 and subbasin IS43
3885          HC        2     1.87
              *

3886          KK  PR43CBRETRIEVE
3887          KM   Retrieve full flow capacity of 155 cfs from 60-inch storm drain pipe at the
3888          KM   intersection of Camelback Road and 43rd Avenue
3889          DR  DP43CB
              *

3890          KK  RP43IS    ROUTE
3891          KM   Route full flow capacity of 155 cfs through 60-inch storm drain pipe in
3892          KM   43rd Avenue to the intersection of Indian School Road and 43rd Avenue
3893          RK     5374  0.0035    0.015             CIRC    5.000
              *

3894          KK  CPIS43 COMBINE
3895          KM   Combine pipe return PR43CB with the runoff hydrograph at combination point
3896          KM   CIS43 at the intersection of Indian School Road and 43rd Avenue
3897          HC        3
              *

3898          KK   D43IS  DIVERT
3899          KM   Capacity of storm drain in 39th Avenue and 43rd Avenue diverted together.
3900          KM   Divert combined calculated full flow capacity of 251 cfs in the 72-inch storm
3901          KM   drain pipe in 39th Avenue and 154 cfs in the 60-inch storm drain pipe in
3902          KM   43rd Avenue. The total calculated combined full flow capacity diverted at the
3903          KM   intersection of 43rd Avenue and Indian School Road is 406 cfs in an
3904          KM   equivalent diameter pipe of 87 inches
3905          DT  DP43IS      0.0    406.0
3906          DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
3907          DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

3908          KK  DWIS51  DIVERT
3909          KM   Divert runoff hydrograph from combination point CPIS43 west to combination
3910          KM   point CIS51
3911          DT  DSGC43      0.0      0.0
3912          DI      0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0  10000.0  20000.0  50000.0
3913          DQ      0.0     83.0    166.0    415.0    830.0   1660.0   3320.0   8300.0  16600.0  41500.0
              *

3914          KK  RWIS51    ROUTE
3915          KM   Route diversion DWIS51 west to combination point CIS51
3916          RS       10     FLOW
3917          RC   0.035    0.015    0.035     5280   0.0003     0.00
3918          RX    0.00     0.00    45.00    45.00   229.00   229.00   274.00   274.00
3919          RY    3.00     0.95     0.50     0.00     0.00     0.50     0.95     3.00
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


3920          KK  DRIS51RETRIEVE
3921          KM   Retrieve divert DRIS51 from combination point CCB51 and divert south to
3922          KM   combination point CIS51
3923          DR  DSIS51
              *

3924          KK  RSIS51    ROUTE
3925          KM   Route diversion retrieval DRIS51 south to combination point CIS51
3926          RS        3     FLOW
3927          RC   0.035    0.015    0.035     5280   0.0037     0.00
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3928          RX    0.00    0.00   38.50   38.50  210.50  210.50  249.00  249.00
3929          RY    3.00    0.88    0.50    0.00    0.00    0.50    0.88    3.00
              *

3930          KK    IS51   BASIN
3931          KM   Runoff hydrograph for square mile subbasin IS51 northeast of the intersection
3932          KM   of Indian School Road and 51st Avenue
3933          BA   0.994
3934          LG    0.19    0.25    5.00    0.23      59
3935          UC   1.433   0.960
3936          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
3937          UA     100
              *

3938          KK  ERIS51  DIVERT
3939          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
3940          KM   retention developed after 1990 in subbasin IS51
3941          DT   XIS51    49.9     0.0
3942          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
3943          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

3944          KK   CIS51 COMBINE
3945          KM   Combine route RWIS51, route RSIS51, and subbasin IS51
3946          HC       3    1.94
              *

3947          KK   D51IS  DIVERT
3948          KM   Divert calculated full flow capapcity of 244 cfs into 72-inch storm drain
3949          KM   pipe at the intersection of Indian School Road and 51st Avenue
3950          DT  DP51IS     0.0   244.0
3951          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
3952          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

3953          KK  DWIS59  DIVERT
3954          KM   Divert remaining runoff hydrograph from combination point CIS51 west to
3955          KM   combination point CIS59
3956          DT  DSGC51     0.0     0.0
3957          DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
3958          DQ     0.0    62.0   124.0   310.0   620.0  1240.0  2480.0  6200.0 12400.0 31000.0
              *
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LINE          ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

3959          KK  RWIS59   ROUTE
3960          KM   Route diversion DWIS59 west to combination point CIS59
3961          RS       8    FLOW
3962          RC   0.035   0.015   0.035    5280  0.0016    0.00
3963          RX    0.00    0.00   67.00   67.00  332.00  332.00  399.00  399.00
3964          RY    3.00    1.17    0.50    0.00    0.00    0.50    1.17    3.00
              *

3965          KK  DRIS59RETRIEVE
3966          KM   Retrieve divert DRIS59 from combination point CCB59 and divert south to
3967          KM   combination point CIS59
3968          DR  DSIS59
              *

3969          KK  RSIS59   ROUTE
3970          KM   Route diversion retrieval DRIS59 south to combination point CIS59
3971          RS       4    FLOW
3972          RC   0.035   0.015   0.035    5280  0.0030    0.00
3973          RX    0.00    0.00   67.00   67.00  332.00  332.00  399.00  399.00
3974          RY    3.00    1.17    0.50    0.00    0.00    0.50    1.17    3.00
              *

3975          KK    IS59   BASIN
3976          KM   Runoff hydrograph for square mile subbasin IS59 northeast of the intersection
3977          KM   of Indian School Road and 59th Avenue
3978          BA   1.014
3979          LG    0.22    0.25    5.30    0.21      43
3980          UC   1.500   1.006
3981          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
3982          UA     100
              *

3983          KK   CIS59 COMBINE
3984          KM   Combine route RWIS59, route RSIS59, and subbasin IS59
3985          HC       3    3.38
              *

3986          KK   D59IS  DIVERT
3987          KM   Divert calculated full flow capapcity of 353 cfs into 81-inch storm drain
3988          KM   pipe at the intersection of Indian School Road and 59th Avenue
3989          DT  DP59IS     0.0   353.0
3990          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
3991          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

3992          KK  DWGC67  DIVERT
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3993          KM   Divert remaining runoff hydrograph from combination point CIS59 west to
3994          KM   combination point CGC67
3995          DT  DSGC59     0.0     0.0
3996          DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
3997          DQ     0.0    60.0   120.0   300.0   600.0  1200.0  2400.0  6000.0 12000.0 30000.0
              *
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LINE          ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

3998          KK  RWGC67   ROUTE
3999          KM   Route diversion DWGC67 west to combination point CGC67
4000          RS       4    FLOW
4001          RC   0.035   0.015   0.035    3841  0.0016    0.00
4002          RX    0.00    0.00   48.00   48.00  251.00  251.00  299.00  299.00
4003          RY    3.00    0.98    0.50    0.00    0.00    0.50    0.98    3.00
              *

4004          KK  DRGC67RETRIEVE
4005          KM   Retrieve divert DRGC67 from combination point CCB67 and divert south to
4006          KM   combination point CGC67
4007          DR  DSGC67
              *

4008          KK  RSGC67   ROUTE
4009          KM   Route diversion retrieval DRGC67 south to combination point CGC67
4010          RS       5    FLOW
4011          RC   0.035   0.015   0.035    5280  0.0017    0.00
4012          RX    0.00    0.00   76.50   76.50  372.50  372.50  449.00  449.00
4013          RY    3.00    1.27    0.50    0.00    0.00    0.50    1.27    3.00
              *

4014          KK    GC67   BASIN
4015          KM   Runoff hydrograph for subbasin GC67 northeast of the intersection of the
4016          KM   Grand Canal and 67th Avenue
4017          BA   0.936
4018          LG    0.21    0.15    7.30    0.11      28
4019          UC   1.500   0.934
4020          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
4021          UA     100
              *

4022          KK   CGC67 COMBINE
4023          KM   Combine route RWGC67, route RSGC67, and subbasin GC67
4024          HC       3    4.34
              *

4025          KK   D67IS  DIVERT
4026          KM   Divert calculated full flow capapcity of 175 cfs into 66-inch storm drain
4027          KM   pipe at the intersection of Indian School Road and 67th Avenue
4028          DT  DP67IS     0.0   175.0
4029          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
4030          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

4031          KK  DWGC75  DIVERT
4032          KM   Divert remaining runoff hydrograph from combination point CGC67 west to
4033          KM   combination point CGC75
4034          DT  DSISGC     0.0     0.0
4035          DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
4036          DQ     0.0    51.0   102.0   255.0   510.0  1020.0  2040.0  5100.0 10200.0 25500.0
              *
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LINE          ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

4037          KK  DRGR39RETRIEVE
4038          KM   Retrieve remaining surface flow runoff hydrograph DRGR39 following pipe
4039          KM   diversion DP39GR after combination point CPGR35 at the intersection of 39th
4040          KM   Avenue and Grand Avenue
4041          DR   D39GR
              *

4042          KK   DGC35  DIVERT
4043          KM   Divert runoff hydrograph DRGR39 along Grand Avenue.  Remaining hydrograph
4044          KM   flows along 35th Avenue to the intersection of 35th Avenue and the Grand
4045          KM   Canal
4046          DT  DEGCGR     0.0     0.0
4047          DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
4048          DQ     0.0    48.0    96.0   240.0   480.0   960.0  1920.0  4800.0  9600.0 24000.0
              *

4049          KK  DRGC35RETRIEVE
4050          KM   Retrieve remaining runoff hydrograph DRGC35 coming south from combination
4051          KM   point CPIS35 at the intersection of 35th Avenue and Grand Avenue
4052          DR  DSGC35
              *

4053          KK  DS35GC  DIVERT
4054          KM   Divert runoff hydrograph DRGC35 along Grand Avenue. Remaining hydrograph
4055          KM   flows along 35th Avenue to the intersection of 35th Avenue and the Grand
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          KM   Canal
          DT  DSGCGR      0.0      0.0
          DI      0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0 10000.0 20000.0 50000.0
          DQ      0.0     25.0     50.0    125.0    250.0    500.0   1000.0  2500.0  5000.0 12500.0
          *

          KK  CIIS35 COMBINE
          KM   Combine arterial street flow from 35th Avenue DIGC35 with areterial street
          KM   flow from 35th Avenue DRGC35 at the intersection of 35th Avenue and Indian
          KM   School Road
          HC       2    2.06
          *

          KK  RSGC35    ROUTE
          KM   Route hydrograph at combination point CIIS35 at the intersection of Indian
          KM   School Road and 35th Avenue south to combination point CGC35
          RS       1     FLOW
          RC   0.035    0.015    0.035     1973   0.0033     0.00
          RX    0.00     0.00    16.50    16.50   107.50   107.50   124.00   124.00
          RY    3.00     0.66     0.50     0.00     0.00     0.50     0.66     3.00
          *

          KK    GC35   BASIN
          KM   Runoff hydrograph for subbasin GC35 northeast of the intersection of the
          KM   Grand Canal and 35th Avenue
          BA   0.077
          LG    0.15     0.25     4.25     0.35       80
          UC   0.407    0.266
          UA       0      5.0     16.0     30.0     65.0     77.0     84.0     90.0     94.0     97.0
1                                         HEC-1 INPUT                                          PAGE106

LINE      ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

          UA     100
          *

          KK   CGC35 COMBINE
          KM   Combine route RSGC35 and subbasin GC35
          HC       2    2.14
          *

          KK  PR35ISRETRIEVE
          KM   Retrieve full flow capacity of 40 cfs from 36-inch diameter pipe at the
          KM   intersection of Indian School Road and 35th Avenue
          DR  DP35IS
          *

          KK  RP35GC    ROUTE
          KM   Route the full flow capacity of 40 cfs through 36-inch storm drain pipe
          KM   diameter in 35th Avenue to the intersection of 35th Avenue and the Grand
          KM   Canal
          RK    2327   0.0035    0.015             CIRC    3.000
          *

          KK  CPGC35 COMBINE
          KM   Combine pipe return PR35IS with the runoff hydrograph at combination point
          KM   CGC35 at the intersection of the Grand Canal and 35th Avenue
          HC       2
          *

          KK   D35GC  DIVERT
          KM   Divert calculated full flow capapcity of 40 cfs into 36-inch storm drain
          KM   pipe at the intersection of the Grand Canal and 35th Avenue
          DT  DP35GC      0.0     40.0
          DI      0.0  50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
          DQ      0.0  50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
          *

          KK  DWGC43  DIVERT
          KM   Divert runoff hydrograph from combination point CGC35 west to combination
          KM   point CGC35
          DT  DSTM35      0.0      0.0
          DI      0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0 10000.0 20000.0 50000.0
          DQ      0.0     85.0    170.0    425.0    850.0   1700.0   3400.0  8500.0 17000.0 42500.0
          *

          KK  RWGC43    ROUTE
          KM   Route hydrograph at combination point CGC35 at the intersection of the Grand
          KM   Canal and 35th Avenue west to combination point CGC43
          RS       5     FLOW
          RC   0.035    0.015    0.035     6627   0.0009     0.00
          RX    0.00     0.00     9.50     9.50    40.50    40.50    50.00    50.00
          RY    3.00     0.60     0.50     0.00     0.00     0.50     0.60     3.00
          *
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LINE      ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

          KK  DRGC43RETRIEVE
          KM   Retrieve divert DRGC43 from combination point CPIS43 and divert south to
          KM   combination point CGC43
          DR  DSGC43
```



```
          *

          KK  RSGC43    ROUTE
          KM   Route diversion retrieval DRGC43 south to combination point CGC43
          RS       1     FLOW
          RC   0.035    0.015    0.035     2155   0.0038     0.00
          RX    0.00     0.00    57.50    57.50   291.50   291.50   349.00   349.00
          RY    3.00     1.08     0.50     0.00     0.00     0.50     1.08     3.00
          *

          KK    GC43   BASIN
          KM   Runoff hydrograph for subbasin GC43 northeast of the intersection of the
          KM   Grand Canal and 43rd Avenue
          BA   0.370
          LG    0.15     0.25     6.00     0.15       80
          UC   0.991    0.879
          UA       0      5.0     16.0     30.0     65.0     77.0     84.0     90.0     94.0     97.0
          UA     100
          *

          KK   CGC43 COMBINE
          KM   Combine route RWGC43, route RSGC43, and subbasin GC43
          HC       3    2.23
          *

          KK  PR43ISRETRIEVE
          KM   Retrieve combined full flow capacity of 406 cfs from 87-inch equivalent
          KM   diameter pipe at the intersection of Indian School Road and 43rd Avenue
          DR  DP43IS
          *

          KK  RP43GC    ROUTE
          KM   Route the combined full flow capacity of 406 cfs through an equivalent storm
          KM   drain pipe diameter of 87 inches in 43rd Avenue to the intersection of
          KM   43rd Avenue and the Grand Canal
          RK    2347   0.0035    0.015             CIRC    6.083
          *

          KK  CPGC43 COMBINE
          KM   Combine pipe return PR43IS with the runoff hydrograph at combination point
          KM   CGC43 at the intersection of the Grand Canal and 43rd Avenue
          HC       2
          *

          KK   D43GC  DIVERT
          KM   Capacity of storm drain in 39th Avenue and 43rd Avenue diverted together.
          KM   Divert combined calculated full flow capacity of 251 cfs in the 72-inch storm
          KM   drain pipe in 39th Avenue and 154 cfs in the 60-inch storm drain pipe in
          KM   43rdAvenue. The total calculated combined full flow capacity diverted at the
          KM   intersection of 43rd Avenue and the Grand Canal is 406 cfs in an
1                                         HEC-1 INPUT                                          PAGE108

LINE      ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

          KM   equivalent diameter pipe of 87 inches
          DT  DP43GC      0.0    406.0
          DI      0.0  50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
          DQ      0.0  50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
          *

          KK  SRGC43 STORAGE
          KM     Storage routing ID PA43 in Maryvale ADMS, Feb 1997 - comments from ADMS:
          KM     STORAGE ROUTING
          KM     PONDING AREA IN THE VICINITY OF 43RD AVE
          KM     PRELIMINARY COMPUTATIONS BY WPA 6/96
          KM     CAPACITY OF SURFACE FLOW NORTH OF CANAL = 200 CFS
          KM     DIVERSION OF FLOW UNDER THE GRAND CANAL BY AN EXISTING STORM DRAIN SYSTEM
          KM     ESTIMATED STORM DRAIN CAPACITY(63") = 89 CFS
          KM     TOP OF CANAL BANK ELEVATION = 1108
          KM
          KM   ==========================================================================
          KM   REVISED BY KHA ---> storm drain flows diverted previously. Subtracted out
          KM                       pipe capacity from SQ cards
          KM                       Confirmed capacity of surface flow on north side of bank
          KM
          KM   Storage route runoff hydrograph from divert D43GC through ponding
          KM     area at the Grand Canal between 35th and 43rd Avenues
          KM   ==========================================================================
          RS       1     STOR       -1    1104.
          SV             0.01     0.10     0.64     4.77     6.79    29.76    33.00
          SQ                                                 200.00   200.00  2200.00
          SE  1104.0  1104.10  1105.00  1106.00  1106.80  1107.00  1108.00  1109.00
          *

          KK  DWGC51  DIVERT
          KM     Divert ID D43 in Maryvale ADMS, Feb 1997 - comments from ADMS:
          KM     FLOW DIVERSION AT 43RD AVE
          KM     DIVERSION TO SOUTH
          KM     PRELIMINARY COMPUTATIONS BY WPA 6/96
          KM     CAPACITY OF SURFACE FLOW NORTH OF CANAL = 200 CFS
          KM     DIVERSION OF FLOW SOUTH UNDER THE GRAND CANAL BY EXIST. STORM DRAIN SYSTEM
          KM     ESTIMATED STORM DRAIN CAPACITY(63") = 89 CFS
          KM   ==========================================================================
```

```
4190          KM   Divert runoff hydrograph from combination point CGC43 west to combination
4191          KM   point CGC51
4192          KM   ==============================================================================
4193          DT  DSTM43     0.0     0.0
4194          DI     0.0   200.0  2200.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
4195          DQ     0.0     0.0  2000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

4196          KK  RWGC51    ROUTE
4197          KM   Route diversion DWGC51 west to combination point CGC51
4198          RS      10    FLOW
4199          RC   0.035   0.015   0.035    5614  0.0005    0.00
4200          RX    0.00    0.00   19.00   19.00   81.00   81.00  100.00  100.00
4201          RY    3.00    0.69    0.50    0.00    0.00    0.50    0.69    3.00
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


4202          KK  DRGC51RETRIEVE
4203          KM   Retrieve divert DRGC51 from combination point CIS51 and divert south to
4204          KM   combination point CGC51
4205          DR  DSGC51
              *

4206          KK  RSGC51    ROUTE
4207          KM   Route diversion retrieval DRGC51 south to combination point CGC51
4208          RS       2    FLOW
4209          RC   0.035   0.015   0.035    2155  0.0045    0.00
4210          RX    0.00    0.00   67.00   67.00  332.00  332.00  399.00  399.00
4211          RY    3.00    1.17    0.50    0.00    0.00    0.50    1.17    3.00
              *

4212          KK    GC51    BASIN
4213          KM   Runoff hydrograph for subbasin GC51 northeast of the intersection of the
4214          KM   Grand Canal and 51st Avenue
4215          BA   0.448
4216          LG    0.24    0.25    5.00    0.24      36
4217          UC   1.500   1.228
4218          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
4219          UA     100
              *

4220          KK   CGC51 COMBINE
4221          KM   Combine route RWGC51, route RSGC51, and subbasin GC51
4222          HC       3    2.04
              *

4223          KK  PR51ISRETRIEVE
4224          KM   Retrieve full flow capacity of 244 cfs from 72-inch storm drain pipe at the
4225          KM   intersection of Indian School Road and 51st Avenue
4226          DR  DP51IS
              *

4227          KK  RP51ML    ROUTE
4228          KM   Route full flow capacity of 244 cfs through 72-inch storm drain pipe in
4229          KM   51st Avenue to the intersection of Mitchell Drive and 51st Avenue
4230          RK    2089  0.0033   0.015            CIRC   6.000
              *

4231          KK  CPML51 COMBINE
4232          KM   Combine pipe return PR51IS with the runoff hydrograph at combination point
4233          KM   CGC51 at the intersection of the Grand Canal and 51st Avenue
4234          HC       2
              *

4235          KK   DML51  DIVERT
4236          KM   Divert calculated full flow capapcity of 136 cfs into 72-inch storm drain
4237          KM   pipe at the intersection of Mitchell Drive and 51st Avenue
4238          DT  DPML51     0.0   136.0
4239          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
4240          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


4241          KK   D51GC  DIVERT
4242          KM   Divert calculated full flow capapcity of 113 cfs into 54-inch storm drain
4243          KM   pipe near the intersection of the Grand Canal and 51st Avenue
4244          DT  DP51GC     0.0   113.0
4245          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
4246          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

4247          KK  SRGC51 STORAGE
4248          KM    Storage routing ID PA47 in Maryvale ADMS, Feb 1997 - comments from ADMS:
4249          KM    PONDING AREA IN THE VICINITY OF 47TH  AND 51ST AVE
4250          KM
4251          KM    PRELIMINARY COMPUTATIONS BY WPA 6/96
4252          KM    CAPACITY OF FLOW NORTH OF CANAL = 300 CFS+(STORM DRAIN CAP)105CFS PER CVL
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4253          KM    DIVERSION OF FLOW OVER THE CANAL BANKS
4254          KM    TOP OF CANAL BANK ELEV = 1105
4255          KM   ==============================================================================
4256          KM   REVISION TO MARYVALE ADMS MODEL BY KHA --> COMBINE DIVERTS AT 47TH & 51ST AVE
4257          KM                        SUBTRACTED OUT STORM DRAIN CAPACITY FROM SQ CARDS
4258          KM                        CONFIRMED CAPACITY OF SURFACE FLOW ON NORTH SIDE OF BANK
4259          KM
4260          KM   Storage route runoff hydrograph from divert D51GC through ponding
4261          KM     area at the Grand Canal between 43rd 51st Avenues
4262          KM   ==============================================================================
4263          RS       1    STOR      -1
4264          SV            4.82   23.64   29.62   63.89   86.57
4265          SQ           25.00  275.00  350.00 1350.00 4250.00
4266          SE  1103.0 1104.00 1104.80 1105.00 1105.50 1106.00
              *

4267          KK  DWGC53  DIVERT
4268          KM    Divert ID D47 in Maryvale ADMS, Feb 1997 - comments from ADMS:
4269          KM    DIVERSION AT 47TH AVE
4270          KM    PRELIMINARY COMPUTATIONS BY WPA 6/96
4271          KM    AN EXISTING STORM DRAIN SYSTEM CONVEYS FLOW TO THE WEST ONLY
4272          KM    CAPACITY OF FLOW NORTH OF CANAL = 300 CFS+(STORM DRAIN CAP)105CFS PER CVL
4273          KM    DIVERSION OF FLOW OVER THE CANAL BANKS
4274          KM   ==============================================================================
4275          KM   REVISION TO MARYVALE ADMS MODEL BY KHA --> COMBINE DIVERTS AT 47TH & 51ST AVE
4276          KM                        SUBTRACTED OUT STORM DRAIN CAPACITY FROM SQ CARDS
4277          KM                        CONFIRMED CAPACITY OF SURFACE FLOW ON NORTH SIDE OF BANK
4278          KM
4279          KM   Divert remaining runoff hydrograph from combination point CPGC51 west to
4280          KM   combination point CGC59
4281          KM   ==============================================================================
4282          DT  DSTM51     0.0     0.0
4283          DI     0.0   300.0  2300.0  4250.0     0.0     0.0     0.0     0.0     0.0     0.0
4284          DQ     0.0     0.1  2000.0  3950.0     0.0     0.0     0.0     0.0     0.0     0.0
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


4285          KK  RWGC53    ROUTE
4286          KM   Route diversion DWGC53 west to combination point CGC53
4287          RS       4    FLOW
4288          RC   0.035   0.015   0.035    1296  0.0012    0.00
4289          RX    0.00    0.00    9.50    9.50   40.50   40.50   50.00   50.00
4290          RY    3.00    0.60    0.50    0.00    0.00    0.50    0.60    3.00
              *

4291          KK  DRGC59RETRIEVE
4292          KM   Retrieve divert DRGC59 from combination point CIS59 and divert south to
4293          KM   combination point CGC59
4294          DR  DSGC59
              *

4295          KK  RSGC59    ROUTE
4296          KM   Route diversion retrieval DRGC59 south to combination point CGC59
4297          RS       2    FLOW
4298          RC   0.035   0.015   0.035    2502  0.0025    0.00
4299          RX    0.00    0.00   57.50   57.50  291.50  291.50  349.00  349.00
4300          RY    3.00    1.08    0.50    0.00    0.00    0.50    1.08    3.00
              *

4301          KK    GC59    BASIN
4302          KM   Runoff hydrograph for subbasin GC59 northeast of the intersection of the
4303          KM   Grand Canal and 59th Avenue
4304          BA   0.410
4305          LG    0.24    0.23    6.20    0.16      42
4306          UC   1.248   0.916
4307          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
4308          UA     100
              *

4309          KK   CGC55 COMBINE
4310          KM   Combine route RSGC59 and subbasin GC59
4311          HC       2    2.42
              *

4312          KK  DEGC53  DIVERT
4313          KM   Divert portion of runoff hydrograph from combination point CGC55  to
4314          KM   combination point CGC53 where it will be routed through the Maryvale Ball
4315          KM   Park basin near the intersection of the Grand Canal and 53rd Avenue.  The
4316          KM   remaining flow is diverted to combination point CPGC59. The diversion is
4317          KM   based on topography
4318          DT  DWGC59     0.0     0.0
4319          DI     0.0   173.0   200.0   500.0  1000.0  2000:0  4000.0 10000.0 20000.0     0.0
4320          DQ     0.0     0.0    14.0   167.0   422.0   932.0  1952.0  5012.0 10112.0     0.0
              *

4321          KK  PRML51RETRIEVE
4322          KM   Retrieve full flow capacity of 136 cfs from 72-inch storm drain pipe at the
4323          KM   intersection of Mitchell Drive and 51st Avenue
4324          DR  DPML51
              *
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 LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


 4325          KK  RPML53   ROUTE
 4326          KM   Route full flow capacity of 136 cfs through 72-inch storm drain pipe in
 4327          KM   Mitchell Drive to the intersection of Mitchell Drive and 53rd Avenue
 4328          RK    1084  0.0010   0.015            CIRC   6.000
               *

 4329          KK   CGC53 COMBINE
 4330          KM   Combine route RWGC53, route RPML53, and divert DGC53
 4331          HC       3    2.27
               *

 4332          KK  SRGC53 STORAGE
 4333          KM   Storage route runoff hydrograph from combination point CPGC59 thru detention
 4334          KM     basin at Grand Avenue near the intersection of Grand Avenue and 59th Avenue
 4335          KM   Stage-storage data from Maryvale Baseball Park Grading and Drainage As-built
 4336          KM     Record, 1997
 4337          RS       1     STOR
 4338          SV             1.90     5.90    10.00    15.20    22.20    31.70    44.60    59.50    75.60
 4339          SV    93.0
 4340          SQ     0.0     10.0     28.0     44.0     56.0     65.0     73.0     81.0     88.0       94
 4341          SQ  1358.0
 4342          SE  1094.0   1095.0   1096.0   1097.0   1098.0   1099.0   1100.0   1101.0   1102.0     1103
 4343          SE  1104.0
               *

 4344          KK   DGC53  DIVERT
 4345          KM   Storm drain outflow from Maryvale Baseball Park basin. Divert calculated full
 4346          KM   flow capapcity of 20 cfs into 36-inch storm drain pipe at the intersection of
 4347          KM   the Grand Canal and 53rd Avenue
 4348          DT  DPGC53      0.0     20.0
 4349          DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
 4350          DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
               *

 4351          KK  PR59ISRETRIEVE
 4352          KM   Retrieve full flow capacity of 353 cfs from 81-inch storm drain pipe at the
 4353          KM   intersection of Indian School Road and 59th Avenue
 4354          DR  DP59IS
               *

 4355          KK  RP59GC   ROUTE
 4356          KM   Route full flow capacity of 353 cfs through 81-inch storm drain pipe in
 4357          KM   59th Avenue to the intersection of the Grand Canal and 59th Avenue
 4358          RK    1243  0.0037   0.015            CIRC   6.750
               *

 4359          KK  DRGC59RETRIEVE
 4360          KM   Retrieve divert DRGC59 from combination point CGC55 and divert to
 4361          KM   combination point CPGC59
 4362          DR  DWGC59
               *
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 LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


 4363          KK  CPGC59 COMBINE
 4364          KM   Combine pipe return PR59IS with the runoff hydrograph at combination point
 4365          KM   CGC59 at the intersection of the Grand Canal and 59th Avenue
 4366          HC       2    1.24
               *

 4367          KK   D59GC  DIVERT
 4368          KM   Divert calculated full flow capapcity of 258 cfs into 72-inch storm drain
 4369          KM   pipe at the intersection of the Grand Canal and 59th Avenue
 4370          DT  DP59GC      0.0    258.0
 4371          DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
 4372          DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
               *

 4373          KK   CGC59 COMBINE
 4374          KM   Combine divert DGC53 and divert D59GC
 4375          HC       2    3.50
               *

 4376          KK  DWISGC  DIVERT
 4377          KM    Divert ID D55 in Maryvale ADMS, Feb 1997 - comments from ADMS:
 4378          KM    FLOW DIVERSION TO SOUTH
 4379          KM    PRELIMINARY COMPUTATIONS BY WPA 6/96
 4380          KM    CAPACITY OF SURFACE FLOW NORTH OF CANAL =  50 CFS
 4381          KM    AN EXISTING STORM DRAIN SYSTEM CONVEYS FLOW TO THE WEST ONLY
 4382          KM    DIVERSION OF FLOW OVER THE GRAND CANAL
 4383          KM    STORM DRAIN CAPACITY WEST = 74 CFS PER CVL
 4384          KM    TOP OF CANAL BANK ELEV = 1103
 4385          KM   ==========================================================================
 4386          KM   REVISION TO MARYVALE ADMS MODEL BY KHA --> COMBINE DIVERTS AT 55TH & 59TH AVE
 4387          KM                            SUBTRACTED OUT STORM DRAIN CAPACITY FROM SQ CARDS
 4388          KM                            CONFIRMED CAPACITY OF SURFACE FLOW ON NORTH SIDE OF BANK
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 4389          KM
 4390          KM   Divert remaining runoff hydrograph from combination point CPGC59 west to
 4391          KM   combination point CISGC
 4392          KM   ==========================================================================
 4393          DT  DSTM59      0.0      0.0
 4394          DI     0.0     50.0    555.0   2689.0      0.0      0.0      0.0      0.0      0.0      0.0
 4395          DQ     0.0      0.2    505.0   1030.0      0.0      0.0      0.0      0.0      0.0      0.0
               *

 4396          KK  RWISGC   ROUTE
 4397          KM   Route diversion DWISGC west to combination point CISGC
 4398          RS       2     FLOW
 4399          RC   0.035    0.015    0.035     4300   0.0009     0.00
 4400          RX    0.00     0.00     9.50     9.50    40.50    40.50    50.00    50.00
 4401          RY    3.00     0.60     0.50     0.00     0.00     0.50     0.60     3.00
               *
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 LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


 4402          KK  DRISGCRETRIEVE
 4403          KM   Retrieve divert DRISGC from combination point CGC67 and divert south to
 4404          KM   combination point CISGC
 4405          DR  DSISGC
               *

 4406          KK  RSISGC   ROUTE
 4407          KM   Route diversion retrieval DRISGC south to combination point CISGC
 4408          RS       1     FLOW
 4409          RC   0.035    0.015    0.035     1231   0.0022     0.00
 4410          RX    0.00     0.00    31.50    31.50   143.50   143.50   175.00   175.00
 4411          RY    3.00     0.82     0.50     0.00     0.00     0.50     0.82     3.00
               *

 4412          KK    ISGC   BASIN
 4413          KM   Runoff hydrograph for subbasin ISGC southeast of the intersection of Indian
 4414          KM   School Road and the Grand Canal
 4415          BA   0.159
 4416          LG    0.25     0.15     7.00     0.11       32
 4417          UC   1.500    1.708
 4418          UA       0      5.0     16.0     30.0     65.0     77.0     84.0     90.0     94.0     97.0
 4419          UA     100
               *

 4420          KK   CISGC COMBINE
 4421          KM   Combine route RWISGC, route RSISGC, and subbasin ISGC
 4422          HC       3    3.33
               *

 4423          KK  PR59GCRETRIEVE
 4424          KM   Retrieve full flow capacity of 258 cfs from 72-inch storm drain pipe at the
 4425          KM   intersection of the Grand Canal and 59th Avenue
 4426          DR  DP59GC
               *

 4427          KK  CPISGC COMBINE
 4428          KM   Combine pipe return PR59GC with the runoff hydrograph at combination point
 4429          KM   CISGC at the intersection of Indian School Road and the Grand Canal
 4430          HC       2
               *

 4431          KK   DGC63  DIVERT
 4432          KM   Divert calculated full flow capapcity of 258 cfs into 72-inch storm drain
 4433          KM   pipe at the intersection of the Grand Canal and 63rd Avenue
 4434          DT  DPGC63      0.0    258.0
 4435          DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
 4436          DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
               *
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 4437          KK  SRISGC STORAGE
 4438          KM   Storage route runoff hydrograph from combination point CPISGC through
 4439          KM     regional detention basin located near the intersection of the Grand Canal
 4440          KM     and Indian School Road (Sunset Basin).
 4441          KM   Stage-storage data from Bethany Home Outfall Channel TDN for CLOMR, Jan 2003
 4442          KM   Discharge data for 96-in outlet pipe under construction Dec 2009
 4443          RS       1     STOR
 4444          SV             1.52     4.61    12.85    22.46    33.32    45.48    48.72    52.06
 4445          SQ             3.00    12.00    46.00    83.00    91.00   593.00  1600.00  3421.00
 4446          SE   85.00    86.00    87.00    89.00    91.00    93.00    95.00    95.50    96.00
               *

 4447          KK  DPGC67  DIVERT
 4448          KM   Divert excess flow that overtops the subbasin to the south.  The calculated
 4449          KM   full flow capapcity in the 96-inch storm drain pipe leaving the basin is
 4450          KM   is diverted north to combination point CGC75
 4451          DT  DSTM67      0.0      0.0
 4452          DI      0.0      3.0     12.0     46.0     83.0     91.0    593.0   1600.0   3421.0      0.0
 4453          DQ      0.0      0.0      0.0      0.0      0.0      0.0      0.0    983.0   2781.0      0.0
```

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                *
4454            KK  DRGC75RETRIEVE
4455            KM   Retrieve divert DRGC75 from combination point CCB75 and divert south to
4456            KM   combination point CGC75
4457            DR  DSGC75
                *
4458            KK   GC75   BASIN
4459            KM   Runoff hydrograph for subbasin GC75 southeast of the intersection of the
4460            KM   Grand Canal and 75th Avenue
4461            BA   0.410
4462            LG    0.24    0.15    8.00    0.07      33
4463            UC   1.500   1.585
4464            UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
4465            UA     100
                *
4466            KK   CGC75 COMBINE
4467            KM   Combine divert DWGC75, pipe diversion DPGC67, divert retrieval DRGC75, and
4468            KM   subbasin GC75
4469            HC       4    9.44
                *
4470            KK  SRGC75 STORAGE
4471            KM   Storage route runoff hydrograph from combination point CGC75 through regional
4472            KM     detention basin along the Grand Canal between 67th and 75th Avenues
4473            KM   Vol/Elev data taken from DMJM HEC-1 revision (model BHGC00C6, Nov 2004)
4474            KM     confirmd by comparing with Bethany Home Outfall Channel Reach B As-builts
4475            KM   Discharge data calculated from discharge channel in As-builts (Bethany Home
4476            KM     Outfall Channel Reach C - 83rd Ave to 73rd Ave, June 2007)
4477            KM     Rect concrete channel, width = 14 ft, slope = 0.000992 ft/ft
4478            RS       1    STOR       -
4479            SV            0.00    0.00    0.07    0.73    2.73    6.42   12.25   20.32   29.62
4480            SV  40.248  52.049  65.081  79.346  94.800  103.1   111.4
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4481            SQ     0.0     0.0     0.0    36.0   120.0   230.0   356.0   493.0   639.0     790
4482            SQ   947.0  1107.0  1270.0  1436.0  1604.0  1689.0  1774.0
4483            SE  1074.7  1078.0  1081.0  1083.0  1084.0  1085.0  1086.0  1087.0  1088.0    1089
4484            SE  1090.0  1091.0  1092.0  1093.0  1094.0  1094.5  1095.0
                *
4485            KK  CICB75 COMBINE
4486            KM   Combine runoff hydrograph DWGC83 with runoff hydrograph from combination
4487            KM   point CGC75 at the intersection of Camelback Road and 75th Avenue
4488            HC       2   14.03
                *
4489            KK  RWGC83   ROUTE
4490            KM   Route hydrograph at combination point CICB75 at the intersection of Camelback
4491            KM   Road and 75th Avenue west to combination point CGC83
4492            RS       3    FLOW
4493            RC   0.035   0.015   0.035    6563  0.0010     0.00
4494            RX    0.00    3.00   13.00   13.00   31.00   31.00   41.00   44.00
4495            RY   10.00    9.00    9.00    0.00    0.00    9.00    9.00   10.00
                *
4496            KK  DRGC83RETRIEVE
4497            KM   Retrieve divert DRGC83 from combination point CBH83 and divert south to
4498            KM   combination point CGC83
4499            DR  DSGC83
                *
4500            KK   GC83   BASIN
4501            KM   Runoff hydrograph for subbasin GC83 southeast of the intersection of the
4502            KM   Grand Canal and 83rd Avenue
4503            BA   0.426
4504            LG    0.23    0.15    8.40    0.07      30
4505            UC   1.500   1.722
4506            UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
4507            UA     100
                *
4508            KK  ERGC83  DIVERT
4509            KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
4510            KM   retention developed after 1990 in subbasin GC83
4511            DT   XGC83    31.2     0.0
4512            DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
4513            DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
                *
4514            KK   CGC83 COMBINE
4515            KM   Combine route RWGC83, divert retrieval DRGC83, and subbasin GC83
4516            HC       3   17.67
                *
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4517            KK  CIBH83 COMBINE
4518            KM   Combine runoff hydrograph DWBH91 with runoff hydrograph from combination
4519            KM   point CGC83 at the intersection of 83rd Avenue and Bethany Home Road
4520            HC       2   23.92
                *
4521            KK  RWBH91   ROUTE
4522            KM   Route hydrograph at combination point CIBH83 at the intersection of Bethany
4523            KM   Home Road and 91st Avenue west to combination point CBH91
4524            RS       3    FLOW
4525            RC   0.035   0.015   0.035    6508  0.0008     0.00
4526            RX    0.00    4.00   18.00   66.00  126.00  162.00  172.00  176.00
4527            RY   13.14   12.14   12.00    0.00    0.60    9.15    9.25   10.25
                *
4528            KK  DRBH91RETRIEVE
4529            KM   Retrieve divert DRBH91 from combination point CPGL91 and divert south to
4530            KM   combination point CBH91
4531            DR  DSBH91
                *
4532            KK  RSBH91   ROUTE
4533            KM   Route diversion retrieval DRBH91 south to combination point CBH91
4534            RS       4    FLOW
4535            RC   0.035   0.015   0.035    5280  0.0019     0.00
4536            RX    0.00    0.00   37.50   37.50  210.50  210.50  248.00  248.00
4537            RY    3.00    0.88    0.50    0.00    0.00    0.50    0.88    3.00
                *
4538            KK   BH91   BASIN
4539            KM   Runoff hydrograph for square mile subbasin BH91 northeast of the intersection
4540            KM   of Bethany Home Road and 91st Avenue
4541            BA   1.032
4542            LG    0.23    0.15    7.60    0.09      28
4543            UC   1.500   1.032
4544            UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
4545            UA     100
                *
4546            KK  ERBH91  DIVERT
4547            KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
4548            KM   retention developed after 1990 in subbasin BH91
4549            DT   XBH91    17.3     0.0
4550            DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
4551            DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
                *
4552            KK   CBH91 COMBINE
4553            KM   Combine route RWBH91, route RSBH91, and subbasin BH91
4554            HC       3   30.54
                *
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LINE            ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

4555            KK  RWBHLO   ROUTE
4556            KM   Route hydrograph at combination point CBH91 west to combination point CBHLO
4557            RS       1    FLOW
4558            RC   0.035   0.015   0.035    4110  0.0011     0.00
4559            RX    0.00    4.00   18.00   46.50  135.50  153.40  167.40  171.40
4560            RY    8.26    7.26    7.12    0.00    0.85    5.32    5.46    6.46
                *
4561            KK   BHLO   BASIN
4562            KM   Runoff hydrograph for subbasin BHLO northeast of the intersection of Bethany
4563            KM   Home Road and SR Loop 101
4564            BA   0.788
4565            LG    0.10    0.15    7.30    0.09      81
4566            UC   0.903   0.592
4567            UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
4568            UA     100
                *
4569            KK  ERBHLO  DIVERT
4570            KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
4571            KM   retention developed after 1990 in subbasin BHLO
4572            DT   XBHLO    41.5     0.0
4573            DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
4574            DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
                *
4575            KK   CBHLO COMBINE
4576            KM   Combine route RWBHLO, route RSBHLO, and subbasin BHLO
4577            HC       3   46.47
                *
4578            KK  RWBH99   ROUTE
4579            KM   Route hydrograph at combination point CBHLO west to combination point CBH99
4580            RS       1    FLOW
4581            RC   0.035   0.015   0.035    1075  0.0011     0.00
4582            RX    0.00    4.00   18.00   46.50  135.50  153.40  167.40  171.40
4583            RY    8.26    7.26    7.12    0.00    0.85    5.32    5.46    6.46
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                *
          4584  KK   BH99   BASIN
          4585  KM   Runoff hydrograph for subbasin BH99 northeast of the intersection of Bethany
          4586  KM   Home Road and 99th Avenue
          4587  BA   0.184
          4588  LG    0.10    0.19    6.60    0.12      78
          4589  UC   1.403   1.526
          4590  UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
          4591  UA     100
                *
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          4592  KK   CBH99 COMBINE
          4593  KM   Combine route RWBH99 and subbasin BH99
          4594  HC       2   46.65
                *
          4595  KK  RWBHRI   ROUTE
          4596  KM   Route hydrograph at combination point CBH99 west to combination point CGLNR
          4597  RS       1    FLOW
          4598  RC   0.035   0.015   0.035    2392  0.0010    0.00
          4599  RX    0.00    4.00   18.00   46.50  135.50  153.40  167.40  171.40
          4600  RY    8.26    7.26    7.12    0.00    0.85    5.32    5.46    6.46
                *
          4601  KK    GLNR   BASIN
          4602  KM   Runoff hydrograph for subbasin GLNR north of Glendale Avenue and east of New
          4603  KM   River
          4604  BA   0.483
          4605  LG    0.10    0.21    6.40    0.13      76
          4606  UC   1.500   1.444
          4607  UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
          4608  UA     100
                *
          4609  KK  ERGLNR  DIVERT
          4610  KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
          4611  KM   retention developed after 1990 in subbasin GLNR
          4612  DT   XGLNR     31.6      0.0
          4613  DI     0.0 50000.0      0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
          4614  DQ     0.0 50000.0      0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
                *
          4615  KK  DSBHRI  DIVERT
          4616  KM   Divert portion of runoff hydrograph from subbasin GLNR south to the
          4617  KM   intersection of Bethany Home Road and the Roosevelt Irrigation District canal
          4618  KM   and the remaining flow west to New River. The diversion is based on
          4619  KM   topography
          4620  KM   Divert remaining runoff hydrograph from subbasin GLNR south to combination
          4621  KM   point CBHRI
          4622  DT  DWNR04      0.0      0.0
          4623  DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
          4624  DQ     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
                *
          4625  KK  RSBHRI   ROUTE
          4626  KM   Route subbasin diversion DSBHRI south to combination point CBHRI
          4627  RS       1    FLOW
          4628  RC   0.035   0.015   0.035    5280  0.0015    0.00
          4629  RX    0.00    0.00    7.00    7.00   43.00   43.00   50.00   50.00
          4630  RY    3.00    0.57    0.50    0.00    0.00    0.50    0.57    3.00
                *
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          4631  KK    BHRI   BASIN
          4632  KM   Runoff hydrograph for subbasin BHRI north of Bethany Home Road and east of
          4633  KM   the Roosevelt Irrigation District canal
          4634  BA   0.512
          4635  LG    0.10    0.24    6.20    0.14      77
          4636  UC   1.497   1.103
          4637  UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
          4638  UA     100
                *
          4639  KK  ERBHRI  DIVERT
          4640  KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
          4641  KM   retention developed after 1990 and NOAA14 rainfall for future retention in
          4642  KM   subbasin BHRI
          4643  DT   XBHRI     45.9      0.0
          4644  DI     0.0 50000.0      0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
          4645  DQ     0.0 50000.0      0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
                *
          4646  KK   DBHNR  DIVERT
          4647  KM   Divert portion of runoff hydrograph from subbasin BHRI west to the
          4648  KM   intersection of Bethany Home Road and New River and the remaining flow
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          4649  KM   west to New River. The diversion is based on topography
          4650  DT  DWBHAF      0.0      0.0
          4651  DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
          4652  DQ     0.0    79.0   158.0   395.0   790.0  1580.0  3160.0  7900.0 15800.0 39500.0
                *
          4653  KK   CBHRI COMBINE
          4654  KM   Combine route RWBHRI, route RSBHRI, and and divert DBHNR
          4655  HC       3   47.17
                *
          4656  KK  RWBHNR   ROUTE
          4657  KM   Route remaining hydrograph at combination point CBHRI west to combination
          4658  KM   point CBHNR
          4659  RS       1    FLOW
          4660  RC   0.035   0.015   0.035    3231  0.0010    0.00
          4661  RX    0.00    4.00   18.00   46.50  135.50  153.40  167.40  171.40
          4662  RY    8.26    7.26    7.12    0.00    0.85    5.32    5.46    6.46
                *
          4663  KK    BHNR   BASIN
          4664  KM   Runoff hydrograph for subbasin BHNR north of Bethany Home Road and east of
          4665  KM   New River
          4666  BA   0.258
          4667  LG    0.10    0.25    6.20    0.14      71
          4668  UC   1.252   0.817
          4669  UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
          4670  UA     100
                *
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          4671  KK  ERBHNR  DIVERT
          4672  KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
          4673  KM   retention developed after 1990 and NOAA14 rainfall for future retention in
          4674  KM   subbasin BHNR
          4675  DT   XBHNR     21.3      0.0
          4676  DI     0.0 50000.0      0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
          4677  DQ     0.0 50000.0      0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
                *
          4678  KK   CBHNR COMBINE
          4679  KM   Combine route RWBHNR and subbasin BHNR
          4680  HC       2   47.42
                *
          4681  KK    CB99   BASIN
          4682  KM   Runoff hydrograph for subbasin CB99 northeast of the intersection of
          4683  KM   Camelback Road and 99th Avenue
          4684  BA   0.201
          4685  LG    0.10    0.15    7.30    0.09      79
          4686  UC   1.179   1.265
          4687  UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
          4688  UA     100
                *
          4689  KK  ERCB99  DIVERT
          4690  KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
          4691  KM   retention developed after 1990 in subbasin CB99
          4692  DT   XCB99     15.0      0.0
          4693  DI     0.0 50000.0      0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
          4694  DQ     0.0 50000.0      0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
                *
          4695  KK  DWCBRI  DIVERT
          4696  KM   Divert remaining runoff hydrograph from subbasin CB99 west to combination
          4697  KM   point CCBRI
          4698  DT  DSIS99      0.0      0.0
          4699  DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
          4700  DQ     0.0    49.0    98.0   245.0   490.0   980.0  1960.0  4900.0  9800.0 24500.0
                *
          4701  KK  RWCBRI   ROUTE
          4702  KM   Route diversion DWCBRI west to combination point CCBRI
          4703  RS       8    FLOW
          4704  RC   0.035   0.015   0.035    3883  0.0021    0.00
          4705  RX    0.00    0.00   16.50   16.50  107.50  107.50  124.00  124.00
          4706  RY    3.00    0.66    0.50    0.00    0.00    0.50    0.66    3.00
                *
          4707  KK    CBRI   BASIN
          4708  KM   Runoff hydrograph for subbasin CBRI north of Camelback Road and east of the
          4709  KM   Roosevelt Irrigation District canal
          4710  BA   0.698
          4711  LG    0.24    0.15    7.00    0.10      36
          4712  UC   1.500   1.250
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          4713  UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
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4714          UA     100
              *

4715          KK  ERCBRI  DIVERT
4716          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
4717          KM   retention developed after 1990 in subbasin CBRI
4718          DT   XCBRI      64.0      0.0
4719          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
4720          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

4721          KK   CCBRI COMBINE
4722          KM   Combine route RWCBRI and subbasin CBRI
4723          HC        2     0.80
              *

4724          KK  DWCB07  DIVERT
4725          KM   Divert runoff hydrograph from combination point CCBRI west to combination
4726          KM   point CCB07
4727          DT  DSIS07      0.0      0.0
4728          DI      0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0  10000.0  20000.0  50000.0
4729          DQ      0.0     69.0    138.0    345.0    690.0   1380.0   2760.0   6900.0  13800.0  34500.0
              *

4730          KK    CB07   BASIN
4731          KM   Runoff hydrograph for subbasin CB07 northeast of the intersection of
4732          KM   Camelback Road and 107th Avenue
4733          BA   0.317
4734          LG    0.29     0.26     6.00     0.21        6
4735          UC   1.500    1.108
4736          UA       0      5.0     16.0     30.0     65.0     77.0     84.0     90.0     94.0     97.0
4737          UA     100
              *

4738          KK   CCB07 COMBINE
4739          KM   Combine divert DWCB07 and subbasin CB07
4740          HC        2     0.56
              *

4741          KK  DWCBNR  DIVERT
4742          KM   Divert runoff hydrograph from combination point CCB07 west to combination
4743          KM   point CCBNR
4744          DT   DIS07      0.0      0.0
4745          DI      0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0  10000.0  20000.0  50000.0
4746          DQ      0.0     69.0    138.0    345.0    690.0   1380.0   2760.0   6900.0  13800.0  34500.0
              *

4747          KK  RWCBNR   ROUTE
4748          KM   Route diversion DWCBNR west to combination point CCBNR
4749          RS        8     FLOW
4750          RC    0.035    0.015    0.035     3883   0.0010     0.00
4751          RX     0.00     0.00    16.50    16.50   107.50   107.50   124.00   124.00
4752          RY     3.00     0.66     0.50     0.00     0.00     0.50     0.66     3.00
              *
```



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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

4753          KK    CBNR   BASIN
4754          KM   Runoff hydrograph for subbasin CBNR north of Camelback Road and east of New
4755          KM   River
4756          BA   0.466
4757          LG    0.13     0.28     5.80     0.24        5
4758          UC   1.500    1.384
4759          UA       0      5.0     16.0     30.0     65.0     77.0     84.0     90.0     94.0     97.0
4760          UA     100
              *

4761          KK  ERCBNR  DIVERT
4762          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
4763          KM   retention developed after 1990 and NOAA14 rainfall for future retention in
4764          KM   subbasin CBNR
4765          DT   XCBNR      3.7      0.0
4766          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
4767          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

4768          KK   CCBNR COMBINE
4769          KM   Combine route RWCBNR and subbasin CBNR
4770          HC        2     0.64
              *

4771          KK  DRIS99RETRIEVE
4772          KM   Retrieve divert DRIS99 from subbasin CB99 and divert south to
4773          KM   combination point CIS99
4774          DR  DSIS99
              *

4775          KK  RSIS99   ROUTE
4776          KM   Route diversion retrieval DRIS99 south to combination point CIS99
4777          RS       10     FLOW
4778          RC    0.035    0.015    0.035     5280   0.0020     0.00
```



```
4779          RX     0.00     0.00    16.50    16.50   107.50   107.50   124.00   124.00
4780          RY     3.00     0.66     0.50     0.00     0.00     0.50     0.66     3.00
              *

4781          KK    IS99   BASIN
4782          KM   Runoff hydrograph for subbasin IS99 northeast of the intersection of Indian
4783          KM   School Road and 99th Avenue
4784          BA   0.323
4785          LG    0.10     0.15     9.70     0.04       80
4786          UC   0.788    0.626
4787          UA       0      5.0     16.0     30.0     65.0     77.0     84.0     90.0     94.0     97.0
4788          UA     100
              *

4789          KK   CIS99 COMBINE
4790          KM   Combine route RSIS99 and subbasin IS99
4791          HC        2     0.42
              *
```



```
LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

4792          KK  DWIS07  DIVERT
4793          KM   Divert runoff hydrograph from combination point CIS99 west to combination
4794          KM   point CIS07
4795          DT  DSTM99      0.0      0.0
4796          DI      0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0  10000.0  20000.0  50000.0
4797          DQ      0.0     26.0     52.0    130.0    260.0    520.0   1040.0   2600.0   5200.0  13000.0
              *

4798          KK  RWIS07   ROUTE
4799          KM   Route diversion DWIS07 west to combination point CIS07
4800          RS        5     FLOW
4801          RC    0.035    0.015    0.035     5280   0.0022     0.00
4802          RX     0.00     0.00    35.50    35.50   188.50   188.50   224.00   224.00
4803          RY     3.00     0.86     0.50     0.00     0.00     0.50     0.86     3.00
              *

4804          KK  DI07ISRETRIEVE
4805          KM   Retrieve arterial street flow diverted to 107th Avenue at the intersection
4806          KM   of 107th Avenue and Camelback Road
4807          DR   DIS07
              *

4808          KK  DRIS07RETRIEVE
4809          KM   Retrieve divert DRIS07 from combination point CCBRI and divert south to
4810          KM   combination point CICB07
4811          DR  DSIS07
              *

4812          KK  CICB07 COMBINE
4813          KM   Combine arterial street flow from 107th Avenue DI07IS with runoff hydrograph
4814          KM   DSIS07 at the intersection of 107th Avenue and Camelback Road
4815          HC        2     0.94
              *

4816          KK  RSIS07   ROUTE
4817          KM   Route hydrograph at combination point CICB07 at the intersection of Camelback
4818          KM   Road and 107th Avenue south to combination point CIS07
4819          RS        7     FLOW
4820          RC    0.035    0.015    0.035     5280   0.0026     0.00
4821          RX     0.00     0.00    26.00    26.00   148.00   148.00   174.00   174.00
4822          RY     3.00     0.76     0.50     0.00     0.00     0.50     0.76     3.00
              *

4823          KK    IS07   BASIN
4824          KM   Runoff hydrograph for square mile subbasin IS07 northeast of the intersection
4825          KM   of Indian Schhol Road and 107th Avenue
4826          BA   1.021
4827          LG    0.21     0.15     8.00     0.08       32
4828          UC   1.500    1.010
4829          UA       0      5.0     16.0     30.0     65.0     77.0     84.0     90.0     94.0     97.0
4830          UA     100
              *
```



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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

4831          KK  ERIS07  DIVERT
4832          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
4833          KM   retention developed after 1990 in subbasin IS07
4834          DT   XIS07      17.4      0.0
4835          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
4836          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

4837          KK   CIS07 COMBINE
4838          KM   Combine route RWIS07, route RSIS07 and subbasin IS07
4839          HC        3     2.28
              *
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```
4840          KK  DWISAF  DIVERT
4841          KM   Divert runoff hydrograph from combination point CIS07 west to combination
4842          KM   point CISAF
4843          DT  DSRI07      0.0      0.0
4844          DI      0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0 10000.0 20000.0 50000.0
4845          DQ      0.0     25.0     50.0    125.0    250.0    500.0   1000.0  2500.0  5000.0 12500.0
              *

4846          KK  RWISAF   ROUTE
4847          KM   Route diversion DWISAF west to combination point CISAF
4848          RS       8     FLOW
4849          RC   0.035    0.015    0.035     6868   0.0013     0.00
4850          RX    0.00     0.00    67.00    67.00   332.00   332.00   399.00  399.00
4851          RY    3.00     1.17     0.50     0.00     0.00     0.50     1.17    3.00
              *

4852          KK    ISAF   BASIN
4853          KM   Runoff hydrograph for subbasin ISAF north of Indian School Road and east of
4854          KM   the Agua Fria River
4855          BA   0.989
4856          LG    0.22     0.25     4.80     0.25       47
4857          UC   1.500    1.137
4858          UA       0      5.0     16.0     30.0     65.0     77.0     84.0     90.0     94.0     97.0
4859          UA     100
              *

4860          KK   CISAF COMBINE
4861          KM   Combine route RWISAF and subbasin ISAF
4862          HC       2     2.69
              *

4863          KK  DRTM99RETRIEVE
4864          KM   Retrieve divert DRTM99 from combination point CIS99 and divert south to
4865          KM   combination point CTM99
4866          DR  DSTM99
              *
```



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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

4867          KK  RSTM99   ROUTE
4868          KM   Route diversion retrieval DRTM99 south to combination point CTM99
4869          RS       7     FLOW
4870          RC   0.035    0.015    0.035     5280   0.0009     0.00
4871          RX    0.00     0.00    16.50    16.50   107.50   107.50   124.00  124.00
4872          RY    3.00     0.66     0.50     0.00     0.00     0.50     0.66    3.00
              *

4873          KK    TM99   BASIN
4874          KM   Runoff hydrograph for subbasin TM99 northeast of the intersection of Thomas
4875          KM   Road and 99th Avenue
4876          BA   0.505
4877          LG    0.10     0.15     8.80     0.05       80
4878          UC   0.971    0.731
4879          UA       0      5.0     16.0     30.0     65.0     77.0     84.0     90.0     94.0     97.0
4880          UA     100
              *

4881          KK   CTM99 COMBINE
4882          KM   Combine route RSTM99 and subbasin TM99
4883          HC       2     0.62
              *

4884          KK  DWRI07  DIVERT
4885          KM   Divert runoff hydrograph from combination point CTM99 west to combination
4886          KM   point CRI07
4887          DT  DSMD99      0.0      0.0
4888          DI      0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0 10000.0 20000.0 50000.0
4889          DQ      0.0     46.0     92.0    230.0    460.0    920.0   1840.0  4600.0  9200.0 23000.0
              *

4890          KK  RWRI07   ROUTE
4891          KM   Route diversion DWRI07 west to combination point CRI07
4892          RS       5     FLOW
4893          RC   0.035    0.015    0.035     5402   0.0013     0.00
4894          RX    0.00     0.00    16.50    16.50   107.50   107.50   124.00  124.00
4895          RY    3.00     0.66     0.50     0.00     0.00     0.50     0.66    3.00
              *

4896          KK  DRRI07RETRIEVE
4897          KM   Retrieve divert DRRI07 from combination point CIS07 and divert south to
4898          KM   combination point CRI07
4899          DR  DSRI07
              *

4900          KK  RSRI07   ROUTE
4901          KM   Route diversion retrieval DRRI07 south to combination point CRI07
4902          RS       5     FLOW
4903          RC   0.035    0.015    0.035     2640   0.0008     0.00
4904          RX    0.00     0.00    26.00    26.00   148.00   148.00   174.00  174.00
4905          RY    3.00     0.76     0.50     0.00     0.00     0.50     0.76    3.00
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

4906          KK    RI07   BASIN
4907          KM   Runoff hydrograph for subbasin RI07 northeast of the intersection of the
4908          KM   Roosevelt Irrigation District Canal and 107th Avenue
4909          BA   0.759
4910          LG    0.17     0.15     8.80     0.05       58
4911          UC   1.471    0.929
4912          UA       0      5.0     16.0     30.0     65.0     77.0     84.0     90.0     94.0     97.0
4913          UA     100
              *

4914          KK  ERRI07  DIVERT
4915          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
4916          KM   retention developed after 1990 in subbasin RI07
4917          DT  XRI07     65.5      0.0
4918          DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
4919          DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

4920          KK   CRI07 COMBINE
4921          KM   Combine route RWRI07, route RSRI07 and subbasin RI07
4922          HC       3     1.67
              *

4923          KK   DRIAF  DIVERT
4924          KM   Divert portion of runoff hydrograph from combination point CRIAF south to the
4925          KM   intersection of Thomas Road and 107th Avenue and the remaining flow
4926          KM   west to the intersection of the Roosevelt Irrigation District canal and the
4927          KM   Agua Fria River. The diversion is based on topography
4928          DT  DTM07      0.0      0.0
4929          DI      0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0 10000.0 20000.0 50000.0
4930          DQ      0.0     49.0     98.0    245.0    490.0    980.0   1960.0  4900.0  9800.0 24500.0
              *

4931          KK  DWRIAF  DIVERT
4932          KM   Divert runoff hydrograph from combination point CRI07 west to combination
4933          KM   point CRIAF
4934          DT  DSTM07      0.0      0.0
4935          DI      0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0 10000.0 20000.0 50000.0
4936          DQ      0.0     62.0    124.0    310.0    620.0   1240.0   2480.0  6200.0 12400.0 31000.0
              *

4937          KK  RWRIAF   ROUTE
4938          KM   Route diversion DWRIAF west to combination point CRIAF
4939          RS      10     FLOW
4940          RC   0.035    0.015    0.035    10904   0.0007     0.00
4941          RX    0.00     0.00    22.00    22.00   103.00   103.00   125.00  125.00
4942          RY    3.00     0.72     0.50     0.00     0.00     0.50     0.72    3.00
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

4943          KK    RIAF   BASIN
4944          KM   Runoff hydrograph for subbasin RIAF north of the Roosevelt Irrigation
4945          KM   District Canal and east of the Agua Fria River
4946          BA   0.659
4947          LG    0.22     0.18     6.60     0.13       41
4948          UC   1.500    1.317
4949          UA       0      5.0     16.0     30.0     65.0     77.0     84.0     90.0     94.0     97.0
4950          UA     100
              *

4951          KK   CRIAF COMBINE
4952          KM   Combine route RWRIAF and subbasin RIAF
4953          HC       2     0.98
              *

4954          KK  DRBHAFRETRIEVE
4955          DR  DWBHAF
              *

4956          KK  SRBHRI STORAGE
4957          KM   Storage route runoff hydrograph from combination point CRIAF through ponding
4958          KM     area at the Roosevelt Irrigation District Canal and the Agua Fria River
4959          KM   Stage-storage-discharge data from Maryvale ADMS, Feb 1997
4960          RS       1     STOR
4961          SV           15.00    34.70    63.80   107.60
4962          SQ            0.10     0.20 4536.0013441.00
4963          SE  1050.0 1052.00 1053.00 1054.00 1055.00
              *

4964          KK   CAF01 COMBINE
4965          KM   Combine combination point CCBNR, combination point CISAF, and combination
4966          KM   point CRIAF
4967          HC       5     4.31
              *
```

```
4968          KK    CB83   BASIN
4969          KM   Runoff hydrograph for subbasin CB83 northeast of the intersection of
4970          KM   Camelback Road and 83rd Avenue
4971          BA   0.554
4972          LG    0.27    0.15    8.00    0.08      20
4973          UC   1.187   0.636
4974          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
4975          UA     100
              *

4976          KK  ERCB83  DIVERT
4977          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
4978          KM   retention developed after 1990 in subbasin CB83
4979          DT   XCB83    18.0     0.0
4980          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
4981          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

4982          KK   D83CB  DIVERT
4983          KM   Divert calculated full flow capapcity of 10 cfs into 24-inch storm drain
4984          KM   pipe at the intersection of Camelback Road and 83rd Avenue
4985          DT  DP83CB     0.0    10.0
4986          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
4987          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

4988          KK  DWCB91  DIVERT
4989          KM   Divert remaining runoff hydrograph from subbasin CB83 west to combination
4990          KM   point CCB91
4991          DT  DSIS83     0.0     0.0
4992          DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
4993          DQ     0.0    44.0    88.0   220.0   440.0   880.0  1760.0  4400.0  8800.0 22000.0
              *

4994          KK  RWCB91   ROUTE
4995          KM   Route diversion DWCB91 west to combination point CCB91
4996          RS       6    FLOW
4997          RC   0.035   0.015   0.035    5280  0.0036    0.00
4998          RX    0.00    0.00   57.50   57.50  291.50  291.50  349.00  349.00
4999          RY    3.00    1.08    0.50    0.00    0.00    0.50    1.08    3.00
              *

5000          KK    CB91   BASIN
5001          KM   Runoff hydrograph for square mile subbasin CB91 northeast of the intersection
5002          KM   of Camelback Road and 91st Avenue
5003          BA   0.961
5004          LG    0.25    0.15    8.80    0.06      28
5005          UC   1.500   1.013
5006          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
5007          UA     100
              *

5008          KK  ERCB91  DIVERT
5009          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
5010          KM   retention developed after 1990 in subbasin CB91
5011          DT   XCB91    66.1     0.0
5012          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
5013          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

5014          KK   CCB91 COMBINE
5015          KM   Combine route RWCB91 and subbasin CB91
5016          HC       2    1.32
              *

5017          KK  DWCBLO  DIVERT
5018          KM   Divert remaining runoff hydrograph from combination point CCB91 west to
5019          KM   combination point CCBLO
5020          DT  DSIS91     0.0     0.0
5021          DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
5022          DQ     0.0    47.0    94.0   235.0   470.0   940.0  1880.0  4700.0  9400.0 23500.0
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

5023          KK  RWCBLO   ROUTE
5024          KM   Route diversion DWCBLO west to combination point CCBLO
5025          RS       5    FLOW
5026          RC   0.035   0.015   0.035    4287  0.0028    0.00
5027          RX    0.00    0.00   48.00   48.00  251.00  251.00  299.00  299.00
5028          RY    3.00    0.98    0.50    0.00    0.00    0.50    0.98    3.00
              *

5029          KK    CBLO   BASIN
5030          KM   Runoff hydrograph for subbasin CBLO northeast of the intersection of
5031          KM   Camelback Road and SR Loop 101
5032          BA   0.818
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5033          LG    0.18    0.15    8.80    0.06      53
5034          UC   1.360   0.942
5035          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
5036          UA     100
              *

5037          KK  ERCBLO  DIVERT
5038          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
5039          KM   retention developed after 1990 in subbasin CBLO
5040          DT   XCBLO    55.1     0.0
5041          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
5042          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

5043          KK   CCBLO COMBINE
5044          KM   Combine route RWCBLO and subbasin CBLO
5045          HC       2    1.52
              *

5046          KK  RSISLO   ROUTE
5047          KM   Route hydrograph at combination point CCBLO south to combination point CISLO
5048          RS       5    FLOW
5049          RC   0.035   0.015   0.035    5583  0.0010    0.00
5050          RX    0.00    4.00   14.00   29.00   49.00   64.00   94.00   97.00
5051          RY   11.20   10.20   10.00    0.00    0.40   10.40   11.84   12.84
              *

5052          KK    IS75   BASIN
5053          KM   Runoff hydrograph for subbasin IS75 northeast of the intersection of Indian
5054          KM   School Road and 75th Avenue
5055          BA   0.615
5056          LG    0.23    0.15    7.60    0.08      41
5057          UC   1.288   0.793
5058          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
5059          UA     100
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

5060          KK  ERIS75  DIVERT
5061          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
5062          KM   retention developed after 1990 in subbasin IS75
5063          DT   XIS75     0.8     0.0
5064          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
5065          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

5066          KK   D75IS  DIVERT
5067          KM   Divert calculated full flow capapcity of 123 cfs into 60-inch storm drain
5068          KM   pipe at the intersection of Indian School Road and 75th Avenue
5069          DT  DP75IS     0.0   123.0
5070          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
5071          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

5072          KK  DWIS83  DIVERT
5073          KM   Divert remaining runoff hydrograph from combination point CPIS75 west to
5074          KM   combination point CIS83
5075          DT  DSTM75     0.0     0.0
5076          DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
5077          DQ     0.0    35.0    70.0   175.0   350.0   700.0  1400.0  3500.0  7000.0 17500.0
              *

5078          KK  RWIS83   ROUTE
5079          KM   Route diversion DWIS83 west to combination point CIS83
5080          RS       5    FLOW
5081          RC   0.035   0.015   0.035    5280  0.0028    0.00
5082          RX    0.00    0.00   76.50   76.50  372.50  372.50  449.00  449.00
5083          RY    3.00    1.27    0.50    0.00    0.00    0.50    1.27    3.00
              *

5084          KK  DRIS83RETRIEVE
5085          KM   Retrieve divert DRIS83 from subbasin CB83 and divert south to combination
5086          KM   point CIS83
5087          DR  DSIS83
              *

5088          KK  RSIS83   ROUTE
5089          KM   Route diversion retrieval DRIS83 south to combination point CIS83
5090          RS       8    FLOW
5091          RC   0.035   0.015   0.035    5280  0.0022    0.00
5092          RX    0.00    0.00   57.50   57.50  291.50  291.50  349.00  349.00
5093          RY    3.00    1.08    0.50    0.00    0.00    0.50    1.08    3.00
              *

5094          KK    IS83   BASIN
5095          KM   Runoff hydrograph for square mile subbasin IS83 northeast of the intersection
5096          KM   Indian School Road and 83rd Avenue
5097          BA   0.991
5098          LG    0.24    0.17    6.80    0.12      34
5099          UC   1.500   1.007
```

```
5100          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
5101          UA     100
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


5102          KK   CIS83 COMBINE
5103          KM   Combine route RWIS83, route RSIS83 and subbasin IS83
5104          HC        3    1.64
              *

5105          KK  PR83CBRETRIEVE
5106          KM   Retrieve full flow capacity of 10 cfs from 24-inch storm drain pipe at the
5107          KM   intersection of Camelback Road and 83rd Avenue
5108          DR  DP83CB
              *
              * KKRP83IS   ROUTE
              * KM Route full flow capacity of 10 cfs through 24-inch storm drain pipe in
              * KM 83rd Avenue to the intersection of Indian School Road and 83rd Avenue
              * RK   5208  0.0019   0.015            CIRC   2.000
              *

5109          KK  CPIS83 COMBINE
5110          KM   Combine pipe return PR83CB with the runoff hydrograph at combination point
5111          KM   CIS83 at the intersection of Indian School Road and 83rd Avenue
5112          HC        2
              *

5113          KK   D83IS  DIVERT
5114          KM   Divert calculated full flow capapcity of 187 cfs into 72-inch storm drain
5115          KM   pipe at the intersection of Indian School Road and 83rd Avenue
5116          DT  DP83IS      0.0   187.0
5117          DI      0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
5118          DQ      0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

5119          KK  DWIS91  DIVERT
5120          KM   Divert remaining runoff hydrograph from combination point CPIS83 west to
5121          KM   combination point CIS91
5122          DT  DSTM83      0.0     0.0
5123          DI      0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
5124          DQ      0.0    55.0   110.0   275.0   550.0  1100.0  2200.0  5500.0 11000.0 27500.0
              *

5125          KK  RWIS91   ROUTE
5126          KM   Route diversion DWIS91 west to combination point CIS91
5127          RS        3    FLOW
5128          RC   0.035   0.015   0.035    5280  0.0030    0.00
5129          RX    0.00    0.00   54.50   54.50  269.50  269.50  324.00  324.00
5130          RY    3.00    1.04    0.50    0.00    0.00    0.50    1.04    3.00
              *

5131          KK  DRIS91RETRIEVE
5132          KM   Retrieve divert DRIS91 from combination point CCB91 and divert south to
5133          KM   combination point CIS91
5134          DR  DSIS91
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


5135          KK  RSIS91   ROUTE
5136          KM   Route diversion retrieval DRIS91 south to combination point CIS91
5137          RS        8    FLOW
5138          RC   0.035   0.015   0.035    5280  0.0017    0.00
5139          RX    0.00    0.00   57.50   57.50  291.50  291.50  349.00  349.00
5140          RY    3.00    1.08    0.50    0.00    0.00    0.50    1.08    3.00
              *

5141          KK    IS91   BASIN
5142          KM   Runoff hydrograph for square mile subbasin IS91 northeast of the intersection
5143          KM   Indian School Road and 91st Avenue
5144          BA   0.999
5145          LG    0.25    0.15    9.70    0.04      37
5146          UC   1.500   1.011
5147          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
5148          UA     100
              *

5149          KK  ERIS91  DIVERT
5150          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
5151          KM   retention developed after 1990 in subbasin IS91
5152          DT   XIS91     24.6     0.0
5153          DI      0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
5154          DQ      0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

5155          KK   CIS91 COMBINE
5156          KM   Combine route RWIS91, route RSIS91 and subbasin IS91
5157          HC        3    2.36
```



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              *

5158          KK   D91IS  DIVERT
5159          KM   Divert calculated full flow capapcity of 190 cfs into 72-inch storm drain
5160          KM   pipe at the intersection of Indian School Road and 91st Avenue
5161          DT  DP91IS      0.0   190.0
5162          DI      0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
5163          DQ      0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

5164          KK  DWISLO  DIVERT
5165          KM   Divert remaining runoff hydrograph from combination point CIS91 west to
5166          KM   combination point CISLO
5167          DT  DSTM91      0.0     0.0
5168          DI      0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
5169          DQ      0.0    57.0   114.0   285.0   570.0  1140.0  2280.0  5700.0 11400.0 28500.0
              *

5170          KK  RWISLO   ROUTE
5171          KM   Route diversion DWISLO west to combination point CISLO
5172          RS        2    FLOW
5173          RC   0.035   0.015   0.035    2651  0.0039    0.00
5174          RX    0.00    0.00   35.50   35.50  188.50  188.50  224.00  224.00
5175          RY    3.00    0.86    0.50    0.00    0.00    0.50    0.86    3.00
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


5176          KK    ISLO   BASIN
5177          KM   Runoff hydrograph for subbasin ISLO northeast of the intersection of Indian
5178          KM   School Road and SR Loop 101
5179          BA   0.684
5180          LG    0.17    0.15    9.70    0.04      56
5181          UC   1.208   0.788
5182          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
5183          UA     100
              *

5184          KK  ERISLO  DIVERT
5185          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
5186          KM   retention developed after 1990 in subbasin ISLO
5187          DT   XISLO     58.0     0.0
5188          DI      0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
5189          DQ      0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

5190          KK   CISLO COMBINE
5191          KM   Combine route RWISLO, route RSISLO and subbasin ISLO
5192          HC        3    3.22
              *

5193          KK  RSTMLO   ROUTE
5194          KM   Route hydrograph at combination point CISLO south to combination point CTMLO
5195          RS        3    FLOW
5196          RC   0.035   0.015   0.035    5309  0.0010    0.00
5197          RX    0.00    4.00   14.00   29.00   44.00   59.00   73.00   76.00
5198          RY   11.20   10.20   10.00    0.00    0.30   10.30   10.58   11.58
              *

5199          KK  DRGCGRRETRIEVE
5200          KM   Retrieve divert DRGCGR from combination point CGR35 and divert south to
5201          KM   combination point CIGR35
5202          DR  DEGCGR
              *

5203          KK  DIGCGRRETRIEVE
5204          KM   Retrieve divert DIGCGR from combination point CPIS35 and divert south to
5205          KM   combination point CIGR35
5206          DR  DSGCGR
              *

5207          KK  CIGR35 COMBINE
5208          KM   Combine arterial street flow from Grand Avenue DEGCGR with runoff hydrograph
5209          KM   DGRGC at the intersection of 35th Avenue and Grand Avenue
5210          HC        2    3.97
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


5211          KK  RSGCGR   ROUTE
5212          KM   Route hydrograph at combination point CIGR35 at the intersection of Grand
5213          KM   Avenue and 35th Avenue south to combination point CGCGR
5214          RS        2    FLOW
5215          RC   0.035   0.015   0.035    3104  0.0029    0.00
5216          RX    0.00    0.00   48.00   48.00  251.00  251.00  299.00  299.00
5217          RY    3.00    0.98    0.50    0.00    0.00    0.50    0.98    3.00
              *

5218          KK  DRGC27RETRIEVE
```

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5219          KM   Retrieve divert DRGC27 from combination point CPIS27 and divert south to
5220          KM   combination point CGCGR
5221          DR  DSGC27
              *
5222          KK  RSGC27   ROUTE
5223          KM   Route diversion retrieval DRGC27 south to combination point CGC27
5224          RS       1    FLOW
5225          RC   0.035   0.015   0.035    1755  0.0028    0.00
5226          RX    0.00    0.00   16.50   16.50  107.50  107.50  124.00  124.00
5227          RY    3.00    0.66    0.50    0.00    0.00    0.50    0.66    3.00
              *
5228          KK    GCGR   BASIN
5229          KM   Runoff hydrograph for subbasin GCGR northeast of the intersection of Grand
5230          KM   Avenue and the Grand Canal
5231          BA   0.376
5232          LG    0.15    0.25    5.00    0.23      77
5233          UC   0.335   0.079
5234          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
5235          UA     100
              *
5236          KK   CGCGR COMBINE
5237          KM   Combine route RSGCGR, route RSGC27, and subbasin GCGR
5238          HC       3    6.09
              *
5239          KK  PR31ISRETRIEVE
5240          KM   Retrieve full flow capacity of 268 cfs from 72-inch diameter pipe at the
5241          KM   intersection of Indian School Road and 31st Avenue
5242          DR  DP31IS
              *
5243          KK  RP31GC   ROUTE
5244          KM   Route full flow capacity of 268 cfs through 72-inch storm drain pipe
5245          KM   in 31st Avenue to the intersection of 31st Avenue and the Grand Canal
5246          RK    2506  0.0040   0.015            CIRC   6.000
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

5247          KK  PR27ISRETRIEVE
5248          KM   Retrieve full flow capacity of 151 cfs from 60-inch diameter pipe at the
5249          KM   intersection of Indian School Road and 27th Avenue
5250          DR  DP27IS
              *
5251          KK  RP27GC   ROUTE
5252          KM   Route full flow capacity of 151 cfs through 60-inch storm drain pipe in
5253          KM   in 27th Avenue to the intersection of 27th Avenue and the Grand Canal
5254          RK    1763  0.0034   0.015            CIRC   5.000
              *
5255          KK  CPGCGR COMBINE
5256          KM   Combine pipe return PR27IS and pipe return PR35IS with the runoff hydrograph
5257          KM   at combination point CGCGR at the intersection of the Grand Canal and Grand
5258          KM   Avenue
5259          HC       3
              *
5260          KK   DGCGR  DIVERT
5261          KM   Capacity of storm drain in 27th Avenue and 29th Avenue diverted together.
5262          KM   Divert combined calculated full flow capacity of 257 cfs in the 72-inch storm
5263          KM   drain pipe in 27th Avenue and 165 cfs in the 60-inch storm drain pipe in
5264          KM   29th Avenue. The total calculated combined full flow capacity diverted at the
5265          KM   intersection of the Grand Canal and Grand Avenue is 422 cfs in an equivalent
5266          KM   diameter pipe of 87 inches
5267          DT  DPGCGR      0.0   422.0
5268          DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
5269          DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *
5270          KK  SRGCGR STORAGE
5271          KM   Storage route runoff hydrograph from divert DGCGR through ponding
5272          KM     area at the Grand Canal between I-17 and Grand Avenue
5273          KM   Storage routing ID RES26E in Maryvale ADMS, Feb 1997 - comments from ADMS:
5274          KM   PONDING AREA RESERVOIR ROUTE
5275          KM   PONDING AREA NORTHEAST OF GRAND AVENUE/RR EMBANKMENT
5276          KM   SUB-BASIN 26-22E
5277          RS       1    STOR      0.
5278          SV            0.10   13.20   45.92   91.09  149.48
5279          SQ          160.00  160.00  376.00 1056.00 6078.00
5280          SE  1095.0 1096.00 1097.00 1098.00 1099.00 1100.00
              *
5281          KK  RSGR27   ROUTE
5282          KM   Route diversion retrieval DRGR27 south to combination point CGR27
5283          RS       3    FLOW
5284          RC   0.035   0.015   0.035    4632  0.0019    0.00
5285          RX    0.00    0.00   33.00   33.00  215.00  215.00  248.00  248.00
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5286          RY    3.00    0.83    0.50    0.00    0.00    0.50    0.83    3.00
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

5287          KK    GR27   BASIN
5288          KM   Runoff hydrograph for subbasin GR27 northwest of the intersection of Grand
5289          KM   Avenue and 27th Avenue
5290          BA   0.407
5291          LG    0.18    0.15    8.40    0.06      66
5292          UC   0.720   0.398
5293          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
5294          UA     100
              *
5295          KK   CTM27 COMBINE
5296          KM   Combine route RSGR27 and subbasin GR27
5297          HC       2    6.50
              *
5298          KK   DTM27  DIVERT
5299          KM   Divert portion of runoff hydrograph from combination point CTM27  to storage
5300          KM   route SRTM27 where it will be routed through the Verde Basin near the
5301          KM   intersection of Thomas and 27th Avenue.  The remaining flow is diverted to
5302          KM   combination point CGR27. The diversion is based on topography
5303          DT   DGR27      0.0      0.0
5304          DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
5305          DQ     0.0    50.0   100.0   250.0   500.0  1000.0  2000.0  5000.0 10000.0 25000.0
              *
5306          KK  SRTM27 STORAGE
5307          KM   Storage route runoff hydrograph from storm drain route RP27TM thru regional
5308          KM     detention basin near the intersection of Thomas Road and 27th Avenue
5309          KM   Stage-storage-discharge data from 26th Avenue and Verde Lane Drainage
5310          KM     Improvement Project Phase II Plans, November 2005 (Verde Basin)
5311          RS       1    STOR
5312          SV            0.50    1.40    3.10    5.70    9.00   12.50   16.30   20.00   22.00
5313          SV    24.1
5314          SQ     0.0    49.0    20.0    25.0    29.0    33.0    36.0    39.0    42.0   521.0
5315          SQ  1395.0
5316          SE  1088.0  1089.0  1090.0  1091.0  1092.0  1093.0  1094.0  1095.0  1096.0  1096.5
5317          SE  1097.0
              *
5318          KK  PRGCGRRETRIEVE
5319          KM   Retrieve combined full flow capacity of 422 cfs from 87-inch equivalent
5320          KM   diameter pipe at the intersection of the Grand Canal and Grand Avenue
5321          DR  DPGCGR
              *
5322          KK   D31GR  DIVERT
5323          KM   Divert calculated full flow capapcity of 257 cfs into 72-inch storm drain
5324          KM   pipe at the intersection of Grand Avenue and 31st Avenue
5325          DT  DP31GR      0.0   257.0
5326          DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
5327          DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

5328          KK  RP27TM   ROUTE
5329          KM   Route full flow capacity of 151 cfs through 60-inch storm drain pipe in
5330          KM   27th Avenue to the intersection of Thomas Road and 27th Avenue
5331          RK    3088  0.0034   0.015            CIRC   5.000
              *
5332          KK  CPGR27 COMBINE
5333          KM   Combine remainder of pipe return PRGCGR with the runoff hydrograph at
5334          KM   storage route SRTM27 at the intersection of Grand Avenue and 27th Avenue
5335          HC       2
              *
5336          KK   D27GR  DIVERT
5337          KM   Divert calculated full flow capapcity of 195 cfs into 66-inch storm drain
5338          KM   pipe at the intersection of Grand Avenue and 27th Avenue
5339          DT  DP27GR      0.0   195.0
5340          DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
5341          DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *
5342          KK  DRGR27RETRIEVE
5343          KM   Retrieve divert DRGR27 from combination point CRM27 and divert south to
5344          KM   combination point CGR27
5345          DR  DGR27
              *
5346          KK   CGR27 COMBINE
5347          KM   Combine divert D27GR and divert retrieval DRGR27
5348          HC       2    6.50
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5349            KK  SRGR27 STORAGE
5350            KM   Storage route runoff hydrograph from divert D27GR through regional detention
5351            KM     basin near the intersection of Grand Avenue and 27th Avenue.
5352            KM   Stage-storage-discharge data from State Highway Wickenburg-Phoenix Highway
5353            KM     (US 60), 27th Avnue/Thomas Road As-builts, ADOT, August 2006
5354            RS       1    STOR
5355            SV             0.30    2.10    8.50   15.80   23.90   32.70   42.20   47.30   49.93
5356            SV    52.6     57.8
5357            SQ       0        2       7      14      19      22      25      28      29       3
5358            SQ     813     1469
5359            SE  1084.0  1085.0  1086.0  1088.0  1090.0  1092.0  1094.0  1096.0  1097.0    1097
5360            SE  1098.0  1098.5
                *

5361            KK  DWTM35  DIVERT
5362            KM   Divert remaining runoff hydrograph from combination point CPGR27 west to
5363            KM   combination point CTM35
5364            DT  DSMD27      0.0     0.0
5365            DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
5366            DQ     0.0    68.0   136.0   340.0   680.0  1360.0  2720.0  6800.0 13600.0 34000.0
                *
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LINE            ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


5367            KK  RWTM35   ROUTE
5368            KM   Route diversion DWTM35 west to combination point CTM35
5369            RS       5    FLOW
5370            RC   0.035   0.015   0.035    5280  0.0008    0.00
5371            RX    0.00    0.00   16.50   16.50  107.50  107.50  124.00  124.00
5372            RY    3.00    0.66    0.50    0.00    0.00    0.50    0.66    3.00
                *

5373            KK  DRTM35RETRIEVE
5374            KM   Retrieve divert DRTM35 from combination point CGC35 and divert south to
5375            KM   combination point CTM35
5376            DR  DSTM35
                *

5377            KK  RSTM35   ROUTE
5378            KM   Route diversion retrieval DRTM35 south to combination point CTM35
5379            RS       1    FLOW
5380            RC   0.035   0.015   0.035    3050  0.0051    0.00
5381            RX    0.00    0.00   16.50   16.50  107.50  107.50  124.00  124.00
5382            RY    3.00    0.66    0.50    0.00    0.00    0.50    0.66    3.00
                *

5383            KK    TM35   BASIN
5384            KM   Runoff hydrograph for subbasin TM35 northeast of the intersection of Thomas
5385            KM   Road and 35th Avenue
5386            BA   0.393
5387            LG    0.14    0.15    7.60    0.08      80
5388            UC   0.649   0.381
5389            UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
5390            UA     100
                *

5391            KK   CTM35 COMBINE
5392            KM   Combine route RWTM35, route RSTM35, and subbasin TM35
5393            HC       3    4.31
                *

5394            KK  PR31GRRETRIEVE
5395            KM   Retrieve full flow capacity of 257 cfs from 72-inch storm drain pipe at the
5396            KM   intersection of Grand Avenue and 31st Avenue
5397            DR  DP31GR
                *

5398            KK  RP31TM   ROUTE
5399            KM   Route full flow capacity of 257 cfs through 72-inch storm drain pipe in
5400            KM   31st Avenue to the intersection of Thomas Road and 31st Avenue
5401            RK    3862  0.0037   0.015             CIRC   6.000
                *
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LINE            ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


5402            KK  PR35GCRETRIEVE
5403            KM   Retrieve full flow capacity of 40 cfs from 36-inch storm drain pipe at the
5404            KM   intersection of the Grand Canal and 35th Avenue
5405            DR  DP35GC
                *

5406            KK  RP35TM   ROUTE
5407            KM   Route full flow capacity of 40 cfs through 36-inch storm drain pipe in
5408            KM   35th Avenue to the intersection of Thomas Road and 35th Avenue
5409            RK    3051  0.0035   0.015             CIRC   3.000
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5410            KK  CPTM35 COMBINE
5411            KM   Combine pipe returns PR31GR and PR35GC with the runoff hydrograph at
5412            KM   combination point CTM35 at the intersection of Thomas Road and 35th Avenue
5413            HC       3
                *

5414            KK   D35TM  DIVERT
5415            KM   Capacity of storm drain in 31st Avenue and 35th Avenue diverted together.
5416            KM   Divert combined calculated full flow capacity of 213 cfs in the 66-inch storm
5417            KM   drain pipe in 31st AVenue and 87 cfs in the 48-inch storm drain pipe in
5418            KM   35th Avenue. The total calculated combined full flow capacity diverted at the
5419            KM   intersection of 35th Avenue and Thomas Road is 300 cfs in an equivalent
5420            KM   diameter pipe of 77 inches
5421            DT  DP35TM      0.0   300.0
5422            DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
5423            DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
                *

5424            KK  DWTM43  DIVERT
5425            KM   Divert remaining runoff hydrograph from combination point CPTM35 west to
5426            KM   combination point CTM43
5427            DT  DSMD35      0.0     0.0
5428            DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
5429            DQ     0.0    84.0   168.0   420.0   840.0  1680.0  3360.0  8400.0 16800.0 42000.0
                *

5430            KK  RWTM43   ROUTE
5431            KM   Route diversion DWTM43 west to combination point CTM43
5432            RS       9    FLOW
5433            RC   0.035   0.015   0.035    5280  0.0003    0.00
5434            RX    0.00    0.00   38.50   38.50  210.50  210.50  249.00  249.00
5435            RY    3.00    0.88    0.50    0.00    0.00    0.50    0.88    3.00
                *

5436            KK  DRTM43RETRIEVE
5437            KM   Retrieve divert DRTM43 from combination point CGC43 and divert south to
5438            KM   combination point CTM43
5439            DR  DSTM43
                *
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LINE            ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


5440            KK  RSTM43   ROUTE
5441            KM   Route diversion retrieval DRTM43 south to combination point CTM43
5442            RS       1    FLOW
5443            RC   0.035   0.015   0.035    3050  0.0045    0.00
5444            RX    0.00    0.00   16.50   16.50  107.50  107.50  124.00  124.00
5445            RY    3.00    0.66    0.50    0.00    0.00    0.50    0.66    3.00
                *

5446            KK    TM43   BASIN
5447            KM   Runoff hydrograph for subbasin TM43 northeast of the intersection of Thomas
5448            KM   Road and 43rd Avenue
5449            BA   0.636
5450            LG    0.23    0.15    8.80    0.05      37
5451            UC   1.500   1.083
5452            UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
5453            UA     100
                *

5454            KK  ERTM43  DIVERT
5455            KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
5456            KM   retention developed after 1990 in subbasin TM43
5457            DT  XTM43      1.7     0.0
5458            DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
5459            DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
                *

5460            KK   CTM43 COMBINE
5461            KM   Combine route RWTM43, route RSTM43, and subbasin TM43
5462            HC       3    3.16
                *

5463            KK  PR43GCRETRIEVE
5464            KM   Retrieve combined full flow capacity of 406 cfs from 87-inch equivalent
5465            KM   diameter pipe at the intersection of the Grand Canal and 43rd Avenue
5466            DR  DP43GC
                *

5467            KK  RP43TM   ROUTE
5468            KM   Route the combined full flow capacity of 406 cfs through an equivalent storm
5469            KM   drain pipe diameter of 87 inches in 43rd Avenue to the intersection of
5470            KM   43rd Avenue and Thomas Road
5471            RK    2924  0.0035   0.015             CIRC   7.250
                *

5472            KK  CPTM43 COMBINE
5473            KM   Combine pipe return PR43GC with the runoff hydrograph at combination point
5474            KM   CTM43 at the intersection of the Grand Canal and 43rd Avenue
5475            HC       2
                *
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          LINE      ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

          5476      KK   D43TM  DIVERT
          5477      KM   Capacity of storm drain in 39th Avenue and 43rd Avenue diverted together.
          5478      KM   Divert combined calculated full flow capacity of 404 cfs in the 84-inch storm
          5479      KM   drain pipe in 39th AVenue and 225 cfs in the 69-inch storm drain pipe in
          5480      KM   43rd Avenue. The total calculated combined full flow capacity diverted at the
          5481      KM   intersection of 43rd Avenue and Thomas Road is 629 cfs in an equivalent
          5482      KM   diameter pipe of 102 inches
          5483      DT  DP43TM     0.0   629.0
          5484      DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
          5485      DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
                    *

          5486      KK  DWTM51  DIVERT
          5487      KM   Divert remaining runoff hydrograph from combination point CTM43 west to
          5488      KM   combination point CTM51
          5489      DT  DSMD43     0.0     0.0
          5490      DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
          5491      DQ     0.0    79.0   158.0   395.0   790.0  1580.0  3160.0  7900.0 15800.0 39500.0
                    *

          5492      KK  RWTM51   ROUTE
          5493      KM   Route diversion DWTM51 west to combination point CTM51
          5494      RS       9    FLOW
          5495      RC   0.035   0.015   0.035    5280  0.0004    0.00
          5496      RX    0.00    0.00   48.00   48.00  251.00  251.00  299.00  299.00
          5497      RY    3.00    0.98    0.50    0.00    0.00    0.50    0.98    3.00
                    *

          5498      KK  DRTM51RETRIEVE
          5499      KM   Retrieve divert DRTM51 from combination point CPGC51 and divert south to
          5500      KM   combination point CTM51
          5501      DR  DSTM51
                    *

          5502      KK  RSTM51   ROUTE
          5503      KM   Route diversion retrieval DRTM51 south to combination point CTM51
          5504      RS       2    FLOW
          5505      RC   0.035   0.015   0.035    2916  0.0044    0.00
          5506      RX    0.00    0.00   29.00   29.00  170.00  170.00  199.00  199.00
          5507      RY    3.00    0.79    0.50    0.00    0.00    0.50    0.79    3.00
                    *

          5508      KK    TM51   BASIN
          5509      KM   Runoff hydrograph for subbasin TM51 northeast of the intersection of Thomas
          5510      KM   Road and 51st Avenue
          5511      BA   0.545
          5512      LG    0.24    0.19    6.60    0.13      33
          5513      UC   1.500   1.165
          5514      UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
          5515      UA     100
                    *

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          LINE      ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

          5516      KK   CTM51 COMBINE
          5517      KM   Combine route RWTM51, route RSTM51, and subbasin TM51
          5518      HC       3    2.15
                    *

          5519      KK  PR51GCRETRIEVE
          5520      KM   Retrieve full flow capacity of 113 cfs from 54-inch storm drain pipe near the
          5521      KM   intersection of the Grand Canal and 51st Avenue
          5522      DR  DP51GC
                    *

          5523      KK  PRGC53RETRIEVE
          5524      KM   Retrieve full flow capacity of 20 cfs from 36-inch storm drain pipe at the
          5525      KM   intersection of the Grand Canal and 53rd Avenue
          5526      DR  DPGC53
                    *

          5527      KK  RPGC51   ROUTE
          5528      KM   Route full flow capacity of 20 cfs through 36-inch storm drain near the
          5529      KM   Grand Canal to the intersection of the Grand Canal and 51st Avenue
          5530      RK    1038  0.0009   0.015            CIRC   3.000
                    *

          5531      KK  CPGC51 COMBINE
          5532      KM   Combine pipe return PR51GC with pipe route RPGC51 at the intersection of
          5533      KM   the Grand Canal and 51st Avenue
          5534      HC       2    2.15
                    *

          5535      KK  RP51TM   ROUTE
          5536      KM   Route combined full flow capacity of 133 cfs through a 72-inch storm drain
          5537      KM   pipe in 51st Avenue to the intersection of Thomas Road and 51st Avenue
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          5538      RK    2803  0.0033   0.015            CIRC   6.000
                    *

          5539      KK  CPTM51 COMBINE
          5540      KM   Combine the runoff hydrograph at combination point CTM51 with pipe route
          5541      KM   RP51TM at the intersection of Thomas Road and 51st Avenue
          5542      HC       2
                    *

          5543      KK   D51TM  DIVERT
          5544      KM   Divert calculated full flow capapcity of 244 cfs into 72-inch storm drain
          5545      KM   pipe at the intersection of Thomas Road and 51st Avenue
          5546      DT  DP51TM     0.0   244.0
          5547      DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
          5548      DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
                    *

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          LINE      ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

          5549      KK  DWTM59  DIVERT
          5550      KM   Divert remaining runoff hydrograph from combination point CPTM51 west to
          5551      KM   combination point CTM59
          5552      DT  DSMD51     0.0     0.0
          5553      DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
          5554      DQ     0.0    64.0   128.0   320.0   640.0  1280.0  2560.0  6400.0 12800.0 32000.0
                    *

          5555      KK  RWTM59   ROUTE
          5556      KM   Route diversion DWTM59 west to combination point CTM59
          5557      RS       6    FLOW
          5558      RC   0.035   0.015   0.035    5280  0.0013    0.00
          5559      RX    0.00    0.00   48.00   48.00  251.00  251.00  299.00  299.00
          5560      RY    3.00    0.98    0.50    0.00    0.00    0.50    0.98    3.00
                    *

          5561      KK  DRTM59RETRIEVE
          5562      KM   Retrieve divert DRTM59 from combination point CPGC59 and divert south to
          5563      KM   combination point CTM59
          5564      DR  DSTM59
                    *

          5565      KK  RSTM59   ROUTE
          5566      KM   Route diversion retrieval DRTM59 south to combination point CTM59
          5567      RS       1    FLOW
          5568      RC   0.035   0.015   0.035    2752  0.0054    0.00
          5569      RX    0.00    0.00   29.00   29.00  170.00  170.00  199.00  199.00
          5570      RY    3.00    0.79    0.50    0.00    0.00    0.50    0.79    3.00
                    *

          5571      KK    TM59   BASIN
          5572      KM   Runoff hydrograph for subbasin TM59 northeast of the intersection of Thomas
          5573      KM   Road and 59th Avenue
          5574      BA   0.599
          5575      LG    0.24    0.19    6.60    0.14      31
          5576      UC   1.500   1.092
          5577      UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
          5578      UA     100
                    *

          5579      KK   CTM59 COMBINE
          5580      KM   Combine route RWTM59, route RSTM59, and subbasin TM59
          5581      HC       3    3.90
                    *

          5582      KK  PRGC63RETRIEVE
          5583      KM   Retrieve full flow capacity of 258 cfs from 72-inch storm drain pipe at the
          5584      KM   intersection of the Grand Canal and 63rd Avenue
          5585      DR  DPGC63
                    *

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          LINE      ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

          5586      KK  RP59TM   ROUTE
          5587      KM   Route full flow capacity of 258 cfs through 72-inch storm drain pipe in
          5588      KM   59th Avenue to the intersection of Thomas Road and 59th Avenue
          5589      RK    4111  0.0037   0.015            CIRC   6.000
                    *

          5590      KK  CPTM59 COMBINE
          5591      KM   Combine pipe return PRGC63 with the runoff hydrograph at combination point
          5592      KM   CTM59 at the intersection of Thomas Road and 59th Avenue
          5593      HC       2
                    *

          5594      KK   D59TM  DIVERT
          5595      KM   Divert calculated full flow capapcity of 389 cfs into 84-inch storm drain
          5596      KM   pipe at the intersection of Thomas Road and 59th Avenue
          5597      DT  DP59TM     0.0   389.0
          5598      DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
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5599          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

5600          KK  DWTM67  DIVERT
5601          KM   Divert remaining runoff hydrograph from combination point CPTM59 west to
5602          KM   combination point CTM67
5603          DT  DSMD59      0.0      0.0
5604          DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
5605          DQ     0.0    41.0    82.0   205.0   410.0   820.0  1640.0  4100.0  8200.0 20500.0
              *

5606          KK  RWTM67   ROUTE
5607          KM   Route diversion DWTM67 west to combination point CTM67
5608          RS       4    FLOW
5609          RC   0.035   0.015   0.035    5280  0.0015    0.00
5610          RX    0.00    0.00   95.50   95.50  453.50  453.50  549.00  549.00
5611          RY    3.00    1.46    0.50    0.00    0.00    0.50    1.46    3.00
              *

5612          KK  DRTM67RETRIEVE
5613          KM   Retrieve divert DRTM67 from combination point CPISGC and divert south to
5614          KM   combination point CTM67
5615          DR  DSTM67
              *

5616          KK  RSTM67   ROUTE
5617          KM   Route diversion DRTM67 south to combination point CTM67
5618          RS       4    FLOW
5619          RC   0.035   0.015   0.035    5280  0.0029    0.00
5620          RX    0.00    0.00    9.50    9.50   40.50   40.50   50.00   50.00
5621          RY    3.00    0.60    0.50    0.00    0.00    0.50    0.60    3.00
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

5622          KK    TM67   BASIN
5623          KM   Runoff hydrograph for subbasin TM67 northeast of the intersection of Thomas
5624          KM   Road and 67th Avenue
5625          BA   0.813
5626          LG    0.24    0.15    8.00    0.07      36
5627          UC   1.500   1.003
5628          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
5629          UA     100
              *

5630          KK  ERTM67  DIVERT
5631          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
5632          KM   retention developed after 1990 in subbasin TM67
5633          DT  XTM67      1.1      0.0
5634          DI     0.0 50000.0      0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
5635          DQ     0.0 50000.0      0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

5636          KK   CTM67 COMBINE
5637          KM   Combine route RWTM67, route RSTM67, and subbasin TM67
5638          HC       3    3.12
              *

5639          KK  PR67ISRETRIEVE
5640          KM   Retrieve full flow capacity of 175 cfs from 66-inch storm drain pipe at the
5641          KM   intersection of Indian School Road and 67th Avenue
5642          DR  DP67IS
              *

5643          KK  RP67TM   ROUTE
5644          KM   Route full flow capacity of 175 cfs through 66-inch storm drain pipe in
5645          KM   67th Avenue to the intersection of Thomas Road and 67th Avenue
5646          RK     5268  0.0027   0.015            CIRC   5.500
              *

5647          KK  CPTM67 COMBINE
5648          KM   Combine pipe flow at combination point CPIS67 with runoff hydrograph at
5649          KM   combination point CTM67 at the intersection of Thomas Road and 67th Avenue
5650          HC       2
              *

5651          KK   D67TM  DIVERT
5652          KM   Divert calculated full flow capapcity of 273 cfs into 78-inch storm drain
5653          KM   pipe at the intersection of Thomas Road and 67th Avenue
5654          DT  DP67TM     0.0   273.0
5655          DI     0.0 50000.0      0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
5656          DQ     0.0 50000.0      0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

5657          KK  DWTM75  DIVERT
5658          KM   Divert remaining runoff hydrograph from combination point CPTM67 west to
5659          KM   combination point CTM75
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5660          DT  DSMD67      0.0      0.0
5661          DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
5662          DQ     0.0    45.0    90.0   225.0   450.0   900.0  1800.0  4500.0  9000.0 22500.0
              *

5663          KK  RWTM75   ROUTE
5664          KM   Route diversion DWTM75 west to combination point CTM75
5665          RS       5    FLOW
5666          RC   0.035   0.015   0.035    5280  0.0023    0.00
5667          RX    0.00    0.00   76.50   76.50  372.50  372.50  449.00  449.00
5668          RY    3.00    1.27    0.50    0.00    0.00    0.50    1.27    3.00
              *

5669          KK  DRTM75RETRIEVE
5670          KM   Retrieve divert DRTM75 from combination point CPIS75 and divert south to
5671          KM   combination point CTM75
5672          DR  DSTM75
              *

5673          KK  RSTM75   ROUTE
5674          KM   Route diversion retrieval DRTM75 south to combination point CTM75
5675          RS       5    FLOW
5676          RC   0.035   0.015   0.035    5280  0.0027    0.00
5677          RX    0.00    0.00   38.50   38.50  210.50  210.50  249.00  249.00
5678          RY    3.00    0.88    0.50    0.00    0.00    0.50    0.88    3.00
              *

5679          KK    TM75   BASIN
5680          KM   Runoff hydrograph for square mile subbasin TM75 northeast of the intersection
5681          KM   of Thomas Road and 75th Avenue
5682          BA   0.997
5683          LG    0.22    0.15    9.70    0.04      41
5684          UC   1.500   1.012
5685          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
5686          UA     100
              *

5687          KK  ERTM75  DIVERT
5688          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
5689          KM   retention developed after 1990 in subbasin TM75
5690          DT  XTM75      2.0      0.0
5691          DI     0.0 50000.0      0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
5692          DQ     0.0 50000.0      0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

5693          KK   CTM75 COMBINE
5694          KM   Combine route RWTM75, route RSTM75, and subbasin TM75
5695          HC       3    2.92
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

5696          KK  PR75ISRETRIEVE
5697          KM   Retrieve full flow capacity of 123 cfs from 60-inch storm drain pipe at the
5698          KM   intersection of Indian School Road and 75th Avenue
5699          DR  DP75IS
              *

5700          KK  RP75TM   ROUTE
5701          KM   Route full flow capacity of 123 cfs through 60-inch storm drain pipe in
5702          KM   75th Avenue to the intersection of Thomas Road and 75th Avenue
5703          RK     5256  0.0022   0.015            CIRC   5.000
              *

5704          KK  CPTM75 COMBINE
5705          KM   Combine pipe return PR75IS with the runoff hydrograph at combination point
5706          KM   CTM75 at the intersection of Thomas Road and 75th Avenue
5707          HC       2
              *

5708          KK   D75TM  DIVERT
5709          KM   Divert calculated full flow capapcity of 303 cfs into 84-inch storm drain
5710          KM   pipe at the intersection of Thomas Road and 75th Avenue
5711          DT  DP75TM     0.0   303.0
5712          DI     0.0 50000.0      0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
5713          DQ     0.0 50000.0      0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

5714          KK  DWTM83  DIVERT
5715          KM   Divert remaining runoff hydrograph from combination point CPTM75 west to
5716          KM   combination point CTM83
5717          DT  DSMD75      0.0      0.0
5718          DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
5719          DQ     0.0    48.0    96.0   240.0   480.0   960.0  1920.0  4800.0  9600.0 24000.0
              *

5720          KK  RWTM83   ROUTE
5721          KM   Route diversion DWTM83 west to combination point CTM83
5722          RS       4    FLOW
5723          RC   0.035   0.015   0.035    5280  0.0025    0.00
5724          RX    0.00    0.00   76.50   76.50  372.50  372.50  449.00  449.00
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5725          RY    3.00    1.27    0.50    0.00    0.00    0.50    1.27    3.00
              *

5726          KK  DRTM83RETRIEVE
5727          KM   Retrieve divert DRTM83 from combination point CPIS83 and divert south to
5728          KM   combination point CTM83
5729          DR  DSTM83
              *

5730          KK  RSTM83   ROUTE
5731          KM   Route diversion retrieval DRTM83 south to combination point CTM83
5732          RS       3    FLOW
5733          RC   0.035   0.015   0.035    5280  0.0023    0.00
5734          RX    0.00    0.00   76.50   76.50  372.50  372.50  449.00  449.00
5735          RY    3.00    1.27    0.50    0.00    0.00    0.50    1.27    3.00
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

5736          KK    TM83   BASIN
5737          KM   Runoff hydrograph for square mile subbasin TM83 northeast of the intersection
5738          KM   of Thomas Road and 83rd Avenue
5739          BA   0.992
5740          LG    0.24    0.15    7.30    0.10      34
5741          UC   1.500   1.011
5742          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
5743          UA     100
              *

5744          KK   CTM83 COMBINE
5745          KM   Combine route RWTM83, route RSTM83, and subbasin TM83
5746          HC       3    3.41
              *

5747          KK  PR83ISRETRIEVE
5748          KM   Retrieve full flow capacity of 187 cfs from 72-inch storm drain pipe at the
5749          KM   intersection of Indian School Road and 83rd Avenue
5750          DR  DP83IS
              *

5751          KK  RP83TM   ROUTE
5752          KM   Route full flow capacity of 187 cfs through 72-inch storm drain pipe in
5753          KM   83rd Avenue to the intersection of Thomas Road and 83rd Avenue
5754          RK    5330  0.0019   0.015             CIRC   6.000
              *

5755          KK  CPTM83 COMBINE
5756          KM   Combine pipe return PR83IS with the runoff hydrograph at combination point
5757          KM   CTM83 at the intersection of Thomas Road and 83rd Avenue
5758          HC       2
              *

5759          KK   D83TM  DIVERT
5760          KM   Divert calculated full flow capapcity of 283 cfs into 84-inch storm drain
5761          KM   pipe at the intersection of Thomas Road and 83rd Avenue
5762          DT  DP83TM      0.0   283.0
5763          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
5764          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

5765          KK  DWTM91  DIVERT
5766          KM   Divert remaining runoff hydrograph from combination point CPTM83 west to
5767          KM   combination point CTM91
5768          DT  DSMD83      0.0     0.0
5769          DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
5770          DQ     0.0    23.0    46.0   115.0   230.0   460.0   920.0  2300.0  4600.0 11500.0
              *
1                                      HEC-1 INPUT                                    PAGE150

LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

5771          KK  RWTM91   ROUTE
5772          KM   Route diversion DWTM91 west to combination point CTM91
5773          RS       4    FLOW
5774          RC   0.035   0.015   0.035    5280  0.0028    0.00
5775          RX    0.00    0.00  114.50  114.50  534.50  534.50  649.00  649.00
5776          RY    3.00    1.64    0.50    0.00    0.00    0.50    1.64    3.00
              *

5777          KK  DRTM91RETRIEVE
5778          KM   Retrieve divert DRTM91 from combination point CIS91 and divert south to
5779          KM   combination point CTM91
5780          DR  DSTM91
              *

5781          KK  RSTM91   ROUTE
5782          KM   Route diversion retrieval DRTM91 south to combination point CTM91
5783          RS       5    FLOW
5784          RC   0.035   0.015   0.035    5280  0.0021    0.00
5785          RX    0.00    0.00   67.00   67.00  332.00  332.00  399.00  399.00
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5786          RY    3.00    1.17    0.50    0.00    0.00    0.50    1.17    3.00
              *

5787          KK    TM91   BASIN
5788          KM   Runoff hydrograph for square mile subbasin TM91 northeast of the intersection
5789          KM   of Thomas Road and 91st Avenue
5790          BA   1.003
5791          LG    0.24    0.15    7.30    0.09      36
5792          UC   1.500   1.009
5793          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
5794          UA     100
              *

5795          KK  ERTM91  DIVERT
5796          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
5797          KM   retention developed after 1990 in subbasin TM91
5798          DT   XTM91     14.8      0.0
5799          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
5800          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

5801          KK   CTM91 COMBINE
5802          KM   Combine route RWTM91, route RSTM91, and subbasin TM91
5803          HC       3    4.96
              *

5804          KK  PR91ISRETRIEVE
5805          KM   Retrieve full flow capacity of 190 cfs from 72-inch storm drain pipe at the
5806          KM   intersection of Indian School Road and 91st Avenue
5807          DR  DP91IS
              *
1                                      HEC-1 INPUT                                    PAGE151

LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

5808          KK  RP91TM   ROUTE
5809          KM   Route full flow capacity of 190 cfs through 72-inch storm drain pipe in
5810          KM   91st Avenue to the intersection of Thomas Road and 91st Avenue
5811          RK    5130  0.0020   0.015             CIRC   6.000
              *

5812          KK  CPTM91 COMBINE
5813          KM   Combine pipe return PR91IS with the runoff hydrograph at combination point
5814          KM   CTM91 at the intersection of Thomas Road and 91st Avenue
5815          HC       2
              *

5816          KK   D91TM  DIVERT
5817          KM   Divert calculated full flow capapcity of 287 cfs into 84-inch storm drain
5818          KM   pipe at the intersection of Thomas Road and 91st Avenue
5819          DT  DP91TM      0.0   287.0
5820          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
5821          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

5822          KK  DWTMLO  DIVERT
5823          KM   Divert remaining runoff hydrograph from combination point CPTM91 west to
5824          KM   combination point CTMLO
5825          DT  DSMD91      0.0     0.0
5826          DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
5827          DQ     0.0    77.0   154.0   385.0   770.0 1540.0  3080.0  7700.0 15400.0 38500.0
              *

5828          KK  RWTMLO   ROUTE
5829          KM   Route diversion DWTMLO west to combination point CTMLO
5830          RS       3    FLOW
5831          RC   0.035   0.015   0.035    2623  0.0015    0.00
5832          RX    0.00    0.00   16.50   16.50  107.50  107.50  124.00  124.00
5833          RY    3.00    0.66    0.50    0.00    0.00    0.50    0.66    3.00
              *

5834          KK    TMLO   BASIN
5835          KM   Runoff hydrograph for subbasin TMLO northeast of the intersection of Thomas
5836          KM   Road and SR Loop 101
5837          BA   0.496
5838          LG    0.11    0.15    8.80    0.05      75
5839          UC   0.929   0.704
5840          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
5841          UA     100
              *

5842          KK  ERTMLO  DIVERT
5843          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
5844          KM   retention developed after 1990 in subbasin TMLO
5845          DT   XTMLO     39.3      0.0
5846          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
5847          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *
1                                      HEC-1 INPUT                                    PAGE152

LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10
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5848          KK   CTMLO COMBINE
5849          KM   Combine route RWTMLO, route RSTMLO, and subbasin TMLO
5850          HC       3    4.87
              *

5851          KK  RSMDLO   ROUTE
5852          KM   Route hydrograph at combination point CTMLO south to combination point CMDLO
5853          RS       2    FLOW
5854          RC   0.035   0.015   0.035    5729  0.0012    0.00
5855          RX    0.00    3.00    5.00   39.00   47.00   51.00   65.00   68.00
5856          RY   18.00   17.00   17.00    0.00    0.16   17.16   17.44   18.44
              *

5857          KK  DRMD27RETRIEVE
5858          KM   Retrieve divert DRMD27 from combination point CPGR27 and divert south to
5859          KM   combination point CMD27
5860          DR  DSMD27
              *

5861          KK  RSMD27   ROUTE
5862          KM   Route diversion retrieval DRMD27 south to combination point CMD27
5863          RS       2    FLOW
5864          RC   0.035   0.015   0.035    5280  0.0034    0.00
5865          RX    0.00    0.00   16.50   16.50  107.50  107.50  124.00  124.00
5866          RY    3.00    0.66    0.50    0.00    0.00    0.50    0.66    3.00
              *

5867          KK    MD27   BASIN
5868          KM   Runoff hydrograph for subbasin MD27 northeast of the intersection of McDowell
5869          KM   Road and 27th Avenue
5870          BA   0.241
5871          LG    0.15    0.15    8.00    0.07      80
5872          UC   0.595   0.456
5873          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
5874          UA     100
              *

5875          KK   CMD27 COMBINE
5876          KM   Combine route RSMD27 and subbasin MD27
5877          HC       2    4.65
              *

5878          KK  PR27GRRETRIEVE
5879          KM   Retrieve full flow capacity of 195 cfs from 66-inch storm drain pipe at the
5880          KM   intersection of Grand Avenue and 27th Avenue
5881          DR  DP27GR
              *

5882          KK  RP27MD   ROUTE
5883          KM   Route full flow capacity of 195 cfs through 66-inch storm drain pipe in
5884          KM   27th Avenue to the intersection of McDowell Road and 27th Avenue
5885          RK    5006  0.0034   0.015            CIRC   5.500
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9.....10

5886          KK  CPMD27 COMBINE
5887          KM   Combine pipe return PR27GR with the runoff hydrograph at combination point
5888          KM   CMD27 at the intersection of McDowell Road and 27th Avenue
5889          HC       2
              *

5890          KK   D27MD  DIVERT
5891          KM   Divert calculated full flow capapcity of 246 cfs into 72-inch storm drain
5892          KM   pipe at the intersection of McDowell Road and 27th Avenue
5893          DT  DP27MD      0.0   246.0
5894          DI      0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
5895          DQ      0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

5896          KK  RWMD35   ROUTE
5897          KM   Route remainder of diversion D27MD west to combination point CMD35
5898          RS       5    FLOW
5899          RC   0.035   0.015   0.035    5280  0.0009    0.00
5900          RX    0.00    0.00   48.00   48.00  251.00  251.00  299.00  299.00
5901          RY    3.00    0.98    0.50    0.00    0.00    0.50    0.98    3.00
              *

5902          KK  DRMD35RETRIEVE
5903          KM   Retrieve divert DRMD35 from combination point CPTM35 and divert south to
5904          KM   combination point CMD35
5905          DR  DSMD35
              *

5906          KK  RSMD35   ROUTE
5907          KM   Route diversion retrieval DRMD35 south to combination point CMD35
5908          RS       2    FLOW
5909          RC   0.035   0.015   0.035    5280  0.0036    0.00
5910          RX    0.00    0.00   67.00   67.00  332.00  332.00  399.00  399.00
5911          RY    3.00    1.17    0.50    0.00    0.00    0.50    1.17    3.00
```



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              *

5912          KK    MD35   BASIN
5913          KM   Runoff hydrograph for square mile subbasin MD35 northeast of the intersection
5914          KM   of McDowell Road and 35th Avenue
5915          BA   0.999
5916          LG    0.19    0.13   10.10    0.03      59
5917          UC   1.469   0.976
5918          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
5919          UA     100
              *

5920          KK  ERMD35  DIVERT
5921          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
5922          KM   retention developed after 1990 and NOAA14 rainfall for future retention in
5923          KM   subbasin MD35
5924          DT   XMD35     1.5     0.0
5925          DI      0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
5926          DQ      0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9.....10

5927          KK   CMD35 COMBINE
5928          KM   Combine route RWMD35, route RSMD35, and subbasin MD35
5929          HC       3    9.29
              *

5930          KK  PR35TMRETRIEVE
5931          KM   Retrieve combined full flow capacity of 300 cfs from 77-inch equivalent
5932          KM   diameter pipe at the intersection of Thomas Road and 35th Avenue
5933          DR  DP35TM
              *

5934          KK  RP35MD   ROUTE
5935          KM   Route the combined full flow capacity of 300 cfs through an equivalent storm
5936          KM   drain pipe diameter of 77 inches in 35th Avenue to the intersection of
5937          KM   McDowell Road and 35th Avenue
5938          RK    5093  0.0037   0.015            CIRC   6.417
              *

5939          KK  CPMD35 COMBINE
5940          KM   Combine pipe return PR35TM with the runoff hydrograph at combination point
5941          KM   CMD35 at the intersection of McDowell Road and 35th Avenue
5942          HC       2
              *

5943          KK   D35MD  DIVERT
5944          KM   Capacity of storm drain in 31st Avenue and 35th Avenue diverted together.
5945          KM   Divert combined calculated full flow capacity of 405 cfs in the 84-inch storm
5946          KM   drain pipe in 31st AVenue and 102 cfs in the 51-inch storm drain pipe in
5947          KM   35th Avenue. The total calculated combined full flow capacity diverted at the
5948          KM   intersection of 35th Avenue and McDowell Road is 507 cfs in an equivalent
5949          KM   diameter pipe of 93 inches
5950          DT  DP35MD      0.0   507.0
5951          DI      0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
5952          DQ      0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

5953          KK  DWMD43  DIVERT
5954          KM   Divert remaining runoff hydrograph from combination point CPMD35 west to
5955          KM   combination point CMD43
5956          DT  DSIN35      0.0     0.0
5957          DI      0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
5958          DQ      0.0    63.0   126.0   315.0   630.0  1260.0  2520.0  6300.0 12600.0 31500.0
              *

5959          KK  RWMD43   ROUTE
5960          KM   Route diversion DWMD43 west to combination point CMD43
5961          RS       7    FLOW
5962          RC   0.035   0.015   0.035    5280  0.0004    0.00
5963          RX    0.00    0.00   95.50   95.50  453.50  453.50  549.00  549.00
5964          RY    3.00    1.46    0.50    0.00    0.00    0.50    1.46    3.00
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9.....10

5965          KK  DRMD43RETRIEVE
5966          KM   Retrieve divert DRMD43 from combination point CTM43 and divert south to
5967          KM   combination point CMD43
5968          DR  DSMD43
              *

5969          KK  RSMD43   ROUTE
5970          KM   Route diversion retrieval DRMD43 south to combination point CMD43
5971          RS       3    FLOW
5972          RC   0.035   0.015   0.035    5280  0.0037    0.00
5973          RX    0.00    0.00   67.00   67.00  332.00  332.00  399.00  399.00
5974          RY    3.00    1.17    0.50    0.00    0.00    0.50    1.17    3.00
```

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                *
5975            KK    MD43   BASIN
5976            KM   Runoff hydrograph for square mile subbasin MD43 northeast of the intersection
5977            KM   of McDowell Road and 43rd Avenue
5978            BA   0.999
5979            LG    0.22    0.15    9.70    0.04      41
5980            UC   1.107   0.414
5981            UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
5982            UA     100
                *
5983            KK   CMD43 COMBINE
5984            KM   Combine route RWMD43, route RSMD43, and subbasin MD43
5985            HC       3    6.96
                *
5986            KK  PR43TMRETRIEVE
5987            KM   Retrieve combined full flow capacity of 629 cfs from 102-inch equivalent
5988            KM   diameter pipe at the intersection of Thomas Road and 43rd Avenue
5989            DR  DP43TM
                *
5990            KK  RP43MD   ROUTE
5991            KM   Route the combined full flow capacity of 629 cfs through an equivalent storm
5992            KM   drain pipe diameter of 102 inches in 43rd Avenue to the intersection of
5993            KM   43rd Avenue and McDowell Road
5994            RK    5212  0.0035   0.015           CIRC   8.500
                *
5995            KK  CPMD43 COMBINE
5996            KM   Combine pipe return PR43TM with the runoff hydrograph at combination point
5997            KM   CMD43 at the intersection of McDowell Road and 43rd Avenue
5998            HC       2
                *
5999            KK   D43MD  DIVERT
6000            KM   Capacity of storm drain in 39th Avenue and 43rd Avenue diverted together.
6001            KM   Divert combined calculated full flow capacity of 404 cfs in the 84-inch storm
6002            KM   drain pipe in 39th AVenue and 225 cfs in the 69-inch storm drain pipe in
6003            KM   43rd Avenue. The total calculated combined full flow capacity diverted at the
6004            KM   intersection of 35th Avenue and McDowell Road is 629 cfs in an equivalent
1                                       HEC-1 INPUT                                    PAGE156
LINE            ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10
6005            KM    diameter pipe of 102 inches
6006            DT  DP43MD      0.0    629.0
6007            DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
6008            DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
                *
6009            KK  DWMD51  DIVERT
6010            KM   Divert remaining runoff hydrograph from combination point CPMD43 west to
6011            KM   combination point CMD51
6012            DT  DSIN43      0.0      0.0
6013            DI      0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0  10000.0  20000.0  50000.0
6014            DQ      0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0  10000.0  20000.0  50000.0
                *
6015            KK  RWMD51   ROUTE
6016            KM   Route diversion DWMD51 west to combination point CMD51
6017            RS       1     FLOW
6018            RC   0.035   0.015   0.035    5280  0.0002     0.00
6019            RX    0.00    0.00   57.50   57.50  291.50  291.50  349.00  349.00
6020            RY    3.00    1.08    0.50    0.00    0.00    0.50    1.08    3.00
                *
6021            KK  DRMD51RETRIEVE
6022            KM   Retrieve divert DRMD51 from combination point CPTM51 and divert south to
6023            KM   combination point CMD51
6024            DR  DSMD51
                *
6025            KK  RSMD51   ROUTE
6026            KM   Route diversion retrieval DRMD51 south to combination point CMD51
6027            RS       4     FLOW
6028            RC   0.035   0.015   0.035    5280  0.0035     0.00
6029            RX    0.00    0.00   54.50   54.50  269.50  269.50  324.00  324.00
6030            RY    3.00    1.04    0.50    0.00    0.00    0.50    1.04    3.00
                *
6031            KK    MD51   BASIN
6032            KM   Runoff hydrograph for square mile subbasin MD51 northeast of the intersection
6033            KM   of McDowell Road and 51st Avenue
6034            BA   1.001
6035            LG    0.23    0.15    8.40    0.07      35
6036            UC   1.500   1.010
6037            UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
6038            UA     100
                *
6039            KK   CMD51 COMBINE
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6040            KM   Combine route RWMD51, route RSMD51, and subbasin MD51
6041            HC       3    2.37
                *
1                                       HEC-1 INPUT                                    PAGE157
LINE            ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10
6042            KK  PR51TMRETRIEVE
6043            KM   Retrieve full flow capacity of 244 cfs from 72-inch storm drain pipe at the
6044            KM   intersection of Thomas Road and 51st Avenue
6045            DR  DP51TM
                *
6046            KK  RP51MD   ROUTE
6047            KM   Route full flow capacity of 244 cfs through 72-inch storm drain pipe in
6048            KM   51st Avenue to the intersection of McDowell Road and 51st Avenue
6049            RK    5322  0.0033   0.015           CIRC   6.000
                *
6050            KK  CPMD51 COMBINE
6051            KM   Combine pipe return PR51TM with the runoff hydrograph at combination point
6052            KM   CMD51 at the intersection of McDowell Road and 51st Avenue
6053            HC       2
                *
6054            KK   D51MD  DIVERT
6055            KM   Divert calculated full flow capapcity of 368 cfs into 84-inch storm drain
6056            KM   pipe at the intersection of McDowell Road and 51st Avenue
6057            DT  DP51MD      0.0    368.0
6058            DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
6059            DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
                *
6060            KK  DWMD59  DIVERT
6061            KM   Divert remaining runoff hydrograph from combination point CPMD43 west to
6062            KM   combination point CMD51
6063            DT  DSIN51      0.0      0.0
6064            DI      0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0  10000.0  20000.0  50000.0
6065            DQ      0.0     39.0     78.0    195.0    390.0    780.0   1560.0   3900.0   7800.0  19500.0
                *
6066            KK  RWMD59   ROUTE
6067            KM   Route diversion DWMD59 west to combination point CMD59
6068            RS       7     FLOW
6069            RC   0.035   0.015   0.035    5280  0.0014     0.00
6070            RX    0.00    0.00   57.50   57.50  291.50  291.50  349.00  349.00
6071            RY    3.00    1.08    0.50    0.00    0.00    0.50    1.08    3.00
                *
6072            KK  DRMD59RETRIEVE
6073            KM   Retrieve divert DRMD59 from combination point CPTM59 and divert south to
6074            KM   combination point CMD59
6075            DR  DSMD59
                *
6076            KK  RSMD59   ROUTE
6077            KM   Route diversion retrieval DRMD59 south to combination point CMD59
6078            RS       3     FLOW
6079            RC   0.035   0.015   0.035    5280  0.0035     0.00
6080            RX    0.00    0.00   38.50   38.50  210.50  210.50  249.00  249.00
6081            RY    3.00    0.88    0.50    0.00    0.00    0.50    0.88    3.00
                *
1                                       HEC-1 INPUT                                    PAGE158
LINE            ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10
6082            KK    MD59   BASIN
6083            KM   Runoff hydrograph for square mile subbasin MD59 northeast of the intersection
6084            KM   of McDowell Road and 59th Avenue
6085            BA   1.005
6086            LG    0.25    0.15    7.60    0.08      33
6087            UC   1.500   1.008
6088            UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
6089            UA     100
                *
6090            KK   CMD59 COMBINE
6091            KM   Combine route RWMD59, route RSMD59, and subbasin MD59
6092            HC       3    4.05
                *
6093            KK  PR59TMRETRIEVE
6094            KM   Retrieve full flow capacity of 389 cfs from 84-inch storm drain pipe at the
6095            KM   intersection of Thomas Road and 59th Avenue
6096            DR  DP59TM
                *
6097            KK  RP59MD   ROUTE
6098            KM   Route full flow capacity of 389 cfs through 84-inch storm drain pipe in
6099            KM   59th Avenue to the intersection of McDowell Road and 59th Avenue
6100            RK    5206  0.0037   0.015           CIRC   7.000
```

```
                *
6101            KK  CPMD59 COMBINE
6102            KM   Combine pipe return PR59TM with the runoff hydrograph at combination point
6103            KM   CMD59 at the intersection of McDowell Road and 59th Avenue
6104            HC       2
                *
6105            KK   D59MD  DIVERT
6106            KM   Divert calculated full flow capapcity of 468 cfs into 90-inch storm drain
6107            KM   pipe at the intersection of McDowell Road and 59th Avenue
6108            DT  DP59MD     0.0   468.0
6109            DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
6110            DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
                *
6111            KK  DWMD67  DIVERT
6112            KM   Divert remaining runoff hydrograph from combination point CPMD59 west to
6113            KM   combination point CMD67
6114            DT  DSIN59     0.0     0.0
6115            DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
6116            DQ     0.0    50.0   100.0   250.0   500.0  1000.0  2000.0  5000.0 10000.0 25000.0
                *
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LINE            ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

6117            KK  RWMD67   ROUTE
6118            KM   Route diversion DWMD67 west to combination point CMD67
6119            RS       5    FLOW
6120            RC   0.035   0.015   0.035    5280  0.0015    0.00
6121            RX    0.00    0.00   67.00   67.00  332.00  332.00  399.00  399.00
6122            RY    3.00    1.17    0.50    0.00    0.00    0.50    1.17    3.00
                *
6123            KK  DRMD67RETRIEVE
6124            KM   Retrieve divert DRMD67 from combination point CPTM67 and divert south to
6125            KM   combination point CMD67
6126            DR  DSMD67
                *
6127            KK  RSMD67   ROUTE
6128            KM   Route diversion retrieval DRMD67 south to combination point CMD67
6129            RS       4    FLOW
6130            RC   0.035   0.015   0.035    5280  0.0035    0.00
6131            RX    0.00    0.00   48.00   48.00  251.00  251.00  299.00  299.00
6132            RY    3.00    0.98    0.50    0.00    0.00    0.50    0.98    3.00
                *
6133            KK   MD67   BASIN
6134            KM   Runoff hydrograph for square mile subbasin MD67 northeast of the intersection
6135            KM   of McDowell Road and 67th Avenue
6136            BA   0.978
6137            LG    0.22    0.15    8.40    0.07      30
6138            UC   1.500   1.015
6139            UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
6140            UA     100
                *
6141            KK  ERMD67  DIVERT
6142            KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
6143            KM   retention developed after 1990 in subbasin MD67
6144            DT   XMD67    12.5     0.0
6145            DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
6146            DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
                *
6147            KK   CMD67 COMBINE
6148            KM   Combine route RWMD67, route RSMD67, and subbasin MD67
6149            HC       3    4.41
                *
6150            KK  PR67TMRETRIEVE
6151            KM   Retrieve full flow capacity of 273 cfs from 78-inch storm drain pipe at the
6152            KM   intersection of Thomas Road and 67th Avenue
6153            DR  DP67TM
                *
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LINE            ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

6154            KK  RP67MD   ROUTE
6155            KM   Route full flow capacity of 273 cfs through 78-inch storm drain pipe in
6156            KM   67th Avenue to the intersection of McDowell Road and 67th Avenue
6157            RK    5218  0.0027   0.015             CIRC   6.500
                *
6158            KK  CPMD67 COMBINE
6159            KM   Combine pipe return PR67TM with the runoff hydrograph at combination point
6160            KM   CMD67 at the intersection of McDowell Road and 67th Avenue
6161            HC       2
```



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                *
6162            KK   D67MD  DIVERT
6163            KM   Divert calculated full flow capapcity of 400 cfs into 90-inch storm drain
6164            KM   pipe at the intersection of McDowell Road and 67th Avenue
6165            DT  DP67MD     0.0   400.0
6166            DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
6167            DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
                *
6168            KK  DWMD75  DIVERT
6169            KM   Divert remaining runoff hydrograph from combination point CPMD67 west to
6170            KM   combination point CMD75
6171            DT  DSIN67     0.0     0.0
6172            DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
6173            DQ     0.0    15.0    30.0    75.0   150.0   300.0   600.0  1500.0  3000.0  7500.0
                *
6174            KK  RWMD75   ROUTE
6175            KM   Route diversion DWMD75 west to combination point CMD75
6176            RS       4    FLOW
6177            RC   0.035   0.015   0.035    5280  0.0015    0.00
6178            RX    0.00    0.00   95.50   95.50  453.50  453.50  549.00  549.00
6179            RY    3.00    1.46    0.50    0.00    0.00    0.50    1.46    3.00
                *
6180            KK  DRMD75RETRIEVE
6181            KM   Retrieve divert DRMD75 from combination point CPTM75 and divert south to
6182            KM   combination point CMD75
6183            DR  DSMD75
                *
6184            KK  RSMD75   ROUTE
6185            KM   Route diversion retrieval DRMD75 south to combination point CMD75
6186            RS       3    FLOW
6187            RC   0.035   0.015   0.035    5280  0.0027    0.00
6188            RX    0.00    0.00   67.00   67.00  332.00  332.00  399.00  399.00
6189            RY    3.00    1.17    0.50    0.00    0.00    0.50    1.17    3.00
                *
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LINE            ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

6190            KK   MD75   BASIN
6191            KM   Runoff hydrograph for square mile subbasin MD75 northeast of the intersection
6192            KM   of McDowell Road and 75th Avenue
6193            BA   1.002
6194            LG    0.22    0.15    7.60    0.08      40
6195            UC   1.500   1.005
6196            UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
6197            UA     100
                *
6198            KK  ERMD75  DIVERT
6199            KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
6200            KM   retention developed after 1990 in subbasin MD75
6201            DT   XMD75     9.4     0.0
6202            DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
6203            DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
                *
6204            KK   CMD75 COMBINE
6205            KM   Combine route RWMD75, route RSMD75, and subbasin MD75
6206            HC       3    6.14
                *
6207            KK  PR75TMRETRIEVE
6208            KM   Retrieve full flow capacity of 303 cfs from 84-inch storm drain pipe at the
6209            KM   intersection of Thomas Road and 75th Avenue
6210            DR  DP75TM
                *
6211            KK  RP75MD   ROUTE
6212            KM   Route full flow capacity of 303 cfs through 84-inch storm drain pipe in
6213            KM   75th Avenue to the intersection of McDowell Road and 75th Avenue
6214            RK    5222  0.0022   0.015             CIRC   7.000
                *
6215            KK  CPMD75 COMBINE
6216            KM   Combine pipe return PR75TM with the runoff hydrograph at combination point
6217            KM   CMD75 at the intersection of McDowell Road and 75th Avenue
6218            HC       2
                *
6219            KK   D75MD  DIVERT
6220            KM   Divert calculated full flow capapcity of 364 cfs into 90-inch storm drain
6221            KM   pipe at the intersection of McDowell Road and 75th Avenue
6222            DT  DP75MD     0.0   364.0
6223            DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
6224            DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
                *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

6225          KK  DWMD83  DIVERT
6226          KM   Divert remaining runoff hydrograph from combination point CPMD75 west to
6227          KM   combination point CMD83
6228          DT  DSIN75      0.0      0.0
6229          DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
6230          DQ     0.0    35.0    70.0   175.0   350.0   700.0  1400.0  3500.0  7000.0 17500.0
              *
6231          KK  RWMD83   ROUTE
6232          KM   Route diversion DWMD83 west to combination point CMD83
6233          RS       3    FLOW
6234          RC   0.035   0.015   0.035    5280  0.0026    0.00
6235          RX    0.00    0.00   57.50   57.50  291.50  291.50  349.00  349.00
6236          RY    3.00    1.08    0.50    0.00    0.00    0.50    1.08    3.00
              *
6237          KK  DRMD83RETRIEVE
6238          KM   Retrieve divert DRMD83 from combination point CPTM83 and divert south to
6239          KM   combination point CMD83
6240          DR  DSMD83
              *
6241          KK  RSMD83   ROUTE
6242          KM   Route diversion retrieval DRMD83 south to combination point CMD83
6243          RS       4    FLOW
6244          RC   0.035   0.015   0.035    5280  0.0028    0.00
6245          RX    0.00    0.00   29.00   29.00  170.00  170.00  199.00  199.00
6246          RY    3.00    0.79    0.50    0.00    0.00    0.50    0.79    3.00
              *
6247          KK   MD83   BASIN
6248          KM   Runoff hydrograph for square mile subbasin MD83 northeast of the intersection
6249          KM   of McDowell Road and 83rd Avenue
6250          BA   0.992
6251          LG    0.12    0.15    8.80    0.05      76
6252          UC   1.018   0.663
6253          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
6254          UA     100
              *
6255          KK  ERMD83  DIVERT
6256          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
6257          KM   retention developed after 1990 in subbasin MD83
6258          DT   XMD83     55.2      0.0
6259          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
6260          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *
6261          KK   CMD83 COMBINE
6262          KM   Combine route RWMD83, route RSMD83, and subbasin MD83
6263          HC       3    5.80
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

6264          KK  PR83TMRETRIEVE
6265          KM   Retrieve full flow capacity of 283 cfs from 84-inch storm drain pipe at the
6266          KM   intersection of Thomas Road and 83rd Avenue
6267          DR  DP83TM
              *
6268          KK  RP83MD   ROUTE
6269          KM   Route full flow capacity of 283 cfs through 84-inch storm drain pipe in
6270          KM   83rd Avenue to the intersection of McDowell Road and 83rd Avenue
6271          RK    5059  0.0019   0.015            CIRC   7.000
              *
6272          KK  CPMD83 COMBINE
6273          KM   Combine pipe return PR83TM with the runoff hydrograph at combination point
6274          KM   CMD83 at the intersection of McDowell Road and 83rd Avenue
6275          HC       2
              *
6276          KK   D83MD  DIVERT
6277          KM   Divert calculated full flow capapcity of 340 cfs into 90-inch storm drain
6278          KM   pipe at the intersection of McDowell Road and 83rd Avenue
6279          DT  DP83MD      0.0    340.0
6280          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
6281          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *
6282          KK  RWMD91   ROUTE
6283          KM   Route remainder of diversion D83MD west to combination point CMD91
6284          RS       3    FLOW
6285          RC   0.035   0.015   0.035    5280  0.0021    0.00
6286          RX    0.00    0.00   57.50   57.50  291.50  291.50  349.00  349.00
6287          RY    3.00    1.08    0.50    0.00    0.00    0.50    1.08    3.00
```



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              *
6288          KK  DRMD91RETRIEVE
6289          KM   Retrieve divert DRMD91 from combination point CPTM91 and divert south to
6290          KM   combination point CMD91
6291          DR  DSMD91
              *
6292          KK  RSMD91   ROUTE
6293          KM   Route diversion retrieval DRMD91 south to combination point CMD91
6294          RS       4    FLOW
6295          RC   0.035   0.015   0.035    5280  0.0021    0.00
6296          RX    0.00    0.00   57.50   57.50  291.50  291.50  349.00  349.00
6297          RY    3.00    1.08    0.50    0.00    0.00    0.50    1.08    3.00
              *
6298          KK   MD91   BASIN
6299          KM   Runoff hydrograph for square mile subbasin MD91 northeast of the intersection
6300          KM   of McDowell Road and 91st Avenue
6301          BA   1.007
6302          LG    0.22    0.15    8.80    0.05      43
6303          UC   1.500   1.006
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

6304          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
6305          UA     100
              *
6306          KK  ERMD91  DIVERT
6307          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
6308          KM   retention developed after 1990 in subbasin MD91
6309          DT   XMD91     25.7      0.0
6310          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
6311          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *
6312          KK   CMD91 COMBINE
6313          KM   Combine route RWMD91, route RSMD91, and subbasin MD91
6314          HC       3   10.61
              *
6315          KK  PR91TMRETRIEVE
6316          KM   Retrieve full flow capacity of 287 cfs from 84-inch storm drain pipe at the
6317          KM   intersection of Thomas Road and 91st Avenue
6318          DR  DP91TM
              *
6319          KK  RP91MD   ROUTE
6320          KM   Route full flow capacity of 287 cfs through 84-inch storm drain pipe in
6321          KM   91st Avenue to the intersection of McDowell Road and 91st Avenue
6322          RK    5271  0.0020   0.015            CIRC   7.000
              *
6323          KK  CPMD91 COMBINE
6324          KM   Combine pipe return PR91TM with the runoff hydrograph at combination point
6325          KM   CMD91 at the intersection of McDowell Road and 91st Avenue
6326          HC       2
              *
6327          KK   D91MD  DIVERT
6328          KM   Divert calculated full flow capapcity of 345 cfs into 90-inch storm drain
6329          KM   pipe at the intersection of McDowell Road and 83rd Avenue
6330          DT  DP91MD      0.0    345.0
6331          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
6332          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *
6333          KK  DWMDLO  DIVERT
6334          KM   Divert remaining runoff hydrograph from combination point CPMD91 west to
6335          KM   combination point CMDLO
6336          DT  DSIN91      0.0      0.0
6337          DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
6338          DQ     0.0    20.0    40.0   100.0   200.0   400.0   800.0  2000.0  4000.0 10000.0
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

6339          KK  RWMDLO   ROUTE
6340          KM   Route diversion DWMDLO west to combination point CMDLO
6341          RS       2    FLOW
6342          RC   0.035   0.015   0.035    4061  0.0010    0.00
6343          RX    0.00    0.00   45.00   45.00  229.00  229.00  274.00  274.00
6344          RY    3.00    0.95    0.50    0.00    0.00    0.50    0.95    3.00
              *
6345          KK   MDLO   BASIN
6346          KM   Runoff hydrograph for subbasin MDLO northeast of the intersection of McDowell
6347          KM   Road and SR Loop 101
6348          BA   0.671
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6349          LG    0.20    0.15    9.70    0.04      48
6350          UC   1.184   0.565
6351          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
6352          UA     100
              *

6353          KK  ERMDLO  DIVERT
6354          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
6355          KM   retention developed after 1990 in subbasin MDLO
6356          DT   XMDLO     60.9      0.0
6357          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
6358          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

6359          KK   CMDLO COMBINE
6360          KM   Combine route RWMDLO, route RSMDLO, and subbasin MDLO
6361          HC       3   14.07
              *

6362          KK  RSINLO   ROUTE
6363          KM   Route hydrograph at combination point CMDLO south to combination point CINLO
6364          RS       1    FLOW
6365          RC   0.035   0.015   0.035    1374  0.0019    0.00
6366          RX    0.00    3.00    5.00   39.00   47.00   51.00   65.00   68.00
6367          RY   18.00   17.00   17.00    0.00    0.16   17.16   17.44   18.44
              *

6368          KK  DSINLO  DIVERT
6369          KM   Divert route RSINLO to detention basin northeast of L101 and I-10 Freeways.
6370          KM   Only the flow greater than the channel capacity is diverted to the basin.
6371          DT  DEIN95      0.0     0.0
6372          DI     0.0 10390.0 11211.0 12070.0 13910.0     0.0     0.0     0.0     0.0     0.0
6373          DQ     0.0     0.0   286.0   810.0  2291.0     0.0     0.0     0.0     0.0     0.0
              *

6374          KK    IN27    BASIN
6375          KM   Runoff hydrograph for subbasin IN27 northeast of the intersection of
6376          KM   Interstate 10 and 27th Avenue
6377          BA   0.105
6378          LG    0.14    0.25    5.60    0.18      80
6379          UC   0.559   0.484
6380          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
```



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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

6381          UA     100
              *

6382          KK  PR27MDRETRIEVE
6383          KM   Retrieve full flow capacity of 246 cfs from 72-inch diameter pipe at the
6384          KM   intersection of McDowell Road and 27th Avenue
6385          DR  DP27MD
              *

6386          KK  RP27IN   ROUTE
6387          KM   Route full flow capacity of 246 cfs through 72-inch storm drain pipe in
6388          KM   in 27th Avenue to the intersection of 27th Avenue and Interstate 10
6389          RK     959  0.0034   0.015            CIRC   6.000
              *

6390          KK  CPIN27 COMBINE
6391          KM   Combine pipe return PR27MD with the runoff hydrograph at combination point
6392          KM   CIN27 at the intersection of Interstate 10 and 27th Avenue
6393          HC       2
              *

6394          KK  DWIN35  DIVERT
6395          KM   Divert remaining runoff hydrograph from combination point CPIN27 west to
6396          KM   combination point CIN35
6397          DT  DSVB27      0.0     0.0
6398          DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
6399          DQ     0.0    72.0   144.0   360.0   720.0  1440.0  2880.0  7200.0 14400.0 36000.0
              *

6400          KK  RWIN35   ROUTE
6401          KM   Route diversion DWIN35 west to combination point CIN35
6402          RS       7    FLOW
6403          RC   0.035   0.015   0.035    5280  0.0005    0.00
6404          RX    0.00    0.00    9.50    9.50   40.50   40.50   50.00   50.00
6405          RY    3.00    0.60    0.50    0.00    0.00    0.50    0.60    3.00
              *

6406          KK  DRIN35RETRIEVE
6407          KM   Retrieve divert DRIN35 from combination point CPMD35 and divert south to
6408          KM   combination point CIN35
6409          DR  DSIN35
              *

6410          KK  RSIN35   ROUTE
6411          KM   Route diversion retrieval DRIN35 south to combination point CIN35
6412          RS       1    FLOW
6413          RC   0.035   0.015   0.035    1116  0.0019    0.00
```



```
6414          RX    0.00    0.00   76.50   76.50  372.50  372.50  449.00  449.00
6415          RY    3.00    1.27    0.50    0.00    0.00    0.50    1.27    3.00
              *
```



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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

6416          KK    IN35    BASIN
6417          KM   Runoff hydrograph for subbasin IN35 northeast of the intersection of
6418          KM   Interstate 10 and 35th Avenue
6419          BA   0.242
6420          LG    0.17    0.13   10.10    0.03      64
6421          UC   0.425   0.089
6422          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
6423          UA     100
              *

6424          KK   CIN35 COMBINE
6425          KM   Combine route RWIN35, route RSIN35, and subbasin IN35
6426          HC       3    6.11
              *

6427          KK  PR35MDRETRIEVE
6428          KM   Retrieve combined full flow capacity of 507 cfs from 93-inch equivalent
6429          KM   diameter pipe at the intersection of McDowell Road and 35th Avenue
6430          DR  DP35MD
              *

6431          KK  RP35IN   ROUTE
6432          KM   Route the combined full flow capacity of 507 cfs through an equivalent storm
6433          KM   drain pipe diameter of 93 inches in 35th Avenue to the intersection of
6434          KM   35th Avenue and Interstate 10
6435          RK     937  0.0037   0.015            CIRC   7.750
              *

6436          KK  CPIN35 COMBINE
6437          KM   Combine pipe return PR35MD with the runoff hydrograph at combination point
6438          KM   CIN35 at the intersection of Interstate 10 and 35th Avenue
6439          HC       2
              *

6440          KK  DWIN43  DIVERT
6441          KM   Divert remaining runoff hydrograph from combination point CPIN35 west to
6442          KM   combination point CIN43
6443          DT  DSVB35      0.0     0.0
6444          DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
6445          DQ     0.0    87.0   174.0   435.0   870.0  1740.0  3480.0  8700.0 17400.0 43500.0
              *

6446          KK  RWIN43   ROUTE
6447          KM   Route diversion DWIN43 west to combination point CIN43
6448          RS       3    FLOW
6449          RC   0.035   0.015   0.035    5280  0.0008    0.00
6450          RX    0.00    0.00    9.50    9.50   40.50   40.50   50.00   50.00
6451          RY    3.00    0.60    0.50    0.00    0.00    0.50    0.60    3.00
              *
```



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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

6452          KK  DRIN43RETRIEVE
6453          KM   Retrieve divert DRIN43 from combination point CPMD43 and divert south to
6454          KM   combination point CIN43
6455          DR  DSIN43
              *

6456          KK  RSIN43   ROUTE
6457          KM   Route diversion retrieval DRIN43 south to combination point CIN43
6458          RS       1    FLOW
6459          RC   0.035   0.015   0.035     900  0.0042    0.00
6460          RX    0.00    0.00   57.50   57.50  291.50  291.50  349.00  349.00
6461          RY    3.00    1.08    0.50    0.00    0.00    0.50    1.08    3.00
              *

6462          KK    IN43    BASIN
6463          KM   Runoff hydrograph for subbasin IN43 northeast of the intersection of
6464          KM   Interstate 10 and 43rd Avenue
6465          BA   0.256
6466          LG    0.20    0.15    9.70    0.04      49
6467          UC   0.667   0.180
6468          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
6469          UA     100
              *

6470          KK   CIN43 COMBINE
6471          KM   Combine route RWIN43, route RSIN43, and subbasin IN43
6472          HC       3    7.99
              *

6473          KK  PR43MDRETRIEVE
6474          KM   Retrieve combined full flow capacity of 629 cfs from 102-inch equivalent
```

```
     KM   diameter pipe at the intersection of McDowell Road and 43rd Avenue
     DR  DP43MD
     *

     KK  RP43IN   ROUTE
     KM   Route the combined full flow capacity of 629 cfs through an equivalent storm
     KM   drain pipe diameter of 102 inches in 43rd Avenue to the intersection of
     KM   35th Avenue and Interstate 10
     RK    1217  0.0035   0.015            CIRC   8.500
     *

     KK  CPIN43 COMBINE
     KM   Combine pipe return PR43MD with the runoff hydrograph at combination point
     KM   CIN43 at the intersection of Interstate 10 and 43rd Avenue
     HC       2
     *

     KK  DWIN51  DIVERT
     KM   Divert remaining runoff hydrograph from combination point CPIN43 west to
     KM   combination point CIN51
     DT  DSVB43      0.0      0.0
     DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
     DQ     0.0    81.0   162.0   405.0   810.0  1620.0  3240.0  8100.0 16200.0 40500.0
     *

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     LINE      ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

     KK  RWIN51   ROUTE
     KM   Route diversion DWIN51 west to combination point CIN51
     RS       2    FLOW
     RC   0.035   0.015   0.035    5290  0.0027     0.00
     RX    0.00    0.10   18.00   36.00   66.00   84.00  102.00  102.10
     RY   18.00   17.05    9.00    0.00    0.00    9.00   17.05   18.00
     *

     KK  DRIN51RETRIEVE
     KM   Retrieve divert DRIN51 from combination point CPMD51 and divert south to
     KM   combination point CIN51
     DR  DSIN51
     *

     KK  RSIN51   ROUTE
     KM   Route diversion retrieval DRIN51 south to combination point CIN51
     RS       3    FLOW
     RC   0.035   0.015   0.035    1143  0.0007     0.00
     RX    0.00    0.00   54.50   54.50  269.50  269.50  324.00  324.00
     RY    3.00    1.04    0.50    0.00    0.00    0.50    1.04    3.00
     *

     KK    IN51   BASIN
     KM   Runoff hydrograph for subbasin IN51 northeast of the intersection of
     KM   Interstate 10 and 51st Avenue
     BA   0.232
     LG    0.12    0.15    9.70    0.04      80
     UC   0.703   0.675
     UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
     UA     100
     *

     KK  ERIN51  DIVERT
     KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
     KM   retention developed after 1990 and NOAA14 rainfall for future retention in
     KM   subbasin IN51
     DT   XIN51     1.5      0.0
     DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
     DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
     *

     KK   CIN51 COMBINE
     KM   Combine route RWIN51, route RSIN51, and subbasin IN51
     HC       3    2.68
     *

     KK  PR51MDRETRIEVE
     KM   Retrieve full flow capacity of 368 cfs from 84-inch storm drain pipe at the
     KM   intersection of McDowell Road and 51st Avenue
     DR  DP51MD
     *

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     LINE      ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

     KK  RP51IN   ROUTE
     KM   Route full flow capacity of 368 cfs through 84-inch storm drain pipe in
     KM   51st Avenue to the intersection of Interstate 10 and 51st Avenue
     RK     731  0.0033   0.015            CIRC   7.000
     *

     KK  CPIN51 COMBINE
     KM   Combine pipe return PR51MD with the runoff hydrograph at combination point
```



```
     KM   CIN51 at the intersection of Interstate 10 and 51st Avenue
     HC       2
     *

     KK  DWIN59  DIVERT
     KM   Divert remaining runoff hydrograph from combination point CPIN51 west to
     KM   combination point CIN59
     DT  DSVB51      0.0      0.0
     DI     0.0 26494.0 26494.1 50000.0      0.0      0.0      0.0      0.0      0.0      0.0
     DQ     0.0      0.0 26494.1 50000.0      0.0      0.0      0.0      0.0      0.0      0.0
     *

     KK  RWIN59   ROUTE
     KM   Route diversion DWIN59 west to combination point CIN59
     RS       1    FLOW
     RC   0.035   0.015   0.035    5297  0.0017     0.00
     RX    0.00    0.10   18.00   36.00   66.00   84.00  102.00  102.10
     RY   18.00   17.05    9.00    0.00    0.00    9.00   17.05   18.00
     *

     KK  DRIN59RETRIEVE
     KM   Retrieve divert DRIN59 from combination point CPMD59 and divert south to
     KM   combination point CIN59
     DR  DSIN59
     *

     KK  RSIN59   ROUTE
     KM   Route diversion retrieval DRIN59 south to combination point CIN59
     RS       1    FLOW
     RC   0.035   0.015   0.035     730  0.0047     0.00
     RX    0.00    0.00   35.50   35.50  188.50  188.50  224.00  224.00
     RY    3.00    0.86    0.50    0.00    0.00    0.50    0.86    3.00
     *

     KK    IN59   BASIN
     KM   Runoff hydrograph for subbasin IN59 northeast of the intersection of
     KM   Interstate 10 and 59th Avenue
     BA   0.202
     LG    0.19    0.15    9.70    0.04      59
     UC   1.345   1.421
     UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
     UA     100
     *

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     LINE      ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

     KK  ERIN59  DIVERT
     KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
     KM   retention developed after 1990 and NOAA14 rainfall for future retention in
     KM   subbasin IN59
     DT   XIN59     1.9      0.0
     DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
     DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
     *

     KK   CIN59 COMBINE
     KM   Combine route RWIN59, route RSIN59, and subbasin IN59
     HC       3    4.90
     *

     KK  PR59MDRETRIEVE
     KM   Retrieve full flow capacity of 468 cfs from 90-inch storm drain pipe at the
     KM   intersection of McDowell Road and 59th Avenue
     DR  DP59MD
     *

     KK  RP59IN   ROUTE
     KM   Route full flow capacity of 468 cfs through 90-inch storm drain pipe in
     KM   59th Avenue to the intersection of Interstate 10 and 59th Avenue
     RK     846  0.0037   0.015            CIRC   7.500
     *

     KK  CPIN59 COMBINE
     KM   Combine pipe return PR59MD with the runoff hydrograph at combination point
     KM   CIN59 at the intersection of Interstate 10 and 59th Avenue
     HC       2
     *

     KK  DWIN67  DIVERT
     KM   Divert remaining runoff hydrograph from combination point CPIN59 west to
     KM   combination point CIN67
     DT  DSVB59      0.0      0.0
     DI     0.0 21022.0 21022.1 50000.0      0.0      0.0      0.0      0.0      0.0      0.0
     DQ     0.0      0.0 21022.1 50000.0      0.0      0.0      0.0      0.0      0.0      0.0
     *

     KK  RWIN67   ROUTE
     KM   Route diversion DWIN67 west to combination point CIN67
     RS       1    FLOW
     RC   0.035   0.015   0.035    5145  0.0012     0.00
     RX    0.00    0.10   18.00   36.00   66.00   84.00  102.00  102.10
```

```
6601          RY  18.00   17.05    9.00    0.00    0.00    9.00   17.05   18.00
                  *

6602          KK  DRIN67RETRIEVE
6603          KM   Retrieve divert DRIN67 from combination point CPMD67 and divert south to
6604          KM   combination point CIN67
6605          DR  DSIN67
                  *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

6606          KK  RSIN67   ROUTE
6607          KM   Route diversion retrieval DRIN67 south to combination point CIN67
6608          RS       1    FLOW
6609          RC  0.035   0.015   0.035     741  0.0027    0.00
6610          RX   0.00    0.00   12.50   12.50   62.50   62.50   75.00   75.00
6611          RY   3.00    0.62    0.50    0.00    0.00    0.50    0.62    3.00
                  *

6612          KK   IN67   BASIN
6613          KM   Runoff hydrograph for subbasin IN67 northeast of the intersection of
6614          KM   Interstate 10 and 67th Avenue
6615          BA  0.197
6616          LG   0.20    0.15    9.70    0.04      56
6617          UC  1.500   1.604
6618          UA      0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
6619          UA    100
                  *

6620          KK  ERIN67  DIVERT
6621          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
6622          KM   retention developed after 1990 in subbasin IN67
6623          DT   XIN67    10.0     0.0
6624          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
6625          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
                  *

6626          KK   CIN67 COMBINE
6627          KM   Combine route RWIN67, route RSIN67, and subbasin IN67
6628          HC       3    5.78
                  *

6629          KK  PR67MDRETRIEVE
6630          KM   Retrieve full flow capacity of 400 cfs from 90-inch storm drain pipe at the
6631          KM   intersection of McDowell Road and 67th Avenue
6632          DR  DP67MD
                  *

6633          KK  RP67IN   ROUTE
6634          KM   Route full flow capacity of 400 cfs through 90-inch storm drain pipe in
6635          KM   67th Avenue to the intersection of Interstate 10 and 67th Avenue
6636          RK     824  0.0027   0.015            CIRC   7.500
                  *

6637          KK  CPIN67 COMBINE
6638          KM   Combine pipe return PR67MD with the runoff hydrograph at combination point
6639          KM   CIN67 at the intersection of Interstate 10 and 67th Avenue
6640          HC       2
                  *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

6641          KK  DWIN75  DIVERT
6642          KM   Divert remaining runoff hydrograph from combination point CPIN67 west to
6643          KM   combination point CIN75
6644          DT  DSVB67     0.0     0.0
6645          DI     0.0 17662.0 17662.1 50000.0     0.0     0.0     0.0     0.0     0.0     0.0
6646          DQ     0.0     0.0 17662.1 50000.0     0.0     0.0     0.0     0.0     0.0     0.0
                  *

6647          KK  RWIN75   ROUTE
6648          KM   Route diversion DWIN75 west to combination point CIN75
6649          RS       1    FLOW
6650          RC  0.035   0.015   0.035    5237  0.0020    0.00
6651          RX   0.00    0.10   18.00   36.00   66.00   84.00  102.00  102.10
6652          RY  18.00   17.05    9.00    0.00    0.00    9.00   17.05   18.00
                  *

6653          KK  DRIN75RETRIEVE
6654          KM   Retrieve divert DRIN75 from combination point CPMD75 and divert south to
6655          KM   combination point CIN75
6656          DR  DSIN75
                  *

6657          KK  RSIN75   ROUTE
6658          KM   Route diversion retrieval DRIN75 south to combination point CIN75
6659          RS       1    FLOW
6660          RC  0.035   0.015   0.035     731  0.0022    0.00
6661          RX   0.00    0.00   29.00   29.00  170.00  170.00  199.00  199.00
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6662          RY   3.00    0.79    0.50    0.00    0.00    0.50    0.79    3.00
                  *

6663          KK    IN75   BASIN
6664          KM   Runoff hydrograph for subbasin IN75 northeast of the intersection of
6665          KM   Interstate 10 and 75th Avenue
6666          BA  0.199
6667          LG   0.17    0.19    6.60    0.12      64
6668          UC  1.305   1.377
6669          UA      0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
6670          UA    100
                  *

6671          KK  ERIN75  DIVERT
6672          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
6673          KM   retention developed after 1990 in subbasin IN75
6674          DT   XIN75     4.7     0.0
6675          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
6676          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
                  *

6677          KK   CIN75 COMBINE
6678          KM   Combine route RWIN75, route RSIN75, and subbasin IN75
6679          HC       3    8.11
                  *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

6680          KK  PR75MDRETRIEVE
6681          KM   Retrieve full flow capacity of 364 cfs from 90-inch storm drain pipe at the
6682          KM   intersection of McDowell Road and 75th Avenue
6683          DR  DP75MD
                  *

6684          KK  RP75IN   ROUTE
6685          KM   Route full flow capacity of 364 cfs through 90-inch storm drain pipe in
6686          KM   75th Avenue to the intersection of Interstate 10 and 75th Avenue
6687          RK     811  0.0022   0.015            CIRC   7.500
                  *

6688          KK  CPIN75 COMBINE
6689          KM   Combine pipe return PR75MD with the runoff hydrograph at combination point
6690          KM   CIN75 at the intersection of Interstate 10 and 75th Avenue
6691          HC       2
                  *

6692          KK  DWIN83  DIVERT
6693          KM   Divert remaining runoff hydrograph from combination point CPIN75 west to
6694          KM   combination point CIN83
6695          DT  DSVB75     0.0     0.0
6696          DI     0.0 22802.0 22802.1 50000.0     0.0     0.0     0.0     0.0     0.0     0.0
6697          DQ     0.0     0.0 22802.1 50000.0     0.0     0.0     0.0     0.0     0.0     0.0
                  *

6698          KK  RWIN83   ROUTE
6699          KM   Route diversion DWIN83 west to combination point CIN83
6700          RS       1    FLOW
6701          RC  0.035   0.015   0.035    5396  0.0016    0.00
6702          RX   0.00    0.10   18.00   36.00   66.00   84.00  102.00  102.10
6703          RY  18.00   17.05    9.00    0.00    0.00    9.00   17.05   18.00
                  *

6704          KK   IN83   BASIN
6705          KM   Runoff hydrograph for subbasin IN83 northeast of the intersection of
6706          KM   Interstate 10 and 83rd Avenue
6707          BA  0.196
6708          LG   0.18    0.15    7.00    0.10      64
6709          UC  1.235   1.333
6710          UA      0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
6711          UA    100
                  *

6712          KK  ERIN83  DIVERT
6713          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
6714          KM   retention developed after 1990 in subbasin IN83
6715          DT   XIN83    12.2     0.0
6716          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
6717          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
                  *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

6718          KK   CIN83 COMBINE
6719          KM   Combine route RWIN83, route RSIN83, and subbasin IN83
6720          HC       2    8.31
                  *

6721          KK  PR83MDRETRIEVE
6722          KM   Retrieve full flow capacity of 340 cfs from 90-inch storm drain pipe at the
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6723          KM   intersection of McDowell Road and 83rd Avenue
6724          DR  DP83MD
              *
6725          KK  RP83IN   ROUTE
6726          KM   Route full flow capacity of 340 cfs through 90-inch storm drain pipe in
6727          KM   83rd Avenue to the intersection of Interstate 10 and 83rd Avenue
6728          RK     824  0.0019   0.015            CIRC   7.500
              *
6729          KK  CPIN83 COMBINE
6730          KM   Combine pipe return PR83MD with the runoff hydrograph at combination point
6731          KM   CIN83 at the intersection of Interstate 10 and 83rd Avenue
6732          HC       2
              *
6733          KK  DWIN91  DIVERT
6734          KM   Divert remaining runoff hydrograph from combination point CPIN83 west to
6735          KM   combination point CIN91
6736          DT  DSVB83      0.0      0.0
6737          DI     0.0 20395.0 20395.1 50000.0      0.0      0.0      0.0      0.0      0.0      0.0
6738          DQ     0.0      0.0 20395.1 50000.0      0.0      0.0      0.0      0.0      0.0      0.0
              *
6739          KK  RWIN91   ROUTE
6740          KM   Route diversion DWIN91 west to combination point CIN91
6741          RS       1    FLOW
6742          RC   0.035    0.015    0.035     5217  0.0016     0.00
6743          RX    0.00     0.10    18.00    36.00    66.00    84.00   102.00   102.10
6744          RY   18.00    17.05     9.00     0.00     0.00     9.00    17.05    18.00
              *
6745          KK  DRIN91RETRIEVE
6746          KM   Retrieve divert DRIN91 from combination point CPMD91 and divert south to
6747          KM   combination point CIN91
6748          DR  DSIN91
              *
6749          KK  RSIN91   ROUTE
6750          KM   Route diversion retrieval DRIN91 south to combination point CIN91
6751          RS       1    FLOW
6752          RC   0.035    0.015    0.035      535  0.0019     0.00
6753          RX    0.00     0.00     9.50     9.50    40.50    40.50    50.00    50.00
6754          RY    3.00     0.60     0.50     0.00     0.00     0.50     0.60     3.00
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

6755          KK    IN91   BASIN
6756          KM   Runoff hydrograph for subbasin IN91 northeast of the intersection of
6757          KM   Interstate 10 and 91st Avenue
6758          BA   0.185
6759          LG    0.11    0.15     9.70    0.04       78
6760          UC   0.615   0.622
6761          UA       0     5.0     16.0     30.0     65.0     77.0     84.0     90.0     94.0     97.0
6762          UA     100
              *
6763          KK  ERIN91  DIVERT
6764          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
6765          KM   retention developed after 1990 and NOAA14 rainfall for future retention in
6766          KM   subbasin IN91
6767          DT   XIN91      3.2      0.0
6768          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
6769          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *
6770          KK   CIN91 COMBINE
6771          KM   Combine route RWIN91, route RSIN91, and subbasin IN91
6772          HC       3   10.57
              *
6773          KK  PR91MDRETRIEVE
6774          KM   Retrieve full flow capacity of 345 cfs from 90-inch storm drain pipe at the
6775          KM   intersection of McDowell Road and 91st Avenue
6776          DR  DP91MD
              *
6777          KK  RP91IN   ROUTE
6778          KM   Route full flow capacity of 345 cfs through 90-inch storm drain pipe in
6779          KM   91st Avenue to the intersection of Interstate 10 and 91st Avenue
6780          RK     729  0.0020   0.015            CIRC   7.500
              *
6781          KK  CPIN91 COMBINE
6782          KM   Combine pipe return PR91MD with the runoff hydrograph at combination point
6783          KM   CIN91 at the intersection of Interstate 10 and 91st Avenue
6784          HC       2
              *
6785          KK  DWINLO  DIVERT
```



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6786          KM   Divert remaining runoff hydrograph from combination point CPIN91 west to
6787          KM   combination point CINLO
6788          DT  DSVB91      0.0      0.0
6789          DI     0.0 11110.0 11110.1 50000.0      0.0      0.0      0.0      0.0      0.0      0.0
6790          DQ     0.0      0.0 11110.1 50000.0      0.0      0.0      0.0      0.0      0.0      0.0
              *
1                                        HEC-1 INPUT                                        PAGE177

LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

6791          KK  RWINLO   ROUTE
6792          KM   Route diversion DWINLO west to combination point CINLO
6793          RS       1    FLOW
6794          RC   0.035    0.015    0.035     4153  0.0008     0.00
6795          RX    0.00     0.10    18.00    36.00    66.00    84.00   102.00   102.10
6796          RY   18.00    17.05     9.00     0.00     0.00     9.00    17.05    18.00
              *
6797          KK  DWIN07  DIVERT
6798          KM   Divert route RWINLO to detention basin northeast of L101 and I-10 Freeways.
6799          KM   Only the flow greater than the channel capacity is diverted to the basin.
6800          DT  DNINLO      0.0      0.0
6801          DI     0.0  9505.0 10216.0 10958.0 12536.0      0.0      0.0      0.0      0.0      0.0
6802          DQ     0.0      0.0    620.0   1755.0   4964.0      0.0      0.0      0.0      0.0      0.0
              *
6803          KK    INLO   BASIN
6804          KM   Runoff hydrograph for subbasin INLO northeast of the intersection of
6805          KM   Interstate 10 and SR Loop 101
6806          BA   0.147
6807          LG    0.10    0.15     9.70    0.04       78
6808          UC   0.533   0.500
6809          UA       0     5.0     16.0     30.0     65.0     77.0     84.0     90.0     94.0     97.0
6810          UA     100
              *
6811          KK  ERINLO  DIVERT
6812          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
6813          KM   retention developed after 1990 in subbasin INLO
6814          DT   XINLO      6.8      0.0
6815          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
6816          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *
6817          KK  DRINLORETRIEVE
6818          KM   Retrieve divert DRINLO from route RWINLO and route north to combination point
6819          KM   CIN95 to route thru the detention basin northeast of L101 and I-10 Freeways
6820          DR  DNINLO
              *
6821          KK  DRIN95RETRIEVE
6822          KM   Retrieve divert DRIN95 from route RSINLO and route east to combination point
6823          KM   CIN95 to route thru the detention basin northeast of L101 and I-10 Freeways
6824          DR  DEIN95
              *
6825          KK   CIN95 COMBINE
6826          KM   Combine retrieve DRINLO, retreive DRIN95, and subbasin INLO
6827          HC       3   24.79
              *
1                                        HEC-1 INPUT                                        PAGE178

LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

6828          KK  SRINLO STORAGE
6829          KM   Storage route runoff hydrograph from combination CIN95 through detention
6830          KM     basin northeast of L101 and I-10 freeways
6831          KM   Stage-storage-discharge data from Agua Fria Freeway (101L) RAM-600-0-526
6832          KM     As-built Records, ADOT, October 2001
6833          RS       1    STOR
6834          SV           15.50  206.50  210.50  220.50  251.20  293.90
6835          SQ           33.00  159.00  367.00 1534.00 8123.0022263.00
6836          SE  1002.3 1004.50 1015.80 1016.00 1016.50 1018.00 1020.00
              *
6837          KK   CINLO COMBINE
6838          KM   Combine route RSINLO, route RWINLO, and storage route SRINLO
6839          HC       3   24.79
              *
6840          KK  DWIN07  DIVERT
6841          KM   Divert remaining runoff hydrograph from combination point CINLO west to
6842          KM   combination point CIN07
6843          DT  DNINLO      0.0      0.0
6844          DI     0.0  9505.0 10216.0 10958.0 12536.0      0.0      0.0      0.0      0.0      0.0
6845          DQ     0.0      0.0    620.0   1755.0   4964.0      0.0      0.0      0.0      0.0      0.0
              *
6846          KK  RWIN07   ROUTE
6847          KM   Route diversion DWIN07 west to combination point CIN07
6848          RS       1    FLOW
```

```
6849          RC   0.035   0.015   0.035    6475  0.0017    0.00
6850          RX    0.00    0.10   18.00   36.00   66.00   84.00  102.00  102.10
6851          RY   18.00   17.05    9.00    0.00    0.00    9.00   17.05   18.00
              *

6852          KK  DITM07RETRIEVE
6853          KM   Retrieve divert DITM07 from combination point CRI07 and divert south to
6854          KM   combination point CTM07
6855          DR   DTM07
              *

6856          KK  SRRI03 STORAGE
6857          KM   Storage route runoff hydrograph from divert retrieval DITM07 through ponding
6858          KM     area at the Roosevelt Irrigation District Canal near the intersection of
6859          KM     canal and 103rd Avenue.
6860          KM   Stage-storage-discharge data from Maryvale ADMS, February 1997
6861          RS       1    STOR
6862          SV             16.40   50.70   71.40   77.20  109.70
6863          SQ              0.10    0.20    0.30   96.00 1160.00
6864          SE  1019.0 1020.00 1021.00 1021.40 1021.50 1022.00
              *
1                                        HEC-1 INPUT                                    PAGE179

LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

6865          KK  RWTM07    ROUTE
6866          KM   Route diversion retrieval DRRIAF west to combination point CTM07
6867          RS       7    FLOW
6868          RC   0.035   0.015   0.035    2719  0.0029    0.00
6869          RX    0.00    0.00   16.50   16.50  107.50  107.50  124.00  124.00
6870          RY    3.00    0.66    0.50    0.00    0.00    0.50    0.66    3.00
              *

6871          KK  DRTM07RETRIEVE
6872          KM   Retrieve divert DRTM07 from combination point CRI07 and divert south to
6873          KM   combination point CTM07
6874          DR  DSTM07
              *

6875          KK  RSTM07    ROUTE
6876          KM   Route diversion retrieval DRTM07 south to combination point CTM07
6877          RS       2    FLOW
6878          RC   0.035   0.015   0.035    2640  0.0019    0.00
6879          RX    0.00    0.00   16.50   16.50  107.50  107.50  124.00  124.00
6880          RY    3.00    0.66    0.50    0.00    0.00    0.50    0.66    3.00
              *

6881          KK    TM07    BASIN
6882          KM   Runoff hydrograph for subbasin TM07 northeast of the intersection of Thomas
6883          KM   Road and 107th Avenue
6884          BA   0.265
6885          LG    0.29    0.15    9.70    0.05      15
6886          UC   1.500   1.207
6887          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
6888          UA     100
              *

6889          KK   CTM07 COMBINE
6890          KM   Combine route RWTM07, route RSTM07, and subbasin TM07
6891          HC       3    1.61
              *

6892          KK  DSMD07   DIVERT
6893          DT  DWTMAF      0.0     0.0
6894          DI      0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
6895          DQ      0.0    65.0   130.0   325.0   650.0  1300.0  2600.0  6500.0 13000.0 32500.0
              *

6896          KK  RSMD07    ROUTE
6897          KM   Route diversion DSMD07 south to combination point CMD07
6898          RS       9    FLOW
6899          RC   0.035   0.015   0.035    5280  0.0006    0.00
6900          RX    0.00    0.00   26.00   26.00  148.00  148.00  174.00  174.00
6901          RY    3.00    0.76    0.50    0.00    0.00    0.50    0.76    3.00
              *
1                                        HEC-1 INPUT                                    PAGE180

LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

6902          KK  DRMD99RETRIEVE
6903          KM   Retrieve divert DRMD99 from combination point CTM99 and divert south to
6904          KM   combination point CMD99
6905          DR  DSMD99
              *

6906          KK  RSMD99    ROUTE
6907          KM   Route diversion retrieval DRMD99 south to combination point CMD99
6908          RS       6    FLOW
6909          RC   0.035   0.015   0.035    5508  0.0010    0.00
6910          RX    0.00    0.00   16.50   16.50  107.50  107.50  124.00  124.00
6911          RY    3.00    0.66    0.50    0.00    0.00    0.50    0.66    3.00
```



```
              *

6912          KK    MD99    BASIN
6913          KM   Runoff hydrograph for subbasin MD99 northeast of the intersection of McDowell
6914          KM   Road and 99th Avenue
6915          BA   0.319
6916          LG    0.10    0.15    9.70    0.04      80
6917          UC   0.989   0.959
6918          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
6919          UA     100
              *

6920          KK   CMD99 COMBINE
6921          KM   Combine route RSMD99 and subbasin MD99
6922          HC       2    0.60
              *

6923          KK  DWTMRI   DIVERT
6924          KM   Divert portion of runoff hydrograph from combination point CMD99 west to the
6925          KM   intersection of Thomas Road and the Roosevelt Irrigation Distric canal and
6926          KM   the remaining flow west to the intersection of McDowell Road and 107th
6927          KM   Avenue. The diversion is based on topography
6928          DT   DMD99      0.0     0.0
6929          DI      0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
6930          DQ      0.0    56.0   112.0   280.0   560.0  1120.0  2240.0  5600.0 11200.0 28000.0
              *

6931          KK  RWTMRI    ROUTE
6932          KM   Route diversion DWTMRI west to combination point CTMRI
6933          RS       1    FLOW
6934          RC   0.035   0.015   0.035    2601  0.0023    0.00
6935          RX    0.00    0.00    9.50    9.50   40.50   40.50   50.00   50.00
6936          RY    3.00    0.60    0.50    0.00    0.00    0.50    0.60    3.00
              *

6937          KK    TMRI    BASIN
6938          KM   Runoff hydrograph for subbasin TMRI southeast of the intersection of Thomas
6939          KM   Road and the Roosevelt Irrigation District canal
6940          BA   0.240
6941          LG    0.10    0.15    9.70    0.05      40
6942          UC   0.474   0.206
6943          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
1                                        HEC-1 INPUT                                    PAGE181

LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

6944          UA     100
              *

6945          KK  ERTMRI   DIVERT
6946          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
6947          KM   retention developed after 1990 and NOAA14 rainfall for future retention in
6948          KM   subbasin TMRI
6949          DT   XTMRI      11.3     0.0
6950          DI      0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
6951          DQ      0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

6952          KK   CTMRI COMBINE
6953          KM   Combine route RWTMRI and subbasin TMRI
6954          HC       2    0.51
              *

6955          KK  SRTMRI STORAGE
6956          KM   Storage route runoff hydrograph from combination point CTMRI through ponding
6957          KM     area at the Roosevelt Irrigation District canal near the intersection of th
6958          KM     canal and Thomas Road.
6959          KM   Stage-storage-discharge data from Maryvale ADMS, February 1997
6960          RS       1    STOR
6961          SV             15.73   25.07   35.38   85.58
6962          SQ              0.10 1069.00 3077.0011170.00
6963          SE  1020.0 1021.00 1021.50 1022.00 1023.00
              *

6964          KK   RMD07    ROUTE
6965          KM   Route runoff hydrograph from combination point CTMRI south to combination
6966          KM   point CMD07
6967          RS       7    FLOW
6968          RC   0.035   0.015   0.035    6743  0.0013    0.00
6969          RX    0.00    0.00   12.50   12.50   62.50   62.50   75.00   75.00
6970          RY    3.00    0.62    0.50    0.00    0.00    0.50    0.62    3.00
              *

6971          KK  DIMD99RETRIEVE
6972          KM   Retrieve subbasin flow diverted at the intersection of McDowell Road and 99th
6973          KM   Avenue
6974          DR   DMD99
              *

6975          KK  DWMD07   DIVERT
6976          KM   Divert remaining runoff hydrograph from combination point CTMRI west to
6977          KM   combination point CMD07
6978          DT  DSIN99      0.0     0.0
```

```
6979          DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
6980          DQ     0.0    50.0   100.0   250.0   500.0  1000.0  2000.0  5000.0 10000.0 25000.0
              *
1                                        HEC-1 INPUT                                        PAGE182

LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


6981          KK  SRMD99 STORAGE
6982          KM   Storage route runoff hydrograph from divert DWMD07 through ponding area at
6983          KM     the Roosevelt Irrigation District canal near the intersection of the canal
6984          KM     and McDowell Road.
6985          KM   Stage-storage-discharge data from Maryvale ADMS, Feb 1997
6986          RS       1    STOR
6987          SV           11.90   27.50   38.50   54.00   98.80
6988          SQ                        1604.00 7290.0028409.00
6989          SE  1022.0 1023.00 1024.00 1024.50 1025.00 1026.00
              *

6990          KK  RWMD07   ROUTE
6991          KM   Route diversion retrieval DRMD07 west to combination point CMD07
6992          RS       1    FLOW
6993          RC   0.035   0.015   0.035    5792  0.0019    0.00
6994          RX    0.00    0.00   16.50   16.50  107.50  107.50  124.00  124.00
6995          RY    3.00    0.66    0.50    0.00    0.00    0.50    0.66    3.00
              *

6996          KK    MD07   BASIN
6997          KM   Runoff hydrograph for subbasin MD07 northeast of the intersection of McDowell
6998          KM   Road and 107th Avenue
6999          BA   0.783
7000          LG    0.22    0.15    8.80    0.05      41
7001          UC   1.500   0.947
7002          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
7003          UA     100
              *

7004          KK  ERMD07  DIVERT
7005          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
7006          KM   retention developed after 1990 in subbasin MD07
7007          DT   XMD07    53.7     0.0
7008          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
7009          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

7010          KK   CMD07 COMBINE
7011          KM   Combine route RWMD07, route RSMD07, route RMD07 and subbasin MD07
7012          HC       4    2.50
              *

7013          KK  DSIN07  DIVERT
7014          KM   Divert runoff hydrograph from combination point CMD07 sout to combination
7015          KM   point CIN07
7016          DT  DWMDAV     0.0     0.0
7017          DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
7018          DQ     0.0    75.0   150.0   375.0   750.0  1500.0  3000.0  7500.0 15000.0 37500.0
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


7019          KK  RSIN07   ROUTE
7020          KM   Route diversion DSIN07 south to combination point CIN07
7021          RS       2    FLOW
7022          RC   0.035   0.015   0.035     844  0.0008    0.00
7023          RX    0.00    0.00   16.50   16.50  107.50  107.50  124.00  124.00
7024          RY    3.00    0.66    0.50    0.00    0.00    0.50    0.66    3.00
              *

7025          KK  DRIN99RETRIEVE
7026          KM   Retrieve divert DRIN99 from combination point CTMRI and divert south to
7027          KM   combination point CIN07
7028          DR  DSIN99
              *

7029          KK  RSIN99   ROUTE
7030          KM   Route divert retrieveal DRIN99 south to combination point CIN07
7031          RS       5    FLOW
7032          RC   0.035   0.015   0.035    6080  0.0019    0.00
7033          RX    0.00    0.00   16.50   16.50  107.50  107.50  124.00  124.00
7034          RY    3.00    0.66    0.50    0.00    0.00    0.50    0.66    3.00
              *

7035          KK    IN07   BASIN
7036          KM   Runoff hydrograph for subbasin IN07 northeast of the intersection of
7037          KM   Interstate 10 and 107th Avenue
7038          BA   0.256
7039          LG    0.10    0.15    8.40    0.06      83
7040          UC   0.659   0.613
7041          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
7042          UA     100
              *
```



```
7043          KK  ERIN07  DIVERT
7044          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
7045          KM   retention developed after 1990 in subbasin IN07
7046          DT   XIN07    17.6     0.0
7047          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
7048          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

7049          KK   CIN07 COMBINE
7050          KM   Combine route RWIN07, route RSIN99, route RSIN07, and subbasin IN07
7051          HC       4   27.09
              *

7052          KK  DWINAV  DIVERT
7053          KM   Divert remaining runoff hydrograph from combination point CIN07 west to
7054          KM   combination point CINAV
7055          DT  DSVB07     0.0     0.0
7056          DI     0.0 21022.0 21022.1 50000.0     0.0     0.0     0.0     0.0     0.0     0.0
7057          DQ     0.0     0.0 21022.1 50000.0     0.0     0.0     0.0     0.0     0.0     0.0
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


7058          KK  RWINAV   ROUTE
7059          KM   Route diversion DWINAV west to combination point CINAV
7060          RS       1    FLOW
7061          RC   0.035   0.015   0.035    5174  0.0019    0.00
7062          RX    0.00    0.10   18.00   36.00   66.00   84.00  102.00  102.10
7063          RY   18.00   17.05    9.00    0.00    0.00    9.00   17.05   18.00
              *

7064          KK  DRTMAFRETRIEVE
7065          KM   Retrieve divert DRTMAF from combination point CTM07 and divert south to
7066          KM   combination point CTMAF
7067          DR  DWTMAF
              *

7068          KK  RWTMAF   ROUTE
7069          KM   Route diversion retrieval DRTMAF west to combination point CTMAF
7070          RS       7    FLOW
7071          RC   0.035   0.015   0.035    8219  0.0020    0.00
7072          RX    0.00    0.00   26.00   26.00  148.00  148.00  174.00  174.00
7073          RY    3.00    0.76    0.50    0.00    0.00    0.50    0.76    3.00
              *

7074          KK    TMAF   BASIN
7075          KM   Runoff hydrograph for subbasin TMAF north of Thomas Road and east of the Agua
7076          KM   Fria River
7077          BA   0.762
7078          LG    0.22    0.16    6.80    0.11      38
7079          UC   1.500   1.208
7080          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
7081          UA     100
              *

7082          KK   CTMAF COMBINE
7083          KM   Combine route RWTMAF and subbasin TMAF
7084          HC       2    1.33
              *

7085          KK  DSMDAV  DIVERT
7086          KM   Divert portion of runoff hydrograph from combination point CTMAF south to the
7087          KM   intersection of McDowell Road and Avondale Boulevard and the remaining flow
7088          KM   west to the Agua Fria River. The diversion is based on topography
7089          DT  DWAF02     0.0     0.0
7090          DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
7091          DQ     0.0    89.0   178.0   445.0   890.0  1780.0  3560.0  8900.0 17800.0 44500.0
              *

7092          KK  RSMDAV   ROUTE
7093          KM   Route diversion DSMDAV south to combination point CMDAV
7094          RS       7    FLOW
7095          RC   0.035   0.015   0.035    5280  0.0017    0.00
7096          RX    0.00    0.00   38.50   38.50  210.50  210.50  249.00  249.00
7097          RY    3.00    0.88    0.50    0.00    0.00    0.50    0.88    3.00
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


7098          KK  DRMDAVRETRIEVE
7099          KM   Retrieve divert DRMDAV from combination point CMD07 and divert south to
7100          KM   combination point CMDAV
7101          DR  DWMDAV
              *

7102          KK  RWMDAV   ROUTE
7103          KM   Route diversion retrieval DRMDAV west to combination point CMDAV
7104          RS       5    FLOW
```

```
7105          RC   0.035   0.015   0.035    5280  0.0023    0.00
7106          RX    0.00    0.00   35.50   35.50  188.50  188.50  224.00  224.00
7107          RY    3.00    0.86    0.50    0.00    0.00    0.50    0.86    3.00
              *

7108          KK    MDAV   BASIN
7109          KM   Runoff hydrograph for square mile subbasin MDAV northeast of the intersection
7110          KM   McDowell Road and Avondale Boulevard
7111          BA   0.954
7112          LG    0.21    0.13    7.60    0.08      28
7113          UC   1.500   1.038
7114          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
7115          UA     100
              *

7116          KK  ERMDAV  DIVERT
7117          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
7118          KM   retention developed after 1990 in subbasin MDAV
7119          DT   XMDAV     80.8      0.0
7120          DI     0.0 50000.0       0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
7121          DQ     0.0 50000.0       0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

7122          KK   CMDAV COMBINE
7123          KM   Combine route RWMDAV, route RSMDAV, and subbasin MDAV
7124          HC       3    1.72
              *

7125          KK  DSINAV  DIVERT
7126          KM   Divert remaining runoff hydrograph from combination point CMDAV south to
7127          KM   combination point CINAV
7128          DT  DWMDAF      0.0       0.0
7129          DI      0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
7130          DQ      0.0    73.0   146.0   365.0   730.0  1460.0  2920.0  7300.0 14600.0 36500.0
              *

7131          KK  RSINAV   ROUTE
7132          KM   Route diversion DSINAV south to combination point CINAV
7133          RS       2    FLOW
7134          RC   0.035   0.015   0.035    1317  0.0022    0.00
7135          RX    0.00    0.00   16.50   16.50  107.50  107.50  124.00  124.00
7136          RY    3.00    0.66    0.50    0.00    0.00    0.50    0.66    3.00
              *
1                                        HEC-1 INPUT                                    PAGE186

LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

7137          KK    INAV   BASIN
7138          KM   Runoff hydrograph for subbasin INAV north of Interstate 10 and east of the
7139          KM   Agua Fria River
7140          BA   0.235
7141          LG    0.10    0.15    8.00    0.07      83
7142          UC   0.680   0.612
7143          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
7144          UA     100
              *

7145          KK  ERINAV  DIVERT
7146          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
7147          KM   retention developed after 1990 in subbasin INAV
7148          DT   XINAV     15.6      0.0
7149          DI     0.0 50000.0       0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
7150          DQ     0.0 50000.0       0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

7151          KK   CINAV COMBINE
7152          KM   Combine route RWINAV, route RSINAV, and subbasin INAV
7153          HC       3   28.58
              *

7154          KK  DWINAF  DIVERT
7155          KM   Divert remaining runoff hydrograph from combination point CINAV west to
7156          KM   combination point CINAF
7157          DT  DSVBAF      0.0       0.0
7158          DI     0.0 22225.0 22225.1 50000.0       0.0     0.0     0.0     0.0     0.0     0.0
7159          DQ     0.0       0.0 22225.1 50000.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

7160          KK  RWINAF   ROUTE
7161          KM   Route diversion DWINAF west to combination point CINAF
7162          RS       2    FLOW
7163          RC   0.035   0.015   0.035    7360  0.0009    0.00
7164          RX    0.00    0.10   18.00   36.00   66.00   84.00  102.00  102.10
7165          RY   18.00   17.05    9.00    0.00    0.00    9.00   17.05   18.00
              * Need to re-evaluate divert, flow is greater than channel capacity
              *

7166          KK  DRMDAFRETRIEVE
7167          KM   Retrieve divert DRMDAF from combination point CMDAV and divert south to
7168          KM   combination point CMDAF
7169          DR  DWMDAF
              *
```



```
7170          KK  RWMDAF   ROUTE
7171          KM   Route diversion retrieval DRMDAF west to combination point CMDAF
7172          RS       8    FLOW
7173          RC   0.035   0.015   0.035    6890  0.0027    0.00
7174          RX    0.00    0.00   48.00   48.00  251.00  251.00  299.00  299.00
7175          RY    3.00    0.98    0.50    0.00    0.00    0.50    0.98    3.00
              *
1                                        HEC-1 INPUT                                    PAGE187

LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

7176          KK    MDAF   BASIN
7177          KM   Runoff hydrograph for subbasin MDAF north of McDowell Road and east of the
7178          KM   Interstate 10 and east of the Agua Fria River
7179          BA   0.834
7180          LG    0.21    0.26    5.20    0.22      36
7181          UC   1.500   1.253
7182          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
7183          UA     100
              *

7184          KK   CMDAF COMBINE
7185          KM   Combine route RWMDAF and subbasin MDAF
7186          HC       2    1.30
              *

7187          KK  DSINAF  DIVERT
7188          KM   Divert portion of runoff hydrograph from combination point CMDAF south to the
7189          KM   intersection of Interstate 10 and the Agua Fria River and the remaining flow
7190          KM   west to the Agua Fria River. The diversion is based on topography
7191          DT  DWAF03      0.0       0.0
7192          DI      0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
7193          DQ      0.0    76.0   152.0   380.0   760.0  1520.0  3040.0  7600.0 15200.0 38000.0
              *

7194          KK  RSINAF   ROUTE
7195          KM   Route diversion DSINAF south to combination point CINAF
7196          RS       1    FLOW
7197          RC   0.035   0.015   0.035    1317  0.0022    0.00
7198          RX    0.00    0.00   22.00   22.00  103.00  103.00  125.00  125.00
7199          RY    3.00    0.72    0.50    0.00    0.00    0.50    0.72    3.00
              *

7200          KK    INAF   BASIN
7201          KM   Runoff hydrograph for subbasin INAf north of Interstate 10 and east of the
7202          KM   Agua Fria River
7203          BA   0.472
7204          LG    0.15    0.23    6.20    0.18      42
7205          UC   1.194   1.032
7206          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
7207          UA     100
              *

7208          KK  ERINAF  DIVERT
7209          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
7210          KM   retention developed after 1990 and NOAA14 rainfall for future retention in
7211          KM   subbasin INAF
7212          DT   XINAF     21.1      0.0
7213          DI     0.0 50000.0       0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
7214          DQ     0.0 50000.0       0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *
1                                        HEC-1 INPUT                                    PAGE188

LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

7215          KK  ERINAF  DIVERT
7216          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
7217          KM   retention developed after 1990 in subbasin INAF
7218          DT   XINAF     21.1      0.0
7219          DI     0.0 50000.0       0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
7220          DQ     0.0 50000.0       0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

7221          KK   CINAF COMBINE
7222          KM   Combine route RWINAF, route RSINAF, and subbasin INAF
7223          HC       3   29.36
              *
7224          ZZ
1
        SCHEMATIC DIAGRAM OF STREAM NETWORK

INPUT
 LINE     (V) ROUTING          (--->) DIVERSION OR PUMP FLOW

  NO.     (.) CONNECTOR        (<---) RETURN OF DIVERTED OR PUMPED FLOW

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              .
              .
  147         .-------->  DPGW83
  144       DGW83
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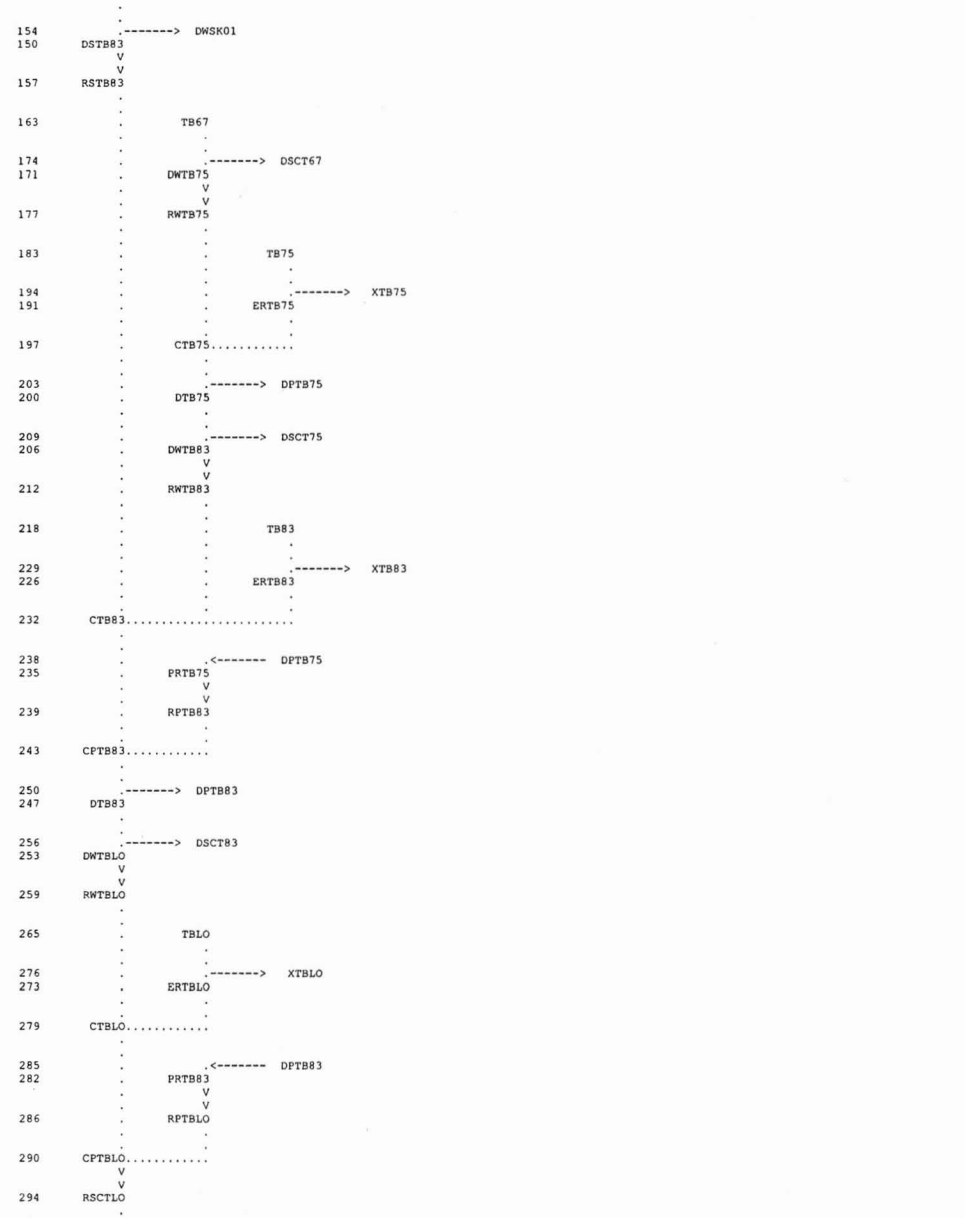
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ERTB83
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DTB83
DSCT83
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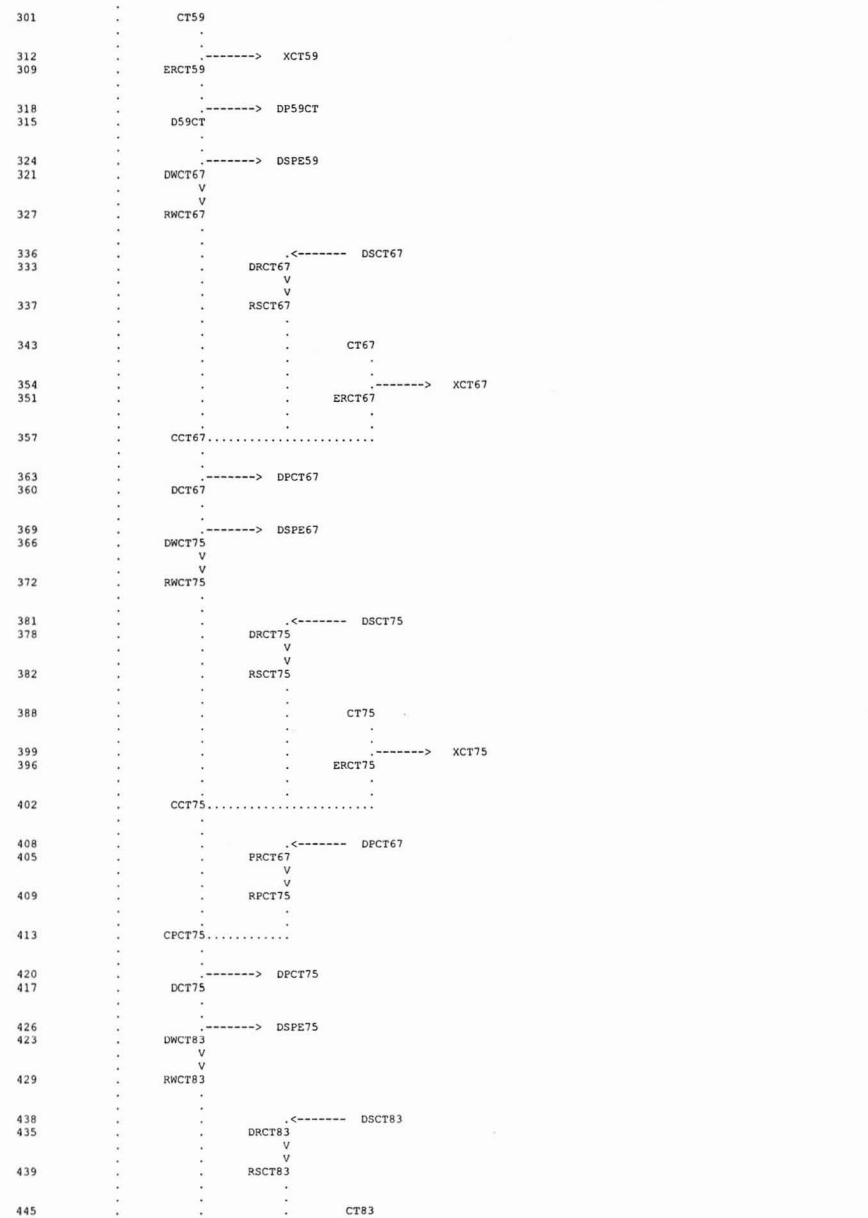
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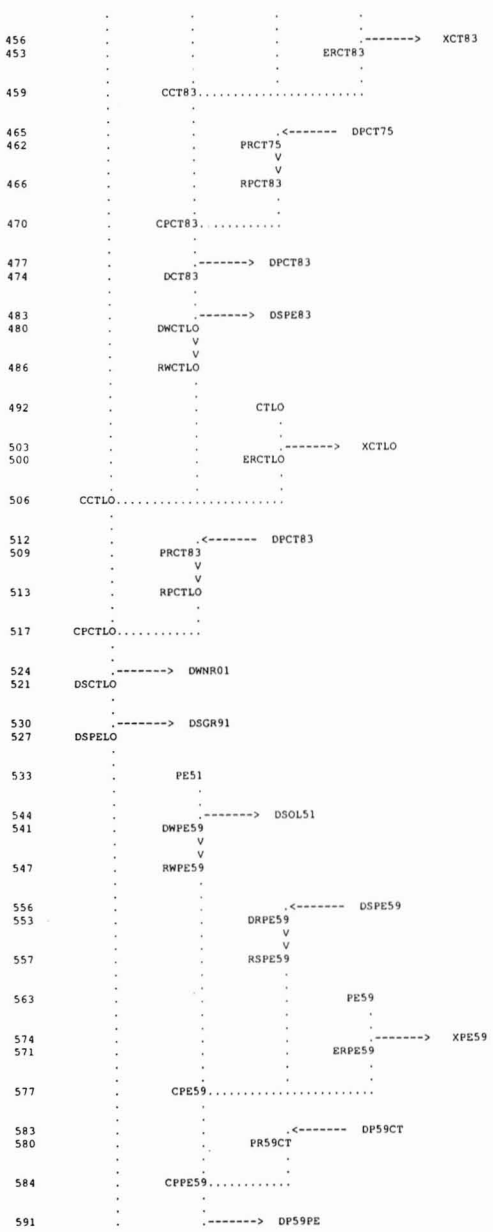
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RWPE59
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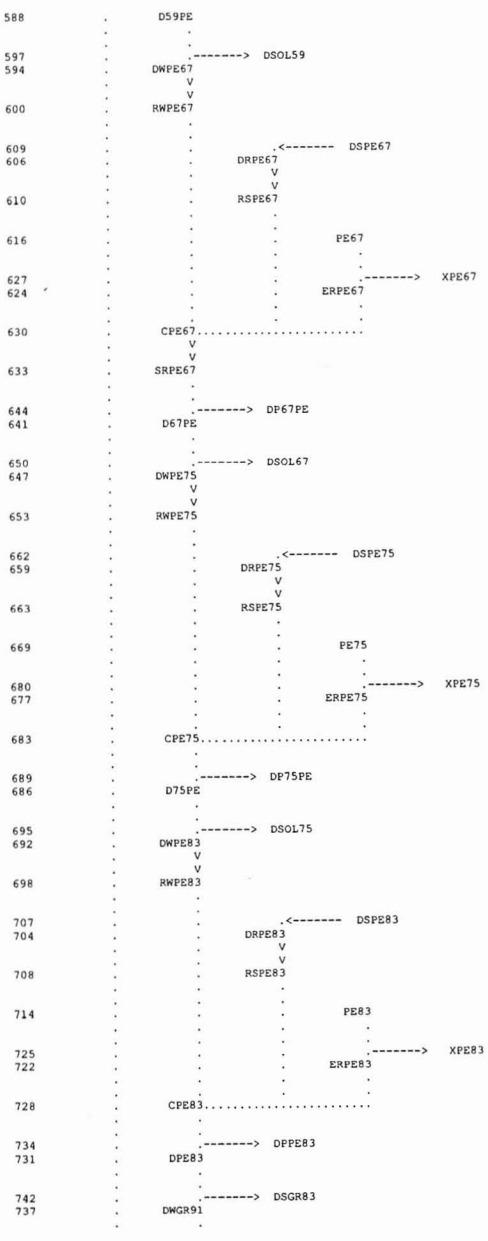
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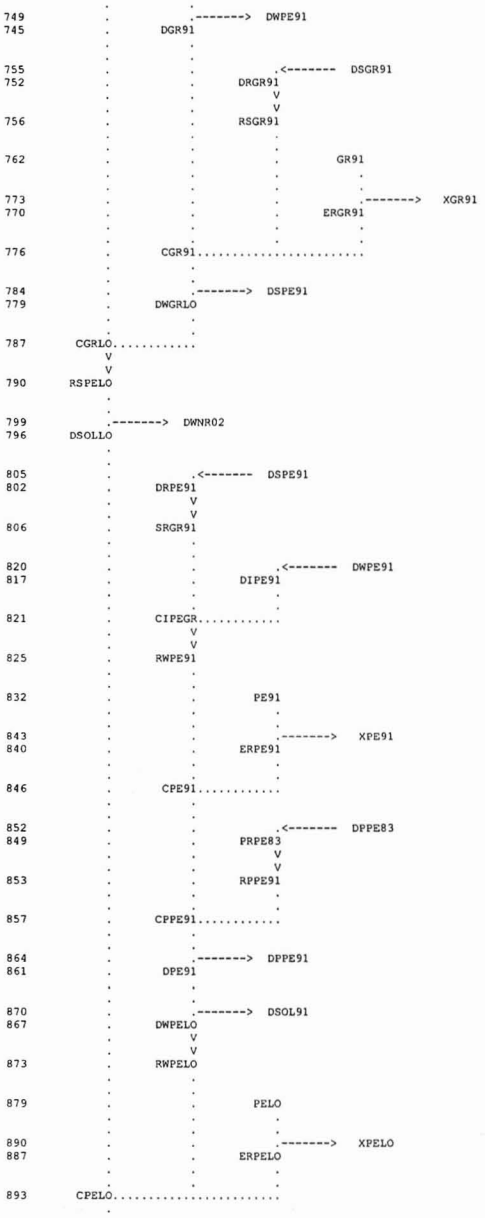
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776 CGR91
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779 DWGRLO
787 CGRLO
790 RSPELO
799 .-------> DWNR02
796 DSOLLO
805 .<------- DSPE91
802 DRPE91
806 SRGR91
820 .<------- DWPE91
817 DIPE91
821 CIPEGR
825 RWPE91
832 PE91
843 .-------> XPE91
840 ERPE91
846 CPE91
852 .<------- DPPE83
849 PRPE83
853 RPPE91
857 CPPE91
864 .-------> DPPE91
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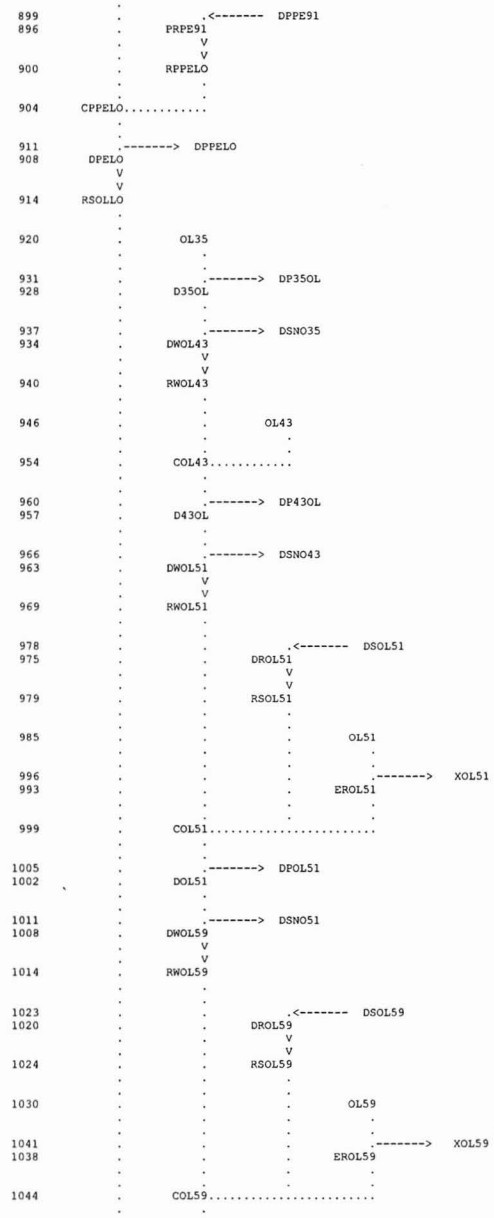
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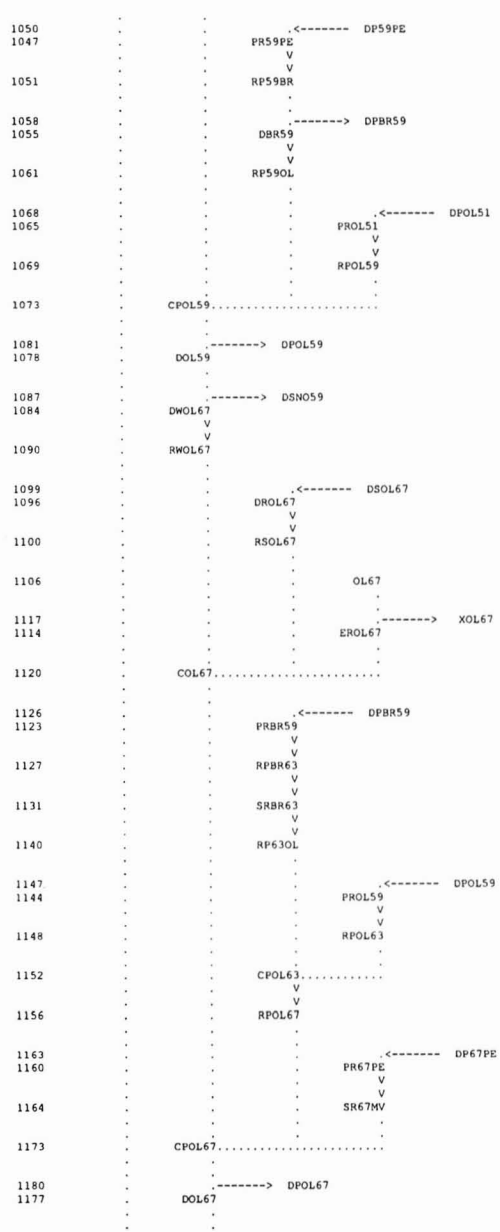
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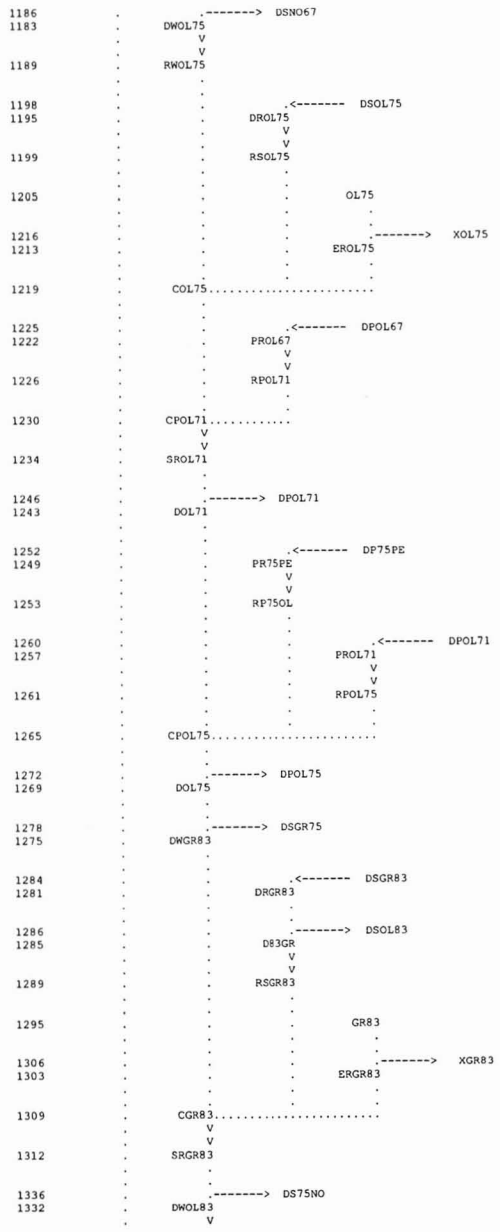
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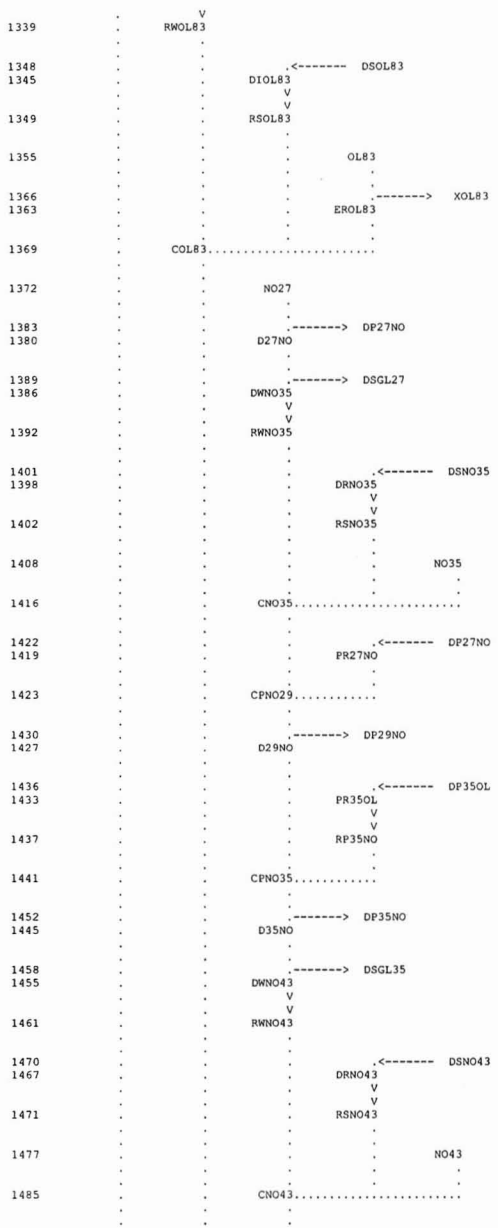
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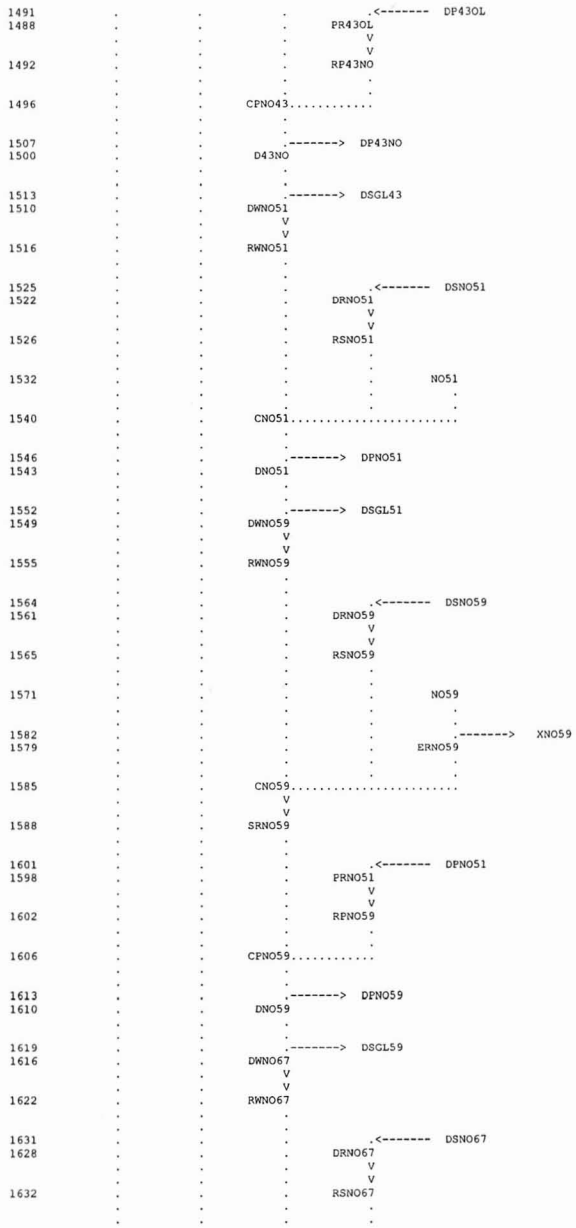
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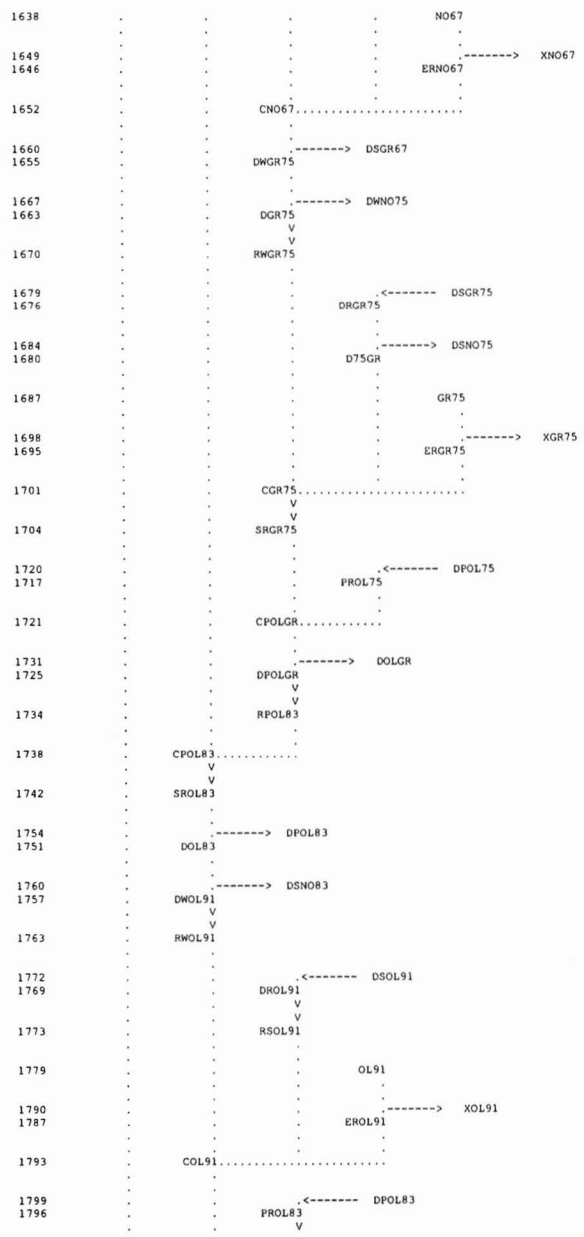
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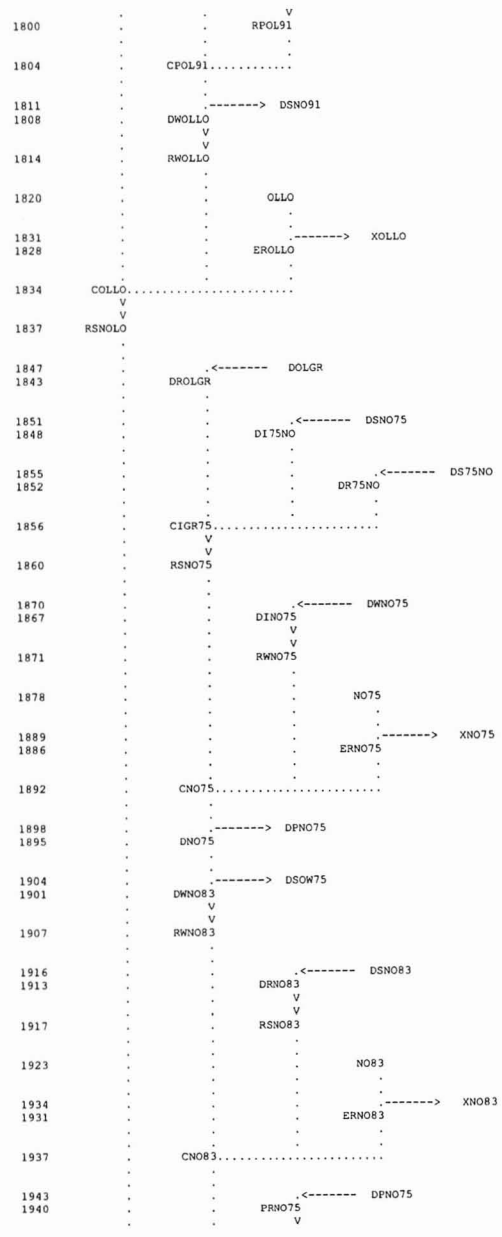
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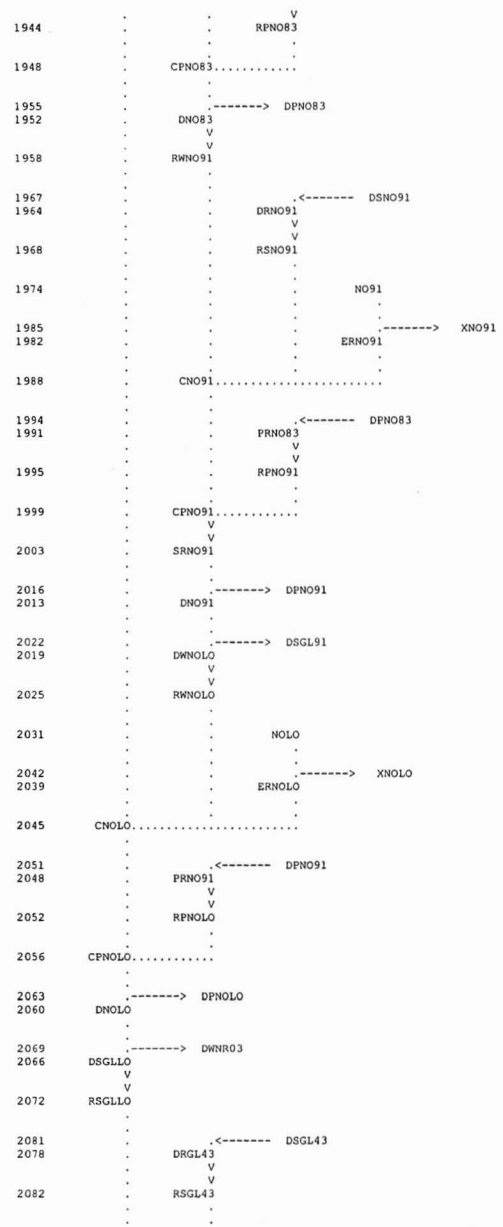
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1988 CNO91
1994 DPNO83
1991 PRNO83
1995 RPNO91
1999 CPNO91
2003 SRNO91
2016 DPNO91
2013 DNO91
2022 DSGL91
2019 DWNOLO
2025 RWNOLO
2031 NOLO
2042 XNOLO
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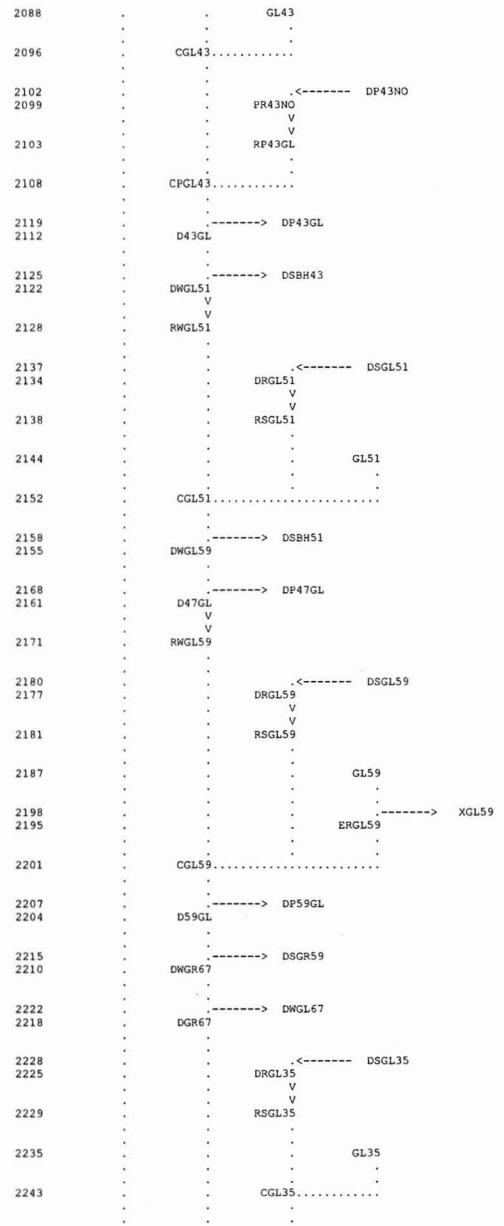
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2128 RWGL51
2137 DSGL51
2134 DRGL51
2138 RSGL51
2144 GL51
2152 CGL51
2158 DSBH51
2155 DWGL59
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2161 D47GL
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2177 DRGL59
2181 RSGL59
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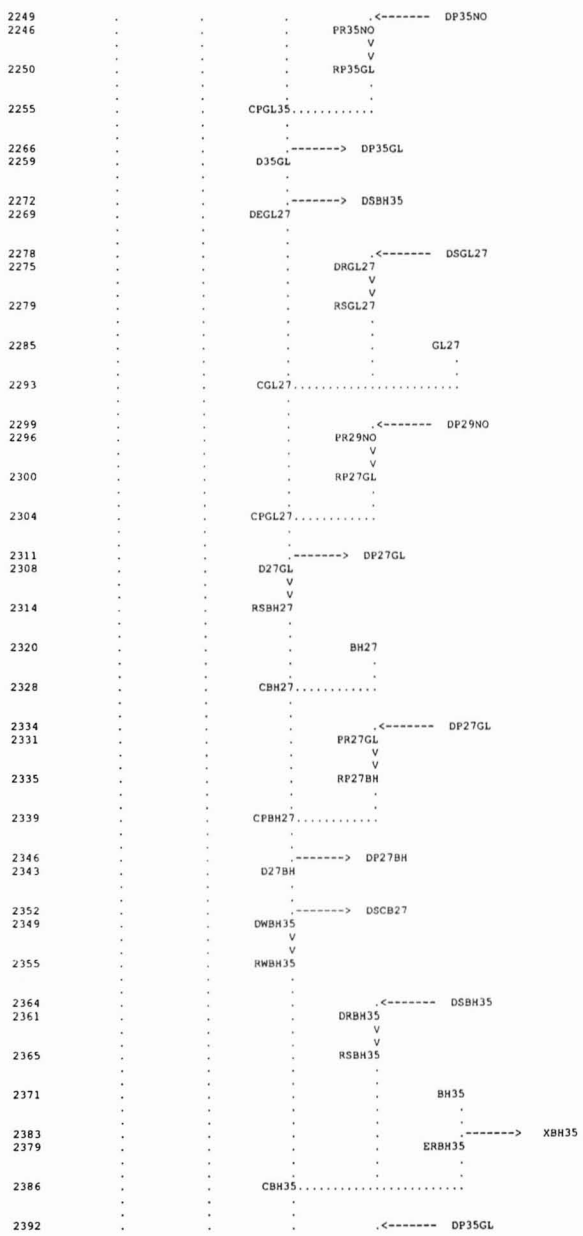
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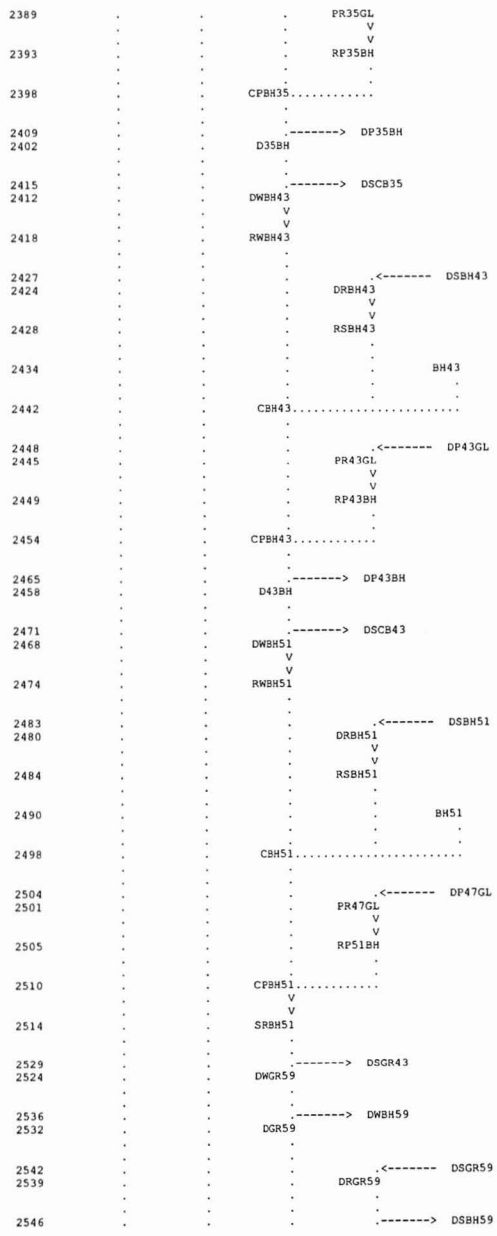
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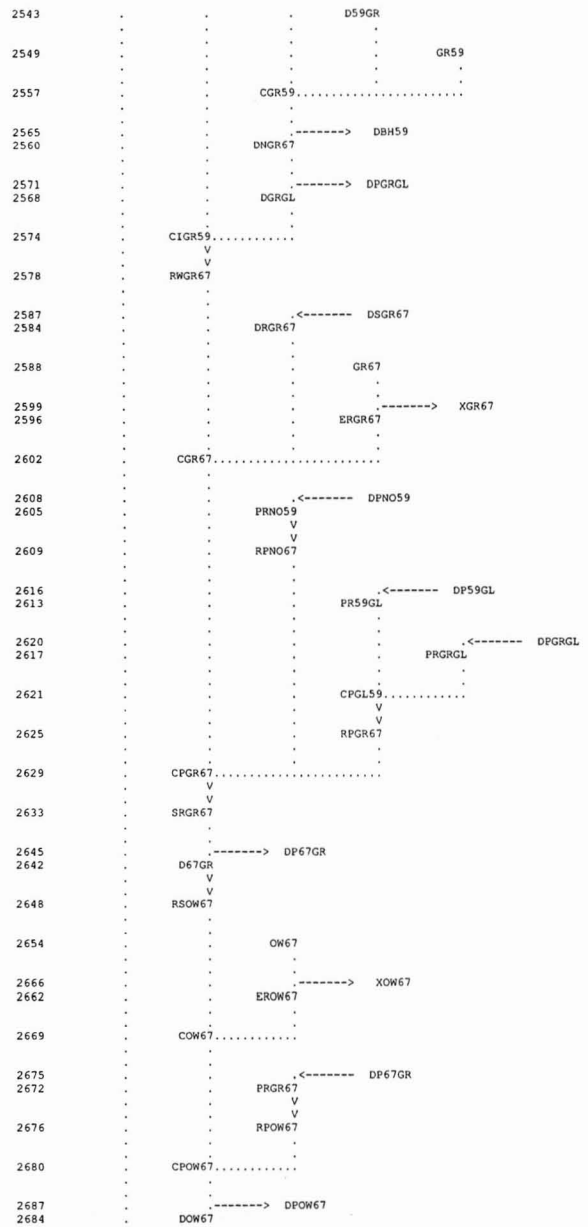
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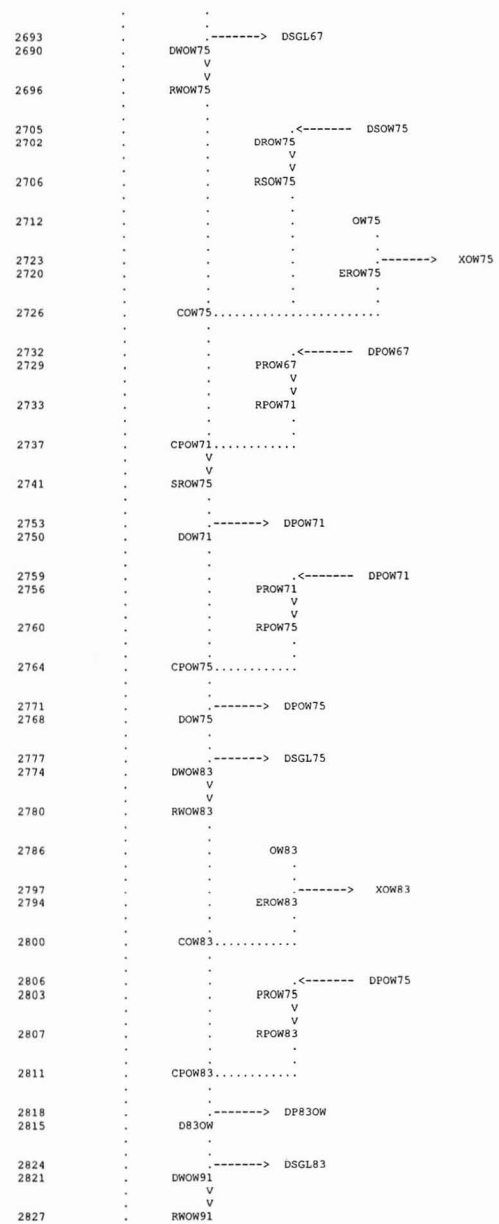
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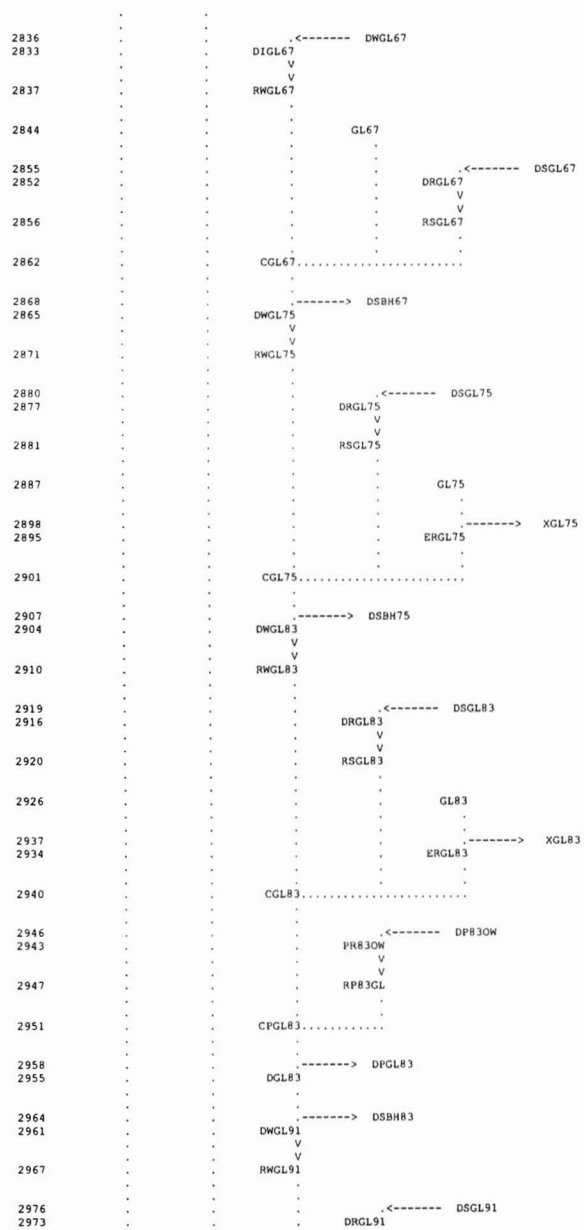
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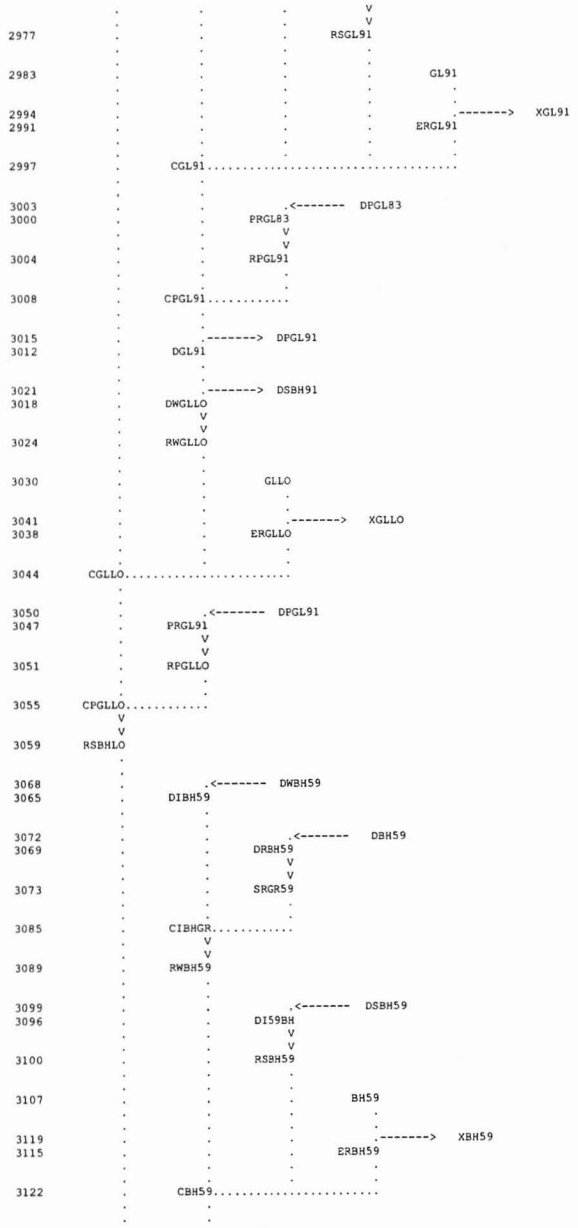
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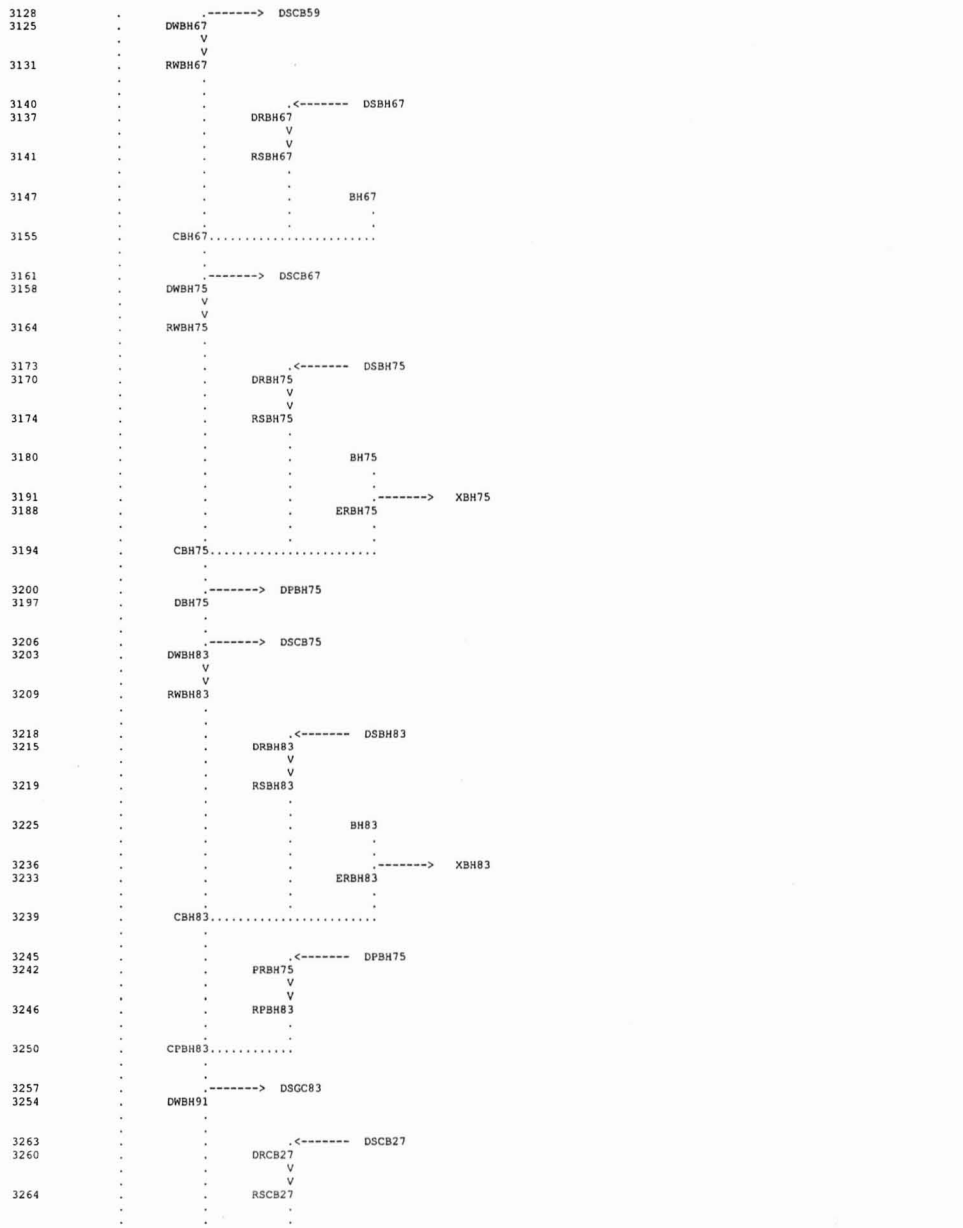
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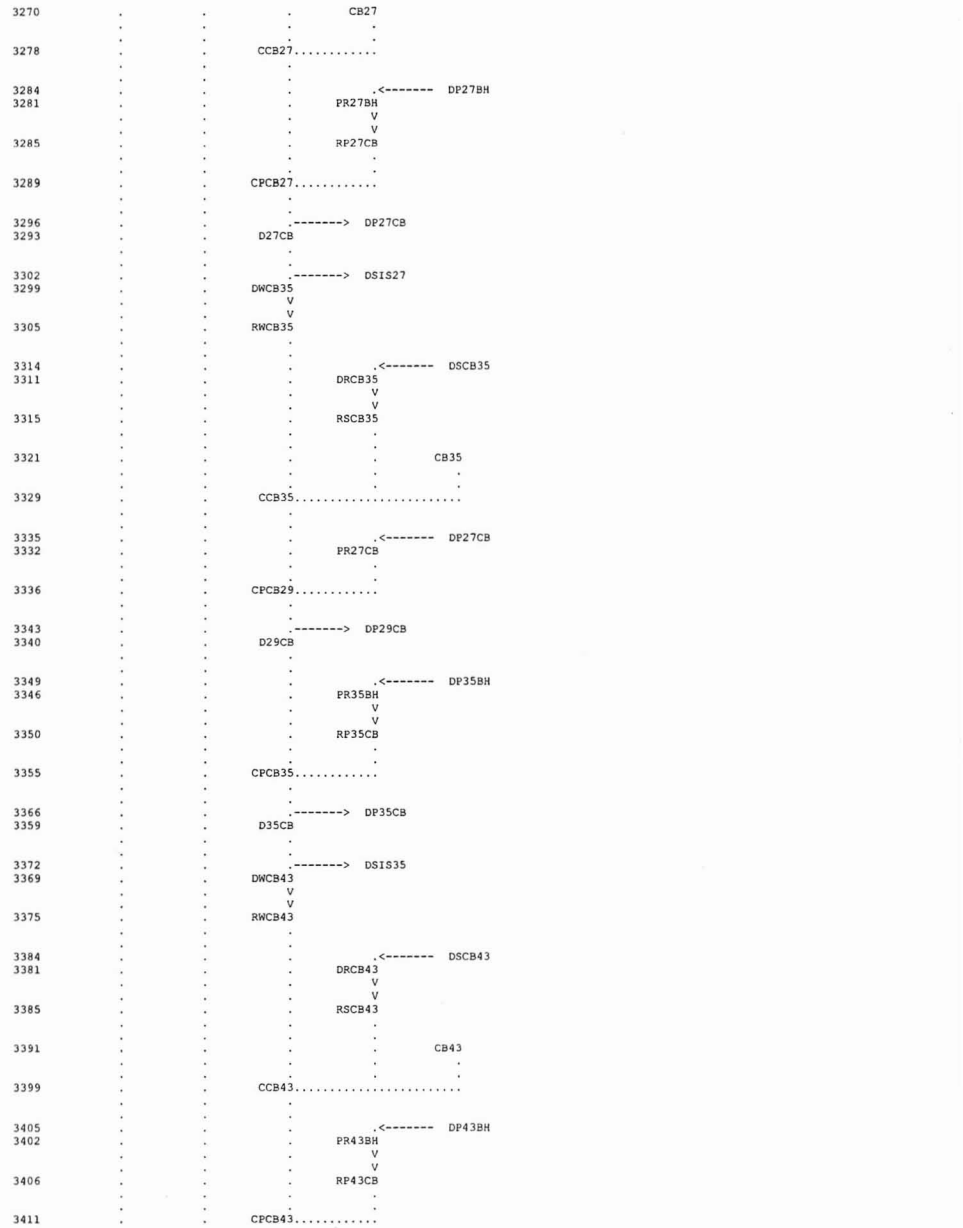
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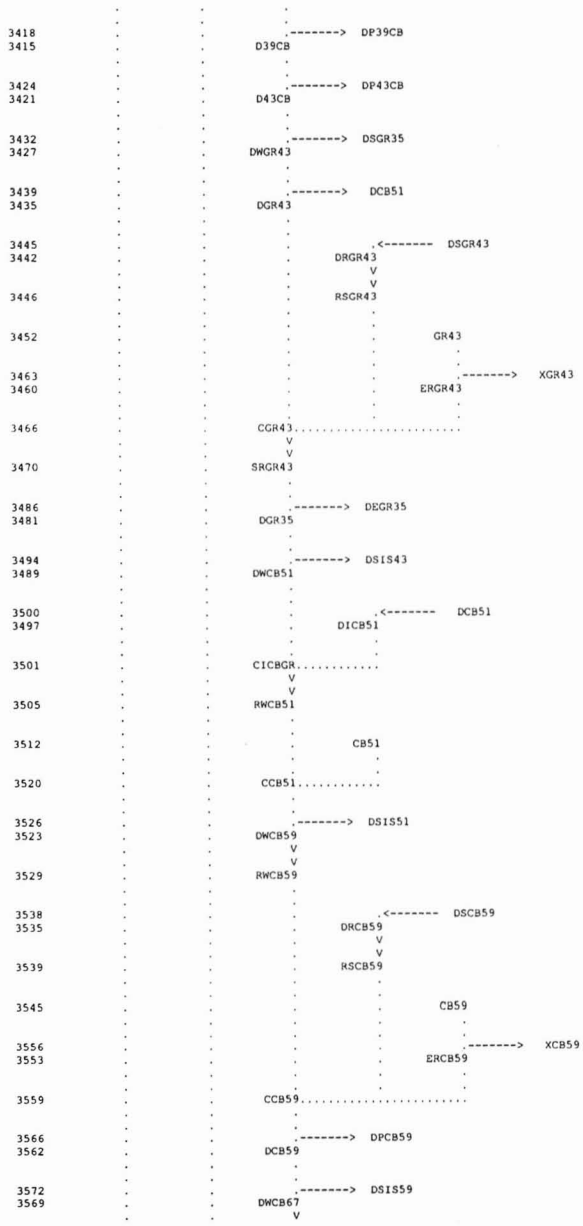
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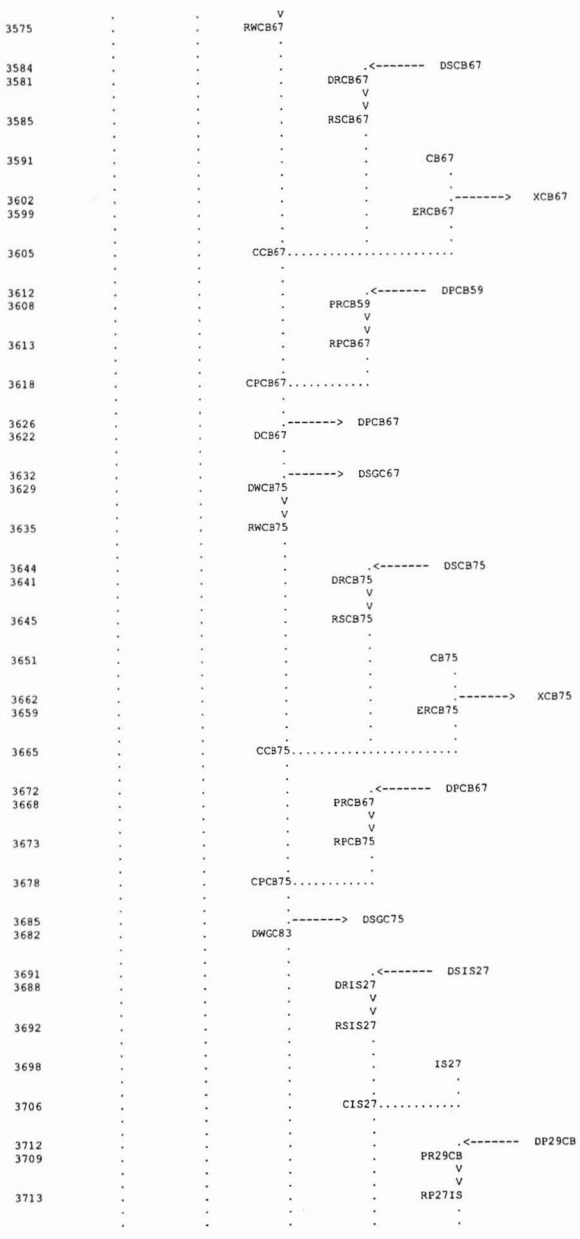
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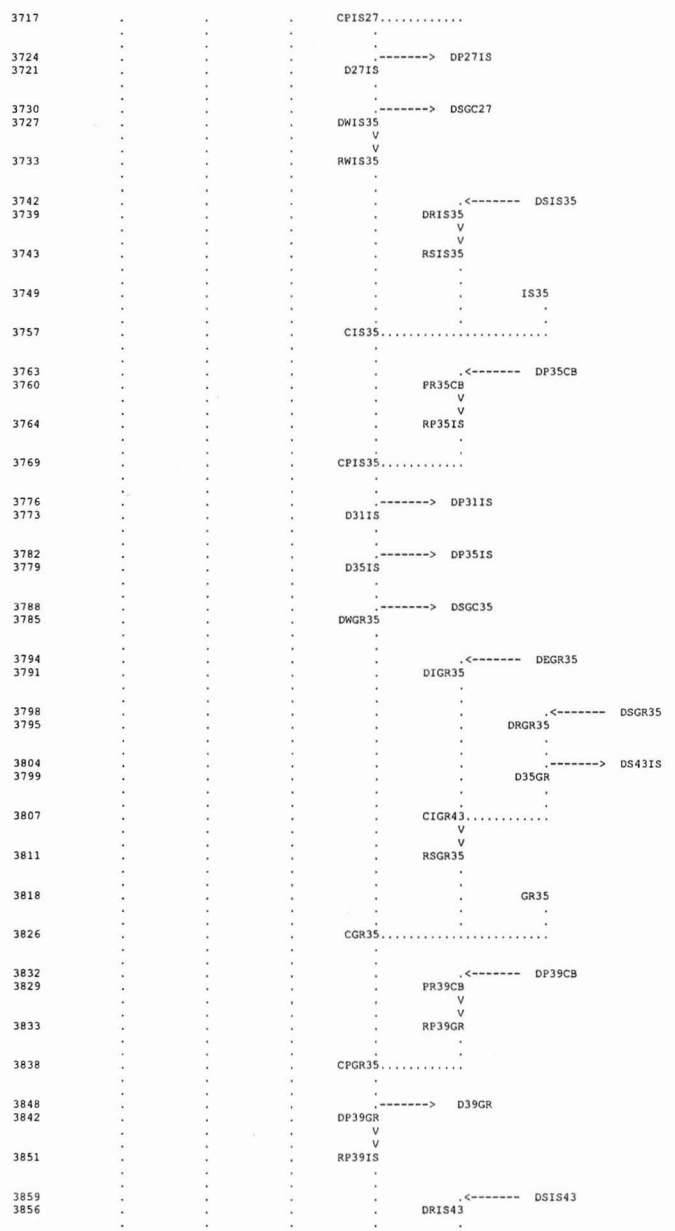
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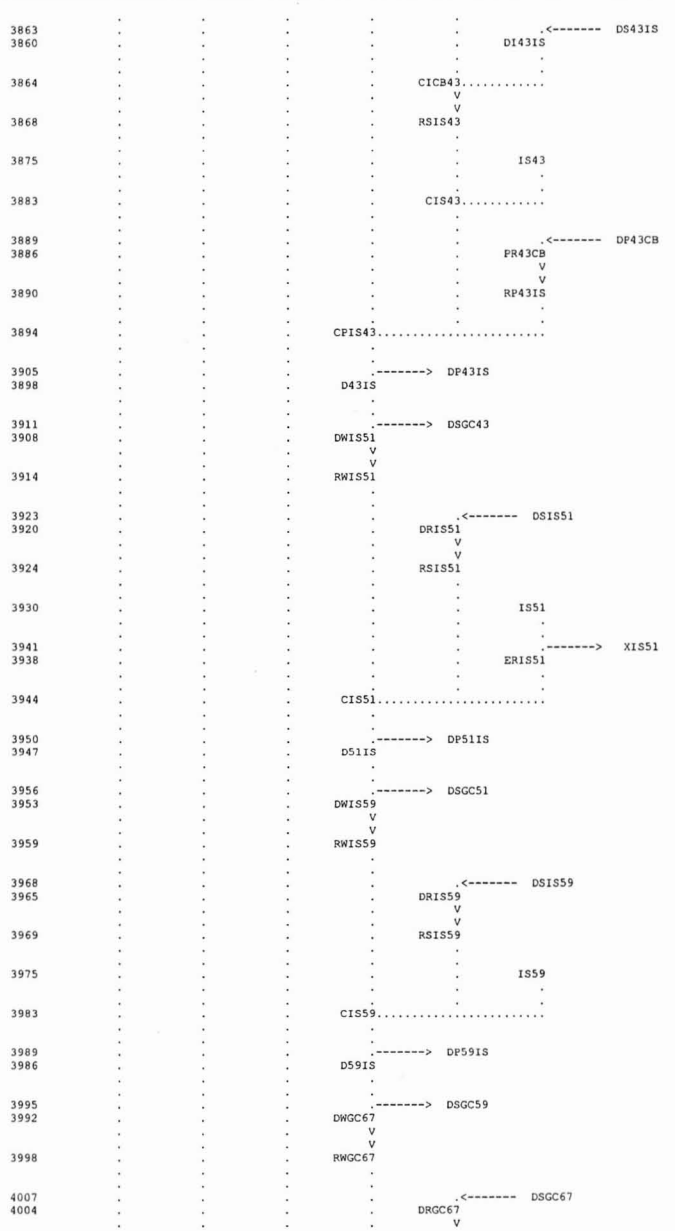
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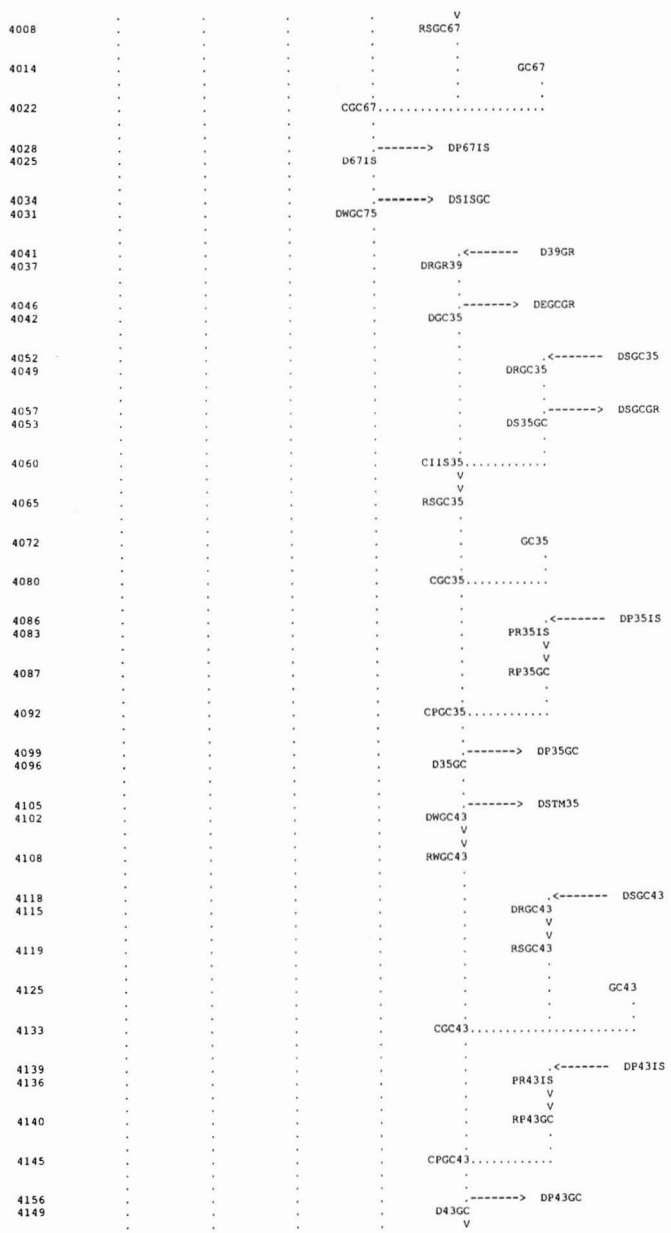
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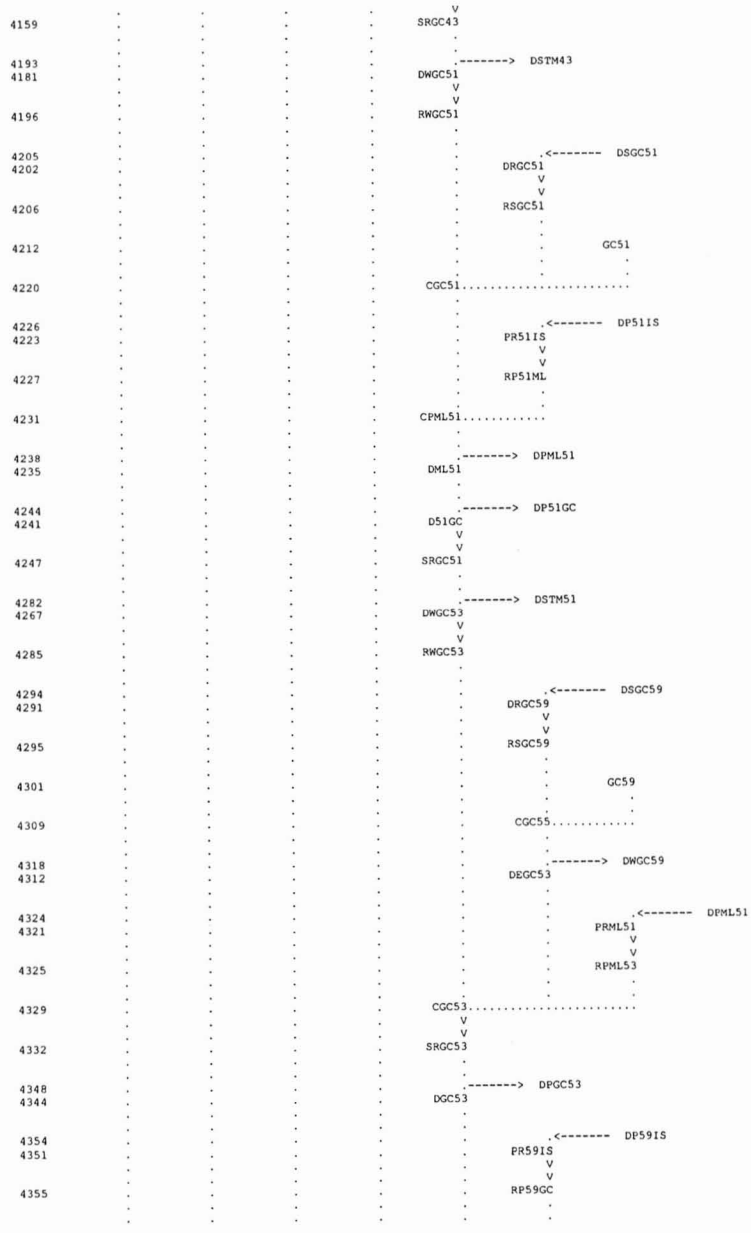
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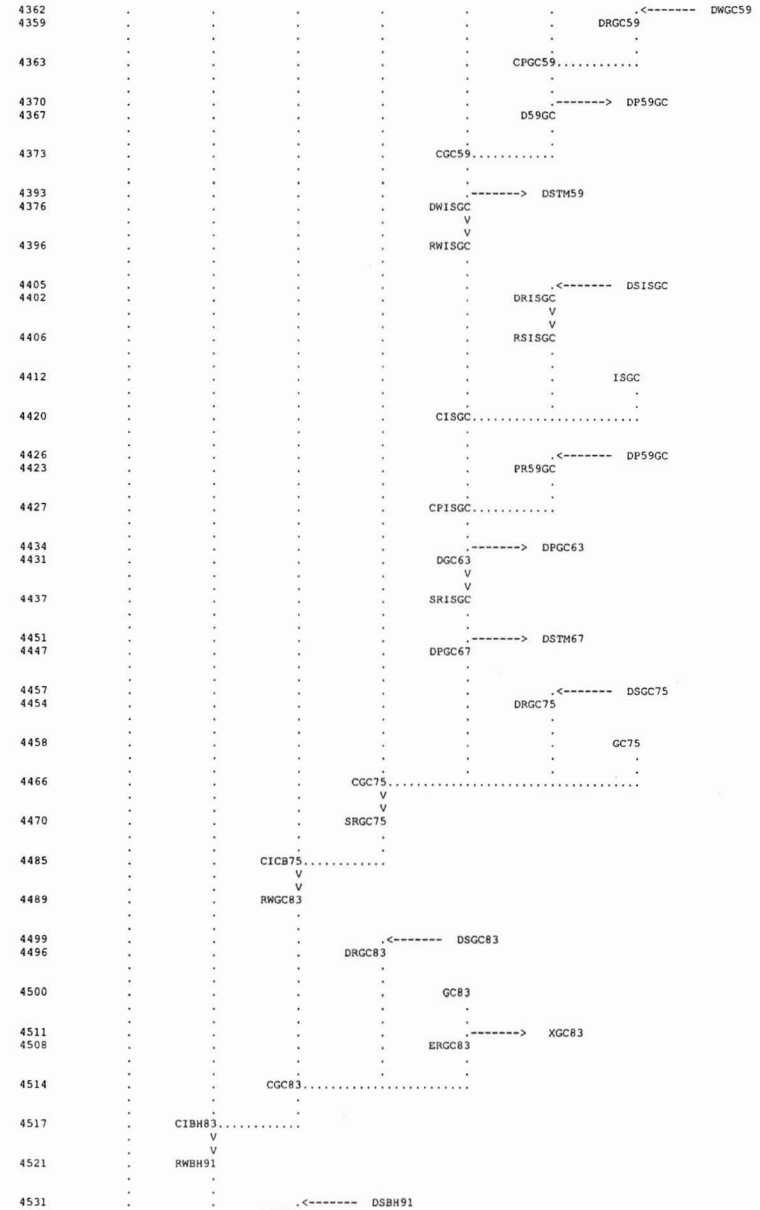
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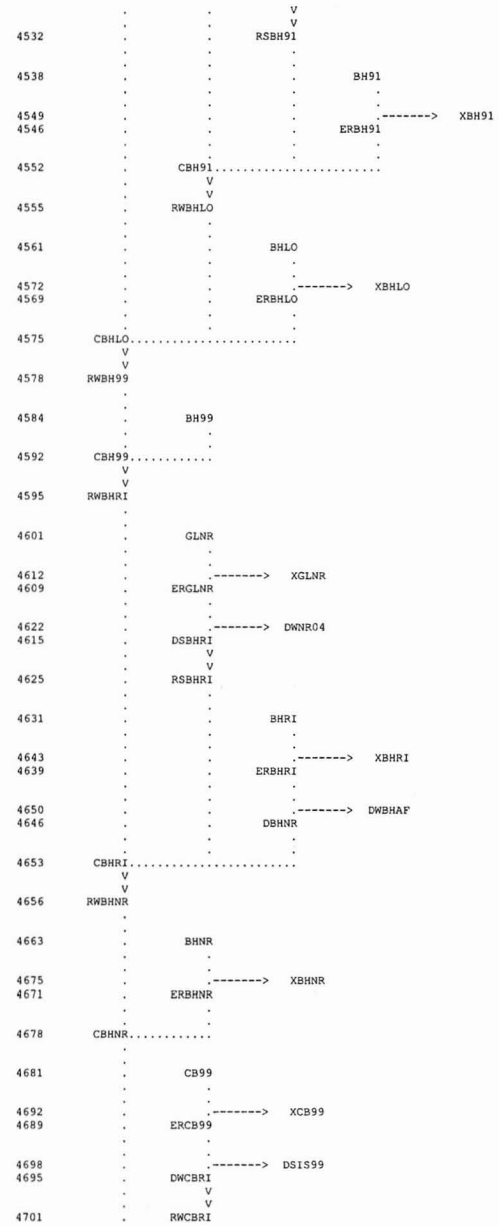
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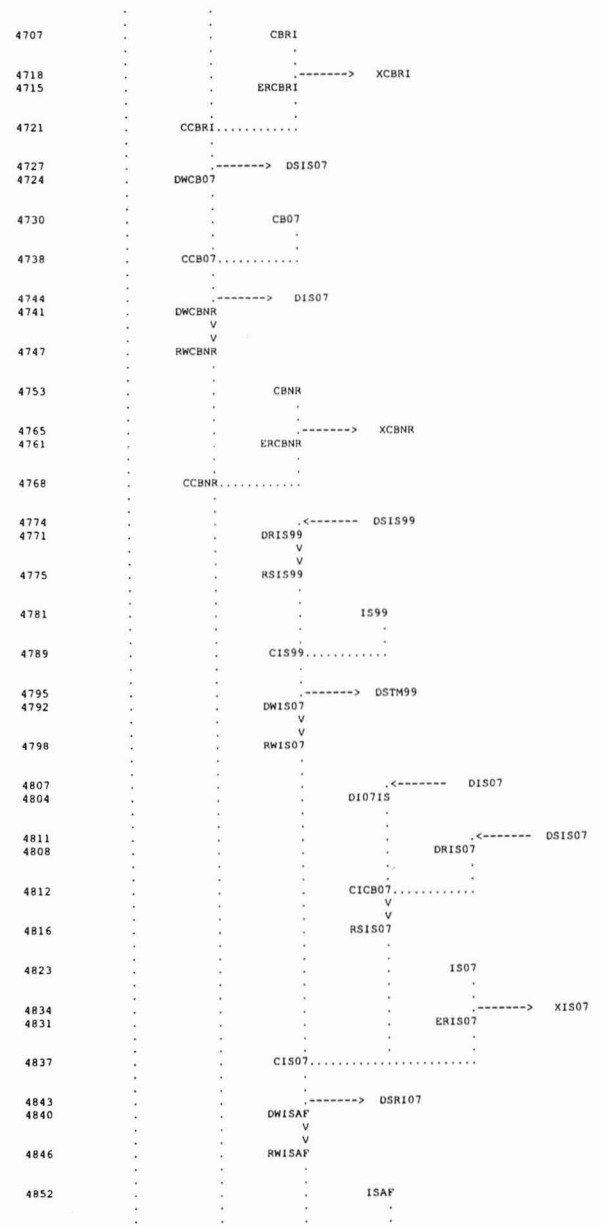
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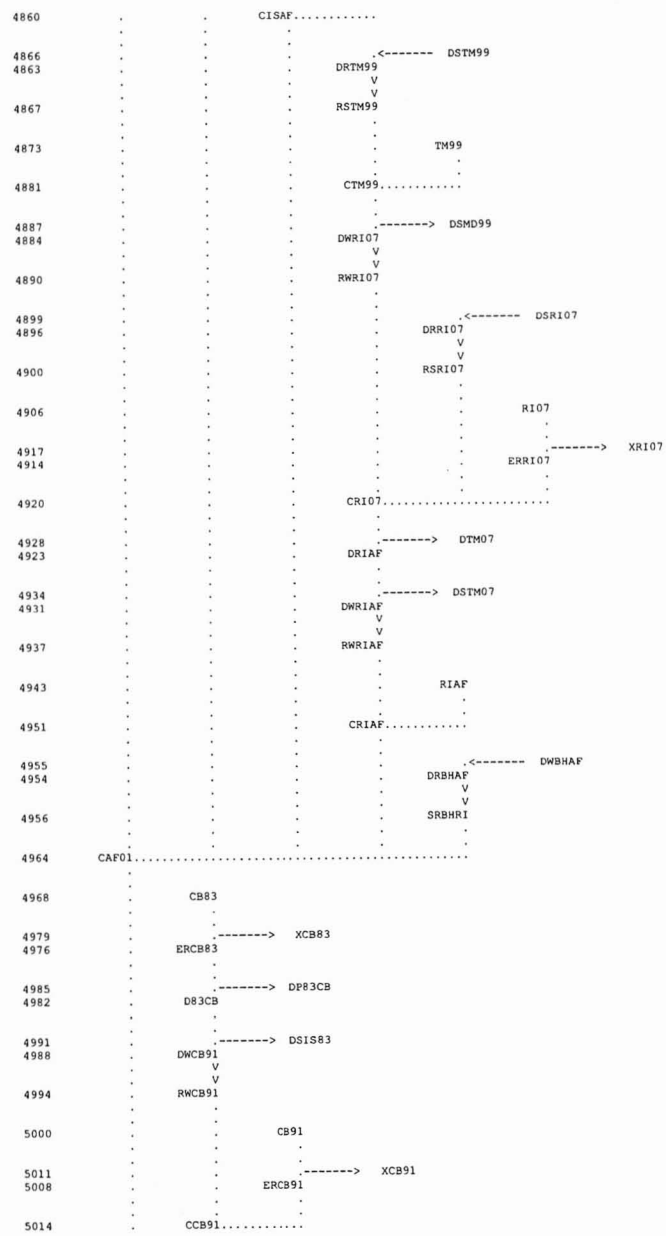
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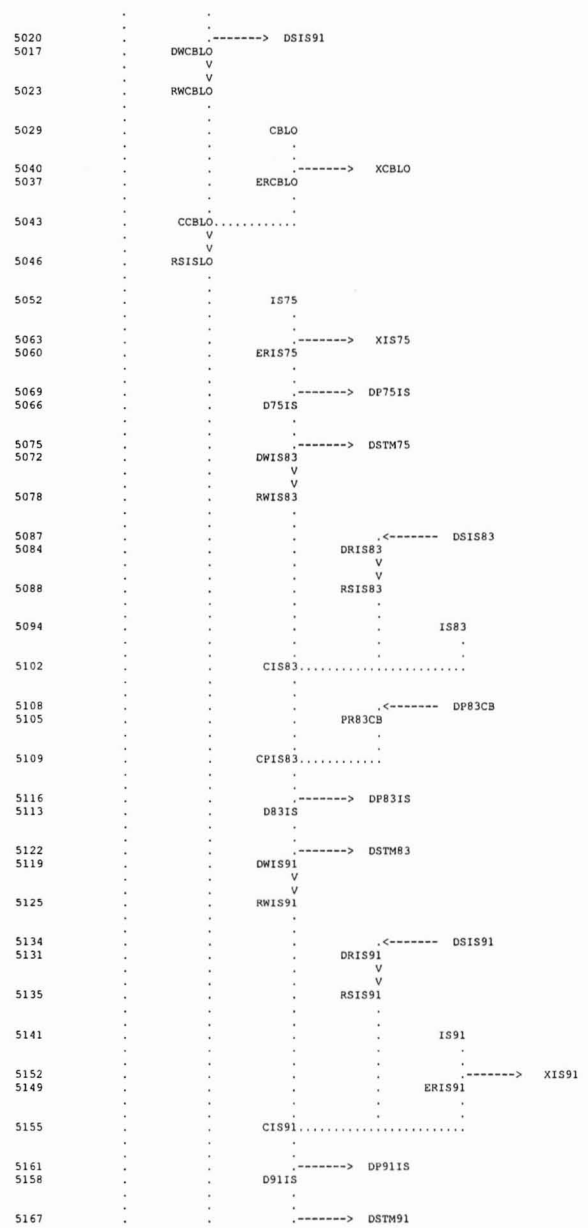
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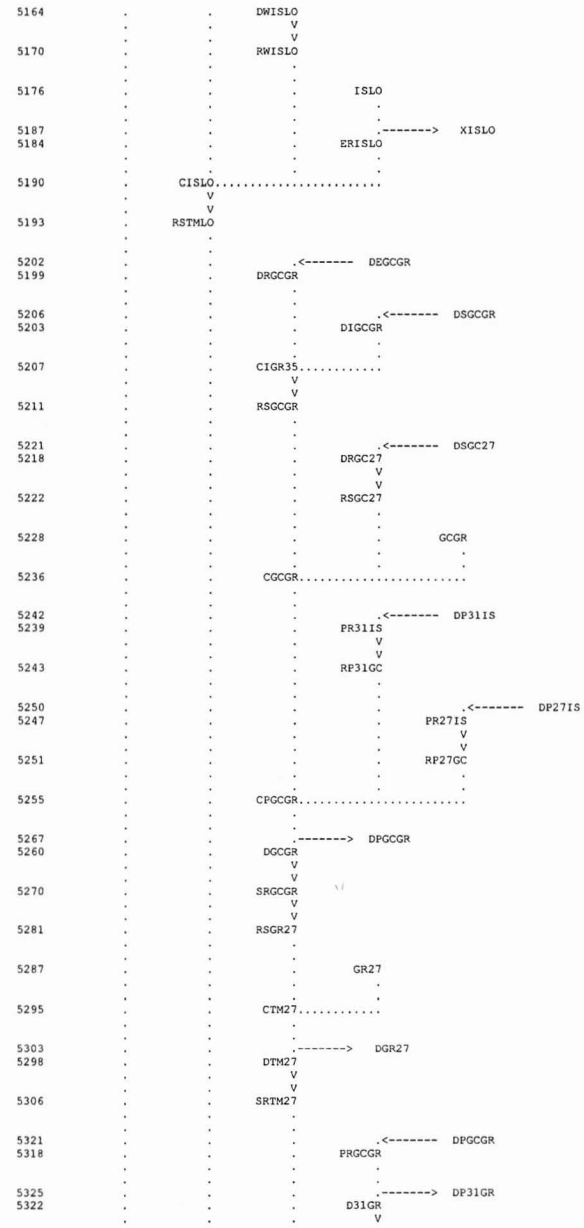
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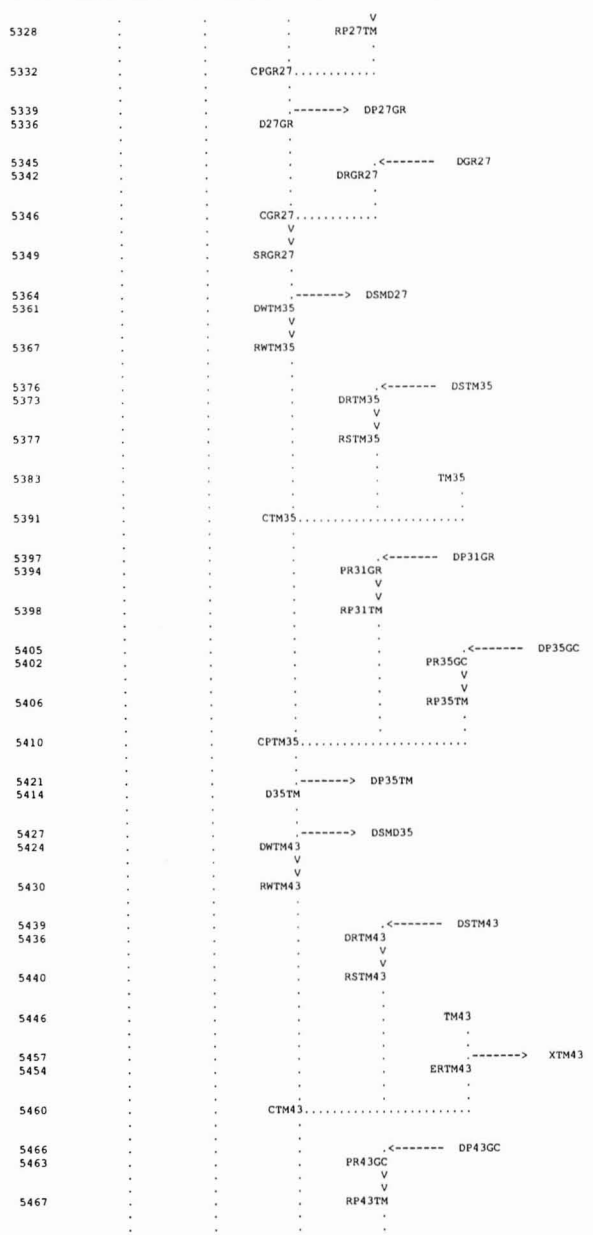
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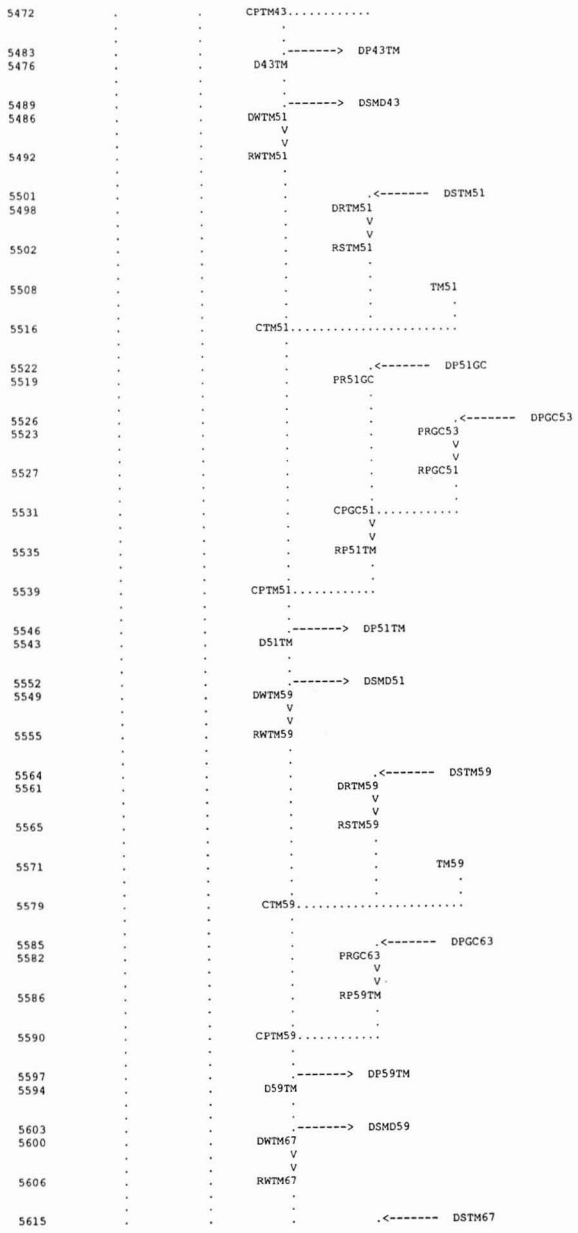
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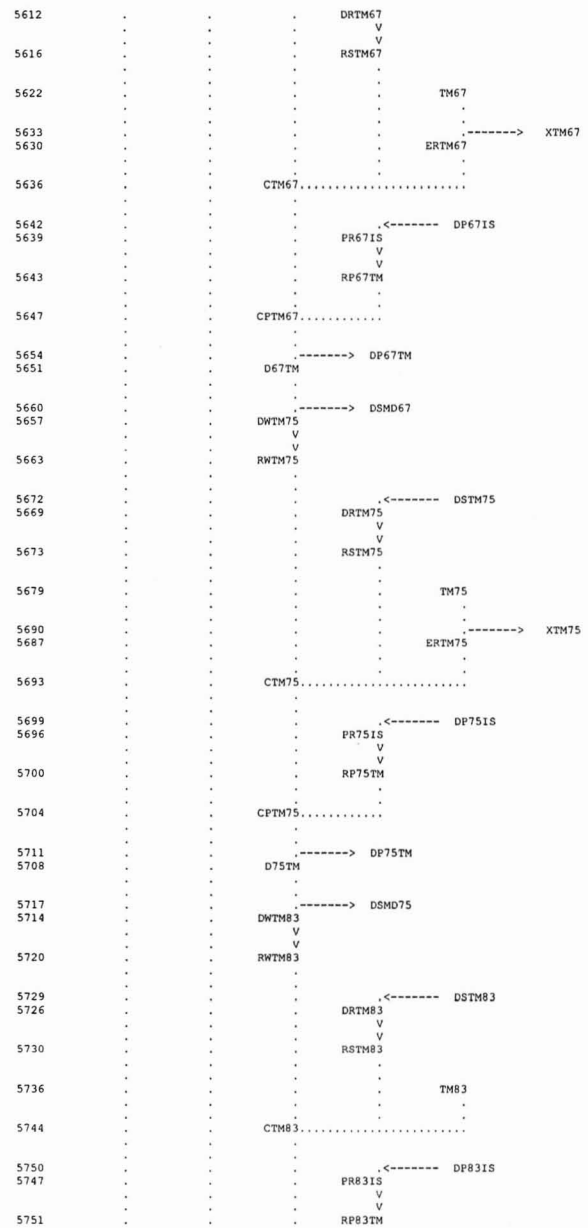
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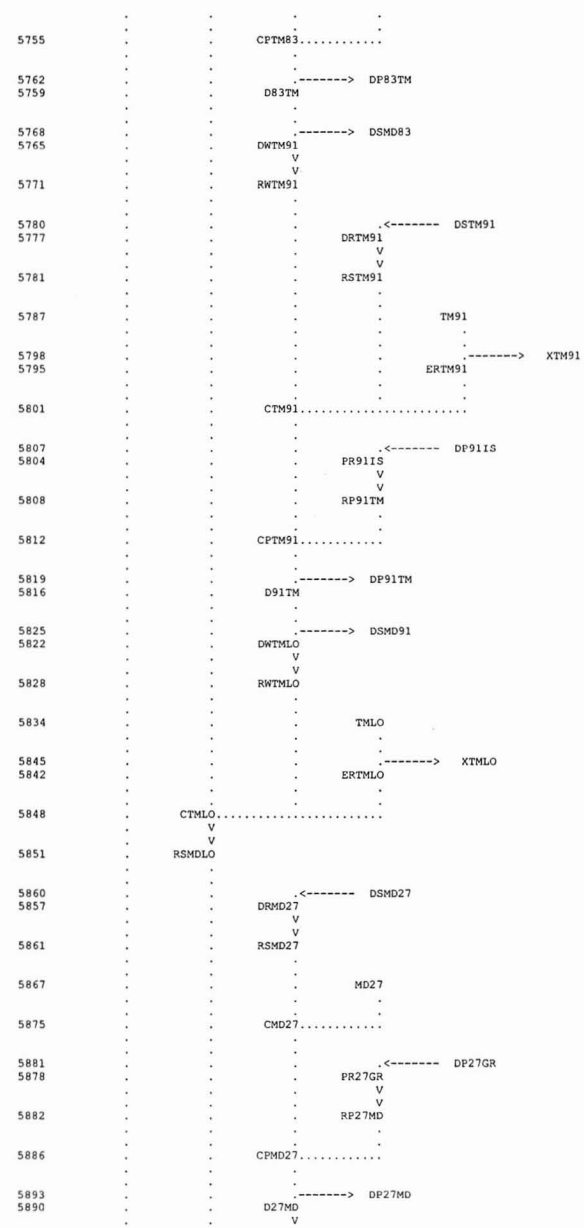
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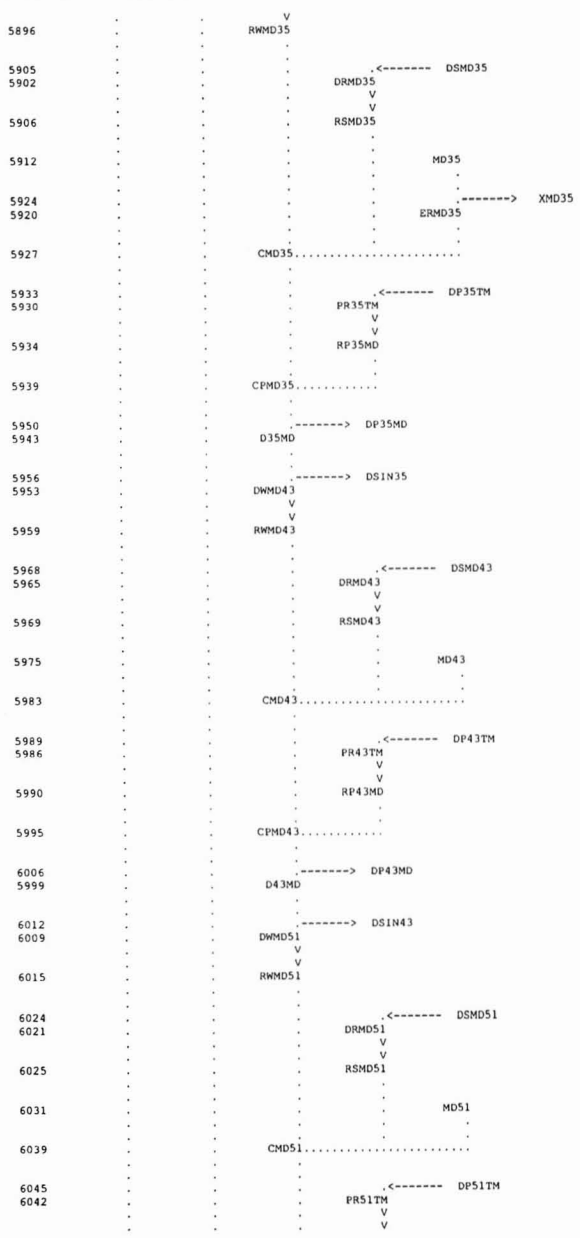
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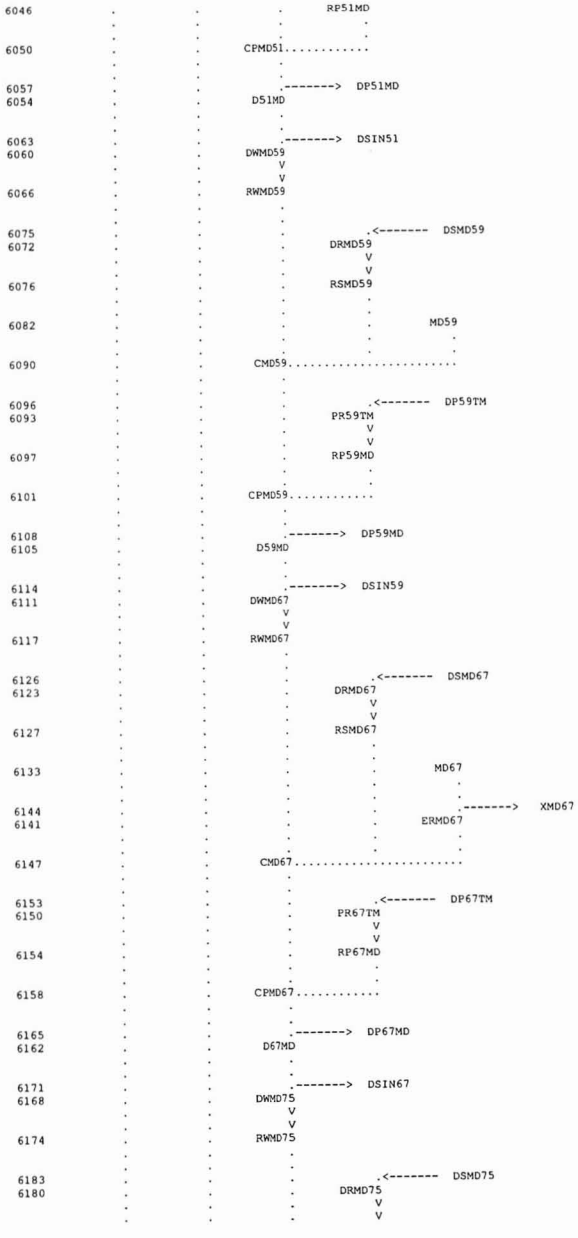
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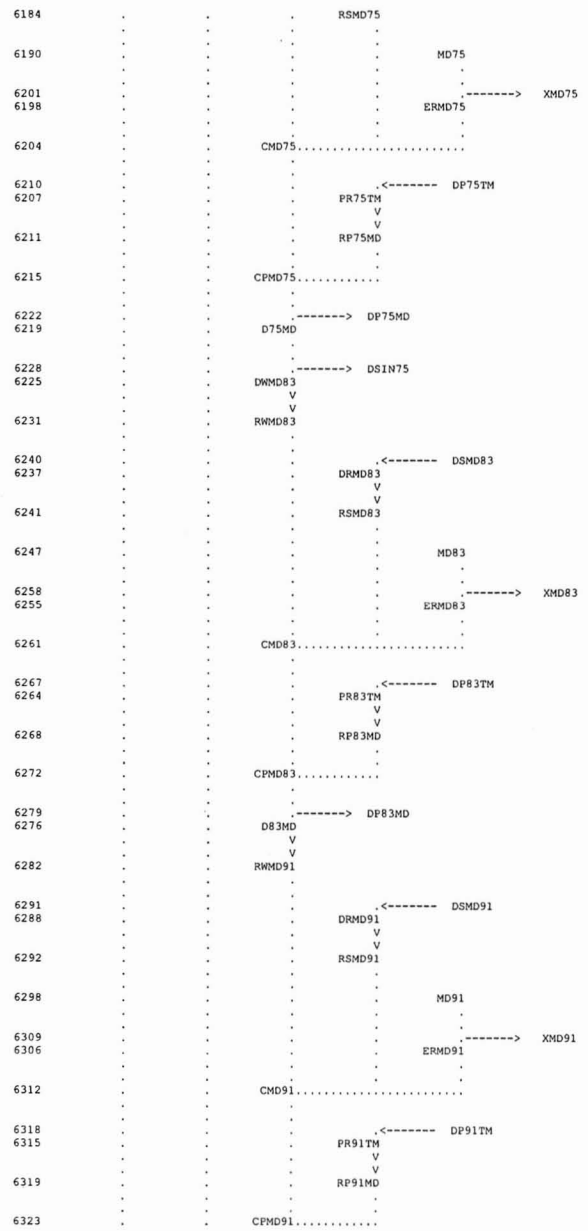
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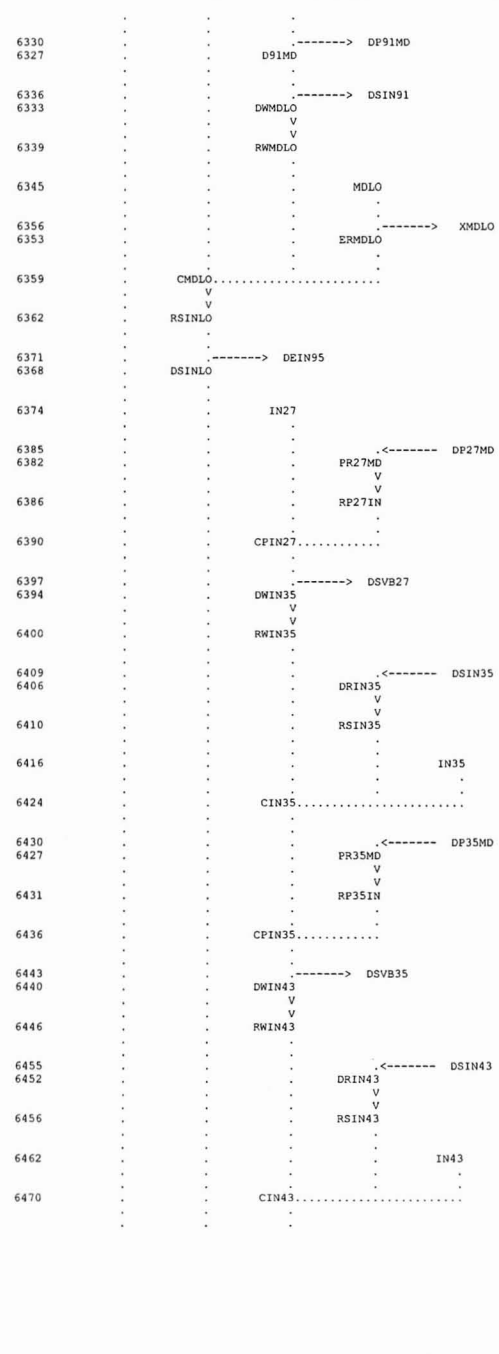
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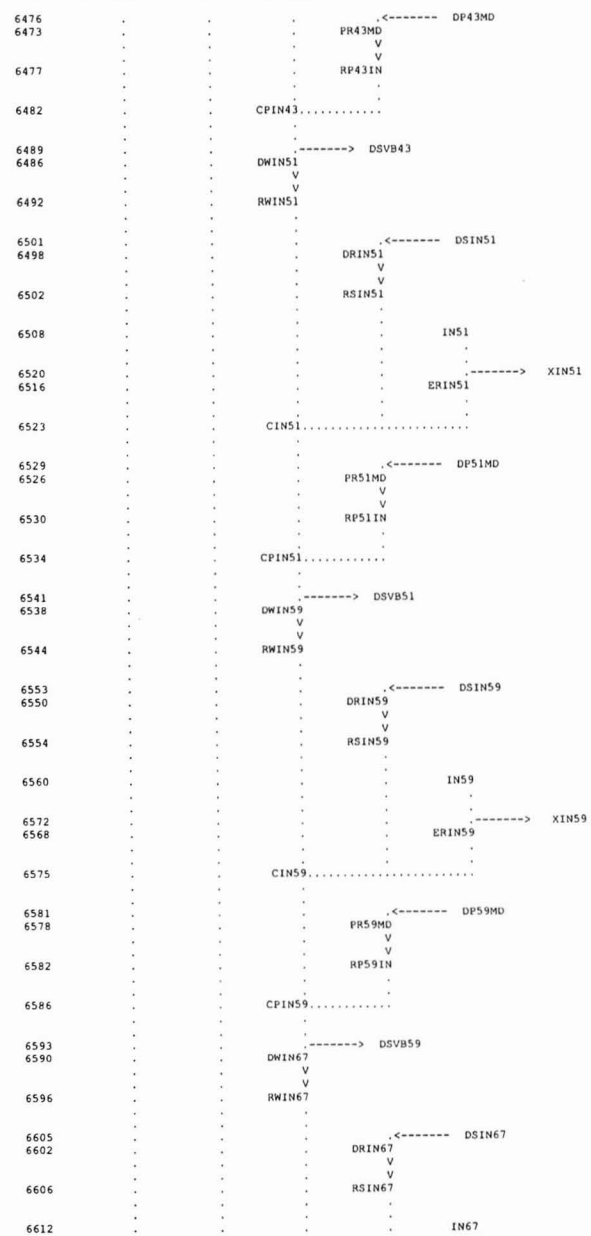
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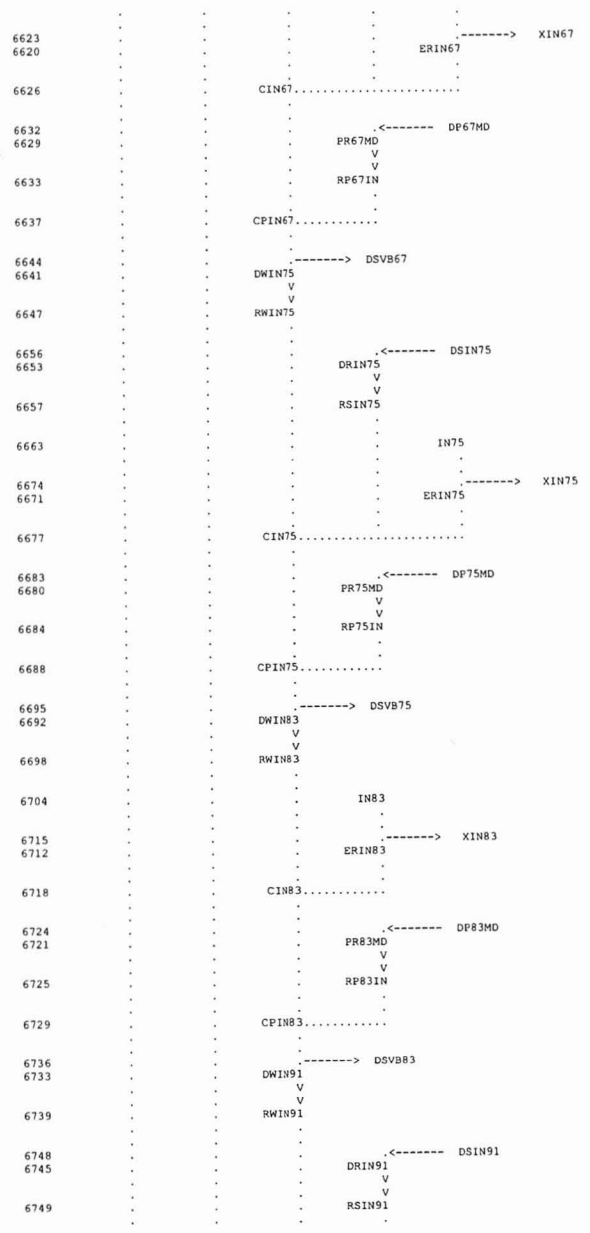
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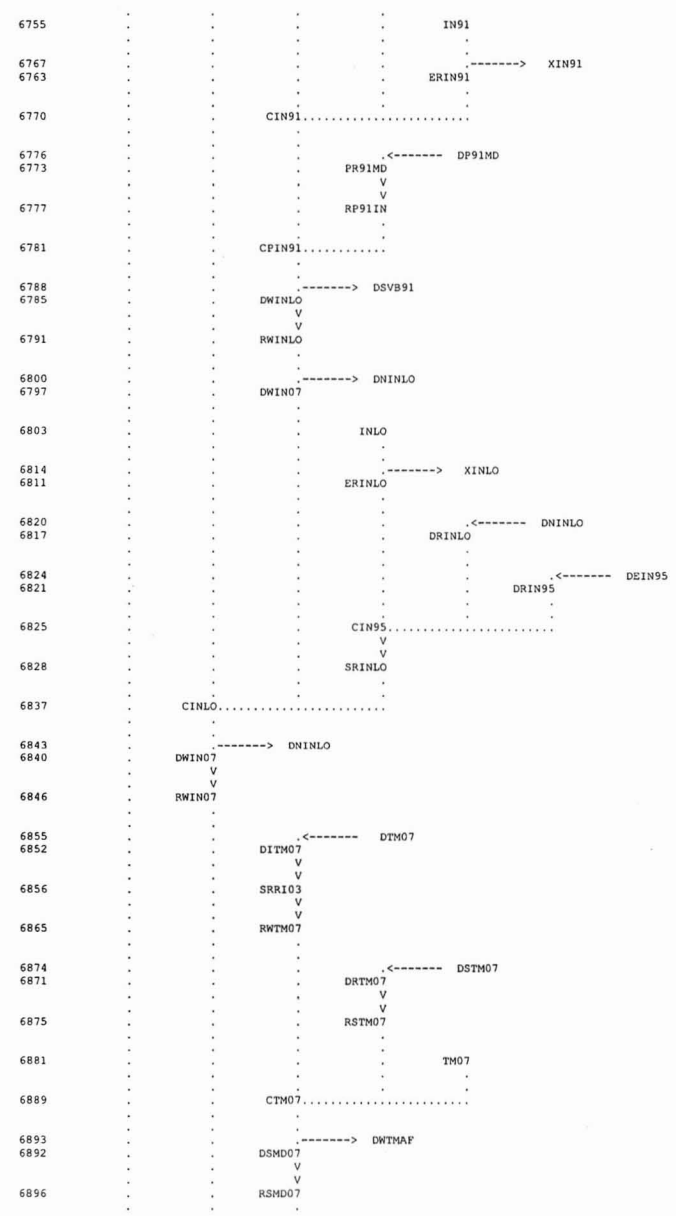
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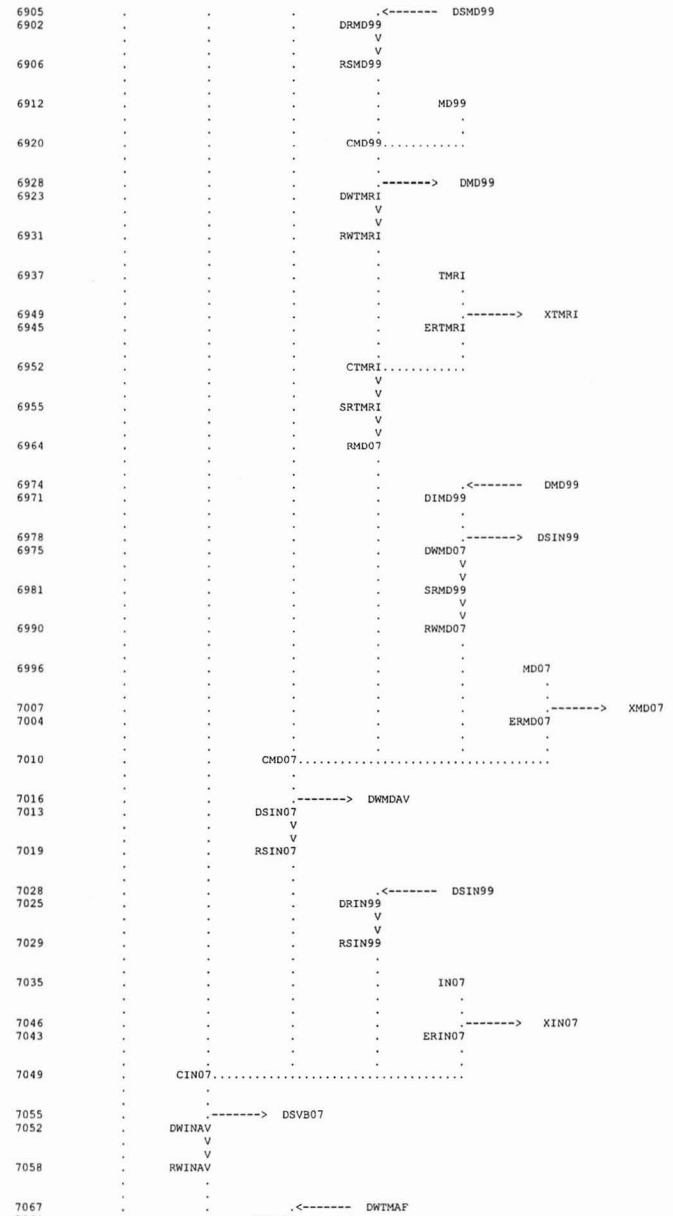
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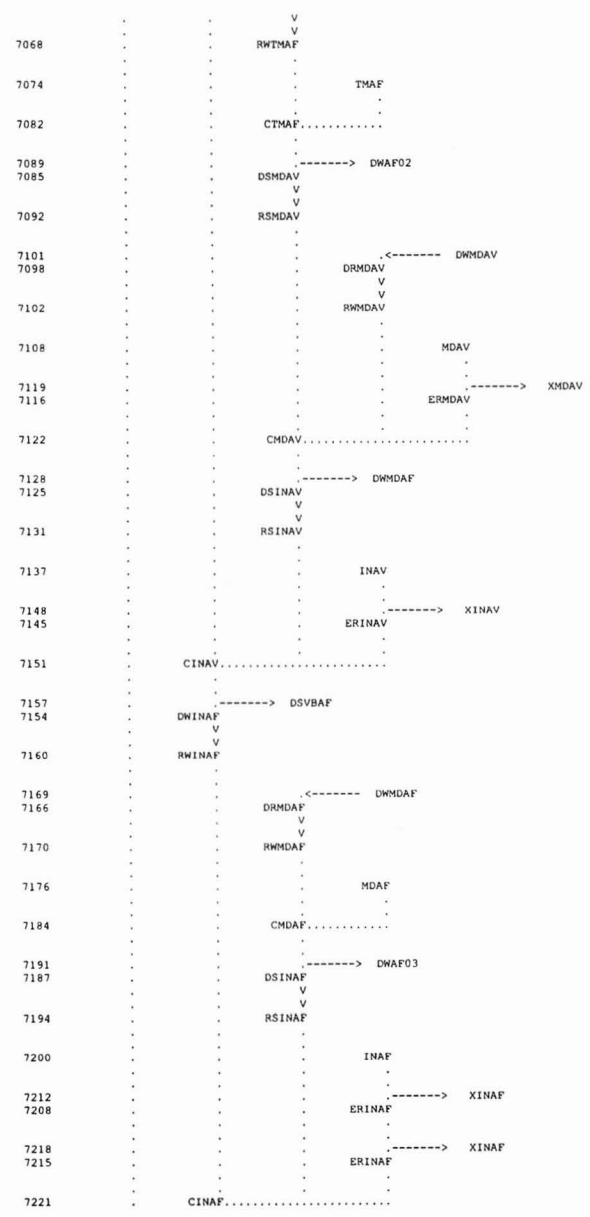

(***) RUNOFF ALSO COMPUTED AT THIS LOCATION

1**********
* *
* FLOOD HYDROGRAPH PACKAGE (HEC-1) *
* JUN 1998 *
* VERSION 4.1 *
* *
* RUN DATE 01NOV10 TIME 11:12:12 *
* *
****

****
* *
* U.S. ARMY CORPS OF ENGINEERS *
* HYDROLOGIC ENGINEERING CENTER *
* 609 SECOND STREET *
* DAVIS, CALIFORNIA 95616 *
* (916) 756-1104 *
* *
****

GLENDALE STORMWATER MANAGEMENT PLAN
Model for Maryvale Watershed
Future Conditions

Prepared for the City of Glendale
In Association with the Flood Control District of Maricopa County
City Project Number 089017

Prepared by Kimley-Horn and Associates, Inc.
KHA Project Number 091910009
October 2010

MODELING PARAMETERS
- 10 Year 6 Hour Storm Event
- NOAA 14 Rainfall Data
- Clark Unit Hydrograph
- Green and Ampt Rainfall Loss Method

Topo data extracted from Flood Control District database July 24, 2009
Land use obtained from City of Glendale General Plan August 2009, City of Phoenix General Plan August 2009, and MAG General Plan Land Use 2007

Storage routing data obtained from As-built records where possible
When As-built data was not available data was obtained from HEC-1 models and checked for accuracy. HEC-1 models used include:
- Maryvale ADMS, February 1997
- Maryvale model modified by DMJM for improvements along the Bethany Home Outfall Channel, file BHGC00C6.dat, November 2004
- Update to ponding areas along Grand Canal in the City of Glendale for a CLOMR by PEC, February 2008

The source of data is identified on each individual storage routing card

****

MODELING NOMENCLATURE
SUBBASIN HYDROGRAPH:
Example: OL51 - the subbasin northeast of Olive and 51st Avenue

STORM DRAIN DIVERSION:
Example: DOL51 - flow from subbasin OL51 is diverted to a storm drain

SUBBASIN DIVERSION:
Example: DWOL59 - flow is diverted west towards Olive and 59th Avenue
Example: DSNO51 - flow is diverted south towards Northern and 51st Ave

ROUTE HYDROGRAPH:
Example: RWOL59 - flow is routed west towards Olive and 59th Avenue
Example: RSNO59 - flow is routed south towards Northern and 59th Ave

COMBINE HYDROGRAPH:
Example: COL59 - combine flow at Olive and 59th Avenue

NAME ABBREVIATIONS

Jomax Road	JM
Happy Valley Road	HV
Pinnacle Peak Road	PP
Deer Valley Road	DV
Loop 101	LO
Beardsley Road	BY
Union Hills Drive	UH
Bell Road	BL
Greenway Road	GW
Thunderbird Road	TB
Cactus Road	CT
Peoria Avenue	PE
Olive Avenue	OL
Northern Avenue	NO
Glendale Avenue	GL
Bethany Home Road	BH
Camelback Road	CB
Indian School Road	IS
Thomas Road	TM
McDowell Road	MD
Interstate 10	IN
Van Buren Street	VB
Avondale Boulevard	AV
Grand Avenue	GR
Grand Canal	GC
Brown Street	BR

```
                    Mountain View Road      MV
                    Orangewood Avenue       OW
                    Mitchell Drive          ML
                    Agua Fria River         AF
                    New River               NR
                    Skunk Creek             SK
                    Roosevelt Irrigation    RI

                 PREFIXES FOR MODELING OPERATIONS
                    RW      Routing flow in the west direction
                    RS      Routing flow in the south direction
                    RP      Routing storm drain pipe flow
                    C       Combination point
                    CI      Combination point at an intersection
                    CP      Combination point for storm drain pipe flow
                    SR      Storage for detention/retention basins
                    DW      Divert flow to the west
                    DE      Divert flow to the east
                    DS      Divert flow to the south
                    DN      Divert flow to the north
                    ER      Divert flow for existing 100-yr 2-hr retention
                    X       Existing retention divertion does not return to model
                    DR      Divert retrieval from surface flow
                    DI      Divert retrieval from intersection flow
                    D       Divert surface flow (remains after storm drain divert)
                    DP      Divert flow to a storm drain pipe
                    PR      Divert retrieval from a storm drain pipe

                 *********************************************************************

111 IO           OUTPUT CONTROL VARIABLES
                       IPRNT          5  PRINT CONTROL
                       IPLOT          0  PLOT CONTROL
                       QSCAL         0.  HYDROGRAPH PLOT SCALE

    IT           HYDROGRAPH TIME DATA
                        NMIN          5  MINUTES IN COMPUTATION INTERVAL
                       IDATE     1    0  STARTING DATE
                       ITIME       0000  STARTING TIME
                          NQ       1000  NUMBER OF HYDROGRAPH ORDINATES
                      NDDATE     4    0  ENDING DATE
                      NDTIME       1115  ENDING TIME
                       ICENT         19  CENTURY MARK

                   COMPUTATION INTERVAL     .08 HOURS
                        TOTAL TIME BASE   83.25 HOURS

       ENGLISH UNITS
            DRAINAGE AREA           SQUARE MILES
            PRECIPITATION DEPTH     INCHES
            LENGTH, ELEVATION       FEET
            FLOW                    CUBIC FEET PER SECOND
            STORAGE VOLUME          ACRE-FEET
            SURFACE AREA            ACRES
            TEMPERATURE             DEGREES FAHRENHEIT

112 JD           INDEX STORM NO. 1
                       STRM       1.73  PRECIPITATION DEPTH
                       TRDA        .00  TRANSPOSITION DRAINAGE AREA

113 PI             PRECIPITATION PATTERN
                      .00     .00     .00     .00     .00     .00     .00     .00     .00     .00
                      .00     .00     .00     .00     .00     .00     .00     .00     .00     .00
                      .00     .00     .00     .00     .00     .00     .00     .00     .00     .00
                      .00     .00     .00     .01     .01     .01     .01     .01     .01     .03
                      .03     .03     .05     .05     .05     .15     .15     .15     .03     .03
                      .03     .01     .01     .01     .01     .01     .01     .00     .00     .00
                      .00     .00     .00     .00     .00     .00     .00     .00     .00     .00
                      .00     .00

116 JD           INDEX STORM NO. 2
                       STRM       1.72  PRECIPITATION DEPTH
                       TRDA        .50  TRANSPOSITION DRAINAGE AREA

117 PI             PRECIPITATION PATTERN
                      .00     .00     .00     .00     .00     .00     .00     .00     .00     .00
                      .00     .00     .00     .00     .00     .00     .00     .00     .00     .00
                      .00     .00     .00     .00     .00     .00     .00     .00     .00     .00
                      .00     .00     .00     .01     .01     .01     .01     .01     .01     .03
                      .03     .03     .05     .05     .05     .15     .15     .15     .03     .03
                      .03     .01     .01     .01     .01     .01     .01     .00     .00     .00
                      .00     .00     .00     .00     .00     .00     .00     .00     .00     .00
                      .00     .00

120 JD           INDEX STORM NO. 3
                       STRM       1.68  PRECIPITATION DEPTH
                       TRDA       2.80  TRANSPOSITION DRAINAGE AREA

121 PI             PRECIPITATION PATTERN
                      .00     .00     .00     .00     .00     .00     .00     .00     .00     .00
                      .00     .00     .00     .00     .00     .00     .00     .00     .00     .00
                      .00     .00     .00     .00     .00     .00     .00     .00     .00     .00
                      .00     .00     .00     .01     .01     .01     .01     .01     .01     .03
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                      .03     .03     .07     .07     .07     .08     .08     .08     .05     .05
                      .05     .02     .02     .02     .01     .01     .01     .00     .00     .00
                      .00     .00     .00     .00     .00     .00     .00     .00     .00     .00
                      .00     .00

124 JD           INDEX STORM NO. 4
                       STRM       1.59  PRECIPITATION DEPTH
                       TRDA      16.00  TRANSPOSITION DRAINAGE AREA

125 PI             PRECIPITATION PATTERN
                      .01     .01     .00     .00     .00     .00     .00     .00     .00     .01
                      .01     .01     .00     .01     .00     .00     .00     .00     .00     .00
                      .00     .00     .01     .00     .00     .00     .00     .01     .01     .01
                      .01     .01     .01     .01     .01     .01     .02     .02     .02     .03
                      .03     .03     .06     .06     .06     .07     .07     .07     .04     .04
                      .04     .02     .02     .02     .01     .01     .01     .01     .01     .01
                      .00     .00     .00     .00     .00     .00     .00     .00     .00     .00
                      .00     .00

128 JD           INDEX STORM NO. 5
                       STRM       1.40  PRECIPITATION DEPTH
                       TRDA      90.00  TRANSPOSITION DRAINAGE AREA

129 PI             PRECIPITATION PATTERN
                      .01     .01     .01     .00     .00     .00     .01     .01     .01     .01
                      .01     .01     .01     .01     .01     .01     .01     .01     .01     .01
                      .01     .01     .01     .01     .01     .01     .01     .01     .01     .01
                      .01     .01     .01     .01     .01     .01     .02     .02     .02     .03
                      .03     .03     .05     .05     .05     .05     .05     .05     .04     .04
                      .04     .02     .02     .02     .02     .02     .02     .01     .01     .01
                      .01     .01     .01     .01     .01     .01     .01     .01     .01     .01
                      .01     .01

132 JD           INDEX STORM NO. 6
                       STRM       1.38  PRECIPITATION DEPTH
                       TRDA     100.00  TRANSPOSITION DRAINAGE AREA

133 PI             PRECIPITATION PATTERN
                      .01     .01     .01     .00     .01     .00     .01     .01     .01     .01
                      .01     .01     .01     .01     .01     .01     .01     .01     .01     .01
                      .01     .01     .01     .01     .01     .01     .01     .01     .01     .01
                      .01     .01     .01     .01     .01     .01     .02     .02     .02     .03
                      .03     .03     .04     .04     .04     .05     .05     .05     .04     .04
                      .04     .02     .02     .02     .02     .02     .02     .01     .01     .01
                      .01     .01     .01     .01     .01     .01     .01     .01     .01     .01
                      .01     .01

         *** FDKRUT WARNING TIME STEP CALCULATION FAILED TO CONVERGE. STABILITY PROBLEMS MAY RESULT


 ***  Multiple FDKRUT Warnings deleted from model for brevity and in consideration of the environment when printing ***

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RUNOFF SUMMARY
FLOW IN CUBIC FEET PER SECOND
TIME IN HOURS, AREA IN SQUARE MILES

	OPERATION	STATION	PEAK FLOW	TIME OF PEAK	AVERAGE FLOW FOR MAXIMUM PERIOD 6-HOUR	24-HOUR	72-HOUR	BASIN AREA	MAXIMUM STAGE	TIME OF MAX STAGE
+	HYDROGRAPH AT	GW83	68.	4.75	26.	7.	2.	.29		
+	DIVERSION TO	DPGW83	45.	4.42	23.	6.	2.	.29		
+	HYDROGRAPH AT	DGW83	23.	4.75	3.	1.	0.	.29		
+	DIVERSION TO	DWSK01	13.	4.75	2.	0.	0.	.29		
+	HYDROGRAPH AT	DSTB83	10.	4.75	1.	0.	0.	.29		
+	ROUTED TO	RSTB83	7.	5.92	1.	0.	0.	.29		
+	HYDROGRAPH AT	TB67	178.	4.33	32.	8.	3.	.26		
+	DIVERSION TO	DSCT67	71.	4.33	13.	3.	1.	.26		
+	HYDROGRAPH AT	DWTB75	107.	4.33	19.	5.	2.	.26		
+	ROUTED TO	RWTB75	83.	5.00	19.	5.	2.	.26		
	HYDROGRAPH AT									

+		TB75	401.	4.67	116.	30.	10.	1.03
+	DIVERSION TO	XTB75	229.	4.25	20.	5.	2.	1.03
+	HYDROGRAPH AT	ERTB75	401.	4.67	99.	25.	8.	1.03
+	2 COMBINED AT	CTB75	443.	4.83	116.	29.	10.	1.18
+	DIVERSION TO	DPTB75	161.	4.42	68.	17.	6.	1.18
+	HYDROGRAPH AT	DTB75	282.	4.83	48.	12.	4.	1.18
+	DIVERSION TO	DSCT75	127.	4.83	22.	5.	2.	1.18
+	HYDROGRAPH AT	DWTB83	155.	4.83	26.	7.	2.	1.18
+	ROUTED TO	RWTB83	121.	5.42	26.	7.	2.	1.18
+	HYDROGRAPH AT	TB83	295.	4.75	99.	26.	9.	.99
+	DIVERSION TO	XTB83	295.	4.75	39.	10.	3.	.99
+	HYDROGRAPH AT	ERTB83	270.	5.08	63.	16.	5.	.99
+	3 COMBINED AT	CTB83	332.	5.33	84.	21.	7.	1.77
+	HYDROGRAPH AT	PRTB75	161.	4.42	68.	17.	6.	1.18
+	ROUTED TO	RPTB83	161.	4.58	68.	17.	6.	1.18
+	2 COMBINED AT	CPTB83	493.	5.33	151.	38.	13.	1.77
+	DIVERSION TO	DPTB83	247.	5.00	111.	28.	9.	1.77
+	HYDROGRAPH AT	DTB83	246.	5.33	41.	10.	3.	1.77
+	DIVERSION TO	DSCT83	175.	5.33	29.	7.	2.	1.77
+	HYDROGRAPH AT	DWTBLO	71.	5.33	12.	3.	1.	1.77
+	ROUTED TO	RWTBLO	65.	5.50	12.	3.	1.	1.77
+	HYDROGRAPH AT	TBLO	49.	4.50	15.	4.	1.	.10
+	DIVERSION TO	XTBLO	49.	4.50	15.	4.	1.	.10
+	HYDROGRAPH AT	ERTBLO	0.	.00	0.	0.	0.	.10
+	2 COMBINED AT	CTBLO	84.	5.42	15.	4.	1.	.62
+	HYDROGRAPH AT	PRTB83	247.	5.00	111.	28.	9.	1.77
+	ROUTED TO	RPTBLO	247.	5.08	111.	28.	9.	1.77
+	2 COMBINED AT	CPTBLO	331.	5.42	128.	32.	11.	.62
+	ROUTED TO	RSCTLO	327.	5.58	128.	32.	11.	.62
+	HYDROGRAPH AT	CT59	148.	4.50	36.	9.	3.	.30
+	DIVERSION TO	XCT59	148.	4.50	36.	9.	3.	.30
	HYDROGRAPH AT							

+		ERCT59	0.	.00	0.	0.	0.	.30
+	DIVERSION TO	DP59CT	0.	.00	0.	0.	0.	.30
+	HYDROGRAPH AT	D59CT	0.	.00	0.	0.	0.	.30
+	DIVERSION TO	DSPE59	0.	.00	0.	0.	0.	.30
+	HYDROGRAPH AT	DWCT67	0.	.00	0.	0.	0.	.30
+	ROUTED TO	RWCT67	0.	.00	0.	0.	0.	.30
+	HYDROGRAPH AT	DRCT67	71.	4.33	13.	3.	1.	.26
+	ROUTED TO	RSCT67	58.	4.92	13.	3.	1.	.26
+	HYDROGRAPH AT	CT67	339.	4.67	97.	25.	8.	.91
+	DIVERSION TO	XCT67	339.	4.67	54.	14.	5.	.91
+	HYDROGRAPH AT	ERCT67	249.	5.25	45.	11.	4.	.91
+	3 COMBINED AT	CCT67	287.	5.25	56.	14.	5.	1.11
+	DIVERSION TO	DPCT67	268.	5.25	55.	14.	5.	1.11
+	HYDROGRAPH AT	DCT67	43.	5.08	1.	0.	0.	1.11
+	DIVERSION TO	DSPE67	18.	5.08	1.	0.	0.	1.11
+	HYDROGRAPH AT	DWCT75	24.	5.08	1.	0.	0.	1.11
+	ROUTED TO	RWCT75	5.	6.00	1.	0.	0.	1.11
+	HYDROGRAPH AT	DRCT75	127.	4.83	22.	5.	2.	1.18
+	ROUTED TO	RSCT75	101.	5.33	22.	5.	2.	1.18
+	HYDROGRAPH AT	CT75	343.	4.75	113.	29.	10.	1.00
+	DIVERSION TO	XCT75	343.	4.75	59.	15.	5.	1.00
+	HYDROGRAPH AT	ERCT75	276.	5.33	58.	14.	5.	1.00
+	3 COMBINED AT	CCT75	352.	5.33	73.	18.	6.	2.17
+	HYDROGRAPH AT	PRCT67	268.	5.25	55.	14.	5.	1.11
+	ROUTED TO	RPCT75	261.	5.42	55.	14.	5.	1.11
+	2 COMBINED AT	CPCT75	595.	5.42	124.	31.	10.	2.17
+	DIVERSION TO	DPCT75	595.	5.42	123.	31.	10.	2.17
+	HYDROGRAPH AT	DCT75	6.	5.25	0.	0.	0.	2.17
+	DIVERSION TO	DSPE75	3.	5.25	0.	0.	0.	2.17
+	HYDROGRAPH AT	DWCT83	3.	5.25	0.	0.	0.	2.17
+	ROUTED TO	RWCT83	0.	6.00	0.	0.	0.	2.17
	HYDROGRAPH AT							

+		DRCT83	175.	5.33	29.	7.	2.	1.77
+	ROUTED TO	RSCT83	144.	5.83	29.	7.	2.	1.77
+	HYDROGRAPH AT	CT83	353.	4.75	117.	30.	10.	1.01
+	DIVERSION TO	XCT83	353.	4.75	58.	15.	5.	1.01
+	HYDROGRAPH AT	ERCT83	289.	5.25	63.	16.	5.	1.01
+	3 COMBINED AT	CCT83	308.	5.75	80.	20.	7.	3.34
+	HYDROGRAPH AT	PRCT75	595.	5.42	123.	31.	10.	2.17
+	ROUTED TO	RPCT83	590.	5.50	124.	31.	10.	2.17
+	2 COMBINED AT	CPCT83	805.	5.50	196.	49.	16.	3.34
+	DIVERSION TO	DPCT83	655.	5.75	183.	46.	15.	3.34
+	HYDROGRAPH AT	DCT83	180.	5.50	13.	3.	1.	3.34
+	DIVERSION TO	DSPE83	74.	5.50	5.	1.	0.	3.34
+	HYDROGRAPH AT	DWCTLO	106.	5.50	7.	2.	1.	3.34
+	ROUTED TO	RWCTLO	41.	6.33	7.	2.	1.	3.34
+	HYDROGRAPH AT	CTLO	293.	4.83	110.	29.	10.	.87
+	DIVERSION TO	XCTLO	293.	4.83	93.	23.	8.	.87
+	HYDROGRAPH AT	ERCTLO	84.	6.83	23.	6.	2.	.87
+	3 COMBINED AT	CCTLO	327.	6.17	145.	36.	12.	3.46
+	HYDROGRAPH AT	PRCT83	655.	5.75	183.	46.	15.	3.34
+	ROUTED TO	RPCTLO	654.	5.92	183.	46.	15.	3.34
+	2 COMBINED AT	CPCTLO	968.	6.00	323.	81.	27.	3.46
+	DIVERSION TO	DWNR01	968.	6.00	323.	81.	27.	3.46
+	HYDROGRAPH AT	DSCTLO	0.	.00	0.	0.	0.	3.46
+	DIVERSION TO	DSGR91	0.	.00	0.	0.	0.	3.46
+	HYDROGRAPH AT	DSPELO	0.	.00	0.	0.	0.	3.46
+	HYDROGRAPH AT	PE51	226.	4.50	55.	14.	5.	.42
+	DIVERSION TO	DSOL51	90.	4.50	22.	6.	2.	.42
+	HYDROGRAPH AT	DWPE59	135.	4.50	33.	8.	3.	.42
+	ROUTED TO	RWPE59	108.	5.33	33.	8.	3.	.42
+	HYDROGRAPH AT	DRPE59	0.	.00	0.	0.	0.	.30
+	ROUTED TO	RSPE59	0.	.00	0.	0.	0.	.30
	HYDROGRAPH AT							

+		PE59	360.	4.75	118.	31.	10.	.99
+	DIVERSION TO	XPE59	235.	4.33	17.	4.	1.	.99
+	HYDROGRAPH AT	ERPE59	360.	4.75	105.	26.	9.	.99
+	3 COMBINED AT	CPE59	414.	5.00	134.	34.	11.	1.44
+	HYDROGRAPH AT	PR59CT	0.	.00	0.	0.	0.	.30
+	2 COMBINED AT	CPPE59	414.	5.00	134.	34.	11.	1.44
+	DIVERSION TO	DP59PE	235.	4.42	102.	26.	9.	1.44
+	HYDROGRAPH AT	D59PE	179.	5.00	31.	8.	3.	1.44
+	DIVERSION TO	DSOL59	102.	5.00	18.	4.	1.	1.44
+	HYDROGRAPH AT	DWPE67	77.	5.00	14.	3.	1.	1.44
+	ROUTED TO	RWPE67	56.	5.75	14.	3.	1.	1.44
+	HYDROGRAPH AT	DRPE67	18.	5.08	1.	0.	0.	1.11
+	ROUTED TO	RSPE67	4.	6.17	1.	0.	0.	1.11
+	HYDROGRAPH AT	PE67	336.	4.75	113.	29.	10.	.96
+	DIVERSION TO	XPE67	336.	4.75	110.	28.	9.	.96
+	HYDROGRAPH AT	ERPE67	29.	7.33	5.	1.	0.	.96
+	3 COMBINED AT	CPE67	53.	5.92	15.	4.	1.	2.06
+	ROUTED TO	SRPE67	3.	8.33	1.	0.	0.	2.06
+	DIVERSION TO	DP67PE	3.	8.33	1.	0.	0.	2.06
+	HYDROGRAPH AT	D67PE	0.	.00	0.	0.	0.	2.06
+	DIVERSION TO	DSOL67	0.	.00	0.	0.	0.	2.06
+	HYDROGRAPH AT	DWPE75	0.	.00	0.	0.	0.	2.06
+	ROUTED TO	RWPE75	0.	.00	0.	0.	0.	2.06
+	HYDROGRAPH AT	DRPE75	3.	5.25	0.	0.	0.	2.17
+	ROUTED TO	RSPE75	0.	6.00	0.	0.	0.	2.17
+	HYDROGRAPH AT	PE75	354.	4.75	118.	31.	10.	1.01
+	DIVERSION TO	XPE75	230.	4.33	19.	5.	2.	1.01
+	HYDROGRAPH AT	ERPE75	354.	4.75	103.	26.	9.	1.01
+	3 COMBINED AT	CPE75	313.	4.83	96.	24.	8.	3.36
+	DIVERSION TO	DP75PE	179.	4.50	75.	19.	6.	3.36
+	HYDROGRAPH AT	D75PE	134.	4.83	21.	5.	2.	3.36
	DIVERSION TO							

+		DSOL75	70.	4.83	11.	3.	1.	3.36
+	HYDROGRAPH AT	DWPE83	64.	4.83	10.	2.	1.	3.36
+	ROUTED TO	RWPE83	37.	5.83	10.	2.	1.	3.36
+	HYDROGRAPH AT	DRPE83	74.	5.50	5.	1.	0.	3.34
+	ROUTED TO	RSPE83	25.	6.42	5.	1.	0.	3.34
+	HYDROGRAPH AT	PE83	385.	4.75	129.	33.	11.	1.00
+	DIVERSION TO	XPE83	385.	4.75	74.	19.	6.	1.00
+	HYDROGRAPH AT	ERPE83	282.	5.42	59.	15.	5.	1.00
+	3 COMBINED AT	CPE83	270.	5.67	67.	17.	6.	3.97
+	DIVERSION TO	DPPE83	112.	5.58	44.	11.	4.	3.97
+	HYDROGRAPH AT	DPE83	158.	5.67	23.	6.	2.	3.97
+	DIVERSION TO	DSGR83	76.	5.67	11.	3.	1.	3.97
+	HYDROGRAPH AT	DWGR91	82.	5.67	12.	3.	1.	3.97
+	DIVERSION TO	DWPE91	30.	5.67	4.	1.	0.	3.97
+	HYDROGRAPH AT	DGR91	53.	5.67	8.	2.	1.	3.97
+	HYDROGRAPH AT	DRGR91	0.	.00	0.	0.	0.	3.46
+	ROUTED TO	RSGR91	0.	.00	0.	0.	0.	3.46
+	HYDROGRAPH AT	GR91	315.	4.50	71.	18.	6.	.51
+	DIVERSION TO	XGR91	315.	4.50	58.	14.	5.	.51
+	HYDROGRAPH AT	ERGR91	112.	5.42	14.	4.	1.	.51
+	3 COMBINED AT	CGR91	134.	5.58	18.	5.	2.	3.58
+	DIVERSION TO	DSPE91	90.	5.58	12.	3.	1.	3.58
+	HYDROGRAPH AT	DWGRLO	44.	5.58	6.	2.	1.	3.58
+	2 COMBINED AT	CGRLO	50.	5.58	7.	2.	1.	2.91
+	ROUTED TO	RSPELO	37.	5.83	7.	2.	1.	2.91
+	DIVERSION TO	DWNR02	37.	5.83	7.	2.	1.	2.91
+	HYDROGRAPH AT	DSOLLO	0.	.00	0.	0.	0.	2.91
+	HYDROGRAPH AT	DRPE91	90.	5.58	12.	3.	1.	3.58
+	ROUTED TO	SRGR91	25.	6.50	2.	1.	0.	3.58
+	HYDROGRAPH AT	DIPE91	30.	5.67	4.	1.	0.	3.97
+	2 COMBINED AT	CIPEGR	38.	6.50	7.	2.	1.	3.14
	ROUTED TO							
+								

+		RWPE91	22.	7.00	7.	2.	1.	3.14
+	HYDROGRAPH AT	PE91	335.	4.42	73.	19.	6.	.51
+	DIVERSION TO	XPE91	323.	4.33	26.	7.	2.	.51
+	HYDROGRAPH AT	ERPE91	328.	4.50	48.	12.	4.	.51
+	2 COMBINED AT	CPE91	258.	4.58	50.	13.	4.	3.65
+	HYDROGRAPH AT	PRPE83	112.	5.58	44.	11.	4.	3.97
+	ROUTED TO	RPPE91	112.	5.75	45.	11.	4.	3.97
+	2 COMBINED AT	CPPE91	258.	4.58	95.	24.	8.	3.65
+	DIVERSION TO	DPPE91	147.	4.58	81.	20.	7.	3.65
+	HYDROGRAPH AT	DPE91	111.	4.58	14.	3.	1.	3.65
+	DIVERSION TO	DSOL91	61.	4.58	8.	2.	1.	3.65
+	HYDROGRAPH AT	DWPELO	50.	4.58	6.	2.	1.	3.65
+	ROUTED TO	RWPELO	31.	4.92	6.	2.	1.	3.65
+	HYDROGRAPH AT	PELO	115.	4.58	35.	9.	3.	.27
+	DIVERSION TO	XPELO	115.	4.58	18.	5.	2.	.27
+	HYDROGRAPH AT	ERPELO	93.	5.00	18.	5.	2.	.27
+	3 COMBINED AT	CPELO	79.	5.33	20.	5.	2.	4.81
+	HYDROGRAPH AT	PRPE91	147.	4.58	81.	20.	7.	3.65
+	ROUTED TO	RPPELO	147.	4.67	81.	20.	7.	3.65
+	2 COMBINED AT	CPPELO	222.	5.33	99.	25.	8.	4.81
+	DIVERSION TO	DPPELO	222.	5.33	99.	25.	8.	4.81
+	HYDROGRAPH AT	DPELO	0.	.00	0.	0.	0.	4.81
+	ROUTED TO	RSOLLO	0.	.00	0.	0.	0.	4.81
+	HYDROGRAPH AT	OL35	101.	4.42	28.	7.	2.	.21
+	DIVERSION TO	DP35OL	61.	4.17	24.	6.	2.	.21
+	HYDROGRAPH AT	D35OL	40.	4.42	4.	1.	0.	.21
+	DIVERSION TO	DSNO35	28.	4.42	3.	1.	0.	.21
+	HYDROGRAPH AT	DWOL43	12.	4.42	1.	0.	0.	.21
+	ROUTED TO	RWOL43	7.	5.58	1.	0.	0.	.21
+	HYDROGRAPH AT	OL43	198.	4.67	62.	16.	5.	.63
+	2 COMBINED AT	COL43	195.	4.67	63.	16.	5.	.70
	DIVERSION TO							

+		DP43OL	85.	4.25	43.	11.	4.	.70
+	HYDROGRAPH AT	D43OL	110.	4.67	20.	5.	2.	.70
+	DIVERSION TO	DSNO43	65.	4.67	12.	3.	1.	.70
+	HYDROGRAPH AT	DWOL51	45.	4.67	8.	2.	1.	.70
+	ROUTED TO	RWOL51	35.	5.67	8.	2.	1.	.70
+	HYDROGRAPH AT	DROL51	90.	4.50	22.	6.	2.	.42
+	ROUTED TO	RSOL51	70.	5.50	22.	6.	2.	.42
+	HYDROGRAPH AT	OL51	341.	4.75	115.	30.	10.	.99
+	DIVERSION TO	XOL51	141.	4.17	12.	3.	1.	.99
+	HYDROGRAPH AT	EROL51	341.	4.75	107.	27.	9.	.99
+	3 COMBINED AT	COL51	368.	5.00	131.	33.	11.	1.45
+	DIVERSION TO	DPOL51	297.	4.58	121.	30.	10.	1.45
+	HYDROGRAPH AT	DOL51	71.	5.00	10.	2.	1.	1.45
+	DIVERSION TO	DSNO51	24.	5.00	3.	1.	0.	1.45
+	HYDROGRAPH AT	DWOL59	47.	5.00	7.	2.	1.	1.45
+	ROUTED TO	RWOL59	32.	5.83	7.	2.	1.	1.45
+	HYDROGRAPH AT	DROL59	102.	5.00	18.	4.	1.	1.44
+	ROUTED TO	RSOL59	71.	5.83	18.	4.	1.	1.44
+	HYDROGRAPH AT	OL59	361.	4.75	121.	31.	10.	.99
+	DIVERSION TO	XOL59	361.	4.75	44.	11.	4.	.99
+	HYDROGRAPH AT	EROL59	344.	5.00	81.	20.	7.	.99
+	3 COMBINED AT	COL59	331.	5.00	95.	24.	8.	2.78
+	HYDROGRAPH AT	PR59PE	235.	4.42	102.	26.	9.	1.44
+	ROUTED TO	RP59BR	235.	4.50	102.	26.	9.	1.44
+	DIVERSION TO	DPBR59	161.	4.42	81.	20.	7.	1.44
+	HYDROGRAPH AT	DBR59	74.	4.50	22.	5.	2.	1.44
+	ROUTED TO	RP59OL	74.	4.58	22.	5.	2.	1.44
+	HYDROGRAPH AT	PROL51	297.	4.58	121.	30.	10.	1.45
+	ROUTED TO	RPOL59	297.	4.75	121.	31.	10.	1.45
+	3 COMBINED AT	CPOL59	681.	5.08	226.	57.	19.	4.22
+	DIVERSION TO	DPOL59	475.	5.00	196.	49.	16.	4.22
	HYDROGRAPH AT							

+		DOL59	206.	5.08	30.	8.	3.	4.22
+	DIVERSION TO	DSNO59	126.	5.08	18.	5.	2.	4.22
+	HYDROGRAPH AT	DWOL67	80.	5.08	12.	3.	1.	4.22
+	ROUTED TO	RWOL67	53.	6.00	12.	3.	1.	4.22
+	HYDROGRAPH AT	DROL67	0.	.00	0.	0.	0.	2.06
+	ROUTED TO	RSOL67	0.	.00	0.	0.	0.	2.06
+	HYDROGRAPH AT	OL67	360.	4.75	115.	30.	10.	.96
+	DIVERSION TO	XOL67	360.	4.75	80.	20.	7.	.96
+	HYDROGRAPH AT	EROL67	188.	5.75	39.	10.	3.	.96
+	3 COMBINED AT	COL67	232.	5.75	46.	12.	4.	2.84
+	HYDROGRAPH AT	PRBR59	161.	4.42	81.	20.	7.	1.44
+	ROUTED TO	RPBR63	161.	4.50	81.	20.	7.	1.44
+	ROUTED TO	SRBR63	166.	5.17	77.	20.	7.	1.44
+	ROUTED TO	RP63OL	162.	5.25	77.	20.	7.	1.44
+	HYDROGRAPH AT	PROL59	475.	5.00	196.	49.	16.	4.22
+	ROUTED TO	RPOL63	475.	5.08	196.	49.	16.	4.22
+	2 COMBINED AT	CPOL63	636.	5.33	277.	71.	24.	2.84
+	ROUTED TO	RPOL67	636.	5.42	277.	71.	24.	2.84
+	HYDROGRAPH AT	PR67PE	3.	8.33	1.	0.	0.	2.06
+	ROUTED TO	SR67MV	1.	9.42	1.	0.	0.	2.06
+	3 COMBINED AT	CPOL67	784.	5.75	306.	78.	26.	5.68
+	DIVERSION TO	DPOL67	662.	6.17	294.	75.	25.	5.68
+	HYDROGRAPH AT	DOL67	124.	5.75	12.	3.	1.	5.68
+	DIVERSION TO	DSNO67	54.	5.75	5.	1.	0.	5.68
+	HYDROGRAPH AT	DWOL75	69.	5.75	7.	2.	1.	5.68
+	ROUTED TO	RWOL75	29.	6.58	7.	2.	1.	5.68
+	HYDROGRAPH AT	DROL75	70.	4.83	11.	3.	1.	3.36
+	ROUTED TO	RSOL75	42.	5.75	11.	3.	1.	3.36
+	HYDROGRAPH AT	OL75	356.	4.75	119.	31.	10.	1.00
+	DIVERSION TO	XOL75	356.	4.75	82.	21.	7.	1.00
+	HYDROGRAPH AT	EROL75	186.	5.83	40.	10.	3.	1.00
	3 COMBINED AT							

+		COL75	176.	6.33	49.	12.	4.	4.34
+	HYDROGRAPH AT	PROL67	662.	6.17	294.	75.	25.	5.68
+	ROUTED TO	RPOL71	661.	5.92	294.	75.	25.	5.68
+	2 COMBINED AT	CPOL71	837.	5.92	347.	88.	29.	4.34
+	ROUTED TO	SROL71	561.	6.75	227.	88.	29.	4.34
+	DIVERSION TO	DPOL71	342.	7.25	213.	85.	28.	4.34
+	HYDROGRAPH AT	DOL71	221.	6.75	14.	4.	1.	4.34
+	HYDROGRAPH AT	PR75PE	179.	4.50	75.	19.	6.	3.36
+	ROUTED TO	RP75OL	179.	4.67	75.	19.	6.	3.36
+	HYDROGRAPH AT	PROL71	342.	7.25	213.	85.	28.	4.34
+	ROUTED TO	RPOL75	342.	7.25	213.	85.	28.	4.34
+	3 COMBINED AT	CPOL75	648.	6.75	286.	107.	36.	4.34
+	DIVERSION TO	DPOL75	239.	4.92	225.	92.	31.	4.34
+	HYDROGRAPH AT	DOL75	409.	6.75	61.	15.	5.	4.34
+	DIVERSION TO	DSGR75	209.	6.75	31.	8.	3.	4.34
+	HYDROGRAPH AT	DWGR83	201.	6.75	30.	8.	3.	4.34
+	HYDROGRAPH AT	DRGR83	76.	5.67	11.	3.	1.	3.97
+	DIVERSION TO	DSOL83	21.	5.67	3.	1.	0.	3.97
+	HYDROGRAPH AT	D83GR	55.	5.67	8.	2.	1.	3.97
+	ROUTED TO	RSGR83	15.	9.17	8.	2.	1.	3.97
+	HYDROGRAPH AT	GR83	301.	4.42	71.	18.	6.	.47
+	DIVERSION TO	XGR83	301.	4.42	65.	16.	5.	.47
+	HYDROGRAPH AT	ERGR83	56.	5.92	7.	2.	1.	.47
+	3 COMBINED AT	CGR83	228.	6.75	42.	11.	4.	3.99
+	ROUTED TO	SRGR83	0.	13.08	0.	0.	0.	3.99
+	DIVERSION TO	DS75NO	0.	13.08	0.	0.	0.	3.99
+	HYDROGRAPH AT	DWOL83	0.	.00	0.	0.	0.	3.99
+	ROUTED TO	RWOL83	0.	.00	0.	0.	0.	3.99
+	HYDROGRAPH AT	DIOL83	21.	5.67	3.	1.	0.	3.97
+	ROUTED TO	RSOL83	14.	6.67	3.	1.	0.	3.97
+	HYDROGRAPH AT	OL83	327.	4.50	80.	20.	7.	.54
	DIVERSION TO							

+		XOL83	327.	4.50	74.	19.	6.	.54
+	HYDROGRAPH AT	EROL83	53.	6.00	7.	2.	1.	.54
+	3 COMBINED AT	COL83	54.	6.42	11.	3.	1.	1.06
+	HYDROGRAPH AT	NO27	56.	4.50	19.	5.	2.	.13
+	DIVERSION TO	DP27NO	56.	4.50	19.	5.	2.	.13
+	HYDROGRAPH AT	D27NO	0.	.00	0.	0.	0.	.13
+	DIVERSION TO	DSGL27	0.	.00	0.	0.	0.	.13
+	HYDROGRAPH AT	DWNO35	0.	.00	0.	0.	0.	.13
+	ROUTED TO	RWNO35	0.	.00	0.	0.	0.	.13
+	HYDROGRAPH AT	DRNO35	28.	4.42	3.	1.	0.	.21
+	ROUTED TO	RSNO35	20.	5.33	3.	1.	0.	.21
+	HYDROGRAPH AT	NO35	313.	4.75	102.	26.	9.	.99
+	3 COMBINED AT	CNO35	310.	4.75	102.	27.	9.	1.14
+	HYDROGRAPH AT	PR27NO	56.	4.50	19.	5.	2.	.13
+	2 COMBINED AT	CPNO29	359.	4.75	121.	31.	10.	1.14
+	DIVERSION TO	DP29NO	114.	4.08	69.	18.	6.	1.14
+	HYDROGRAPH AT	D29NO	245.	4.75	52.	13.	4.	1.14
+	HYDROGRAPH AT	PR35OL	61.	4.17	24.	6.	2.	.21
+	ROUTED TO	RP35NO	61.	4.33	24.	6.	2.	.21
+	2 COMBINED AT	CPNO35	306.	4.75	76.	19.	6.	1.14
+	DIVERSION TO	DP35NO	113.	4.25	43.	11.	4.	1.14
+	HYDROGRAPH AT	D35NO	193.	4.75	33.	8.	3.	1.14
+	DIVERSION TO	DSGL35	89.	4.75	15.	4.	1.	1.14
+	HYDROGRAPH AT	DWNO43	104.	4.75	18.	4.	1.	1.14
+	ROUTED TO	RWNO43	74.	5.75	18.	4.	1.	1.14
+	HYDROGRAPH AT	DRNO43	65.	4.67	12.	3.	1.	.70
+	ROUTED TO	RSNO43	51.	5.67	12.	3.	1.	.70
+	HYDROGRAPH AT	NO43	303.	4.75	101.	26.	9.	1.00
+	3 COMBINED AT	CNO43	292.	5.33	119.	31.	10.	2.02
+	HYDROGRAPH AT	PR43OL	85.	4.25	43.	11.	4.	.70
+	ROUTED TO	RP43NO	85.	4.42	43.	11.	4.	.70
	2 COMBINED AT							

+		CPNO43	377.	5.33	161.	42.	14.	2.02
+	DIVERSION TO	DP43NO	241.	4.33	128.	33.	11.	2.02
+	HYDROGRAPH AT	D43NO	136.	5.33	34.	8.	3.	2.02
+	DIVERSION TO	DSGL43	70.	5.33	17.	4.	1.	2.02
+	HYDROGRAPH AT	DWNO51	67.	5.33	17.	4.	1.	2.02
+	ROUTED TO	RWNO51	55.	6.17	17.	4.	1.	2.02
+	HYDROGRAPH AT	DRNO51	24.	5.00	3.	1.	0.	1.45
+	ROUTED TO	RSNO51	15.	6.08	3.	1.	0.	1.45
+	HYDROGRAPH AT	NO51	297.	4.75	101.	26.	9.	.99
+	3 COMBINED AT	CNO51	265.	4.83	111.	29.	10.	2.47
+	DIVERSION TO	DPNO51	168.	4.33	92.	24.	8.	2.47
+	HYDROGRAPH AT	DNO51	97.	4.83	19.	5.	2.	2.47
+	DIVERSION TO	DSGL51	43.	4.83	8.	2.	1.	2.47
+	HYDROGRAPH AT	DWNO59	54.	4.83	10.	3.	1.	2.47
+	ROUTED TO	RWNO59	39.	5.75	10.	3.	1.	2.47
+	HYDROGRAPH AT	DRNO59	126.	5.08	18.	5.	2.	4.22
+	ROUTED TO	RSNO59	77.	6.25	18.	5.	2.	4.22
+	HYDROGRAPH AT	NO59	339.	4.75	113.	29.	10.	.99
+	DIVERSION TO	XNO59	339.	4.75	45.	11.	4.	.99
+	HYDROGRAPH AT	ERNO59	312.	5.08	72.	18.	6.	.99
+	3 COMBINED AT	CNO59	291.	5.17	89.	22.	7.	4.06
+	ROUTED TO	SRNO59	267.	5.67	73.	18.	6.	4.06
+	HYDROGRAPH AT	PRNO51	168.	4.33	92.	24.	8.	2.47
+	ROUTED TO	RPNO59	168.	4.50	92.	24.	8.	2.47
+	2 COMBINED AT	CPNO59	434.	5.67	161.	42.	14.	4.06
+	DIVERSION TO	DPNO59	134.	4.50	91.	24.	8.	4.06
+	HYDROGRAPH AT	DNO59	300.	5.67	70.	18.	6.	4.06
+	DIVERSION TO	DSGL59	99.	5.67	23.	6.	2.	4.06
+	HYDROGRAPH AT	DWNO67	201.	5.67	47.	12.	4.	4.06
+	ROUTED TO	RWNO67	175.	6.33	47.	12.	4.	4.06
+	HYDROGRAPH AT	DRNO67	54.	5.75	5.	1.	0.	5.68
	ROUTED TO							

+		RSNO67	20.	6.83	5.	1.	0.	5.68
+	HYDROGRAPH AT	NO67	366.	4.75	126.	33.	11.	.96
+	DIVERSION TO	XNO67	366.	4.75	109.	27.	9.	.96
+	HYDROGRAPH AT	ERNO67	89.	6.75	21.	5.	2.	.96
+	3 COMBINED AT	CNO67	224.	6.75	62.	16.	5.	4.93
+	DIVERSION TO	DSGR67	145.	6.75	40.	10.	3.	4.93
+	HYDROGRAPH AT	DWGR75	78.	6.75	22.	5.	2.	4.93
+	DIVERSION TO	DWNO75	26.	6.75	7.	2.	1.	4.93
+	HYDROGRAPH AT	DGR75	52.	6.75	15.	4.	1.	4.93
+	ROUTED TO	RWGR75	35.	8.08	14.	4.	1.	4.93
+	HYDROGRAPH AT	DRGR75	209.	6.75	31.	8.	3.	4.34
+	DIVERSION TO	DSNO75	75.	6.75	11.	3.	1.	4.34
+	HYDROGRAPH AT	D75GR	134.	6.75	20.	5.	2.	4.34
+	HYDROGRAPH AT	GR75	320.	4.42	72.	18.	6.	.50
+	DIVERSION TO	XGR75	320.	4.42	63.	16.	5.	.50
+	HYDROGRAPH AT	ERGR75	82.	5.58	11.	3.	1.	.50
+	3 COMBINED AT	CGR75	182.	6.75	46.	12.	4.	3.09
+	ROUTED TO	SRGR75	33.	8.67	31.	12.	4.	3.09
+	HYDROGRAPH AT	PROL75	239.	4.92	225.	92.	31.	4.34
+	2 COMBINED AT	CPOLGR	271.	7.92	250.	104.	35.	3.09
+	DIVERSION TO	DOLGR	32.	7.92	15.	4.	1.	3.09
+	HYDROGRAPH AT	DPOLGR	239.	4.92	235.	100.	33.	3.09
+	ROUTED TO	RPOL83	239.	5.17	235.	100.	33.	3.09
+	2 COMBINED AT	CPOL83	280.	6.50	240.	101.	34.	4.15
+	ROUTED TO	SROL83	266.	6.92	221.	101.	34.	4.15
+	DIVERSION TO	DPOL83	243.	7.00	219.	100.	33.	4.15
+	HYDROGRAPH AT	DOL83	25.	6.83	3.	1.	0.	4.15
+	DIVERSION TO	DSNO83	10.	6.83	1.	0.	0.	4.15
+	HYDROGRAPH AT	DWOL91	15.	6.83	2.	0.	0.	4.15
+	ROUTED TO	RWOL91	8.	8.00	2.	0.	0.	4.15
+	HYDROGRAPH AT	DROL91	61.	4.58	8.	2.	1.	3.65
	ROUTED TO							

+		RSOL91	22.	5.75	8.	2.	1.	3.65
+	HYDROGRAPH AT	OL91	392.	4.75	134.	35.	12.	1.02
+	DIVERSION TO	XOL91	392.	4.75	96.	24.	8.	1.02
+	HYDROGRAPH AT	EROL91	198.	5.92	43.	11.	4.	1.02
+	3 COMBINED AT	COL91	188.	5.92	46.	12.	4.	3.68
+	HYDROGRAPH AT	PROL83	243.	7.00	219.	100.	33.	4.15
+	ROUTED TO	RPOL91	243.	7.17	219.	100.	33.	4.15
+	2 COMBINED AT	CPOL91	335.	5.92	258.	112.	37.	3.68
+	DIVERSION TO	DSNO91	224.	5.92	173.	75.	25.	3.68
+	HYDROGRAPH AT	DWOLLO	111	5.92	85.	37.	12.	3.68
+	ROUTED TO	RWOLLO	110.	6.00	85.	37.	12.	3.68
+	HYDROGRAPH AT	OLLO	94.	4.42	26.	7.	2.	.16
+	DIVERSION TO	XOLLO	94.	4.42	23.	6.	2.	.16
+	HYDROGRAPH AT	EROLLO	26.	5.92	4.	1.	0.	.16
+	3 COMBINED AT	COLLO	114.	6.33	86.	37.	12.	6.18
+	ROUTED TO	RSNOLO	110.	7.33	85.	36.	12.	6.18
+	HYDROGRAPH AT	DROLGR	32.	7.92	15.	4.	1.	3.09
+	HYDROGRAPH AT	DI75NO	75.	6.75	11.	3.	1.	4.34
+	HYDROGRAPH AT	DR75NO	0.	13.08	0.	0.	0.	3.99
+	3 COMBINED AT	CIGR75	73.	6.75	20.	5.	2.	7.85
+	ROUTED TO	RSNO75	49.	7.33	18.	5.	2.	7.85
+	HYDROGRAPH AT	DINO75	26.	6.75	7.	2.	1.	4.93
+	ROUTED TO	RWNO75	21.	7.25	7.	2.	1.	4.93
+	HYDROGRAPH AT	NO75	380.	4.42	84.	21.	7.	.51
+	DIVERSION TO	XNO75	380.	4.42	39.	10.	3.	.51
+	HYDROGRAPH AT	ERNO75	346.	4.58	46.	11.	4.	.51
+	3 COMBINED AT	CNO75	251.	4.67	61.	16.	5.	8.93
+	DIVERSION TO	DPNO75	161.	4.67	56.	14.	5.	8.93
+	HYDROGRAPH AT	DNO75	90.	4.67	5.	1.	0.	8.93
+	DIVERSION TO	DSOW75	43.	4.67	2.	1.	0.	8.93
+	HYDROGRAPH AT	DWNO83	47.	4.67	3.	1.	0.	8.93
	ROUTED TO							

+		RWNO83	15.	5.17	3.	1.	0.	8.93
+	HYDROGRAPH AT	DRNO83	10.	6.83	1.	0.	0.	4.15
+	ROUTED TO	RSNO83	5.	7.75	1.	0.	0.	4.15
+	HYDROGRAPH AT	NO83	442.	4.75	160.	42.	14.	1.00
+	DIVERSION TO	XNO83	442.	4.75	150.	38.	13.	1.00
+	HYDROGRAPH AT	ERNO83	78.	7.17	17.	4.	1.	1.00
+	3 COMBINED AT	CNO83	47.	7.17	13.	3.	1.	6.05
+	HYDROGRAPH AT	PRNO75	161.	4.67	56.	14.	5.	8.93
+	ROUTED TO	RPNO83	161.	4.83	56.	14.	5.	8.93
+	2 COMBINED AT	CPNO83	178.	5.17	75.	19.	6.	6.05
+	DIVERSION TO	DPNO83	178.	5.17	75.	19.	6.	6.05
+	HYDROGRAPH AT	DNO83	0.	.00	0.	0.	0.	6.05
+	ROUTED TO	RWNO91	0.	.00	0.	0.	0.	6.05
+	HYDROGRAPH AT	DRNO91	224.	5.92	173.	75.	25.	3.68
+	ROUTED TO	RSNO91	212.	7.42	171.	75.	25.	3.68
+	HYDROGRAPH AT	NO91	348.	4.75	117.	30.	10.	.99
+	DIVERSION TO	XNO91	348.	4.75	108.	27.	9.	.99
+	HYDROGRAPH AT	ERNO91	54.	6.67	12.	3.	1.	.99
+	3 COMBINED AT	CNO91	229.	7.67	173.	75.	25.	9.52
+	HYDROGRAPH AT	PRNO83	178.	5.17	75.	19.	6.	6.05
+	ROUTED TO	RPNO91	178.	5.25	75.	19.	6.	6.05
+	2 COMBINED AT	CPNO91	290.	7.58	203.	87.	29.	9.52
+	ROUTED TO	SRNO91	192.	9.50	128.	68.	29.	9.52
+	DIVERSION TO	DPNO91	69.	9.42	69.	48.	22.	9.52
+	HYDROGRAPH AT	DNO91	123.	9.50	65.	20.	7.	9.52
+	DIVERSION TO	DSGL91	65.	9.50	34.	11.	4.	9.52
+	HYDROGRAPH AT	DWNOLO	58.	9.50	30.	9.	3.	9.52
+	ROUTED TO	RWNOLO	43.	10.50	29.	9.	3.	9.52
+	HYDROGRAPH AT	NOLO	146.	4.50	46.	12.	4.	.28
+	DIVERSION TO	XNOLO	146.	4.50	40.	10.	3.	.28
+	HYDROGRAPH AT	ERNOLO	42.	6.17	8.	2.	1.	.28
	3 COMBINED AT							

+		CNOLO	120.	7.33	104.	45.	15.	10.91
+	HYDROGRAPH AT	PRNO91	69.	9.42	69.	48.	22.	9.52
+	ROUTED TO	RPNOLO	69.	9.58	69.	48.	22.	9.52
+	2 COMBINED AT	CPNOLO	182.	10.33	158.	91.	37.	10.91
+	DIVERSION TO	DPNOLO	15.	5.42	15.	15.	10.	10.91
+	HYDROGRAPH AT	DNOLO	167.	10.33	143.	76.	28.	10.91
+	DIVERSION TO	DWNR03	167.	10.33	143.	76.	28.	10.91
+	HYDROGRAPH AT	DSGLLO	0.	.00	0.	0.	0.	10.91
+	ROUTED TO	RSGLLO	0.	.00	0.	0.	0.	10.91
+	HYDROGRAPH AT	DRGL43	70.	5.33	17.	4.	1.	2.02
+	ROUTED TO	RSGL43	62.	5.92	17.	4.	1.	2.02
+	HYDROGRAPH AT	GL43	348.	4.75	117.	30.	10.	1.00
+	2 COMBINED AT	CGL43	331.	4.92	129.	33.	11.	2.03
+	HYDROGRAPH AT	PR43NO	241.	4.33	128.	33.	11.	2.02
+	ROUTED TO	RP43GL	241.	4.50	128.	33.	11.	2.02
+	2 COMBINED AT	CPGL43	572.	4.92	257.	67.	22.	2.03
+	DIVERSION TO	DP43GL	385.	4.33	213.	56.	19.	2.03
+	HYDROGRAPH AT	D43GL	187.	4.92	44.	11.	4.	2.03
+	DIVERSION TO	DSBH43	111.	4.92	26.	6.	2.	2.03
+	HYDROGRAPH AT	DWGL51	77.	4.92	18.	5.	2.	2.03
+	ROUTED TO	RWGL51	60.	6.00	18.	5.	2.	2.03
+	HYDROGRAPH AT	DRGL51	43.	4.83	8.	2.	1.	2.47
+	ROUTED TO	RSGL51	30.	5.92	8.	2.	1.	2.47
+	HYDROGRAPH AT	GL51	306.	4.75	105.	27.	9.	1.00
+	3 COMBINED AT	CGL51	268.	4.92	119.	31.	10.	2.91
+	DIVERSION TO	DSBH51	126.	4.92	56.	15.	5.	2.91
+	HYDROGRAPH AT	DWGL59	142.	4.92	63.	16.	5.	2.91
+	DIVERSION TO	DP47GL	142.	4.92	63.	16.	5.	2.91
+	HYDROGRAPH AT	D47GL	0.	.00	0.	0.	0.	2.91
+	ROUTED TO	RWGL59	0.	.00	0.	0.	0.	2.91
+	HYDROGRAPH AT	DRGL59	99.	5.67	23.	6.	2.	4.06
	ROUTED TO							

+		RSGL59	84.	6.50	23.	6.	2.	4.06
+	HYDROGRAPH AT	GL59	321.	4.75	112.	29.	10.	1.01
+	DIVERSION TO	XGL59	321.	4.75	45.	11.	4.	1.01
+	HYDROGRAPH AT	ERGL59	295.	5.08	72.	18.	6.	1.01
+	3 COMBINED AT	CGL59	251.	5.17	84.	21.	7.	3.91
+	DIVERSION TO	DP59GL	215.	5.17	82.	20.	7.	3.91
+	HYDROGRAPH AT	D59GL	42.	5.08	2.	1.	0.	3.91
+	DIVERSION TO	DSGR59	19.	5.08	1.	0.	0.	3.91
+	HYDROGRAPH AT	DWGR67	23.	5.08	1.	0.	0.	3.91
+	DIVERSION TO	DWGL67	6.	5.08	0.	0.	0.	3.91
+	HYDROGRAPH AT	DGR67	17.	5.08	1.	0.	0.	3.91
+	HYDROGRAPH AT	DRGL35	89.	4.75	15.	4.	1.	1.14
+	ROUTED TO	RSGL35	68.	5.50	15.	4.	1.	1.14
+	HYDROGRAPH AT	GL35	300.	4.75	101.	26.	9.	1.00
+	2 COMBINED AT	CGL35	294.	4.92	111.	29.	10.	1.53
+	HYDROGRAPH AT	PR35NO	113.	4.25	43.	11.	4.	1.14
+	ROUTED TO	RP35GL	113.	4.42	43.	11.	4.	1.14
+	2 COMBINED AT	CPGL35	407.	4.92	154.	40.	13.	1.53
+	DIVERSION TO	DP35GL	226.	4.33	112.	29.	10.	1.53
+	HYDROGRAPH AT	D35GL	181.	4.92	42.	11.	4.	1.53
+	DIVERSION TO	DSBH35	110.	4.92	26.	6.	2.	1.53
+	HYDROGRAPH AT	DEGL27	70.	4.92	17.	4.	1.	1.53
+	HYDROGRAPH AT	DRGL27	0.	.00	0.	0.	0.	.13
+	ROUTED TO	RSGL27	0.	.00	0.	0.	0.	.13
+	HYDROGRAPH AT	GL27	111.	4.58	33.	8.	3.	.26
+	3 COMBINED AT	CGL27	176.	4.67	50.	13.	4.	.98
+	HYDROGRAPH AT	PR29NO	114.	4.08	69.	18.	6.	1.14
+	ROUTED TO	RP27GL	114.	4.25	69.	18.	6.	1.14
+	2 COMBINED AT	CPGL27	290.	4.67	118.	31.	10.	.98
+	DIVERSION TO	DP27GL	132.	4.08	82.	22.	7.	.98
+	HYDROGRAPH AT	D27GL	158.	4.67	37.	9.	3.	.98
	ROUTED TO							

+		RSBH27	144.	5.17	37.	9.	3.	.98
+	HYDROGRAPH AT	BH27	117.	4.50	32.	8.	3.	.26
+	2 COMBINED AT	CBH27	213.	5.00	66.	17.	6.	1.24
+	HYDROGRAPH AT	PR27GL	132.	4.08	82.	22.	7.	.98
+	ROUTED TO	RP27BH	132.	4.25	82.	22.	7.	.98
+	2 COMBINED AT	CPBH27	345.	5.00	147.	39.	13.	1.24
+	DIVERSION TO	DP27BH	132.	4.08	90.	24.	8.	1.24
+	HYDROGRAPH AT	D27BH	213.	5.00	58.	14.	5.	1.24
+	DIVERSION TO	DSCB27	213.	5.00	58.	14.	5.	1.24
+	HYDROGRAPH AT	DWBH35	0.	.00	0.	0.	0.	1.24
+	ROUTED TO	RWBH35	0.	.00	0.	0.	0.	1.24
+	HYDROGRAPH AT	DRBH35	110.	4.92	26.	6.	2.	1.53
+	ROUTED TO	RSBH35	99.	5.58	26.	6.	2.	1.53
+	HYDROGRAPH AT	BH35	473.	4.50	101.	26.	9.	1.00
+	DIVERSION TO	XBH35	23.	3.33	6.	2.	1.	1.00
+	HYDROGRAPH AT	ERBH35	473.	4.50	96.	24.	8.	1.00
+	3 COMBINED AT	CBH35	413.	4.50	114.	28.	9.	1.94
+	HYDROGRAPH AT	PR35GL	226.	4.33	112.	29.	10.	1.53
+	ROUTED TO	RP35BH	226.	4.50	112.	29.	10.	1.53
+	2 COMBINED AT	CPBH35	639.	4.50	225.	57.	19.	1.94
+	DIVERSION TO	DP35BH	226.	4.08	131.	34.	11.	1.94
+	HYDROGRAPH AT	D35BH	413.	4.50	94.	24.	8.	1.94
+	DIVERSION TO	DSCB35	413.	4.50	94.	24.	8.	1.94
+	HYDROGRAPH AT	DWBH43	0.	.00	0.	0.	0.	1.94
+	ROUTED TO	RWBH43	0.	.00	0.	0.	0.	1.94
+	HYDROGRAPH AT	DRBH43	111.	4.92	26.	6.	2.	2.03
+	ROUTED TO	RSBH43	96.	5.58	26.	6.	2.	2.03
+	HYDROGRAPH AT	BH43	264.	4.75	89.	23.	8.	.99
+	3 COMBINED AT	CBH43	270.	5.33	106.	27.	9.	2.19
+	HYDROGRAPH AT	PR43GL	385.	4.33	213.	56.	19.	2.03
+	ROUTED TO	RP43BH	385.	4.50	213.	56.	19.	2.03
+	2 COMBINED AT	CPBH43	655.	5.33	319.	83.	28.	2.19
+	DIVERSION TO	DP43BH	385.	4.25	237.	63.	21.	2.19
+	HYDROGRAPH AT	D43BH	270.	5.33	82.	20.	7.	2.19
+	DIVERSION TO	DSCB43	138.	5.33	42.	10.	3.	2.19
+	HYDROGRAPH AT	DWBH51	133.	5.33	40.	10.	3.	2.19
+	ROUTED TO	RWBH51	125.	5.92	40.	10.	3.	2.19
+	HYDROGRAPH AT	DRBH51	126.	4.92	56.	15.	5.	2.91
+	ROUTED TO	RSBH51	123.	5.42	56.	15.	5.	2.91
+	HYDROGRAPH AT	BH51	319.	4.75	110.	29.	10.	1.00
+	3 COMBINED AT	CBH51	413.	5.50	191.	50.	17.	3.42
+	HYDROGRAPH AT	PR47GL	142.	4.92	63.	16.	5.	2.91
+	ROUTED TO	RP51BH	142.	4.92	63.	16.	5.	2.91
+	2 COMBINED AT	CPBH51	541.	5.50	252.	66.	22.	3.42
+	ROUTED TO	SRBH51	538.	5.58	235.	66.	22.	3.42
+	DIVERSION TO	DSGR43	172.	5.58	75.	21.	7.	3.42
+	HYDROGRAPH AT	DWGR59	366.	5.58	160.	45.	15.	3.42
+	DIVERSION TO	DWBH59	84.	5.58	37.	10.	3.	3.42
+	HYDROGRAPH AT	DGR59	282.	5.58	123.	34.	11.	3.42
+	HYDROGRAPH AT	DRGR59	19.	5.08	1.	0.	0.	3.91
+	DIVERSION TO	DSBH59	10.	5.08	1.	0.	0.	3.91
+	HYDROGRAPH AT	D59GR	9.	5.08	1.	0.	0.	3.91
+	HYDROGRAPH AT	GR59	395.	4.33	71.	18.	6.	.52
+	3 COMBINED AT	CGR59	436.	4.58	184.	51.	17.	3.18
+	DIVERSION TO	DBH59	218.	4.58	92.	26.	9.	3.18
+	HYDROGRAPH AT	DNGR67	218.	4.58	92.	26.	9.	3.18
+	DIVERSION TO	DPGRGL	218.	4.58	92.	26.	9.	3.18
+	HYDROGRAPH AT	DGRGL	0.	.00	0.	0.	0.	3.18
+	2 COMBINED AT	CIGR59	19.	5.08	1.	0.	0.	3.15
+	ROUTED TO	RWGR67	3.	7.33	1.	0.	0.	3.15
+	HYDROGRAPH AT	DRGR67	145.	6.75	40.	10.	3.	4.93
+	HYDROGRAPH AT	GR67	330.	4.42	66.	17.	6.	.50
+	DIVERSION TO							

+		XGR67	8.	2.58	2.	1.	0.	.50
+	HYDROGRAPH AT	ERGR67	330.	4.42	65.	16.	5.	.50
+	3 COMBINED AT	CGR67	226.	4.50	89.	23.	8.	6.83
+	HYDROGRAPH AT	PRNO59	134.	4.50	91.	24.	8.	4.06
+	ROUTED TO	RPNO67	134.	4.67	91.	24.	8.	4.06
+	HYDROGRAPH AT	PR59GL	215.	5.17	82.	20.	7.	3.91
+	HYDROGRAPH AT	PRGRGL	218.	4.58	92.	26.	9.	3.18
+	2 COMBINED AT	CPGL59	432.	5.00	192.	51.	17.	1.42
+	ROUTED TO	RPGR67	430.	5.17	192.	51.	17.	1.42
+	3 COMBINED AT	CPGR67	620.	5.25	324.	86.	29.	8.25
+	ROUTED TO	SRGR67	167.	8.00	157.	86.	29.	8.25
+	DIVERSION TO	DP67GR	167.	8.00	157.	86.	29.	8.25
+	HYDROGRAPH AT	D67GR	0.	.00	0.	0.	0.	8.25
+	ROUTED TO	RSOW67	0.	.00	0.	0.	0.	8.25
+	HYDROGRAPH AT	OW67	127.	4.17	20.	5.	2.	.12
+	DIVERSION TO	XOW67	64.	3.92	5.	1.	0.	.12
+	HYDROGRAPH AT	EROW67	127.	4.17	15.	4.	1.	.12
+	2 COMBINED AT	COW67	79.	4.17	14.	3.	1.	6.95
+	HYDROGRAPH AT	PRGR67	167.	8.00	157.	86.	29.	8.25
+	ROUTED TO	RPOW67	167.	8.00	157.	86.	29.	8.25
+	2 COMBINED AT	CPOW67	170.	8.08	160.	91.	31.	6.95
+	DIVERSION TO	DPOW67	169.	7.83	160.	91.	31.	6.95
+	HYDROGRAPH AT	DOW67	1.	8.17	0.	0.	0.	6.95
+	DIVERSION TO	DSGL67	1.	8.17	0.	0.	0.	6.95
+	HYDROGRAPH AT	DWOW75	1.	8.17	0.	0.	0.	6.95
+	ROUTED TO	RWOW75	0.	9.17	0.	0.	0.	6.95
+	HYDROGRAPH AT	DROW75	43.	4.67	2.	1.	0.	8.93
+	ROUTED TO	RSOW75	17.	5.00	2.	1.	0.	8.93
+	HYDROGRAPH AT	OW75	286.	4.42	74.	19.	6.	.50
+	DIVERSION TO	XOW75	286.	4.42	57.	14.	5.	.50
+	HYDROGRAPH AT	EROW75	122.	5.42	19.	5.	2.	.50
	3 COMBINED AT							

+		COW75	68.	6.00	14.	4.	1.	8.17
+	HYDROGRAPH AT	PROW67	169.	7.83	160.	91.	31.	6.95
+	ROUTED TO	RPOW71	169.	7.92	160.	91.	31.	6.95
+	2 COMBINED AT	CPOW71	215.	6.00	170.	93.	31.	8.17
+	ROUTED TO	SROW75	170.	8.25	157.	81.	28.	8.17
+	DIVERSION TO	DPOW71	44.	6.58	44.	35.	12.	8.17
+	HYDROGRAPH AT	DOW71	126.	8.25	113.	46.	15.	8.17
+	HYDROGRAPH AT	PROW71	44.	6.58	44.	35.	12.	8.17
+	ROUTED TO	RPOW75	44.	6.75	44.	35.	12.	8.17
+	2 COMBINED AT	CPOW75	170.	8.25	157.	81.	28.	8.17
+	DIVERSION TO	DPOW75	66.	6.67	66.	48.	16.	8.17
+	HYDROGRAPH AT	DOW75	104.	8.25	91.	34.	11.	8.17
+	DIVERSION TO	DSGL75	79.	8.25	69.	26.	9.	8.17
+	HYDROGRAPH AT	DWOW83	25.	8.25	22.	8.	3.	8.17
+	ROUTED TO	RWOW83	25.	8.83	21.	8.	3.	8.17
+	HYDROGRAPH AT	OW83	167.	4.75	59.	15.	5.	.50
+	DIVERSION TO	XOW83	167.	4.75	33.	8.	3.	.50
+	HYDROGRAPH AT	EROW83	124.	5.50	28.	7.	2.	.50
+	2 COMBINED AT	COW83	103.	5.67	42.	17.	6.	2.46
+	HYDROGRAPH AT	PROW75	66.	6.67	66.	48.	16.	8.17
+	ROUTED TO	RPOW83	66.	6.92	66.	48.	16.	8.17
+	2 COMBINED AT	CPOW83	121.	6.50	101.	69.	24.	2.46
+	DIVERSION TO	DP83OW	121.	6.50	101.	69.	24.	2.46
+	HYDROGRAPH AT	D83OW	0.	.00	0.	0.	0.	2.46
+	DIVERSION TO	DSGL83	0.	.00	0.	0.	0.	2.46
+	HYDROGRAPH AT	DWOW91	0.	.00	0.	0.	0.	2.46
+	ROUTED TO	RWOW91	0.	.00	0.	0.	0.	2.46
+	HYDROGRAPH AT	DIGL67	6.	5.08	0.	0.	0.	3.91
+	ROUTED TO	RWGL67	2.	5.83	0.	0.	0.	3.91
+	HYDROGRAPH AT	GL67	243.	4.33	50.	13.	4.	.36
+	HYDROGRAPH AT	DRGL67	1.	8.17	0.	0.	0.	6.95
	ROUTED TO							

+		RSGL67	0.	8.50	0.	0.	0.	6.95
+	3 COMBINED AT	CGL67	243.	4.42	55.	14.	5.	4.47
+	DIVERSION TO	DSBH67	83.	4.42	22.	6.	2.	4.47
+	HYDROGRAPH AT	DWGL75	87.	4.42	23.	6.	2.	4.47
+	ROUTED TO	RWGL75	73.	5.00	23.	6.	2.	4.47
+	HYDROGRAPH AT	DRGL75	79.	8.25	69.	26.	9.	8.17
+	ROUTED TO	RSGL75	78.	8.58	68.	26.	9.	8.17
+	HYDROGRAPH AT	GL75	186.	4.75	66.	17.	6.	.50
+	DIVERSION TO	XGL75	186.	4.75	66.	17.	6.	.50
+	HYDROGRAPH AT	ERGL75	0.	.00	0.	0.	0.	.50
+	3 COMBINED AT	CGL75	78.	8.50	68.	31.	10.	8.97
+	DIVERSION TO	DSBH75	39.	8.50	34.	15.	5.	8.97
+	HYDROGRAPH AT	DWGL83	39.	8.50	34.	15.	5.	8.97
+	ROUTED TO	RWGL83	38.	9.75	33.	15.	5.	8.97
+	HYDROGRAPH AT	DRGL83	0.	.00	0.	0.	0.	2.46
+	ROUTED TO	RSGL83	0.	.00	0.	0.	0.	2.46
+	HYDROGRAPH AT	GL83	159.	4.75	56.	15.	5.	.50
+	DIVERSION TO	XGL83	159.	4.75	37.	9.	3.	.50
+	HYDROGRAPH AT	ERGL83	100.	5.67	22.	5.	2.	.50
+	3 COMBINED AT	CGL83	67.	6.58	43.	19.	6.	7.11
+	HYDROGRAPH AT	PR83OW	121.	6.50	101.	69.	24.	2.46
+	ROUTED TO	RP83GL	120.	6.58	101.	69.	24.	2.46
+	2 COMBINED AT	CPGL83	166.	6.58	138.	80.	27.	7.11
+	DIVERSION TO	DPGL83	166.	6.58	138.	80.	27.	7.11
+	HYDROGRAPH AT	DGL83	0.	.00	0.	0.	0.	7.11
+	DIVERSION TO	DSBH83	0.	.00	0.	0.	0.	7.11
+	HYDROGRAPH AT	DWGL91	0.	.00	0.	0.	0.	7.11
+	ROUTED TO	RWGL91	0.	.00	0.	0.	0.	7.11
+	HYDROGRAPH AT	DRGL91	65.	9.50	34.	11.	4.	9.52
+	ROUTED TO	RSGL91	45.	10.67	33.	11.	4.	9.52
+	HYDROGRAPH AT	GL91	316.	4.75	106.	28.	9.	.98
	DIVERSION TO							

+		XGL91	316.	4.75	106.	28.	9.	.98
+	HYDROGRAPH AT	ERGL91	0.	.00	0.	0.	0.	.98
+	4 COMBINED AT	CGL91	46.	10.67	34.	11.	4.	9.02
+	HYDROGRAPH AT	PRGL83	166.	6.58	138.	80.	27.	7.11
+	ROUTED TO	RPGL91	163.	6.67	138.	80.	27.	7.11
+	2 COMBINED AT	CPGL91	175.	10.42	159.	88.	30.	9.02
+	DIVERSION TO	DPGL91	175.	10.42	159.	88.	30.	9.02
+	HYDROGRAPH AT	DGL91	0.	.00	0.	0.	0.	9.02
+	DIVERSION TO	DSBH91	0.	.00	0.	0.	0.	9.02
+	HYDROGRAPH AT	DWGLLO	0.	.00	0.	0.	0.	9.02
+	ROUTED TO	RWGLLO	0.	.00	0.	0.	0.	9.02
+	HYDROGRAPH AT	GLLO	364.	4.75	131.	35.	12.	.85
+	DIVERSION TO	XGLLO	364.	4.75	131.	35.	12.	.85
+	HYDROGRAPH AT	ERGLLO	0.	.00	0.	0.	0.	.85
+	3 COMBINED AT	CGLLO	0.	.00	0.	0.	0.	15.23
+	HYDROGRAPH AT	PRGL91	175.	10.42	159.	88.	30.	9.02
+	ROUTED TO	RPGLLO	175.	10.42	159.	88.	30.	9.02
+	2 COMBINED AT	CPGLLO	162.	10.75	144.	79.	27.	15.23
+	ROUTED TO	RSBHLO	161.	11.17	144.	79.	27.	15.23
+	HYDROGRAPH AT	DIBH59	84.	5.58	37.	10.	3.	3.42
+	HYDROGRAPH AT	DRBH59	218.	4.58	92.	26.	9.	3.18
+	ROUTED TO	SRGR59	1.	19.42	1.	0.	0.	3.18
+	2 COMBINED AT	CIBHGR	91.	5.58	42.	12.	4.	2.13
+	ROUTED TO	RWBH59	89.	6.00	41.	12.	4.	2.13
+	HYDROGRAPH AT	DI59BH	10.	5.08	1.	0.	0.	3.91
+	ROUTED TO	RSBH59	3.	5.92	1.	0.	0.	3.91
+	HYDROGRAPH AT	BH59	374.	4.33	73.	18.	6.	.49
+	DIVERSION TO	XBH59	23.	3.33	6.	2.	1.	.49
+	HYDROGRAPH AT	ERBH59	374.	4.33	67.	17.	6.	.49
+	3 COMBINED AT	CBH59	268.	4.42	97.	26.	9.	3.58
+	DIVERSION TO	DSCB59	112.	4.42	41.	11.	4.	3.58
	HYDROGRAPH AT							

+		DWBH67	155.	4.42	57.	15.	5.	3.58
+	ROUTED TO	RWBH67	137.	4.92	56.	15.	5.	3.58
+	HYDROGRAPH AT	DRBH67	83.	4.42	22.	6.	2.	4.47
+	ROUTED TO	RSBH67	63.	5.33	22.	6.	2.	4.47
+	HYDROGRAPH AT	BH67	292.	4.75	100.	26.	9.	.97
+	3 COMBINED AT	CBH67	392.	5.00	159.	43.	14.	5.24
+	DIVERSION TO	DSCB67	172.	5.00	70.	19.	6.	5.24
+	HYDROGRAPH AT	DWBH75	219.	5.00	89.	24.	8.	5.24
+	ROUTED TO	RWBH75	213.	5.42	89.	24.	8.	5.24
+	HYDROGRAPH AT	DRBH75	39.	8.50	34.	15.	5.	8.97
+	ROUTED TO	RSBH75	38.	10.08	33.	15.	5.	8.97
+	HYDROGRAPH AT	BH75	376.	4.75	127.	33.	11.	1.00
+	DIVERSION TO	XBH75	376.	4.75	127.	33.	11.	1.00
+	HYDROGRAPH AT	ERBH75	0.	.00	0.	0.	0.	1.00
+	3 COMBINED AT	CBH75	212.	5.42	108.	39.	13.	8.42
+	DIVERSION TO	DPBH75	211.	5.50	108.	39.	13.	8.42
+	HYDROGRAPH AT	DBH75	0.	.00	0.	0.	0.	8.42
+	DIVERSION TO	DSCB75	0.	.00	0.	0.	0.	8.42
+	HYDROGRAPH AT	DWBH83	0.	.00	0.	0.	0.	8.42
+	ROUTED TO	RWBH83	0.	.00	0.	0.	0.	8.42
+	HYDROGRAPH AT	DRBH83	0.	.00	0.	0.	0.	7.11
+	ROUTED TO	RSBH83	0.	.00	0.	0.	0.	7.11
+	HYDROGRAPH AT	BH83	338.	4.75	113.	29.	10.	1.00
+	DIVERSION TO	XBH83	338.	4.75	113.	29.	10.	1.00
+	HYDROGRAPH AT	ERBH83	0.	.00	0.	0.	0.	1.00
+	3 COMBINED AT	CBH83	0.	.00	0.	0.	0.	9.47
+	HYDROGRAPH AT	PRBH75	211.	5.50	108.	39.	13.	8.42
+	ROUTED TO	RPBH83	211.	5.58	108.	39.	13.	8.42
+	2 COMBINED AT	CPBH83	207.	5.58	106.	38.	13.	9.47
+	DIVERSION TO	DSGC83	71.	5.58	36.	13.	4.	9.47
+	HYDROGRAPH AT	DWBH91	137.	5.58	70.	25.	8.	9.47
	HYDROGRAPH AT							

+		DRCB27	213.	5.00	58.	14.	5.	1.24
+	ROUTED TO	RSCB27	207.	5.33	58.	14.	5.	1.24
+	HYDROGRAPH AT	CB27	117.	4.50	33.	8.	3.	.26
+	2 COMBINED AT	CCB27	266.	5.25	87.	22.	7.	1.50
+	HYDROGRAPH AT	PR27BH	132.	4.08	90.	24.	8.	1.24
+	ROUTED TO	RP27CB	132.	4.25	90.	24.	8.	1.24
+	2 COMBINED AT	CPCB27	398.	5.25	176.	46.	15.	1.50
+	DIVERSION TO	DP27CB	132.	4.08	97.	26.	9.	1.50
+	HYDROGRAPH AT	D27CB	266.	5.25	79.	20.	7.	1.50
+	DIVERSION TO	DSIS27	266.	5.25	79.	20.	7.	1.50
+	HYDROGRAPH AT	DWCB35	0.	.00	0.	0.	0.	1.50
+	ROUTED TO	RWCB35	0.	.00	0.	0.	0.	1.50
+	HYDROGRAPH AT	DRCB35	413.	4.50	94.	24.	8.	1.94
+	ROUTED TO	RSCB35	364.	5.00	94.	24.	8.	1.94
+	HYDROGRAPH AT	CB35	285.	4.75	98.	25.	8.	1.00
+	3 COMBINED AT	CCB35	567.	5.00	174.	45.	15.	2.94
+	HYDROGRAPH AT	PR27CB	132.	4.08	97.	26.	9.	1.50
+	2 COMBINED AT	CPCB29	699.	5.00	271.	71.	24.	2.94
+	DIVERSION TO	DP29CB	132.	3.92	107.	30.	10.	2.94
+	HYDROGRAPH AT	D29CB	567.	5.00	164.	41.	14.	2.94
+	HYDROGRAPH AT	PR35BH	226.	4.08	131.	34.	11.	1.94
+	ROUTED TO	RP35CB	226.	4.25	131.	34.	11.	1.94
+	2 COMBINED AT	CPCB35	793.	5.00	294.	75.	25.	2.94
+	DIVERSION TO	DP35CB	253.	4.08	156.	40.	13.	2.94
+	HYDROGRAPH AT	D35CB	540.	5.00	138.	35.	12.	2.94
+	DIVERSION TO	DSIS35	540.	5.00	138.	35.	12.	2.94
+	HYDROGRAPH AT	DWCB43	0.	.00	0.	0.	0.	2.94
+	ROUTED TO	RWCB43	0.	.00	0.	0.	0.	2.94
+	HYDROGRAPH AT	DRCB43	138.	5.33	42.	10.	3.	2.19
+	ROUTED TO	RSCB43	132.	5.75	42.	10.	3.	2.19
+	HYDROGRAPH AT	CB43	432.	4.50	95.	24.	8.	1.00
	3 COMBINED AT							

+		CCB43	363.	4.58	127.	33.	11.	2.12
+	HYDROGRAPH AT	PR43BH	385.	4.25	237.	63.	21.	2.19
+	ROUTED TO	RP43CB	385.	4.42	237.	63.	21.	2.19
+	2 COMBINED AT	CPCB43	748.	4.58	363.	95.	32.	2.12
+	DIVERSION TO	DP39CB	268.	4.08	198.	54.	18.	2.12
+	HYDROGRAPH AT	D39CB	480.	4.58	165.	41.	14.	2.12
+	DIVERSION TO	DP43CB	155.	4.17	78.	20.	7.	2.12
+	HYDROGRAPH AT	D43CB	325.	4.58	87.	22.	7.	2.12
+	DIVERSION TO	DSGR35	185.	4.58	50.	12.	4.	2.12
+	HYDROGRAPH AT	DWGR43	140.	4.58	37.	9.	3.	2.12
+	DIVERSION TO	DCB51	35.	4.58	9.	2.	1.	2.12
+	HYDROGRAPH AT	DGR43	105.	4.58	28.	7.	2.	2.12
+	HYDROGRAPH AT	DRGR43	172.	5.58	75.	21.	7.	3.42
+	ROUTED TO	RSGR43	169.	6.08	74.	21.	7.	3.42
+	HYDROGRAPH AT	GR43	298.	4.42	63.	16.	5.	.51
+	DIVERSION TO	XGR43	154.	4.08	13.	3.	1.	.51
+	HYDROGRAPH AT	ERGR43	298.	4.42	51.	13.	4.	.51
+	3 COMBINED AT	CGR43	330.	4.50	149.	40.	13.	2.28
+	ROUTED TO	SRGR43	0.	.00	0.	0.	0.	2.28
+	DIVERSION TO	DEGR35	0.	.00	0.	0.	0.	2.28
+	HYDROGRAPH AT	DGR35	0.	.00	0.	0.	0.	2.28
+	DIVERSION TO	DSIS43	0.	.00	0.	0.	0.	2.28
+	HYDROGRAPH AT	DWCB51	0.	.00	0.	0.	0.	2.28
+	HYDROGRAPH AT	DICB51	35.	4.58	9.	2.	1.	2.12
+	2 COMBINED AT	CICBGR	46.	4.50	12.	3.	1.	.74
+	ROUTED TO	RWCB51	36.	5.50	12.	3.	1.	.74
+	HYDROGRAPH AT	CB51	505.	4.17	77.	19.	6.	.48
+	2 COMBINED AT	CCB51	421.	4.17	82.	22.	7.	1.23
+	DIVERSION TO	DSIS51	214.	4.17	42.	11.	4.	1.23
+	HYDROGRAPH AT	DWCB59	206.	4.17	40.	11.	4.	1.23
+	ROUTED TO	RWCB59	166.	4.67	40.	11.	4.	1.23
	HYDROGRAPH AT							

+		DRCB59	112.	4.42	41.	11.	4.	3.58
+	ROUTED TO	RSCB59	100.	4.92	40.	11.	4.	3.58
+	HYDROGRAPH AT	CB59	466.	4.58	144.	37.	12.	1.01
+	DIVERSION TO	XCB59	334.	4.25	33.	8.	3.	1.01
+	HYDROGRAPH AT	ERCB59	466.	4.58	115.	29.	10.	1.01
+	3 COMBINED AT	CCB59	645.	4.75	188.	49.	16.	3.11
+	DIVERSION TO	DPCB59	351.	4.42	150.	39.	13.	3.11
+	HYDROGRAPH AT	DCB59	294.	4.75	37.	9.	3.	3.11
+	DIVERSION TO	DSIS59	156.	4.75	20.	5.	2.	3.11
+	HYDROGRAPH AT	DWCB67	138.	4.75	18.	4.	1.	3.11
+	ROUTED TO	RWCB67	101.	5.33	18.	4.	1.	3.11
+	HYDROGRAPH AT	DRCB67	172.	5.00	70.	19.	6.	5.24
+	ROUTED TO	RSCB67	164.	5.50	70.	19.	6.	5.24
+	HYDROGRAPH AT	CB67	341.	4.75	115.	30.	10.	.97
+	DIVERSION TO	XCB67	39.	3.83	6.	2.	1.	.97
+	HYDROGRAPH AT	ERCB67	341.	4.75	112.	28.	9.	.97
+	3 COMBINED AT	CCB67	494.	5.33	187.	48.	16.	4.73
+	HYDROGRAPH AT	PRCB59	351.	4.42	150.	39.	13.	3.11
+	ROUTED TO	RPCB67	351.	4.50	150.	39.	13.	3.11
+	2 COMBINED AT	CPCB67	845.	5.33	336.	87.	29.	4.73
+	DIVERSION TO	DPCB67	504.	4.42	273.	72.	24.	4.73
+	HYDROGRAPH AT	DCB67	341.	5.33	63.	16.	5.	4.73
+	DIVERSION TO	DSGC67	147.	5.33	27.	7.	2.	4.73
+	HYDROGRAPH AT	DWCB75	195.	5.33	36.	9.	3.	4.73
+	ROUTED TO	RWCB75	169.	5.83	36.	9.	3.	4.73
+	HYDROGRAPH AT	DRCB75	0.	.00	0.	0.	0.	8.42
+	ROUTED TO	RSCB75	0.	.00	0.	0.	0.	8.42
+	HYDROGRAPH AT	CB75	336.	4.75	112.	29.	10.	1.00
+	DIVERSION TO	XCB75	336.	4.75	51.	13.	4.	1.00
+	HYDROGRAPH AT	ERCB75	296.	5.17	65.	16.	5.	1.00
+	3 COMBINED AT	CCB75	313.	5.67	80.	20.	7.	8.14
	HYDROGRAPH AT							

+		PRCB67	504.	4.42	273.	72.	24.	4.73
+	ROUTED TO	RPCB75	504.	4.58	273.	72.	24.	4.73
+	2 COMBINED AT	CPCB75	817.	5.67	350.	91.	30.	8.14
+	DIVERSION TO	DSGC75	360.	5.67	154.	40.	13.	8.14
+	HYDROGRAPH AT	DWGC83	458.	5.67	196.	51.	17.	8.14
+	HYDROGRAPH AT	DRIS27	266.	5.25	79.	20.	7.	1.50
+	ROUTED TO	RSIS27	259.	5.50	79.	20.	7.	1.50
+	HYDROGRAPH AT	IS27	99.	4.67	33.	9.	3.	.24
+	2 COMBINED AT	CIS27	317.	5.42	110.	28.	9.	1.74
+	HYDROGRAPH AT	PR29CB	132.	3.92	107.	30.	10.	2.94
+	ROUTED TO	RP27IS	132.	4.08	107.	30.	10.	2.94
+	2 COMBINED AT	CPIS27	449.	5.42	217.	58.	19.	1.74
+	DIVERSION TO	DP27IS	151.	4.00	124.	35.	12.	1.74
+	HYDROGRAPH AT	D27IS	298.	5.42	93.	23.	8.	1.74
+	DIVERSION TO	DSGC27	298.	5.42	93.	23.	8.	1.74
+	HYDROGRAPH AT	DWIS35	0.	.00	0.	0.	0.	1.74
+	ROUTED TO	RWIS35	0.	.00	0.	0.	0.	1.74
+	HYDROGRAPH AT	DRIS35	540.	5.00	138.	35.	12.	2.94
+	ROUTED TO	RSIS35	512.	5.33	138.	35.	12.	2.94
+	HYDROGRAPH AT	IS35	582.	4.42	114.	29.	10.	.99
+	3 COMBINED AT	CIS35	680.	5.17	232.	59.	20.	3.93
+	HYDROGRAPH AT	PR35CB	253.	4.08	156.	40.	13.	2.94
+	ROUTED TO	RP35IS	253.	4.17	156.	40.	13.	2.94
+	2 COMBINED AT	CPIS35	933.	5.17	387.	99.	33.	3.93
+	DIVERSION TO	DP31IS	268.	4.00	182.	48.	16.	3.93
+	HYDROGRAPH AT	D31IS	665.	5.17	205.	51.	17.	3.93
+	DIVERSION TO	DP35IS	40.	4.00	21.	5.	2.	3.93
+	HYDROGRAPH AT	D35IS	625.	5.17	184.	46.	15.	3.93
+	DIVERSION TO	DSGC35	625.	5.17	184.	46.	15.	3.93
+	HYDROGRAPH AT	DWGR35	0.	.00	0.	0.	0.	3.93
+	HYDROGRAPH AT	DIGR35	0.	.00	0.	0.	0.	2.28
	HYDROGRAPH AT							

+		DRGR35	185.	4.58	50.	12.	4.	2.12
+	DIVERSION TO	DS43IS	67.	4.58	18.	4.	1.	2.12
+	HYDROGRAPH AT	D35GR	119.	4.58	32.	8.	3.	2.12
+	2 COMBINED AT	CIGR43	129.	4.50	34.	8.	3.	1.58
+	ROUTED TO	RSGR35	103.	5.50	34.	8.	3.	1.58
+	HYDROGRAPH AT	GR35	293.	4.42	65.	16.	5.	.53
+	3 COMBINED AT	CGR35	228.	4.50	88.	23.	8.	2.11
+	HYDROGRAPH AT	PR39CB	268.	4.08	198.	54.	18.	2.12
+	ROUTED TO	RP39GR	268.	4.17	198.	54.	18.	2.12
+	2 COMBINED AT	CPGR35	496.	4.50	286.	77.	26.	2.11
+	DIVERSION TO	D39GR	245.	4.50	88.	22.	7.	2.11
+	HYDROGRAPH AT	DP39GR	251.	4.00	198.	55.	18.	2.11
+	ROUTED TO	RP39IS	251.	4.08	198.	55.	18.	2.11
+	HYDROGRAPH AT	DRIS43	0.	.00	0.	0.	0.	2.28
+	HYDROGRAPH AT	DI43IS	67.	4.58	18.	4.	1.	2.12
+	2 COMBINED AT	CICB43	75.	4.50	20.	5.	2.	1.40
+	ROUTED TO	RSIS43	65.	5.08	20.	5.	2.	1.40
+	HYDROGRAPH AT	IS43	486.	4.17	74.	19.	6.	.47
+	2 COMBINED AT	CIS43	368.	4.25	88.	23.	8.	1.87
+	HYDROGRAPH AT	PR43CB	155.	4.17	78.	20.	7.	2.12
+	ROUTED TO	RP43IS	155.	4.33	79.	20.	7.	2.12
+	3 COMBINED AT	CPIS43	711.	4.33	354.	95.	32.	3.98
+	DIVERSION TO	DP43IS	406.	3.92	296.	81.	27.	3.98
+	HYDROGRAPH AT	D43IS	305.	4.33	57.	14.	5.	3.98
+	DIVERSION TO	DSGC43	253.	4.33	47.	12.	4.	3.98
+	HYDROGRAPH AT	DWIS51	52.	4.33	10.	2.	1.	3.98
+	ROUTED TO	RWIS51	22.	6.25	10.	2.	1.	3.98
+	HYDROGRAPH AT	DRIS51	214.	4.17	42.	11.	4.	1.23
+	ROUTED TO	RSIS51	179.	4.50	42.	11.	4.	1.23
+	HYDROGRAPH AT	IS51	363.	4.75	124.	32.	11.	.99
+	DIVERSION TO	XIS51	363.	4.75	101.	25.	8.	.99
	HYDROGRAPH AT							

+		ERIS51	121.	6.33	29.	7.	2.	.99
+	3 COMBINED AT	CIS51	177.	6.33	74.	20.	7.	1.94
+	DIVERSION TO	DP51IS	177.	6.33	74.	19.	6.	1.94
+	HYDROGRAPH AT	D51IS	1.	5.92	0.	0.	0.	1.94
+	DIVERSION TO	DSGC51	1.	5.92	0.	0.	0.	1.94
+	HYDROGRAPH AT	DWIS59	0.	5.92	0.	0.	0.	1.94
+	ROUTED TO	RWIS59	0.	7.00	0.	0.	0.	1.94
+	HYDROGRAPH AT	DRIS59	156.	4.75	20.	5.	2.	3.11
+	ROUTED TO	RSIS59	115.	5.33	20.	5.	2.	3.11
+	HYDROGRAPH AT	IS59	311.	4.75	107.	28.	9.	1.01
+	3 COMBINED AT	CIS59	343.	5.25	116.	30.	10.	3.38
+	DIVERSION TO	DP59IS	339.	5.25	116.	30.	10.	3.38
+	HYDROGRAPH AT	D59IS	3.	5.25	0.	0.	0.	3.38
+	DIVERSION TO	DSGC59	2.	5.25	0.	0.	0.	3.38
+	HYDROGRAPH AT	DWGC67	1.	5.25	0.	0.	0.	3.38
+	ROUTED TO	RWGC67	0.	5.92	0.	0.	0.	3.38
+	HYDROGRAPH AT	DRGC67	147.	5.33	27.	7.	2.	4.73
+	ROUTED TO	RSGC67	124.	5.92	27.	7.	2.	4.73
+	HYDROGRAPH AT	GC67	321.	4.75	101.	26.	9.	.94
+	3 COMBINED AT	CGC67	275.	5.67	118.	30.	10.	4.34
+	DIVERSION TO	DP67IS	175.	4.50	93.	24.	8.	4.34
+	HYDROGRAPH AT	D67IS	100.	5.67	25.	6.	2.	4.34
+	DIVERSION TO	DSISGC	51.	5.67	13.	3.	1.	4.34
+	HYDROGRAPH AT	DWGC75	49.	5.67	12.	3.	1.	4.34
+	HYDROGRAPH AT	DRGR39	245.	4.50	88.	22.	7.	2.11
+	DIVERSION TO	DEGCGR	118.	4.50	42.	11.	4.	2.11
+	HYDROGRAPH AT	DGC35	127.	4.50	46.	11.	4.	2.11
+	HYDROGRAPH AT	DRGC35	625.	5.17	184.	46.	15.	3.93
+	DIVERSION TO	DSGCGR	156.	5.17	46.	12.	4.	3.93
+	HYDROGRAPH AT	DS35GC	469.	5.17	138.	35.	12.	3.93
+	2 COMBINED AT	CIIS35	648.	5.08	201.	50.	17.	2.06
	ROUTED TO							

+		RSGC35	641.	5.17	201.	50.	17.	2.06
+	HYDROGRAPH AT	GC35	85.	4.17	12.	3.	1.	.08
+	2 COMBINED AT	CGC35	644.	5.17	210.	53.	18.	2.14
+	HYDROGRAPH AT	PR35IS	40.	4.00	21.	5.	2.	3.93
+	ROUTED TO	RP35GC	40.	4.17	21.	5.	2.	3.93
+	2 COMBINED AT	CPGC35	684.	5.17	232.	58.	19.	2.14
+	DIVERSION TO	DP35GC	40.	3.92	28.	7.	2.	2.14
+	HYDROGRAPH AT	D35GC	644.	5.17	204.	51.	17.	2.14
+	DIVERSION TO	DSTM35	548.	5.17	174.	43.	14.	2.14
+	HYDROGRAPH AT	DWGC43	97.	5.17	31.	8.	3.	2.14
+	ROUTED TO	RWGC43	89.	5.75	31.	8.	3.	2.14
+	HYDROGRAPH AT	DRGC43	253.	4.33	47.	12.	4.	3.98
+	ROUTED TO	RSGC43	213.	4.50	47.	12.	4.	3.98
+	HYDROGRAPH AT	GC43	195.	4.50	58.	15.	5.	.37
+	3 COMBINED AT	CGC43	402.	4.50	136.	35.	12.	2.23
+	HYDROGRAPH AT	PR43IS	406.	3.92	296.	81.	27.	3.98
+	ROUTED TO	RP43GC	406.	4.00	296.	81.	27.	3.98
+	2 COMBINED AT	CPGC43	808.	4.50	434.	116.	39.	2.23
+	DIVERSION TO	DP43GC	406.	3.92	310.	85.	28.	2.23
+	HYDROGRAPH AT	D43GC	402.	4.50	125.	31.	10.	2.23
+	ROUTED TO	SRGC43	402.	4.50	125.	31.	10.	2.23
+	DIVERSION TO	DSTM43	202.	4.50	32.	8.	3.	2.23
+	HYDROGRAPH AT	DWGC51	200.	4.25	93.	23.	8.	2.23
+	ROUTED TO	RWGC51	200.	5.58	93.	23.	8.	2.23
+	HYDROGRAPH AT	DRGC51	1.	5.92	0.	0.	0.	1.94
+	ROUTED TO	RSGC51	0.	6.08	0.	0.	0.	1.94
+	HYDROGRAPH AT	GC51	123.	4.75	45.	12.	4.	.45
+	3 COMBINED AT	CGC51	294.	5.08	131.	34.	11.	2.04
+	HYDROGRAPH AT	PR51IS	177.	6.33	74.	19.	6.	1.94
+	ROUTED TO	RP51ML	171.	6.42	74.	20.	7.	1.94
+	2 COMBINED AT	CPML51	415.	6.33	205.	53.	18.	2.04
	DIVERSION TO							

+		DPML51	136.	4.33	102.	27.	9.	2.04
+	HYDROGRAPH AT	DML51	279.	6.33	103.	26.	9.	2.04
+	DIVERSION TO	DP51GC	113.	4.67	59.	15.	5.	2.04
+	HYDROGRAPH AT	D51GC	166.	6.33	44.	11.	4.	2.04
+	ROUTED TO	SRGC51	101.	6.67	41.	11.	4.	2.04
+	DIVERSION TO	DSTM51	0.	6.58	0.	0.	0.	2.04
+	HYDROGRAPH AT	DWGC53	101.	6.67	41.	11.	4.	2.04
+	ROUTED TO	RWGC53	101.	6.83	41.	11.	4.	2.04
+	HYDROGRAPH AT	DRGC59	2.	5.25	0.	0.	0.	3.38
+	ROUTED TO	RSGC59	0.	5.50	0.	0.	0.	3.38
+	HYDROGRAPH AT	GC59	156.	4.58	47.	12.	4.	.41
+	2 COMBINED AT	CGC55	127.	4.67	42.	11.	4.	2.42
+	DIVERSION TO	DWGC59	0.	.00	0.	0.	0.	2.42
+	HYDROGRAPH AT	DEGC53	127.	4.67	42.	11.	4.	2.42
+	HYDROGRAPH AT	PRML51	136.	4.33	102.	27.	9.	2.04
+	ROUTED TO	RPML53	136.	4.42	102.	27.	9.	2.04
+	3 COMBINED AT	CGC53	268.	5.50	180.	49.	16.	2.27
+	ROUTED TO	SRGC53	88.	8.42	84.	49.	16.	2.27
+	DIVERSION TO	DPGC53	20.	4.17	20.	17.	6.	2.27
+	HYDROGRAPH AT	DGC53	68.	8.42	64.	32.	11.	2.27
+	HYDROGRAPH AT	PR59IS	339.	5.25	116.	30.	10.	3.38
+	ROUTED TO	RP59GC	339.	5.25	116.	30.	10.	3.38
+	HYDROGRAPH AT	DRGC59	0.	.00	0.	0.	0.	2.42
+	2 COMBINED AT	CPGC59	353.	5.25	125.	32.	11.	1.24
+	DIVERSION TO	DP59GC	258.	4.67	112.	29.	10.	1.24
+	HYDROGRAPH AT	D59GC	95.	5.25	13.	3.	1.	1.24
+	2 COMBINED AT	CGC59	128.	5.25	68.	32.	11.	3.50
+	DIVERSION TO	DSTM59	79.	5.25	18.	5.	2.	3.50
+	HYDROGRAPH AT	DWISGC	50.	7.50	50.	27.	9.	3.50
+	ROUTED TO	RWISGC	50.	8.58	50.	27.	9.	3.50
+	HYDROGRAPH AT	DRISGC	51.	5.67	13.	3.	1.	4.34
+	ROUTED TO							

+		RSISGC	49.	5.83	13.	3.	1.	4.34
+	HYDROGRAPH AT	ISGC	40.	4.83	17.	5.	2.	.16
+	3 COMBINED AT	CISGC	131.	5.75	73.	35.	12.	3.33
+	HYDROGRAPH AT	PR59GC	258.	4.67	112.	29.	10.	1.24
+	2 COMBINED AT	CPISGC	381.	5.67	174.	63.	21.	3.33
+	DIVERSION TO	DPGC63	258.	4.83	149.	57.	19.	3.33
+	HYDROGRAPH AT	DGC63	123.	5.67	25.	6.	2.	3.33
+	ROUTED TO	SRISGC	34.	6.08	18.	6.	2.	3.33
+	DIVERSION TO	DSTM67	0.	.00	0.	0.	0.	3.33
+	HYDROGRAPH AT	DPGC67	34.	6.08	18.	6.	2.	3.33
+	HYDROGRAPH AT	DRGC75	360.	5.67	154.	40.	13.	8.14
+	HYDROGRAPH AT	GC75	116.	4.83	48.	13.	4.	.41
+	4 COMBINED AT	CGC75	467.	5.67	207.	55.	18.	9.44
+	ROUTED TO	SRGC75	430.	6.00	207.	55.	18.	9.44
+	2 COMBINED AT	CICB75	833.	5.83	384.	101.	34.	14.03
+	ROUTED TO	RWGC83	829.	6.00	384.	101.	34.	14.03
+	HYDROGRAPH AT	DRGC83	71.	5.58	36.	13.	4.	9.47
+	HYDROGRAPH AT	GC83	112.	4.83	49.	13.	4.	.43
+	DIVERSION TO	XGC83	112.	4.83	49.	13.	4.	.43
+	HYDROGRAPH AT	ERGC83	0.	.00	0.	0.	0.	.43
+	3 COMBINED AT	CGC83	863.	6.00	406.	110.	37.	17.67
+	2 COMBINED AT	CIBH83	930.	6.00	449.	127.	42.	23.92
+	ROUTED TO	RWBH91	924.	6.17	448.	127.	42.	23.92
+	HYDROGRAPH AT	DRBH91	0.	.00	0.	0.	0.	9.02
+	ROUTED TO	RSBH91	0.	.00	0.	0.	0.	9.02
+	HYDROGRAPH AT	BH91	338.	4.75	113.	29.	10.	1.03
+	DIVERSION TO	XBH91	334.	4.67	35.	9.	3.	1.03
+	HYDROGRAPH AT	ERBH91	330.	4.92	82.	20.	7.	1.03
+	3 COMBINED AT	CBH91	990.	6.08	482.	134.	45.	30.54
+	ROUTED TO	RWBHLO	983.	6.25	479.	134.	45.	30.54
+	HYDROGRAPH AT	BHLO	518.	4.42	129.	33.	11.	.79
+	DIVERSION TO							

+		XBHLO	518.	4.42	84.	21.	7.	.79
+	HYDROGRAPH AT	ERBHLO	318.	5.00	47.	12.	4.	.79
+	3 COMBINED AT	CBHLO	994.	6.08	541.	187.	63.	46.47
+	ROUTED TO	RWBH99	994.	6.08	541.	187.	63.	46.47
+	HYDROGRAPH AT	BH99	65.	4.75	28.	8.	3.	.18
+	2 COMBINED AT	CBH99	1024.	6.08	555.	192.	65.	46.65
+	ROUTED TO	RWBHRI	1022.	6.17	553.	192.	65.	46.65
+	HYDROGRAPH AT	GLNR	172.	4.83	72.	19.	6.	.48
+	DIVERSION TO	XGLNR	172.	4.83	64.	16.	5.	.48
+	HYDROGRAPH AT	ERGLNR	56.	7.00	14.	3.	1.	.48
+	DIVERSION TO	DWNR04	56.	7.00	14.	3.	1.	.48
+	HYDROGRAPH AT	DSBHRI	0.	.00	0.	0.	0.	.48
+	ROUTED TO	RSBHRI	0.	.00	0.	0.	0.	.48
+	HYDROGRAPH AT	BHRI	213.	4.75	78.	20.	7.	.51
+	DIVERSION TO	XBHRI	213.	4.75	78.	20.	7.	.51
+	HYDROGRAPH AT	ERBHRI	0.	.00	0.	0.	0.	.51
+	DIVERSION TO	DWBHAF	0.	.00	0.	0.	0.	.51
+	HYDROGRAPH AT	DBHNR	0.	.00	0.	0.	0.	.51
+	3 COMBINED AT	CBHRI	1022.	6.17	553.	192.	65.	47.17
+	ROUTED TO	RWBHNR	1016.	6.33	549.	191.	65.	47.17
+	HYDROGRAPH AT	BHNR	129.	4.58	38.	10.	3.	.26
+	DIVERSION TO	XBHNR	129.	4.58	38.	10.	3.	.26
+	HYDROGRAPH AT	ERBHNR	0.	.00	0.	0.	0.	.26
+	2 COMBINED AT	CBHNR	1016.	6.33	549.	191.	65.	47.42
+	HYDROGRAPH AT	CB99	85.	4.67	31.	8.	3.	.20
+	DIVERSION TO	XCB99	85.	4.67	30.	8.	3.	.20
+	HYDROGRAPH AT	ERCB99	15.	7.33	3.	1.	0.	.20
+	DIVERSION TO	DSIS99	7.	7.33	2.	0.	0.	.20
+	HYDROGRAPH AT	DWCBRI	7.	7.33	2.	0.	0.	.20
+	ROUTED TO	RWCBRI	5.	8.50	2.	0.	0.	.20
+	HYDROGRAPH AT	CBRI	219.	4.75	81.	21.	7.	.70
+	DIVERSION TO							

+		XCBRI	219.	4.75	81.	21.	7.	.70
+	HYDROGRAPH AT	ERCBRI	0.	.00	0.	0.	0.	.70
+	2 COMBINED AT	CCBRI	5.	8.50	2.	0.	0.	.80
+	DIVERSION TO	DSIS07	3.	8.67	1.	0.	0.	.80
+	HYDROGRAPH AT	DWCB07	1.	8.67	0.	0.	0.	.80
+	HYDROGRAPH AT	CB07	65.	4.67	21.	5.	2.	.32
+	2 COMBINED AT	CCB07	63.	4.67	21.	5.	2.	.56
+	DIVERSION TO	DIS07	44.	4.67	14.	4.	1.	.56
+	HYDROGRAPH AT	DWCBNR	20.	4.67	6.	2.	1.	.56
+	ROUTED TO	RWCBNR	17.	5.58	6.	2.	1.	.56
+	HYDROGRAPH AT	CBNR	83.	4.75	30.	8.	3.	.47
+	DIVERSION TO	XCBNR	83.	4.75	7.	2.	1.	.47
+	HYDROGRAPH AT	ERCBNR	82.	4.92	24.	6.	2.	.47
+	2 COMBINED AT	CCBNR	78.	5.42	28.	7.	2.	.64
+	HYDROGRAPH AT	DRIS99	7.	7.33	2.	0.	0.	.20
+	ROUTED TO	RSIS99	5.	8.83	2.	0.	0.	.20
+	HYDROGRAPH AT	IS99	227.	4.33	54.	14.	5.	.32
+	2 COMBINED AT	CIS99	227.	4.33	54.	14.	5.	.42
+	DIVERSION TO	DSTM99	59.	4.33	14.	4.	1.	.42
+	HYDROGRAPH AT	DWIS07	168.	4.33	40.	10.	3.	.42
+	ROUTED TO	RWIS07	153.	4.83	40.	10.	3.	.42
+	HYDROGRAPH AT	DI071S	44.	4.67	14.	4.	1.	.56
+	HYDROGRAPH AT	DRIS07	3.	8.67	1.	0.	0.	.80
+	2 COMBINED AT	CICB07	44.	4.67	15.	4.	1.	.94
+	ROUTED TO	RSIS07	33.	5.50	13.	3.	1.	.94
+	HYDROGRAPH AT	IS07	353.	4.75	118.	30.	10.	1.02
+	DIVERSION TO	XIS07	339.	4.58	35.	9.	3.	1.02
+	HYDROGRAPH AT	ERIS07	351.	4.83	87.	22.	7.	1.02
+	3 COMBINED AT	CIS07	461.	4.83	128.	33.	11.	2.28
+	DIVERSION TO	DSRI07	115.	4.83	32.	8.	3.	2.28
+	HYDROGRAPH AT	DWISAF	346.	4.83	96.	25.	8.	2.28
+	ROUTED TO							

+		RWISAF	296.	5.75	96.	25.	8.	2.28
+	HYDROGRAPH AT	ISAF	288.	4.75	106.	28.	9.	.99
+	2 COMBINED AT	CISAF	469.	5.67	187.	50.	17.	2.69
+	HYDROGRAPH AT	DRTM99	59.	4.33	14.	4.	1.	.42
+	ROUTED TO	RSTM99	49.	5.08	14.	4.	1.	.42
+	HYDROGRAPH AT	TM99	311.	4.42	83.	21.	7.	.50
+	2 COMBINED AT	CTM99	308.	4.50	96.	25.	8.	.62
+	DIVERSION TO	DSMD99	142.	4.50	44.	11.	4.	.62
+	HYDROGRAPH AT	DWRI07	166.	4.50	52.	13.	4.	.62
+	ROUTED TO	RWRI07	157.	5.00	51.	13.	4.	.62
+	HYDROGRAPH AT	DRRI07	115.	4.83	32.	8.	3.	2.28
+	ROUTED TO	RSRI07	108.	5.33	32.	8.	3.	2.28
+	HYDROGRAPH AT	RI07	332.	4.75	109.	28.	9.	.76
+	DIVERSION TO	XRI07	332.	4.75	109.	28.	9.	.76
+	HYDROGRAPH AT	ERRI07	0.	.00	0.	0.	0.	.76
+	3 COMBINED AT	CRI07	252.	5.25	83.	22.	7.	1.67
+	DIVERSION TO	DTM07	123.	5.25	41.	11.	4.	1.67
+	HYDROGRAPH AT	DRIAF	128.	5.25	42.	11.	4.	1.67
+	DIVERSION TO	DSTM07	80.	5.25	26.	7.	2.	1.67
+	HYDROGRAPH AT	DWRIAF	49.	5.25	16.	4.	1.	1.67
+	ROUTED TO	RWRIAF	32.	7.17	15.	4.	1.	1.67
+	HYDROGRAPH AT	RIAF	197.	4.75	76.	20.	7.	.66
+	2 COMBINED AT	CRIAF	190.	4.83	86.	24.	8.	.98
+	HYDROGRAPH AT	DRBHAF	0.	.00	0.	0.	0.	.51
+	ROUTED TO	SRBHRI	0.	.00	0.	0.	0.	.51
+	5 COMBINED AT	CAF01	1868.	6.08	1020.	361.	123.	4.31
+	HYDROGRAPH AT	CB83	264.	4.50	60.	15.	5.	.55
+	DIVERSION TO	XCB83	264.	4.50	36.	9.	3.	.55
+	HYDROGRAPH AT	ERCB83	182.	5.00	24.	6.	2.	.55
+	DIVERSION TO	DP83CB	10.	5.17	4.	1.	0.	.55
+	HYDROGRAPH AT	D83CB	173.	5.00	20.	5.	2.	.55
+	DIVERSION TO							

+		DSIS83	76.	5.00	9.	2.	1.	.55
+	HYDROGRAPH AT	DWCB91	97.	5.00	11.	3.	1.	.55
+	ROUTED TO	RWCB91	51.	6.08	11.	3.	1.	.55
+	HYDROGRAPH AT	CB91	333.	4.75	110.	28.	9.	.96
+	DIVERSION TO	XCB91	333.	4.75	110.	28.	9.	.96
+	HYDROGRAPH AT	ERCB91	0.	.00	0.	0.	0.	.96
+	2 COMBINED AT	CCB91	51.	6.08	11.	3.	1.	1.32
+	DIVERSION TO	DSIS91	20.	6.17	4.	1.	0.	1.32
+	HYDROGRAPH AT	DWCBLO	22.	6.17	5.	1.	0.	1.32
+	ROUTED TO	RWCBLO	19.	6.92	5.	1.	0.	1.32
+	HYDROGRAPH AT	CBLO	349.	4.67	113.	29.	10.	.82
+	DIVERSION TO	XCBLO	349.	4.67	109.	28.	9.	.82
+	HYDROGRAPH AT	ERCBLO	35.	7.08	6.	1.	0.	.82
+	2 COMBINED AT	CCBLO	35.	7.08	8.	2.	1.	1.52
+	ROUTED TO	RSISLO	28.	7.67	8.	2.	1.	1.52
+	HYDROGRAPH AT	IS75	280.	4.58	78.	20.	7.	.62
+	DIVERSION TO	XIS75	8.	2.17	2.	0.	0.	.62
+	HYDROGRAPH AT	ERIS75	280.	4.58	78.	20.	7.	.62
+	DIVERSION TO	DP75IS	123.	4.17	55.	14.	5.	.62
+	HYDROGRAPH AT	D75IS	157.	4.58	23.	6.	2.	.62
+	DIVERSION TO	DSTM75	55.	4.58	8.	2.	1.	.62
+	HYDROGRAPH AT	DWIS83	102.	4.58	15.	4.	1.	.62
+	ROUTED TO	RWIS83	67.	5.50	15.	4.	1.	.62
+	HYDROGRAPH AT	DRIS83	76.	5.00	9.	2.	1.	.55
+	ROUTED TO	RSIS83	38.	6.33	9.	2.	1.	.55
+	HYDROGRAPH AT	IS83	323.	4.75	108.	28.	9.	.99
+	3 COMBINED AT	CIS83	318.	4.92	124.	32.	11.	1.64
+	HYDROGRAPH AT	PR83CB	10.	5.17	4.	1.	0.	.55
+	2 COMBINED AT	CPIS83	322.	5.17	128.	33.	11.	1.64
+	DIVERSION TO	DP83IS	187.	4.33	100.	26.	9.	1.64
+	HYDROGRAPH AT	D83IS	135.	5.17	28.	7.	2.	1.64
+	DIVERSION TO							

+		DSTM83	74.	5.17	15.	4.	1.	1.64
+	HYDROGRAPH AT	DWIS91	61.	5.17	13.	3.	1.	1.64
+	ROUTED TO	RWIS91	46.	5.75	13.	3.	1.	1.64
+	HYDROGRAPH AT	DRIS91	20.	6.17	4.	1.	0.	1.32
+	ROUTED TO	RSIS91	15.	7.42	4.	1.	0.	1.32
+	HYDROGRAPH AT	IS91	373.	4.75	126.	33.	11.	1.00
+	DIVERSION TO	XIS91	373.	4.75	50.	12.	4.	1.00
+	HYDROGRAPH AT	ERIS91	351.	5.00	81.	20.	7.	1.00
+	3 COMBINED AT	CIS91	346.	5.08	91.	23.	8.	2.36
+	DIVERSION TO	DP91IS	190.	5.00	73.	18.	6.	2.36
+	HYDROGRAPH AT	D91IS	156.	5.08	18.	5.	2.	2.36
+	DIVERSION TO	DSTM91	89.	5.08	10.	3.	1.	2.36
+	HYDROGRAPH AT	DWISLO	67.	5.08	8.	2.	1.	2.36
+	ROUTED TO	RWISLO	48.	5.58	8.	2.	1.	2.36
+	HYDROGRAPH AT	ISLO	349.	4.58	100.	26.	9.	.68
+	DIVERSION TO	XISLO	349.	4.58	100.	26.	9.	.68
+	HYDROGRAPH AT	ERISLO	0.	.00	0.	0.	0.	.68
+	3 COMBINED AT	CISLO	48.	5.58	14.	3.	1.	3.22
+	ROUTED TO	RSTMLO	36.	6.08	12.	3.	1.	3.22
+	HYDROGRAPH AT	DRGCGR	118.	4.50	42.	11.	4.	2.11
+	HYDROGRAPH AT	DIGCGR	156.	5.17	46.	12.	4.	3.93
+	2 COMBINED AT	CIGR35	245.	5.17	85.	21.	7.	3.97
+	ROUTED TO	RSGCGR	242.	5.33	85.	21.	7.	3.97
+	HYDROGRAPH AT	DRGC27	298.	5.42	93.	23.	8.	1.74
+	ROUTED TO	RSGC27	295.	5.50	93.	23.	8.	1.74
+	HYDROGRAPH AT	GCGR	608.	4.08	59.	15.	5.	.38
+	3 COMBINED AT	CGCGR	470.	5.50	205.	52.	17.	6.09
+	HYDROGRAPH AT	PR31IS	268.	4.00	182.	48.	16.	3.93
+	ROUTED TO	RP31GC	268.	4.08	182.	48.	16.	3.93
+	HYDROGRAPH AT	PR27IS	151.	4.00	124.	35.	12.	1.74
+	ROUTED TO	RP27GC	151.	4.08	124.	35.	12.	1.74
+	3 COMBINED AT							

+		CPGCGR	889.	5.50	510.	135.	45.	6.09
+	DIVERSION TO	DPGCGR	422.	3.83	331.	90.	30.	6.09
+	HYDROGRAPH AT	DGCGR	467.	5.50	180.	45.	15.	6.09
+	ROUTED TO	SRGCGR	286.	6.33	180.	45.	15.	6.09
+	ROUTED TO	RSGR27	284.	6.67	178.	45.	15.	6.09
+	HYDROGRAPH AT	GR27	347.	4.25	63.	16.	5.	.41
+	2 COMBINED AT	CTM27	350.	4.58	224.	59.	20.	6.50
+	DIVERSION TO	DGR27	175.	4.58	112.	30.	10.	6.50
+	HYDROGRAPH AT	DTM27	175.	4.58	112.	30.	10.	6.50
+	ROUTED TO	SRTM27	142.	6.83	75.	30.	10.	6.50
+	HYDROGRAPH AT	PRGCGR	422.	3.83	331.	90.	30.	6.09
+	DIVERSION TO	DP31GR	257.	3.67	224.	64.	21.	6.09
+	HYDROGRAPH AT	D31GR	165.	3.83	107.	27.	9.	6.09
+	ROUTED TO	RP27TM	165.	3.92	107.	27.	9.	6.09
+	2 COMBINED AT	CPGR27	291.	6.83	168.	53.	18.	12.59
+	DIVERSION TO	DP27GR	195.	3.83	151.	49.	16.	12.59
+	HYDROGRAPH AT	D27GR	96.	6.83	16.	4.	1.	12.59
+	HYDROGRAPH AT	DRGR27	175.	4.58	112.	30.	10.	6.50
+	2 COMBINED AT	CGR27	255.	6.75	136.	36.	12.	6.50
+	ROUTED TO	SRGR27	157.	7.25	45.	28.	12.	6.50
+	DIVERSION TO	DSMD27	107.	7.25	30.	19.	8.	6.50
+	HYDROGRAPH AT	DWTM35	50.	7.25	14.	9.	4.	6.50
+	ROUTED TO	RWTM35	31.	8.08	14.	9.	4.	6.50
+	HYDROGRAPH AT	DRTM35	548.	5.17	174.	43.	14.	2.14
+	ROUTED TO	RSTM35	538.	5.25	174.	43.	14.	2.14
+	HYDROGRAPH AT	TM35	363.	4.25	65.	16.	5.	.39
+	3 COMBINED AT	CTM35	571.	4.58	221.	62.	22.	4.31
+	HYDROGRAPH AT	PR31GR	257.	3.67	224.	64.	21.	6.09
+	ROUTED TO	RP31TM	257.	3.75	224.	64.	21.	6.09
+	HYDROGRAPH AT	PR35GC	40.	3.92	28.	7.	2.	2.14
+	ROUTED TO	RP35TM	40.	4.08	28.	7.	2.	2.14
+	3 COMBINED AT							

+		CPTM35	868.	4.58	470.	132.	46.	4.31
+	DIVERSION TO	DP35TM	300.	3.67	264.	81.	28.	4.31
+	HYDROGRAPH AT	D35TM	568.	4.58	206.	51.	17.	4.31
+	DIVERSION TO	DSMD35	477.	4.58	173.	43.	14.	4.31
+	HYDROGRAPH AT	DWTM43	91.	4.58	33.	8.	3.	4.31
+	ROUTED TO	RWTM43	83.	6.00	33.	8.	3.	4.31
+	HYDROGRAPH AT	DRTM43	202.	4.50	32.	8.	3.	2.23
+	ROUTED TO	RSTM43	170.	4.75	32.	8.	3.	2.23
+	HYDROGRAPH AT	TM43	236.	4.75	81.	21.	7.	.64
+	DIVERSION TO	XTM43	15.	3.67	3.	1.	0.	.64
+	HYDROGRAPH AT	ERTM43	236.	4.75	80.	20.	7.	.64
+	3 COMBINED AT	CTM43	358.	4.83	135.	34.	11.	3.16
+	HYDROGRAPH AT	PR43GC	406.	3.92	310.	85.	28.	2.23
+	ROUTED TO	RP43TM	406.	4.00	310.	85.	28.	2.23
+	2 COMBINED AT	CPTM43	764.	4.83	441.	119.	40.	3.16
+	DIVERSION TO	DP43TM	629.	4.75	420.	114.	38.	3.16
+	HYDROGRAPH AT	D43TM	135.	4.83	21.	5.	2.	3.16
+	DIVERSION TO	DSMD43	106.	4.83	17.	4.	1.	3.16
+	HYDROGRAPH AT	DWTM51	28.	4.83	4.	1.	0.	3.16
+	ROUTED TO	RWTM51	12.	7.33	4.	1.	0.	3.16
+	HYDROGRAPH AT	DRTM51	0.	6.58	0.	0.	0.	2.04
+	ROUTED TO	RSTM51	0.	7.00	0.	0.	0.	2.04
+	HYDROGRAPH AT	TM51	168.	4.75	59.	15.	5.	.55
+	3 COMBINED AT	CTM51	144.	4.83	59.	15.	5.	2.15
+	HYDROGRAPH AT	PR51GC	113.	4.67	59.	15.	5.	2.04
+	HYDROGRAPH AT	PRGC53	20.	4.17	20.	17.	6.	2.27
+	ROUTED TO	RPGC51	20.	4.25	20.	17.	6.	2.27
+	2 COMBINED AT	CPGC51	133.	4.67	79.	31.	11.	2.15
+	ROUTED TO	RP51TM	133.	4.75	79.	31.	11.	2.15
+	2 COMBINED AT	CPTM51	265.	4.92	129.	44.	15.	4.30
+	DIVERSION TO	DP51TM	244.	4.92	127.	43.	15.	4.30
	HYDROGRAPH AT							

+		D51TM	21.	4.83	2.	1.	0.	4.30
+	DIVERSION TO	DSMD51	14.	4.83	1.	0.	0.	4.30
+	HYDROGRAPH AT	DWTM59	8.	4.83	1.	0.	0.	4.30
+	ROUTED TO	RWTM59	3.	6.17	1.	0.	0.	4.30
+	HYDROGRAPH AT	DRTM59	79.	5.25	18.	5.	2.	3.50
+	ROUTED TO	RSTM59	58.	5.42	17.	5.	2.	3.50
+	HYDROGRAPH AT	TM59	184.	4.75	63.	16.	5.	.60
+	3 COMBINED AT	CTM59	174.	5.42	68.	19.	6.	3.90
+	HYDROGRAPH AT	PRGC63	258.	4.83	149.	57.	19.	3.33
+	ROUTED TO	RP59TM	258.	4.92	149.	57.	19.	3.33
+	2 COMBINED AT	CPTM59	432.	5.42	216.	76.	25.	3.90
+	DIVERSION TO	DP59TM	387.	4.92	210.	74.	25.	3.90
+	HYDROGRAPH AT	D59TM	49.	5.42	5.	1.	0.	3.90
+	DIVERSION TO	DSMD59	20.	5.42	2.	1.	0.	3.90
+	HYDROGRAPH AT	DWTM67	29.	5.42	3.	1.	0.	3.90
+	ROUTED TO	RWTM67	12.	6.33	3.	1.	0.	3.90
+	HYDROGRAPH AT	DRTM67	0.	.00	0.	0.	0.	3.33
+	ROUTED TO	RSTM67	0.	.00	0.	0.	0.	3.33
+	HYDROGRAPH AT	TM67	297.	4.75	98.	25.	8.	.81
+	DIVERSION TO	XTM67	9.	2.58	2.	1.	0.	.81
+	HYDROGRAPH AT	ERTM67	297.	4.75	98.	25.	8.	.81
+	3 COMBINED AT	CTM67	260.	4.83	95.	24.	8.	3.12
+	HYDROGRAPH AT	PR67IS	175.	4.50	93.	24.	8.	4.34
+	ROUTED TO	RP67TM	175.	4.67	93.	24.	8.	4.34
+	2 COMBINED AT	CPTM67	435.	4.83	190.	48.	16.	3.12
+	DIVERSION TO	DP67TM	273.	4.42	155.	40.	13.	3.12
+	HYDROGRAPH AT	D67TM	162.	4.83	34.	9.	3.	3.12
+	DIVERSION TO	DSMD67	73.	4.83	15.	4.	1.	3.12
+	HYDROGRAPH AT	DWTM75	89.	4.83	19.	5.	2.	3.12
+	ROUTED TO	RWTM75	67.	5.75	19.	5.	2.	3.12
+	HYDROGRAPH AT	DRTM75	55.	4.58	8.	2.	1.	.62
	ROUTED TO							

	RSTM75	36.	5.58	8.	2.	1.	.62
HYDROGRAPH AT	TM75	381.	4.75	130.	34.	11.	1.00
DIVERSION TO	XTM75	15.	3.00	4.	1.	0.	1.00
HYDROGRAPH AT	ERTM75	381.	4.75	129.	33.	11.	1.00
3 COMBINED AT	CTM75	368.	5.08	150.	38.	13.	2.92
HYDROGRAPH AT	PR75IS	123.	4.17	55.	14.	5.	.62
ROUTED TO	RP75TM	123.	4.33	55.	14.	5.	.62
2 COMBINED AT	CPTM75	491.	5.08	205.	52.	17.	2.92
DIVERSION TO	DP75TM	303.	4.33	162.	41.	14.	2.92
HYDROGRAPH AT	D75TM	188.	5.08	43.	11.	4.	2.92
DIVERSION TO	DSMD75	90.	5.08	21.	5.	2.	2.92
HYDROGRAPH AT	DWTM83	98.	5.08	22.	6.	2.	2.92
ROUTED TO	RWTM83	87.	5.75	22.	6.	2.	2.92
HYDROGRAPH AT	DRTM83	74.	5.17	15.	4.	1.	1.64
ROUTED TO	RSTM83	52.	5.83	15.	4.	1.	1.64
HYDROGRAPH AT	TM83	336.	4.75	112.	29.	10.	.99
3 COMBINED AT	CTM83	316.	5.17	137.	35.	12.	3.41
HYDROGRAPH AT	PR83IS	187.	4.33	100.	26.	9.	1.64
ROUTED TO	RP83TM	187.	4.50	100.	26.	9.	1.64
2 COMBINED AT	CPTM83	503.	5.17	235.	61.	20.	3.41
DIVERSION TO	DP83TM	283.	4.42	169.	44.	15.	3.41
HYDROGRAPH AT	D83TM	220.	5.17	66.	16.	5.	3.41
DIVERSION TO	DSMD83	51.	5.17	15.	4.	1.	3.41
HYDROGRAPH AT	DWTM91	170.	5.17	50.	13.	4.	3.41
ROUTED TO	RWTM91	165.	5.83	50.	13.	4.	3.41
HYDROGRAPH AT	DRTM91	89.	5.08	10.	3.	1.	2.36
ROUTED TO	RSTM91	45.	6.25	10.	3.	1.	2.36
HYDROGRAPH AT	TM91	349.	4.75	117.	30.	10.	1.00
DIVERSION TO	XTM91	312.	4.50	30.	7.	2.	1.00
HYDROGRAPH AT	ERTM91	349.	4.75	91.	23.	8.	1.00
3 COMBINED AT	CTM91	361.	5.50	133.	33.	11.	4.96
HYDROGRAPH AT							

	PR91IS	190.	5.00	73.	18.	6.	2.36
ROUTED TO	RP91TM	190.	5.17	73.	18.	6.	2.36
2 COMBINED AT	CPTM91	551.	5.50	202.	51.	17.	4.96
DIVERSION TO	DP91TM	287.	5.25	146.	36.	12.	4.96
HYDROGRAPH AT	D91TM	264.	5.50	56.	14.	5.	4.96
DIVERSION TO	DSMD91	203.	5.50	43.	11.	4.	4.96
HYDROGRAPH AT	DWTMLO	61.	5.50	13.	3.	1.	4.96
ROUTED TO	RWTMLO	58.	5.92	13.	3.	1.	4.96
HYDROGRAPH AT	TMLO	311.	4.42	80.	20.	7.	.50
DIVERSION TO	XTMLO	311.	4.42	79.	20.	7.	.50
HYDROGRAPH AT	ERTMLO	23.	6.83	3.	1.	0.	.50
3 COMBINED AT	CTMLO	86.	6.00	23.	6.	2.	4.87
ROUTED TO	RSMDLO	80.	6.33	23.	6.	2.	4.87
HYDROGRAPH AT	DRMD27	107.	7.25	30.	19.	8.	6.50
ROUTED TO	RSMD27	79.	7.75	30.	19.	8.	6.50
HYDROGRAPH AT	MD27	209.	4.25	40.	10.	3.	.24
2 COMBINED AT	CMD27	151.	4.33	62.	28.	12.	4.65
HYDROGRAPH AT	PR27GR	195.	3.83	151.	49.	16.	12.59
ROUTED TO	RP27MD	195.	4.00	151.	49.	16.	12.59
2 COMBINED AT	CPMD27	339.	4.42	219.	78.	29.	4.65
DIVERSION TO	DP27MD	246.	3.92	201.	74.	27.	4.65
HYDROGRAPH AT	D27MD	93.	4.42	18.	4.	1.	4.65
ROUTED TO	RWMD35	59.	5.25	18.	4.	1.	4.65
HYDROGRAPH AT	DRMD35	477.	4.58	173.	43.	14.	4.31
ROUTED TO	RSMD35	451.	5.33	173.	43.	14.	4.31
HYDROGRAPH AT	MD35	429.	4.75	147.	38.	13.	1.00
DIVERSION TO	XMD35	17.	2.08	3.	1.	0.	1.00
HYDROGRAPH AT	ERMD35	429.	4.75	147.	38.	13.	1.00
3 COMBINED AT	CMD35	778.	5.00	299.	76.	25.	9.29
HYDROGRAPH AT	PR35TM	300.	3.67	264.	81.	28.	4.31
ROUTED TO	RP35MD	300.	3.83	264.	81.	28.	4.31
2 COMBINED AT							

+		CPMD35	1078.	5.00	562.	157.	54.	9.29
+	DIVERSION TO	DP35MD	507.	4.17	404.	118.	41.	9.29
+	HYDROGRAPH AT	D35MD	571.	5.00	158.	39.	13.	9.29
+	DIVERSION TO	DSIN35	360.	5.00	99.	25.	8.	9.29
+	HYDROGRAPH AT	DWMD43	211.	5.00	58.	15.	5.	9.29
+	ROUTED TO	RWMD43	182.	6.08	58.	15.	5.	9.29
+	HYDROGRAPH AT	DRMD43	106.	4.83	17.	4.	1.	3.16
+	ROUTED TO	RSMD43	66.	5.67	17.	4.	1.	3.16
+	HYDROGRAPH AT	MD43	647.	4.42	134.	34.	11.	1.00
+	3 COMBINED AT	CMD43	492.	4.50	184.	49.	16.	6.96
+	HYDROGRAPH AT	PR43TM	629.	4.75	420.	114.	38.	3.16
+	ROUTED TO	RP43MD	629.	4.92	420.	114.	38.	3.16
+	2 COMBINED AT	CPMD43	1093.	4.67	595.	161.	54.	6.96
+	DIVERSION TO	DP43MD	629.	4.00	466.	129.	43.	6.96
+	HYDROGRAPH AT	D43MD	464.	4.67	129.	32.	11.	6.96
+	DIVERSION TO	DSIN43	464.	4.67	129.	32.	11.	6.96
+	HYDROGRAPH AT	DWMD51	0.	.00	0.	0.	0.	6.96
+	ROUTED TO	RWMD51	0.	.00	0.	0.	0.	6.96
+	HYDROGRAPH AT	DRMD51	14.	4.83	1.	0.	0.	4.30
+	ROUTED TO	RSMD51	7.	5.67	1.	0.	0.	4.30
+	HYDROGRAPH AT	MD51	355.	4.75	119.	31.	10.	1.00
+	3 COMBINED AT	CMD51	326.	4.83	116.	30.	10.	2.37
+	HYDROGRAPH AT	PR51TM	244.	4.92	127.	43.	15.	4.30
+	ROUTED TO	RP51MD	244.	5.00	127.	43.	15.	4.30
+	2 COMBINED AT	CPMD51	570.	4.83	247.	75.	25.	2.37
+	DIVERSION TO	DP51MD	368.	4.50	211.	66.	22.	2.37
+	HYDROGRAPH AT	D51MD	202.	4.83	36.	9.	3.	2.37
+	DIVERSION TO	DSIN51	79.	4.83	14.	4.	1.	2.37
+	HYDROGRAPH AT	DWMD59	123.	4.83	22.	5.	2.	2.37
+	ROUTED TO	RWMD59	103.	5.67	22.	5.	2.	2.37
+	HYDROGRAPH AT	DRMD59	20.	5.42	2.	1.	0.	3.90
	ROUTED TO							

+		RSMD59	10.	5.92	2.	1.	0.	3.90
+	HYDROGRAPH AT	MD59	347.	4.75	116.	30.	10.	1.00
+	3 COMBINED AT	CMD59	302.	5.50	127.	33.	11.	4.05
+	HYDROGRAPH AT	PR59TM	387.	4.92	210.	74.	25.	3.90
+	ROUTED TO	RP59MD	387.	5.00	210.	74.	25.	3.90
+	2 COMBINED AT	CPMD59	686.	4.92	334.	107.	36.	4.05
+	DIVERSION TO	DP59MD	468.	4.58	279.	93.	31.	4.05
+	HYDROGRAPH AT	D59MD	218.	4.92	55.	14.	5.	4.05
+	DIVERSION TO	DSIN59	109.	4.92	27.	7.	2.	4.05
+	HYDROGRAPH AT	DWMD67	109.	4.92	27.	7.	2.	4.05
+	ROUTED TO	RWMD67	100.	6.00	27.	7.	2.	4.05
+	HYDROGRAPH AT	DRMD67	73.	4.83	15.	4.	1.	3.12
+	ROUTED TO	RSMD67	58.	5.58	15.	4.	1.	3.12
+	HYDROGRAPH AT	MD67	339.	4.75	113.	29.	10.	.98
+	DIVERSION TO	XMD67	303.	4.50	25.	6.	2.	.98
+	HYDROGRAPH AT	ERMD67	339.	4.75	91.	23.	8.	.98
+	3 COMBINED AT	CMD67	340.	5.50	122.	31.	10.	4.41
+	HYDROGRAPH AT	PR67TM	273.	4.42	155.	40.	13.	3.12
+	ROUTED TO	RP67MD	273.	4.58	155.	40.	13.	3.12
+	2 COMBINED AT	CPMD67	613.	5.50	274.	70.	23.	4.41
+	DIVERSION TO	DP67MD	400.	4.67	220.	56.	19.	4.41
+	HYDROGRAPH AT	D67MD	213.	5.50	54.	14.	5.	4.41
+	DIVERSION TO	DSIN67	32.	5.50	8.	2.	1.	4.41
+	HYDROGRAPH AT	DWMD75	181.	5.50	46.	12.	4.	4.41
+	ROUTED TO	RWMD75	162.	6.17	46.	12.	4.	4.41
+	HYDROGRAPH AT	DRMD75	90.	5.08	21.	5.	2.	2.92
+	ROUTED TO	RSMD75	77.	5.83	21.	5.	2.	2.92
+	HYDROGRAPH AT	MD75	363.	4.75	123.	32.	11.	1.00
+	DIVERSION TO	XMD75	226.	4.33	19.	5.	2.	1.00
+	HYDROGRAPH AT	ERMD75	363.	4.75	108.	27.	9.	1.00
+	3 COMBINED AT	CMD75	365.	5.83	154.	38.	13.	6.14
	HYDROGRAPH AT							

+		PR75TM	303.	4.33	162.	41.	14.	2.92
+	ROUTED TO	RP75MD	303.	4.50	162.	41.	14.	2.92
+	2 COMBINED AT	CPMD75	668.	5.83	312.	79.	26.	6.14
+	DIVERSION TO	DP75MD	364.	4.42	217.	55.	18.	6.14
+	HYDROGRAPH AT	D75MD	304.	5.83	95.	24.	8.	6.14
+	DIVERSION TO	DSIN75	107.	5.83	33.	8.	3.	6.14
+	HYDROGRAPH AT	DWMD83	198.	5.83	62.	15.	5.	6.14
+	ROUTED TO	RWMD83	193.	6.08	62.	15.	5.	6.14
+	HYDROGRAPH AT	DRMD83	51.	5.17	15.	4.	1.	3.41
+	ROUTED TO	RSMD83	49.	5.92	15.	4.	1.	3.41
+	HYDROGRAPH AT	MD83	584.	4.50	159.	41.	14.	.99
+	DIVERSION TO	XMD83	584.	4.50	111.	28.	9.	.99
+	HYDROGRAPH AT	ERMD83	317.	5.25	51.	13.	4.	.99
+	3 COMBINED AT	CMD83	443.	5.42	119.	30.	10.	5.80
+	HYDROGRAPH AT	PR83TM	283.	4.42	169.	44.	15.	3.41
+	ROUTED TO	RP83MD	283.	4.58	169.	44.	15.	3.41
+	2 COMBINED AT	CPMD83	726.	5.42	285.	73.	24.	5.80
+	DIVERSION TO	DP83MD	340.	5.08	203.	53.	18.	5.80
+	HYDROGRAPH AT	D83MD	386.	5.42	82.	21.	7.	5.80
+	ROUTED TO	RWMD91	326.	6.08	82.	21.	7.	5.80
+	HYDROGRAPH AT	DRMD91	203.	5.50	43.	11.	4.	4.96
+	ROUTED TO	RSMD91	183.	6.17	43.	11.	4.	4.96
+	HYDROGRAPH AT	MD91	384.	4.75	131.	34.	11.	1.01
+	DIVERSION TO	XMD91	384.	4.75	52.	13.	4.	1.01
+	HYDROGRAPH AT	ERMD91	366.	5.00	84.	21.	7.	1.01
+	3 COMBINED AT	CMD91	570.	6.08	166.	42.	14.	10.61
+	HYDROGRAPH AT	PR91TM	287.	5.25	146.	36.	12.	4.96
+	ROUTED TO	RP91MD	287.	5.42	146.	36.	12.	4.96
+	2 COMBINED AT	CPMD91	857.	6.08	305.	76.	25.	10.61
+	DIVERSION TO	DP91MD	345.	5.08	186.	46.	15.	10.61
+	HYDROGRAPH AT	D91MD	512.	6.08	119.	30.	10.	10.61
	DIVERSION TO							

+		DSIN91	102.	6.08	24.	6.	2.	10.61
+	HYDROGRAPH AT	DWMDLO	409.	6.08	95.	24.	8.	10.61
+	ROUTED TO	RWMDLO	374.	6.50	95.	24.	8.	10.61
+	HYDROGRAPH AT	MDLO	400.	4.50	95.	24.	8.	.67
+	DIVERSION TO	XMDLO	400.	4.50	95.	24.	8.	.67
+	HYDROGRAPH AT	ERMDLO	0.	.00	0.	0.	0.	.67
+	3 COMBINED AT	CMDLO	389.	6.50	97.	24.	8.	14.07
+	ROUTED TO	RSINLO	388.	6.50	97.	24.	8.	14.07
+	DIVERSION TO	DEIN95	0.	.00	0.	0.	0.	14.07
+	HYDROGRAPH AT	DSINLO	388.	6.50	97.	24.	8.	14.07
+	HYDROGRAPH AT	IN27	86.	4.25	17.	4.	1.	.10
+	HYDROGRAPH AT	PR27MD	246.	3.92	201.	74.	27.	4.65
+	ROUTED TO	RP27IN	246.	4.00	201.	74.	27.	4.65
+	2 COMBINED AT	CPIN27	332.	4.25	232.	83.	31.	.10
+	DIVERSION TO	DSVB27	239.	4.25	167.	60.	22.	.10
+	HYDROGRAPH AT	DWIN35	93.	4.25	65.	23.	9.	.10
+	ROUTED TO	RWIN35	86.	5.00	64.	23.	9.	.10
+	HYDROGRAPH AT	DRIN35	360.	5.00	99.	25.	8.	9.29
+	ROUTED TO	RSIN35	357.	5.17	99.	25.	8.	9.29
+	HYDROGRAPH AT	IN35	383.	4.08	39.	10.	3.	.24
+	3 COMBINED AT	CIN35	491.	5.08	195.	57.	20.	6.11
+	HYDROGRAPH AT	PR35MD	507.	4.17	404.	118.	41.	9.29
+	ROUTED TO	RP35IN	507.	4.25	404.	118.	41.	9.29
+	2 COMBINED AT	CPIN35	998.	5.08	599.	175.	61.	6.11
+	DIVERSION TO	DSVB35	868.	5.08	521.	153.	53.	6.11
+	HYDROGRAPH AT	DWIN43	130.	5.08	78.	23.	8.	6.11
+	ROUTED TO	RWIN43	127.	5.50	77.	23.	8.	6.11
+	HYDROGRAPH AT	DRIN43	464.	4.67	129.	32.	11.	6.96
+	ROUTED TO	RSIN43	462.	4.67	129.	32.	11.	6.96
+	HYDROGRAPH AT	IN43	292.	4.17	37.	9.	3.	.26
+	3 COMBINED AT	CIN43	639.	4.58	231.	62.	21.	7.99
	HYDROGRAPH AT							

+		PR43MD	629.	4.00	466.	129.	43.	6.96
+	ROUTED TO	RP43IN	629.	4.08	466.	129.	43.	6.96
+	2 COMBINED AT	CPIN43	1268.	4.58	696.	191.	64.	7.99
+	DIVERSION TO	DSVB43	1027.	4.58	564.	154.	52.	7.99
+	HYDROGRAPH AT	DWIN51	241.	4.58	132.	36.	12.	7.99
+	ROUTED TO	RWIN51	238.	4.75	132.	36.	12.	7.99
+	HYDROGRAPH AT	DRIN51	79.	4.83	14.	4.	1.	2.37
+	ROUTED TO	RSIN51	76.	5.08	14.	4.	1.	2.37
+	HYDROGRAPH AT	IN51	160.	4.33	38.	10.	3.	.23
+	DIVERSION TO	XIN51	10.	3.25	3.	1.	0.	.23
+	HYDROGRAPH AT	ERIN51	160.	4.33	36.	9.	3.	.23
+	3 COMBINED AT	CIN51	412.	4.92	191.	51.	17.	2.68
+	HYDROGRAPH AT	PR51MD	368.	4.50	211.	66.	22.	2.37
+	ROUTED TO	RP51IN	368.	4.58	211.	66.	22.	2.37
+	2 COMBINED AT	CPIN51	780.	4.92	402.	117.	39.	2.68
+	DIVERSION TO	DSVB51	0.	.00	0.	0.	0.	2.68
+	HYDROGRAPH AT	DWIN59	780.	4.92	402.	117.	39.	2.68
+	ROUTED TO	RWIN59	769.	5.00	400.	117.	39.	2.68
+	HYDROGRAPH AT	DRIN59	109.	4.92	27.	7.	2.	4.05
+	ROUTED TO	RSIN59	108.	5.00	27.	7.	2.	4.05
+	HYDROGRAPH AT	IN59	73.	4.75	29.	8.	3.	.20
+	DIVERSION TO	XIN59	42.	4.25	4.	1.	0.	.20
+	HYDROGRAPH AT	ERIN59	73.	4.75	27.	7.	2.	.20
+	3 COMBINED AT	CIN59	905.	5.00	435.	125.	42.	4.90
+	HYDROGRAPH AT	PR59MD	468.	4.58	279.	93.	31.	4.05
+	ROUTED TO	RP59IN	468.	4.67	279.	93.	31.	4.05
+	2 COMBINED AT	CPIN59	1373.	5.00	712.	217.	73.	4.90
+	DIVERSION TO	DSVB59	0.	.00	0.	0.	0.	4.90
+	HYDROGRAPH AT	DWIN67	1373.	5.00	712.	217.	73.	4.90
+	ROUTED TO	RWIN67	1361.	5.17	711.	217.	73.	4.90
+	HYDROGRAPH AT	DRIN67	32.	5.50	8.	2.	1.	4.41
+	ROUTED TO							

+		RSIN67	32.	5.58	8.	2.	1.	4.41
+	HYDROGRAPH AT	IN67	63.	4.83	27.	7.	2.	.20
+	DIVERSION TO	XIN67	63.	4.83	20.	5.	2.	.20
+	HYDROGRAPH AT	ERIN67	34.	6.33	9.	2.	1.	.20
+	3 COMBINED AT	CIN67	1375.	5.17	717.	218.	73.	5.78
+	HYDROGRAPH AT	PR67MD	400.	4.67	220.	56.	19.	4.41
+	ROUTED TO	RP67IN	400.	4.75	220.	56.	19.	4.41
+	2 COMBINED AT	CPIN67	1775.	5.17	933.	274.	92.	5.78
+	DIVERSION TO	DSVB67	0.	.00	0.	0.	0.	5.78
+	HYDROGRAPH AT	DWIN75	1775.	5.17	933.	274.	92.	5.78
+	ROUTED TO	RWIN75	1769.	5.33	932.	274.	92.	5.78
+	HYDROGRAPH AT	DRIN75	107.	5.83	33.	8.	3.	6.14
+	ROUTED TO	RSIN75	106.	5.83	33.	8.	3.	6.14
+	HYDROGRAPH AT	IN75	71.	4.75	28.	7.	2.	.20
+	DIVERSION TO	XIN75	71.	4.75	9.	2.	1.	.20
+	HYDROGRAPH AT	ERIN75	69.	4.92	20.	5.	2.	.20
+	3 COMBINED AT	CIN75	1880.	5.33	959.	280.	94.	8.11
+	HYDROGRAPH AT	PR75MD	364.	4.42	217.	55.	18.	6.14
+	ROUTED TO	RP75IN	364.	4.50	217.	55.	18.	6.14
+	2 COMBINED AT	CPIN75	2244.	5.33	1172.	335.	112.	8.11
+	DIVERSION TO	DSVB75	0.	.00	0.	0.	0.	8.11
+	HYDROGRAPH AT	DWIN83	2244.	5.33	1172.	335.	112.	8.11
+	ROUTED TO	RWIN83	2237.	5.50	1170.	335.	112.	8.11
+	HYDROGRAPH AT	IN83	74.	4.67	28.	7.	2.	.20
+	DIVERSION TO	XIN83	74.	4.67	25.	6.	2.	.20
+	HYDROGRAPH AT	ERIN83	23.	6.75	5.	1.	0.	.20
+	2 COMBINED AT	CIN83	2237.	5.50	1172.	336.	112.	8.31
+	HYDROGRAPH AT	PR83MD	340.	5.08	203.	53.	18.	5.80
+	ROUTED TO	RP83IN	340.	5.17	203.	53.	18.	5.80
+	2 COMBINED AT	CPIN83	2575.	5.50	1367.	387.	129.	8.31
+	DIVERSION TO	DSVB83	0.	.00	0.	0.	0.	8.31
+	HYDROGRAPH AT							

+	DWIN91	2575.	5.50	1367.	387.	129.	8.31
ROUTED TO							
+	RWIN91	2570.	5.58	1366.	387.	129.	8.31
HYDROGRAPH AT							
+	DRIN91	102.	6.08	24.	6.	2.	10.61
ROUTED TO							
+	RSIN91	102.	6.17	24.	6.	2.	10.61
HYDROGRAPH AT							
+	IN91	135.	4.25	31.	8.	3.	.19
DIVERSION TO							
+	XIN91	77.	4.00	6.	2.	1.	.19
HYDROGRAPH AT							
+	ERIN91	135.	4.25	25.	6.	2.	.19
3 COMBINED AT							
+	CIN91	2630.	5.75	1392.	393.	131.	10.57
HYDROGRAPH AT							
+	PR91MD	345.	5.08	186.	46.	15.	10.61
ROUTED TO							
+	RP91IN	345.	5.17	186.	47.	16.	10.61
2 COMBINED AT							
+	CPIN91	2975.	5.75	1577.	440.	147.	10.57
DIVERSION TO							
+	DSVB91	0.	.00	0.	0.	0.	10.57
HYDROGRAPH AT							
+	DWINLO	2975.	5.75	1577.	440.	147.	10.57
ROUTED TO							
+	RWINLO	2974.	5.83	1575.	440.	147.	10.57
DIVERSION TO							
+	DNINLO	0.	.00	0.	0.	0.	10.57
HYDROGRAPH AT							
+	DWIN07	2974.	5.83	1575.	440.	147.	10.57
HYDROGRAPH AT							
+	INLO	125.	4.25	24.	6.	2.	.15
DIVERSION TO							
+	XINLO	125.	4.25	14.	3.	1.	.15
HYDROGRAPH AT							
+	ERINLO	100.	4.50	11.	3.	1.	.15
HYDROGRAPH AT							
+	DRINLO	0.	.00	0.	0.	0.	10.57
HYDROGRAPH AT							
+	DRIN95	0.	.00	0.	0.	0.	14.07
3 COMBINED AT							
+	CIN95	166.	4.75	14.	4.	1.	24.79
ROUTED TO							
+	SRINLO	6.	6.42	5.	2.	1.	24.79
3 COMBINED AT							
+	CINLO	3103.	6.25	1579.	440.	147.	24.79
DIVERSION TO							
+	DNINLO	0.	.00	0.	0.	0.	24.79
HYDROGRAPH AT							
+	DWIN07	2982.	6.25	1511.	421.	141.	24.79
ROUTED TO							
+	RWIN07	2974.	6.33	1508.	421.	141.	24.79
HYDROGRAPH AT							
+	DITM07	123.	5.25	41.	11.	4.	1.67
ROUTED TO							
+	SRRI03	0.	11.00	0.	0.	0.	1.67
ROUTED TO							
+	RWTM07	0.	11.50	0.	0.	0.	1.67
HYDROGRAPH AT							
+	DRTM07	80.	5.25	26.	7.	2.	1.67
ROUTED TO							

+	RSTM07	75.	5.50	26.	7.	2.	1.67
HYDROGRAPH AT							
+	TM07	82.	4.75	28.	7.	2.	.26
3 COMBINED AT							
+	CTM07	135.	5.42	53.	14.	5.	1.61
DIVERSION TO							
+	DWTMAF	87.	5.42	34.	9.	3.	1.61
HYDROGRAPH AT							
+	DSMD07	47.	5.42	18.	5.	2.	1.61
ROUTED TO							
+	RSMD07	42.	6.33	18.	5.	2.	1.61
HYDROGRAPH AT							
+	DRMD99	142.	4.50	44.	11.	4.	.62
ROUTED TO							
+	RSMD99	133.	5.08	44.	11.	4.	.62
HYDROGRAPH AT							
+	MD99	168.	4.50	52.	14.	5.	.32
2 COMBINED AT							
+	CMD99	269.	4.92	94.	25.	8.	.60
DIVERSION TO							
+	DMD99	151.	4.92	53.	14.	5.	.60
HYDROGRAPH AT							
+	DWTMRI	118.	4.92	42.	11.	4.	.60
ROUTED TO							
+	RWTMRI	115.	5.08	41.	11.	4.	.60
HYDROGRAPH AT							
+	TMRI	285.	4.17	33.	8.	3.	.24
DIVERSION TO							
+	XTMRI	285.	4.17	23.	6.	2.	.24
HYDROGRAPH AT							
+	ERTMRI	164.	4.42	11.	3.	1.	.24
2 COMBINED AT							
+	CTMRI	226.	4.42	52.	14.	5.	.51
ROUTED TO							
+	SRTMRI	90.	5.67	23.	6.	2.	.51
ROUTED TO							
+	RMD07	75.	6.50	22.	6.	2.	.51
HYDROGRAPH AT							
+	DIMD99	151.	4.92	53.	14.	5.	.60
DIVERSION TO							
+	DSIN99	75.	4.92	26.	7.	2.	.60
HYDROGRAPH AT							
+	DWMD07	75.	4.92	26.	7.	2.	.60
ROUTED TO							
+	SRMD99	0.	.00	0.	0.	0.	.60
ROUTED TO							
+	RWMD07	0.	.00	0.	0.	0.	.60
HYDROGRAPH AT							
+	MD07	314.	4.75	102.	26.	9.	.78
DIVERSION TO							
+	XMD07	314.	4.75	102.	26.	9.	.78
HYDROGRAPH AT							
+	ERMD07	0.	.00	0.	0.	0.	.78
4 COMBINED AT							
+	CMD07	102.	6.67	37.	10.	3.	2.50
DIVERSION TO							
+	DWMDAV	77.	6.67	27.	7.	3.	2.50
HYDROGRAPH AT							
+	DSIN07	26.	6.67	9.	2.	1.	2.50
ROUTED TO							
+	RSIN07	25.	6.83	9.	2.	1.	2.50
HYDROGRAPH AT							

+	DRIN99	75.	4.92	26.	7.	2.	.60
	ROUTED TO						
+	RSIN99	71.	5.42	26.	7.	2.	.60
	HYDROGRAPH AT						
+	IN07	187.	4.33	43.	11.	4.	.26
	DIVERSION TO						
+	XIN07	187.	4.33	35.	9.	3.	.26
	HYDROGRAPH AT						
+	ERIN07	58.	5.33	8.	2.	1.	.26
	4 COMBINED AT						
+	CIN07	2997.	6.25	1515.	423.	141.	27.09
	DIVERSION TO						
+	DSVB07	0.	.00	0.	0.	0.	27.09
	HYDROGRAPH AT						
+	DWINAV	2997.	6.25	1515.	423.	141.	27.09
	ROUTED TO						
+	RWINAV	2994.	6.33	1513.	423.	141.	27.09
	HYDROGRAPH AT						
+	DRTMAF	87.	5.42	34.	9.	3.	1.61
	ROUTED TO						
+	RWTMAF	79.	6.17	34.	9.	3.	1.61
	HYDROGRAPH AT						
+	TMAF	242.	4.75	89.	23.	8.	.76
	2 COMBINED AT						
+	CTMAF	232.	4.83	117.	32.	11.	1.33
	DIVERSION TO						
+	DWAF02	207.	4.83	104.	28.	9.	1.33
	HYDROGRAPH AT						
+	DSMDAV	26.	4.83	13.	3.	1.	1.33
	ROUTED TO						
+	RSMDAV	23.	6.58	13.	3.	1.	1.33
	HYDROGRAPH AT						
+	DRMDAV	77.	6.67	27.	7.	3.	2.50
	ROUTED TO						
+	RWMDAV	68.	7.33	27.	7.	3.	2.50
	HYDROGRAPH AT						
+	MDAV	328.	4.75	110.	28.	9.	.95
	DIVERSION TO						
+	XMDAV	328.	4.75	110.	28.	9.	.95
	HYDROGRAPH AT						
+	ERMDAV	0.	.00	0.	0.	0.	.95
	3 COMBINED AT						
+	CMDAV	90.	7.25	39.	11.	4.	1.72
	DIVERSION TO						
+	DWMDAF	66.	7.25	28.	8.	3.	1.72
	HYDROGRAPH AT						
+	DSINAV	24.	7.25	10.	3.	1.	1.72
	ROUTED TO						
+	RSINAV	24.	7.42	10.	3.	1.	1.72
	HYDROGRAPH AT						
+	INAV	171.	4.33	39.	10.	3.	.23
	DIVERSION TO						
+	XINAV	171.	4.33	31.	8.	3.	.23
	HYDROGRAPH AT						
+	ERINAV	60.	5.25	9.	2.	1.	.23
	3 COMBINED AT						
+	CINAV	2995.	6.33	1513.	423.	141.	28.58
	DIVERSION TO						
+	DSVBAF	0.	.00	0.	0.	0.	28.58
	HYDROGRAPH AT						
+	DWINAF	2987.	6.33	1508.	422.	141.	28.58
	ROUTED TO						

+	RWINAF	2981.	6.42	1505.	422.	141.	28.58
	HYDROGRAPH AT						
+	DRMDAF	66.	7.25	28.	8.	3.	1.72
	ROUTED TO						
+	RWMDAF	53.	8.25	28.	8.	3.	1.72
	HYDROGRAPH AT						
+	MDAF	213.	4.75	81.	21.	7.	.83
	2 COMBINED AT						
+	CMDAF	201.	4.83	97.	29.	10.	1.30
	DIVERSION TO						
+	DWAF03	153.	4.83	74.	22.	7.	1.30
	HYDROGRAPH AT						
+	DSINAF	48.	4.83	23.	7.	2.	1.30
	ROUTED TO						
+	RSINAF	47.	5.00	23.	7.	2.	1.30
	HYDROGRAPH AT						
+	INAF	170.	4.58	54.	14.	5.	.47
	DIVERSION TO						
+	XINAF	170.	4.58	43.	11.	4.	.47
	HYDROGRAPH AT						
+	ERINAF	69.	5.92	13.	3.	1.	.47
	DIVERSION TO						
+	XINAF	69.	5.92	13.	3.	1.	.47
	HYDROGRAPH AT						
+	ERINAF	0.	.00	0.	0.	0.	.47
	3 COMBINED AT						
+	CINAF	2987.	6.42	1512.	425.	142.	29.36

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SUMMARY OF KINEMATIC WAVE - MUSKINGUM-CUNGE ROUTING
(FLOW IS DIRECT RUNOFF WITHOUT BASE FLOW)

ISTAQ	ELEMENT	DT	PEAK	TIME TO PEAK	VOLUME	DT	INTERPOLATED TO COMPUTATION INTERVAL PEAK	TIME TO PEAK	VOLUME
		(MIN)	(CFS)	(MIN)	(IN)	(MIN)	(CFS)	(MIN)	(IN)
FOR STORM = 1 STORM AREA (SQ MI) =				.00					
RPTB83	MANE	1.62	161.00	274.17	.54	5.00	161.00	275.00	.54

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3415E+02 EXCESS= .0000E+00 OUTFLOW= .3417E+02 BASIN STORAGE= .1200E-09 PERCENT ERROR= -.1

FOR STORM = 2 STORM AREA (SQ MI) =				.50					
RPTB83	MANE	1.71	161.00	274.91	.54	5.00	161.00	275.00	.54

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3398E+02 EXCESS= .0000E+00 OUTFLOW= .3406E+02 BASIN STORAGE= .1168E-09 PERCENT ERROR= -.2

FOR STORM = 3 STORM AREA (SQ MI) =				2.80					
RPTB83	MANE	1.59	161.00	273.71	.54	5.00	161.00	275.00	.54

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3388E+02 EXCESS= .0000E+00 OUTFLOW= .3389E+02 BASIN STORAGE= .1193E-09 PERCENT ERROR= .0

FOR STORM = 4 STORM AREA (SQ MI) =				16.00					
RPTB83	MANE	1.66	161.00	274.36	.52	5.00	161.00	275.00	.52

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3293E+02 EXCESS= .0000E+00 OUTFLOW= .3295E+02 BASIN STORAGE= .1226E-09 PERCENT ERROR= .0

FOR STORM = 5 STORM AREA (SQ MI) =				90.00					
RPTB83	MANE	1.69	161.00	279.86	.46	5.00	161.00	280.00	.47

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2922E+02 EXCESS= .0000E+00 OUTFLOW= .2924E+02 BASIN STORAGE= .1177E-09 PERCENT ERROR= -.1

FOR STORM = 6 STORM AREA (SQ MI) =				100.00					
RPTB83	MANE	1.57	161.00	279.35	.46	5.00	161.00	280.00	.46

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2875E+02 EXCESS= .0000E+00 OUTFLOW= .2876E+02 BASIN STORAGE= .1170E-09 PERCENT ERROR= .0

FOR STORM = 1 STORM AREA (SQ MI) = .00

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            RPTBLO  MANE          .72    247.00    291.93       .60      5.00    247.00    295.00         .60

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5668E+02 EXCESS= .0000E+00 OUTFLOW= .5668E+02 BASIN STORAGE= .1080E-09 PERCENT ERROR=    .0

          FOR STORM = 2  STORM AREA (SQ MI) =        .50
            RPTBLO  MANE          .83    247.00    291.74       .60      5.00    247.00    295.00         .60

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5646E+02 EXCESS= .0000E+00 OUTFLOW= .5647E+02 BASIN STORAGE= .1051E-09 PERCENT ERROR=    .0

          FOR STORM = 3  STORM AREA (SQ MI) =       2.80
            RPTBLO  MANE          .84    247.00    302.31       .58      5.00    247.00    305.00         .58

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5460E+02 EXCESS= .0000E+00 OUTFLOW= .5460E+02 BASIN STORAGE= .1076E-09 PERCENT ERROR=    .0

          FOR STORM = 4  STORM AREA (SQ MI) =      16.00
            RPTBLO  MANE          .76    247.00    311.84       .54      5.00    247.00    315.00         .54

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5125E+02 EXCESS= .0000E+00 OUTFLOW= .5125E+02 BASIN STORAGE= .1099E-09 PERCENT ERROR=    .0

          FOR STORM = 5  STORM AREA (SQ MI) =      90.00
            RPTBLO  MANE          .82    246.94    346.92       .43      5.00    246.58    350.00         .43

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4023E+02 EXCESS= .0000E+00 OUTFLOW= .4023E+02 BASIN STORAGE= .1064E-09 PERCENT ERROR=    .0

          FOR STORM = 6  STORM AREA (SQ MI) =     100.00
            RPTBLO  MANE          .88    230.44    352.12       .41      5.00    225.24    355.00         .41

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3854E+02 EXCESS= .0000E+00 OUTFLOW= .3854E+02 BASIN STORAGE= .1058E-09 PERCENT ERROR=    .0

          FOR STORM = 1  STORM AREA (SQ MI) =        .00
            RPCT75  MANE          2.81    268.00    310.70       .51      5.00    268.00    315.00         .51

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2996E+02 EXCESS= .0000E+00 OUTFLOW= .3001E+02 BASIN STORAGE= .1882E-09 PERCENT ERROR=   -.2

          FOR STORM = 2  STORM AREA (SQ MI) =        .50
            RPCT75  MANE          2.83    268.00    311.17       .50      5.00    268.00    315.00         .50

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2955E+02 EXCESS= .0000E+00 OUTFLOW= .2959E+02 BASIN STORAGE= .1962E-09 PERCENT ERROR=   -.1

          FOR STORM = 3  STORM AREA (SQ MI) =       2.80
            RPCT75  MANE          2.80    266.46    320.87       .42      5.00    252.71    325.00         .42

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2463E+02 EXCESS= .0000E+00 OUTFLOW= .2467E+02 BASIN STORAGE= .2092E-09 PERCENT ERROR=   -.1

          FOR STORM = 4  STORM AREA (SQ MI) =      16.00
            RPCT75  MANE          3.10    170.17    342.22       .29      5.00    163.31    345.00         .29

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1718E+02 EXCESS= .0000E+00 OUTFLOW= .1725E+02 BASIN STORAGE= .1796E-09 PERCENT ERROR=   -.4

          FOR STORM = 5  STORM AREA (SQ MI) =      90.00
            RPCT75  MANE          4.29     29.16    429.48       .10      5.00     28.88    430.00         .10

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5793E+01 EXCESS= .0000E+00 OUTFLOW= .5814E+01 BASIN STORAGE= .2138E-09 PERCENT ERROR=   -.4

          FOR STORM = 6  STORM AREA (SQ MI) =     100.00
            RPCT75  MANE          4.46     23.04    332.61       .08      5.00     23.02    330.00         .08

 *** The remainder of the continuity summary has been deleted for brevity, but the entire output is included on the CD ***

*** NORMAL END OF HEC-1 ***
```

```
1*************************************
*                                   *
*   FLOOD HYDROGRAPH PACKAGE  (HEC-1)   *
*             JUN   1998            *
*           VERSION 4.1             *
*                                   *
* RUN DATE   01NOV10  TIME  14:01:06  *
*                                   *
*************************************
```

```
*************************************
*                                   *
*   U.S. ARMY CORPS OF ENGINEERS    *
*   HYDROLOGIC ENGINEERING CENTER   *
*        609 SECOND STREET          *
*     DAVIS, CALIFORNIA 95616       *
*         (916) 756-1104            *
*                                   *
*************************************
```

```
X     X  XXXXXXX   XXXXX          X
X     X  X       X     X        XX
X     X  X       X              X
XXXXXXX  XXXX    X        XXXXX  X
X     X  X       X              X
X     X  X       X     X        X
X     X  XXXXXXX   XXXXX        XXX
```

THIS PROGRAM REPLACES ALL PREVIOUS VERSIONS OF HEC-1 KNOWN AS HEC1 (JAN 73), HEC1GS, HEC1DB, AND HEC1KW.

THE DEFINITIONS OF VARIABLES -RTIMP- AND -RTIOR- HAVE CHANGED FROM THOSE USED WITH THE 1973-STYLE INPUT STRUCTURE.
THE DEFINITION OF -AMSKK- ON RM-CARD WAS CHANGED WITH REVISIONS DATED 28 SEP 81. THIS IS THE FORTRAN77 VERSION
NEW OPTIONS: DAMBREAK OUTFLOW SUBMERGENCE , SINGLE EVENT DAMAGE CALCULATION, DSS:WRITE STAGE FREQUENCY,
DSS:READ TIME SERIES AT DESIRED CALCULATION INTERVAL LOSS RATE:GREEN AND AMPT INFILTRATION
KINEMATIC WAVE: NEW FINITE DIFFERENCE ALGORITHM

1 HEC-1 INPUT PAGE 1

```
LINE      ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10
    1     ID      GLENDALE STORMWATER MANAGEMENT PLAN
    2     ID      Model for Glendale/Peoria Watershed
    3     ID      Future Conditions
    4     ID
    5     ID      Prepared for the City of Glendale
    6     ID      In Association with the Flood Control District of Maricopa County
    7     ID      City Project Number 089017
    8     ID
    9     ID      Prepared by Kimley-Horn and Associates, Inc.
   10     ID      KHA Project Number 091910009
   11     ID      October 2010
   12     ID
   13     ID      MODELING PARAMETERS
   14     ID      - 10 Year  6 Hour Storm Event
   15     ID      - NOAA 14 Rainfall Data
   16     ID      - Clark Unit Hydrograph
   17     ID      - Green and Ampt Rainfall Loss Method
   18     ID
   19     ID      Topo data extracted from Flood Control District database July 24, 2009
   20     ID      Land use obtained from City of Glendale General Plan August 2009, City of
   21     ID           Phoenix General Plan August 2009, and MAG General Plan Land Use 2007
   22     ID
   23     ID      Storage routing data obtained from As-built Records or Final Drainage
   24     ID           Reports where possible
   25     ID      When As-built data/Drainage reports were not available data was obtained
   26     ID           from HEC-1 models and checked for accuracy.
   27     ID      Storage routing data obtained from the following HEC-1 models:
   28     ID           - Glendale/Peoria ADMPU, May 2001
   29     ID           - Glendale/Peoria ADMP Northwest Region Update, May 2007
   30     ID      The source of data is identified on each individual storage routing card
   31     ID
   32     ID      ********************************************************************
   33     ID
   34     ID      MODELING NOMENCLATURE
   35     ID      SUBBASIN HYDROGRAPH:
   36     ID         Example: JMRS   - the subbasin upstream of Jomax and Rock Springs Wash
   37     ID
   38     ID      STORM DRAIN DIVERSION:
   39     ID         Example: DBL59  - flow from subbasin BL59 is diverted to a storm drain
   40     ID
   41     ID      SUBBASIN DIVERSION:
   42     ID         Example: DWBL59 - flow is diverted west towards Bell and 59th Avenue
   43     ID         Example: DSGW51 - flow is diverted south towards Greenway and 51st Ave
   44     ID
   45     ID      ROUTE HYDROGRAPH:
   46     ID         Example: RWBL51 - flow is routed west towards Bell and 51st Avenue
   47     ID         Example: RSGW59 - flow is routed south towards Greenway and 59th Ave
   48     ID
   49     ID      COMBINE HYDROGRAPH:
   50     ID         Example: CJMRS  - combine flow at Jomax and Rock Springs Wash
   51     ID
   52     ID      STREET NAME ABBREVIATIONS
   53     ID         Jomax Road              JM
   54     ID         Happy Valley Road       HV
   55     ID         Pinnacle Peak Road      PP
```


1 HEC-1 INPUT PAGE 2

```
LINE      ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10
   56     ID      Deer Valley Road        DV
   57     ID      SR Loop 101             LO
   58     ID      Beardsley Road          BY
   59     ID      Union Hills Drive       UH
   60     ID      Bell Road               BL
   61     ID      Greenway Road           GW
   62     ID      Thunderbird Road        TB
   63     ID      Cactus Road             CT
   64     ID      Peoria Avenue           PE
   65     ID      Olive Avenue            OL
   66     ID      Northern Avenue         NO
   67     ID      Glendale Avenue         GL
   68     ID      Bethany Home Road       BH
   69     ID      Camelback Road          CB
   70     ID      Indian School Road      IS
   71     ID      Thomas Road             TM
   72     ID      McDowell Road           MD
   73     ID      Interstate 10           IN
   74     ID      Grand Avenue            GR
   75     ID      Mountain View Road      MV
   76     ID      Pinnacle Hill Road      PH
   77     ID      Greenbriar Drive        GB
   78     ID      Utopia Road             UT
   79     ID      Pyramid Peak Boulevard  PY
   80     ID      Bent Tree Drive         BT
   81     ID      Glen Harbor Boulevard   GH
   82     ID      Black Rock Boulevard    BR
   83     ID      Rose Garden Lane        RG
   84     ID      Calle Lejos             CL
   85     ID      Rock Springs Wash       RS
   86     ID      Williams Road           WL
   87     ID      Del Webb Boulevard      DW
   88     ID      Westwing Parkway        WW
   89     ID      Lake Pleasant Parkway   LP
   90     ID      Thunderbird Park Road   TP
   91     ID      Talisman Road           TL
   92     ID      Royal Oak Road          RO
   93     ID      Yearling Road           YL
   94     ID      Meade Drive             ME
   95     ID      Acoma Drive             AM
   96     ID      Athens Street           AT
   97     ID
   98     ID
   99     ID    PREFIXES FOR MODELING OPERATIONS
  100     ID       RW    Routing flow in the west direction
  101     ID       RS    Routing flow in the south direction
  102     ID       RP    Routing storm drain pipe flow
  103     ID       C     Combination point
  104     ID       CI    Combination point at an intersection
  105     ID       CP    Combination point for storm drain pipe flow
  106     ID       SR    Storage for detention/retention basins
  107     ID       DW    Divert flow to the west
  108     ID       DE    Divert flow to the east
  109     ID       DS    Divert flow to the south
  110     ID       DN    Divert flow to the north
```

1 HEC-1 INPUT PAGE 3

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LINE      ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10
  111     ID       ER    Divert flow for existing 100-yr 2-hr retention
  112     ID       X     Existing retention diversion does not return to model
  113     ID       DR    Divert retrieval from surface flow
  114     ID       DI    Divert retrieval from intersection flow
  115     ID       D     Divert surface flow (remains after storm drain divert)
  116     ID       DP    Divert flow to a storm drain pipe
  117     ID       PR    Divert retrieval from a storm drain pipe
  118     ID
  119     ID    ********************************************************************
  120     IT     5       0       0    1000
  121     IN    15
  122     IO     5
          *DIAGRAM
          *
  123     JD  1.762  0.0001
  124     PC  0.000  0.008  0.016  0.025  0.033  0.041  0.050  0.058  0.066  0.074
  125     PC  0.087  0.099  0.118  0.138  0.216  0.377  0.834  0.911  0.931  0.950
  126     PC  0.962  0.972  0.983  0.991  1.000
  127     JD  1.751  0.5000
  128     PC  0.000  0.008  0.016  0.025  0.033  0.041  0.050  0.058  0.066  0.074
  129     PC  0.087  0.099  0.118  0.138  0.216  0.377  0.834  0.911  0.931  0.950
  130     PC  0.962  0.972  0.983  0.991  1.000
  131     JD  1.718    2.8
  132     PC  0.000  0.009  0.016  0.025  0.034  0.042  0.051  0.059  0.068  0.077
  133     PC  0.088  0.101  0.121  0.164  0.253  0.451  0.694  0.836  0.900  0.938
  134     PC  0.950  0.963  0.975  0.988  1.000
  135     JD  1.625   16.0
  136     PC  0.000  0.015  0.020  0.030  0.048  0.063  0.076  0.090  0.105  0.119
  137     PC  0.135  0.152  0.175  0.222  0.304  0.472  0.670  0.796  0.868  0.912
  138     PC  0.946  0.960  0.973  0.987  1.000
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 139          JD   1.427    90.0
 140          PC   0.000   0.021   0.035   0.051   0.071   0.087   0.105   0.125   0.143   0.160
 141          PC   0.179   0.201   0.232   0.281   0.364   0.500   0.658   0.773   0.841   0.888
 142          PC   0.927   0.945   0.964   0.982   1.000
 143          JD   1.410   100.0
 144          PC   0.000   0.021   0.036   0.052   0.072   0.088   0.106   0.126   0.145   0.162
 145          PC   0.182   0.204   0.235   0.284   0.368   0.501   0.656   0.770   0.839   0.886
 146          PC   0.925   0.944   0.963   0.982   1.000
              *
 147          KK    UH35   BASIN
 148          KM   Runoff hydrograph for subbasin UH35 northeast of the intersection of Union
 149          KM   Hills Drive and 35th Avenue
 150          BA   1.136
 151          LG    0.20    0.13   10.10    0.03      51
 152          UC   1.233   0.786
 153          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
 154          UA     100
              *
1                                        HEC-1 INPUT                                    PAGE  4

     LINE     ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 155          KK  ERUH35  DIVERT
 156          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
 157          KM   retention developed after 1990 in subbasin UH35
 158          DT   XUH35     47.3      0.0
 159          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
 160          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *
 161          KK    DUH35  DIVERT
 162          KM   Divert calculated full flow capacity of 875 cfs into a 114-inch storm drain
 163          KM   pipe at the intersection of Union Hills Drive and 35th Avenue
 164          DT   DPUH35      0.0    875.0
 165          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
 166          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *
 167          KK  DSBL35  DIVERT
 168          KM   Divert remaining runoff hydrograph from subbasin UH35 south to combination
 169          KM   point CBL35
 170          DT   DWUH43      0.0      0.0
 171          DI     0.0   100.0    200.0    500.0   1000.0   2000.0   4000.0  10000.0  20000.0  50000.0
 172          DQ     0.0    51.0    102.0    255.0    510.0   1020.0   2040.0   5100.0  10200.0  25500.0
              *
 173          KK  RSBL35   ROUTE
 174          KM   Route diversion DSBL35 south to combination point CBL35
 175          RS        6    FLOW
 176          RC   0.035   0.015   0.035    5280  0.0030     0.00
 177          RX    0.00    0.00   76.50   76.50  372.50  372.50  449.00  449.00
 178          RY    3.00    1.27    0.50    0.00    0.00    0.50    1.27    3.00
              *
 179          KK    BL35   BASIN
 180          KM   Runoff hydrograph for subbasin BL35 northeast of the intersection of Bell
 181          KM   Road and 35th Avenue
 182          BA   1.139
 183          LG    0.22    0.15    7.30    0.09      42
 184          UC   1.475   0.954
 185          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
 186          UA     100
              *
 187          KK  ERBL35  DIVERT
 188          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
 189          KM   retention developed after 1990 in subbasin BL35
 190          DT   XBL35      8.0      0.0
 191          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
 192          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *
1                                        HEC-1 INPUT                                    PAGE  5

     LINE     ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 193          KK   CBL35 COMBINE
 194          KM   Combine route RSBL35 and subbasin BL35
 195          HC        2    1.70
              *
 196          KK   D35BL  DIVERT
 197          KM   Divert calculated full flow capacity of 158 cfs into a 60-inch storm drain
 198          KM   pipe at the intersection of Bell Road and 35th Avenue
 199          DT   DP35BL      0.0    158.0
 200          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
 201          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *
 202          KK  DSGW35  DIVERT
 203          KM   Divert remaining runoff hydrograph from combination point CBL35 south to
```



```
 204          KM   combination point CGW35
 205          DT   DWBL43      0.0      0.0
 206          DI      0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0  10000.0  20000.0  50000.0
 207          DQ      0.0     66.0    132.0    330.0    660.0   1320.0   2640.0   6600.0  13200.0  33000.0
              *
 208          KK  RSGW35   ROUTE
 209          KM   Route diversion DSGW35 south to combination point CGW35
 210          RS        3    FLOW
 211          RC   0.035   0.015   0.035    5280  0.0041     0.00
 212          RX    0.00    0.00   45.00   45.00  229.00  229.00  274.00  274.00
 213          RY    3.00    0.95    0.50    0.00    0.00    0.50    0.95    3.00
              *
 214          KK    GW35   BASIN
 215          KM   Runoff hydrograph for subbasin GW35 northeast of the intersection of Greenway
 216          KM   Road and 35th Avenue
 217          BA   1.008
 218          LG    0.21    0.17    6.80    0.12      45
 219          UC   1.500   0.998
 220          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
 221          UA     100
              *
 222          KK   CGW35 COMBINE
 223          KM   Combine route RSGW35 and subbasin GW35
 224          HC        2    1.58
              *
 225          KK  PR35BLRETRIEVE
 226          KM   Retrieve full flow capacity of 158 cfs from 60-inch storm drain pipe at the
 227          KM   intersection of Bell Road and 35th Avenue
 228          DR  DP35BL
              *
1                                        HEC-1 INPUT                                    PAGE  6

     LINE     ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 229          KK  RP35GW   ROUTE
 230          KM   Route full flow capacity of 158 cfs through 60-inch storm drain pipe in
 231          KM   35th Avenue to the intersection of Greenway Road and 35th Avenue
 232          RK     5260  0.0037   0.015             CIRC   5.000
              *
 233          KK  CPGW35 COMBINE
 234          KM   Combine pipe return PR35BL with the runoff hydrograph at combination point
 235          KM   CGW35 at the intersection of Greenway Road and 35th Avenue
 236          HC        2
              *
 237          KK   D35GW  DIVERT
 238          KM   Divert calculated full flow capacity of 318 cfs into a 78-inch storm drain
 239          KM   pipe at the intersection of Greenway Road and 35th Avenue
 240          DT   DP35GW      0.0    318.0
 241          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
 242          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *
 243          KK  DSTB35  DIVERT
 244          KM   Divert remaining runoff hydrograph from combination point CGW35 south to
 245          KM   combination point CTB35
 246          DT   DWGW43      0.0      0.0
 247          DI      0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0  10000.0  20000.0  50000.0
 248          DQ      0.0     58.0    116.0    290.0    580.0   1160.0   2320.0   5800.0  11600.0  29000.0
              *
 249          KK  RSTB35   ROUTE
 250          KM   Route diversion DSTB35 south to combination point CTB35
 251          RS        4    FLOW
 252          RC   0.035   0.015   0.035    5280  0.0035     0.00
 253          RX    0.00    0.00   54.50   54.50  269.50  269.50  324.00  324.00
 254          RY    3.00    1.04    0.50    0.00    0.00    0.50    1.04    3.00
              *
 255          KK    TB35   BASIN
 256          KM   Runoff hydrograph for subbasin TB35 northeast of the intersection of
 257          KM   Thunderbird Road and 35th Avenue
 258          BA   0.976
 259          LG    0.23    0.15    7.60    0.08      36
 260          UC   1.500   1.012
 261          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
 262          UA     100
              *
 263          KK   CTB35 COMBINE
 264          KM   Combine route RSTB35 and subbasin TB35
 265          HC        2    1.65
              *
1                                        HEC-1 INPUT                                    PAGE  7

     LINE     ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10
```

```
266          KK  PR35GWRETRIEVE
267          KM   Retrieve full flow capacity of 318 cfs from 78-inch storm drain pipe at the
268          KM   intersection of Greenway Road and 35th Avenue
269          DR  DP35GW
             *
270          KK  RP35TB   ROUTE
271          KM   Route full flow capacity of 318 cfs through 78-inch storm drain pipe in
272          KM   35th Avenue to the intersection of Thunderbird Road and 35th Avenue
273          RK    5252  0.0037   0.015             CIRC   6.500
             *
274          KK  CPTB35 COMBINE
275          KM   Combine pipe return PR35GW with the runoff hydrograph at combination point
276          KM   CTB35 at the intersection of Thundebird Road and 35th Avenue
277          HC       2
             *
278          KK   D35TB  DIVERT
279          KM   Divert calculated full flow capacity of 554 cfs into a 96-inch storm drain
280          KM   pipe at the intersection of Thunderbird Road and 35th Avenue
281          DT  DP35TB     0.0   554.0
282          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
283          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
             *
284          KK  DSCT35  DIVERT
285          KM   Divert remaining runoff hydrograph from combination point CTB35 south to
286          KM   combination point CCT35
287          DT  DWTB43     0.0     0.0
288          DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
289          DQ     0.0    52.0   104.0   260.0   520.0  1040.0  2080.0  5200.0 10400.0 26000.0
             *
290          KK  RSCT35   ROUTE
291          KM   Route diversion DSCT35 south to combination point CCT35
292          RS       4    FLOW
293          RC   0.035   0.015   0.035    5280  0.0036    0.00
294          RX    0.00    0.00   86.00   86.00  413.00  413.00  499.00  499.00
295          RY    3.00    1.36    0.50    0.00    0.00    0.50    1.36    3.00
             *
296          KK    CT35   BASIN
297          KM   Runoff hydrograph for subbasin CT35 northeast of the intersection of Cactus
298          KM   Road and 35th Avenue
299          BA   0.976
300          LG    0.21    0.25    5.20    0.21      48
301          UC   1.500   1.012
302          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
303          UA     100
             *
1                                        HEC-1 INPUT                                        PAGE  8

LINE         ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

304          KK   CCT35 COMBINE
305          KM   Combine route RSCT35 and subbasin CT35
306          HC       2    1.76
             *
307          KK  PR35TBRETRIEVE
308          KM   Retrieve full flow capacity of 554 cfs from 96-inch storm drain pipe at the
309          KM   intersection of Thunderbird Road and 35th Avenue
310          DR  DP35TB
             *
311          KK  RP35CT   ROUTE
312          KM   Route full flow capacity of 554 cfs through 96-inch storm drain pipe in
313          KM   35th Avenue to the intersection of Cactus Road and 35th Avenue
314          RK    5200  0.0037   0.015             CIRC   8.000
             *
315          KK  CPCT35 COMBINE
316          KM   Combine pipe return PR35TB with the runoff hydrograph at combination point
317          KM   CCT35 at the intersection of Cactus Road and 35th Avenue
318          HC       2
             *
319          KK   D35CT  DIVERT
320          KM   Divert calculated full flow capacity of 554 cfs into a 96-inch storm drain
321          KM   pipe at the intersection of Cactus Road and 35th Avenue
322          DT  DP35CT     0.0   554.0
323          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
324          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
             *
325          KK  DSPE35  DIVERT
326          KM   Divert remaining runoff hydrograph from combination point CCT35 south to
327          KM   combination point CPE35
328          DT  DWCT43     0.0     0.0
329          DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
```



```
330          DQ     0.0    58.0   116.0   290.0   580.0  1160.0  2320.0  5800.0 11600.0 29000.0
             *
331          KK  RSPE35   ROUTE
332          KM   Route diversion DSPE35 south to combination point CPE35
333          RS       4    FLOW
334          RC   0.035   0.015   0.035    5280  0.0023    0.00
335          RX    0.00    0.00   67.00   67.00  332.00  332.00  399.00  399.00
336          RY    3.00    1.17    0.50    0.00    0.00    0.50    1.17    3.00
             *
337          KK    PE35   BASIN
338          KM   Runoff hydrograph for subbasin PE35 northeast of the intersection of Peoria
339          KM   Avenue and 35th Avenue
340          BA   0.977
341          LG    0.23    0.24    4.70    0.27      40
342          UC   1.500   1.016
343          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
1                                        HEC-1 INPUT                                        PAGE  9

LINE         ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

344          UA     100
             *
345          KK   CPE35 COMBINE
346          KM   Combine route RSPE35 and subbasin PE35
347          HC       2    1.71
             *
348          KK  PR35CTRETRIEVE
349          KM   Retrieve full flow capacity of 554 cfs from 96-inch storm drain pipe at the
350          KM   intersection of Cactus Road and 35th Avenue
351          DR  DP35CT
             *
352          KK  RP35PE   ROUTE
353          KM   Route full flow capacity of 554 cfs through 96-inch storm drain pipe in
354          KM   35th Avenue to the intersection of Peoria Avenue and 35th Avenue
355          RK    5256  0.0037   0.015             CIRC   8.000
             *
356          KK  CPPE35 COMBINE
357          KM   Combine pipe return PR35CT with the runoff hydrograph at combination point
358          KM   CPE35 at the intersection of Peoria Avenue and 35th Avenue
359          HC       2
             *
360          KK   D35PE  DIVERT
361          KM   Divert calculated full flow capacity of 466 cfs into a 90-inch storm drain
362          KM   pipe at the intersection of Peoria Avenue and 35th Avenue
363          DT  DP35PE     0.0   466.0
364          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
365          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
             *
366          KK  DSAC35  DIVERT
367          KM   Divert remaining runoff hydrograph from combination point CPE35 south to
368          KM   combination pointCAC01
369          DT  DWPE43     0.0     0.0
370          DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
371          DQ     0.0    70.0   140.0   350.0   700.0  1400.0  2800.0  7000.0 14000.0 35000.0
             *
372          KK  RSAC35   ROUTE
373          KM   Route diversion DSAC35 south to combination pointCAC01
374          RS       2    FLOW
375          RC   0.035   0.015   0.035    3447  0.0041    0.00
376          RX    0.00    0.00   41.00   41.00  184.00  184.00  225.00  225.00
377          RY    3.00    0.91    0.50    0.00    0.00    0.50    0.91    3.00
             *
1                                        HEC-1 INPUT                                        PAGE 10

LINE         ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

378          KK    AC35   BASIN
379          KM   Runoff hydrograph for subbasin AC35 northeast of the intersection of the ACDC
380          KM   Canal and 35th Avenue
381          BA   0.755
382          LG    0.15    0.25    5.30    0.20      67
383          UC   1.068   0.721
384          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
385          UA     100
             *
386          KK   CAC01 COMBINE
387          KM   Combine route RSAC35 and subbasin AC35
388          HC       2    1.27
             *
389          KK  PR35PERETRIEVE
390          KM   Retrieve full flow capacity of 446 cfs from 90-inch storm drain pipe at the
```

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391          KM   intersection of Peoria Avenue and 35th Avenue
392          DR  DP35PE
             *
393          KK  RP35AC    ROUTE
394          KM   Route full flow capacity of 446 cfs through 90-inch storm drain pipe in
395          KM   35th Avenue to the intersection of ACDC and 35th Avenue
396          RK    3523  0.0037   0.015             CIRC   7.500
             *
397          KK  CPAC01 COMBINE
398          KM   Combine pipe return PR35PE with the runoff hydrograph at combination point
399          KM   CAC01 at the intersection of ACDC and 35th Avenue
400          HC       2
             *
401          KK  DRUH43RETRIEVE
402          KM   Retrieve divert DRUH43 from combination point CUH35 and divert west to
403          KM   combination point CUH43
404          DR  DWUH43
             *
405          KK  RWUH43    ROUTE
406          KM   Route diversion retrieval DRUH43 west to combination point CUH43
407          RS       5     FLOW
408          RC   0.035   0.015   0.035    5280  0.0041     0.00
409          RX    0.00    0.00   67.00   67.00  332.00  332.00  399.00  399.00
410          RY    3.00    1.17    0.50    0.00    0.00    0.50    1.17    3.00
             *
411          KK    UH43    BASIN
412          KM   Runoff hydrograph for subbasin UH43 northeast of the intersection of Unioin
413          KM   Hills Drive and 43rd Avenue
414          BA   1.025
415          LG    0.26    0.17    7.30    0.11      18
416          UC   1.500   0.996
417          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
```



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LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10
418          UA     100
             *
419          KK  ERUH43  DIVERT
420          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
421          KM   retention developed after 1990 in subbasin UH43
422          DT   XUH43     26.8      0.0
423          DI       0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
424          DQ       0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
             *
425          KK   CUH43 COMBINE
426          KM   Combine route RSUH43 and subbasin UH43
427          HC       2     1.60
             *
428          KK  PRUH35RETRIEVE
429          KM   Retrieve full flow capacity of 875 cfs from 114-inch storm drain pipe at the
430          KM   intersection of Union Hills Drive and 35th Avenue
431          DR  DPUH35
             *
432          KK  RPUH43    ROUTE
433          KM   Route full flow capacity of 875 cfs through 114-inch storm drain pipe in
434          KM   Union Hills Drive to the intersection of Union Hills Drive and 43rd Avenue
435          RK    5324  0.0037   0.015             CIRC   9.500
             *
436          KK  CPUH43 COMBINE
437          KM   Combine pipe return PRUH35 with the runoff hydrograph at combination point
438          KM   CUH43 at the intersection of Union Hills Drive and 43rd Avenue
439          HC       2
             *
440          KK   DUH43  DIVERT
441          KM   Divert calculated full flow capacity of 1268 cfs into a 132-inch storm drain
442          KM   pipe at the intersection of Union Hills Drive and 43rd Avenue
443          DT  DPUH43      0.0  1268.0
444          DI       0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
445          DQ       0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
             *
446          KK  DSBL43  DIVERT
447          KM   Divert remaining runoff hydrograph from combination point CUH43 south to
448          KM   combination point CBL43
449          DT  DWUH51      0.0      0.0
450          DI       0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0  10000.0  20000.0  50000.0
451          DQ       0.0     42.0     84.0    210.0    420.0    840.0   1680.0   4200.0   8400.0  21000.0
             *
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LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10
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452          KK  RSBL43    ROUTE
453          KM   Route diversion DSBL43 south to combination point CBL43
454          RS       3     FLOW
455          RC   0.035   0.015   0.035    5280  0.0037     0.00
456          RX    0.00    0.00   48.00   48.00  251.00  251.00  299.00  299.00
457          RY    3.00    0.98    0.50    0.00    0.00    0.50    0.98    3.00
             *
458          KK  DRBL43RETRIEVE
459          KM   Retrieve divert DRBL43 from combination point CBL35 and divert west to
460          KM   combination point CBL43
461          DR  DWBL43
             *
462          KK  RWBL43    ROUTE
463          KM   Route diversion retrieval DRBL43 west to combination point CBL43
464          RS       3     FLOW
465          RC   0.035   0.015   0.035    5280  0.0047     0.00
466          RX    0.00    0.00   86.00   86.00  413.00  413.00  499.00  499.00
467          RY    3.00    1.36    0.50    0.00    0.00    0.50    1.36    3.00
             *
468          KK    BL43    BASIN
469          KM   Runoff hydrograph for subbasin BL43 northeast of the intersection of Bell
470          KM   Road and 43rd Avenue
471          BA   1.049
472          LG    0.24    0.15    8.00    0.07      33
473          UC   1.500   0.999
474          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
475          UA     100
             *
476          KK   CBL43 COMBINE
477          KM   Combine route RSBL43, route RWBL43, and subbasin BL43
478          HC       3    3.10
             *
479          KK   D43BL  DIVERT
480          KM   Divert calculated full flow capacity of 117 cfs into a 54-inch storm drain
481          KM   pipe at the intersection of Bell Road and 43rd Avenue
482          DT  DP43BL      0.0    117.0
483          DI       0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
484          DQ       0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
             *
485          KK  DSGW43  DIVERT
486          KM   Divert remaining runoff hydrograph from combination point CBL43 south to
487          KM   combination point CGW43
488          DT  DWBL51      0.0      0.0
489          DI       0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0  10000.0  20000.0  50000.0
490          DQ       0.0     46.0     92.0    230.0    460.0    920.0   1840.0   4600.0   9200.0  23000.0
             *
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LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10
491          KK  RSGW43    ROUTE
492          KM   Route diversion DSGW43 south to combination point CGW43
493          RS       3     FLOW
494          RC   0.035   0.015   0.035    5280  0.0028     0.00
495          RX    0.00    0.00   57.50   57.50  291.50  291.50  349.00  349.00
496          RY    3.00    1.08    0.50    0.00    0.00    0.50    1.08    3.00
             *
497          KK  DRGW43RETRIEVE
498          KM   Retrieve divert DRGW43 from combination point CGW35 and divert west to
499          KM   combination point CGW43
500          DR  DWGW43
             *
501          KK  RWGW43    ROUTE
502          KM   Route diversion retrieval DRGW43 west to combination point CGW43
503          RS       4     FLOW
504          RC   0.035   0.015   0.035    5280  0.0034     0.00
505          RX    0.00    0.00   76.50   76.50  372.50  372.50  449.00  449.00
506          RY    3.00    1.27    0.50    0.00    0.00    0.50    1.27    3.00
             *
507          KK    GW43    BASIN
508          KM   Runoff hydrograph for subbasin GW43 northeast of the intersection of Greenway
509          KM   Road and 43rd Avenue
510          BA   0.987
511          LG    0.24    0.19    6.60    0.13      37
512          UC   1.500   1.018
513          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
514          UA     100
             *
515          KK  ERGW43  DIVERT
516          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
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 517          KM   retention developed after 1990 in subbasin GW43
 518          DT   XGW43     6.2      0.0
 519          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
 520          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
                   *

 521          KK   CGW43 COMBINE
 522          KM   Combine route RSGW43, route RWGW43, and subbasin GW43
 523          HC       3    3.57
                   *

 524          KK   PR43BLRETRIEVE
 525          KM   Retrieve full flow capacity of 117 cfs from 54-inch storm drain pipe at the
 526          KM   intersection of Bell Road and 43rd Avenue
 527          DR   DP43BL
                   *
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 LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 528          KK   RP43GW    ROUTE
 529          KM   Route full flow capacity of 117 cfs through 54-inch storm drain pipe in
 530          KM   43rd Avenue to the intersection of Greenway Road and 43rd Avenue
 531          RK     5150  0.0035    0.015             CIRC    4.500
                   *

 532          KK   CPGW43 COMBINE
 533          KM   Combine pipe return PR43BL with the runoff hydrograph at combination point
 534          KM   CGW43 at the intersection of Greenway Road and 43rd Avenue
 535          HC       2
                   *

 536          KK    D43GW  DIVERT
 537          KM   Divert calculated full flow capacity of 155 cfs into a 60-inch storm drain
 538          KM   pipe at the intersection of Greenway Road and 43rd Avenue
 539          DT   DP43GW     0.0    155.0
 540          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
 541          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
                   *

 542          KK   DSTB43  DIVERT
 543          KM   Divert remaining runoff hydrograph from combination point CGW43 south to
 544          KM   combination point CTB43
 545          DT   DWGW51     0.0      0.0
 546          DI     0.0   100.0    200.0    500.0   1000.0   2000.0   4000.0  10000.0  20000.0  50000.0
 547          DQ     0.0    53.0    106.0    265.0    530.0   1060.0   2120.0   5300.0  10600.0  26500.0
                   *

 548          KK   RSTB43   ROUTE
 549          KM   Route diversion DSTB43 south to combination point CTB43
 550          RS       2     FLOW
 551          RC   0.035   0.015    0.035     5280   0.0038     0.00
 552          RX    0.00    0.00    67.00    67.00   332.00   332.00   399.00   399.00
 553          RY    3.00    1.17     0.50     0.00     0.00     0.50     1.17     3.00
                   *

 554          KK   DRTB43RETRIEVE
 555          KM   Retrieve divert DRTB43 from combination point CTB35 and divert west to
 556          KM   combination point CTB43
 557          DR   DWTB43
                   *

 558          KK   RWTB43   ROUTE
 559          KM   Route diversion retrieval DRTB43 west to combination point CTB43
 560          RS       3     FLOW
 561          RC   0.035   0.015    0.035     5280   0.0037     0.00
 562          RX    0.00    0.00    95.50    95.50   453.50   453.50   549.00   549.00
 563          RY    3.00    1.46     0.50     0.00     0.00     0.50     1.46     3.00
                   *
1                                           HEC-1 INPUT                                        PAGE 15

 LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 564          KK     TB43   BASIN
 565          KM   Runoff hydrograph for subbasin TB43 northeast of the intersection of
 566          KM   Thunderbird Road and 43rd Avenue
 567          BA   0.995
 568          LG    0.26    0.15     7.30     0.10       25
 569          UC   1.500   1.013
 570          UA       0     5.0     16.0     30.0     65.0     77.0     84.0     90.0     94.0     97.0
 571          UA     100
                   *

 572          KK   CTB43 COMBINE
 573          KM   Combine route RSTB43, route RWTB43, and subbasin TB43
 574          HC       3    3.55
                   *

 575          KK   PR43GWRETRIEVE
 576          KM   Retrieve full flow capacity of 155 cfs from 60-inch storm drain pipe at the
 577          KM   intersection of Greenway Road and 43rd Avenue
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 578          DR   DP43GW
                   *

 579          KK   RP43TB   ROUTE
 580          KM   Route full flow capacity of 155 cfs through 60-inch storm drain pipe in
 581          KM   43rd Avenue to the intersection of Thunderbird Road and 43rd Avenue
 582          RK     5245  0.0035    0.015             CIRC    5.000
                   *

 583          KK   CPTB43 COMBINE
 584          KM   Combine pipe return PR43GW with the runoff hydrograph at combination point
 585          KM   CTB43 at the intersection of Thunderbird Road and 43rd Avenue
 586          HC       2
                   *

 587          KK    D43TB  DIVERT
 588          KM   Divert calculated full flow capacity of 312 cfs into a 78-inch storm drain
 589          KM   pipe at the intersection of Tunderbird Road and 43rd Avenue
 590          DT   DP43TB     0.0    312.0
 591          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
 592          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
                   *

 593          KK   DSCT43  DIVERT
 594          KM   Divert remaining runoff hydrograph from combination point CTB43 south to
 595          KM   combination point CCT43
 596          DT   DWTB51     0.0      0.0
 597          DI     0.0   100.0    200.0    500.0   1000.0   2000.0   4000.0  10000.0  20000.0  50000.0
 598          DQ     0.0    63.0    126.0    315.0    630.0   1260.0   2520.0   6300.0  12600.0  31500.0
                   *
1                                           HEC-1 INPUT                                        PAGE 16

 LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 599          KK   RSCT43   ROUTE
 600          KM   Route diversion DSCT43 south to combination point CCT43
 601          RS       3     FLOW
 602          RC   0.035   0.015    0.035     5280   0.0030     0.00
 603          RX    0.00    0.00    48.00    48.00   251.00   251.00   299.00   299.00
 604          RY    3.00    0.98     0.50     0.00     0.00     0.50     0.98     3.00
                   *

 605          KK   DRCT43RETRIEVE
 606          KM   Retrieve divert DRCT43 from combination point CCT35 and divert west to
 607          KM   combination point CCT43
 608          DR   DWCT43
                   *

 609          KK   RWCT43   ROUTE
 610          KM   Route diversion retrieval DRCT43 west to combination point CCT43
 611          RS       3     FLOW
 612          RC   0.035   0.015    0.035     5280   0.0029     0.00
 613          RX    0.00    0.00    86.00    86.00   413.00   413.00   499.00   499.00
 614          RY    3.00    1.36     0.50     0.00     0.00     0.50     1.36     3.00
                   *

 615          KK     CT43   BASIN
 616          KM   Runoff hydrograph for subbasin CT43 northeast of the intersection of Cactus
 617          KM   Road and 43rd Avenue
 618          BA   0.996
 619          LG    0.23    0.15     8.00     0.07       37
 620          UC   1.500   1.013
 621          UA       0     5.0     16.0     30.0     65.0     77.0     84.0     90.0     94.0     97.0
 622          UA     100
                   *

 623          KK   ERCT43  DIVERT
 624          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
 625          KM   retention developed after 1990 in subbasin CT43
 626          DT   XCT43    41.4      0.0
 627          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
 628          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
                   *

 629          KK   CCT43 COMBINE
 630          KM   Combine route RSCT43, route RWCT43, and subbasin CT43
 631          HC       3    3.35
                   *

 632          KK   PR43TBRETRIEVE
 633          KM   Retrieve full flow capacity of 312 cfs from 78-inch storm drain pipe at the
 634          KM   intersection of Thunderbird Road and 43rd Avenue
 635          DR   DP43TB
                   *
1                                           HEC-1 INPUT                                        PAGE 17

 LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 636          KK   RP43CT   ROUTE
 637          KM   Route full flow capacity of 312 cfs through 78-inch storm drain pipe in
 638          KM   43rd Avenue to the intersection of Cactus Road and 43rd Avenue
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```
639          RK    5194  0.0035   0.015            CIRC   6.500
             *

640          KK  CPCT43 COMBINE
641          KM   Combine pipe return PR43TB with the runoff hydrograph at combination point
642          KM   CCT43 at the intersection of Cactus Road and 43rd Avenue
643          HC       2
             *

644          KK   D43CT  DIVERT
645          KM   Divert calculated full flow capacity of 380 cfs into an 84-inch storm drain
646          KM   pipe at the intersection of Cactus Road and 43rd Avenue
647          DT  DP43CT      0.0   380.0
648          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
649          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
             *

650          KK  DSPE43  DIVERT
651          KM   Divert remaining runoff hydrograph from combination point CCT43 south to
652          KM   combination point CPE43
653          DT  DWCT51      0.0     0.0
654          DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
655          DQ     0.0    63.0   126.0   315.0   630.0  1260.0  2520.0  6300.0 12600.0 31500.0
             *

656          KK  RSPE43   ROUTE
657          KM   Route diversion DSPE43 south to combination point CPE43
658          RS       3    FLOW
659          RC   0.035   0.015   0.035    5280  0.0024    0.00
660          RX    0.00    0.00   48.00   48.00  251.00  251.00  299.00  299.00
661          RY    3.00    0.98    0.50    0.00    0.00    0.50    0.98    3.00
             *

662          KK  DRPE43RETRIEVE
663          KM   Retrieve divert DRPE43 from combination point CPE35 and divert west to
664          KM   combination point CPE43
665          DR  DWPE43
             *

666          KK  RWPE43   ROUTE
667          KM   Route diversion retrieval DRPE43 west to combination point CPE43
668          RS       4    FLOW
669          RC   0.035   0.015   0.035    5280  0.0030    0.00
670          RX    0.00    0.00  105.00  105.00  494.00  494.00  599.00  599.00
671          RY    3.00    1.55    0.50    0.00    0.00    0.50    1.55    3.00
             *
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LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

672          KK    PE43   BASIN
673          KM   Runoff hydrograph for subbasin PE43 northeast of the intersection of Peoria
674          KM   Avenue and 43rd Avenue
675          BA   0.997
676          LG    0.24    0.25    5.70    0.19      32
677          UC   1.500   1.012
678          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
679          UA     100
             *

680          KK   CPE43 COMBINE
681          KM   Combine route RSPE43, route RWPE43, and subbasin PE43
682          HC       3    3.42
             *

683          KK  PR43CTRETRIEVE
684          KM   Retrieve full flow capacity of 380 cfs from 84-inch storm drain pipe at the
685          KM   intersection of Cactus Road and 43rd Avenue
686          DR  DP43CT
             *

687          KK  RP43PE   ROUTE
688          KM   Route full flow capacity of 380 cfs through 84-inch storm drain pipe in
689          KM   43rd Avenue to the intersection of Peoria Avenue and 43rd Avenue
690          RK    4928  0.0035   0.015            CIRC   7.000
             *

691          KK  CPPE43 COMBINE
692          KM   Combine pipe return PR43CT with the runoff hydrograph at combination point
693          KM   CPE43 at the intersection of Peoria Avenue and 43rd Avenue
694          HC       2
             *

695          KK   D43PE  DIVERT
696          KM   Capacity of storm drain in Peoria Avenue and 43rd Avenue diverted together.
697          KM   Divert combined calculated full flow capacity of 456 cfs in the 90-inch storm
698          KM   drain pipe in Peoria Avenue and 64 cfs in the 42-inch storm drain pipe in
699          KM   43rd Avenue. The total calculated combined full flow capacity diverted at the
700          KM   intersection of Peoria Avenue and 43rd Avenue is 520 cfs in an equivalent
701          KM   diameter pipe of 96 inches
702          DT  DP43PE      0.0   520.0
703          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
```



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704          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
             *

705          KK  DSAC43  DIVERT
706          KM   Divert remaining runoff hydrograph from combination point CPE43 south to
707          KM   combination point CAC02
708          DT  DWAC51      0.0     0.0
709          DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
710          DQ     0.0    38.0    76.0   190.0   380.0   760.0  1520.0  3800.0  7600.0 19000.0
             *
```



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LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

711          KK    AC43   BASIN
712          KM   Runoff hydrograph for subbasin AC43 northeast of the intersection of the ACDC
713          KM   Canal and 43rd Avenue
714          BA   0.362
715          LG    0.23    0.25    4.35    0.35      37
716          UC   1.500   1.657
717          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
718          UA     100
             *

719          KK   CAC02 COMBINE
720          KM   Combine divert DSAC43, subbasin AC43, and combination point CPAC01
721          HC       3    3.75
             *

722          KK  PR43PERETRIEVE
723          KM   Retrieve combined full flow capacity of 520 cfs from 96-inch equivalent
724          KM   diameter pipe at the intersection of Peoria Avenue and 43rd Avenue
725          DR  DP43PE
             *

726          KK  CPAC02 COMBINE
727          KM   Combine pipe return PR43PE with the runoff hydrograph at combination point
728          KM   CAC02 at the intersection of ACDC and 43rd Avenue
729          HC       2
             *

730          KK  DRUH51RETRIEVE
731          KM   Retrieve divert DRUH51 from combination point CUH43 and divert west to
732          KM   combination point CUH51
733          DR  DWUH51
             *

734          KK  RWUH51   ROUTE
735          KM   Route diversion retrieval DRUH51 west to combination point CUH51
736          RS       4    FLOW
737          RC   0.035   0.015   0.035    5280  0.0037    0.00
738          RX    0.00    0.00   76.50   76.50  372.50  372.50  449.00  449.00
739          RY    3.00    1.27    0.50    0.00    0.00    0.50    1.27    3.00
             *

740          KK    UH51   BASIN
741          KM   Runoff hydrograph for subbasin UH51 northeast of the intersection of Union
742          KM   Hills Drive and 51st Avenue
743          BA   0.990
744          LG    0.23    0.26    4.60    0.29      37
745          UC   1.500   1.008
746          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
747          UA     100
             *
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LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

748          KK  ERUH51  DIVERT
749          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
750          KM   retention developed after 1990 in subbasin UH51
751          DT   XUH51     48.6     0.0
752          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
753          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
             *

754          KK   CUH51 COMBINE
755          KM   Combine route RWUH51 and subbasin UH51
756          HC       2    1.66
             *

757          KK  DSBL51  DIVERT
758          KM   Divert remaining runoff hydrograph from combination point CUH51 south to
759          KM   combination point CBL51
760          DT  DWUHSK      0.0     0.0
761          DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
762          DQ     0.0    61.0   122.0   305.0   610.0  1220.0  2440.0  6100.0 12200.0 30500.0
             *

763          KK  PRUH43RETRIEVE
764          KM   Retrieve full flow capacity of 1268 cfs from 132-inch storm drain pipe at the
```

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765          KM   intersection of Union Hills Drive and 43rd Avenue
766          DR  DPUH43
             *
767          KK  RPUH51   ROUTE
768          KM   Route full flow capacity of 1268 cfs through 132-inch storm drain pipe in
769          KM   Union Hills Drive to the intersection of Union Hills Drive and 51st Avenue
770          RK    5152  0.0035   0.015            CIRC  11.000
             *
771          KK  CPUH51 COMBINE
772          KM   Combine pipe return PRUH43 with diversion DSBL51 at the intersection of Union
773          KM   Hills Drive and 51st Avenue
774          HC       2
             *
775          KK   DUH51  DIVERT
776          KM   Divert calculated full flow capacity of 1548 cfs into a 144-inch storm drain
777          KM   pipe at the intersection of Union Hills Drive and 51st Avenue.
778          KM   Storm drain flow discharges to Skunk Creek and is not returned to the model.
779          DT  DPUH51      0.0  1548.0
780          DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
781          DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
             *
782          KK  RSBL51   ROUTE
783          KM   Route diversion DSBL51 south to combination point CBL51
784          RS       5    FLOW
785          RC   0.035    0.015    0.035    5280  0.0040     0.00
786          RX    0.00     0.00    48.00   48.00  251.00  251.00  299.00  299.00
787          RY    3.00     0.98     0.50    0.00    0.00    0.50    0.98    3.00
             *

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LINE         ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

788          KK  DRBL51RETRIEVE
789          KM   Retrieve divert DRBL51 from combination point CBL43 and divert west to
790          KM   combination point CBL51
791          DR  DWBL51
             *
792          KK  RWBL51   ROUTE
793          KM   Route diversion retrieval DRBL51 west to combination point CBL51
794          RS       3    FLOW
795          RC   0.035    0.015    0.035    5280  0.0040     0.00
796          RX    0.00     0.00    38.50   38.50  210.50  210.50  249.00  249.00
797          RY    3.00     0.88     0.50    0.00    0.00    0.50    0.88    3.00
             *
798          KK   BL51   BASIN
799          KM   Runoff hydrograph for subbasin BL51 northeast of the intersection of Bell
800          KM   Road and 51st Avenue
801          BA   1.045
802          LG    0.22     0.19     6.60     0.14       31
803          UC   1.500    1.005
804          UA       0      5.0     16.0     30.0     65.0     77.0     84.0     90.0     94.0     97.0
805          UA     100
             *
806          KK  ERBL51  DIVERT
807          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
808          KM   retention developed after 1990 in subbasin BL51
809          DT  XBL51      23.0      0.0
810          DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
811          DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
             *
812          KK   CBL51 COMBINE
813          KM   Combine route RSBL51, route RWBL51, and subbasin BL51
814          HC       3    3.12
             *
815          KK   D51BL  DIVERT
816          KM   Divert calculated full flow capacity of 38 cfs into a 36-inch storm drain
817          KM   pipe at the intersection of Bell Road and 51st Avenue
818          DT  DP51BL      0.0     38.0
819          DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
820          DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
             *
821          KK  DSGW51  DIVERT
822          KM   Divert remaining runoff hydrograph from combination point CBL51 south to
823          KM   combination point CGW51
824          DT  DWBL59      0.0      0.0
825          DI       0      100      200      500     1000     2000     4000    10000    20000    50000
826          DQ       0       52      104      260      520     1040     2080     5200    10400    26000
             *

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LINE         ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10
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827          KK  RSGW51   ROUTE
828          KM   Route diversion DSGW51 south to combination point CGW51
829          RS       1    FLOW
830          RC   0.035    0.015    0.035    5280  0.0035     0.00
831          RX    0.00     0.00    48.00   48.00  251.00  251.00  299.00  299.00
832          RY    3.00     0.98     0.50    0.00    0.00    0.50    0.98    3.00
             *
833          KK  DRGW51RETRIEVE
834          KM   Retrieve divert DRGW51 from combination point CGW43 and divert west to
835          KM   combination point CGW51
836          DR  DWGW51
             *
837          KK  RWGW51   ROUTE
838          KM   Route diversion retrieval DRGW51 west to combination point CGW51
839          RS       2    FLOW
840          RC   0.035    0.015    0.035    5280  0.0047     0.00
841          RX    0.00     0.00    67.00   67.00  332.00  332.00  399.00  399.00
842          RY    3.00     1.17     0.50    0.00    0.00    0.50    1.17    3.00
             *
843          KK   GW51   BASIN
844          KM   Runoff hydrograph for subbasin GW51 northeast of the intersection of Greenway
845          KM   Road and 51st Avenue
846          BA   0.962
847          LG    0.26     0.21     6.40     0.17       21
848          UC   1.500    1.021
849          UA       0      5.0     16.0     30.0     65.0     77.0     84.0     90.0     94.0     97.0
850          UA     100
             *
851          KK  ERGW51  DIVERT
852          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
853          KM   retention developed after 1990 in subbasin GW51
854          DT  XGW51       1.3      0.0
855          DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
856          DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
             *
857          KK   CGW51 COMBINE
858          KM   Combine route RSGW51, route RWGW51, and subbasin GW51
859          HC       3    4.34
             *
860          KK  PR51BLRETRIEVE
861          KM   Retrieve full flow capacity of 38 cfs from 36-inch storm drain pipe at the
862          KM   intersection of Bell Road and 51st Avenue
863          DR  DP51BL
             *

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LINE         ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

864          KK  RP51GW   ROUTE
865          KM   Route full flow capacity of 38 cfs through 36-inch storm drain pipe in
866          KM   51st Avenue to the intersection of Greenway Road and 51st Avenue
867          RK    4986  0.0033   0.015            CIRC   3.000
             *
868          KK  CPGW51 COMBINE
869          KM   Combine pipe return PR51BL with the runoff hydrograph at combination point
870          KM   CGW51 at the intersection of Greenway Road and 51st Avenue
871          HC       2
             *
872          KK   D51GW  DIVERT
873          KM   Divert calculated full flow capacity of 150 cfs into a 60-inch storm drain
874          KM   pipe at the intersection of Greenway Road and 51st Avenue
875          DT  DP51GW      0.0     150.0
876          DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
877          DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
             *
878          KK  DSTB51  DIVERT
879          KM   Divert remaining runoff hydrograph from combination point CGW51 south to
880          KM   combination point CTB51
881          DT  DWGW59      0.0      0.0
882          DI       0      100      200      500     1000     2000     4000    10000    20000    50000
883          DQ       0     65.0     130.0    325.0    650.0   1300.0   2600.0   6500.0  13000.0  32500.0
             *
884          KK  RSTB51   ROUTE
885          KM   Route diversion DSTB51 south to combination point CTB51
886          RS       3    FLOW
887          RC   0.035    0.015    0.035    5280  0.0027     0.00
888          RX    0.00     0.00    38.50   38.50  210.50  210.50  249.00  249.00
889          RY    3.00     0.88     0.50    0.00    0.00    0.50    0.88    3.00
             *
890          KK  DRTB51RETRIEVE
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```
 891          KM   Retrieve divert DRTB51 from combination point CTB43 and divert west to
 892          KM   combination point CTB51
 893          DR  DWTB51
              *

 894          KK  RWTB51    ROUTE
 895          KM   Route diversion retrieval DRTB51 west to combination point CTB51
 896          RS       3     FLOW
 897          RC   0.035   0.015   0.035    5280  0.0037     0.00
 898          RX    0.00    0.00   76.50   76.50  372.50  372.50  449.00  449.00
 899          RY    3.00    1.27    0.50    0.00    0.00    0.50    1.27    3.00
              *
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        LINE  ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

 900          KK    TB51    BASIN
 901          KM   Runoff hydrograph for subbasin TB51 northeast of the intersection of
 902          KM   Thunderbird Road and 51st Avenue
 903          BA   0.990
 904          LG    0.27    0.19    6.60    0.15      21
 905          UC   1.500   1.012
 906          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
 907          UA     100
              *

 908          KK   CTB51 COMBINE
 909          KM   Combine route RSTB51, route RWTB51, and subbasin TB51
 910          HC       3    4.70
              *

 911          KK  PR51GWRETRIEVE
 912          KM   Retrieve full flow capacity of 150 cfs from 60-inch storm drain pipe at the
 913          KM   intersection of Greenway Road and 51st Avenue
 914          DR  DP51GW
              *

 915          KK  RP51TB    ROUTE
 916          KM   Route full flow capacity of 150 cfs through 60-inch storm drain pipe in
 917          KM   51st Avenue to the intersection of Thunderbird Road and 51st Avenue
 918          RK    5283  0.0033   0.015             CIRC   5.000
              *

 919          KK  CPTB51 COMBINE
 920          KM   Combine pipe return PR51GW with the runoff hydrograph at combination point
 921          KM   CTB51 at the intersection of Thunderbird Road and 51st Avenue
 922          HC       2
              *

 923          KK   D51TB  DIVERT
 924          KM   Divert calculated full flow capacity of 244 cfs into a 72-inch storm drain
 925          KM   pipe at the intersection of Thunderbird Road and 51st Avenue
 926          DT  DP51TB      0.0   244.0
 927          DI      0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
 928          DQ      0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

 929          KK  DSCT51  DIVERT
 930          KM   Divert remaining runoff hydrograph from combination point CTB51 south to
 931          KM   combination point CCT51
 932          DT  DWTB59      0.0     0.0
 933          DI      0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
 934          DQ      0.0    61.0   122.0   305.0   610.0  1220.0  2440.0  6100.0 12200.0 30500.0
              *
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        LINE  ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

 935          KK  RSCT51    ROUTE
 936          KM   Route diversion DSCT51 south to combination point CCT51
 937          RS       3     FLOW
 938          RC   0.035   0.015   0.035    5280  0.0026     0.00
 939          RX    0.00    0.00   26.00   26.00  148.00  148.00  174.00  174.00
 940          RY    3.00    0.76    0.50    0.00    0.00    0.50    0.76    3.00
              *

 941          KK  DRCT51RETRIEVE
 942          KM   Retrieve divert DRCT51 from combination point CCT43 and divert west to
 943          KM   combination point CCT51
 944          DR  DWCT51
              *

 945          KK  RWCT51    ROUTE
 946          KM   Route diversion retrieval DRCT51 west to combination point CCT51
 947          RS       2     FLOW
 948          RC   0.035   0.015   0.035    5280  0.0032     0.00
 949          RX    0.00    0.00   76.50   76.50  372.50  372.50  449.00  449.00
 950          RY    3.00    1.27    0.50    0.00    0.00    0.50    1.27    3.00
              *

 951          KK    CT51    BASIN
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 952          KM   Runoff hydrograph for subbasin CT51 northeast of the intersection of Cactus
 953          KM   Road and 51st Avenue
 954          BA   0.988
 955          LG    0.18    0.21    6.40    0.13      56
 956          UC   1.323   0.882
 957          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
 958          UA     100
              *

 959          KK  ERCT51  DIVERT
 960          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
 961          KM   retention developed after 1990 in subbasin CT51
 962          DT  XCT51      57.8      0.0
 963          DI      0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
 964          DQ      0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

 965          KK   CCT51 COMBINE
 966          KM   Combine route RSCT51, route RWCT51, and subbasin CT51
 967          HC       3    4.94
              *

 968          KK  PR51TBRETRIEVE
 969          KM   Retrieve full flow capacity of 244 cfs from 72-inch storm drain pipe at the
 970          KM   intersection of Thunderbird Road and 51st Avenue
 971          DR  DP51TB
              *
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        LINE  ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

 972          KK  RP51CT    ROUTE
 973          KM   Route full flow capacity of 244 cfs through 72-inch storm drain pipe in
 974          KM   51st Avenue to the intersection of Cactus Road and 51st Avenue
 975          RK    5189  0.0033   0.015             CIRC   6.000
              *

 976          KK  CPCT51 COMBINE
 977          KM   Combine pipe return PR51TB with the runoff hydrograph at combination point
 978          KM   CCT51 at the intersection of Cactus Road and 51st Avenue
 979          HC       2
              *

 980          KK   D51CT  DIVERT
 981          KM   Divert calculated full flow capacity of 244 cfs into a 72-inch storm drain
 982          KM   pipe at the intersection of Cactus Road and 51st Avenue
 983          DT  DP51CT      0.0   244.0
 984          DI      0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
 985          DQ      0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

 986          KK  DSAC51  DIVERT
 987          KM   Divert remaining runoff hydrograph from combination point CCT51 south to
 988          KM   combination point CAC03
 989          DT  DWAC59      0.0     0.0
 990          DI      0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
 991          DQ      0.0    33.0    66.0   165.0   330.0   660.0  1320.0  3300.0  6600.0 16500.0
              *

 992          KK  DRAC51RETRIEVE
 993          KM   Retrieve divert DRAC51 from combination point CPE43 and divert west to
 994          KM   combination point CAC03
 995          DR  DWAC51
              *

 996          KK    AC51    BASIN
 997          KM   Runoff hydrograph for subbasin AC51 northeast of the intersection of the ACDC
 998          KM   Canal and 51st Avenue
 999          BA   0.576
1000          LG    0.24    0.15    8.00    0.07      35
1001          UC   1.500   1.622
1002          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
1003          UA     100
              *

1004          KK  ERAC51  DIVERT
1005          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
1006          KM   retention developed after 1990 in subbasin AC51
1007          DT  XAC51       .6      0.0
1008          DI      0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
1009          DQ      0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *
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        LINE  ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

1010          KK   CAC03 COMBINE
1011          KM   Combine divert DSAC51, subbasin AC51, divert retrieval DRAC51, and
1012          KM   combination point CPAC02
1013          HC       4    8.95
              *
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1014          KK  PR51CTRETRIEVE
1015          KM   Retrieve full flow capacity of 244 cfs from 72-inch storm drain pipe at the
1016          KM   intersection of Cactus Road and 51st Avenue
1017          DR  DP51CT
              *

1018          KK  CPAC03 COMBINE
1019          KM   Combine pipe return PR51CT with the runoff hydrograph at combination point
1020          KM   CAC03 at the intersection of ACDC and 51st Avenue
1021          HC       2
              *

1022          KK  DRBL59RETRIEVE
1023          KM   Retrieve divert DRBL59 from combination point CBL51 and divert west to
1024          KM   combination point CBL59
1025          DR  DWBL59
              *

1026          KK  RWBL59   ROUTE
1027          KM   Route diversion retrieval DRBL59 west to combination point CBL59
1028          RS       1     FLOW
1029          RC   0.035   0.015   0.035    5280  0.0031    0.00
1030          RX    0.00    0.00   51.50   51.50  296.50  296.50  348.00  348.00
1031          RY    3.00    1.02    0.50    0.00    0.00    0.50    1.02    3.00
              *

1032          KK    BL59   BASIN
1033          KM   Runoff hydrograph for subbasin BL59 northeast of the intersection of Bell
1034          KM   Road and 59th Avenue
1035          BA   1.075
1036          LG    0.23    0.17    6.80    0.12      40
1037          UC   1.497   0.994
1038          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
1039          UA     100
              *

1040          KK  ERBL59  DIVERT
1041          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
1042          KM   retention developed after 1990 in subbasin BL59
1043          DT   XBL59     75.9      0.0
1044          DI       0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
1045          DQ       0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1046          KK   CBL59 COMBINE
1047          KM   Combine route RWBL59 and subbasin BL59
1048          HC       2    2.71
              *

1049          KK   D59BL  DIVERT
1050          KM   Divert calculated full flow capacity of 108 cfs into 54-inch storm drain
1051          KM   pipe at the intersection of Bell Road and 59th Avenue
1052          DT  DP59BL      0.0    108.0
1053          DI       0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
1054          DQ       0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

1055          KK  DSGW59  DIVERT
1056          KM   Divert remaining runoff hydrograph from combination point CBL59 south to
1057          KM   combination point CGW59
1058          DT  DWBL67      0.0      0.0
1059          DI       0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0  10000.0  20000.0  50000.0
1060          DQ       0.0     31.0     62.0    155.0    310.0    620.0   1240.0   3100.0   6200.0  15500.0
              *

1061          KK  RSGW59   ROUTE
1062          KM   Route diversion DSGW59 south to combination point CGW59
1063          RS       4     FLOW
1064          RC   0.035   0.015   0.035    5280  0.0038    0.00
1065          RX    0.00    0.00   38.50   38.50  241.50  241.50  280.00  280.00
1066          RY    3.00    0.88    0.50    0.00    0.00    0.50    0.88    3.00
              *

1067          KK  DRGW59RETRIEVE
1068          KM   Retrieve divert DRGW59 from combination point CGW51 and divert west to
1069          KM   combination point CGW59
1070          DR  DWGW59
              *

1071          KK  RWGW59   ROUTE
1072          KM   Route diversion retrieval DRGW59 west to combination point CGW59
1073          RS       3     FLOW
1074          RC   0.035   0.015   0.035    5280  0.0033    0.00
1075          RX    0.00    0.00   68.50   68.50  359.50  359.50  428.00  428.00
1076          RY    3.00    1.18    0.50    0.00    0.00    0.50    1.18    3.00
              *

1077          KK    GW59   BASIN
```



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1078          KM   Runoff hydrograph for subbasin GW59 northeast of the intersection of Greenway
1079          KM   Road and 59th Avenue
1080          BA   0.944
1081          LG    0.21    0.15    7.30    0.10      43
1082          UC   1.500   1.027
1083          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
1084          UA     100
              *
```

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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1085          KK  ERGW59  DIVERT
1086          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
1087          KM   retention developed after 1990 in subbasin GW59
1088          DT   XGW59     35.9      0.0
1089          DI       0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
1090          DQ       0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

1091          KK   CGW59 COMBINE
1092          KM   Combine route RSGW59, route RWGW59, and subbasin GW59
1093          HC       3    5.64
              *

1094          KK  PR59BLRETRIEVE
1095          KM   Retrieve full flow capacity of 108 cfs from 54-inch storm drain pipe at the
1096          KM   intersection of Bell Road and 59th Avenue
1097          DR  DP59BL
              *

1098          KK  RP59GW   ROUTE
1099          KM   Route full flow capacity of 108 cfs through 54-inch storm drain pipe in
1100          KM   59th Avenue to the intersection of Greenway Road and 59th Avenue
1101          RK    4995  0.0030   0.015            CIRC   4.500
              *

1102          KK  CPGW59 COMBINE
1103          KM   Combine pipe return PR59BL with the runoff hydrograph at combination point
1104          KM   CGW59 at the intersection of Greenway Road and 59th Avenue
1105          HC       2
              *

1106          KK   D59GW  DIVERT
1107          KM   Divert calculated full flow capacity of 273 cfs into 78-inch storm drain
1108          KM   pipe at the intersection of Greenway Road and 59th Avenue
1109          DT  DP59GW      0.0    273.0
1110          DI       0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
1111          DQ       0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

1112          KK  DSTB59  DIVERT
1113          KM   Divert remaining runoff hydrograph from combination point CPGW59 south to
1114          KM   combination point CTB59
1115          DT  DWGW67      0.0      0.0
1116          DI       0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0  10000.0  20000.0  50000.0
1117          DQ       0.0     45.0     90.0    225.0    450.0    900.0   1800.0   4500.0   9000.0  22500.0
              *

1118          KK  RSTB59   ROUTE
1119          KM   Route diversion DSTB59 south to combination point CTB59
1120          RS       4     FLOW
1121          RC   0.035   0.015   0.035    5280  0.0026    0.00
1122          RX    0.00    0.00   65.50   65.50  382.50  382.50  448.00  448.00
1123          RY    3.00    1.16    0.50    0.00    0.00    0.50    1.16    3.00
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1124          KK  DRTB59RETRIEVE
1125          KM   Retrieve divert DRTB59 from combination point CTB51 and divert west to
1126          KM   combination point CTB59
1127          DR  DWTB59
              *

1128          KK  RWTB59   ROUTE
1129          KM   Route diversion retrieval DRTB59 west to combination point CTB59
1130          RS       3     FLOW
1131          RC   0.035   0.015   0.035    5280  0.0032    0.00
1132          RX    0.00    0.00   37.50   37.50  210.50  210.50  248.00  248.00
1133          RY    3.00    0.88    0.50    0.00    0.00    0.50    0.88    3.00
              *

1134          KK    TB59   BASIN
1135          KM   Runoff hydrograph for subbasin TB59 northeast of the intersection of
1136          KM   Thunderbird Road and 59th Avenue
1137          BA   0.995
1138          LG    0.22    0.23    6.20    0.15      43
1139          UC   1.500   1.013
1140          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
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1141          UA     100
              *

1142          KK   CTB59 COMBINE
1143          KM   Combine route RSTB59, route RWTB59, and subbasin TB59
1144          HC       3    6.96
              *

1145          KK  PR59GWRETRIEVE
1146          KM   Retrieve full flow capacity of 273 cfs from 78-inch storm drain pipe at the
1147          KM   intersection of Greenway Road and 59th Avenue
1148          DR  DP59GW
              *

1149          KK  RP59AM    ROUTE
1150          KM   Route full flow capacity of 273 cfs through 78-inch storm drain pipe in
1151          KM   59th Avenue to the intersection of Acoma Drive and 59th Avenue
1152          RK    2519  0.0027   0.015             CIRC   6.500
              *

1153          KK  SRAM59 STORAGE
1154          KM   Storage route pipe flow PR59GW through the regional retention basin located
1155          KM     in subbasin TB59 near the intersection of Acoma Drive and 59th Avenue
1156          KM   Stage-storage data from 59th Avenue Detention Basin As-built records, 1990
1157          RS       1     STOR
1158          SV             0.20    2.80   10.90   11.80   12.70   14.90
1159          SQ             3.00  118.00  206.00  478.00  970.00 2354.00
1160          SE  1214.5 1215.00 1218.00 1224.00 1224.50 1225.00 1226.00
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1161          KK  RP59TB    ROUTE
1162          KM   Route full flow capacity of 135 cfs through 60-inch storm drain pipe in
1163          KM   59th Avenue to the intersection of Thunderbird Road and 59th Avenue
1164          RK    2759  0.0027   0.015             CIRC   5.000
              *

1165          KK  CPTB59 COMBINE
1166          KM   Combine pipe return PR59GW with the runoff hydrograph at combination point
1167          KM   CTB59 at the intersection of Thunderbird Road and 59th Avenue
1168          HC       2
              *

1169          KK   DTB59  DIVERT
1170          KM   Divert calculated full flow capacity of 578 cfs into 96-inch storm drain
1171          KM   pipe at the intersection of Olive Avenue and 43rd Avenue
1172          DT  DPTB59      0.0   578.0
1173          DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
1174          DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

1175          KK  DSAC59  DIVERT
1176          KM   Divert remaining runoff hydrograph from combination point CPTB59 south to
1177          KM   combination point CAC04
1178          DT  DWAC67      0.0      0.0
1179          DI      0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0  10000.0  20000.0  50000.0
1180          DQ      0.0     41.0     82.0    205.0    410.0    820.0   1640.0   4100.0   8200.0  20500.0
              *

1181          KK  DRAC59RETRIEVE
1182          KM   Retrieve divert DRAC59 from combination point CCT51 and divert west to
1183          KM   combination point CAC04
1184          DR  DWAC59
              *

1185          KK    AC59   BASIN
1186          KM   Runoff hydrograph for subbasin AC59 northeast of the intersection of the ACDC
1187          KM   Canal and 59th Avenue
1188          BA   0.742
1189          LG    0.18    0.15    8.00    0.08      39
1190          UC   1.500   1.459
1191          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
1192          UA     100
              *

1193          KK  ERAC59  DIVERT
1194          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
1195          KM   retention developed after 1990 in subbasin AC59
1196          DT  XAC59     56.9      0.0
1197          DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
1198          DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1199          KK   CAC04 COMBINE
1200          KM   Combine divert DSAC59 and subbasin AC59
1201          HC       4   15.39
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              *

1202          KK  PRTB59RETRIEVE
1203          KM   Retrieve full flow capacity of 578 cfs from 96-inch storm drain pipe at the
1204          KM   intersection of Thunderbird Road and 59th Avenue
1205          DR  DPTB59
              *

1206          KK  CPAC04 COMBINE
1207          KM   Combine pipe return PRTB59 with the runoff hydrograph at combination point
1208          KM   CAC04 at the intersection of the ACDC canal and 59th Avenue
1209          HC       2
              *

1210          KK  DRBL67RETRIEVE
1211          KM   Retrieve divert DRBL67 from combination point CBL59 and divert west to
1212          KM   combination point CBL67
1213          DR  DWBL67
              *

1214          KK   DBL67  DIVERT
1215          KM   Divert portion of diversion retrieval DRBL67 west to subbasin SK67 and the
1216          KM   remaining flow follow to subbasin BL67 at combination point CBL67
1217          DT  DWSK67      0.0      0.0
1218          DI      0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0  10000.0  20000.0  50000.0
1219          DQ      0.0     74.0    148.0    370.0    740.0   1480.0   2960.0   7400.0  14800.0  37000.0
              *

1220          KK  RWBL67    ROUTE
1221          KM   Route diversion retrieval DRBL67 west to combination point CBL67
1222          RS       6     FLOW
1223          RC   0.035    0.015    0.035     5280  0.0037     0.00
1224          RX    0.00     0.00    17.50    17.50  112.50  112.50  130.00  130.00
1225          RY    3.00     0.68     0.50     0.00     0.00     0.50     0.68     3.00
              *

1226          KK    BL67    BASIN
1227          KM   Runoff hydrograph for subbasin BL67 northeast of the intersection of Bell
1228          KM   Road and 67th Avenue
1229          BA   0.233
1230          LG    0.18    0.23    6.20    0.16      52
1231          UC   1.107   1.100
1232          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
1233          UA     100
              *
1                                        HEC-1 INPUT                                    PAGE 33

LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1234          KK  ERBL67  DIVERT
1235          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
1236          KM   retention developed after 1990 in subbasin BL67
1237          DT  XBL67     15.7      0.0
1238          DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
1239          DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

1240          KK   CBL67 COMBINE
1241          KM   Combine route RWBL67 and subbasin BL67
1242          HC       2    0.46
              *

1243          KK   D67BL  DIVERT
1244          KM   Divert calculated full flow capacity of 32 cfs into 36-inch storm drain
1245          KM   pipe at the intersection of Bell Road and 67th Avenue
1246          DT  DP67BL      0.0     32.0
1247          DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
1248          DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

1249          KK  DSGW67  DIVERT
1250          KM   Divert remaining runoff hydrograph from combination point CBL67 south to
1251          KM   combination point CGW67
1252          DT  DWBL75      0.0      0.0
1253          DI      0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0  10000.0  20000.0  50000.0
1254          DQ      0.0     61.0    122.0    305.0    610.0   1220.0   2440.0   6100.0  12200.0  30500.0
              *

1255          KK  RSGW67    ROUTE
1256          KM   Route diversion DSGW67 south to combination point CGW67
1257          RS      10     FLOW
1258          RC   0.035    0.015    0.035     5280  0.0025     0.00
1259          RX    0.00     0.00    44.50    44.50  253.50  253.50  298.00  298.00
1260          RY    3.00     0.94     0.50     0.00     0.00     0.50     0.94     3.00
              *

1261          KK  DRGW67RETRIEVE
1262          KM   Retrieve divert DRGW67 from combination point CGW59 and divert west to
1263          KM   combination point CGW67
1264          DR  DWGW67
              *
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1265          KK  RWGW67   ROUTE
1266          KM   Route diversion retrieval DRGW67 west to combination point CGW67
1267          RS       4    FLOW
1268          RC   0.035   0.015   0.035    5280  0.0025    0.00
1269          RX    0.00    0.00   61.50   61.50  316.50  316.50  378.00  378.00
1270          RY    3.00    1.12    0.50    0.00    0.00    0.50    1.12    3.00
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


1271          KK    GW67   BASIN
1272          KM   Runoff hydrograph for subbasin GW67 northeast of the intersection of Greenway
1273          KM   Road and 67th Avenue
1274          BA   0.892
1275          LG    0.23    0.15    8.40    0.06      39
1276          UC   1.490   1.027
1277          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
1278          UA     100
              *

1279          KK  ERGW67  DIVERT
1280          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
1281          KM   retention developed after 1990 in subbasin GW67
1282          DT   XGW67    50.2     0.0
1283          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
1284          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

1285          KK   CGW67 COMBINE
1286          KM   Combine route RSGW67, route RWGW67, and subbasin GW67
1287          HC       3    3.64
              *

1288          KK  PR67BLRETRIEVE
1289          KM   Retrieve full flow capacity of 32 cfs from 36-inch storm drain pipe at the
1290          KM   intersection of Bell Road and 67th Avenue
1291          DR  DP67BL
              *
              * KKRP67GW   ROUTE
              * KM Route full flow capacity of 32 cfs through 36-inch storm drain pipe in
              * KM 67th Avenue to the intersection of Greenway Road and 67th Avenue
              * RK  5072  0.0023   0.015            CIRC   3.000
              *

1292          KK  CPGW67 COMBINE
1293          KM   Combine pipe return PR67BL with the runoff hydrograph at combination point
1294          KM   CGW67 at the intersection of Greenway Road and 67th Avenue
1295          HC       2
              *

1296          KK   D67GW  DIVERT
1297          KM   Divert calculated full flow capacity of 608 cfs into 84-inch storm drain
1298          KM   pipe at the intersection of Greenway Road and 67th Avenue
1299          DT  DP67GW     0.0   608.0
1300          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
1301          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

1302          KK  DSAC67  DIVERT
1303          KM   Divert remaining runoff hydrograph from combination point CPGW67 south to
1304          KM   combination point CAC05
1305          DT  DWAC75     0.0     0.0
1306          DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
1307          DQ     0.0    84.0   168.0   420.0   840.0  1680.0  3360.0  8400.0 16800.0 42000.0
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


1308          KK  RSAC67   ROUTE
1309          KM   Route diversion DSAC67 south to combination point CAC05
1310          RS       2    FLOW
1311          RC   0.035   0.015   0.035    1216  0.0020    0.00
1312          RX    0.00    0.00   34.00   34.00  184.00  184.00  218.00  218.00
1313          RY    3.00    0.84    0.50    0.00    0.00    0.50    0.84    3.00
              *

1314          KK  DRAC67RETRIEVE
1315          KM   Retrieve divert DRAC67 from combination point CPTB59 and divert west to
1316          KM   combination point CAC05
1317          DR  DWAC67
              *

1318          KK  RWAC67   ROUTE
1319          KM   Route diversion retrieval DRAC67 west to combination point CAC05
1320          RS       1    FLOW
1321          RC   0.035   0.015   0.035    1071  0.0029    0.00
1322          RX    0.00    0.00   28.00   28.00  172.00  172.00  200.00  200.00
1323          RY    3.00    0.78    0.50    0.00    0.00    0.50    0.78    3.00
              *
```



```
1324          KK    AC67   BASIN
1325          KM   Runoff hydrograph for subbasin AC67 northeast of the intersection of the ACDC
1326          KM   Canal and 67th Avenue
1327          BA   0.698
1328          LG    0.22    0.15    8.40    0.07      29
1329          UC   1.500   1.392
1330          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
1331          UA     100
              *

1332          KK   CAC05 COMBINE
1333          KM   Combine route RSAC67, and subbasin AC67
1334          HC       4   19.62
              *

1335          KK  PR67GWRETRIEVE
1336          KM   Retrieve full flow capacity of 608 cfs from 84-inch storm drain pipe at the
1337          KM   intersection of Greenway Road and 67th Avenue
1338          DR  DP67GW
              *
              * KKRP67AC   ROUTE
              * KM Route full flow capacity of 608 cfs through 84-inch storm drain pipe in
              * KM 67th Avenue to the intersection of the ACDC canal and 67th Avenue
              * RK  1168  0.0090   0.015            CIRC   7.000
              *

1339          KK  CPAC05 COMBINE
1340          KM   Combine pipe return PR67GW with the runoff hydrograph at combination point
1341          KM   CAC05 at the intersection of the ACDC canal and 67th Avenue
1342          HC       2   19.55
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


1343          KK  DRAC75RETRIEVE
1344          KM   Retrieve divert DRAC75 from combination point CPGW67 and divert west to
1345          KM   combination point CAC06
1346          DR  DWAC75
              *

1347          KK    AC75   BASIN
1348          KM   Runoff hydrograph for subbasin AC75 near the intersection of the ACDC Canal
1349          KM   75th Avenue
1350          BA   0.842
1351          LG    0.20    0.25    5.80    0.18      34
1352          UC   1.500   1.251
1353          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
1354          UA     100
              *

1355          KK  ERAC75  DIVERT
1356          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
1357          KM   retention developed after 1990 in subbasin AC75
1358          DT   XAC75    17.3     0.0
1359          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
1360          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

1361          KK   CAC06 COMBINE
1362          KM   Combine route RAC75 and subbasin AC75
1363          HC       3   23.44
              *

1364          KK    HV55   BASIN
1365          KM   Runoff hydrograph for subbasin HV55 near the intersection of Happy Valley
1366          KM   Road and 55th Avenue
1367          BA   2.054
1368          LG    0.21    0.28    4.40    0.35      34
1369          UC   1.494   0.828
1370          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
1371          UA     100
              *

1372          KK  ERHV55  DIVERT
1373          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
1374          KM   retention developed after 1990 in subbasin HV55
1375          DT   XHV55    110.2     0.0
1376          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
1377          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

1378          KK   RCL57   ROUTE
1379          KM   Route runoff hydrograph at subbasin HV55 to combination point CCL57
1380          RS       3    FLOW
1381          RC   0.045   0.035   0.045    5676  0.0078    0.00
1382          RX    0.00    0.00   40.00   50.00   60.00   70.00  110.00  110.00
1383          RY    6.20    5.20    5.00    0.00    0.00    5.00    5.20    6.20
              *
1                                        HEC-1 INPUT                                    PAGE 37
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1384          KK    CL57    BASIN
1385          KM   Runoff hydrograph for subbasin CL57 near the intersection of Pinnacle Hill
1386          KM   Road and 57th Avenue
1387          BA   0.746
1388          LG    0.23    0.27    4.55    0.33      31
1389          UC   1.127   0.612
1390          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
1391          UA     100
              *

1392          KK  ERCL57  DIVERT
1393          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
1394          KM   retention developed after 1990 in subbasin CL57
1395          DT   XCL57    43.7     0.0
1396          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
1397          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

1398          KK   CCL57 COMBINE
1399          KM   Combine route RCL57 and subbasin CL57
1400          HC       2    2.80
              *

1401          KK   RWL59   ROUTE
1402          KM   Route runoff hydrograph at combination point CCL57 to combination point CWL59
1403          RS       4    FLOW
1404          RC   0.045   0.035   0.045    8099  0.0061    0.00
1405          RX    0.00    0.00   40.00   50.00   60.00   70.00  110.00  110.00
1406          RY    6.20    5.20    5.00    0.00    0.00    5.00    5.20    6.20
              *

1407          KK    WL59    BASIN
1408          KM   Runoff hydrograph for subbasin WL59 near the intersection of Williams Road
1409          KM   and 59th Avenue
1410          BA   0.562
1411          LG    0.17    0.32    4.70    0.29      22
1412          UC   1.430   1.136
1413          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
1414          UA     100
              *

1415          KK  ERWL59  DIVERT
1416          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
1417          KM   retention developed after 1990 in subbasin WL59
1418          DT   XWL59    11.1     0.0
1419          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
1420          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *
1                                        HEC-1 INPUT                                    PAGE 38
LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1421          KK   CWL59 COMBINE
1422          KM   Combine route RWL59 and subbasin WL59
1423          HC       2    3.36
              *

1424          KK    DV56    BASIN
1425          KM   Runoff hydrograph for subbasin DV56 near the intersection of Deer Valley Road
1426          KM   and 56th Avenue
1427          BA   0.287
1428          LG    0.10    0.33    4.65    0.27      38
1429          UC   0.711   0.401
1430          UA       0     3.0     5.0     8.0    12.0    20.0    43.0    75.0    90.0    96.0
1431          UA     100
              *

1432          KK   CDV56 COMBINE
1433          KM   Combine route RDV56 and subbasin DV56
1434          HC       2    3.65
              *

1435          KK  SRDV56 STORAGE
1436          KM   Storage route runoff hydrograph from combination point CDV56 through
1437          KM     regional detention basin located in subbasin DV56 (Arrowhead Lake 1)
1438          KM   Stage-storage-discharge data from Glendale/Peoria ADMPU Arrowhead Lakes
1439          KM     Hydrology Report (Volume AL), 2001
1440          RS       1     STOR
1441          SV            8.50   17.19   26.06   35.12   44.34   53.71   63.24   72.91
1442          SQ          139.00  399.00  732.00 1146.00 1639.00 2202.00 2814.00 3516.00
1443          SE            0.50    1.00    1.50    2.00    2.50    3.00    3.50    4.00
              *

1444          KK    LO51    BASIN
1445          KM   Runoff hydrograph for subbasin LO51 near the intersection of SR Loop 101
1446          KM   51st Avenue
1447          BA   1.130
1448          LG    0.16    0.23    4.25    0.35      47
1449          UC   1.500   0.866
```



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1450          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
1451          UA     100
              *

1452          KK   CLO51 COMBINE
1453          KM   Combine route RLO51 and subbasin LO51
1454          HC       2    4.78
              *

1455          KK   D51LO  DIVERT
1456          KM   Divert calculated full flow capacity of 38 cfs into a 36-inch storm drain
1457          KM   pipe at the intersection of SR Loop 101 and 51st Avenue.
1458          KM   Storm drain flow discharges to Skunk Creek and is not returned to the model.
1459          DT  DP51LO      0.0     38.0
1460          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
1461          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *
1                                        HEC-1 INPUT                                    PAGE 39
LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1462          KK  SRLO51 STORAGE
1463          KM   Storage route runoff hydrograph from combination point CLO51 through
1464          KM     regional detention basin located in subbasin LO51 (Arrowhead Lakes 2-5)
1465          KM   Stage-storage-discharge data from Glendale/Peoria ADMPU Arrowhead Lakes
1466          KM     Hydrology Report (Volume AL), 2001
1467          RS       1     STOR
1468          SV            62.29  129.43  199.09  270.01  340.91  411.82  482.73  582.60
1469          SQ           120.00  346.00  634.00  993.00 1421.00 1908.00 2439.00 3047.00
1470          SE            0.50    1.00    1.50    2.00    2.50    3.00    3.50    4.00
              *

1471          KK  RUHSKA   ROUTE
1472          KM   Route runoff hydrograph at combination point CLO51 to combination point CSK01
1473          RS       4    FLOW
1474          RC   0.045   0.035   0.045    4440  0.0034    0.00
1475          RX    0.00    0.00   55.00   75.00  100.00  120.00  175.00  175.00
1476          RY   11.20   10.20   10.00    0.00    0.00   10.00   10.20   11.20
              *

1477          KK  DRUHSKRETRIEVE
1478          KM   Retrieve divert DRUHSK from combination point CUH51 and divert west to
1479          KM   combination point CUHSK
1480          DR  DWUHSK
              *

1481          KK   D51SK  DIVERT
1482          KM   Divert calculated full flow capacity of 24 cfs into a 30-inch storm drain
1483          KM   pipe near the intersection of Skunk Creek and 51st Avenue
1484          KM   Storm drain flow discharges to Skunk Creek and is not returned to the model.
1485          DT  DP51SK      0.0     24.0
1486          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
1487          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

1488          KK  RUHSKB   ROUTE
1489          KM   Route diversion D51SK to combination point CSK01
1490          RS       5    FLOW
1491          RC   0.035   0.015   0.035    6960  0.0034    0.00
1492          RX    0.00    0.00   17.50   17.50  112.50  112.50  130.00  130.00
1493          RY    3.00    0.68    0.50    0.00    0.00    0.50    0.68    3.00
              *

1494          KK    UHSK    BASIN
1495          KM   Runoff hydrograph for subbasin UHSK northeast of the intersection of Union
1496          KM   Hills Drive and 59th Avenue
1497          BA   0.933
1498          LG    0.22    0.27    5.00    0.25      31
1499          UC   1.382   0.917
1500          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
1501          UA     100
              *
1                                        HEC-1 INPUT                                    PAGE 40
LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1502          KK  ERUHSK  DIVERT
1503          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
1504          KM   retention developed after 1990 in subbasin UHSK
1505          DT   XUHSK     19.7     0.0
1506          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
1507          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

1508          KK   CSK01 COMBINE
1509          KM   Combine route RUHSKA, route RUHSKB, and subbasin UHSK
1510          HC       3    6.73
              *

1511          KK   DUHSK  DIVERT
1512          KM   Divert calculated full flow capacity of 10 cfs into 24-inch storm drain
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1513          KM   pipe at the intersection of Union Hills Drive and 59th Avenue
1514          DT  DPUHSK      0.0     10.0
1515          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
1516          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

1517          KK  DRSK67RETRIEVE
1518          KM   Retrieve divert DRSK67 from combination point CBL59 and divert west to
1519          KM   combination point CSK67
1520          DR  DWSK67
              *

1521          KK   RSK67   ROUTE
1522          KM   Route diversion retrieval DRSK67 to combination point CSK67
1523          RS       6    FLOW
1524          RC   0.035   0.015   0.035    5113  0.0037    0.00
1525          RX    0.00    0.00   68.50   68.50  359.50  359.50  428.00  428.00
1526          RY    3.00    1.18    0.50    0.00    0.00    0.50    1.18    3.00
              *

1527          KK    SK67   BASIN
1528          KM   Runoff hydrograph for subbasin SK67 northeast of the intersection of
1529          KM   Greenbriar Drive and 67th Avenue
1530          BA   0.942
1531          LG    0.25    0.26    5.20    0.24      30
1532          UC   1.423   0.783
1533          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
1534          UA     100
              *

1535          KK  ERSK67  DIVERT
1536          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
1537          KM   retention developed after 1990 in subbasin SK67
1538          DT   XSK67    28.3      0.0
1539          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
1540          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9.....10

1541          KK   CSK02 COMBINE
1542          KM   Combine route RSK67 and subbasin SK67
1543          HC       3    8.30
              *

1544          KK  PRUHSKRETRIEVE
1545          KM   Retrieve full flow capacity of 10 cfs from 24-inch storm drain pipe at the
1546          KM   intersection of Union Hills Drive and 59th Avenue
1547          DR  DPUHSK
              *

1548          KK  RPSK67   ROUTE
1549          KM   Route full flow capacity of 10 cfs through 24-inch storm drain pipe in
1550          KM   67th Avenue to the intersection of Greenbriar Drive and 67th Avenue
1551          RK    6044  0.0020   0.015            CIRC   2.000
              *

1552          KK  CPSK02 COMBINE
1553          KM   Combine pipe return PRUHSK with the runoff hydrograph at combination point
1554          KM   CSK67 at the intersection of Greenbriar Drive and 67th Avenue
1555          HC       2
              *

1556          KK    UH67   BASIN
1557          KM   Runoff hydrograph for subbasin UH67 near the intersection of Utopia Road
1558          KM   67th Avenue
1559          BA   0.784
1560          LG    0.23    0.25    5.80    0.17      44
1561          UC   1.291   0.927
1562          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
1563          UA     100
              *

1564          KK  ERUH67  DIVERT
1565          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
1566          KM   retention developed after 1990 in subbasin UH67
1567          DT   XUH67    66.8      0.0
1568          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
1569          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

1570          KK   RUH75   ROUTE
1571          KM   Route runoff hydrograph at subbasin UH67 to combination point CUH75
1572          RS      10    FLOW
1573          RC   0.045   0.035   0.045    7047  0.0021    0.00
1574          RX    0.00    0.00   19.00   25.00   30.00   36.00   55.00   55.00
1575          RY    4.10    3.10    3.00    0.00    0.00    3.00    3.10    4.10
              *

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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9.....10
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1576          KK    UH75   BASIN
1577          KM   Runoff hydrograph for subbasin UH75 near the intersection of Union Hills
1578          KM   Road and 75th Avenue
1579          BA   0.814
1580          LG    0.22    0.15    7.30    0.11      29
1581          UC   1.500   1.021
1582          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
1583          UA     100
              *

1584          KK  ERUH75  DIVERT
1585          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
1586          KM   retention developed after 1990 in subbasin UH75
1587          DT   XUH75    65.2      0.0
1588          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
1589          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

1590          KK   CUH75 COMBINE
1591          KM   Combine route RUH75 and subbasin UH75
1592          HC       2    1.60
              *

1593          KK  RBL75A   ROUTE
1594          KM   Route runoff hydrograph at combination point CUH75 to combination point CSK03
1595          RS       5    FLOW
1596          RC   0.045   0.035   0.045    4730  0.0037    0.00
1597          RX    0.00    0.00   19.00   25.00   30.00   36.00   55.00   55.00
1598          RY    4.10    3.10    3.00    0.00    0.00    3.00    3.10    4.10
              *

1599          KK  DRBL75RETRIEVE
1600          KM   Retrieve divert DRBL75 from combination point CBL67 and divert west to
1601          KM   combination point CSK03
1602          DR  DWBL75
              *

1603          KK  RBL75B   ROUTE
1604          KM   Route diversion retrieval DRBL75 to combination point CSK03
1605          RS       2    FLOW
1606          RC   0.035   0.015   0.035    2940  0.0048    0.00
1607          RX    0.00    0.00   17.50   17.50  112.50  112.50  130.00  130.00
1608          RY    3.00    0.68    0.50    0.00    0.00    0.50    0.68    3.00
              *

1609          KK    BL75   BASIN
1610          KM   Runoff hydrograph for subbasin BL75 near the intersection of Bell Road
1611          KM   75th Avenue
1612          BA   1.063
1613          LG    0.24    0.26    5.20    0.24      30
1614          UC   1.500   0.980
1615          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
1616          UA     100
              *

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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9.....10

1617          KK  ERBL75  DIVERT
1618          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
1619          KM   retention developed after 1990 in subbasin BL75
1620          DT   XBL75    13.2      0.0
1621          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
1622          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

1623          KK   CSK03 COMBINE
1624          KM   Combine route RBL75A, route RBL75B and subbasin BL75
1625          HC       4   11.22
              *

1626          KK    UHLO   BASIN
1627          KM   Runoff hydrograph for subbasin UHLO near the intersection of SR Loop 101 and
1628          KM   Union Hills Drive
1629          BA   0.822
1630          LG    0.21    0.25    5.80    0.19      31
1631          UC   1.246   0.619
1632          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
1633          UA     100
              *

1634          KK  ERUHLO  DIVERT
1635          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
1636          KM   retention developed after 1990 in subbasin UHLO
1637          DT   XUHLO    66.5      0.0
1638          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
1639          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

1640          KK   RBLLO   ROUTE
```

```
KM   Route runoff hydrograph at subbasin UHLO to combination point CBLLO
RS      9    FLOW
RC  0.035   0.015   0.035    9255  0.0033    0.00
RX   0.00    0.00   17.50   17.50  112.50  112.50  130.00  130.00
RY   3.00    0.68    0.50    0.00    0.00    0.50    0.68    3.00
*

KK    BLLO   BASIN
KM   Runoff hydrograph for subbasin BLLO near the intersection of Bell Road and
KM   SR Loop 101
BA   0.765
LG    0.18    0.25    4.35    0.34      55
UC   1.327   0.923
UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
UA     100
*
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LINE      ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

KK  ERBLLO  DIVERT
KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
KM   retention developed after 1990 in subbasin BLLO
DT   XBLLO     70.9      0.0
DI      0.0 50000.0      0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
DQ      0.0 50000.0      0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
*

KK   CBLLO COMBINE
KM   Combine route RBLLO and subbasin BLLO
HC       2    1.59
*

KK   DBLLO  DIVERT
KM   Divert calculated full flow capacity of 169 cfs into 84-inch storm drain
KM   pipe at the intersection of Bell Road and SR Loop 101
DT  DPBLLO      0.0   169.0
DI      0.0 50000.0      0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
DQ      0.0 50000.0      0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
*

KK   RGWLO   ROUTE
KM   Route diversion DBLLO to combination point CSK04
RS       6    FLOW
RC  0.035   0.015   0.035    6833  0.0066    0.00
RX   0.00    0.00   16.50   16.50  107.50  107.50  124.00  124.00
RY   3.00    0.66    0.50    0.00    0.00    0.50    0.66    3.00
*

KK    GWLO   BASIN
KM   Runoff hydrograph for subbasin GWLO near the intersection of Greenway Road
KM   and SR Loop 101
BA   0.814
LG    0.10    0.25    4.20    0.43      60
UC   0.751   0.470
UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
UA     100
*

KK  ERGWLO  DIVERT
KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
KM   retention developed after 1990 in subbasin GWLO
DT   XGWLO     54.1      0.0
DI      0.0 50000.0      0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
DQ      0.0 50000.0      0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
*

KK   CSK04 COMBINE
KM   Combine route RGWLO and subbasin GWLO
HC       4   37.07
*
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LINE      ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

KK  PRBLLORETRIEVE
KM   Retrieve full flow capacity of 169 cfs from 84-inch storm drain pipe at the
KM   intersection of Bell Road and SR Loop 101
DR  DPBLLO
*
* KKRPGWLO   ROUTE
* KM Route full flow capacity of 169 cfs through 84-inch storm drain pipe in
* KM Greenway Road to the intersection of Greenway Road and SR Loop 101
* RK  2236  0.0007   0.015            CIRC   7.000
*

KK  CPSK04 COMBINE
KM   Combine pipe return PRBLLO with the runoff hydrograph at combination point
KM   CSK04 at the intersection of Greenway Road and SR Loop 101
HC       2
*
```



```
KK    JM63   BASIN
KM   Runoff hydrograph for subbasin JM63 near the intersection of Pyramid Peak
KM   Boulevard and Bent Tree Drive
BA   0.840
LG    0.20    0.28    5.10    0.24      24
UC   1.083   0.578
UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
UA     100
*

KK  ERJM63  DIVERT
KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
KM   retention developed after 1990 in subbasin JM63
DT   XJM63     50.3      0.0
DI      0.0 50000.0      0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
DQ      0.0 50000.0      0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
*

KK   RJM67   ROUTE
KM   Route runoff hydrograph at subbasin JM63 to combination point CJM67
RS       2    FLOW
RC  0.045   0.020   0.045    4129  0.0076    0.00
RX   0.00    0.00   19.00   25.00   30.00   36.00   55.00   55.00
RY   4.10    3.10    3.00    0.00    0.00    3.00    3.10    4.10
*

KK    JM67   BASIN
KM   Runoff hydrograph for subbasin JM67 near the intersection of Pyramid Peak
KM   Boulevard and and 67th Avenue
BA   0.381
LG    0.23    0.27    4.35    0.36      36
UC   0.969   0.673
UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
UA     100
*
```



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LINE      ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

KK  ERJM67  DIVERT
KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
KM   retention developed after 1990 in subbasin JM67
DT   XJM67     23.6      0.0
DI      0.0 50000.0      0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
DQ      0.0 50000.0      0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
*

KK   CJM67 COMBINE
KM   Combine route RJM67 and subbasin JM67
HC       2    1.22
*

KK   RHV75   ROUTE
KM   Route runoff hydrograph at combination point CJM67 to combination point CHV75
RS       3    FLOW
RC  0.045   0.020   0.045    7197  0.0099    0.00
RX   0.00    0.00   40.00   50.00   60.00   70.00  110.00  110.00
RY   6.20    5.20    5.00    0.00    0.00    5.00    5.20    6.20
*

KK    HV75   BASIN
KM   Runoff hydrograph for subbasin HV75 near the intersection of Happy Valley
KM   Road and 75th Avenue
BA   0.958
LG    0.24    0.26    4.10    0.41      28
UC   1.335   0.769
UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
UA     100
*

KK  ERHV75  DIVERT
KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
KM   retention developed after 1990 in subbasin HV75
DT   XHV75     70.2      0.0
DI      0.0 50000.0      0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
DQ      0.0 50000.0      0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
*

KK   CHV75 COMBINE
KM   Combine route RHV75 and subbasin HV75
HC       2    2.18
*

KK    JM80   BASIN
KM   Runoff hydrograph for subbasin JM80 near the intersection of Jomax Road
KM   and 80th Avenue
BA   0.164
LG    0.24    0.25    3.88    0.42      34
UC   0.807   0.600
UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
UA     100
```

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LINE      ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

1768      KK   JM76   BASIN
1769      KM   Runoff hydrograph for subbasin JM76 near the intersection of Jomax Road
1770      KM   and 76th Avenue
1771      BA   0.169
1772      LG    0.21    0.28    3.92    0.41      22
1773      UC   1.057   0.925
1774      UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
1775      UA     100
          *
1776      KK  ERJM76  DIVERT
1777      KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
1778      KM   retention developed after 1990 in subbasin JM76
1779      DT   XJM76     6.5      0.0
1780      DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
1781      DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
          *
1782      KK   JMNR   BASIN
1783      KM   Runoff hydrograph for subbasin JMNR near the intersection of Jomax Road
1784      KM   and New River
1785      BA   0.149
1786      LG    0.17    0.31    3.29    0.63      13
1787      UC   1.409   1.602
1788      UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
1789      UA     100
          *
1790      KK   CNR01 COMBINE
1791      KM   Combine route subbasin JM76, and subbasin JMNR
1792      HC       3    0.48
          *
1793      KK   JM75   BASIN
1794      KM   Runoff hydrograph for subbasin JM75 near the intersection of Jomax Road
1795      KM   and 75th Avenue
1796      BA   1.112
1797      LG    0.18    0.30    4.30    0.34      26
1798      UC   0.910   0.417
1799      UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
1800      UA     100
          *
1801      KK  ERJM75  DIVERT
1802      KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
1803      KM   retention developed after 1990 in subbasin JM75
1804      DT   XJM75     43.3      0.0
1805      DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
1806      DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
          *
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LINE      ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

1807      KK   HVNR   BASIN
1808      KM   Runoff hydrograph for subbasin HVNR near the intersection of Happy Valley
1809      KM   Road and New River
1810      BA   0.202
1811      LG    0.10    0.35    3.48    0.55       0
1812      UC   1.500   1.615
1813      UA       0     3.0     5.0     8.0    12.0    20.0    43.0    75.0    90.0    96.0
1814      UA     100
          *
1815      KK   CNR02 COMBINE
1816      KM   Combine subbasin HVNR
1817      HC       4    3.98
          *
1818      KK   HV67   BASIN
1819      KM   Runoff hydrograph for subbasin HV67 near the intersection of Happy Valley
1820      KM   Road and 67th Avenue
1821      BA   0.544
1822      LG    0.22    0.27    4.20    0.41      59
1823      UC   0.726   0.436
1824      UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
1825      UA     100
          *
1826      KK  ERHV67  DIVERT
1827      KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
1828      KM   retention developed after 1990 in subbasin HV67
1829      DT   XHV67     31.6      0.0
1830      DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
1831      DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
          *
```



```
1832      KK   RCL67   ROUTE
1833      KM   Route runoff hydrograph at subbasin HV67 to combination point CCL67
1834      RS       3    FLOW
1835      RC   0.045   0.035   0.045    3990  0.0076    0.00
1836      RX    0.00    0.00   40.00   50.00   60.00   70.00  110.00  110.00
1837      RY    6.20    5.20    5.00    0.00    0.00    5.00    5.20    6.20
          *
1838      KK   CL67   BASIN
1839      KM   Runoff hydrograph for subbasin CL67 near the intersection of Calle Lejos Road
1840      KM   67th Avenue
1841      BA   0.275
1842      LG    0.22    0.27    4.40    0.38      24
1843      UC   1.181   1.139
1844      UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
1845      UA     100
          *
```

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LINE      ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

1846      KK  ERCL67  DIVERT
1847      KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
1848      KM   retention developed after 1990 in subbasin CL67
1849      DT   XCL67     16.7      0.0
1850      DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
1851      DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
          *
1852      KK   CCL67 COMBINE
1853      KM   Combine route RCL67 and subbasin CL67
1854      HC       2    0.82
          *
1855      KK  RPP73A   ROUTE
1856      KM   Route runoff hydrograph at combination point CCL67 to combination point CPP73
1857      RS       4    FLOW
1858      RC   0.045   0.035   0.045    5599  0.0045    0.00
1859      RX    0.00    0.00   40.00   50.00   60.00   70.00  110.00  110.00
1860      RY    6.20    5.20    5.00    0.00    0.00    5.00    5.20    6.20
          *
1861      KK   PP67   BASIN
1862      KM   Runoff hydrograph for subbasin PP67 near the intersection of Pinnacle Peak
1863      KM   Road and 67th Avenue
1864      BA   0.096
1865      LG    0.30    0.25    4.55    0.41       6
1866      UC   1.212   1.354
1867      UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
1868      UA     100
          *
1869      KK  ERPP67  DIVERT
1870      KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
1871      KM   retention developed after 1990 in subbasin PP67
1872      DT   XPP67     5.8      0.0
1873      DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
1874      DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
          *
1875      KK  DWPP73  DIVERT
1876      KM   Divert remaining runoff hydrograph at subbasin PP67 west to combination point
1877      KM   CPP73
1878      DT  DSWL67      0.0      0.0
1879      DI     0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0  10000.0  20000.0  50000.0
1880      DQ     0.0     32.0     64.0    160.0    320.0    640.0   1280.0   3200.0   6400.0  16000.0
          *
1881      KK  RPP73B   ROUTE
1882      KM   Route diversion DWPP73 west to combination point CPP73
1883      RS       4    FLOW
1884      RC   0.035   0.015   0.035    3886  0.0064    0.00
1885      RX    0.00    0.00   16.50   16.50  107.50  107.50  124.00  124.00
1886      RY    3.00    0.66    0.50    0.00    0.00    0.50    0.66    3.00
          *
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LINE      ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

1887      KK   PP73   BASIN
1888      KM   Runoff hydrograph for subbasin PP73 near the intersection of Pinnacle Peak
1889      KM   Road and 73rd Avenue
1890      BA   0.545
1891      LG    0.29    0.25    4.70    0.31      18
1892      UC   1.251   0.806
1893      UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
1894      UA     100
          *
1895      KK  ERPP73  DIVERT
```

```
1896          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
1897          KM   retention developed after 1990 in subbasin PP73
1898          DT   XPP73     10.3      0.0
1899          DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
1900          DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

1901          KK   CPP73 COMBINE
1902          KM   Combine route RPP73A, route RPP73B, and subbasin PP73
1903          HC        3     1.43
              *

1904          KK  DWPP75  DIVERT
1905          KM   Divert remaining runoff hydrograph at combination point CPP73 west to
1906          KM   combination point CPP75
1907          DT  DSWL75      0.0       0.0
1908          DI      0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0  10000.0  20000.0  50000.0
1909          DQ      0.0     41.0     82.0    205.0    410.0    820.0   1640.0   4100.0   8200.0  20500.0
              *

1910          KK   RPPNR   ROUTE
1911          KM   Route diversion DWPP75 west to combination point CNR03
1912          RS        1     FLOW
1913          RC    0.045    0.020    0.045     1225   0.0052     0.00
1914          RX     0.00     0.00    40.00    50.00    60.00    70.00   110.00   110.00
1915          RY     6.20     5.20     5.00     0.00     0.00     5.00     5.20     6.20
              *

1916          KK    PP75   BASIN
1917          KM   Runoff hydrograph for subbasin PP75 near the intersection of Pinnacle Peak
1918          KM   Road and 75th Avenue
1919          BA   0.420
1920          LG    0.26     0.26     4.25     0.42       30
1921          UC   1.017    0.720
1922          UA       0      5.0     16.0     30.0     65.0     77.0     84.0     90.0     94.0     97.0
1923          UA     100
              *
```



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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9.....10

1924          KK  ERPP75  DIVERT
1925          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
1926          KM   retention developed after 1990 in subbasin PP75
1927          DT   XPP75     20.3      0.0
1928          DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
1929          DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

1930          KK    PPNR   BASIN
1931          KM   Runoff hydrograph for subbasin PPNR near the intersection of Pinnacle Peak
1932          KM   Road and New River
1933          BA   0.237
1934          LG    0.18     0.31     3.53     0.53        6
1935          UC   1.500    1.444
1936          UA       0      5.0     16.0     30.0     65.0     77.0     84.0     90.0     94.0     97.0
1937          UA     100
              *

1938          KK  ERPPNR  DIVERT
1939          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
1940          KM   retention developed after 1990 in subbasin PPNR
1941          DT   XPPNR      5.1      0.0
1942          DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
1943          DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

1944          KK   CNR03 COMBINE
1945          KM   Combine route RPPNR and subbasin PPNR
1946          HC        4     5.47
              *

1947          KK  DRWL75RETRIEVE
1948          KM   Retrieve divert DRWL75 from combination point CPP73 and divert to
1949          KM   combination point CWL75
1950          DR  DSWL75
              *

1951          KK  RWL75B   ROUTE
1952          KM   Route diversion retrieval DRWL75 to combination point CWL75
1953          RS        1     FLOW
1954          RC    0.035    0.015    0.035     2577   0.0049     0.00
1955          RX     0.00     0.00     7.00     7.00    43.00    43.00    50.00    50.00
1956          RY     3.00     0.57     0.50     0.00     0.00     0.50     0.57     3.00
              *

1957          KK  DRWL67RETRIEVE
1958          KM   Retrieve divert DRWL67 from subbasin PP67 and divert to combination point
1959          KM   CTB67
1960          DR  DSWL67
              *
```



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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9.....10

1961          KK   RWL67   ROUTE
1962          KM   Route diversion retrieval DRWL67 to combination point CWL67
1963          RS        1     FLOW
1964          RC    0.035    0.015    0.035     1195   0.0014     0.00
1965          RX     0.00     0.00    20.50    20.50    89.50    89.50   110.00   110.00
1966          RY     3.00     0.70     0.50     0.00     0.00     0.50     0.70     3.00
              *

1967          KK    WL67   BASIN
1968          KM   Runoff hydrograph for subbasin WL67 near the intersection of Thunderbird Park
1969          KM   Road and 67th Avenue
1970          BA   0.103
1971          LG    0.24     0.28     4.70     0.34        6
1972          UC   1.246    1.371
1973          UA       0      5.0     16.0     30.0     65.0     77.0     84.0     90.0     94.0     97.0
1974          UA     100
              *

1975          KK  ERWL67  DIVERT
1976          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
1977          KM   retention developed after 1990 in subbasin WL67
1978          DT   XWL67      4.3      0.0
1979          DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
1980          DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

1981          KK   CWL67 COMBINE
1982          KM   Combine route RWL67 and subbasin WL67
1983          HC        2     0.13
              *

1984          KK  RWL75A   ROUTE
1985          KM   Route runoff hydrograph at combination point CWL67 to combination point CWL75
1986          RS        7     FLOW
1987          RC    0.035    0.015    0.035     5062   0.0072     0.00
1988          RX     0.00     0.00     7.00     7.00    43.00    43.00    50.00    50.00
1989          RY     3.00     0.57     0.50     0.00     0.00     0.50     0.57     3.00
              *

1990          KK    WL75   BASIN
1991          KM   Runoff hydrograph for subbasin WL75 near the intersection of Williams Road
1992          KM   Road and 75th Avenue
1993          BA   0.475
1994          LG    0.29     0.25     4.70     0.31       25
1995          UC   1.152    0.755
1996          UA       0      5.0     16.0     30.0     65.0     77.0     84.0     90.0     94.0     97.0
1997          UA     100
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9.....10

1998          KK  ERWL75  DIVERT
1999          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
2000          KM   retention developed after 1990 in subbasin WL75
2001          DT   XWL75     18.0      0.0
2002          DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
2003          DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

2004          KK   CWL75 COMBINE
2005          KM   Combine route RWL75A, route RWL75B, and subbasin WL75
2006          HC        3     1.20
              *

2007          KK    WWBR   BASIN
2008          KM   Runoff hydrograph for subbasin WWBR near the intersection of Westwing Parkway
2009          KM   and Black Rock Boulevard
2010          BA   0.184
2011          LG    0.22     0.19     7.00     0.10       26
2012          UC   0.469    0.293
2013          UA       0      5.0     16.0     30.0     65.0     77.0     84.0     90.0     94.0     97.0
2014          UA     100
              *

2015          KK  ERWWBR  DIVERT
2016          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
2017          KM   retention developed after 1990 in subbasin WWBR
2018          DT   XWWBR     12.2      0.0
2019          DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
2020          DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

2021          KK   RWWRS   ROUTE
2022          KM   Route runoff hydrograph at subbasin WWBR to combination point CWWRS
2023          RS        2     FLOW
2024          RC    0.045    0.035    0.045     2599   0.0063     0.00
2025          RX     0.00     0.00    19.00    25.00    30.00    36.00    55.00    55.00
```

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2026          RY    4.10    3.10    3.00    0.00    0.00    3.00    3.10    4.10
              *

2027          KK     WWRS    BASIN
2028          KM    Runoff hydrograph for subbasin WWRS near the intersection of Westwing Parkway
2029          KM    and Rock Springs wash
2030          BA    0.144
2031          LG     0.20    0.26    4.30    0.44      32
2032          UC    0.707   0.610
2033          UA        0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
2034          UA      100
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

2035          KK  ERWWRS  DIVERT
2036          KM    Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
2037          KM    retention developed after 1990 in subbasin WWRS
2038          DT    XWWRS      7.1      0.0
2039          DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
2040          DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

2041          KK    CWWRS COMBINE
2042          KM    Combine route RWWRS and subbasin WWRS
2043          HC        2     0.33
              *

2044          KK    RJMRS    ROUTE
2045          KM    Route runoff hydrograph at combination point CWWRS to combination point CJMRS
2046          RS        2     FLOW
2047          RC    0.045    0.035    0.045     4005   0.0060     0.00
2048          RX     0.00     0.00    40.00    50.00    60.00    70.00   110.00   110.00
2049          RY     6.20     5.20     5.00     0.00     0.00     5.00     5.20     6.20
              *

2050          KK     JMRS    BASIN
2051          KM    Runoff hydrograph for subbasin JMRS near the intersection of Jomax Road and
2052          KM    Rock Springs wash
2053          BA    0.567
2054          LG     0.23     0.27     5.30     0.21       29
2055          UC    1.052    0.708
2056          UA        0      5.0     16.0     30.0     65.0     77.0     84.0     90.0     94.0     97.0
2057          UA      100
              *

2058          KK  ERJMRS  DIVERT
2059          KM    Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
2060          KM    retention developed after 1990 in subbasin JMRS
2061          DT    XJMRS     37.8      0.0
2062          DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
2063          DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

2064          KK    CJMRS COMBINE
2065          KM    Combine route RJMRS and subbasin JMRS
2066          HC        2     0.90
              *

2067          KK  RHVRSB    ROUTE
2068          KM    Route runoff hydrograph at combination point CJMRS to combination point CHVRS
2069          RS        6     FLOW
2070          RC    0.045    0.035    0.045     5791   0.0051     0.00
2071          RX     0.00     0.00    19.00    25.00    30.00    36.00    55.00    55.00
2072          RY     4.10     3.10     3.00     0.00     0.00     3.00     3.10     4.10
              *
1                                        HEC-1 INPUT                                        PAGE 55

LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

2073          KK     83RS    BASIN
2074          KM    Runoff hydrograph for subbasin 83RS near the intersection of 83rd Avenue and
2075          KM    Rock Springs wash
2076          BA    0.638
2077          LG     0.22     0.27     4.50     0.31       47
2078          UC    0.635    0.268
2079          UA        0      5.0     16.0     30.0     65.0     77.0     84.0     90.0     94.0     97.0
2080          UA      100
              *

2081          KK  ER83RS  DIVERT
2082          KM    Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
2083          KM    retention developed after 1990 in subbasin 83RS
2084          DT    X83RS     41.0      0.0
2085          DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
2086          DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

2087          KK  RHVRSA    ROUTE
2088          KM    Route runoff hydrograph at subbasin 83RS to combination point CHVRS
```



```
2089          RS        4     FLOW
2090          RC    0.045    0.035    0.045     6390   0.0071     0.00
2091          RX     0.00     0.00    40.00    50.00    60.00    70.00   110.00   110.00
2092          RY     6.20     5.20     5.00     0.00     0.00     5.00     5.20     6.20
              *

2093          KK     HVRS    BASIN
2094          KM    Runoff hydrograph for subbasin HVRS near the intersection of Happy Valley
2095          KM    Road and Rock Springs wash
2096          BA    0.630
2097          LG     0.23     0.27     4.10     0.40       25
2098          UC    1.362    0.914
2099          UA        0      5.0     16.0     30.0     65.0     77.0     84.0     90.0     94.0     97.0
2100          UA      100
              *

2101          KK  ERHVRS  DIVERT
2102          KM    Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
2103          KM    retention developed after 1990 in subbasin HVRS
2104          DT    XHVRS     38.8      0.0
2105          DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
2106          DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

2107          KK    CHVRS COMBINE
2108          KM    Combine route RHVRSA, route RHVRSB, and subbasin HVRS
2109          HC        3     2.16
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

2110          KK  RCL77B    ROUTE
2111          KM    Route runoff hydrograph at combination point CHVRS to combination point CCL77
2112          RS        5     FLOW
2113          RC    0.045    0.035    0.045     2864   0.0057     0.00
2114          RX     0.00   480.00   500.00   518.00   544.00   609.00   900.00  1121.00
2115          RY    11.00    10.00     0.00     0.20    10.00    11.00    12.00    13.00
              *

2116          KK     HV83    BASIN
2117          KM    Runoff hydrograph for subbasin HV83 near the intersection of Happy Valley
2118          KM    Road and 83rd Avenue
2119          BA    0.035
2120          LG     0.27     0.25     4.15     0.41       42
2121          UC    0.400    0.418
2122          UA        0      5.0     16.0     30.0     65.0     77.0     84.0     90.0     94.0     97.0
2123          UA      100
              *

2124          KK  ERHV83  DIVERT
2125          KM    Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
2126          KM    retention developed after 1990 in subbasin HV83
2127          DT    XHV83      2.3      0.0
2128          DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
2129          DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

2130          KK  RCL77A    ROUTE
2131          KM    Route runoff hydrograph at subbasin HV83 to combination point CCL77
2132          RS        2     FLOW
2133          RC    0.045    0.035    0.045     3884   0.0111     0.00
2134          RX     0.00     0.00    19.00    25.00    30.00    36.00    55.00    55.00
2135          RY     4.10     3.10     3.00     0.00     0.00     3.00     3.10     4.10
              *

2136          KK     CL77    BASIN
2137          KM    Runoff hydrograph for subbasin CL77 near the intersection of Calle Lejos Road
2138          KM    and 77th Avenue
2139          BA    0.316
2140          LG     0.28     0.26     4.40     0.38       14
2141          UC    0.906    0.582
2142          UA        0      5.0     16.0     30.0     65.0     77.0     84.0     90.0     94.0     97.0
2143          UA      100
              *

2144          KK  ERCL77  DIVERT
2145          KM    Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
2146          KM    retention developed after 1990 in subbasin CL77
2147          DT    XCL77     19.1      0.0
2148          DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
2149          DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

2150          KK    CCL77 COMBINE
2151          KM    Combine route RCL77A, route RCL77B, and subbasin CL77
2152          HC        3     2.51
              *
```

```
2153          KK   RPP77    ROUTE
2154          KM   Route runoff hydrograph at combination point CCL77 to combination point CPP77
2155          RS       2      FLOW
2156          RC   0.045   0.035   0.045    2947  0.0041    0.00
2157          RX    0.00  480.00  500.00  518.00  544.00  609.00  900.00 1121.00
2158          RY   11.00   10.00    0.00    0.20   10.00   11.00   12.00   13.00
              *

2159          KK    PP77    BASIN
2160          KM   Runoff hydrograph for subbasin PP77 near the intersection of Pinnacle Peak
2161          KM   Road and 77th Avenue
2162          BA   0.270
2163          LG    0.30    0.25    4.20    0.45      14
2164          UC   1.460   1.346
2165          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
2166          UA     100
              *

2167          KK  ERPP77  DIVERT
2168          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
2169          KM   retention developed after 1990 in subbasin PP77
2170          DT   XPP77     8.9      0.0
2171          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
2172          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

2173          KK   CPP77 COMBINE
2174          KM   Combine route RPP77 and subbasin PP77
2175          HC       2    2.78
              *

2176          KK   RWLNR    ROUTE
2177          KM   Route runoff hydrograph at combination point CPP77 to combination point CNR04
2178          RS       2      FLOW
2179          RC   0.045   0.035   0.045    3822  0.0048    0.00
2180          RX    0.00  256.00  372.00  397.00  407.00  419.00  464.00  800.00
2181          RY   12.00   10.00    8.00    0.00    0.00    6.00    8.00   12.00
              *

2182          KK    WLNR    BASIN
2183          KM   Runoff hydrograph for subbasin WLNR near the intersection of Williams Road
2184          KM   New River
2185          BA   0.390
2186          LG    0.24    0.26    4.70    0.29      33
2187          UC   1.131   0.743
2188          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
2189          UA     100
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9.....10

2190          KK   CNR04 COMBINE
2191          KM   Combine route RWLNR and subbasin WLNR
2192          HC       4    9.84
              *

2193          KK    DV75    BASIN
2194          KM   Runoff hydrograph for subbasin DV75 near the intersection of Deer Valley Road
2195          KM   and 75th Avenue
2196          BA   0.501
2197          LG    0.24    0.25    4.90    0.26      34
2198          UC   1.354   1.051
2199          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
2200          UA     100
              *

2201          KK  ERDV75  DIVERT
2202          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
2203          KM   retention developed after 1990 in subbasin DV75
2204          DT   XDV75     22.6      0.0
2205          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
2206          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

2207          KK  DWDVNR  DIVERT
2208          KM   Divert remaining runoff hydrograph at subbasin DV75 west to combination point
2209          KM   CNR05
2210          DT   DSLO75      0.0      0.0
2211          DI      0.0     1.0    92.0   274.0   365.0   456.0   546.0   700.0   800.0  1000.0
2212          DQ      0.0     0.0    26.0    70.0    87.0   109.0   131.0   167.0   191.0   239.0
              *

2213          KK   RDVNR    ROUTE
2214          KM   Route diversion DWDVNR west to combination point CNR05
2215          RS       2      FLOW
2216          RC   0.045   0.015   0.045    2707  0.0015    0.00
2217          RX    0.00    0.00   19.00   25.00   30.00   36.00   55.00   55.00
2218          RY    4.10    3.10    3.00    0.00    0.00    3.00    3.10    4.10
              *
```



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2219          KK    DVNR    BASIN
2220          KM   Runoff hydrograph for subbasin DVNR near the intersection of Deer Valley Road
2221          KM   and New River
2222          BA   0.401
2223          LG    0.23    0.26    4.35    0.34      33
2224          UC   1.376   0.965
2225          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
2226          UA     100
              *
```



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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9.....10

2227          KK   CNR05 COMBINE
2228          KM   Combine route RDVNR and subbasin DVNR
2229          HC       3   10.50
              *

2230          KK    DV67    BASIN
2231          KM   Runoff hydrograph for subbasin DV67 near the intersection of Deer Valley Road
2232          KM   and 67th Avenue
2233          BA   0.503
2234          LG    0.18    0.29    4.55    0.32      38
2235          UC   0.518   0.205
2236          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
2237          UA     100
              *

2238          KK  SRDV67 STORAGE
2239          KM   Storage route runoff hydrograph from combination point CDV67 thru regional
2240          KM     detention basin located in subbasin DV67 (Arrowhead Lakes 6, 7, and 11-13)
2241          KM   Stage-storage-discharge data from Glendale/Peoria ADMPU Arrowhead Lakes
2242          KM     Hydrology Report (Volume AL), 2001
2243          RS       1      STOR
2244          SV            4.49    9.21   14.15   19.27   24.51   29.86   35.24   40.67
2245          SQ           91.00  285.00  566.00  886.00 1243.00 1638.00 2064.00 2523.00
2246          SE            0.50    1.00    1.50    2.00    2.50    3.00    3.50    4.00
              *

2247          KK    LO67    BASIN
2248          KM   Runoff hydrograph for subbasin LO67 near the intersection of SR Loop 101 and
2249          KM   67th Avenue
2250          BA   1.217
2251          LG    0.20    0.25    5.70    0.20      33
2252          UC   1.345   0.643
2253          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
2254          UA     100
              *

2255          KK   CLO67 COMBINE
2256          KM   Combine route RLO67 and subbasin LO67
2257          HC       2    1.72
              *

2258          KK  SRLO67 STORAGE
2259          KM   Storage route runoff hydrograph from combination point CLO67 thru regional
2260          KM     detention basin located in subbasin LO67 (Arrowhead Lakes 8-10 and 14-20)
2261          KM   Stage-storage-discharge data from Glendale/Peoria ADMPU Arrowhead Lakes
2262          KM     Hydrology Report (Volume AL), 2001
2263          RS       1      STOR
2264          SV           12.86   26.19   39.86   53.86   69.64   84.08  100.17  114.88  149.69
2265          SV  188.50
2266          SQ       9      41     100     175     245     326     396     502     657     703
2267          SQ     749
2268          SE    0.00    0.50    1.00    1.50    2.00    2.50    3.00    3.50    4.00    4.50
2269          SE    5.00
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9.....10

2270          KK    LO75    BASIN
2271          KM   Runoff hydrograph for subbasin LO75 near the intersection of SR Loop 101 and
2272          KM   75th Avenue
2273          BA   0.970
2274          LG    0.24    0.25    6.00    0.16      34
2275          UC   1.342   0.691
2276          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
2277          UA     100
              *

2278          KK  ERLO75  DIVERT
2279          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
2280          KM   retention developed after 1990 in subbasin LO75
2281          DT   XLO75     34.3      0.0
2282          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
2283          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

2284          KK   CLO75 COMBINE
2285          KM   Combine storage route SRLO67 and subbasin LO75
```

```
2286          HC       2    2.69
              *

2287          KK  SRLO75 STORAGE
2288          KM   Storage route runoff hydrograph from combination point CLO75 thru regional
2289          KM     detention basin located in subbasin LO75 (Arrowhead Lakes L21AP1 to L21AP5)
2290          KM   Stage-storage-discharge data from Glendale/Peoria ADMPU Arrowhead Lakes
2291          KM     Hydrology Report (Volume AL), 2001
2292          RS       1    STOR
2293          SV            12.58   31.24   52.02
2294          SQ            46.00  418.00  768.00
2295          SE             0.50    1.00    1.50
              *

2296          KK  DRLO75RETRIEVE
2297          KM   Retrieve divert DROL75 from subbasin DV75 and divert to combination point
2298          KM   CLO75
2299          DR  DSLO75
              *

2300          KK   RLO75   ROUTE
2301          KM   Route diversion DRLO75 to combination point CLO75
2302          RS       7    FLOW
2303          RC  0.035   0.015   0.035    7499  0.0047    0.00
2304          RX   0.00    0.00   13.00   13.00   55.00   55.00   68.00   68.00
2305          RY   3.00    0.63    0.50    0.00    0.00    0.50    0.63    3.00
              *

2306          KK  C1LO75 COMBINE
2307          KM   Combine route RLO75A and storage route SRLO75
2308          HC       2    2.94
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

2309          KK  RBYNRB   ROUTE
2310          KM   Route runoff hydrograph at combination point CLO75 to combination point CBYNR
2311          RS       1    FLOW
2312          RC  0.045   0.015   0.045    3176  0.0058    0.00
2313          RX   0.00    3.00    5.00   29.00   41.00   65.00   67.00   70.00
2314          RY  13.00   12.00   12.00    0.00    0.00   12.00   12.00   13.00
              *

2315          KK    PP81   BASIN
2316          KM   Runoff hydrograph for subbasin PP81 near the intersection of Pinnacle Peak
2317          KM   Road and 81st Avenue
2318          BA   0.197
2319          LG    0.30    0.25    6.00    0.18      15
2320          UC   0.890   0.523
2321          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
2322          UA     100
              *

2323          KK  ERPP81  DIVERT
2324          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
2325          KM   retention developed after 1990 in subbasin PP81
2326          DT  XPP81     12.8      0.0
2327          DI     0.0 50000.0      0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
2328          DQ     0.0 50000.0      0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

2329          KK   RWL83   ROUTE
2330          KM   Route runoff hydrograph at subbasin PP81 to combination point CWL83
2331          RS       4    FLOW
2332          RC   0.045   0.035   0.045    3222  0.0050    0.00
2333          RX    0.00    0.00   19.00   25.00   30.00   36.00   55.00   55.00
2334          RY    4.10    3.10    3.00    0.00    0.00    3.00    3.10    4.10
              *

2335          KK    WL83   BASIN
2336          KM   Runoff hydrograph for subbasin WL83 near the intersection of Williams Road
2337          KM   and 83rd Avenue
2338          BA   0.125
2339          LG    0.30    0.10   11.20    0.02      15
2340          UC   1.029   0.982
2341          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
2342          UA     100
              *

2343          KK  ERWL83  DIVERT
2344          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
2345          KM   retention developed after 1990 in subbasin WL83
2346          DT  XWL83      4.3      0.0
2347          DI     0.0 50000.0      0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
2348          DQ     0.0 50000.0      0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10
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2349          KK  CWL83 COMBINE
2350          KM  Combine route RW183 and subbasin WL83
2351          HC       2    0.32
              *

2352          KK    HV87   BASIN
2353          KM   Runoff hydrograph for subbasin HV87 near the intersection of Happy Valley
2354          KM   Road and 87th Avenue
2355          BA   0.285
2356          LG    0.13    0.34    4.00    0.39      37
2357          UC   0.421   0.172
2358          UA       0     3.0     5.0     8.0    12.0    20.0    43.0    75.0    90.0    96.0
2359          UA     100
              *

2360          KK   RPP87   ROUTE
2361          KM   Route runoff hydrograph at subbasin HV87 to combination point CPP87
2362          RS       1    FLOW
2363          RC   0.045   0.020   0.045    5446  0.0172    0.00
2364          RX    0.00    0.00   40.00   50.00   60.00   70.00  110.00  110.00
2365          RY    6.20    5.20    5.00    0.00    0.00    5.00    5.20    6.20
              *

2366          KK    PP87   BASIN
2367          KM   Runoff hydrograph for subbasin PP87 near the intersection of Pinnacle Peak
2368          KM   Road and 87th Avenue
2369          BA   0.981
2370          LG    0.30    0.25    4.45    0.38      15
2371          UC   0.947   0.361
2372          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
2373          UA     100
              *

2374          KK  ERPP87  DIVERT
2375          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
2376          KM   retention developed after 1990 in subbasin PP87
2377          DT  XPP87     42.5      0.0
2378          DI     0.0 50000.0      0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
2379          DQ     0.0 50000.0      0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

2380          KK   CPP87 COMBINE
2381          KM   Combine route RPP87 and subbasin PP87
2382          HC       2    1.27
              *

2383          KK  SRPP87 STORAGE
2384          KM   Storage route runoff hydrograph from combination point CPP87 through the
2385          KM     regional detention basin located near the intersection of Pinnacle Peak Rd
2386          KM     and 87th Avenue
2387          KM   Stage-storage-discharge data from 83rd Avenue/Pinnacle Peak Road Drainage
2388          KM     Improvements Final Drainage Report, 2006
2389          RS       1    STOR
2390          SV            0.81    3.43    7.18   11.20   15.45   19.87   24.47   29.24   32.60
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2391          SV   34.10   36.28   38.47
2392          SQ                   34.13   53.39   68.62   81.63   93.17  103.66  113.33  120.0
2393          SQ   208.0   499.0   814.0
2394          SE  1313.0 1314.00 1315.00 1316.00 1317.00 1318.00 1319.00 1320.00 1321.00  1321.7
2395          SE  1322.0  1322.5  1322.9
              *

2396          KK   DPP87  DIVERT
2397          KM   Divert calculated full flow capacity of 128 cfs into 48-inch storm drain
2398          KM   pipe at the intersection of Pinnacle Peak Road and 87th Avenue
2399          DT  DPPP87      0.0    128.0
2400          DI     0.0 50000.0      0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
2401          DQ     0.0 50000.0      0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

2402          KK  PRPP87RETRIEVE
2403          KM   Retrieve full flow capacity of 128 cfs from 48-inch storm drain pipe at the
2404          KM   intersection of Pinnacle Peak Road and 87th Avenue
2405          DR  DPPP87
              *

2406          KK  RP87PP   ROUTE
2407          KM   Route full flow capacity of 128 cfs through 48-inch storm drain pipe in
2408          KM   87th Avenue to the intersection of Pinnacle Peak Road and 87th Avenue
2409          RK    1251  0.0079   0.015             CIRC   4.000
              *

2410          KK    PP91   BASIN
2411          KM   Runoff hydrograph for subbasin PP91 near the intersection of Pinnacle Peak
2412          KM   Road and 91st Avenue
2413          BA   0.161
2414          LG    0.30    0.25    4.20    0.44      15
2415          UC   1.224   1.042
2416          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
2417          UA     100
```

```
                *
2418            KK  ERPP91  DIVERT
2419            KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
2420            KM   retention developed after 1990 in subbasin PP91
2421            DT   XPP91      7.7      0.0
2422            DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
2423            DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
                *
2424            KK  DPPP91  DIVERT
2425            KM   Divert calculated full flow capacity of 88 cfs into 54-inch storm drain
2426            KM   pipe at the intersection of Pinnacle Peak Road and 91st Avenue
2427            DT   DPP91      0.0      0.0
2428            DI      0.0     88.0     88.1 50000.0      0.0      0.0      0.0      0.0      0.0      0.0
2429            DQ      0.0      0.0      0.1 49912.0      0.0      0.0      0.0      0.0      0.0      0.0
                *
                * KKRPPP87   ROUTE
                * KM Route full flow capacity of 88 cfs through 54-inch storm drain pipe in
                * KM Pinnacle Peak Road to the intersection of Pinnacle Peak Road and 87th Avenu
                * RK  2635  0.0020   0.015            CIRC   4.500
                *
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2430            KK  CPPP87 COMBINE
2431            KM   Combine pipe flow DPPP91 with pipe return flow PRPP87 at the intersection of
2432            KM   Pinnacle Peak Road and 87th Avenue
2433            HC       2
                *
2434            KK  RPPP83   ROUTE
2435            KM   Route full flow capacity of 127 cfs through 72-inch storm drain pipe in
2436            KM   Pinnacle Peak Road to the intersection of Pinnacle Peak Road and 83rd Avenue
2437            RK    1891  0.0009   0.015            CIRC   6.000
                *
2438            KK  CPPP83 COMBINE
2439            KM   Combine pipe flow from combination point CPPP87 with the runoff hydrograph at
2440            KM   combination point CPP87 at the intersection of Pinnacle Peak Road and 83rd
2441            KM   Avenue
2442            HC       2
                *
2443            KK  SRPP83 STORAGE
2444            KM   Storage route runoff hydrograph from combination point CPPP83 through the
2445            KM     regional detention basin located near the intersection of Pinnacle Peak Rd
2446            KM     and 83rd Avenue
2447            KM   Stage-storage-discharge data from 83rd Avenue/Pinnacle Peak Road Drainage
2448            KM     Improvements Final Drainage Report, 2006
2449            RS       1    STOR
2450            SV    0.41    1.96    4.32    6.86    9.60   12.51   15.62   18.93   22.43   26.13
2451            SV   30.04   34.15   38.47   43.00   47.74   52.69
2452            SQ                                    1.03    2.10   11.31   13.59   15.65   17.54
2453            SQ   19.29   20.95   22.51   24.00   25.43   26.79
2454            SE  1298.0  1299.0  1300.0  1301.0  1302.0  1303.0  1304.0  1305.0  1306.0  1307.0
2455            SE  1308.0  1309.0  1310.0  1311.0  1312.0  1313.0
                *
2456            KK  DP83PP  DIVERT
2457            KM   Divert calculated full flow capacity of 31 cfs into 36-inch storm drain
2458            KM   pipe at the intersection of Pinnacle Peak Road and 83rd Avenue
2459            DT   D83PP      0.0      0.0
2460            DI      0.0     31.0     31.1 50000.0      0.0      0.0      0.0      0.0      0.0      0.0
2461            DQ      0.0      0.0      0.1 49969.0      0.0      0.0      0.0      0.0      0.0      0.0
                *
2462            KK  RP83WL   ROUTE
2463            KM   Route full flow capacity of 31 cfs through 36-inch storm drain pipe in
2464            KM   83rd Avenue to the intersection of Williams Road and 83rd Avenue
2465            RK    2980  0.0022   0.015            CIRC   3.000
                *
2466            KK  CPWL83 COMBINE
2467            KM   Combine pipe flow DP83PP with the runoff hydrograph at combination point
2468            KM   CWL83 at the intersection of Williams Road and 83rd Avenue
2469            HC       2
                *
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LINE            ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


2470            KK   RDV83   ROUTE
2471            KM   Route runoff hydrograph at combination point CPWL83 to combination point
2472            KM   CDV83
2473            RS       4    FLOW
2474            RC   0.045   0.015   0.045    2933  0.0051    0.00
2475            RX    0.00    0.00   40.00   50.00   60.00   70.00  110.00  110.00
2476            RY    6.20    5.20    5.00    0.00    0.00    5.00    5.20    6.20
                *
```



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2477            KK    DV83   BASIN
2478            KM   Runoff hydrograph for subbasin DV83 near the intersection of Deer Valley
2479            KM   Road and 83rd Avenue
2480            BA   0.107
2481            LG    0.25    0.10   11.20    0.02      30
2482            UC   1.142   1.282
2483            UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
2484            UA     100
                *
2485            KK  ERDV83  DIVERT
2486            KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
2487            KM   retention developed after 1990 in subbasin DV83
2488            DT   XDV83      1.7      0.0
2489            DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
2490            DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
                *
2491            KK   CDV83 COMBINE
2492            KM   Combine route RDV83 and subbasin DV83
2493            HC       2    0.43
                *
2494            KK  RBYNRA   ROUTE
2495            KM   Route runoff hydrograph at combination point CDV83 to combination point CBYNR
2496            RS       6    FLOW
2497            RC   0.045   0.035   0.045    6713  0.0060    0.00
2498            RX    0.00    0.00   19.00   25.00   30.00   36.00   55.00   55.00
2499            RY    4.10    3.10    3.00    0.00    0.00    3.00    3.10    4.10
                *
2500            KK    BYNR   BASIN
2501            KM   Runoff hydrograph for subbasin BYNR near the intersection of Beardsley Road
2502            KM   Road and New River
2503            BA   1.034
2504            LG    0.22    0.26    5.80    0.17      31
2505            UC   1.407   0.765
2506            UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
2507            UA     100
                *
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LINE            ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


2508            KK  ERBYNR  DIVERT
2509            KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
2510            KM   retention developed after 1990 in subbasin BYNR
2511            DT   XBYNR      9.3      0.0
2512            DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
2513            DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
                *
2514            KK   CNR06 COMBINE
2515            KM   Combine route RBYNRA, route RBYNRB, and subbasin BYNR
2516            HC       4   14.90
                *
2517            KK  DR83PPRETRIEVE
2518            KM   Retrieve divert DR83PP from combination point CPPP83 and divert to
2519            KM   combination point CDV87
2520            DR   D83PP
                *
2521            KK   RDV87   ROUTE
2522            KM   Route diversion retrieval DR83PP to combination point CDV87
2523            RS       1    FLOW
2524            RC   0.035   0.015   0.035    5316  0.0063    0.00
2525            RX    0.00    0.00   12.50   12.50   62.50   62.50   75.00   75.00
2526            RY    3.00    0.62    0.50    0.00    0.00    0.50    0.62    3.00
                *
2527            KK    DV87   BASIN
2528            KM   Runoff hydrograph for subbasin DV87 near the intersection of Deer Valley Road
2529            KM   and 87th Avenue
2530            BA   1.004
2531            LG    0.30    0.17    6.80    0.13      15
2532            UC   1.083   0.406
2533            UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
2534            UA     100
                *
2535            KK  ERDV87  DIVERT
2536            KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
2537            KM   retention developed after 1990 in subbasin DV87
2538            DT   XDV87      5.3      0.0
2539            DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
2540            DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
                *
2541            KK   CDV87 COMBINE
2542            KM   Combine route RDV87 and subbasin DV87
```

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2543          HC       2    2.27
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


2544          KK   RBY87    ROUTE
2545          KM   Route runoff hydrograph at combination point CDV87 to combination point CBY87
2546          RS       2     FLOW
2547          RC  0.045   0.035   0.045    6699  0.0045    0.00
2548          RX   0.00    0.00   55.00   75.00  100.00  120.00  175.00  175.00
2549          RY  11.20   10.20   10.00    0.00    0.00   10.00   10.20   11.20
              *

2550          KK    BY87    BASIN
2551          KM   Runoff hydrograph for subbasin BY87 near the intersection of Beardsley Road
2552          KM   and 87th Avenue
2553          BA   0.959
2554          LG    0.24    0.15    8.00    0.08      33
2555          UC   1.241   0.627
2556          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
2557          UA     100
              *

2558          KK  ERBY87  DIVERT
2559          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
2560          KM   retention developed after 1990 in subbasin BY87
2561          DT   XBY87     76.7      0.0
2562          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
2563          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

2564          KK    CBY87 COMBINE
2565          KM   Combine route RBY87 and subbasin BY87
2566          HC       2     3.23
              *

2567          KK    RUH87    ROUTE
2568          KM   Route runoff hydrograph at combination point CBY87 to combination point CUH87
2569          RS       2     FLOW
2570          RC   0.045   0.035   0.045    6701  0.0037    0.00
2571          RX    0.00    0.00   40.00   50.00   60.00   70.00  110.00  110.00
2572          RY    6.20    5.20    5.00    0.00    0.00    5.00    5.20    6.20
              *

2573          KK     UH87    BASIN
2574          KM   Runoff hydrograph for subbasin UH87 near the intersection of Union Hills
2575          KM   Drive and 87th Avenue
2576          BA   0.998
2577          LG    0.21    0.15    7.60    0.10      26
2578          UC   1.143   0.549
2579          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
2580          UA     100
              *

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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


2581          KK  ERUH87  DIVERT
2582          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
2583          KM   retention developed after 1990 in subbasin UH87
2584          DT   XUH87     71.9      0.0
2585          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
2586          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

2587          KK    CUH87 COMBINE
2588          KM   Combine route RUH87 and subbasin UH87
2589          HC       2     4.23
              *

2590          KK  DSBLNR  DIVERT
2591          KM   Divert remaining runoff hydrograph from combination point CUH87 south to
2592          KM   combination point CBLNR
2593          DT  DSBL91      0.0      0.0
2594          DI     0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0  10000.0  20000.0  50000.0
2595          DQ     0.0     59.0    118.0    295.0    590.0   1180.0   2360.0   5900.0  11800.0  29500.0
              *

2596          KK  DPUHNR  DIVERT
2597          KM   Divert calculated full flow capacity of 50 cfs into 42-inch storm drain
2598          KM   pipe at the intersection of Union Hills Drive and 87th Avenue
2599          DT   DUHNR      0.0      0.0
2600          DI     0.0     50.0     50.1 50000.0      0.0      0.0      0.0      0.0      0.0      0.0
2601          DQ     0.0      0.0      0.1 49950.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

2602          KK  RPUHNR    ROUTE
2603          KM   Route full flow capacity of 50 cfs through 42-inch storm drain pipe in
2604          KM   Union Hills Drive to the intersection of Union Hills Drive and New River
2605          RK    1703  0.0025   0.015             CIRC   3.500
```



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              *

2606          KK     UHNR    BASIN
2607          KM   Runoff hydrograph for subbasin UHNR near the intersection of Union Hills
2608          KM   Drive and New River
2609          BA   0.386
2610          LG    0.16    0.28    4.60    0.28      42
2611          UC   1.161   0.887
2612          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
2613          UA     100
              *

2614          KK  ERUHNR  DIVERT
2615          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
2616          KM   retention developed after 1990 in subbasin UHNR
2617          DT   XUHNR     2.9      0.0
2618          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
2619          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


2620          KK    CNR07 COMBINE
2621          KM   Combine route RPUHNR, and subbasin UHNR
2622          HC       3    15.29
              *

2623          KK  DRUHNRRETRIEVE
2624          KM   Retrieve divert DRUHNR from combination point CUH87 and divert to
2625          KM   combination point CNR08
2626          DR   DUHNR
              *

2627          KK    RBLNR    ROUTE
2628          KM   Route diversion retrieval DRUHNR to combination point CNR08
2629          RS       1     FLOW
2630          RC   0.035   0.015   0.035    2700  0.0028    0.00
2631          RX    0.00    0.00    7.00    7.00   43.00   43.00   50.00   50.00
2632          RY    3.00    0.57    0.50    0.00    0.00    0.50    0.57    3.00
              *

2633          KK     BLNR    BASIN
2634          KM   Runoff hydrograph for subbasin BLNR near the intersection of Bell Road and
2635          KM   New River
2636          BA   0.603
2637          LG    0.18    0.26    5.20    0.21      50
2638          UC   1.143   0.771
2639          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
2640          UA     100
              *

2641          KK  ERBLNR  DIVERT
2642          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
2643          KM   retention developed after 1990 in subbasin BLNR
2644          DT   XBLNR     9.3      0.0
2645          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
2646          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

2647          KK    CNR08 COMBINE
2648          KM   Combine route RBLNR and subbasin BLNR
2649          HC       3    17.63
              *

2650          KK     RG93    BASIN
2651          KM   Runoff hydrograph for subbasin RG93 near the intersection of Rose Garden Lane
2652          KM   93rd Avenue
2653          BA   0.248
2654          LG    0.25    0.25    4.60    0.30      30
2655          UC   1.258   0.911
2656          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
2657          UA     100
              *

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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


2658          KK  ERRG93  DIVERT
2659          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
2660          KM   retention developed after 1990 in subbasin RG93
2661          DT   XRG93     20.3      0.0
2662          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
2663          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

2664          KK  DSBY91  DIVERT
2665          KM   Divert remaining runoff hydrograph from combination point CRG93 south to
2666          KM   combination point CBY91
2667          DT  DWRGLP      0.0      0.0
2668          DI     0.0      5.0      9.0     50.0     84.0    113.0    140.0    205.0      0.0      0.0
```

```
2669          DQ     0.0     0.0     0.0    35.0    66.0    93.0   118.0   182.0     0.0     0.0
              *

2670          KK   RBY91    ROUTE
2671          KM   Route diversion DSBY91 south to combination point CBY91
2672          RS       6     FLOW
2673          RC   0.045   0.035   0.045    2901  0.0041    0.00
2674          RX    0.00    0.00   19.00   25.00   30.00   36.00   55.00   55.00
2675          RY    4.10    3.10    3.00    0.00    0.00    3.00    3.10    4.10
              *

2676          KK    BY91   BASIN
2677          KM   Runoff hydrograph for subbasin BY91 near the intersection of Beardsley Road
2678          KM   91st Avenue
2679          BA   0.501
2680          LG    0.23    0.25    4.50    0.34      27
2681          UC   0.947   0.436
2682          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
2683          UA     100
              *

2684          KK  ERBY91  DIVERT
2685          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
2686          KM   retention developed after 1990 in subbasin BY91
2687          DT   XBY91    38.6     0.0
2688          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
2689          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

2690          KK   CBY91 COMBINE
2691          KM   Combine route RBY91 and subbasin BY91
2692          HC       2    0.63
              *

2693          KK   RUH91    ROUTE
2694          KM   Route runoff hydrograph at combination point CBY91 to combination point CUH91
2695          RS      10     FLOW
2696          RC   0.045   0.035   0.045    9978  0.0027    0.00
2697          RX    0.00    0.00   19.00   25.00   30.00   36.00   55.00   55.00
2698          RY    4.10    3.10    3.00    0.00    0.00    3.00    3.10    4.10
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

2699          KK    UH91   BASIN
2700          KM   Runoff hydrograph for subbasin UH91 near the intersection of Union Hills
2701          KM   Drive and 91st Avenue
2702          BA   0.929
2703          LG    0.21    0.25    4.80    0.31      27
2704          UC   1.500   1.066
2705          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
2706          UA     100
              *

2707          KK  ERUH91  DIVERT
2708          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
2709          KM   retention developed after 1990 in subbasin UH91
2710          DT   XUH91     4.0     0.0
2711          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
2712          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

2713          KK   CUH91 COMBINE
2714          KM   Combine route RUH91 and subbasin UH91
2715          HC       2    1.55
              *

2716          KK  DRBL91RETRIEVE
2717          KM   Retrieve divert DRBL91 from combination point CBL59 and divert to
2718          KM   combination point CIUH91
2719          DR  DSBL91
              *

2720          KK   DUH91  DIVERT
2721          KM   Capacity of storm drain in 89th Avenue and 91st Avenue diverted together.
2722          KM   Divert combined calculated full flow capacity of 454 cfs in the 78-inch storm
2723          KM   drain pipe in 89th Avenue and 129 cfs in the 54-inch storm drain pipe in
2724          KM   91st Avenue. The total calculated combined full flow capacity diverted at the
2725          KM   intersection of 91st Avenue and Union Hills Drive is 583 cfs in an equivalent
2726          KM   diameter pipe of 96 inches
2727          DT   DPUH91     0.0   583.0
2728          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
2729          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

2730          KK  CIUH91 COMBINE
2731          KM   Combine diversion DUH91 with runoff hydrograph at combination point CUH91
2732          KM   at the intersection of 91st Avenue and Union Hills Drive
2733          HC       2    4.04
              *
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2734          KK   RBL91    ROUTE
2735          KM   Route runoff hydrograph at combination point CIUH91 to combination point CBL9
2736          RS       2     FLOW
2737          RC   0.035   0.015   0.035    5280  0.0045    0.00
2738          RX    0.00    0.00   38.50   38.50  210.50  210.50  249.00  249.00
2739          RY    3.00    0.88    0.50    0.00    0.00    0.50    0.88    3.00
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

2740          KK    BL91   BASIN
2741          KM   Runoff hydrograph for subbasin BL91 near the intersection of Bell Road and
2742          KM   91st Avenue
2743          BA   0.901
2744          LG    0.19    0.15    7.00    0.10      54
2745          UC   1.166   0.602
2746          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
2747          UA     100
              *

2748          KK  ERBL91  DIVERT
2749          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
2750          KM   retention developed after 1990 in subbasin BL91
2751          DT   XBL91    79.1     0.0
2752          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
2753          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

2754          KK   CBL91 COMBINE
2755          KM   Combine route RBL91 and subbasin BL91
2756          HC       2    4.94
              *

2757          KK  PRUH91RETRIEVE
2758          KM   Retrieve combined full flow capacity of 583 cfs from 96-inch equivalent
2759          KM   diameter pipe at the intersection of Union Hills Drive and 91st Avenue
2760          DR  DPUH91
              *

2761          KK  RP91AT   ROUTE
2762          KM   Route the combined full flow capacity of 583 cfs through an equivalent storm
2763          KM   drain pipe diameter of 96 inches in 91st Avenue to the intersection of
2764          KM   91st Avenue and Athens Street
2765          RK    1467  0.0043   0.015            CIRC   8.000
              *

2766          KK  SRAT91 STORAGE
2767          KM   Storage route pipe flow PRUH91 through the regional detention basin located
2768          KM     in subbasin BL91 near the intersection of Athens Street and 91st Avenue
2769          KM   Storage routing ID S-DET in Glendale/Peoria ADMPU, May 2001
2770          KM   Comments from ADMPU:
2771          KM   * PROPOSED DESERT AMETHYST DETENTION BASIN
2772          KM   * **** LTM: Use design-level storage volume/elevation data provided by Wood
2773          KM   *      Patel. Basin size reduced to accommodate potential landscaping req'mts
2774          RS       1    STOR
2775          SV            0.00    0.04    0.38    1.53    3.87    7.06   10.53   14.03   17.61
2776          SV   21.25  24.973  28.766  32.634  36.576  40.594  44.688  44.689    44.8    44.9
2777          SQ       0      60      68      80      96     117     148     188     237     288
2778          SQ     329     333     337     341     345     348     357     500    1000    1500
2779          SE  1201.6  1203.0  1203.5  1204.0  1204.5  1205.0  1205.5  1206.0  1206.5  1207.0
2780          SE  1207.5  1208.0  1208.5  1209.0  1209.5  1210.0  1210.5  1210.6  1211.0  1211.3
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

2781          KK  RP91BL   ROUTE
2782          KM   Route full flow capacity of 311 cfs through 78-inch storm drain pipe in
2783          KM   91st Avenue to the intersection of Bell Road and 91st Avenue
2784          RK    3333  0.0035   0.015            CIRC   6.500
              *

2785          KK  CPBL91 COMBINE
2786          KM   Combine pipe return PRUH91 with the runoff hydrograph at combination point
2787          KM   CBL91 at the intersection of Bell Road and 87th Avenue
2788          HC       2
              *

2789          KK  DSGWNR  DIVERT
2790          KM   Divert remaining runoff hydrograph from combination point CPBL91 south to
2791          KM   combination point CNR09
2792          DT  DSGW91     0.0     0.0
2793          DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
2794          DQ     0.0    58.0   116.0   290.0   580.0  1160.0  2320.0  5800.0 11600.0 29000.0
              *

2795          KK  DPBLNR  DIVERT
2796          KM   Divert calculated full flow capacity of 159 cfs into 72-inch storm drain
2797          KM   pipe at the intersection of Bell Road and 87th Avenue
2798          DT   DBLNR     0.0     0.0
```

```
2799          DI     0.0   159.0   159.1 50000.0     0.0     0.0     0.0     0.0     0.0     0.0
2800          DQ     0.0     0.0     0.1 49841.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

2801          KK  RPBLNR   ROUTE
2802          KM   Route full flow capacity of 159 cfs through 72-inch storm drain pipe in
2803          KM   Bell Road to the intersection of Bell Road and New River
2804          RK    1896  0.0014   0.015            CIRC   6.000
              *

2805          KK  CPNR08 COMBINE
2806          KM   Combine pipe flow DPBLNR with the runoff hydrograph at combination point
2807          KM   CNR08 at the intersection of Bell Road and New River
2808          HC       2   17.63
              *

2809          KK  DRBLNRRETRIEVE
2810          KM   Retrieve divert DRBLNR from combination point CPBL91 and divert to
2811          KM   combination point CNR09
2812          DR   DBLNR
              *

2813          KK  RGWNRB   ROUTE
2814          KM   Route diversion retrieval DRBLNR to combination point CNR09
2815          RS       5    FLOW
2816          RC   0.035   0.015   0.035    9106  0.0029    0.00
2817          RX    0.00    0.00   12.50   12.50   62.50   62.50   75.00   75.00
2818          RY    3.00    0.62    0.50    0.00    0.00    0.50    0.62    3.00
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9.....10

2819          KK  DRGW91RETRIEVE
2820          KM   Retrieve divert DRGW91 from combination point CPBL91 and divert to
2821          KM   combination point CGW91
2822          DR   DSGW91
              *

2823          KK   RGW91   ROUTE
2824          KM   Route diversion retrieval DRGW91 to combination point CGW91
2825          RS       3    FLOW
2826          RC   0.035   0.015   0.035    5450  0.0039    0.00
2827          RX    0.00    0.00   16.50   16.50  107.50  107.50  124.00  124.00
2828          RY    3.00    0.66    0.50    0.00    0.00    0.50    0.66    3.00
              *

2829          KK    GW91   BASIN
2830          KM   Runoff hydrograph for subbasin GW91 near the intersection of Greenway Road
2831          KM   91st Avenue
2832          BA   0.477
2833          LG    0.20    0.25    5.60    0.19      43
2834          UC   1.073   0.625
2835          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
2836          UA     100
              *

2837          KK  ERGW91  DIVERT
2838          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
2839          KM   retention developed after 1990 in subbasin GW91
2840          DT   XGW91     22.0      0.0
2841          DI     0.0 50000.0      0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
2842          DQ     0.0 50000.0      0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

2843          KK   CGW91 COMBINE
2844          KM   Combine route RGW91 and subbasin GW91
2845          HC       2    3.35
              *

2846          KK  DEGWNR  DIVERT
2847          KM   Divert remaining runoff hydrograph at combination point CGW91 east to
2848          KM   combination point CNR09
2849          DT  DSTBNR      0.0      0.0
2850          DI     0.0  1350.0  1350.1 50000.0     0.0     0.0     0.0     0.0     0.0     0.0
2851          DQ     0.0     0.0  1350.1 50000.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

2852          KK  RGWNRA   ROUTE
2853          KM   Route diversion DEGWNR east to combination point CNR09
2854          RS       6    FLOW
2855          RC   0.045   0.015   0.045    6001  0.0010    0.00
2856          RX    0.00    0.00   40.00   50.00   60.00   70.00  110.00  110.00
2857          RY    6.20    5.20    5.00    0.00    0.00    5.00    5.20    6.20
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9.....10

2858          KK    GWNR   BASIN
2859          KM   Runoff hydrograph for subbasin GWNR near the intersection of Greenway Road
```



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2860          KM   and New River
2861          BA   0.696
2862          LG    0.18    0.27    4.65    0.29      36
2863          UC   1.343   0.928
2864          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
2865          UA     100
              *

2866          KK  ERGWNR  DIVERT
2867          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
2868          KM   retention developed after 1990 in subbasin GWNR
2869          DT   XGWNR     26.6      0.0
2870          DI     0.0 50000.0      0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
2871          DQ     0.0 50000.0      0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

2872          KK   CNR09 COMBINE
2873          KM   Combine route RGWNRA, route RGWNRB and subbasin
2874          KM   DV87
2875          HC       5   59.13
              *

2876          KK  DRTBNRRETRIEVE
2877          KM   Retrieve divert DRTBNR from combination point CGW91 and divert to
2878          KM   combination point CNR10
2879          DR  DSTBNR
              *

2880          KK   RTBNR   ROUTE
2881          KM   Route diversion retrieval DRTBNR to combination point CNR10
2882          RS       1    FLOW
2883          RC   0.035   0.015   0.035    6342  0.0031    0.00
2884          RX    0.00    0.00   16.50   16.50  107.50  107.50  124.00  124.00
2885          RY    3.00    0.66    0.50    0.00    0.00    0.50    0.66    3.00
              *

2886          KK    TBNR   BASIN
2887          KM   Runoff hydrograph for subbasin TBNR near the intersection of Thunderbird Road
2888          KM   and New River
2889          BA   1.123
2890          LG    0.19    0.24    4.65    0.30      31
2891          UC   1.500   0.707
2892          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
2893          UA     100
              *

2894          KK  ERTBNR  DIVERT
2895          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
2896          KM   retention developed after 1990 in subbasin TBNR
2897          DT   XTBNR     15.5      0.0
2898          DI     0.0 50000.0      0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
2899          DQ     0.0 50000.0      0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9.....10

2900          KK   CNR10 COMBINE
2901          KM   Combine route RTBNR and subbasin TBNR
2902          HC       3   61.93
              *

2903          KK    HV93   BASIN
2904          KM   Runoff hydrograph for subbasin HV93 near the intersection of Happy Valley
2905          KM   Road and 93rd Avenue
2906          BA   0.172
2907          LG    0.25    0.28    4.15    0.43      30
2908          UC   0.547   0.375
2909          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
2910          UA     100
              *

2911          KK  DSPPLP  DIVERT
2912          KM   Divert remaining runoff hydrograph from subbasin HV93 south to combination
2913          KM   point CPPLP
2914          DT  DWHVLP      0.0      0.0
2915          DI     0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0  10000.0  20000.0  50000.0
2916          DQ     0.0     42.0     84.0    210.0    420.0    840.0   1680.0   4200.0   8400.0  21000.0
              *

2917          KK  RPPLPA   ROUTE
2918          KM   Route diversion DSPPLP south to combination point CPPLP
2919          RS       4    FLOW
2920          RC   0.035   0.015   0.035    8751  0.0066    0.00
2921          RX    0.00    0.00    9.50    9.50   40.50   40.50   50.00   50.00
2922          RY    3.00    0.60    0.50    0.00    0.00    0.50    0.60    3.00
              *

2923          KK  DRPP91RETRIEVE
2924          KM   Retrieve divert DRPP91 from subbasin PP91 and divert to combination point
2925          KM   CPPLP
2926          DR   DPP91
```

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                *
2927            KK  RPPLPB   ROUTE
2928            KM   Route diversion retrieval DRPP91 to combination point CPPLP
2929            RS       1    FLOW
2930            RC   0.040   0.040   0.040    5844  0.0020    0.00
2931            RX    0.00  100.00  140.00  160.00  200.00  300.00  400.00  500.00
2932            RY   10.00    9.00    0.00    0.00    9.00   10.00   11.00   12.00
                *
2933            KK    PPLP   BASIN
2934            KM   Runoff hydrograph for subbasin PPLP near the intersection of Pinnacle Peak
2935            KM   Road and Lake Pleasant Parkway
2936            BA   0.885
2937            LG    0.23    0.25    4.35    0.38      37
2938            UC   1.242   0.879
2939            UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
2940            UA     100
                *
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LINE            ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

2941            KK  ERPPLP  DIVERT
2942            KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
2943            KM   retention developed after 1990 in subbasin PPLP
2944            DT   XPPLP     45.6      0.0
2945            DI     0.0 50000.0       0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
2946            DQ     0.0 50000.0       0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
                *
2947            KK   CPPLP COMBINE
2948            KM   Combine route RPPLP and subbasin PPLP
2949            HC       3    1.15
                *
2950            KK  DSDV99  DIVERT
2951            KM   Divert remaining runoff hydrograph from combination point CPPLP south to
2952            KM   combination point CDV99
2953            DT  DWPP03      0.0      0.0
2954            DI     0.0 50000.0       0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
2955            DQ     0.0 50000.0       0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
                *
2956            KK   DDV99  DIVERT
2957            KM   Divert portion of diversion DSDV99 south to subbasin DVLP and the
2958            KM   remaining flow follow to subbasin DV99 at combination point CDV99
2959            DT  DSDVLP      0.0      0.0
2960            DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
2961            DQ     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
                *
2962            KK    DV99   BASIN
2963            KM   Runoff hydrograph for subbasin DV99 near the intersection of Deer Valley
2964            KM   Road and 99th Avenue
2965            BA   1.217
2966            LG    0.28    0.25    4.40    0.38      22
2967            UC   1.234   0.451
2968            UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
2969            UA     100
                *
2970            KK  ERDV99  DIVERT
2971            KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
2972            KM   retention developed after 1990 in subbasin DV99
2973            DT   XDV99     81.4      0.0
2974            DI     0.0 50000.0       0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
2975            DQ     0.0 50000.0       0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
                *
2976            KK   CDV99 COMBINE
2977            KM   Combine divert DDV99 and subbasin DV99
2978            HC       2    1.22
                *
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LINE            ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

2979            KK  RRGLPA   ROUTE
2980            KM   Route runoff hydrograph at combination point CDV99 to combination point CRGLP
2981            RS       1    FLOW
2982            RC   0.045   0.020   0.045    2633  0.0048    0.00
2983            RX    0.00    0.00   40.00   50.00   60.00   70.00  110.00  110.00
2984            RY    6.20    5.20    5.00    0.00    0.00    5.00    5.20    6.20
                *
2985            KK  DRRGLPRETRIEVE
2986            KM   Retrieve divert DRRGLP from combination point CRG93 and divert to
2987            KM   combination point CRGLP
2988            DR  DWRGLP
                *
```



```
2989            KK  RRGLPB   ROUTE
2990            KM   Route diversion retrieval DRRGLP to combination point CRGLP
2991            RS      10    FLOW
2992            RC   0.045   0.020   0.045    3160  0.0003    0.00
2993            RX    0.00    0.00   19.00   25.00   30.00   36.00   55.00   55.00
2994            RY    4.10    3.10    3.00    0.00    0.00    3.00    3.10    4.10
                *
2995            KK    RGLP   BASIN
2996            KM   Runoff hydrograph for subbasin RGLP near the intersection of Rose Garden Lane
2997            KM   and Lake Pleasant Parkway
2998            BA   0.410
2999            LG    0.22    0.25    4.35    0.34      42
3000            UC   1.297   0.880
3001            UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
3002            UA     100
                *
3003            KK  ERRGLP  DIVERT
3004            KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
3005            KM   retention developed after 1990 in subbasin RGLP
3006            DT   XRGLP     38.4      0.0
3007            DI     0.0 50000.0       0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
3008            DQ     0.0 50000.0       0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
                *
3009            KK   CRGLP COMBINE
3010            KM   Combine route RRGLPA, route RRGLPB, and subbasin RGLP
3011            HC       3    1.75
                *
3012            KK  DSBY07  DIVERT
3013            KM   Divert remaining runoff hydrograph from combination point CRGLP south to
3014            KM   combination point CBY07
3015            DT  DWRG07      0.0      0.0
3016            DI     0.0     50.0   100.0   300.0   750.0  1200.0  2000.0     0.0     0.0     0.0
3017            DQ     0.0     40.0    80.0   240.0   600.0  1050.0  1850.0     0.0     0.0     0.0
                *
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LINE            ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

3018            KK   RBY99   ROUTE
3019            KM   Route diversion DSBY07 south to combination point CBY99
3020            RS       7    FLOW
3021            RC   0.045   0.035   0.045    3939  0.0041    0.00
3022            RX    0.00    1.00   16.00   36.00   51.00  123.00  148.00  648.00
3023            RY   16.00    8.00    0.00    0.00    8.00    8.00    9.00   11.00
                *
3024            KK    BY07   BASIN
3025            KM   Runoff hydrograph for subbasin BY07 near the intersection of Beardsley Road
3026            KM   and 87th Avenue
3027            BA   0.513
3028            LG    0.23    0.25    5.10    0.23      38
3029            UC   1.070   0.546
3030            UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
3031            UA     100
                *
3032            KK  ERBY07  DIVERT
3033            KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
3034            KM   retention developed after 1990 in subbasin BY07
3035            DT   XBY07     38.7      0.0
3036            DI     0.0 50000.0       0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
3037            DQ     0.0 50000.0       0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
                *
3038            KK   CBY07 COMBINE
3039            KM   Combine route RBY99 and subbasin BY07
3040            HC       2    1.39
                *
3041            KK  DSUH99  DIVERT
3042            KM   Divert remaining runoff hydrograph from combination point CBY07 south to
3043            KM   combination point CUH99
3044            DT  DWBYAF      0.0      0.0
3045            DI     0.0     10.0    30.0    50.0   100.0   500.0   700.0  1000.0     0.0     0.0
3046            DQ     0.0     10.0    30.0    50.0   100.0   420.0   450.0   500.0     0.0     0.0
                *
3047            KK   RUH99   ROUTE
3048            KM   Route diversion DSUH99 south to combination point CUH99
3049            RS       4    FLOW
3050            RC   0.045   0.015   0.045    5347  0.0042    0.00
3051            RX    0.00    0.00   19.00   25.00   30.00   36.00   55.00   55.00
3052            RY    4.10    3.10    3.00    0.00    0.00    3.00    3.10    4.10
                *
3053            KK    UH99   BASIN
3054            KM   Runoff hydrograph for subbasin UH99 near the intersection of Union Hills
```

```
3055          KM   Drive and 99th Avenue
3056          BA   0.563
3057          LG    0.25    0.15    7.00    0.10      35
3058          UC   1.500   1.114
3059          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

3060          UA     100
              *

3061          KK   CUH99 COMBINE
3062          KM   Combine route RUH99 and subbasin UH99
3063          HC       2    1.26
              *

3064          KK  RDW99A    ROUTE
3065          KM   Route runoff hydrograph at combination point CUH99 to combination point CDW99
3066          RS       1    FLOW
3067          RC   0.045   0.015   0.045    2292  0.0029    0.00
3068          RX    0.00    0.00   40.00   50.00   60.00   70.00  110.00  110.00
3069          RY    6.20    5.20    5.00    0.00    0.00    5.00    5.20    6.20
              *

3070          KK    UH97   BASIN
3071          KM   Runoff hydrograph for subbasin UH97 near the intersection of Happy Valley
3072          KM   Road and Palo Verde Drive
3073          BA   0.272
3074          LG    0.21    0.25    5.60    0.22      28
3075          UC   1.277   1.187
3076          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
3077          UA     100
              *

3078          KK  RDW99B    ROUTE
3079          KM   Route runoff hydrograph at subbasin UH97 to combination point CDW99
3080          RS       4    FLOW
3081          RC   0.045   0.035   0.045    2848  0.0034    0.00
3082          RX    0.00    0.00   19.00   25.00   30.00   36.00   55.00   55.00
3083          RY    4.10    3.10    3.00    0.00    0.00    3.00    3.10    4.10
              *

3084          KK    DW99   BASIN
3085          KM   Runoff hydrograph for subbasin DW99 near the intersection of Del Webb
3086          KM   Boulevard and 99th Avenue
3087          BA   0.155
3088          LG    0.18    0.16    7.00    0.12      35
3089          UC   0.974   0.913
3090          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
3091          UA     100
              *

3092          KK   CDW99 COMBINE
3093          KM   Combine route RDW99 and subbasin DW99
3094          HC       3    1.68
              *

3095          KK  DSBL99  DIVERT
3096          KM   Divert remaining runoff hydrograph from combination point CDW99 south to
3097          KM   combination point CBL99
3098          DT  DWDW07      0.0   550.0
3099          DI       0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
3100          DQ       0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

3101          KK   RBL99    ROUTE
3102          KM   Route diversion DSBL99 south to combination point CBL99
3103          RS       2    FLOW
3104          RC   0.035   0.015   0.035    3206  0.0041    0.00
3105          RX    0.00    0.00   16.50   16.50  107.50  107.50  124.00  124.00
3106          RY    3.00    0.66    0.50    0.00    0.00    0.50    0.66    3.00
              *

3107          KK    BL99   BASIN
3108          KM   Runoff hydrograph for subbasin BL99 near the intersection of Bell Road and
3109          KM   99th Avenue
3110          BA   1.133
3111          LG    0.22    0.21    6.40    0.14      36
3112          UC   1.441   0.753
3113          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
3114          UA     100
              *

3115          KK   CBL99 COMBINE
3116          KM   Combine route RBL99 and subbasin BL99
3117          HC       2    1.98
              *
```



```
3118          KK   RBN99    ROUTE
3119          KM   Route runoff hydrograph at combination point CBL99 to combination point CBN99
3120          RS       1    FLOW
3121          RC   0.045   0.015   0.045    3854  0.0052    0.00
3122          RX    0.00    0.00   40.00   50.00   60.00   70.00  110.00  110.00
3123          RY    6.20    5.20    5.00    0.00    0.00    5.00    5.20    6.20
              *

3124          KK    BN99   BASIN
3125          KM   Runoff hydrograph for subbasin BN99 near the intersection of Burns Road and
3126          KM   99th Avenue
3127          BA   1.037
3128          LG    0.21    0.25    6.00    0.17      34
3129          UC   1.418   0.695
3130          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
3131          UA     100
              *

3132          KK   CBN99 COMBINE
3133          KM   Combine route RBN99 and subbasin BN99
3134          HC       2    3.01
              *

3135          KK   RTB99    ROUTE
3136          KM   Route runoff hydrograph at combination point CBN99 to combination point CTB99
3137          RS       3    FLOW
3138          RC   0.045   0.015   0.045    6842  0.0039    0.00
3139          RX    0.00    0.00   40.00   50.00   60.00   70.00  110.00  110.00
3140          RY    6.20    5.20    5.00    0.00    0.00    5.00    5.20    6.20
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

3141          KK    TB99   BASIN
3142          KM   Runoff hydrograph for subbasin TB99 near the intersection of Thunderbird Road
3143          KM   and 99th Avenue
3144          BA   0.976
3145          LG    0.23    0.25    5.80    0.18      30
3146          UC   1.500   0.883
3147          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
3148          UA     100
              *

3149          KK   CTB99 COMBINE
3150          KM   Combine route RTB99 and subbasin TB99
3151          HC       2    3.99
              *

3152          KK  RGRNRA    ROUTE
3153          KM   Route runoff hydrograph at combination point CTB99 to combination point CNR11
3154          RS       1    FLOW
3155          RC   0.045   0.015   0.045    6205  0.0045    0.00
3156          RX    0.00    0.00   55.00   75.00  100.00  120.00  175.00  175.00
3157          RY   11.20   10.20   10.00    0.00    0.00   10.00   10.20   11.20
              *

3158          KK  DRDW07RETRIEVE
3159          KM   Retrieve divert DRDW07 from combination point CDW99 and divert to
3160          KM   combination point CDW07
3161          DR  DWDW07
              *

3162          KK   RDW07    ROUTE
3163          KM   Route diversion retrieval DRDW07 to combination point CDW07
3164          RS       5    FLOW
3165          RC   0.045   0.015   0.045    4743  0.0007    0.00
3166          RX    0.00    0.00   40.00   50.00   60.00   70.00  110.00  110.00
3167          RY    6.20    5.20    5.00    0.00    0.00    5.00    5.20    6.20
              *

3168          KK    DW07   BASIN
3169          KM   Runoff hydrograph for subbasin DW07 near the intersection of Del Webb
3170          KM   Boulevard and 107th Avenue
3171          BA   0.484
3172          LG    0.19    0.19    6.60    0.16      28
3173          UC   1.500   1.076
3174          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
3175          UA     100
              *

3176          KK   CDW07 COMBINE
3177          KM   Combine route RDW07 and subbasin DW07
3178          HC       2    1.33
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

3179          KK  DSTL07  DIVERT
3180          KM   Divert remaining runoff hydrograph from combination point CDW07 south to
```

```
3181          KM   combination point CTL07
3182          DT  DWBL15     0.0   550.0
3183          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
3184          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

3185          KK   RTL07   ROUTE
3186          KM   Route diversion DSTL07 south to combination point CTL07
3187          RS       6    FLOW
3188          RC   0.035   0.015   0.035    8131  0.0048    0.00
3189          RX    0.00    0.00   16.50   16.50  107.50  107.50  124.00  124.00
3190          RY    3.00    0.66    0.50    0.00    0.00    0.50    0.66    3.00
              *

3191          KK    TL07   BASIN
3192          KM   Runoff hydrograph for subbasin TL07 near the intersection of Talisman Road
3193          KM   and 107th Avenue
3194          BA   0.580
3195          LG    0.21    0.25    5.00    0.29      27
3196          UC   1.374   1.035
3197          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
3198          UA     100
              *

3199          KK   CTL07 COMBINE
3200          KM   Combine route RTL07 and subbasin TL07
3201          HC       2    1.24
              *

3202          KK  RGR99A   ROUTE
3203          KM   Route runoff hydrograph at combination point CTL07 to combination point CGR99
3204          RS       4    FLOW
3205          RC   0.045   0.020   0.045   12358  0.0025    0.00
3206          RX    0.00    0.00   40.00   50.00   60.00   70.00  110.00  110.00
3207          RY    6.20    5.20    5.00    0.00    0.00    5.00    5.20    6.20
              *

3208          KK    RO99   BASIN
3209          KM   Runoff hydrograph for subbasin RO99 near the intersection of Royal Oak Road
3210          KM   and 99th Avenue
3211          BA   0.414
3212          LG    0.20    0.22    4.70    0.26      38
3213          UC   1.500   1.341
3214          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
3215          UA     100
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

3216          KK  RGR99B   ROUTE
3217          KM   Route runoff hydrograph at subbasin RO99 to combination point CGR99
3218          RS       1    FLOW
3219          RC   0.045   0.015   0.045    1046  0.0060    0.00
3220          RX    0.00    0.00   19.00   25.00   30.00   36.00   55.00   55.00
3221          RY    4.10    3.10    3.00    0.00    0.00    3.00    3.10    4.10
              *

3222          KK    GR99   BASIN
3223          KM   Runoff hydrograph for subbasin GR99 near the intersection of Grand Avenue
3224          KM   and 99th Avenue
3225          BA   1.309
3226          LG    0.20    0.17    6.80    0.12      41
3227          UC   1.500   1.089
3228          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
3229          UA     100
              *

3230          KK   CGR99 COMBINE
3231          KM   Combine route RGR99A, route RGR99B, and subbasin GR99
3232          HC       3    2.97
              *

3233          KK  RGRNRB   ROUTE
3234          KM   Route runoff hydrograph at combination point CGR99 to combination point CNR11
3235          RS       1    FLOW
3236          RC   0.045   0.015   0.045    3071  0.0051    0.00
3237          RX    0.00    0.00   55.00   75.00  100.00  120.00  175.00  175.00
3238          RY   11.20   10.20   10.00    0.00    0.00   10.00   10.20   11.20
              *

3239          KK    GRNR   BASIN
3240          KM   Runoff hydrograph for subbasin GRNR near the intersection of Grand Avenue
3241          KM   and New River
3242          BA   0.947
3243          LG    0.17    0.26    5.00    0.23      48
3244          UC   1.091   0.538
3245          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
3246          UA     100
              *

3247          KK  ERGRNR  DIVERT
```



```
3248          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
3249          KM   retention developed after 1990 in subbasin GRNR
3250          DT   XGRNR     18.5      0.0
3251          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
3252          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *
```



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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

3253          KK   CNR11 COMBINE
3254          KM   Combine route RGRNRA, route RGRNRB and subbasin GRNR
3255          HC       4   69.83
              *

3256          KK    PE99   BASIN
3257          KM   Runoff hydrograph for subbasin PE99 near the intersection of Peoria Avenue
3258          KM   and 99th Avenue
3259          BA   0.294
3260          LG    0.21    0.25    4.90    0.28      33
3261          UC   1.500   1.849
3262          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
3263          UA     100
              *

3264          KK  DEPE97  DIVERT
3265          KM   Divert remaining runoff hydrograph at subbasin PE99 east to combination point
3266          KM   CNR12
3267          DT  DSOL99      0.0      0.0
3268          DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
3269          DQ     0.0    30.0    60.0   150.0   300.0   600.0  1200.0  3000.0  6000.0 15000.0
              *

3270          KK   RPE97   ROUTE
3271          KM   Route diversion DEPE97 east to combination point CNR12
3272          RS       2    FLOW
3273          RC   0.035   0.015   0.035    1508  0.0023    0.00
3274          RX    0.00    0.00   64.00   64.00  310.00  310.00  374.00  374.00
3275          RY    3.00    1.14    0.50    0.00    0.00    0.50    1.14    3.00
              *

3276          KK    PENR   BASIN
3277          KM   Runoff hydrograph for subbasin PENR near the intersection of Peoria Avenue
3278          KM   and New River
3279          BA   0.197
3280          LG    0.10    0.25    4.70    0.28      70
3281          UC   1.143   0.833
3282          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
3283          UA     100
              *

3284          KK  ERPENR  DIVERT
3285          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
3286          KM   retention developed after 1990 in subbasin PENR
3287          DT   XPENR     6.9      0.0
3288          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
3289          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *
```



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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

3290          KK  DWPE99  DIVERT
3291          KM   Divert remaining runoff hydrograph at subbasin PENR west to combination point
3292          KM   CNR12
3293          DT  DSOLNR      0.0      0.0
3294          DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
3295          DQ     0.0    44.0    88.0   220.0   440.0   880.0  1760.0  4400.0  8800.0 22000.0
              *

3296          KK    PE97   BASIN
3297          KM   Runoff hydrograph for subbasin PE97 near the intersection of Peoria Avenue
3298          KM   Road and 97th Avenue
3299          BA   0.560
3300          LG    0.18    0.26    4.65    0.31      30
3301          UC   1.296   1.005
3302          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
3303          UA     100
              *

3304          KK  ERPE97  DIVERT
3305          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
3306          KM   retention developed after 1990 in subbasin PE97
3307          DT   XPE97     0.8      0.0
3308          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
3309          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

3310          KK   CNR12 COMBINE
3311          KM   Combine route RPE97, divert DWPE99, and subbasin PE97
3312          HC       4   70.71
```

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                *
3313            KK  DROL99RETRIEVE
3314            KM   Retrieve divert DROL99 from subbasin PE99 and divert to combination point
3315            KM   CNR13
3316            DR  DSOL99
                *
3317            KK  ROL99A   ROUTE
3318            KM   Route diversion retrieval DROL99 to combination point CNR13
3319            RS       7    FLOW
3320            RC   0.035   0.015   0.035    5677  0.0038    0.00
3321            RX    0.00    0.00   16.50   16.50  107.50  107.50  124.00  124.00
3322            RY    3.00    0.66    0.50    0.00    0.00    0.50    0.66    3.00
                *
3323            KK   PE11   BASIN
3324            KM   Runoff hydrograph for subbasin PE11 near the intersection of Peoria Avenue
3325            KM   and 111th Avenue
3326            BA   0.924
3327            LG    0.20    0.25    6.00    0.18      30
3328            UC   1.500   1.103
3329            UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
3330            UA     100
                *
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LINE            ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

3331            KK  ROL03A   ROUTE
3332            KM   Route runoff hydrograph at subbasin PE11 to combination point COL03
3333            RS       2    FLOW
3334            RC   0.045   0.015   0.045    7132  0.0024    0.00
3335            RX    0.00    0.00   40.00   50.00   60.00   70.00  110.00  110.00
3336            RY    6.20    5.20    5.00    0.00    0.00    5.00    5.20    6.20
                *
3337            KK   PE07   BASIN
3338            KM   Runoff hydrograph for subbasin PE07 near the intersection of Peoria Avenue
3339            KM   and 107th Avenue
3340            BA   0.575
3341            LG    0.18    0.25    5.30    0.27      23
3342            UC   1.500   1.250
3343            UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
3344            UA     100
                *
3345            KK  ROL03B   ROUTE
3346            KM   Route runoff hydrograph at subbasin PE07 to combination point COL03
3347            RS       4    FLOW
3348            RC   0.035   0.015   0.035    6517  0.0026    0.00
3349            RX    0.00    0.00    9.50    9.50   40.50   40.50   50.00   50.00
3350            RY    3.00    0.60    0.50    0.00    0.00    0.50    0.60    3.00
                *
3351            KK   PE03   BASIN
3352            KM   Runoff hydrograph for subbasin PE03 near the intersection of Peoria Avenue
3353            KM   and 103rd Avenue
3354            BA   0.409
3355            LG    0.20    0.25    4.80    0.32      29
3356            UC   1.402   1.219
3357            UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
3358            UA     100
                *
3359            KK  ROL03C   ROUTE
3360            KM   Route runoff hydrograph at subbasin PE03 to combination point COL03
3361            RS       5    FLOW
3362            RC   0.035   0.015   0.035    5865  0.0030    0.00
3363            RX    0.00    0.00   12.50   12.50   62.50   62.50   75.00   75.00
3364            RY    3.00    0.62    0.50    0.00    0.00    0.50    0.62    3.00
                *
3365            KK   OL03   BASIN
3366            KM   Runoff hydrograph for subbasin OL03 near the intersection of Olive Avenue and
3367            KM   103rd Avenue
3368            BA   1.099
3369            LG    0.22    0.25    5.20    0.24      33
3370            UC   1.500   0.864
3371            UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
3372            UA     100
                *
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LINE            ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

3373            KK   COL03 COMBINE
3374            KM   Combine route ROL03A, route ROL03B, route ROL03C, and subbasin OL03
3375            HC       4    3.01
                *
```



```
3376            KK  ROL99B   ROUTE
3377            KM   Route runoff hydrograph at combination point COL03 to combination point CNR13
3378            RS       1    FLOW
3379            RC   0.045   0.015   0.045    1627  0.0124    0.00
3380            RX    0.00    0.00   40.00   50.00   60.00   70.00  110.00  110.00
3381            RY    6.20    5.20    5.00    0.00    0.00    5.00    5.20    6.20
                *
3382            KK  DROLNRRETRIEVE
3383            KM   Retrieve divert DROLNR from subbasin PENR and divert to combination point
3384            KM   COLNR
3385            DR  DSOLNR
                *
3386            KK   ROLNR   ROUTE
3387            KM   Route diversion retreival DROLNR to combination point COLNR
3388            RS       9    FLOW
3389            RC   0.035   0.015   0.035    8150  0.0031    0.00
3390            RX    0.00    0.00   12.50   12.50   62.50   62.50   75.00   75.00
3391            RY    3.00    0.62    0.50    0.00    0.00    0.50    0.62    3.00
                *
3392            KK   OLNR   BASIN
3393            KM   Runoff hydrograph for subbasin OLNR near the intersection of Olive Avenue
3394            KM   and New River
3395            BA   0.696
3396            LG    0.23    0.17    6.80    0.11      38
3397            UC   1.500   1.147
3398            UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
3399            UA     100
                *
3400            KK  EROLNR  DIVERT
3401            KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
3402            KM   retention developed after 1990 in subbasin OLNR
3403            DT   XOLNR     31.6      0.0
3404            DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
3405            DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
                *
3406            KK   COLNR COMBINE
3407            KM   Combine route ROLNR and subbasin OLNR
3408            HC       2    0.78
                *
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LINE            ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

3409            KK  DWOL99  DIVERT
3410            KM   Divert runoff hydrograph at combination point COLNR west to combination point
3411            KM   CNR13
3412            DT  DSNONR      0.0      0.0
3413            DI      0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0  10000.0  20000.0  50000.0
3414            DQ      0.0     33.0     66.0    165.0    330.0    660.0   1320.0   3300.0   6600.0  16500.0
                *
3415            KK   OL99   BASIN
3416            KM   Runoff hydrograph for subbasin OL99 near the intersection of Olive Avenue
3417            KM   and 99th Avenue
3418            BA   0.436
3419            LG    0.19    0.27    4.25    0.38      28
3420            UC   1.352   1.130
3421            UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
3422            UA     100
                *
3423            KK   CNR13 COMBINE
3424            KM   Combine route ROL99A, route ROL99B and subbasin OL99
3425            HC       5   74.76
                *
3426            KK  DRNONRRETRIEVE
3427            KM   Retrieve divert DRNONR from subbasin OLNR and divert to combination point
3428            KM   CNONR
3429            DR  DSNONR
                *
3430            KK   RNONR   ROUTE
3431            KM   Route diversion retrieval DRNONR to combination point CNONR
3432            RS      10    FLOW
3433            RC   0.035   0.015   0.035    8560  0.0031    0.00
3434            RX    0.00    0.00   12.50   12.50   62.50   62.50   75.00   75.00
3435            RY    3.00    0.62    0.50    0.00    0.00    0.50    0.62    3.00
                *
3436            KK   NONR   BASIN
3437            KM   Runoff hydrograph for subbasin NONR near the intersection of Northern Avenue
3438            KM   and New River
3439            BA   0.830
3440            LG    0.22    0.15    7.60    0.08      41
3441            UC   1.500   1.128
3442            UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
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3443          UA     100
              *

3444          KK  ERNONR  DIVERT
3445          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
3446          KM   retention developed after 1990 in subbasin NONR
3447          DT   XNONR    48.0      0.0
3448          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
3449          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9.....10

3450          KK   CNONR COMBINE
3451          KM   Combine route RNONR and subbasin NONR
3452          HC       2    1.09
              *

3453          KK    NO99   BASIN
3454          KM   Runoff hydrograph for subbasin NO99 near the intersection of Northern Avenue
3455          KM   and 99th Avenue
3456          BA   0.858
3457          LG    0.21    0.26    4.25    0.38      28
3458          UC   1.500   0.932
3459          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
3460          UA     100
              *

3461          KK  ERNO99  DIVERT
3462          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
3463          KM   retention developed after 1990 in subbasin NO99
3464          DT   XNO99    26.3      0.0
3465          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
3466          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

3467          KK   CNR14 COMBINE
3468          KM   Combine combination point CNONR, and subbasin NO99
3469          HC       3   76.71
              *

3470          KK    GL03   BASIN
3471          KM   Runoff hydrograph for subbasin GL03 near the intersection of Glendale Avenue
3472          KM   and 103rd Avenue
3473          BA   0.649
3474          LG    0.10    0.27    4.10    0.38      69
3475          UC   1.185   0.761
3476          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
3477          UA     100
              *

3478          KK  ERGL03  DIVERT
3479          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
3480          KM   retention developed after 1990 in subbasin GL03
3481          DT   XGL03    49.8      0.0
3482          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
3483          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

3484          KK   CNR15 COMBINE
3485          KM   Combine subbasin GL03
3486          HC       2   77.36
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9.....10

3487          KK    GLGH   BASIN
3488          KM   Runoff hydrograph for subbasin GLGH near the intersection of Glendale Avenue
3489          KM   and Glen Harbor Boulevard
3490          BA   0.079
3491          LG    0.10    0.25    4.40    0.32      95
3492          UC  0.669   0.568
3493          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
3494          UA     100
              *

3495          KK   RGHNR   ROUTE
3496          KM   Route runoff hydrograph at subbasin GLGH to combination point CNR16
3497          RS       6    FLOW
3498          RC   0.045   0.035   0.045    7516  0.0045    0.00
3499          RX    0.00    0.00   19.00   25.00   30.00   36.00   55.00   55.00
3500          RY    4.10    3.10    3.00    0.00    0.00    3.00    3.10    4.10
              *

3501          KK    GHNR   BASIN
3502          KM   Runoff hydrograph for subbasin GHNR near the intersection of Glen Harbor
3503          KM   Boulevard and New River
3504          BA   0.841
3505          LG    0.14    0.28    3.71    0.47      47
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3506          UC   1.320   0.890
3507          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
3508          UA     100
              *

3509          KK  ERGHNR  DIVERT
3510          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
3511          KM   retention developed after 1990 in subbasin GHNR
3512          DT   XGHNR    14.8      0.0
3513          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
3514          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

3515          KK   CNR16 COMBINE
3516          KM   Combine route RGHNR and subbasin GHNR
3517          HC       3   78.28
              *

3518          KK    AF11   BASIN
3519          KM   Runoff hydrograph for subbasin AF11 near the intersection of the Agua Fria
3520          KM   River and 111th Avenue
3521          BA   0.375
3522          LG    0.15    0.28    3.07    0.74      80
3523          UC   0.571   0.300
3524          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
3525          UA     100
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9.....10

3526          KK    GHAF   BASIN
3527          KM   Runoff hydrograph for subbasin GHAF near the intersection of Glen Harbor
3528          KM   Boulevard and the Agua Fria River
3529          BA   0.563
3530          LG    0.15    0.28    3.03    0.76      79
3531          UC   0.764   0.504
3532          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
3533          UA     100
              *

3534          KK  ERGHAF  DIVERT
3535          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
3536          KM   retention developed after 1990 in subbasin GHAF
3537          DT   XGHAF    48.5      0.0
3538          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
3539          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

3540          KK   CAF06 COMBINE
3541          KM   Combine combination point CNR16, subbasin AF11, and subbasin GHAF
3542          HC       3   79.22
              *

3543          KK    JMAF   BASIN
3544          KM   Runoff hydrograph for subbasin JMAF near the intersection of Jomax Road and
3545          KM   the Agua Fria River
3546          BA   0.147
3547          LG    0.19    0.29    4.90    0.24      24
3548          UC   0.650   0.595
3549          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
3550          UA     100
              *

3551          KK  ERJMAF  DIVERT
3552          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
3553          KM   retention developed after 1990 in subbasin JMAF
3554          DT   XJMAF     5.8      0.0
3555          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
3556          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

3557          KK    HV07   BASIN
3558          KM   Runoff hydrograph for subbasin HV07 near the intersection of Happy Valley
3559          KM   Road and 107th Avenue
3560          BA   0.304
3561          LG    0.25    0.25    3.92    0.41      31
3562          UC   0.587   0.276
3563          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
3564          UA     100
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9.....10

3565          KK  ERHV07  DIVERT
3566          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
3567          KM   retention developed after 1990 in subbasin HV07
3568          DT   XHV07    13.1      0.0
3569          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
3570          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
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                *
3571            KK   RHVAF   ROUTE
3572            KM   Route runoff hydrograph at subbasin HV07 to combination point CHVAF
3573            RS      3     FLOW
3574            RC   0.045   0.020   0.045    2397  0.0013    0.00
3575            RX    0.00    0.00   19.00   25.00   30.00   36.00   55.00   55.00
3576            RY    4.10    3.10    3.00    0.00    0.00    3.00    3.10    4.10
                *
3577            KK    HVAF   BASIN
3578            KM   Runoff hydrograph for subbasin HVAF near the intersection of Happy Valley
3579            KM   Road and the Agua Fria River
3580            BA   0.215
3581            LG    0.25    0.25    3.92    0.41      32
3582            UC   0.692   0.312
3583            UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
3584            UA     100
                *
3585            KK  ERHVAF  DIVERT
3586            KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
3587            KM   retention developed after 1990 in subbasin HVAF
3588            DT   XHVAF     12.4      0.0
3589            DI     0.0 50000.0      0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
3590            DQ     0.0 50000.0      0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
                *
3591            KK    JM99   BASIN
3592            KM   Runoff hydrograph for subbasin HV07 near the intersection of Jomax Road and
3593            KM   99th Avenue
3594            BA   0.568
3595            LG    0.24    0.13   10.10    0.03      33
3596            UC   0.910   0.496
3597            UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
3598            UA     100
                *
3599            KK  ERJM99  DIVERT
3600            KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
3601            KM   retention developed after 1990 in subbasin JM99
3602            DT   XJM99     42.7      0.0
3603            DI     0.0 50000.0      0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
3604            DQ     0.0 50000.0      0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
                *
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LINE            ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

3605            KK    WWLP   BASIN
3606            KM   Runoff hydrograph for subbasin WWLP near the intersection of Westwing Parkway
3607            KM   and Lake Pleasant Parkway
3608            BA   0.136
3609            LG    0.20    0.17    7.00    0.10      44
3610            UC   0.312   0.146
3611            UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
3612            UA     100
                *
3613            KK  ERWWLP  DIVERT
3614            KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
3615            KM   retention developed after 1990 in subbasin WWLP
3616            DT   XWWLP     10.1      0.0
3617            DI     0.0 50000.0      0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
3618            DQ     0.0 50000.0      0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
                *
3619            KK   RJMLP   ROUTE
3620            KM   Route runoff hydrograph at subbasin WWLP to combination point CJMLP
3621            RS      4     FLOW
3622            RC   0.045   0.035   0.045    5973  0.0084    0.00
3623            RX    0.00    0.00   40.00   50.00   60.00   70.00  110.00  110.00
3624            RY    6.20    5.20    5.00    0.00    0.00    5.00    5.20    6.20
                *
3625            KK    JMLP   BASIN
3626            KM   Runoff hydrograph for subbasin JMLP near the intersection of Jomax Road and
3627            KM   Lake Pleasant Parkway
3628            BA   0.705
3629            LG    0.24    0.25    6.00    0.16      36
3630            UC   0.949   0.513
3631            UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
3632            UA     100
                *
3633            KK  ERJMLP  DIVERT
3634            KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
3635            KM   retention developed after 1990 in subbasin JMLP
3636            DT   XJMLP     50.3      0.0
3637            DI     0.0 50000.0      0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
3638            DQ     0.0 50000.0      0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
                *
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3639            KK   CJMLP COMBINE
3640            KM   Combine route RJMLP, subbasin JM99, and subbasin JMLP
3641            HC       3    1.41
                *
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LINE            ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

3642            KK  RHV01A   ROUTE
3643            KM   Route runoff hydrograph at combination point CJMLP to combination point CHV01
3644            RS      1     FLOW
3645            RC   0.045   0.035   0.045    5774  0.0093    0.00
3646            RX    0.00    0.00   55.00   75.00  100.00  120.00  175.00  175.00
3647            RY   11.20   10.20   10.00    0.00    0.00   10.00   10.20   11.20
                *
3648            KK    YLLP   BASIN
3649            KM   Runoff hydrograph for subbasin YLLP near the intersection of Yearling Road
3650            KM   and Lake Pleasant Parkway
3651            BA   0.595
3652            LG    0.25    0.26    4.35    0.38      34
3653            UC   0.905   0.626
3654            UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
3655            UA     100
                *
3656            KK  ERYLLP  DIVERT
3657            KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
3658            KM   retention developed after 1990 in subbasin YLLP
3659            DT   XYLLP     13.8      0.0
3660            DI     0.0 50000.0      0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
3661            DQ     0.0 50000.0      0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
                *
3662            KK  RHV01B   ROUTE
3663            KM   Route runoff hydrograph at subbasin YLLP to combination point CHV01
3664            RS      1     FLOW
3665            RC   0.045   0.035   0.045    2017  0.0107    0.00
3666            RX    0.00    0.00   40.00   50.00   60.00   70.00  110.00  110.00
3667            RY    6.20    5.20    5.00    0.00    0.00    5.00    5.20    6.20
                *
3668            KK  DRHVLPRETRIEVE
3669            KM   Retrieve divert DRHVLP from subbasin HV93 and divert to combination point
3670            KM   CHVLP
3671            DR  DWHVLP
                *
3672            KK   RHVLP   ROUTE
3673            KM   Route diversion retrieval DRHVLP to combination point CHVLP
3674            RS      2     FLOW
3675            RC   0.045   0.020   0.045    4021  0.0052    0.00
3676            RX    0.00    0.00   19.00   25.00   30.00   36.00   55.00   55.00
3677            RY    4.10    3.10    3.00    0.00    0.00    3.00    3.10    4.10
                *
3678            KK    HVLP   BASIN
3679            KM   Runoff hydrograph for subbasin HVLP near the intersection of Happy Valley
3680            KM   Road and Lake Pleasant Parkway
3681            BA   0.198
3682            LG    0.20    0.25    4.30    0.37      48
3683            UC   0.771   0.726
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LINE            ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

3684            UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
3685            UA     100
                *
3686            KK  ERHVLP  DIVERT
3687            KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
3688            KM   retention developed after 1990 in subbasin HVLP
3689            DT   XHVLP     9.2      0.0
3690            DI     0.0 50000.0      0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
3691            DQ     0.0 50000.0      0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
                *
3692            KK   CHVLP COMBINE
3693            KM   Combine route RHVLP and subbasin HVLP
3694            HC       2    0.27
                *
3695            KK  RHV01C   ROUTE
3696            KM   Route runoff hydrograph at combination point CHVLP to combination point CHV01
3697            RS      1     FLOW
3698            RC   0.045   0.020   0.045    1200  0.0174    0.00
3699            RX    0.00    0.00   40.00   50.00   60.00   70.00  110.00  110.00
3700            RY    6.20    5.20    5.00    0.00    0.00    5.00    5.20    6.20
                *
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3701          KK    HV01    BASIN
3702          KM   Runoff hydrograph for subbasin HV01 near the intersection of Happy Valley
3703          KM   Road and 101st Avenue
3704          BA   0.444
3705          LG    0.19    0.25    5.30    0.20      52
3706          UC   0.828   0.511
3707          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
3708          UA     100
              *

3709          KK  ERHV01  DIVERT
3710          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
3711          KM   retention developed after 1990 in subbasin HV01
3712          DT   XHV01     29.2      0.0
3713          DI     0.0 50000.0      0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
3714          DQ     0.0 50000.0      0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

3715          KK   CHV01 COMBINE
3716          KM   Combine route RHV01A, route RHV01B, route RHV01C, and subbasin HV01
3717          HC       4    2.72
              *

3718          KK   RCL07   ROUTE
3719          KM   Route runoff hydrograph at combination point CHV01 to combination point CCL07
3720          RS       1    FLOW
3721          RC   0.045   0.035   0.045    5019  0.0120    0.00
3722          RX    0.00    0.00   55.00   75.00  100.00  120.00  175.00  175.00
3723          RY   11.20   10.20   10.00    0.00    0.00   10.00   10.20   11.20
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9.....10

3724          KK  RCLAFA   ROUTE
3725          KM   Route runoff hydrograph from route RCL07 to combination point CCLAF
3726          RS       1    FLOW
3727          RC   0.045   0.020   0.045    2211  0.0045    0.00
3728          RX    0.00    0.00   40.00   50.00   60.00   70.00  110.00  110.00
3729          RY    6.20    5.20    5.00    0.00    0.00    5.00    5.20    6.20
              *

3730          KK    CL07    BASIN
3731          KM   Runoff hydrograph for subbasin CL07 near the intersection of Calle Lejos Road
3732          KM   and 107th Avenue
3733          BA   0.524
3734          LG    0.21    0.27    4.55    0.30      26
3735          UC   1.098   0.785
3736          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
3737          UA     100
              *

3738          KK  ERCL07  DIVERT
3739          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
3740          KM   retention developed after 1990 in subbasin CL07
3741          DT   XCL07     31.0      0.0
3742          DI     0.0 50000.0      0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
3743          DQ     0.0 50000.0      0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

3744          KK  DWCLAF  DIVERT
3745          KM   Divert remaining runoff hydrograph at subbasin CL07 west to combination point
3746          KM   CCLAF
3747          DT  DSPP03      0.0      0.0
3748          DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
3749          DQ     0.0    12.0    24.0    60.0   120.0   240.0   480.0  1200.0  2400.0  6000.0
              *

3750          KK  RCLAFB   ROUTE
3751          KM   Route diversion DWCLAF west to combination point CCLAF
3752          RS       3    FLOW
3753          RC   0.045   0.035   0.045    2215  0.0045    0.00
3754          RX    0.00    0.00   19.00   25.00   30.00   36.00   55.00   55.00
3755          RY    4.10    3.10    3.00    0.00    0.00    3.00    3.10    4.10
              *

3756          KK    CLAF    BASIN
3757          KM   Runoff hydrograph for subbasin CLAF near the intersection of Calle Lejos Road
3758          KM   and the Agua Fria River
3759          BA   0.289
3760          LG    0.16    0.29    3.95    0.40      25
3761          UC   0.958   0.664
3762          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
3763          UA     100
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9.....10

3764          KK  ERCLAF  DIVERT
3765          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
```



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3766          KM   retention developed after 1990 in subbasin CLAF
3767          DT   XCLAF     10.4      0.0
3768          DI     0.0 50000.0      0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
3769          DQ     0.0 50000.0      0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

3770          KK   CCLAF COMBINE
3771          KM   Combine route RCLAFA, route RCLAFB, and subbasin CLAF
3772          HC       3    3.47
              *

3773          KK   CAF01 COMBINE
3774          KM   Combine route RHVAF, subbasin JMAF, subbasin HVAF, and combination point
3775          KM   CCLAF
3776          HC       4    4.13
              *

3777          KK  DR03PPRETRIEVE
3778          KM   Retrieve divert DR03PP from combination point CPPLP and divert to
3779          KM   combination point CPP03
3780          DR  DWPP03
              *

3781          KK  RPP03B   ROUTE
3782          KM   Route diversion retrieval DR03PP to combination point CPP03
3783          RS       1    FLOW
3784          RC   0.040   0.040   0.040    1960  0.0072    0.00
3785          RX    0.00  100.00  140.00  160.00  200.00  300.00  400.00  500.00
3786          RY   10.00    9.00    0.00    0.00    9.00   10.00   11.00   12.00
              *

3787          KK  DRPP03RETRIEVE
3788          KM   Retrieve divert DRPP03 from subbasin CL07 and divert to combination point
3789          KM   CPP03
3790          DR  DSPP03
              *

3791          KK  RPP03A   ROUTE
3792          KM   Route diversion retrieval DRPP03 to combination point CPP03
3793          RS       4    FLOW
3794          RC   0.045   0.035   0.045    2970  0.0057    0.00
3795          RX    0.00    0.00   19.00   25.00   30.00   36.00   55.00   55.00
3796          RY    4.10    3.10    3.00    0.00    0.00    3.00    3.10    4.10
              *

3797          KK    PP03    BASIN
3798          KM   Runoff hydrograph for subbasin PP03 near the intersection of Pinnacle Peak
3799          KM   Road and 103rd Avenue
3800          BA   0.325
3801          LG    0.30    0.25    4.45    0.38      15
3802          UC   1.500   1.214
3803          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
1                                        HEC-1 INPUT                                    PAGE 99

LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9.....10

3804          UA     100
              *

3805          KK  ERPP03  DIVERT
3806          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
3807          KM   retention developed after 1990 in subbasin PP03
3808          DT   XPP03      3.4      0.0
3809          DI     0.0 50000.0      0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
3810          DQ     0.0 50000.0      0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

3811          KK   CPP03 COMBINE
3812          KM   Combine route RPP03A, route RPP03B, and subbasin PP03
3813          HC       3    1.53
              *

3814          KK  DWPP07  DIVERT
3815          KM   Divert remaining runoff hydrograph at combination point CPP03 west to
3816          KM   combination point CPP07
3817          DT  DSDV07      0.0      0.0
3818          DI     0.0 50000.0      0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
3819          DQ     0.0      0.0      0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

3820          KK   RPP07   ROUTE
3821          KM   Route diversion DWPP07 west to combination point CPP07
3822          RS       2    FLOW
3823          RC   0.050   0.050   0.050    2468  0.0158    0.00
3824          RX    0.00  100.00  140.00  160.00  200.00  300.00  400.00  500.00
3825          RY   10.00    9.00    0.00    0.00    9.00   10.00   11.00   12.00
              *

3826          KK    PP07    BASIN
3827          KM   Runoff hydrograph for subbasin PP07 near the intersection of Pinnacle Peak
3828          KM   Road and 107th Avenue
3829          BA   0.195
3830          LG    0.27    0.27    5.30    0.24      13
```

```
3831          UC   0.883   0.664
3832          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
3833          UA     100
              *

3834          KK  ERPP07  DIVERT
3835          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
3836          KM   retention developed after 1990 in subbasin PP07
3837          DT   XPP07      3.9      0.0
3838          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
3839          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *
1                                        HEC-1 INPUT                                                    PAGE100

LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


3840          KK   CPP07 COMBINE
3841          KM   Combine route RPP07 and subbasin PP07
3842          HC        2     1.73
              *

3843          KK   RPPAF   ROUTE
3844          KM   Route runoff hydrograph at combination point CPP07 to combination point CDVAF
3845          RS        1     FLOW
3846          RC   0.050   0.050   0.050    1553  0.0300    0.00
3847          RX    0.00  100.00  140.00  170.00  210.00  310.00  410.00  510.00
3848          RY   10.00    9.00    0.00    0.00    9.00   10.00   11.00   12.00
              *

3849          KK    PPAF   BASIN
3850          KM   Runoff hydrograph for subbasin PPAF near the intersection of Pinnacle Peak
3851          KM   Road and the Agua Fria River
3852          BA   0.270
3853          LG    0.15    0.25    4.20    0.36      80
3854          UC   0.387   0.264
3855          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
3856          UA     100
              *

3857          KK   CPPAF COMBINE
3858          KM   Combine route RDVAF and subbasin DVAF
3859          HC        2     2.00
              *

3860          KK    DVAF   BASIN
3861          KM   Runoff hydrograph for subbasin DVAF near the intersection of Deer Valley Road
3862          KM   and the Agua Fria River
3863          BA   0.412
3864          LG    0.15    0.33    5.60    0.18      10
3865          UC   1.012   0.607
3866          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
3867          UA     100
              *

3868          KK  ERDVAF  DIVERT
3869          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
3870          KM   retention developed after 1990 in subbasin DVAF
3871          DT   XDVAF     11.3      0.0
3872          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
3873          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

3874          KK   CAF02 COMBINE
3875          KM   Combine combination point CDVAF and subbasin PPAF
3876          HC        2     2.41
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


3877          KK  DRDV07RETRIEVE
3878          KM   Retrieve divert DRDV07 from combination point CPP03 and divert to
3879          KM   combination point CDV07
3880          DR  DSDV07
              *

3881          KK   RDV07   ROUTE
3882          KM   Route diversion retrieval DRDV07 to combination point CDV07
3883          RS        1     FLOW
3884          RC   0.045   0.035   0.045    6455  0.0071    0.00
3885          RX    0.00    0.00   40.00   50.00   60.00   70.00  110.00  110.00
3886          RY    6.20    5.20    5.00    0.00    0.00    5.00    5.20    6.20
              *

3887          KK    DV07   BASIN
3888          KM   Runoff hydrograph for subbasin DV07 near the intersection of Deer Valley Road
3889          KM   and 107th Avenue
3890          BA   0.645
3891          LG    0.26    0.25    4.65    0.29      27
3892          UC   1.230   0.760
3893          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
```



```
3894          UA     100
              *

3895          KK  ERDV07  DIVERT
3896          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
3897          KM   retention developed after 1990 in subbasin DV07
3898          DT   XDV07     45.8      0.0
3899          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
3900          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

3901          KK   CDV07 COMBINE
3902          KM   Combine route RDV07 and subbasin DV07
3903          HC        2     0.65
              *

3904          KK  RRG07A   ROUTE
3905          KM   Route runoff hydrograph at combination point CDV07 to combination point CRG07
3906          RS        1     FLOW
3907          RC   0.045   0.015   0.045    2573  0.0027    0.00
3908          RX    0.00    0.00   19.00   25.00   30.00   36.00   55.00   55.00
3909          RY    4.10    3.10    3.00    0.00    0.00    3.00    3.10    4.10
              *

3910          KK  DRRG07RETRIEVE
3911          KM   Retrieve divert DRRG07 from combination point CRGLP and divert to
3912          KM   combination point CRG07
3913          DR  DWRG07
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


3914          KK  RRG07C   ROUTE
3915          KM   Route diversion retrieval DRRG07 to combination point CRG07
3916          RS        2     FLOW
3917          RC   0.045   0.020   0.045    4816  0.0056    0.00
3918          RX    0.00    0.00   40.00   50.00   60.00   70.00  110.00  110.00
3919          RY    6.20    5.20    5.00    0.00    0.00    5.00    5.20    6.20
              *

3920          KK  DRDVLPRETRIEVE
3921          KM   Retrieve divert DRDVLP from combination point CPPLP and divert to
3922          KM   combination point CDVLP
3923          DR  DSDVLP
              *

3924          KK   RDVLP   ROUTE
3925          KM   Route diversion retrieval DRDVLP to combination point CDVLP
3926          RS        1     FLOW
3927          RC   0.045   0.035   0.045    5616  0.0059    0.00
3928          RX    0.00    0.00   19.00   25.00   30.00   36.00   55.00   55.00
3929          RY    4.10    3.10    3.00    0.00    0.00    3.00    3.10    4.10
              *

3930          KK    DVLP   BASIN
3931          KM   Runoff hydrograph for subbasin DVLP near the intersection of Deer Valley Road
3932          KM   and Lake Pleasant Parkway
3933          BA   0.136
3934          LG    0.23    0.25    4.45    0.33      38
3935          UC   1.137   1.383
3936          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
3937          UA     100
              *

3938          KK  ERDVLP  DIVERT
3939          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
3940          KM   retention developed after 1990 in subbasin DVLP
3941          DT   XDVLP      8.7      0.0
3942          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
3943          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

3944          KK   CDVLP COMBINE
3945          KM   Combine route RDVLP and subbasin DVLP
3946          HC        2     0.14
              *

3947          KK  RRG07B   ROUTE
3948          KM   Route runoff hydrograph at combination point CDVLP to combination point CRG07
3949          RS        6     FLOW
3950          RC   0.045   0.020   0.045    5903  0.0059    0.00
3951          RX    0.00    0.00   40.00   50.00   60.00   70.00  110.00  110.00
3952          RY    6.20    5.20    5.00    0.00    0.00    5.00    5.20    6.20
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


3953          KK    RG07   BASIN
3954          KM   Runoff hydrograph for subbasin RG07 near the intersection of Rose Garden Lane
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```
KM   and 107th Avenue
BA   0.350
LG    0.23    0.25    4.55    0.31      35
UC   1.380   1.031
UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
UA     100
*

KK  ERRG07  DIVERT
KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
KM   retention developed after 1990 in subbasin RG07
DT   XRG07    41.1     0.0
DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
*

KK   CRG07 COMBINE
KM   Combine route RRG07A, route RRG07B, route RRG07C, and subbasin RG07
HC       4    2.01
*

KK   RRGAF   ROUTE
KM   Route runoff hydrograph at combination point CRG07 to combination point CRGAF
RS      10    FLOW
RC   0.045   0.020   0.045    4328  0.0083    0.00
RX    0.00    0.00   40.00   50.00   60.00   70.00  110.00  110.00
RY    6.20    5.20    5.00    0.00    0.00    5.00    5.20    6.20
*

KK    RGAF   BASIN
KM   Runoff hydrograph for subbasin RGAF near the intersection of Rose Garden Lane
KM   and the Agua Fria River
BA   0.332
LG    0.16    0.33    6.20    0.14      12
UC   1.351   1.195
UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
UA     100
*

KK  ERRGAF  DIVERT
KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
KM   retention developed after 1990 in subbasin RGAF
DT   XRGAF    10.4     0.0
DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
*
```



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LINE  ID.......1.......2.......3.......4.......5.......6.......7.......8.......9.....10

KK   CRGAF COMBINE
KM   Combine route RRGAF and subbasin RGAF
HC       2    2.34
*

KK  DRBYAFRETRIEVE
KM   Retrieve divert DRBYAF from combination point CBY07 and divert to
KM   combination point CBYAF
DR  DWBYAF
*

KK   RBY07   ROUTE
KM   Route diversion retrieval DRBYAF to route RBYAF
RS       3    FLOW
RC   0.045   0.020   0.045    3085  0.0019    0.00
RX    0.00    1.00   16.00   36.00   51.00  123.00  148.00  648.00
RY   16.00    8.00    0.00    0.00    8.00    8.00    9.00   11.00
*

KK   RBYAF   ROUTE
KM   Route runoff hydrograph at route RBY07 to combination point CBYAF
RS       6    FLOW
RC   0.045   0.035   0.045    8144  0.0065    0.00
RX    0.00    0.00   19.00   25.00   30.00   36.00   55.00   55.00
RY    4.10    3.10    3.00    0.00    0.00    3.00    3.10    4.10
*

KK    BYAF   BASIN
KM   Runoff hydrograph for subbasin BYAF near the intersection of Beardsley Road
KM   and the Agua Fria River
BA   0.609
LG    0.17    0.27    4.70    0.26      30
UC   1.184   0.960
UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
UA     100
*

KK  ERBYAF  DIVERT
KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
KM   retention developed after 1990 in subbasin BYAF
DT   XBYAF    26.1     0.0
DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
```



```
DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
*

KK   CBYAF COMBINE
KM   Combine route RBYAF and subbasin BYAF
HC       2    1.30
*
```



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LINE  ID.......1.......2.......3.......4.......5.......6.......7.......8.......9.....10

KK    UHAF   BASIN
KM   Runoff hydrograph for subbasin UHAF near the intersection of Union Hills
KM   Drive and the Agua Fria River
BA   0.489
LG    0.15    0.30    3.50    0.54      12
UC   1.500   1.290
UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
UA     100
*

KK  ERUHAF  DIVERT
KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
KM   retention developed after 1990 in subbasin UHAF
DT   XUHAF    19.8     0.0
DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
*

KK   CAF03 COMBINE
KM   Combine combination point CRGAF, combination point CBYAF, and subbasin UHAF
HC       3    4.13
*

KK    UH07   BASIN
KM   Runoff hydrograph for subbasin UH07 near the intersection of Union Hills
KM   Drive and 107th Avenue
BA   0.252
LG    0.20    0.25    4.80    0.34      22
UC   1.500   1.580
UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
UA     100
*

KK   RUH11   ROUTE
KM   Route runoff hydrograph at subbasin UH07 to route RUH15
RS       1    FLOW
RC   0.045   0.020   0.045    2740  0.0090    0.00
RX    0.00    1.00   13.00   23.00   53.00   83.00  108.00  109.00
RY   14.00    6.00    0.00    0.00    6.00    6.00    7.00   15.00
*

KK   RUH15   ROUTE
KM   Route runoff hydrograph at route RUH11 to combination point CUH15
RS       2    FLOW
RC   0.045   0.035   0.045    2598  0.0120    0.00
RX    0.00   50.00   62.00   72.00   84.00  104.00  139.00  640.00
RY    9.00    6.00    0.00    0.00    6.00    7.00    7.00    9.00
*
```



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LINE  ID.......1.......2.......3.......4.......5.......6.......7.......8.......9.....10

KK    UH15   BASIN
KM   Runoff hydrograph for subbasin UH15 near the intersection of Union Hills
KM   Drive and 115th Avenue
BA   1.019
LG    0.20    0.25    5.80    0.16      47
UC   1.177   0.616
UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
UA     100
*

KK  ERUH15  DIVERT
KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
KM   retention developed after 1990 in subbasin UH15
DT   XUH15    63.8     0.0
DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
*

KK   CUH15 COMBINE
KM   Combine route RUH15 and subbasin UH15
HC       2    1.27
*

KK  RBL15B   ROUTE
KM   Route runoff hydrograph at combination point CUH15 to combination point CBL15
RS       4    FLOW
RC   0.045   0.035   0.045    4894  0.0020    0.00
RX    0.00  100.00  112.00  147.00  159.00  179.00  214.00  580.00
```

```
4085          RY   8.00    6.00    0.00    0.00    6.00    7.00    7.00    9.00
              *

4086          KK  DRBL15RETRIEVE
4087          KM   Retrieve divert DRBL15 from combination point CDW07 and divert to
4088          KM   combination point CBL15
4089          DR  DWBL15
              *

4090          KK  RBL15A   ROUTE
4091          KM   Route diversion retrieval DRBL15 to combination point CBL15
4092          RS      2      FLOW
4093          RC  0.045   0.015   0.045    6041  0.0082    0.00
4094          RX   0.00    0.00   40.00   50.00   60.00   70.00  110.00  110.00
4095          RY   6.20    5.20    5.00    0.00    0.00    5.00    5.20    6.20
              *

4096          KK   BL15   BASIN
4097          KM   Runoff hydrograph for subbasin Bl15 near the intersection of Bell Road and
4098          KM   115th Avenue
4099          BA   0.962
4100          LG   0.22    0.25    4.60    0.32      28
4101          UC   1.361   0.705
4102          UA      0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
4103          UA    100
              *

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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

4104          KK  ERBL15  DIVERT
4105          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
4106          KM   retention developed after 1990 in subbasin BL15
4107          DT   XBL15     37.0      0.0
4108          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
4109          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

4110          KK   CBL15 COMBINE
4111          KM   Combine route RBL15A, route RBL15B, and subbasin BL15
4112          HC       3    2.90
              *

4113          KK   RMEAF   ROUTE
4114          KM   Route runoff hydrograph at combination point CBL15 to combination point CMEAF
4115          RS      2      FLOW
4116          RC  0.045   0.020   0.045    5783  0.0053    0.00
4117          RX   0.00    0.00   40.00   50.00   60.00   70.00  110.00  110.00
4118          RY   6.20    5.20    5.00    0.00    0.00    5.00    5.20    6.20
              *

4119          KK    MEAF   BASIN
4120          KM   Runoff hydrograph for subbasin MEAF near the intersection of Meade Drive and
4121          KM   the Agua Fria River
4122          BA   1.369
4123          LG   0.19    0.26    4.65    0.31      35
4124          UC   1.195   0.619
4125          UA      0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
4126          UA    100
              *

4127          KK  ERMEAF  DIVERT
4128          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
4129          KM   retention developed after 1990 in subbasin MEAF
4130          DT   XMEAF     39.2      0.0
4131          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
4132          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

4133          KK   CMEAF COMBINE
4134          KM   Combine route RMEAF and subbasin MEAF
4135          HC       2    4.27
              *

4136          KK    BLAF   BASIN
4137          KM   Runoff hydrograph for subbasin BLAF near the intersection of Bell Road and
4138          KM   the Agua Fria River
4139          BA   0.283
4140          LG   0.20    0.28    3.55    0.52      20
4141          UC   1.500   1.613
4142          UA      0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
4143          UA    100
              *

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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

4144          KK  ERBLAF  DIVERT
4145          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
4146          KM   retention developed after 1990 in subbasin BLAF
4147          DT   XBLAF     15.4      0.0
```



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4148          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
4149          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

4150          KK    GRAF   BASIN
4151          KM   Runoff hydrograph for subbasin GRAF near the intersection of Grand Avenue and
4152          KM   the Agua Fria River
4153          BA   0.859
4154          LG   0.23    0.15    7.00    0.11      37
4155          UC   1.461   1.134
4156          UA      0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
4157          UA    100
              *

4158          KK  ERGRAF  DIVERT
4159          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
4160          KM   retention developed after 1990 in subbasin GRAF
4161          DT   XGRAF      7.0      0.0
4162          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
4163          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

4164          KK    PEAF   BASIN
4165          KM   Runoff hydrograph for subbasin PEAF near the intersection of Kansas Avenue
4166          KM   and the Agua Fria River
4167          BA   0.531
4168          LG   0.19    0.25    4.20    0.36      48
4169          UC   0.875   0.425
4170          UA      0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
4171          UA    100
              *

4172          KK   CAF04 COMBINE
4173          KM   Combine combination point CMEAF, subbasin BLAF, subbasin GRAF, and subbasin
4174          KM   PEAF
4175          HC       4    5.94
              *

4176          KK    OL11   BASIN
4177          KM   Runoff hydrograph for subbasin OL11 near the intersection of Olive Avenue and
4178          KM   111th Avenue
4179          BA   0.339
4180          LG   0.26    0.25    4.25    0.43      22
4181          UC   1.138   0.675
4182          UA      0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
4183          UA    100
              *

1                                        HEC-1 INPUT                                    PAGE109

LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

4184          KK  EROL11  DIVERT
4185          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
4186          KM   retention developed after 1990 in subbasin OL11
4187          DT   XOL11      2.9      0.0
4188          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
4189          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

4190          KK   RNO11   ROUTE
4191          KM   Route runoff hydrograph at subbasin OL11 to combination point CNO11
4192          RS       3     FLOW
4193          RC  0.045   0.020   0.045    6339  0.0057    0.00
4194          RX   0.00    0.00   19.00   25.00   30.00   36.00   55.00   55.00
4195          RY   4.10    3.10    3.00    0.00    0.00    3.00    3.10    4.10
              *

4196          KK    NO11   BASIN
4197          KM   Runoff hydrograph for subbasin NO11 near the intersection of Northern Avenue
4198          KM   and 111th Avenue
4199          BA   0.860
4200          LG   0.20    0.25    3.95    0.40      52
4201          UC   0.916   0.449
4202          UA      0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
4203          UA    100
              *

4204          KK  ERNO11  DIVERT
4205          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
4206          KM   retention developed after 1990 in subbasin NO11
4207          DT   XNO11     23.2      0.0
4208          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
4209          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

4210          KK   CNO11 COMBINE
4211          KM   Combine route RNO11 and subbasin NO11
4212          HC       2    1.20
              *

4213          KK  RGL14A   ROUTE
4214          KM   Route runoff hydrograph at combination point CNO11 to combination point CGL14
```

```
4215          RS      7    FLOW
4216          RC  0.045   0.035   0.045    7959  0.0008    0.00
4217          RX   0.00    0.00   55.00   75.00  100.00  120.00  175.00  175.00
4218          RY  11.20   10.20   10.00    0.00    0.00   10.00   10.20   11.20
              *

4219          KK    N007   BASIN
4220          KM   Runoff hydrograph for subbasin N007 near the intersection of Northern Avenue
4221          KM   and 107th Avenue
4222          BA   0.340
4223          LG    0.21    0.25    4.55    0.36      29
4224          UC   1.253   0.886
4225          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
1                                          HEC-1 INPUT                                        PAGE110

              LINE  ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

4226          UA     100
              *

4227          KK  ERN007  DIVERT
4228          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
4229          KM   retention developed after 1990 in subbasin N007
4230          DT   XN007    10.9     0.0
4231          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
4232          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

4233          KK   RGL11   ROUTE
4234          KM   Route runoff hydrograph at subbasin N007 to combination point CGL11
4235          RS       5    FLOW
4236          RC   0.035   0.015   0.035    5370  0.0041    0.00
4237          RX    0.00    0.00   13.00   13.00   55.00   55.00   68.00   68.00
4238          RY    3.00    0.63    0.50    0.00    0.00    0.50    0.63    3.00
              *

4239          KK    GL11   BASIN
4240          KM   Runoff hydrograph for subbasin GL11 near the intersection of Glendale Avenue
4241          KM   and 111th Avenue
4242          BA   0.426
4243          LG    0.19    0.25    4.35    0.33      60
4244          UC   1.157   0.713
4245          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
4246          UA     100
              *

4247          KK  ERGL11  DIVERT
4248          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
4249          KM   retention developed after 1990 in subbasin GL11
4250          DT   XGL11    38.8     0.0
4251          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
4252          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

4253          KK   CGL11 COMBINE
4254          KM   Combine route RG111 and subbasin GL11
4255          HC       2    0.77
              *

4256          KK  RGL14B   ROUTE
4257          KM   Route runoff hydrograph at combination point CGL11 to combination point CGL14
4258          RS       4    FLOW
4259          RC   0.045   0.035   0.045    4950  0.0021    0.00
4260          RX    0.00    0.00   40.00   50.00   60.00   70.00  110.00  110.00
4261          RY    6.20    5.20    5.00    0.00    0.00    5.00    5.20    6.20
              *
1                                          HEC-1 INPUT                                        PAGE111

              LINE  ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

4262          KK    GL14   BASIN
4263          KM   Runoff hydrograph for subbasin GL14 near the intersection of Glendale Avenue
4264          KM   and 114th Avenue
4265          BA   0.481
4266          LG    0.15    0.25    3.81    0.44      80
4267          UC   0.802   0.578
4268          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
4269          UA     100
              *

4270          KK   CGL14 COMBINE
4271          KM   Combine route RGL14A, RGL14B, and subbasin GL14
4272          HC       3    2.45
              *

4273          KK   RGLAF   ROUTE
4274          KM   Route runoff hydrograph at combination point CGL14 to combination point CGLAF
4275          RS       2    FLOW
4276          RC   0.045   0.035   0.045    3487  0.0023    0.00
4277          RX    0.00    0.00   55.00   75.00  100.00  120.00  175.00  175.00
4278          RY   11.20   10.20   10.00    0.00    0.00   10.00   10.20   11.20
              *
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4279          KK    GLAF   BASIN
4280          KM   Runoff hydrograph for subbasin GLAF near the intersection of Glendale Avenue
4281          KM   and the Agua Fria River
4282          BA   0.388
4283          LG    0.15    0.28    3.07    0.74      80
4284          UC   0.911   0.846
4285          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
4286          UA     100
              *

4287          KK  ERGLAF  DIVERT
4288          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
4289          KM   retention developed after 1990 in subbasin GLAF
4290          DT   XGLAF     7.3     0.0
4291          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
4292          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

4293          KK   CGLAF COMBINE
4294          KM   Combine route RGLAF and subbasin GLAF
4295          HC       2    2.83
              *

4296          KK    OLAF   BASIN
4297          KM   Runoff hydrograph for subbasin OLAF near the intersection of Olive Avenue and
4298          KM   the Agua Fria River
4299          BA   1.026
4300          LG    0.20    0.28    3.60    0.50      26
4301          UC   1.500   0.988
4302          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
4303          UA     100
              *
1                                          HEC-1 INPUT                                        PAGE112

              LINE  ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

4304          KK  EROLAF  DIVERT
4305          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
4306          KM   retention developed after 1990 in subbasin OLAF
4307          DT   XOLAF    38.2     0.0
4308          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
4309          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

4310          KK    NOAF   BASIN
4311          KM   Runoff hydrograph for subbasin NOAF near the intersection of Northern Avenue
4312          KM   and the Agua Fria River
4313          BA   0.285
4314          LG    0.11    0.30    2.92    0.82      26
4315          UC   0.969   0.823
4316          UA       0     3.0     5.0     8.0    12.0    20.0    43.0    75.0    90.0    96.0
4317          UA     100
              *

4318          KK   CAF05 COMBINE
4319          KM   Combine combination point CGLAF, subbasin OLAF, and subbasin NOAF
4320          HC       3    4.15
              *
4321          ZZ
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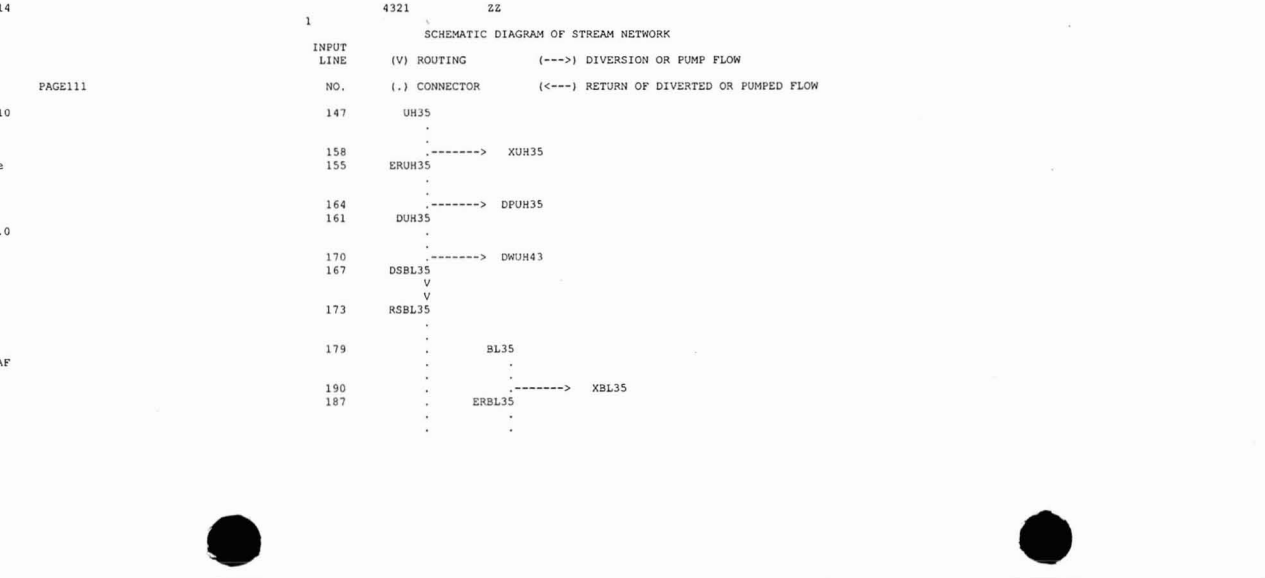

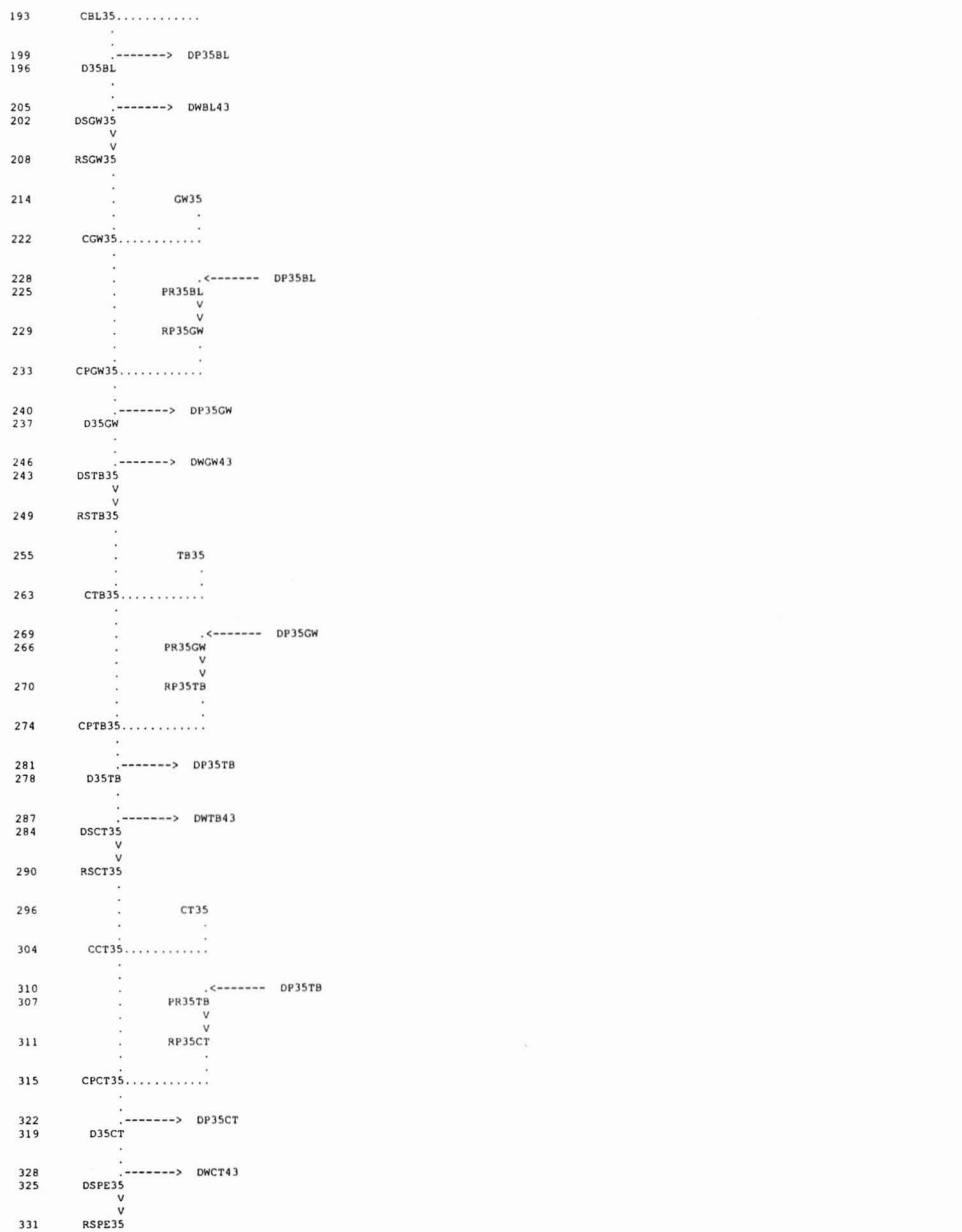
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237 D35GW
246 DWGW43
243 DSTB35
249 RSTB35
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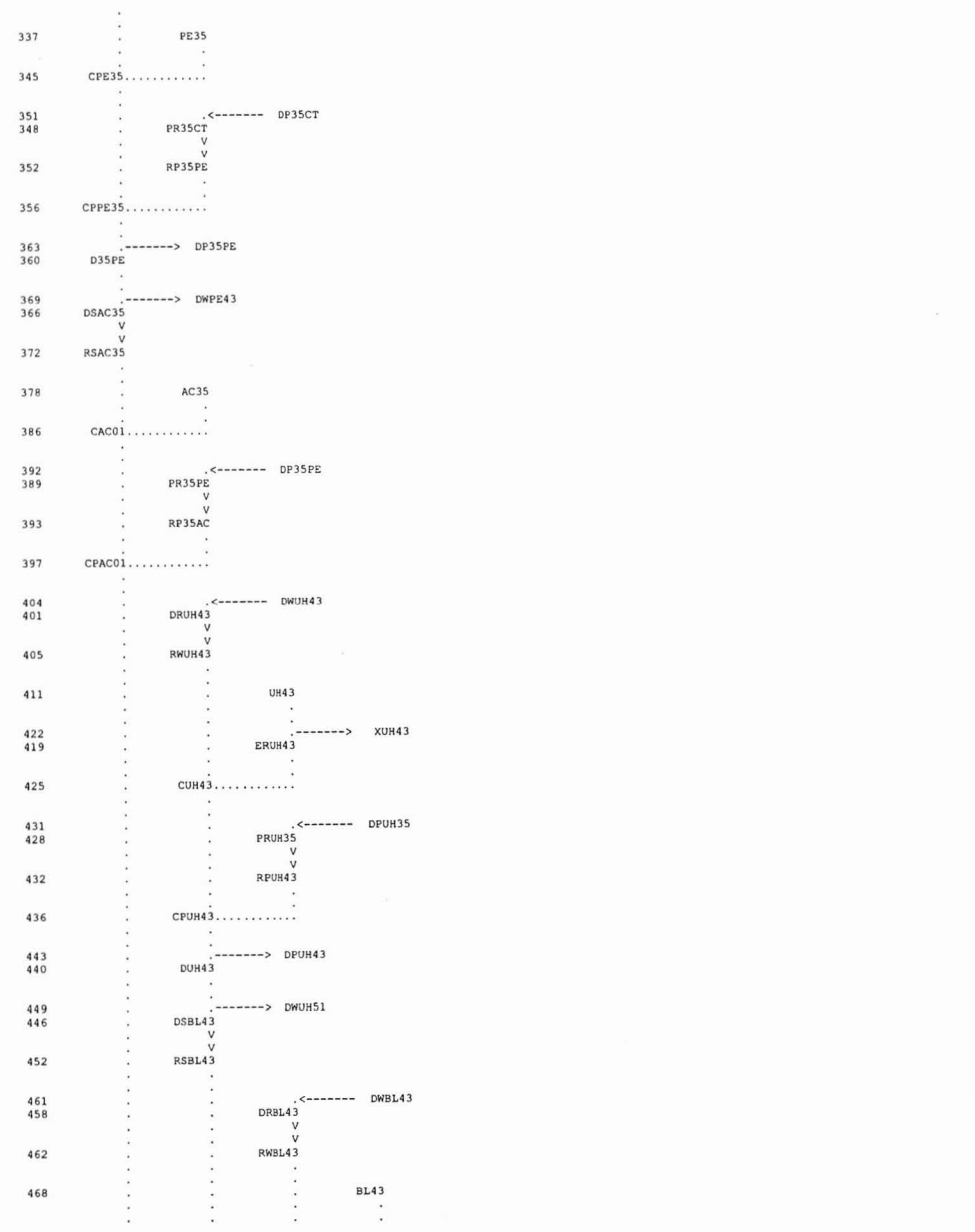
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405 RWUH43
411 UH43
422 XUH43
419 ERUH43
425 CUH43
431 DPUH35
428 PRUH35
432 RPUH43
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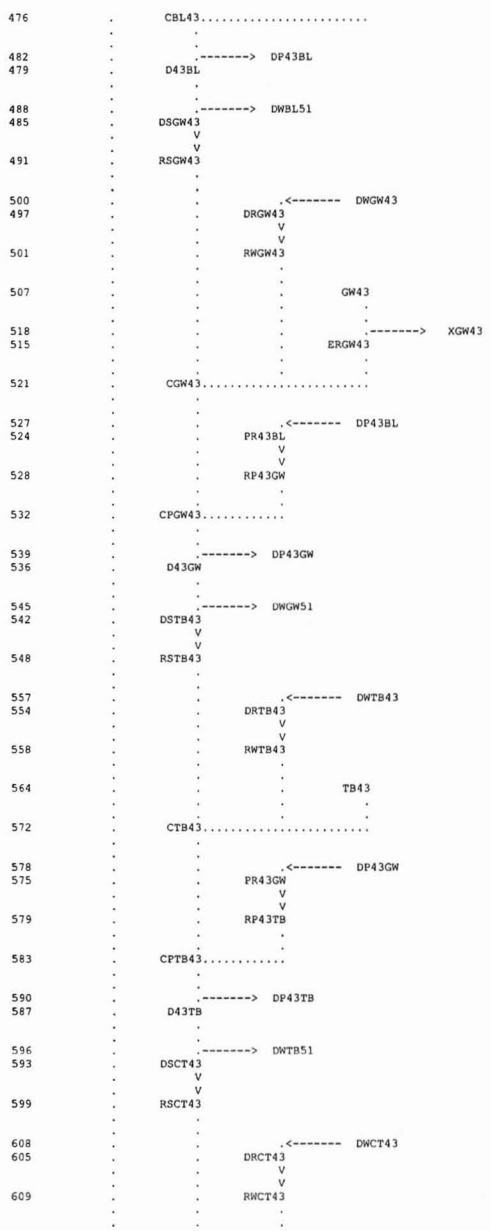
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GW43
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CPGW43
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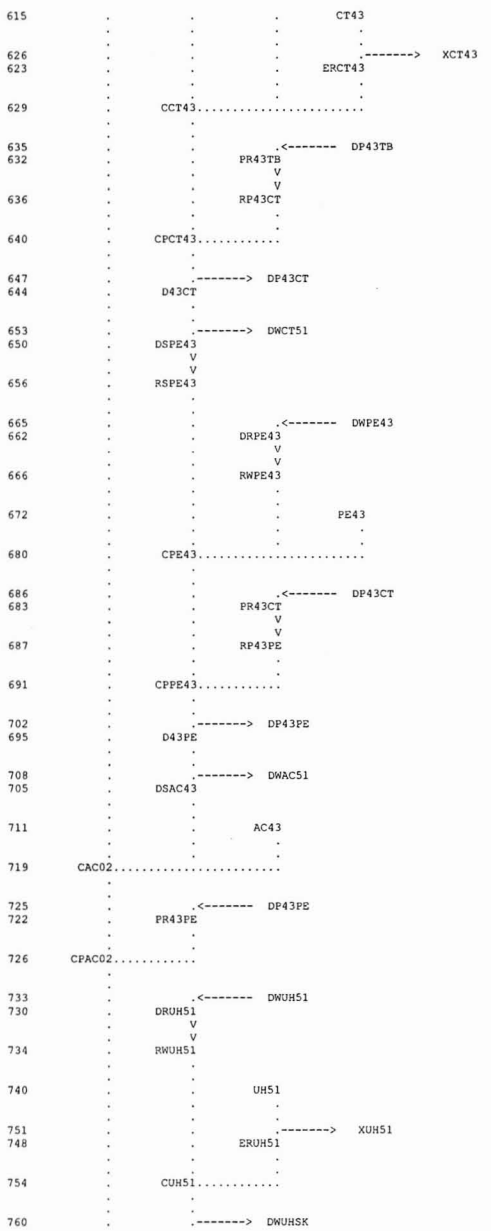
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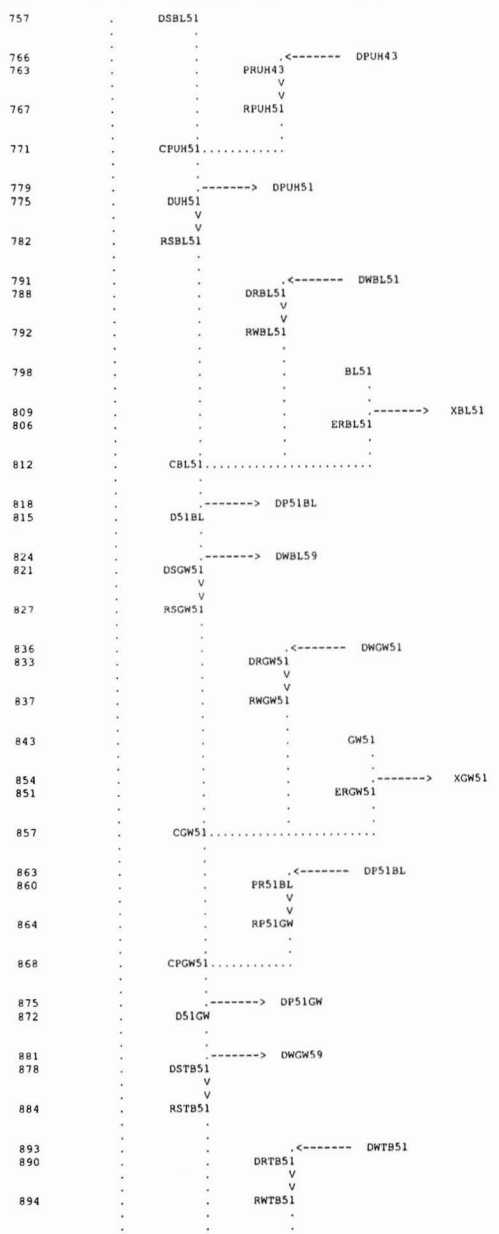
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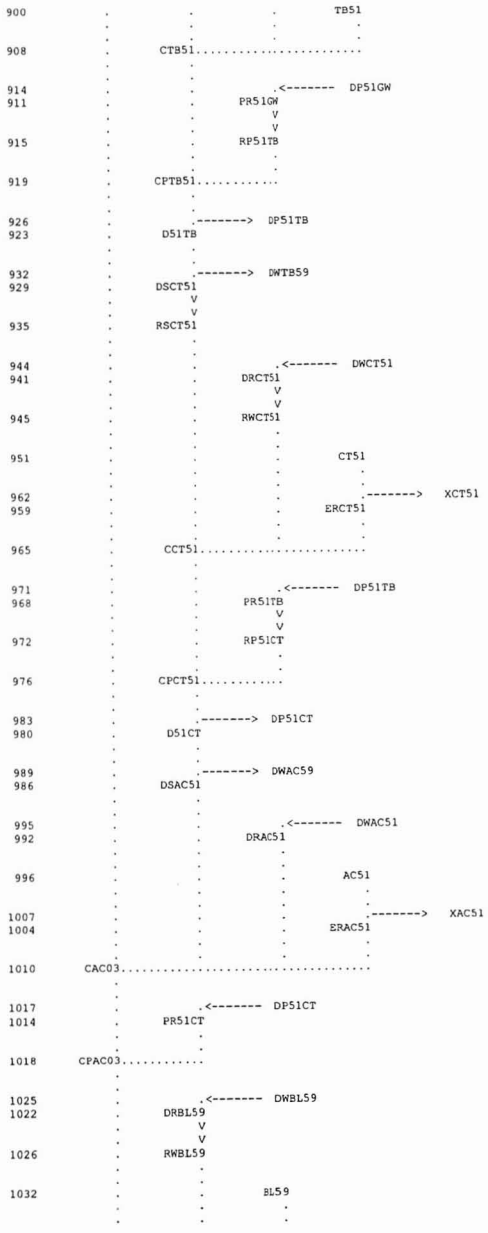
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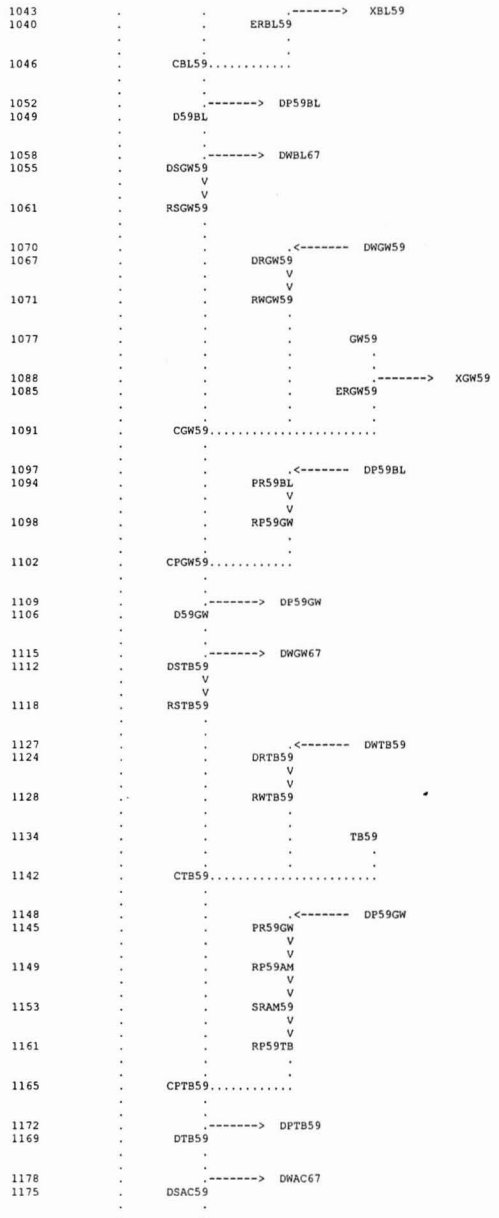
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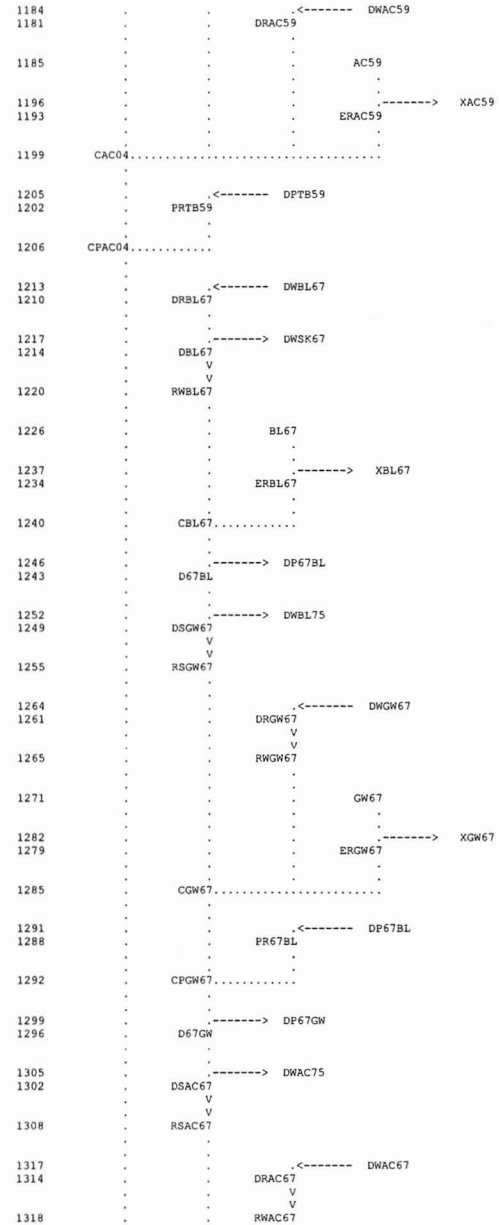
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1271 GW67
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1279 ERGW67
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1292 CPGW67
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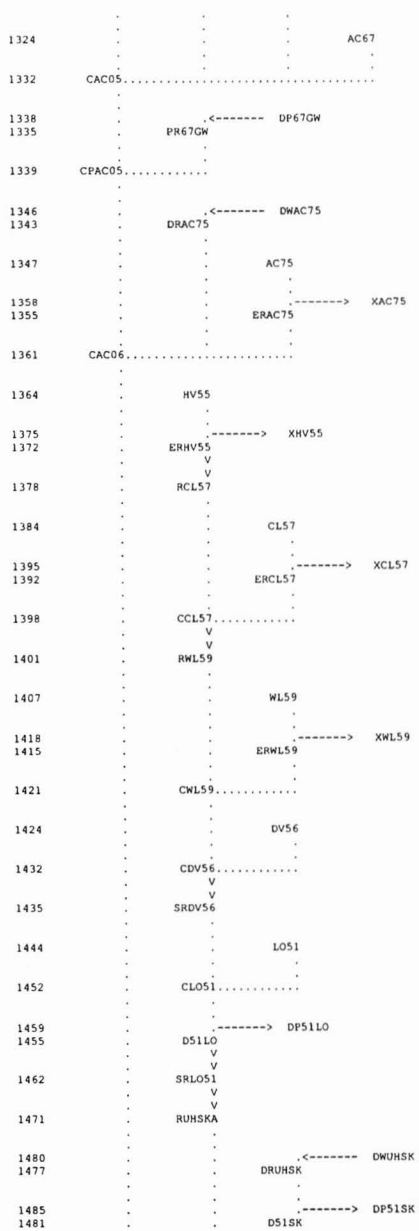
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1347 AC75
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1375 XHV55
1372 ERHV55
1378 RCL57
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1395 XCL57
1392 ERCL57
1398 CCL57
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1407 WL59
1418 XWL59
1415 ERWL59
1421 CWL59
1424 DV56
1432 CDV56
1435 SRDV56
1444 LO51
1452 CLO51
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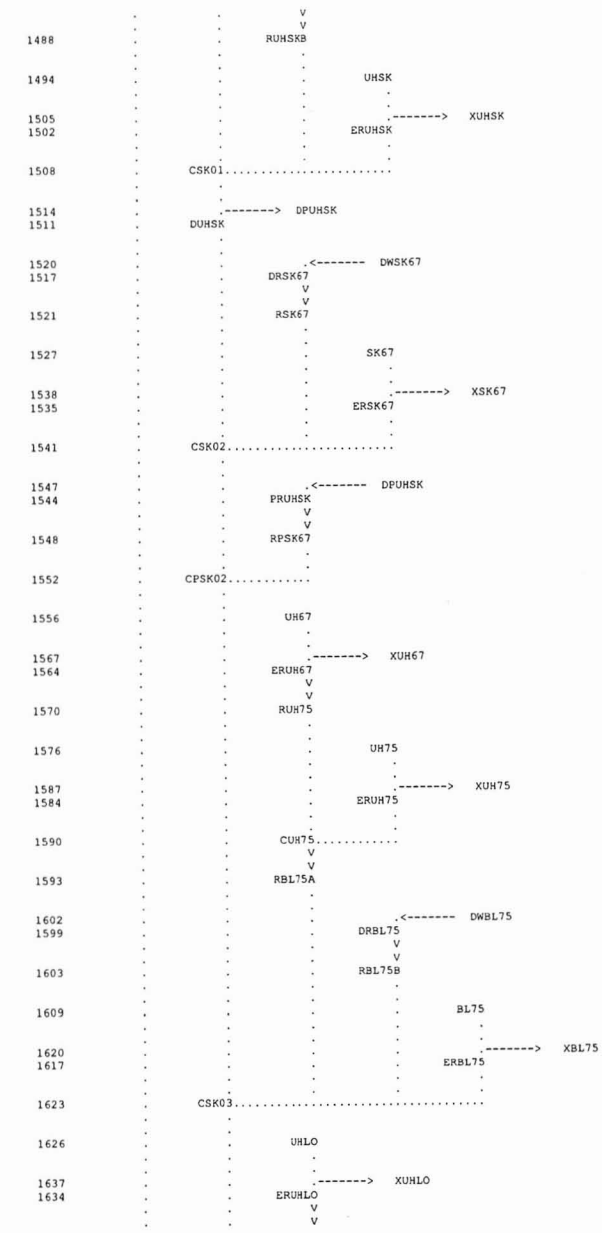
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1521 RSK67
1527 SK67
1538 XSK67
1535 ERSK67
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1547 DPUHSK
1544 PRUHSK
1548 RPSK67
1552 CPSK02
1556 UH67
1567 XUH67
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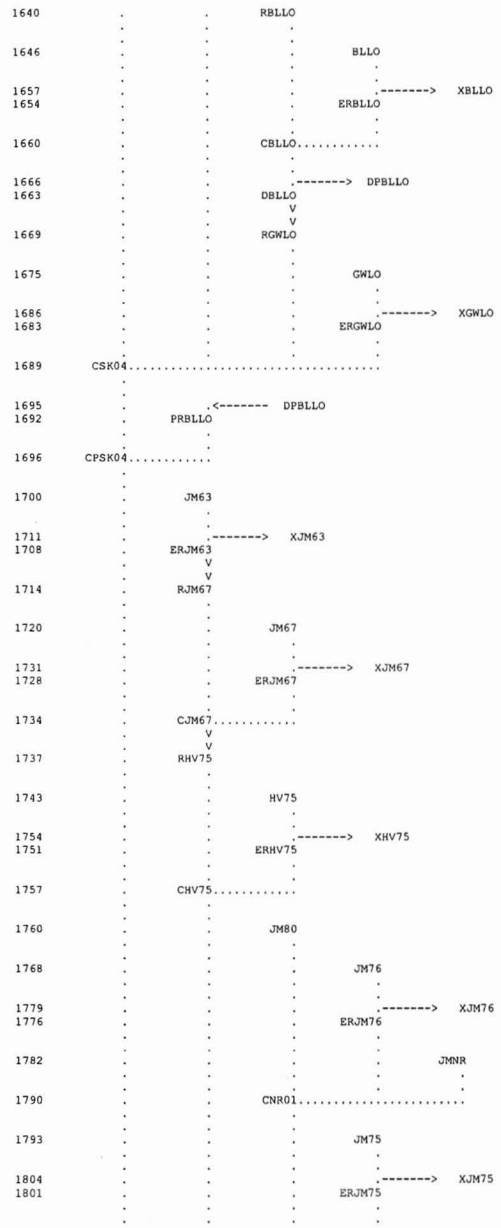
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1683 ERGWLO
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1731 XJM67
1728 ERJM67
1734 CJM67
1737 RHV75
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1754 XHV75
1751 ERHV75
1757 CHV75
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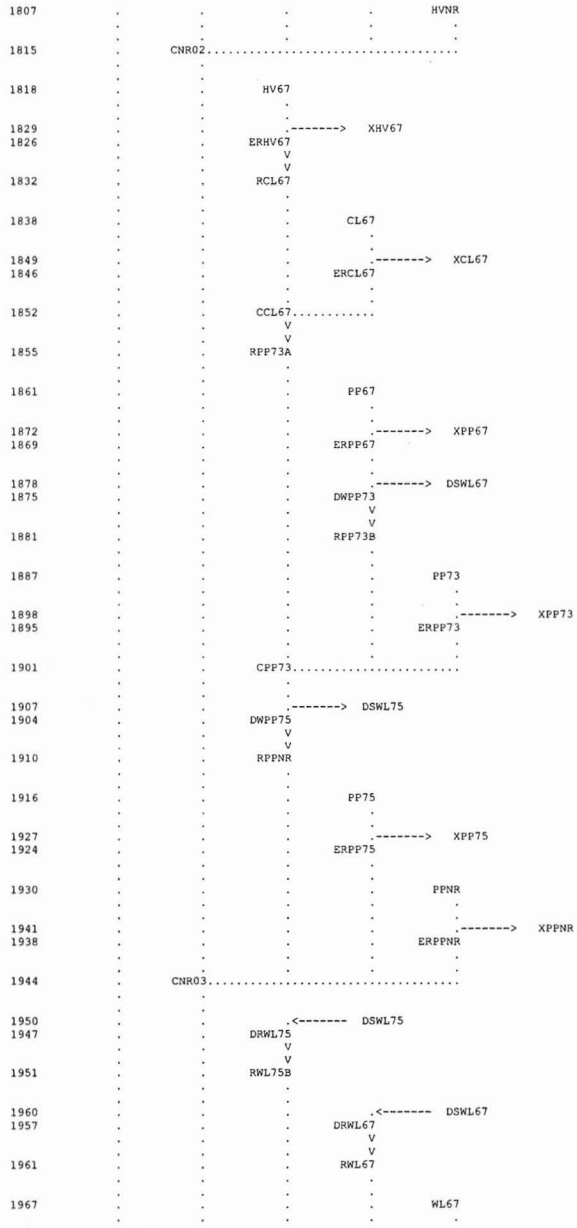
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1869 ERPP67
1878 DSWL67
1875 DWPP73
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1898 XPP73
1895 ERPP73
1901 CPP73
1907 DSWL75
1904 DWPP75
1910 RPPNR
1916 PP75
1927 XPP75
1924 ERPP75
1930 PPNR
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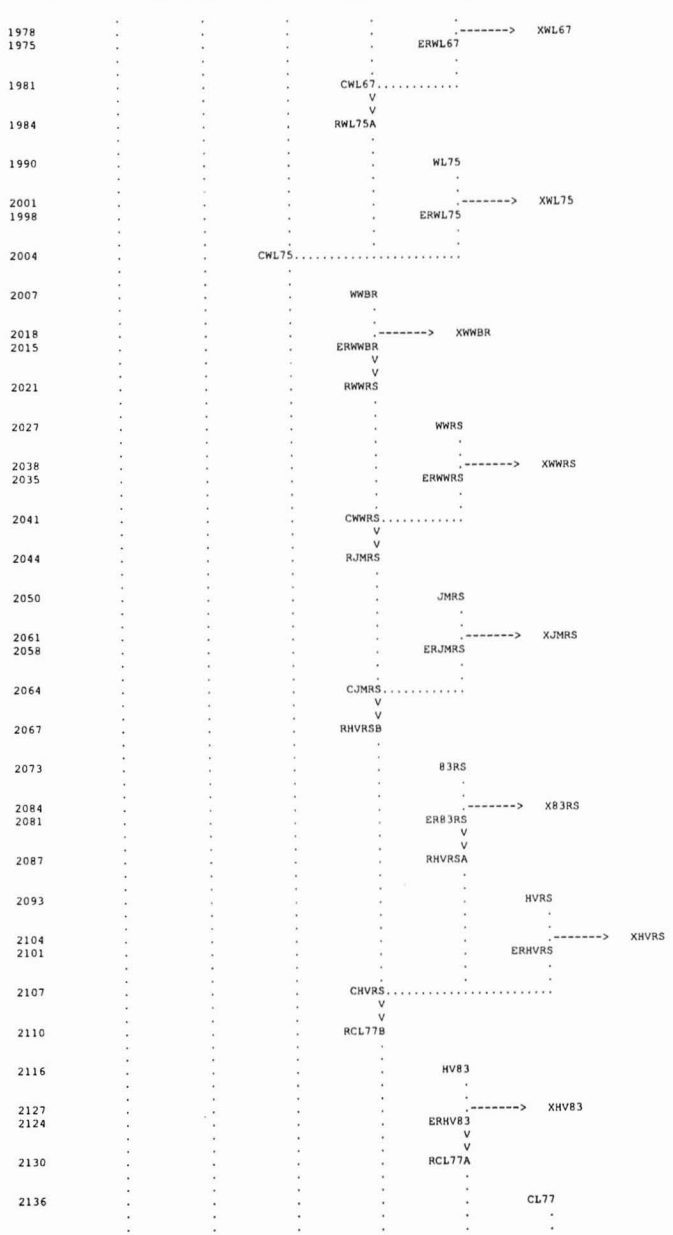
1978
1975 ERWL67 .-------> XWL67
1981 CWL67
1984 RWL75A
1990 WL75
2001
1998 ERWL75 .-------> XWL75
2004 CWL75
2007 WWBR
2018
2015 ERWWBR .-------> XWWBR
2021 RWWRS
2027 WWRS
2038
2035 ERWWRS .-------> XWWRS
2041 CWWRS
2044 RJMRS
2050 JMRS
2061
2058 ERJMRS .-------> XJMRS
2064 CJMRS
2067 RHVRSB
2073 83RS
2084
2081 ER83RS .-------> X83RS
2087 RHVRSA
2093 HVRS
2104
2101 ERHVRS .-------> XHVRS
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2110 RCL77B
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2124 ERHV83 .-------> XHV83
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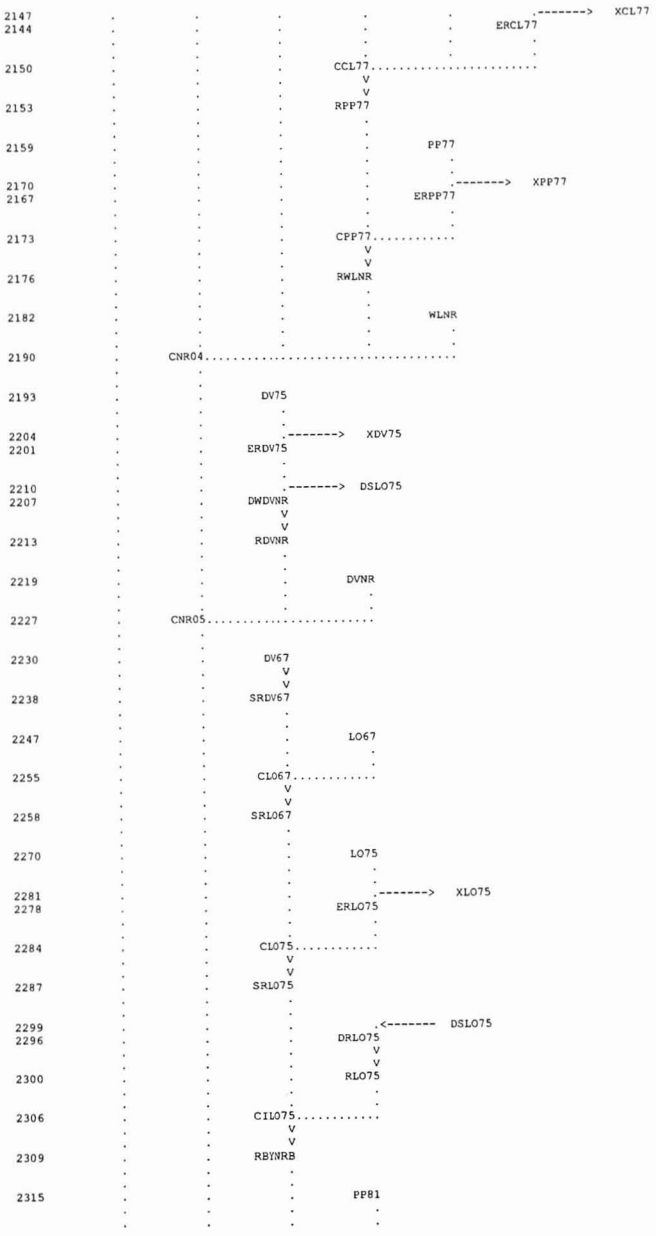
2136 CL77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2173 CPP77
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2182 WLNR
2190 CNR04
2193 DV75
2204
2201 ERDV75 .-------> XDV75
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2207 DWDVNR .-------> DSLO75
2213 RDVNR
2219 DVNR
2227 CNR05
2230 DV67
2238 SRDV67
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2258 SRL067
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2278 ERLO75 .-------> XLO75
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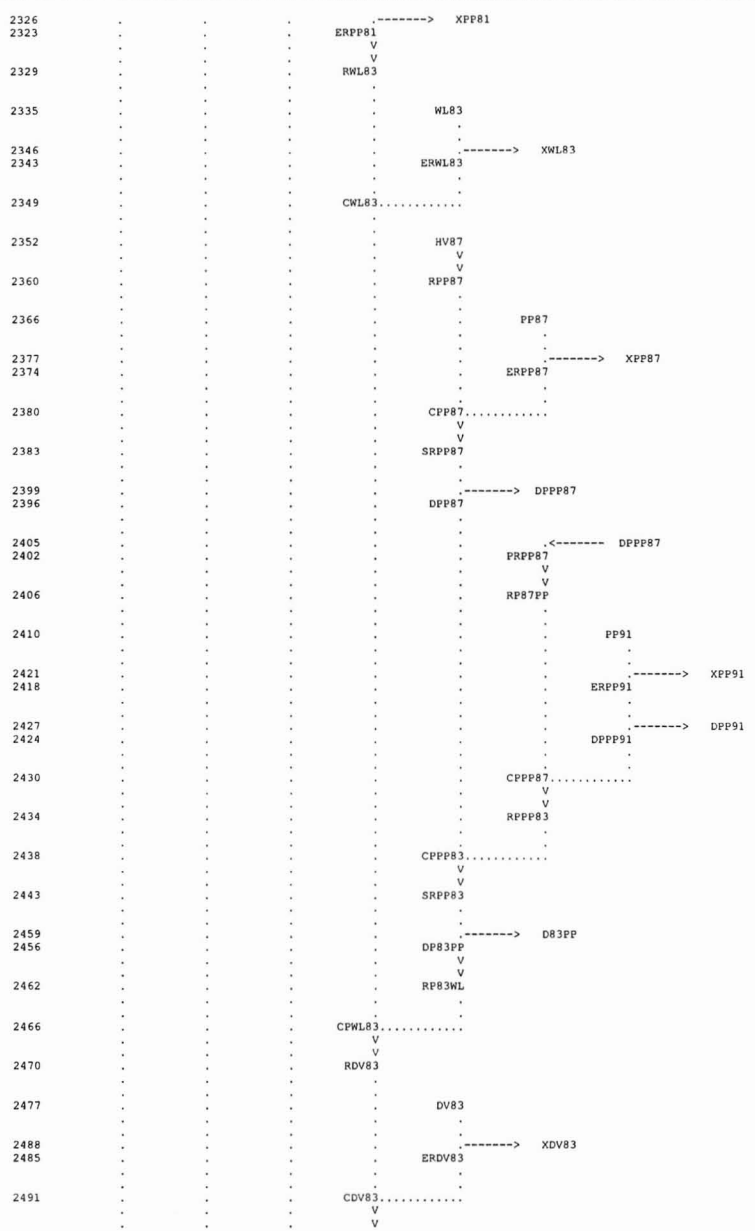
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2405 DPPP87
2402 PRPP87
2406 RP87PP
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2438 CPPP83
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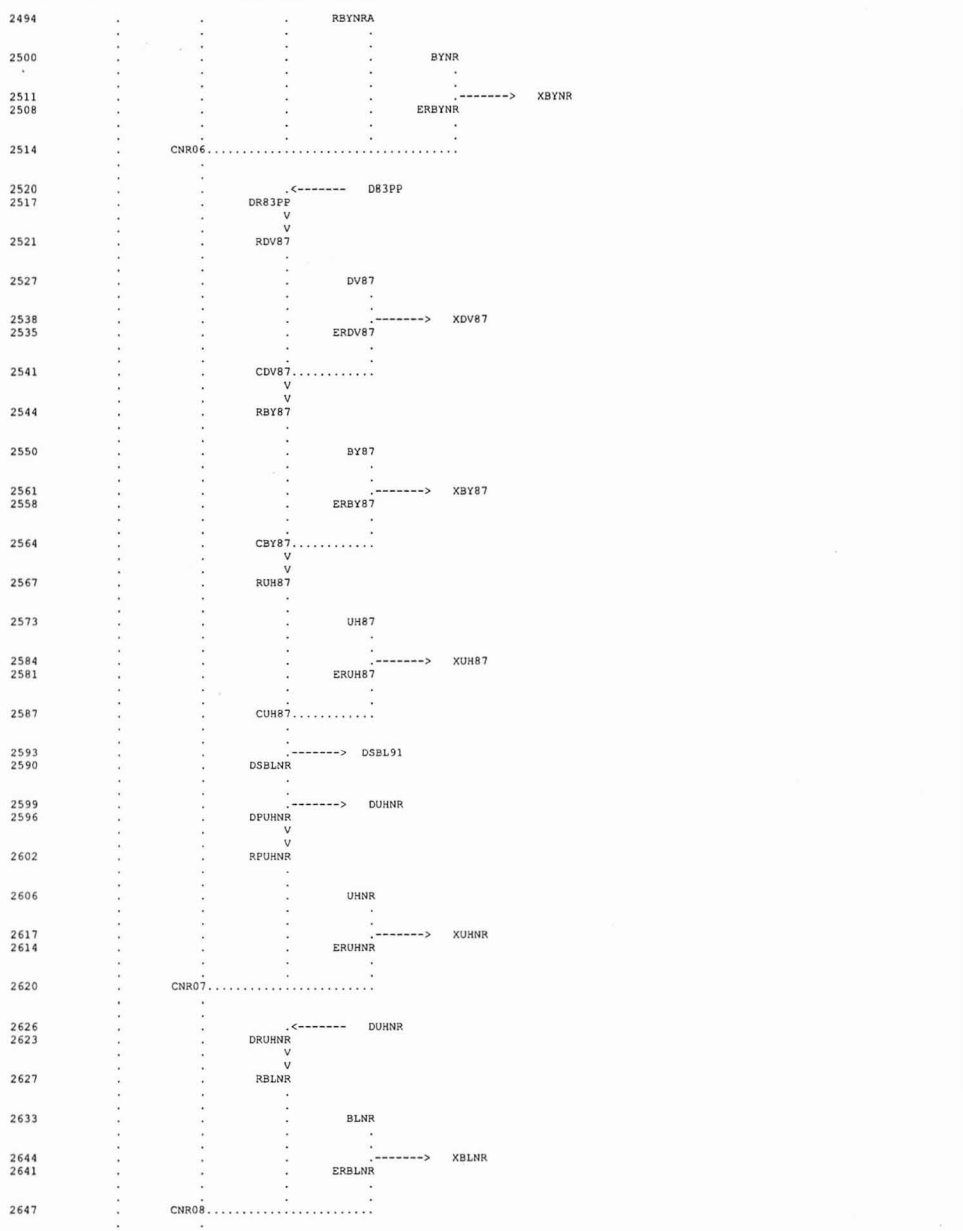
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2541 CDV87
2544 RBY87
2550 BY87
2561 XBY87
2558 ERBY87
2564 CBY87
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2584 XUH87
2581 ERUH87
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2593 DSBL91
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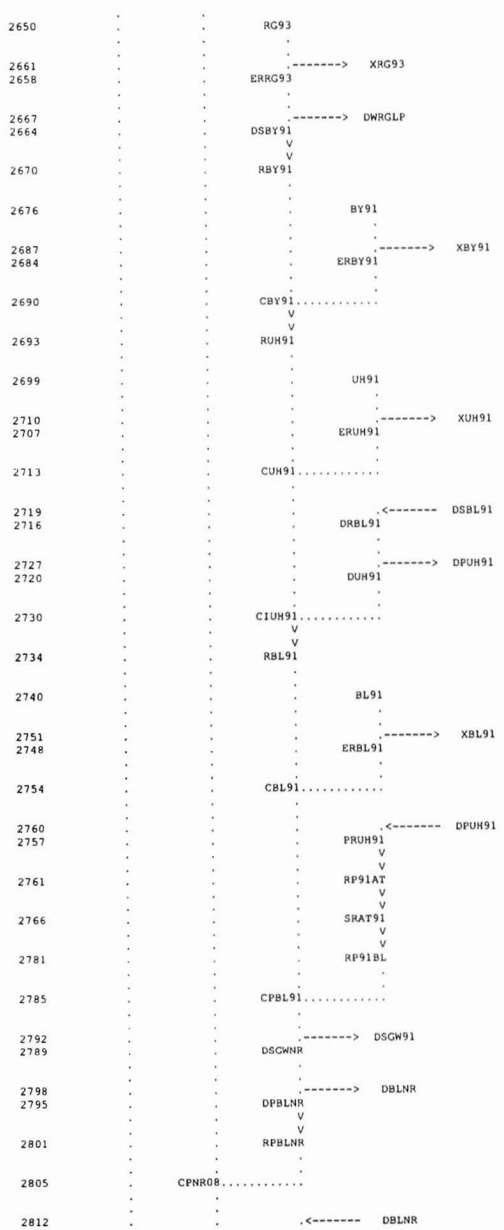
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2690 CBY91
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2710 XUH91
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2757 PRUH91
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2766 SRAT91
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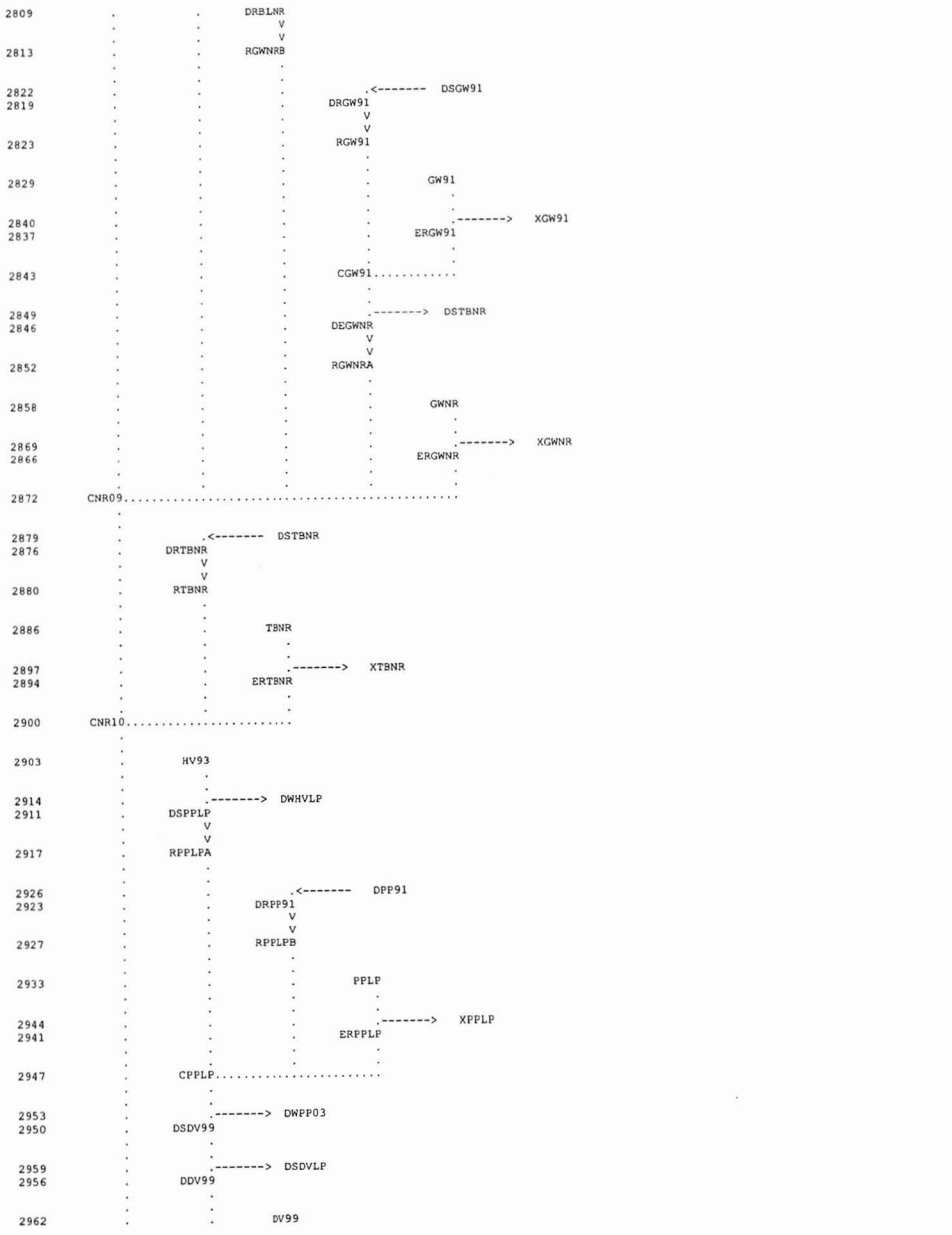
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2917 RPPLPA
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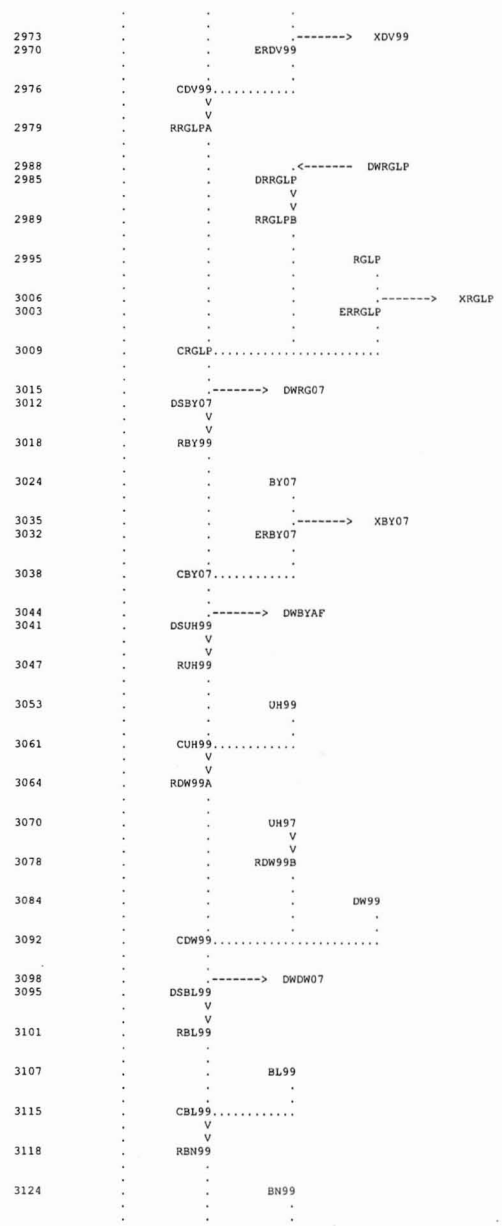
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RRGLPB
RGLP
XRGLP
ERRGLP
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XBY07
ERBY07
CBY07
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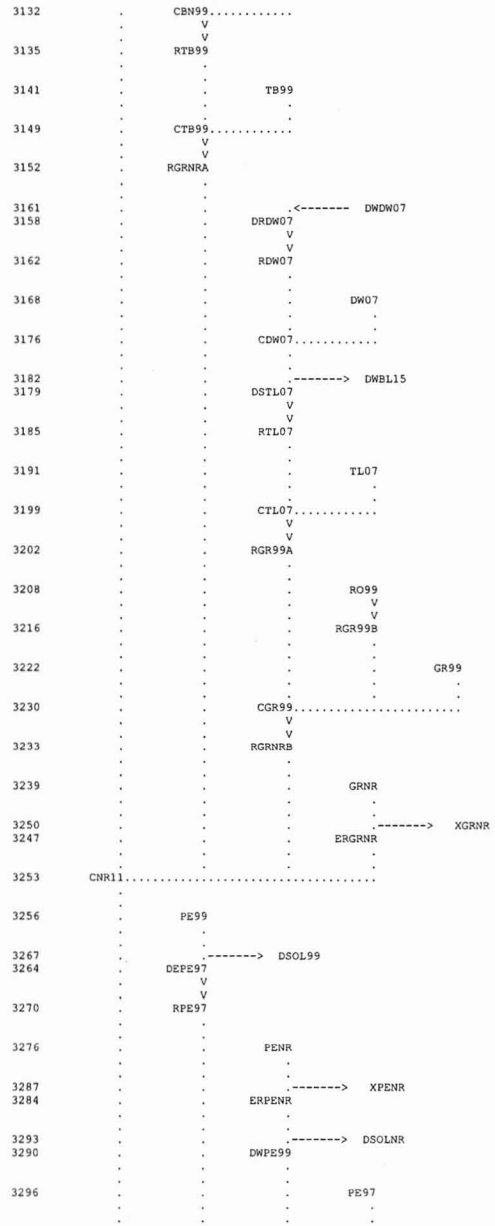
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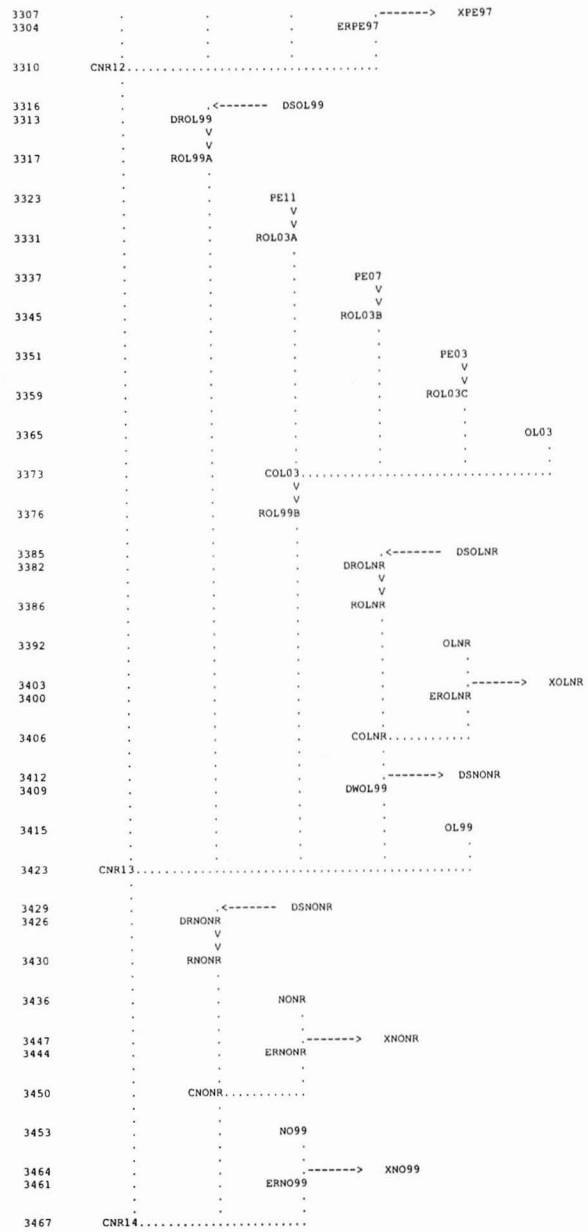
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3382 DROLNR
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3406 COLNR
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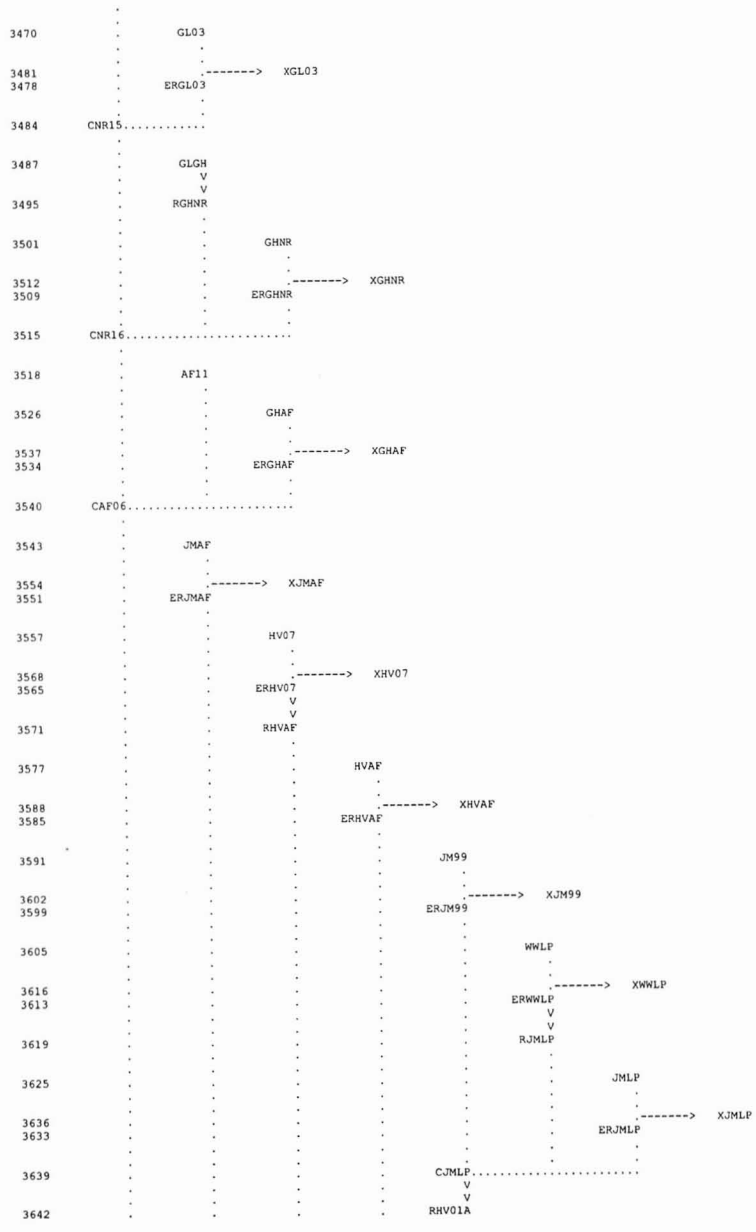
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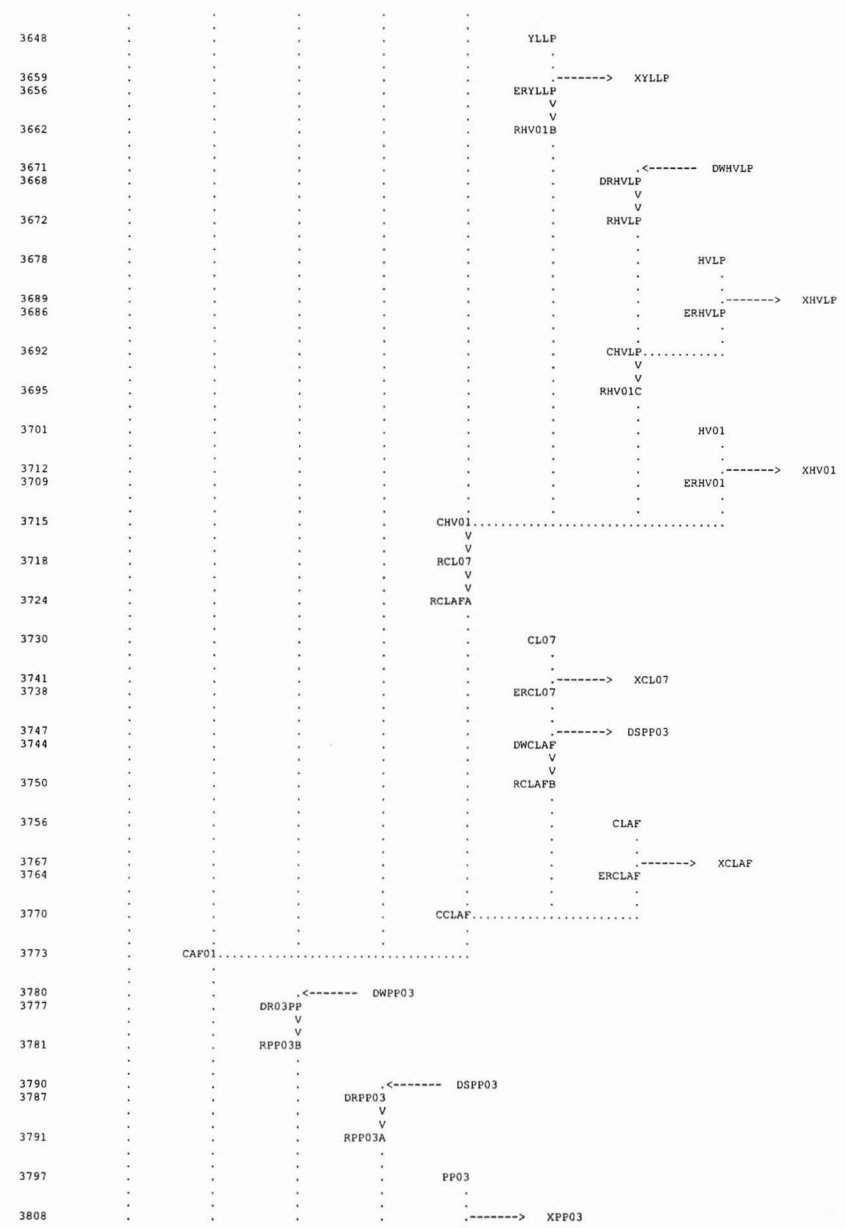
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3689 .-------> XHVLP
3686 ERHVLP
3692 CHVLP
3695 RHV01C
3701 HV01
3712 .-------> XHV01
3709 ERHV01
3715 CHV01
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3730 CL07
3741 .-------> XCL07
3738 ERCL07
3747 .-------> DSPP03
3744 DWCLAF
3750 RCLAFB
3756 CLAF
3767 .-------> XCLAF
3764 ERCLAF
3770 CCLAF
3773 CAF01
3780 .<------- DWPP03
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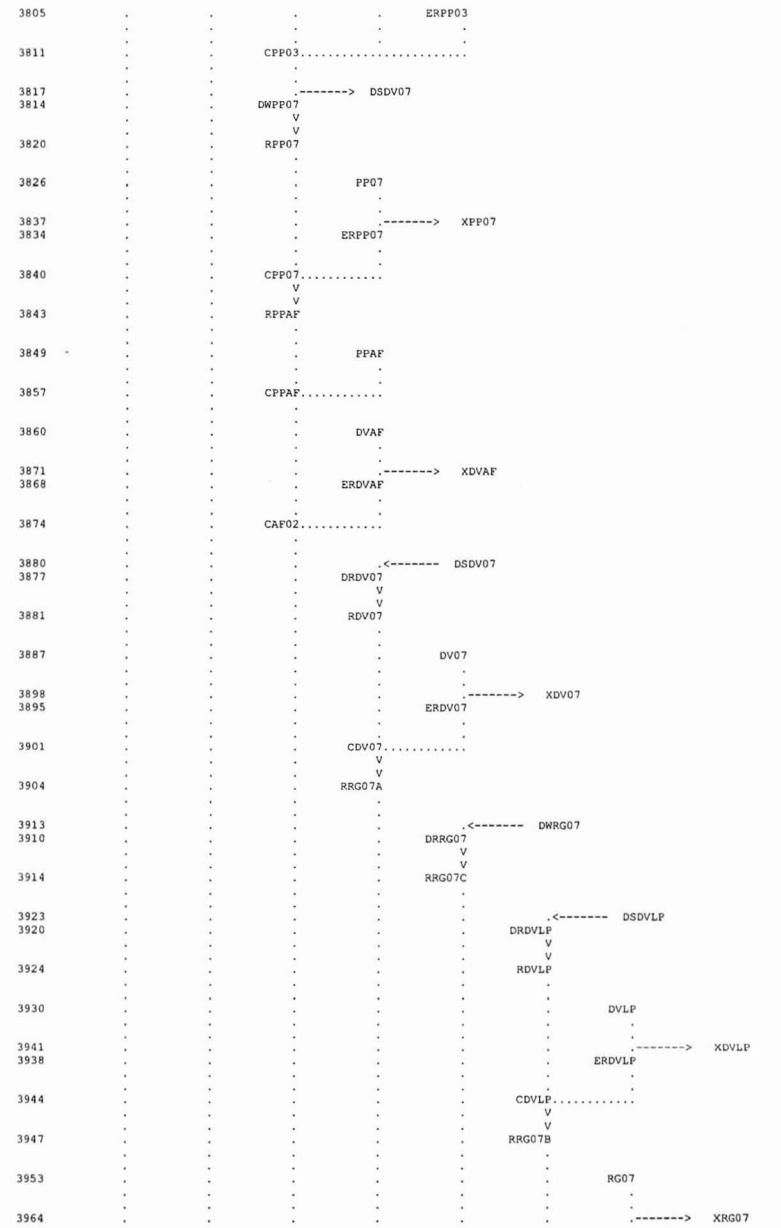
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3814 DWPP07
3820 RPP07
3826 PP07
3837 .-------> XPP07
3834 ERPP07
3840 CPP07
3843 RPPAF
3849 PPAF
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3871 .-------> XDVAF
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3874 CAF02
3880 .<------- DSDV07
3877 DRDV07
3881 RDV07
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3898 .-------> XDV07
3895 ERDV07
3901 CDV07
3904 RRG07A
3913 .<------- DWRG07
3910 DRRG07
3914 RRG07C
3923 .<------- DSDVLP
3920 DRDVLP
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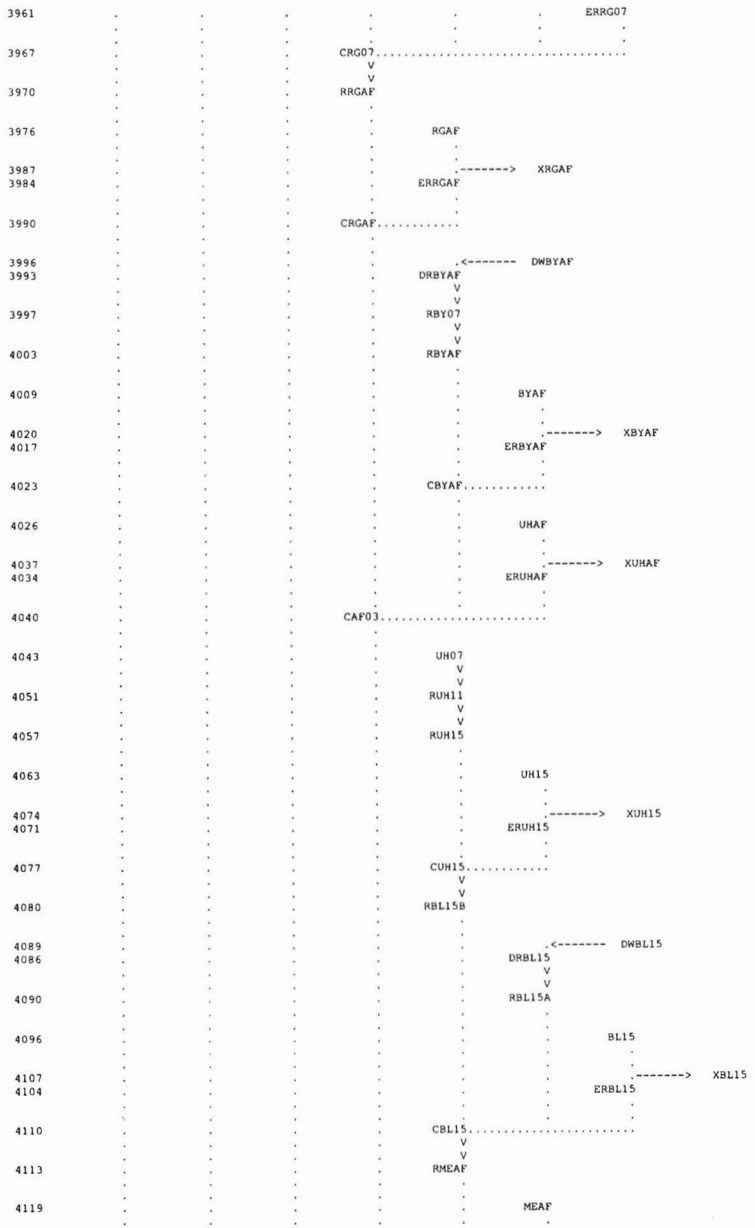
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ERRGAF
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3997
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UHAF
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ERUHAF
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CAF03
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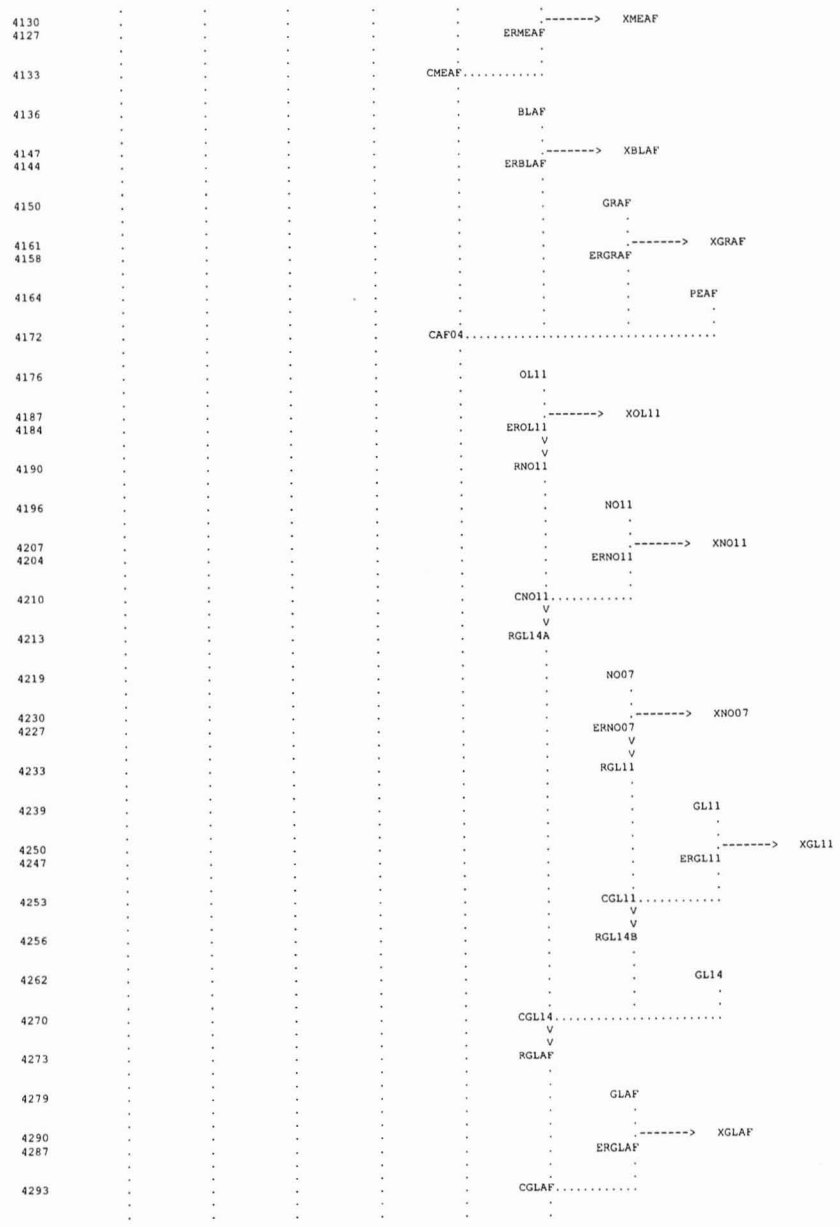
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CGLAF

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 (***) RUNOFF ALSO COMPUTED AT THIS LOCATION
1*************************************                                  *************************************
*                                   *                                  *                                   *
*   FLOOD HYDROGRAPH PACKAGE  (HEC-1)   *                              *    U.S. ARMY CORPS OF ENGINEERS     *
*             JUN  1998             *                                  *    HYDROLOGIC ENGINEERING CENTER    *
*          VERSION 4.1              *                                  *         609 SECOND STREET           *
*                                   *                                  *       DAVIS, CALIFORNIA 95616       *
*  RUN DATE   01NOV10  TIME  14:01:06   *                              *           (916) 756-1104            *
*                                   *                                  *                                   *
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GLENDALE STORMWATER MANAGEMENT PLAN
Model for Glendale/Peoria Watershed
Future Conditions

Prepared for the City of Glendale
In Association with the Flood Control District of Maricopa County
City Project Number 089017

Prepared by Kimley-Horn and Associates, Inc.
KHA Project Number 091910009
October 2010

MODELING PARAMETERS
- 10 Year 6 Hour Storm Event
- NOAA 14 Rainfall Data
- Clark Unit Hydrograph
- Green and Ampt Rainfall Loss Method

Topo data extracted from Flood Control District database July 24, 2009
Land use obtained from City of Glendale General Plan August 2009, City of
     Phoenix General Plan August 2009, and MAG General Plan Land Use 2007

Storage routing data obtained from As-built Records or Final Drainage
     Reports where possible
When As-built data/Drainage reports were not available data was obtained
     from HEC-1 models and checked for accuracy.
Storage routing data obtained from the following HEC-1 models:
     - Glendale/Peoria ADMPU, May 2001
     - Glendale/Peoria ADMP Northwest Region Update, May 2007
The source of data is identified on each individual storage routing card

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MODELING NOMENCLATURE
SUBBASIN HYDROGRAPH:
   Example: JMRS - the subbasin upstream of Jomax and Rock Springs Wash

STORM DRAIN DIVERSION:
   Example: DBL59 - flow from subbasin BL59 is diverted to a storm drain

SUBBASIN DIVERSION:
   Example: DWBL59 - flow is diverted west towards Bell and 59th Avenue
   Example: DSGW51 - flow is diverted south towards Greenway and 51st Ave

ROUTE HYDROGRAPH:
   Example: RWBL51 - flow is routed west towards Bell and 51st Avenue
   Example: RSGW59 - flow is routed south towards Greenway and 59th Ave

COMBINE HYDROGRAPH:
   Example: CJMRS - combine flow at Jomax and Rock Springs Wash

STREET NAME ABBREVIATIONS

Jomax Road	JM
Happy Valley Road	HV
Pinnacle Peak Road	PP
Deer Valley Road	DV
SR Loop 101	LO
Beardsley Road	BY
Union Hills Drive	UH
Bell Road	BL
Greenway Road	GW
Thunderbird Road	TB
Cactus Road	CT
Peoria Avenue	PE
Olive Avenue	OL
Northern Avenue	NO

Glendale Avenue	GL
Bethany Home Road	BH
Camelback Road	CB
Indian School Road	IS
Thomas Road	TM
McDowell Road	MD
Interstate 10	IN
Grand Avenue	GR
Mountain View Road	MV
Pinnacle Hill Road	PH
Greenbriar Drive	GB
Utopia Road	UT
Pyramid Peak Boulevard	PY
Bent Tree Drive	BT
Glen Harbor Boulevard	GH
Black Rock Boulevard	BR
Rose Garden Lane	RG
Calle Lejos	CL
Rock Springs Wash	RS
Williams Road	WL
Del Webb Boulevard	DW
Westwing Parkway	WW
Lake Pleasant Parkway	LP
Thunderbird Park Road	TP
Talisman Road	TL
Royal Oak Road	RO
Yearling Road	YL
Meade Drive	ME
Acoma Drive	AM
Athens Street	AT

PREFIXES FOR MODELING OPERATIONS

RW	Routing flow in the west direction
RS	Routing flow in the south direction
RP	Routing storm drain pipe flow
C	Combination point
CI	Combination point at an intersection
CP	Combination point for storm drain pipe flow
SR	Storage for detention/retention basins
DW	Divert flow to the west
DE	Divert flow to the east
DS	Divert flow to the south
DN	Divert flow to the north
ER	Divert flow for existing 100-yr 2-hr retention
X	Existing retention diversion does not return to model
DR	Divert retrieval from surface flow
DI	Divert retrieval from intersection flow
D	Divert surface flow (remains after storm drain divert)
DP	Divert flow to a storm drain pipe
PR	Divert retrieval from a storm drain pipe

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122 IO          OUTPUT CONTROL VARIABLES
                     IPRNT         5  PRINT CONTROL
                     IPLOT         0  PLOT CONTROL
                     QSCAL         0.  HYDROGRAPH PLOT SCALE

    IT          HYDROGRAPH TIME DATA
                     NMIN         5  MINUTES IN COMPUTATION INTERVAL
                     IDATE     1  0  STARTING DATE
                     ITIME      0000  STARTING TIME
                       NQ       1000  NUMBER OF HYDROGRAPH ORDINATES
                    NDDATE     4  0  ENDING DATE
                    NDTIME      1115  ENDING TIME
                    ICENT         19  CENTURY MARK

                  COMPUTATION INTERVAL      .08 HOURS
                      TOTAL TIME BASE   83.25 HOURS

          ENGLISH UNITS
               DRAINAGE AREA         SQUARE MILES
               PRECIPITATION DEPTH   INCHES
               LENGTH, ELEVATION     FEET
               FLOW                  CUBIC FEET PER SECOND
               STORAGE VOLUME        ACRE-FEET
               SURFACE AREA          ACRES
               TEMPERATURE           DEGREES FAHRENHEIT

123 JD          INDEX STORM NO. 1
                     STRM       1.76  PRECIPITATION DEPTH
                     TRDA        .00  TRANSPOSITION DRAINAGE AREA

124 PI          PRECIPITATION PATTERN
                  .00     .00     .00     .00     .00     .00     .00     .00     .00     .00
                  .00     .00     .00     .00     .00     .00     .00     .00     .00     .00
                  .00     .00     .00     .00     .00     .00     .00     .00     .00     .00
                  .00     .00     .00     .01     .01     .01     .01     .01     .01     .03
                  .03     .03     .05     .05     .05     .15     .15     .15     .03     .03
                  .03     .01     .01     .01     .01     .01     .01     .00     .00     .00
                  .00     .00     .00     .00     .00     .00     .00     .00     .00     .00
                  .00     .00
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127 JD          INDEX STORM NO. 2
                      STRM         1.75  PRECIPITATION DEPTH
                      TRDA          .50  TRANSPOSITION DRAINAGE AREA

128 PI           PRECIPITATION PATTERN
                   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00
                   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00
                   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00
                   .00   .00   .00   .01   .01   .01   .01   .01   .01   .03
                   .03   .03   .05   .05   .05   .15   .15   .15   .03   .03
                   .03   .01   .01   .01   .01   .01   .01   .00   .00   .00
                   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00
                   .00   .00

131 JD          INDEX STORM NO. 3
                      STRM         1.72  PRECIPITATION DEPTH
                      TRDA         2.80  TRANSPOSITION DRAINAGE AREA

132 PI           PRECIPITATION PATTERN
                   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00
                   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00
                   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00
                   .00   .00   .00   .01   .01   .01   .01   .01   .01   .03
                   .03   .03   .07   .07   .07   .08   .08   .08   .05   .05
                   .05   .02   .02   .02   .01   .01   .01   .00   .00   .00
                   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00
                   .00   .00

135 JD          INDEX STORM NO. 4
                      STRM         1.63  PRECIPITATION DEPTH
                      TRDA        16.00  TRANSPOSITION DRAINAGE AREA

136 PI           PRECIPITATION PATTERN
                   .01   .01   .00   .00   .00   .00   .00   .00   .00   .01
                   .01   .01   .00   .01   .00   .00   .00   .00   .00   .00
                   .00   .00   .01   .00   .00   .00   .00   .01   .01   .01
                   .01   .01   .01   .01   .01   .01   .02   .02   .02   .03
                   .03   .03   .06   .06   .06   .07   .07   .07   .04   .04
                   .04   .02   .02   .02   .01   .01   .01   .01   .01   .01
                   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00
                   .00   .00

139 JD          INDEX STORM NO. 5
                      STRM         1.43  PRECIPITATION DEPTH
                      TRDA        90.00  TRANSPOSITION DRAINAGE AREA

140 PI           PRECIPITATION PATTERN
                   .01   .01   .01   .00   .00   .00   .01   .01   .01   .01
                   .01   .01   .01   .01   .01   .01   .01   .01   .01   .01
                   .01   .01   .01   .01   .01   .01   .01   .01   .01   .01
                   .01   .01   .01   .01   .01   .01   .02   .02   .02   .03
                   .03   .03   .05   .05   .05   .05   .05   .05   .04   .04
                   .04   .02   .02   .02   .02   .02   .02   .01   .01   .01
                   .01   .01   .01   .01   .01   .01   .01   .01   .01   .01
                   .01   .01

143 JD          INDEX STORM NO. 6
                      STRM         1.41  PRECIPITATION DEPTH
                      TRDA       100.00  TRANSPOSITION DRAINAGE AREA

144 PI           PRECIPITATION PATTERN
                   .01   .01   .01   .00   .01   .00   .01   .01   .01   .01
                   .01   .01   .01   .01   .01   .01   .01   .01   .01   .01
                   .01   .01   .01   .01   .01   .01   .01   .01   .01   .01
                   .01   .01   .01   .01   .01   .01   .02   .02   .02   .03
                   .03   .03   .04   .04   .04   .05   .05   .05   .04   .04
                   .04   .02   .02   .02   .02   .02   .02   .01   .01   .01
                   .01   .01   .01   .01   .01   .01   .01   .01   .01   .01
                   .01   .01

        *** FDKRUT WARNING TIME STEP CALCULATION FAILED TO CONVERGE. STABILITY PROBLEMS MAY RESULT

        WARNING EXCESS AT PONDING LESS THAN ZERO FOR PERIOD. EXCESS SET TO ZERO

 *** Multiple FDKRUT Warnings deleted from model for brevity and in consideration of the environment when printing ***

1                                        RUNOFF SUMMARY
                                  FLOW IN CUBIC FEET PER SECOND
                                TIME IN HOURS,  AREA IN SQUARE MILES

                                        PEAK   TIME OF     AVERAGE FLOW FOR MAXIMUM PERIOD      BASIN     MAXIMUM     TIME OF
      OPERATION        STATION          FLOW     PEAK       6-HOUR     24-HOUR     72-HOUR      AREA      STAGE     MAX STAGE
+
      HYDROGRAPH AT
+                        UH35           563.     4.58         166.         43.         14.      1.14
      DIVERSION TO
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+                        XUH35          563.     4.58         95.         24.          8.      1.14
+     HYDROGRAPH AT
                         ERUH35         425.     5.17         75.         19.          6.      1.14
+     DIVERSION TO
                         DPUH35         425.     5.17         75.         19.          6.      1.14
+     HYDROGRAPH AT
                         DUH35            0.      .00          0.          0.          0.      1.14
+     DIVERSION TO
                         DWUH43           0.      .00          0.          0.          0.      1.14
+     HYDROGRAPH AT
                         DSBL35           0.      .00          0.          0.          0.      1.14
+     ROUTED TO
                         RSBL35           0.      .00          0.          0.          0.      1.14
+     HYDROGRAPH AT
                         BL35           433.     4.75        143.         37.         12.      1.14
+     DIVERSION TO
                         XBL35          164.     4.17         16.          4.          1.      1.14
+     HYDROGRAPH AT
                         ERBL35         433.     4.75        132.         33.         11.      1.14
+     2 COMBINED AT
                         CBL35          415.     4.75        129.         32.         11.      1.70
+     DIVERSION TO
                         DP35BL         158.     4.25         79.         20.          7.      1.70
+     HYDROGRAPH AT
                         D35BL          257.     4.75         50.         13.          4.      1.70
+     DIVERSION TO
                         DWBL43         170.     4.75         33.          8.          3.      1.70
+     HYDROGRAPH AT
                         DSGW35          87.     4.75         17.          4.          1.      1.70
+     ROUTED TO
                         RSGW35          71.     5.33         17.          4.          1.      1.70
+     HYDROGRAPH AT
                         GW35           367.     4.75        125.         32.         11.      1.01
+     2 COMBINED AT
                         CGW35          382.     5.08        139.         36.         12.      1.58
+     HYDROGRAPH AT
                         PR35BL         158.     4.25         79.         20.          7.      1.70
+     ROUTED TO
                         RP35GW         158.     4.42         79.         20.          7.      1.70
+     2 COMBINED AT
                         CPGW35         540.     5.08        217.         56.         19.      1.58
+     DIVERSION TO
                         DP35GW         318.     4.42        169.         44.         15.      1.58
+     HYDROGRAPH AT
                         D35GW          222.     5.08         47.         12.          4.      1.58
+     DIVERSION TO
                         DWGW43         129.     5.08         27.          7.          2.      1.58
+     HYDROGRAPH AT
                         DSTB35          93.     5.08         20.          5.          2.      1.58
+     ROUTED TO
                         RSTB35          84.     5.58         20.          5.          2.      1.58
+     HYDROGRAPH AT
                         TB35           355.     4.75        119.         31.         10.       .98
+     2 COMBINED AT
                         CTB35          352.     5.17        136.         35.         12.      1.65
+     HYDROGRAPH AT
                         PR35GW         318.     4.42        169.         44.         15.      1.58
+     ROUTED TO
                         RP35TB         318.     4.58        169.         44.         15.      1.58
+     2 COMBINED AT
                         CPTB35         670.     5.17        305.         79.         26.      1.65
+     DIVERSION TO
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+		DP35TB	554.	4.42	283.	74.	25.	1.65
+	HYDROGRAPH AT	D35TB	116.	5.17	22.	5.	2.	1.65
+	DIVERSION TO	DWTB43	60.	5.17	11.	3.	1.	1.65
+	HYDROGRAPH AT	DSCT35	55.	5.17	10.	3.	1.	1.65
+	ROUTED TO	RSCT35	45.	5.92	10.	3.	1.	1.65
+	HYDROGRAPH AT	CT35	324.	4.75	112.	29.	10.	.98
+	2 COMBINED AT	CCT35	305.	4.83	118.	31.	10.	1.76
+	HYDROGRAPH AT	PR35TB	554.	4.42	283.	74.	25.	1.65
+	ROUTED TO	RP35CT	554.	4.58	283.	74.	25.	1.65
+	2 COMBINED AT	CPCT35	859.	4.83	401.	104.	35.	1.76
+	DIVERSION TO	DP35CT	554.	4.42	320.	84.	28.	1.76
+	HYDROGRAPH AT	D35CT	305.	4.83	81.	20.	7.	1.76
+	DIVERSION TO	DWCT43	177.	4.83	47.	12.	4.	1.76
+	HYDROGRAPH AT	DSPE35	128.	4.83	34.	8.	3.	1.76
+	ROUTED TO	RSPE35	116.	5.67	34.	8.	3.	1.76
+	HYDROGRAPH AT	PE35	290.	4.75	100.	26.	9.	.98
+	2 COMBINED AT	CPE35	317.	5.33	128.	33.	11.	1.71
+	HYDROGRAPH AT	PR35CT	554.	4.42	320.	84.	28.	1.76
+	ROUTED TO	RP35PE	554.	4.58	320.	84.	28.	1.76
+	2 COMBINED AT	CPPE35	871.	5.33	449.	117.	39.	1.71
+	DIVERSION TO	DP35PE	466.	4.25	310.	83.	28.	1.71
+	HYDROGRAPH AT	D35PE	405.	5.33	138.	35.	12.	1.71
+	DIVERSION TO	DWPE43	284.	5.33	97.	24.	8.	1.71
+	HYDROGRAPH AT	DSAC35	122.	5.33	42.	10.	3.	1.71
+	ROUTED TO	RSAC35	119.	5.58	42.	10.	3.	1.71
+	HYDROGRAPH AT	AC35	392.	4.50	108.	28.	9.	.75
+	2 COMBINED AT	CAC01	418.	4.75	148.	38.	13.	1.27
+	HYDROGRAPH AT	PR35PE	466.	4.25	310.	83.	28.	1.71
+	ROUTED TO	RP35AC	466.	4.33	310.	83.	28.	1.71
+	2 COMBINED AT	CPAC01	884.	4.75	456.	121.	40.	1.27
+	HYDROGRAPH AT	DRUH43	0.	.00	0.	0.	0.	1.14
	ROUTED TO							

+		RWUH43	0.	.00	0.	0.	0.	1.14
+	HYDROGRAPH AT	UH43	309.	4.75	99.	25.	8.	1.02
+	DIVERSION TO	XUH43	309.	4.75	54.	14.	5.	1.02
+	HYDROGRAPH AT	ERUH43	215.	5.50	47.	12.	4.	1.02
+	2 COMBINED AT	CUH43	207.	5.50	43.	11.	4.	1.60
+	HYDROGRAPH AT	PRUH35	425.	5.17	75.	19.	6.	1.14
+	ROUTED TO	RPUH43	420.	5.25	76.	19.	6.	1.14
+	2 COMBINED AT	CPUH43	546.	5.42	118.	30.	10.	1.60
+	DIVERSION TO	DPUH43	546.	5.42	118.	30.	10.	1.60
+	HYDROGRAPH AT	DUH43	0.	.00	0.	0.	0.	1.60
+	DIVERSION TO	DWUH51	0.	.00	0.	0.	0.	1.60
+	HYDROGRAPH AT	DSBL43	0.	.00	0.	0.	0.	1.60
+	ROUTED TO	RSBL43	0.	.00	0.	0.	0.	1.60
+	HYDROGRAPH AT	DRBL43	170.	4.75	33.	8.	3.	1.70
+	ROUTED TO	RWBL43	144.	5.33	33.	8.	3.	1.70
+	HYDROGRAPH AT	BL43	380.	4.75	126.	33.	11.	1.05
+	3 COMBINED AT	CBL43	428.	5.25	150.	38.	13.	3.10
+	DIVERSION TO	DP43BL	117.	4.17	73.	19.	6.	3.10
+	HYDROGRAPH AT	D43BL	311.	5.25	76.	19.	6.	3.10
+	DIVERSION TO	DWBL51	143.	5.25	35.	9.	3.	3.10
+	HYDROGRAPH AT	DSGW43	168.	5.25	41.	10.	3.	3.10
+	ROUTED TO	RSGW43	153.	5.58	41.	10.	3.	3.10
+	HYDROGRAPH AT	DRGW43	129.	5.08	27.	7.	2.	1.58
+	ROUTED TO	RWGW43	116.	5.58	27.	7.	2.	1.58
+	HYDROGRAPH AT	GW43	327.	4.75	111.	29.	10.	.99
+	DIVERSION TO	XGW43	134.	4.17	13.	3.	1.	.99
+	HYDROGRAPH AT	ERGW43	327.	4.75	102.	26.	9.	.99
+	3 COMBINED AT	CGW43	451.	5.50	156.	39.	13.	3.57
+	HYDROGRAPH AT	PR43BL	117.	4.17	73.	19.	6.	3.10
+	ROUTED TO	RP43GW	117.	4.33	73.	19.	6.	3.10
+	2 COMBINED AT	CPGW43	568.	5.50	229.	58.	19.	3.57
	DIVERSION TO							

+		DP43GW	155.	4.25	105.	27.	9.	3.57
+	HYDROGRAPH AT	D43GW	413.	5.50	124.	31.	10.	3.57
+	DIVERSION TO	DWGW51	219.	5.50	66.	16.	5.	3.57
+	HYDROGRAPH AT	DSTB43	194.	5.50	58.	15.	5.	3.57
+	ROUTED TO	RSTB43	179.	5.83	58.	15.	5.	3.57
+	HYDROGRAPH AT	DRTB43	60.	5.17	11.	3.	1.	1.65
+	ROUTED TO	RWTB43	47.	5.83	11.	3.	1.	1.65
+	HYDROGRAPH AT	TB43	326.	4.75	107.	28.	9.	1.00
+	3 COMBINED AT	CTB43	398.	5.50	163.	42.	14.	3.55
+	HYDROGRAPH AT	PR43GW	155.	4.25	105.	27.	9.	3.57
+	ROUTED TO	RP43TB	155.	4.42	105.	27.	9.	3.57
+	2 COMBINED AT	CPTB43	553.	5.50	268.	69.	23.	3.55
+	DIVERSION TO	DP43TB	312.	4.42	203.	53.	18.	3.55
+	HYDROGRAPH AT	D43TB	241.	5.50	65.	16.	5.	3.55
+	DIVERSION TO	DWTB51	152.	5.50	41.	10.	3.	3.55
+	HYDROGRAPH AT	DSCT43	89.	5.50	24.	6.	2.	3.55
+	ROUTED TO	RSCT43	82.	6.00	24.	6.	2.	3.55
+	HYDROGRAPH AT	DRCT43	177.	4.83	47.	12.	4.	1.76
+	ROUTED TO	RWCT43	160.	5.58	47.	12.	4.	1.76
+	HYDROGRAPH AT	CT43	367.	4.75	124.	32.	11.	1.00
+	DIVERSION TO	XCT43	367.	4.75	83.	21.	7.	1.00
+	HYDROGRAPH AT	ERCT43	212.	5.75	45.	11.	4.	1.00
+	3 COMBINED AT	CCT43	409.	5.75	104.	26.	9.	3.35
+	HYDROGRAPH AT	PR43TB	312.	4.42	203.	53.	18.	3.55
+	ROUTED TO	RP43CT	312.	4.50	203.	53.	18.	3.55
+	2 COMBINED AT	CPCT43	721.	5.75	307.	79.	26.	3.35
+	DIVERSION TO	DP43CT	380.	5.25	245.	64.	21.	3.35
+	HYDROGRAPH AT	D43CT	341.	5.75	62.	15.	5.	3.35
+	DIVERSION TO	DWCT51	215.	5.75	39.	10.	3.	3.35
+	HYDROGRAPH AT	DSPE43	126.	5.75	23.	6.	2.	3.35
+	ROUTED TO	RSPE43	89.	6.50	23.	6.	2.	3.35
+	HYDROGRAPH AT							

+		DRPE43	284.	5.33	97.	24.	8.	1.71
+	ROUTED TO	RWPE43	275.	5.75	97.	24.	8.	1.71
+	HYDROGRAPH AT	PE43	285.	4.75	96.	25.	8.	1.00
+	3 COMBINED AT	CPE43	424.	5.33	195.	50.	17.	3.42
+	HYDROGRAPH AT	PR43CT	380.	5.25	245.	64.	21.	3.35
+	ROUTED TO	RP43PE	380.	5.33	245.	64.	21.	3.35
+	2 COMBINED AT	CPPE43	804.	5.33	440.	114.	38.	3.42
+	DIVERSION TO	DP43PE	520.	4.83	349.	91.	30.	3.42
+	HYDROGRAPH AT	D43PE	284.	5.33	91.	23.	8.	3.42
+	DIVERSION TO	DWAC51	108.	5.33	35.	9.	3.	3.42
+	HYDROGRAPH AT	DSAC43	176.	5.33	56.	14.	5.	3.42
+	HYDROGRAPH AT	AC43	81.	4.83	35.	10.	3.	.36
+	3 COMBINED AT	CAC02	1015.	5.17	526.	139.	46.	3.75
+	HYDROGRAPH AT	PR43PE	520.	4.83	349.	91.	30.	3.42
+	2 COMBINED AT	CPAC02	1535.	5.17	873.	230.	77.	3.75
+	HYDROGRAPH AT	DRUH51	0.	.00	0.	0.	0.	1.60
+	ROUTED TO	RWUH51	0.	.00	0.	0.	0.	1.60
+	HYDROGRAPH AT	UH51	279.	4.75	95.	25.	8.	.99
+	DIVERSION TO	XUH51	279.	4.75	91.	23.	8.	.99
+	HYDROGRAPH AT	ERUH51	31.	7.08	5.	1.	0.	.99
+	2 COMBINED AT	CUH51	16.	7.08	3.	1.	0.	1.66
+	DIVERSION TO	DWUHSK	10.	7.08	2.	0.	0.	1.66
+	HYDROGRAPH AT	DSBL51	6.	7.08	1.	0.	0.	1.66
+	HYDROGRAPH AT	PRUH43	546.	5.42	118.	30.	10.	1.60
+	ROUTED TO	RPUH51	542.	5.50	118.	30.	10.	1.60
+	2 COMBINED AT	CPUH51	540.	5.50	119.	30.	10.	1.66
+	DIVERSION TO	DPUH51	540.	5.50	119.	30.	10.	1.66
+	HYDROGRAPH AT	DUH51	0.	.00	0.	0.	0.	1.66
+	ROUTED TO	RSBL51	0.	.00	0.	0.	0.	1.66
+	HYDROGRAPH AT	DRBL51	143.	5.25	35.	9.	3.	3.10
+	ROUTED TO	RWBL51	134.	5.50	35.	9.	3.	3.10
+	HYDROGRAPH AT							

+		BL51	329.	4.75	110.	28.	9.	1.04
+	DIVERSION TO	XBL51	329.	4.75	46.	12.	4.	1.04
+	HYDROGRAPH AT	ERBL51	300.	5.08	67.	17.	6.	1.04
+	3 COMBINED AT	CBL51	368.	5.25	93.	23.	8.	3.12
+	DIVERSION TO	DP51BL	38.	5.08	24.	6.	2.	3.12
+	HYDROGRAPH AT	D51BL	330.	5.25	69.	17.	6.	3.12
+	DIVERSION TO	DWBL59	171.	5.25	36.	9.	3.	3.12
+	HYDROGRAPH AT	DSGW51	158.	5.25	33.	8.	3.	3.12
+	ROUTED TO	RSGW51	108.	5.92	33.	8.	3.	3.12
+	HYDROGRAPH AT	DRGW51	219.	5.50	66.	16.	5.	3.57
+	ROUTED TO	RWGW51	205.	5.83	66.	16.	5.	3.57
+	HYDROGRAPH AT	GW51	255.	4.75	83.	21.	7.	.96
+	DIVERSION TO	XGW51	10.	3.42	3.	1.	0.	.96
+	HYDROGRAPH AT	ERGW51	255.	4.75	83.	21.	7.	.96
+	3 COMBINED AT	CGW51	412.	5.75	162.	41.	14.	4.34
+	HYDROGRAPH AT	PR51BL	38.	5.08	24.	6.	2.	3.12
+	ROUTED TO	RP51GW	38.	5.25	24.	6.	2.	3.12
+	2 COMBINED AT	CPGW51	450.	5.75	185.	47.	16.	4.34
+	DIVERSION TO	DP51GW	150.	4.58	104.	26.	9.	4.34
+	HYDROGRAPH AT	D51GW	300.	5.75	82.	20.	7.	4.34
+	DIVERSION TO	DWGW59	195.	5.75	53.	13.	4.	4.34
+	HYDROGRAPH AT	DSTB51	105.	5.75	29.	7.	2.	4.34
+	ROUTED TO	RSTB51	96.	6.25	29.	7.	2.	4.34
+	HYDROGRAPH AT	DRTB51	152.	5.50	41.	10.	3.	3.55
+	ROUTED TO	RWTB51	143.	5.92	41.	10.	3.	3.55
+	HYDROGRAPH AT	TB51	276.	4.75	90.	23.	8.	.99
+	3 COMBINED AT	CTB51	327.	5.83	140.	36.	12.	4.70
+	HYDROGRAPH AT	PR51GW	150.	4.58	104.	26.	9.	4.34
+	ROUTED TO	RP51TB	150.	4.75	104.	26.	9.	4.34
+	2 COMBINED AT	CPTB51	477.	5.83	244.	62.	21.	4.70
+	DIVERSION TO	DP51TB	244.	4.50	171.	44.	15.	4.70
	HYDROGRAPH AT							

+		D51TB	233.	5.83	73.	18.	6.	4.70
+	DIVERSION TO	DWTB59	142.	5.83	45.	11.	4.	4.70
+	HYDROGRAPH AT	DSCT51	91.	5.83	28.	7.	2.	4.70
+	ROUTED TO	RSCT51	87.	6.17	28.	7.	2.	4.70
+	HYDROGRAPH AT	DRCT51	215.	5.75	39.	10.	3.	3.35
+	ROUTED TO	RWCT51	150.	6.42	39.	10.	3.	3.35
+	HYDROGRAPH AT	CT51	416.	4.67	132.	34.	11.	.99
+	DIVERSION TO	XCT51	416.	4.67	116.	29.	10.	.99
+	HYDROGRAPH AT	ERCT51	89.	6.58	20.	5.	2.	.99
+	3 COMBINED AT	CCT51	260.	6.58	71.	18.	6.	4.94
+	HYDROGRAPH AT	PR51TB	244.	4.50	171.	44.	15.	4.70
+	ROUTED TO	RP51CT	244.	4.67	171.	44.	15.	4.70
+	2 COMBINED AT	CPCT51	504.	6.58	241.	62.	21.	4.94
+	DIVERSION TO	DP51CT	244.	4.67	179.	46.	15.	4.94
+	HYDROGRAPH AT	D51CT	260.	6.58	62.	16.	5.	4.94
+	DIVERSION TO	DWAC59	86.	6.58	21.	5.	2.	4.94
+	HYDROGRAPH AT	DSAC51	174.	6.58	42.	10.	3.	4.94
+	HYDROGRAPH AT	DRAC51	108.	5.33	35.	9.	3.	3.42
+	HYDROGRAPH AT	AC51	164.	4.83	70.	19.	6.	.58
+	DIVERSION TO	XAC51	5.	2.67	1.	0.	0.	.58
+	HYDROGRAPH AT	ERAC51	164.	4.83	70.	18.	6.	.58
+	4 COMBINED AT	CAC03	1687.	5.25	948.	251.	84.	8.95
+	HYDROGRAPH AT	PR51CT	244.	4.67	179.	46.	15.	4.94
+	2 COMBINED AT	CPAC03	1931.	5.25	1122.	297.	99.	8.95
+	HYDROGRAPH AT	DRBL59	171.	5.25	36.	9.	3.	3.12
+	ROUTED TO	RWBL59	113.	5.92	36.	9.	3.	3.12
+	HYDROGRAPH AT	BL59	376.	4.75	127.	33.	11.	1.08
+	DIVERSION TO	XBL59	376.	4.75	127.	33.	11.	1.08
+	HYDROGRAPH AT	ERBL59	0.	.00	0.	0.	0.	1.08
+	2 COMBINED AT	CBL59	117.	5.92	37.	9.	3.	2.71
+	DIVERSION TO	DP59BL	108.	5.75	36.	9.	3.	2.71
	HYDROGRAPH AT							

	D59BL	9.	5.92	1.	0.	0.	2.71
DIVERSION TO	DWBL67	3.	5.92	0.	0.	0.	2.71
HYDROGRAPH AT	DSGW59	6.	5.92	0.	0.	0.	2.71
ROUTED TO	RSGW59	2.	6.58	0.	0.	0.	2.71
HYDROGRAPH AT	DRGW59	195.	5.75	53.	13.	4.	4.34
ROUTED TO	RWGW59	181.	6.17	53.	13.	4.	4.34
HYDROGRAPH AT	GW59	347.	4.75	119.	31.	10.	.94
DIVERSION TO	XGW59	347.	4.75	72.	18.	6.	.94
HYDROGRAPH AT	ERGW59	232.	5.58	51.	13.	4.	.94
3 COMBINED AT	CGW59	311.	5.83	88.	22.	7.	5.64
HYDROGRAPH AT	PR59BL	108.	5.75	36.	9.	3.	2.71
ROUTED TO	RP59GW	108.	5.92	36.	9.	3.	2.71
2 COMBINED AT	CPGW59	397.	6.00	119.	30.	10.	5.64
DIVERSION TO	DP59GW	273.	5.83	100.	25.	8.	5.64
HYDROGRAPH AT	D59GW	124.	6.00	19.	5.	2.	5.64
DIVERSION TO	DWGW67	56.	6.00	9.	2.	1.	5.64
HYDROGRAPH AT	DSTB59	68.	6.00	11.	3.	1.	5.64
ROUTED TO	RSTB59	45.	6.75	11.	3.	1.	5.64
HYDROGRAPH AT	DRTB59	142.	5.83	45.	11.	4.	4.70
ROUTED TO	RWTB59	138.	6.17	45.	11.	4.	4.70
HYDROGRAPH AT	TB59	331.	4.75	113.	30.	10.	1.00
3 COMBINED AT	CTB59	283.	5.25	144.	37.	12.	6.96
HYDROGRAPH AT	PR59GW	273.	5.83	100.	25.	8.	5.64
ROUTED TO	RP59AM	273.	5.92	100.	25.	8.	5.64
ROUTED TO	SRAM59	242.	6.83	100.	25.	8.	5.64
ROUTED TO	RP59TB	241.	6.83	100.	25.	8.	5.64
2 COMBINED AT	CPTB59	434.	6.75	237.	62.	21.	6.96
DIVERSION TO	DPTB59	434.	6.75	237.	62.	21.	6.96
HYDROGRAPH AT	DTB59	0.	.00	0.	0.	0.	6.96
DIVERSION TO	DWAC67	0.	.00	0.	0.	0.	6.96
HYDROGRAPH AT	DSAC59	0.	.00	0.	0.	0.	6.96
HYDROGRAPH AT							

	DRAC59	86.	6.58	21.	5.	2.	4.94
HYDROGRAPH AT	AC59	227.	4.83	92.	25.	8.	.74
DIVERSION TO	XAC59	227.	4.83	92.	25.	8.	.74
HYDROGRAPH AT	ERAC59	0.	.00	0.	0.	0.	.74
4 COMBINED AT	CAC04	1930.	5.25	1130.	299.	100.	15.39
HYDROGRAPH AT	PRTB59	434.	6.75	237.	62.	21.	6.96
2 COMBINED AT	CPAC04	2108.	5.25	1281.	340.	113.	15.39
HYDROGRAPH AT	DRBL67	3.	5.92	0.	0.	0.	2.71
DIVERSION TO	DWSK67	2.	5.92	0.	0.	0.	2.71
HYDROGRAPH AT	DBL67	1.	5.92	0.	0.	0.	2.71
ROUTED TO	RWBL67	0.	6.67	0.	0.	0.	2.71
HYDROGRAPH AT	BL67	91.	4.58	30.	8.	3.	.23
DIVERSION TO	XBL67	91.	4.58	30.	8.	3.	.23
HYDROGRAPH AT	ERBL67	0.	.00	0.	0.	0.	.23
2 COMBINED AT	CBL67	3.	6.58	0.	0.	0.	.46
DIVERSION TO	DP67BL	3.	6.58	0.	0.	0.	.46
HYDROGRAPH AT	D67BL	0.	.00	0.	0.	0.	.46
DIVERSION TO	DWBL75	0.	.00	0.	0.	0.	.46
HYDROGRAPH AT	DSGW67	0.	.00	0.	0.	0.	.46
ROUTED TO	RSGW67	0.	.00	0.	0.	0.	.46
HYDROGRAPH AT	DRGW67	56.	6.00	9.	2.	1.	5.64
ROUTED TO	RWGW67	38.	6.75	9.	2.	1.	5.64
HYDROGRAPH AT	GW67	338.	4.75	114.	30.	10.	.89
DIVERSION TO	XGW67	338.	4.75	101.	25.	8.	.89
HYDROGRAPH AT	ERGW67	73.	6.42	17.	4.	1.	.89
3 COMBINED AT	CGW67	109.	6.92	22.	6.	2.	3.64
HYDROGRAPH AT	PR67BL	3.	6.58	0.	0.	0.	.46
2 COMBINED AT	CPGW67	109.	6.92	22.	6.	2.	3.64
DIVERSION TO	DP67GW	109.	6.92	22.	6.	2.	3.64
HYDROGRAPH AT	D67GW	0.	.00	0.	0.	0.	3.64
DIVERSION TO	DWAC75	0.	.00	0.	0.	0.	3.64
HYDROGRAPH AT							

+		DSAC67	0.	.00	0.	0.	0.	3.64
+	ROUTED TO	RSAC67	0.	.00	0.	0.	0.	3.64
+	HYDROGRAPH AT	DRAC67	0.	.00	0.	0.	0.	6.96
+	ROUTED TO	RWAC67	0.	.00	0.	0.	0.	6.96
+	HYDROGRAPH AT	AC67	210.	4.83	82.	22.	7.	.70
+	4 COMBINED AT	CAC05	2193.	5.25	1295.	345.	115.	19.62
+	HYDROGRAPH AT	PR67GW	109.	6.92	22.	6.	2.	3.64
+	2 COMBINED AT	CPAC05	2194.	5.25	1296.	345.	115.	19.55
+	HYDROGRAPH AT	DRAC75	0.	.00	0.	0.	0.	3.64
+	HYDROGRAPH AT	AC75	226.	4.75	85.	22.	7.	.84
+	DIVERSION TO	XAC75	226.	4.75	35.	9.	3.	.84
+	HYDROGRAPH AT	ERAC75	201.	5.25	54.	14.	5.	.84
+	3 COMBINED AT	CAC06	2254.	5.42	1295.	346.	115.	23.44
+	HYDROGRAPH AT	HV55	499.	4.75	163.	42.	14.	2.05
+	DIVERSION TO	XHV55	499.	4.75	163.	42.	14.	2.05
+	HYDROGRAPH AT	ERHV55	0.	.00	0.	0.	0.	2.05
+	ROUTED TO	RCL57	0.	.00	0.	0.	0.	2.05
+	HYDROGRAPH AT	CL57	287.	4.50	68.	17.	6.	.75
+	DIVERSION TO	XCL57	287.	4.50	68.	17.	6.	.75
+	HYDROGRAPH AT	ERCL57	0.	.00	0.	0.	0.	.75
+	2 COMBINED AT	CCL57	0.	.00	0.	0.	0.	2.80
+	ROUTED TO	RWL59	0.	.00	0.	0.	0.	2.80
+	HYDROGRAPH AT	WL59	137.	4.75	46.	12.	4.	.56
+	DIVERSION TO	XWL59	137.	4.75	22.	6.	2.	.56
+	HYDROGRAPH AT	ERWL59	114.	5.17	26.	6.	2.	.56
+	2 COMBINED AT	CWL59	52.	5.75	12.	3.	1.	3.36
+	HYDROGRAPH AT	DV56	201.	4.50	31.	8.	3.	.29
+	2 COMBINED AT	CDV56	118.	4.50	35.	9.	3.	3.65
+	ROUTED TO	SRDV56	73.	4.92	35.	9.	3.	3.65
+	HYDROGRAPH AT	LO51	377.	4.75	123.	32.	11.	1.13
+	2 COMBINED AT	CLO51	369.	4.83	139.	37.	12.	4.78
	DIVERSION TO							

+		DP51LO	38.	3.50	36.	11.	4.	4.78
+	HYDROGRAPH AT	D51LO	331.	4.83	104.	26.	9.	4.78
+	ROUTED TO	SRLO51	73.	6.75	59.	25.	9.	4.78
+	ROUTED TO	RUHSKA	73.	7.08	58.	25.	9.	4.78
+	HYDROGRAPH AT	DRUHSK	10.	7.08	2.	0.	0.	1.66
+	DIVERSION TO	DP51SK	7.	7.08	2.	0.	0.	1.66
+	HYDROGRAPH AT	D51SK	2.	7.08	0.	0.	0.	1.66
+	ROUTED TO	RUHSKB	0.	8.08	0.	0.	0.	1.66
+	HYDROGRAPH AT	UHSK	274.	4.67	85.	22.	7.	.93
+	DIVERSION TO	XUHSK	274.	4.67	40.	10.	3.	.93
+	HYDROGRAPH AT	ERUHSK	226.	5.17	48.	12.	4.	.93
+	3 COMBINED AT	CSK01	172.	5.50	84.	31.	11.	6.73
+	DIVERSION TO	DPUHSK	10.	5.08	10.	8.	3.	6.73
+	HYDROGRAPH AT	DUHSK	162.	5.50	74.	23.	8.	6.73
+	HYDROGRAPH AT	DRSK67	2.	5.92	0.	0.	0.	2.71
+	ROUTED TO	RSK67	1.	6.67	0.	0.	0.	2.71
+	HYDROGRAPH AT	SK67	296.	4.67	85.	22.	7.	.94
+	DIVERSION TO	XSK67	296.	4.67	57.	14.	5.	.94
+	HYDROGRAPH AT	ERSK67	150.	5.25	30.	8.	3.	.94
+	3 COMBINED AT	CSK02	188.	5.75	80.	24.	8.	8.30
+	HYDROGRAPH AT	PRUHSK	10.	5.08	10.	8.	3.	6.73
+	ROUTED TO	RPSK67	10.	5.50	10.	8.	3.	6.73
+	2 COMBINED AT	CPSK02	198.	5.75	90.	32.	11.	8.30
+	HYDROGRAPH AT	UH67	287.	4.67	90.	23.	8.	.78
+	DIVERSION TO	XUH67	287.	4.67	90.	23.	8.	.78
+	HYDROGRAPH AT	ERUH67	0.	.00	0.	0.	0.	.78
+	ROUTED TO	RUH75	0.	.00	0.	0.	0.	.78
+	HYDROGRAPH AT	UH75	278.	4.75	92.	24.	8.	.81
+	DIVERSION TO	XUH75	278.	4.75	92.	24.	8.	.81
+	HYDROGRAPH AT	ERUH75	0.	.00	0.	0.	0.	.81
+	2 COMBINED AT	CUH75	0.	.00	0.	0.	0.	1.60
	ROUTED TO							

+		RBL75A	0.	.00	0.	0.	0.	1.60
+	HYDROGRAPH AT	DRBL75	0.	.00	0.	0.	0.	.46
+	ROUTED TO	RBL75B	0.	.00	0.	0.	0.	.46
+	HYDROGRAPH AT	BL75	284.	4.75	94.	24.	8.	1.06
+	DIVERSION TO	XBL75	256.	4.58	27.	7.	2.	1.06
+	HYDROGRAPH AT	ERBL75	282.	4.83	71.	18.	6.	1.06
+	4 COMBINED AT	CSK03	302.	5.50	127.	42.	14.	11.22
+	HYDROGRAPH AT	UHLO	336.	4.50	82.	21.	7.	.82
+	DIVERSION TO	XUHLO	336.	4.50	82.	21.	7.	.82
+	HYDROGRAPH AT	ERUHLO	0.	.00	0.	0.	0.	.82
+	ROUTED TO	RBLLO	0.	.00	0.	0.	0.	.82
+	HYDROGRAPH AT	BLLO	287.	4.67	93.	24.	8.	.76
+	DIVERSION TO	XBLLO	287.	4.67	93.	24.	8.	.76
+	HYDROGRAPH AT	ERBLLO	0.	.00	0.	0.	0.	.76
+	2 COMBINED AT	CBLLO	0.	.00	0.	0.	0.	1.59
+	DIVERSION TO	DPBLLO	0.	.00	0.	0.	0.	1.59
+	HYDROGRAPH AT	DBLLO	0.	.00	0.	0.	0.	1.59
+	ROUTED TO	RGWLO	0.	.00	0.	0.	0.	1.59
+	HYDROGRAPH AT	GWLO	503.	4.33	105.	27.	9.	.81
+	DIVERSION TO	XGWLO	503.	4.33	105.	26.	9.	.81
+	HYDROGRAPH AT	ERGWLO	9.	6.67	1.	0.	0.	.81
+	4 COMBINED AT	CSK04	2338.	5.50	1294.	355.	119.	37.07
+	HYDROGRAPH AT	PRBLLO	0.	.00	0.	0.	0.	1.59
+	2 COMBINED AT	CPSK04	2338.	5.50	1294.	355.	119.	37.07
+	HYDROGRAPH AT	JM63	325.	4.50	72.	18.	6.	.84
+	DIVERSION TO	XJM63	325.	4.50	72.	18.	6.	.84
+	HYDROGRAPH AT	ERJM63	0.	.00	0.	0.	0.	.84
+	ROUTED TO	RJM67	0.	.00	0.	0.	0.	.84
+	HYDROGRAPH AT	JM67	164.	4.42	39.	10.	3.	.38
+	DIVERSION TO	XJM67	164.	4.42	39.	10.	3.	.38
+	HYDROGRAPH AT	ERJM67	0.	.00	0.	0.	0.	.38
+	2 COMBINED AT							

+		CJM67	0.	.00	0.	0.	0.	1.22
+	ROUTED TO	RHV75	0.	.00	0.	0.	0.	1.22
+	HYDROGRAPH AT	HV75	269.	4.58	76.	19.	6.	.96
+	DIVERSION TO	XHV75	269.	4.58	76.	19.	6.	.96
+	HYDROGRAPH AT	ERHV75	0.	.00	0.	0.	0.	.96
+	2 COMBINED AT	CHV75	0.	.00	0.	0.	0.	2.18
+	HYDROGRAPH AT	JM80	77.	4.33	16.	4.	1.	.16
+	HYDROGRAPH AT	JM76	50.	4.50	14.	4.	1.	.17
+	DIVERSION TO	XJM76	50.	4.50	13.	3.	1.	.17
+	HYDROGRAPH AT	ERJM76	6.	6.83	1.	0.	0.	.17
+	HYDROGRAPH AT	JMNR	21.	4.83	9.	2.	1.	.15
+	3 COMBINED AT	CNR01	92.	4.42	25.	7.	2.	.48
+	HYDROGRAPH AT	JM75	462.	4.33	88.	22.	7.	1.11
+	DIVERSION TO	XJM75	462.	4.33	81.	20.	7.	1.11
+	HYDROGRAPH AT	ERJM75	75.	5.25	8.	2.	1.	1.11
+	HYDROGRAPH AT	HVNR	25.	5.17	9.	2.	1.	.20
+	4 COMBINED AT	CNR02	92.	4.50	28.	7.	2.	3.98
+	HYDROGRAPH AT	HV67	371.	4.33	71.	18.	6.	.54
+	DIVERSION TO	XHV67	371.	4.33	64.	16.	5.	.54
+	HYDROGRAPH AT	ERHV67	70.	5.33	8.	2.	1.	.54
+	ROUTED TO	RCL67	50.	5.67	8.	2.	1.	.54
+	HYDROGRAPH AT	CL67	71.	4.58	23.	6.	2.	.28
+	DIVERSION TO	XCL67	71.	4.58	23.	6.	2.	.28
+	HYDROGRAPH AT	ERCL67	0.	.00	0.	0.	0.	.28
+	2 COMBINED AT	CCL67	50.	5.67	8.	2.	1.	.82
+	ROUTED TO	RPP73A	28.	6.25	6.	1.	0.	.82
+	HYDROGRAPH AT	PP67	16.	4.67	5.	1.	0.	.10
+	DIVERSION TO	XPP67	16.	4.67	5.	1.	0.	.10
+	HYDROGRAPH AT	ERPP67	0.	.00	0.	0.	0.	.10
+	DIVERSION TO	DSWL67	0.	.00	0.	0.	0.	.10
+	HYDROGRAPH AT	DWPP73	0.	.00	0.	0.	0.	.10
+	ROUTED TO							

+		RPP73B	0.	.00	0.	0.	0.	.10
+	HYDROGRAPH AT	PP73	162.	4.58	43.	11.	4.	.55
+	DIVERSION TO	XPP73	162.	4.58	21.	5.	2.	.55
+	HYDROGRAPH AT	ERPP73	136.	4.92	23.	6.	2.	.55
+	3 COMBINED AT	CPP73	66.	5.50	18.	5.	2.	1.43
+	DIVERSION TO	DSWL75	27.	5.50	7.	2.	1.	1.43
+	HYDROGRAPH AT	DWPP75	39.	5.50	11.	3.	1.	1.43
+	ROUTED TO	RPPNR	36.	5.58	11.	3.	1.	1.43
+	HYDROGRAPH AT	PP75	156.	4.42	38.	10.	3.	.42
+	DIVERSION TO	XPP75	156.	4.42	38.	10.	3.	.42
+	HYDROGRAPH AT	ERPP75	0.	.00	0.	0.	0.	.42
+	HYDROGRAPH AT	PPNR	34.	4.75	13.	3.	1.	.24
+	DIVERSION TO	XPPNR	34.	4.75	10.	3.	1.	.24
+	HYDROGRAPH AT	ERPPNR	12.	6.67	3.	1.	0.	.24
+	4 COMBINED AT	CNR03	135.	5.58	44.	11.	4.	5.47
+	HYDROGRAPH AT	DRWL75	27.	5.50	7.	2.	1.	1.43
+	ROUTED TO	RWL75B	20.	5.83	7.	2.	1.	1.43
+	HYDROGRAPH AT	DRWL67	0.	.00	0.	0.	0.	.10
+	ROUTED TO	RWL67	0.	.00	0.	0.	0.	.10
+	HYDROGRAPH AT	WL67	18.	4.67	6.	2.	1.	.10
+	DIVERSION TO	XWL67	18.	4.67	6.	2.	1.	.10
+	HYDROGRAPH AT	ERWL67	0.	.00	0.	0.	0.	.10
+	2 COMBINED AT	CWL67	0.	.00	0.	0.	0.	.13
+	ROUTED TO	RWL75A	0.	.00	0.	0.	0.	.13
+	HYDROGRAPH AT	WL75	167.	4.50	42.	11.	4.	.47
+	DIVERSION TO	XWL75	167.	4.50	36.	9.	3.	.47
+	HYDROGRAPH AT	ERWL75	44.	5.92	7.	2.	1.	.47
+	3 COMBINED AT	CWL75	43.	5.92	12.	3.	1.	1.20
+	HYDROGRAPH AT	WWBR	173.	4.17	21.	5.	2.	.18
+	DIVERSION TO	XWWBR	173.	4.17	21.	5.	2.	.18
+	HYDROGRAPH AT	ERWWBR	0.	.00	0.	0.	0.	.18
	ROUTED TO							

+		RWWRS	0.	.00	0.	0.	0.	.18
+	HYDROGRAPH AT	WWRS	66.	4.33	14.	3.	1.	.14
+	DIVERSION TO	XWWRS	66.	4.33	14.	3.	1.	.14
+	HYDROGRAPH AT	ERWWRS	0.	.00	0.	0.	0.	.14
+	2 COMBINED AT	CWWRS	0.	.00	0.	0.	0.	.33
+	ROUTED TO	RJMRS	0.	.00	0.	0.	0.	.33
+	HYDROGRAPH AT	JMRS	229.	4.50	55.	14.	5.	.57
+	DIVERSION TO	XJMRS	229.	4.50	55.	14.	5.	.57
+	HYDROGRAPH AT	ERJMRS	0.	.00	0.	0.	0.	.57
+	2 COMBINED AT	CJMRS	0.	.00	0.	0.	0.	.90
+	ROUTED TO	RHVRSB	0.	.00	0.	0.	0.	.90
+	HYDROGRAPH AT	83RS	511.	4.25	74.	19.	6.	.64
+	DIVERSION TO	X83RS	511.	4.25	74.	19.	6.	.64
+	HYDROGRAPH AT	ER83RS	0.	.00	0.	0.	0.	.64
+	ROUTED TO	RHVRSA	0.	.00	0.	0.	0.	.64
+	HYDROGRAPH AT	HVRS	171.	4.67	51.	13.	4.	.63
+	DIVERSION TO	XHVRS	171.	4.67	51.	13.	4.	.63
+	HYDROGRAPH AT	ERHVRS	0.	.00	0.	0.	0.	.63
+	3 COMBINED AT	CHVRS	0.	.00	0.	0.	0.	2.16
+	ROUTED TO	RCL77B	0.	.00	0.	0.	0.	2.16
+	HYDROGRAPH AT	HV83	25.	4.17	4.	1.	0.	.04
+	DIVERSION TO	XHV83	25.	4.17	4.	1.	0.	.04
+	HYDROGRAPH AT	ERHV83	0.	.00	0.	0.	0.	.04
+	ROUTED TO	RCL77A	0.	.00	0.	0.	0.	.04
+	HYDROGRAPH AT	CL77	116.	4.42	23.	6.	2.	.32
+	DIVERSION TO	XCL77	116.	4.42	23.	6.	2.	.32
+	HYDROGRAPH AT	ERCL77	0.	.00	0.	0.	0.	.32
+	3 COMBINED AT	CCL77	0.	.00	0.	0.	0.	2.51
+	ROUTED TO	RPP77	0.	.00	0.	0.	0.	2.51
+	HYDROGRAPH AT	PP77	48.	4.75	18.	5.	2.	.27
+	DIVERSION TO	XPP77	48.	4.75	18.	4.	1.	.27
	HYDROGRAPH AT							

+		ERPP77	3.	9.00	1.	0.	0.	.27
+	2 COMBINED AT	CPP77	0.	9.00	0.	0.	0.	2.78
+	ROUTED TO	RWLNR	0.	9.50	0.	0.	0.	2.78
+	HYDROGRAPH AT	WLNR	153.	4.50	39.	10.	3.	.39
+	4 COMBINED AT	CNR04	135.	4.58	48.	13.	4.	9.84
+	HYDROGRAPH AT	DV75	156.	4.67	51.	13.	4.	.50
+	DIVERSION TO	XDV75	156.	4.67	46.	11.	4.	.50
+	HYDROGRAPH AT	ERDV75	37.	6.67	7.	2.	1.	.50
+	DIVERSION TO	DSLO75	10.	6.67	2.	0.	0.	.50
+	HYDROGRAPH AT	DWDVNR	27.	6.67	5.	1.	0.	.50
+	ROUTED TO	RDVNR	22.	7.00	5.	1.	0.	.50
+	HYDROGRAPH AT	DVNR	125.	4.67	39.	10.	3.	.40
+	3 COMBINED AT	CNR05	168.	4.67	69.	18.	6.	10.50
+	HYDROGRAPH AT	DV67	469.	4.17	54.	14.	5.	.50
+	ROUTED TO	SRDV67	308.	4.42	53.	14.	5.	.50
+	HYDROGRAPH AT	LO67	450.	4.58	119.	30.	10.	1.22
+	2 COMBINED AT	CLO67	625.	4.50	160.	41.	14.	1.72
+	ROUTED TO	SRLO67	209.	5.67	127.	43.	20.	1.72
+	HYDROGRAPH AT	LO75	373.	4.58	100.	26.	9.	.97
+	DIVERSION TO	XLO75	373.	4.58	69.	17.	6.	.97
+	HYDROGRAPH AT	ERLO75	184.	5.50	33.	8.	3.	.97
+	2 COMBINED AT	CLO75	366.	5.50	144.	48.	22.	2.69
+	ROUTED TO	SRLO75	237.	6.42	128.	47.	22.	2.69
+	HYDROGRAPH AT	DRLO75	10.	6.67	2.	0.	0.	.50
+	ROUTED TO	RLO75	6.	8.00	2.	0.	0.	.50
+	2 COMBINED AT	CILO75	238.	6.42	128.	47.	22.	2.94
+	ROUTED TO	RBYNRB	232.	6.50	126.	46.	22.	2.94
+	HYDROGRAPH AT	PP81	90.	4.33	16.	4.	1.	.20
+	DIVERSION TO	XPP81	90.	4.33	16.	4.	1.	.20
+	HYDROGRAPH AT	ERPP81	0.	.00	0.	0.	0.	.20
+	ROUTED TO	RWL83	0.	.00	0.	0.	0.	.20
	HYDROGRAPH AT							

+		WL83	56.	4.58	16.	4.	1.	.13
+	DIVERSION TO	XWL83	56.	4.58	9.	2.	1.	.13
+	HYDROGRAPH AT	ERWL83	42.	5.08	7.	2.	1.	.13
+	2 COMBINED AT	CWL83	42.	5.08	7.	2.	1.	.32
+	HYDROGRAPH AT	HV87	298.	4.25	29.	7.	2.	.28
+	ROUTED TO	RPP87	263.	4.33	29.	7.	2.	.28
+	HYDROGRAPH AT	PP87	364.	4.33	60.	15.	5.	.98
+	DIVERSION TO	XPP87	364.	4.33	60.	15.	5.	.98
+	HYDROGRAPH AT	ERPP87	0.	.00	0.	0.	0.	.98
+	2 COMBINED AT	CPP87	263.	4.33	29.	7.	2.	1.27
+	ROUTED TO	SRPP87	54.	4.83	24.	6.	2.	1.27
+	DIVERSION TO	DPPP87	54.	4.83	24.	6.	2.	1.27
+	HYDROGRAPH AT	DPP87	0.	.00	0.	0.	0.	1.27
+	HYDROGRAPH AT	PRPP87	54.	4.83	24.	6.	2.	1.27
+	ROUTED TO	RP87PP	54.	4.83	24.	6.	2.	1.27
+	HYDROGRAPH AT	PP91	37.	4.58	11.	3.	1.	.16
+	DIVERSION TO	XPP91	37.	4.58	11.	3.	1.	.16
+	HYDROGRAPH AT	ERPP91	0.	.00	0.	0.	0.	.16
+	DIVERSION TO	DPP91	0.	.00	0.	0.	0.	.16
+	HYDROGRAPH AT	DPPP91	0.	.00	0.	0.	0.	.16
+	2 COMBINED AT	CPPP87	62.	4.83	28.	7.	2.	.16
+	ROUTED TO	RPPP83	62.	4.92	28.	7.	2.	.16
+	2 COMBINED AT	CPPP83	53.	4.92	23.	6.	2.	1.43
+	ROUTED TO	SRPP83	2.	9.08	2.	1.	1.	1.43
+	DIVERSION TO	D83PP	0.	.00	0.	0.	0.	1.43
+	HYDROGRAPH AT	DP83PP	2.	9.08	2.	1.	1.	1.43
+	ROUTED TO	RP83WL	2.	9.17	2.	1.	1.	1.43
+	2 COMBINED AT	CPWL83	42.	5.08	9.	4.	2.	1.75
+	ROUTED TO	RDV83	33.	5.50	8.	3.	1.	1.75
+	HYDROGRAPH AT	DV83	42.	4.67	15.	4.	1.	.11
+	DIVERSION TO	XDV83	41.	4.50	3.	1.	0.	.11
	HYDROGRAPH AT							

+		ERDV83	42.	4.67	12.	3.	1.	.11
+	2 COMBINED AT	CDV83	70.	5.33	21.	7.	3.	.43
+	ROUTED TO	RBYNRA	60.	5.75	20.	6.	3.	.43
+	HYDROGRAPH AT	BYNR	356.	4.67	101.	26.	9.	1.03
+	DIVERSION TO	XBYNR	233.	4.33	19.	5.	2.	1.03
+	HYDROGRAPH AT	ERBYNR	356.	4.67	85.	21.	7.	1.03
+	4 COMBINED AT	CNR06	417.	4.75	217.	73.	31.	14.90
+	HYDROGRAPH AT	DR83PP	0.	.00	0.	0.	0.	1.43
+	ROUTED TO	RDV87	0.	.00	0.	0.	0.	1.43
+	HYDROGRAPH AT	DV87	502.	4.42	90.	23.	8.	1.00
+	DIVERSION TO	XDV87	194.	4.08	11.	3.	1.	1.00
+	HYDROGRAPH AT	ERDV87	502.	4.42	80.	20.	7.	1.00
+	2 COMBINED AT	CDV87	418.	4.50	73.	18.	6.	2.27
+	ROUTED TO	RBY87	360.	4.83	73.	18.	6.	2.27
+	HYDROGRAPH AT	BY87	464.	4.58	116.	29.	10.	.96
+	DIVERSION TO	XBY87	464.	4.58	116.	29.	10.	.96
+	HYDROGRAPH AT	ERBY87	0.	.00	0.	0.	0.	.96
+	2 COMBINED AT	CBY87	361.	4.83	73.	18.	6.	3.23
+	ROUTED TO	RUH87	291.	5.25	69.	17.	6.	3.23
+	HYDROGRAPH AT	UH87	503.	4.50	112.	28.	9.	1.00
+	DIVERSION TO	XUH87	503.	4.50	112.	28.	9.	1.00
+	HYDROGRAPH AT	ERUH87	0.	.00	0.	0.	0.	1.00
+	2 COMBINED AT	CUH87	291.	5.25	69.	17.	6.	4.23
+	DIVERSION TO	DSBL91	164.	5.25	39.	10.	3.	4.23
+	HYDROGRAPH AT	DSBLNR	114.	5.25	27.	7.	2.	4.23
+	DIVERSION TO	DUHNR	64.	5.25	8.	2.	1.	4.23
+	HYDROGRAPH AT	DPUHNR	50.	4.92	19.	5.	2.	4.23
+	ROUTED TO	RPUHNR	50.	5.00	19.	5.	2.	4.23
+	HYDROGRAPH AT	UHNR	148.	4.58	43.	11.	4.	.39
+	DIVERSION TO	XUHNR	57.	4.08	6.	1.	0.	.39
+	HYDROGRAPH AT	ERUHNR	148.	4.58	39.	10.	3.	.39
	3 COMBINED AT							

+		CNR07	523.	4.92	260.	84.	34.	15.29
+	HYDROGRAPH AT	DRUHNR	64.	5.25	8.	2.	1.	4.23
+	ROUTED TO	RBLNR	55.	5.42	8.	2.	1.	4.23
+	HYDROGRAPH AT	BLNR	271.	4.50	74.	19.	6.	.60
+	DIVERSION TO	XBLNR	236.	4.33	19.	5.	2.	.60
+	HYDROGRAPH AT	ERBLNR	271.	4.50	58.	14.	5.	.60
+	3 COMBINED AT	CNR08	662.	4.83	298.	93.	37.	17.63
+	HYDROGRAPH AT	RG93	81.	4.58	24.	6.	2.	.25
+	DIVERSION TO	XRG93	81.	4.58	24.	6.	2.	.25
+	HYDROGRAPH AT	ERRG93	0.	.00	0.	0.	0.	.25
+	DIVERSION TO	DWRGLP	0.	.00	0.	0.	0.	.25
+	HYDROGRAPH AT	DSBY91	0.	.00	0.	0.	0.	.25
+	ROUTED TO	RBY91	0.	.00	0.	0.	0.	.25
+	HYDROGRAPH AT	BY91	257.	4.42	46.	12.	4.	.50
+	DIVERSION TO	XBY91	257.	4.42	46.	12.	4.	.50
+	HYDROGRAPH AT	ERBY91	0.	.00	0.	0.	0.	.50
+	2 COMBINED AT	CBY91	0.	.00	0.	0.	0.	.63
+	ROUTED TO	RUH91	0.	.00	0.	0.	0.	.63
+	HYDROGRAPH AT	UH91	225.	4.75	77.	20.	7.	.93
+	DIVERSION TO	XUH91	85.	4.17	8.	2.	1.	.93
+	HYDROGRAPH AT	ERUH91	225.	4.75	72.	18.	6.	.93
+	2 COMBINED AT	CUH91	201.	4.75	66.	16.	5.	1.55
+	HYDROGRAPH AT	DRBL91	164.	5.25	39.	10.	3.	4.23
+	DIVERSION TO	DPUH91	164.	5.25	39.	10.	3.	4.23
+	HYDROGRAPH AT	DUH91	0.	.00	0.	0.	0.	4.23
+	2 COMBINED AT	CIUH91	201.	4.83	66.	16.	5.	4.04
+	ROUTED TO	RBL91	150.	5.33	55.	14.	5.	4.04
+	HYDROGRAPH AT	BL91	501.	4.50	127.	32.	11.	.90
+	DIVERSION TO	XBL91	501.	4.50	127.	32.	11.	.90
+	HYDROGRAPH AT	ERBL91	0.	.00	0.	0.	0.	.90
+	2 COMBINED AT	CBL91	150.	5.33	55.	14.	5.	4.94
	HYDROGRAPH AT							

+		PRUH91	164.	5.25	39.	10.	3.	4.23
+	ROUTED TO	RP91AT	164.	5.25	39.	10.	3.	4.23
+	ROUTED TO	SRAT91	112.	5.75	39.	10.	3.	4.23
+	ROUTED TO	RP91BL	112.	5.83	39.	10.	3.	4.23
+	2 COMBINED AT	CPBL91	245.	5.50	92.	24.	8.	4.94
+	DIVERSION TO	DSGW91	142.	5.50	53.	14.	5.	4.94
+	HYDROGRAPH AT	DSGWNR	103.	5.50	39.	10.	3.	4.94
+	DIVERSION TO	DBLNR	0.	.00	0.	0.	0.	4.94
+	HYDROGRAPH AT	DPBLNR	103.	5.50	39.	10.	3.	4.94
+	ROUTED TO	RPBLNR	103.	5.58	39.	10.	3.	4.94
+	2 COMBINED AT	CPNR08	709.	5.00	329.	101.	40.	17.63
+	HYDROGRAPH AT	DRBLNR	0.	.00	0.	0.	0.	4.94
+	ROUTED TO	RGWNRB	0.	.00	0.	0.	0.	4.94
+	HYDROGRAPH AT	DRGW91	142.	5.50	53.	14.	5.	4.94
+	ROUTED TO	RGW91	140.	5.83	53.	14.	5.	4.94
+	HYDROGRAPH AT	GW91	241.	4.42	57.	14.	5.	.48
+	DIVERSION TO	XGW91	241.	4.42	44.	11.	4.	.48
+	HYDROGRAPH AT	ERGW91	102.	5.33	13.	3.	1.	.48
+	2 COMBINED AT	CGW91	193.	5.83	62.	16.	5.	3.35
+	DIVERSION TO	DSTBNR	0.	.00	0.	0.	0.	3.35
+	HYDROGRAPH AT	DEGWNR	193.	5.83	62.	16.	5.	3.35
+	ROUTED TO	RGWNRA	182.	6.17	62.	16.	5.	3.35
+	HYDROGRAPH AT	GWNR	224.	4.67	69.	18.	6.	.70
+	DIVERSION TO	XGWNR	224.	4.67	54.	13.	4.	.70
+	HYDROGRAPH AT	ERGWNR	97.	5.67	18.	5.	2.	.70
+	5 COMBINED AT	CNR09	2570.	5.42	1398.	400.	140.	59.13
+	HYDROGRAPH AT	DRTBNR	0.	.00	0.	0.	0.	3.35
+	ROUTED TO	RTBNR	0.	.00	0.	0.	0.	3.35
+	HYDROGRAPH AT	TBNR	357.	4.67	101.	26.	9.	1.12
+	DIVERSION TO	XTBNR	333.	4.50	31.	8.	3.	1.12
+	HYDROGRAPH AT	ERTBNR	353.	4.75	72.	18.	6.	1.12
+	3 COMBINED AT							

+		CNR10	2656.	5.42	1409.	403.	141.	61.93
+	HYDROGRAPH AT	HV93	106.	4.25	16.	4.	1.	.17
+	DIVERSION TO	DWHVLP	45.	4.25	7.	2.	1.	.17
+	HYDROGRAPH AT	DSPPLP	62.	4.25	9.	2.	1.	.17
+	ROUTED TO	RPPLPA	47.	4.67	9.	2.	1.	.17
+	HYDROGRAPH AT	DRPP91	0.	.00	0.	0.	0.	.16
+	ROUTED TO	RPPLPB	0.	.00	0.	0.	0.	.16
+	HYDROGRAPH AT	PPLP	273.	4.58	83.	21.	7.	.88
+	DIVERSION TO	XPPLP	273.	4.58	83.	21.	7.	.88
+	HYDROGRAPH AT	ERPPLP	4.	8.50	0.	0.	0.	.88
+	3 COMBINED AT	CPPLP	47.	4.67	9.	2.	1.	1.15
+	DIVERSION TO	DWPP03	35.	4.75	8.	2.	1.	1.15
+	HYDROGRAPH AT	DSDV99	0.	.00	0.	0.	0.	1.15
+	DIVERSION TO	DSDVLP	0.	.00	0.	0.	0.	1.15
+	HYDROGRAPH AT	DDV99	0.	.00	0.	0.	0.	1.15
+	HYDROGRAPH AT	DV99	394.	4.50	83.	21.	7.	1.22
+	DIVERSION TO	XDV99	394.	4.50	83.	21.	7.	1.22
+	HYDROGRAPH AT	ERDV99	0.	.00	0.	0.	0.	1.22
+	2 COMBINED AT	CDV99	0.	.00	0.	0.	0.	1.22
+	ROUTED TO	RRGLPA	0.	.00	0.	0.	0.	1.22
+	HYDROGRAPH AT	DRRGLP	0.	.00	0.	0.	0.	.25
+	ROUTED TO	RRGLPB	0.	.00	0.	0.	0.	.25
+	HYDROGRAPH AT	RGLP	151.	4.58	45.	12.	4.	.41
+	DIVERSION TO	XRGLP	151.	4.58	45.	12.	4.	.41
+	HYDROGRAPH AT	ERRGLP	0.	.00	0.	0.	0.	.41
+	3 COMBINED AT	CRGLP	0.	.00	0.	0.	0.	1.75
+	DIVERSION TO	DWRG07	0.	.00	0.	0.	0.	1.75
+	HYDROGRAPH AT	DSBY07	0.	.00	0.	0.	0.	1.75
+	ROUTED TO	RBY99	0.	.00	0.	0.	0.	1.75
+	HYDROGRAPH AT	BY07	262.	4.42	57.	14.	5.	.51
+	DIVERSION TO	XBY07	262.	4.42	57.	14.	5.	.51
+	HYDROGRAPH AT							

+		ERBY07	0.	.00	0.	0.	0.	.51
+	2 COMBINED AT	CBY07	0.	.00	0.	0.	0.	1.39
+	DIVERSION TO	DWBYAF	0.	.00	0.	0.	0.	1.39
+	HYDROGRAPH AT	DSUH99	0.	.00	0.	0.	0.	1.39
+	ROUTED TO	RUH99	0.	.00	0.	0.	0.	1.39
+	HYDROGRAPH AT	UH99	197.	4.75	68.	18.	6.	.56
+	2 COMBINED AT	CUH99	182.	4.83	65.	17.	6.	1.26
+	ROUTED TO	RDW99A	181.	4.83	65.	17.	6.	1.26
+	HYDROGRAPH AT	UH97	77.	4.67	26.	7.	2.	.27
+	ROUTED TO	RDW99B	76.	4.83	26.	7.	2.	.27
+	HYDROGRAPH AT	DW99	69.	4.50	19.	5.	2.	.16
+	3 COMBINED AT	CDW99	290.	4.83	104.	27.	9.	1.68
+	DIVERSION TO	DWDW07	290.	4.83	104.	27.	9.	1.68
+	HYDROGRAPH AT	DSBL99	0.	.00	0.	0.	0.	1.68
+	ROUTED TO	RBL99	0.	.00	0.	0.	0.	1.68
+	HYDROGRAPH AT	BL99	429.	4.67	124.	32.	11.	1.13
+	2 COMBINED AT	CBL99	397.	4.75	119.	31.	10.	1.98
+	ROUTED TO	RBN99	394.	4.75	119.	31.	10.	1.98
+	HYDROGRAPH AT	BN99	386.	4.58	106.	27.	9.	1.04
+	2 COMBINED AT	CBN99	696.	4.75	212.	54.	18.	3.01
+	ROUTED TO	RTB99	690.	4.92	212.	54.	18.	3.01
+	HYDROGRAPH AT	TB99	301.	4.67	93.	24.	8.	.98
+	2 COMBINED AT	CTB99	901.	4.92	287.	74.	25.	3.99
+	ROUTED TO	RGRNRA	887.	5.00	287.	74.	25.	3.99
+	HYDROGRAPH AT	DRDW07	290.	4.83	104.	27.	9.	1.68
+	ROUTED TO	RDW07	288.	5.08	104.	27.	9.	1.68
+	HYDROGRAPH AT	DW07	154.	4.67	51.	13.	4.	.48
+	2 COMBINED AT	CDW07	425.	5.00	152.	40.	13.	1.33
+	DIVERSION TO	DWBL15	425.	5.00	152.	40.	13.	1.33
+	HYDROGRAPH AT	DSTL07	0.	.00	0.	0.	0.	1.33
+	ROUTED TO	RTL07	0.	.00	0.	0.	0.	1.33
+	HYDROGRAPH AT							

+		TL07	162.	4.67	52.	13.	4.	.58
+	2 COMBINED AT	CTL07	139.	4.75	47.	12.	4.	1.24
+	ROUTED TO	RGR99A	127.	5.33	46.	12.	4.	1.24
+	HYDROGRAPH AT	RO99	115.	4.75	44.	12.	4.	.41
+	ROUTED TO	RGR99B	114.	4.83	44.	12.	4.	.41
+	HYDROGRAPH AT	GR99	431.	4.75	155.	40.	13.	1.31
+	3 COMBINED AT	CGR99	561.	5.00	224.	59.	20.	2.97
+	ROUTED TO	RGRNRB	560.	5.08	224.	59.	20.	2.97
+	HYDROGRAPH AT	GRNR	474.	4.50	112.	28.	9.	.95
+	DIVERSION TO	XGRNR	441.	4.33	37.	9.	3.	.95
+	HYDROGRAPH AT	ERGRNR	474.	4.50	76.	19.	6.	.95
+	4 COMBINED AT	CNR11	3502.	5.25	1739.	493.	171.	69.83
+	HYDROGRAPH AT	PE99	60.	4.92	28.	8.	3.	.29
+	DIVERSION TO	DSOL99	18.	4.92	8.	2.	1.	.29
+	HYDROGRAPH AT	DEPE97	42.	4.92	19.	5.	2.	.29
+	ROUTED TO	RPE97	41.	5.25	19.	5.	2.	.29
+	HYDROGRAPH AT	PENR	98.	4.50	29.	7.	2.	.20
+	DIVERSION TO	XPENR	98.	4.50	14.	3.	1.	.20
+	HYDROGRAPH AT	ERPENR	89.	4.83	16.	4.	1.	.20
+	DIVERSION TO	DSOLNR	39.	4.83	7.	2.	1.	.20
+	HYDROGRAPH AT	DWPE99	50.	4.83	9.	2.	1.	.20
+	HYDROGRAPH AT	PE97	168.	4.67	53.	14.	5.	.56
+	DIVERSION TO	XPE97	6.	2.83	2.	0.	0.	.56
+	HYDROGRAPH AT	ERPE97	168.	4.67	52.	13.	4.	.56
+	4 COMBINED AT	CNR12	3565.	5.25	1772.	501.	174.	70.71
+	HYDROGRAPH AT	DROL99	18.	4.92	8.	2.	1.	.29
+	ROUTED TO	ROL99A	17.	5.92	8.	2.	1.	.29
+	HYDROGRAPH AT	PE11	254.	4.75	88.	23.	8.	.92
+	ROUTED TO	ROL03A	246.	5.00	88.	23.	8.	.92
+	HYDROGRAPH AT	PE07	136.	4.75	49.	13.	4.	.57
+	ROUTED TO	ROL03B	130.	5.17	49.	13.	4.	.57
+	HYDROGRAPH AT							

+		PE03	106.	4.75	38.	10.	3.	.41
+	ROUTED TO	ROL03C	104.	5.08	38.	10.	3.	.41
+	HYDROGRAPH AT	OL03	329.	4.75	103.	27.	9.	1.10
+	4 COMBINED AT	COL03	619.	5.00	234.	62.	21.	3.01
+	ROUTED TO	ROL99B	619.	5.08	234.	62.	21.	3.01
+	HYDROGRAPH AT	DROLNR	39.	4.83	7.	2.	1.	.20
+	ROUTED TO	ROLNR	25.	5.92	7.	2.	1.	.20
+	HYDROGRAPH AT	OLNR	234.	4.75	83.	22.	7.	.70
+	DIVERSION TO	XOLNR	234.	4.75	64.	16.	5.	.70
+	HYDROGRAPH AT	EROLNR	97.	6.00	23.	6.	2.	.70
+	2 COMBINED AT	COLNR	111.	6.00	29.	7.	2.	.78
+	DIVERSION TO	DSNONR	37.	6.00	10.	2.	1.	.78
+	HYDROGRAPH AT	DWOL99	75.	6.00	20.	5.	2.	.78
+	HYDROGRAPH AT	OL99	116.	4.67	39.	10.	3.	.44
+	5 COMBINED AT	CNR13	3861.	5.25	1909.	540.	186.	74.76
+	HYDROGRAPH AT	DRNONR	37.	6.00	10.	2.	1.	.78
+	ROUTED TO	RNONR	25.	7.33	10.	2.	1.	.78
+	HYDROGRAPH AT	NONR	295.	4.75	105.	27.	9.	.83
+	DIVERSION TO	XNONR	295.	4.75	96.	24.	8.	.83
+	HYDROGRAPH AT	ERNONR	56.	6.75	13.	3.	1.	.83
+	2 COMBINED AT	CNONR	62.	7.58	21.	5.	2.	1.09
+	HYDROGRAPH AT	NO99	221.	4.67	71.	18.	6.	.86
+	DIVERSION TO	XNO99	221.	4.67	53.	13.	4.	.86
+	HYDROGRAPH AT	ERNO99	104.	5.58	20.	5.	2.	.86
+	3 COMBINED AT	CNR14	3858.	5.25	1908.	540.	186.	76.71
+	HYDROGRAPH AT	GL03	317.	4.50	92.	24.	8.	.65
+	DIVERSION TO	XGL03	317.	4.50	92.	24.	8.	.65
+	HYDROGRAPH AT	ERGL03	0.	.00	0.	0.	0.	.65
+	2 COMBINED AT	CNR15	3858.	5.25	1908.	540.	186.	77.36
+	HYDROGRAPH AT	GLGH	62.	4.33	14.	4.	1.	.08
+	ROUTED TO	RGHNR	55.	4.83	14.	4.	1.	.08
	HYDROGRAPH AT							

+		GHNR	281.	4.67	89.	23.	8.	.84
+	DIVERSION TO	XGHNR	273.	4.50	30.	7.	2.	.84
+	HYDROGRAPH AT	ERGHNR	270.	4.83	63.	16.	5.	.84
+	3 COMBINED AT	CNR16	3962.	5.25	1929.	545.	188.	78.28
+	HYDROGRAPH AT	AF11	364.	4.25	59.	15.	5.	.38
+	HYDROGRAPH AT	GHAF	398.	4.33	87.	22.	7.	.56
+	DIVERSION TO	XGHAF	398.	4.33	87.	22.	7.	.56
+	HYDROGRAPH AT	ERGHAF	0.	.00	0.	0.	0.	.56
+	3 COMBINED AT	CAF06	4003.	5.25	1962.	555.	192.	79.22
+	HYDROGRAPH AT	JMAF	71.	4.33	14.	3.	1.	.15
+	DIVERSION TO	XJMAF	71.	4.33	12.	3.	1.	.15
+	HYDROGRAPH AT	ERJMAF	16.	5.42	2.	1.	0.	.15
+	HYDROGRAPH AT	HV07	224.	4.25	29.	7.	2.	.30
+	DIVERSION TO	XHV07	224.	4.25	26.	7.	2.	.30
+	HYDROGRAPH AT	ERHV07	31.	4.92	3.	1.	0.	.30
+	ROUTED TO	RHVAF	22.	5.25	3.	1.	0.	.30
+	HYDROGRAPH AT	HVAF	145.	4.25	21.	5.	2.	.22
+	DIVERSION TO	XHVAF	145.	4.25	21.	5.	2.	.22
+	HYDROGRAPH AT	ERHVAF	0.	.00	0.	0.	0.	.22
+	HYDROGRAPH AT	JM99	396.	4.42	78.	20.	7.	.57
+	DIVERSION TO	XJM99	396.	4.42	78.	20.	7.	.57
+	HYDROGRAPH AT	ERJM99	0.	.00	0.	0.	0.	.57
+	HYDROGRAPH AT	WWLP	194.	4.08	18.	5.	2.	.14
+	DIVERSION TO	XWWLP	194.	4.08	18.	5.	2.	.14
+	HYDROGRAPH AT	ERWWLP	0.	.00	0.	0.	0.	.14
+	ROUTED TO	RJMLP	0.	.00	0.	0.	0.	.14
+	HYDROGRAPH AT	JMLP	373.	4.42	77.	19.	6.	.70
+	DIVERSION TO	XJMLP	373.	4.42	77.	19.	6.	.70
+	HYDROGRAPH AT	ERJMLP	0.	.00	0.	0.	0.	.70
+	3 COMBINED AT	CJMLP	0.	.00	0.	0.	0.	1.41
+	ROUTED TO	RHV01A	0.	.00	0.	0.	0.	1.41
	HYDROGRAPH AT							

+	YLLP	253.	4.42	57.	14.	5.	.60
	DIVERSION TO						
+	XYLLP	253.	4.42	28.	7.	2.	.60
	HYDROGRAPH AT						
+	ERYLLP	207.	4.67	30.	8.	3.	.60
	ROUTED TO						
+	RHV01B	179.	4.83	30.	8.	3.	.60
	HYDROGRAPH AT						
+	DRHVLP	45.	4.25	7.	2.	1.	.17
	ROUTED TO						
+	RHVLP	40.	4.42	7.	2.	1.	.17
	HYDROGRAPH AT						
+	HVLP	96.	4.33	23.	6.	2.	.20
	DIVERSION TO						
+	XHVLP	96.	4.33	19.	5.	2.	.20
	HYDROGRAPH AT						
+	ERHVLP	34.	5.42	5.	1.	0.	.20
	2 COMBINED AT						
+	CHVLP	41.	5.42	12.	3.	1.	.27
	ROUTED TO						
+	RHV01C	39.	5.50	12.	3.	1.	.27
	HYDROGRAPH AT						
+	HV01	286.	4.33	58.	15.	5.	.44
	DIVERSION TO						
+	XHV01	286.	4.33	58.	15.	5.	.44
	HYDROGRAPH AT						
+	ERHV01	0.	.00	0.	0.	0.	.44
	4 COMBINED AT						
+	CHV01	146.	5.00	35.	9.	3.	2.72
	ROUTED TO						
+	RCL07	82.	5.42	24.	6.	2.	2.72
	ROUTED TO						
+	RCLAFA	80.	5.58	24.	6.	2.	2.72
	HYDROGRAPH AT						
+	CL07	186.	4.50	48.	12.	4.	.52
	DIVERSION TO						
+	XCL07	186.	4.50	48.	12.	4.	.52
	HYDROGRAPH AT						
+	ERCL07	0.	.00	0.	0.	0.	.52
	DIVERSION TO						
+	DSPP03	0.	.00	0.	0.	0.	.52
	HYDROGRAPH AT						
+	DWCLAF	0.	.00	0.	0.	0.	.52
	ROUTED TO						
+	RCLAFB	0.	.00	0.	0.	0.	.52
	HYDROGRAPH AT						
+	CLAF	113.	4.42	25.	6.	2.	.29
	DIVERSION TO						
+	XCLAF	113.	4.42	21.	5.	2.	.29
	HYDROGRAPH AT						
+	ERCLAF	36.	5.50	5.	1.	0.	.29
	3 COMBINED AT						
+	CCLAF	81.	5.58	24.	6.	2.	3.47
	4 COMBINED AT						
+	CAF01	66.	5.58	21.	5.	2.	4.13
	HYDROGRAPH AT						
+	DR03PP	35.	4.75	8.	2.	1.	1.15
	ROUTED TO						
+	RPP03B	30.	4.92	8.	2.	1.	1.15
	HYDROGRAPH AT						
+	DRPP03	0.	.00	0.	0.	0.	.52
	ROUTED TO						

+	RPP03A	0.	.00	0.	0.	0.	.52
	HYDROGRAPH AT						
+	PP03	66.	4.75	23.	6.	2.	.32
	DIVERSION TO						
+	XPP03	66.	4.75	7.	2.	1.	.32
	HYDROGRAPH AT						
+	ERPP03	64.	4.92	17.	4.	1.	.32
	3 COMBINED AT						
+	CPP03	61.	5.33	18.	5.	2.	1.53
	DIVERSION TO						
+	DSDV07	0.	.00	0.	0.	0.	1.53
	HYDROGRAPH AT						
+	DWPP07	61.	5.33	18.	5.	2.	1.53
	ROUTED TO						
+	RPP07	52.	5.58	18.	5.	2.	1.53
	HYDROGRAPH AT						
+	PP07	73.	4.42	15.	4.	1.	.19
	DIVERSION TO						
+	XPP07	73.	4.42	8.	2.	1.	.19
	HYDROGRAPH AT						
+	ERPP07	53.	4.83	7.	2.	1.	.19
	2 COMBINED AT						
+	CPP07	64.	5.58	21.	5.	2.	1.73
	ROUTED TO						
+	RPPAF	61.	5.67	21.	5.	2.	1.73
	HYDROGRAPH AT						
+	PPAF	306.	4.17	43.	11.	4.	.27
	2 COMBINED AT						
+	CPPAF	222.	4.17	58.	15.	5.	2.00
	HYDROGRAPH AT						
+	DVAF	165.	4.42	33.	8.	3.	.41
	DIVERSION TO						
+	XDVAF	165.	4.42	23.	6.	2.	.41
	HYDROGRAPH AT						
+	ERDVAF	88.	5.08	10.	3.	1.	.41
	2 COMBINED AT						
+	CAF02	222.	4.17	61.	16.	5.	2.41
	HYDROGRAPH AT						
+	DRDV07	0.	.00	0.	0.	0.	1.53
	ROUTED TO						
+	RDV07	0.	.00	0.	0.	0.	1.53
	HYDROGRAPH AT						
+	DV07	218.	4.58	58.	15.	5.	.64
	DIVERSION TO						
+	XDV07	218.	4.58	58.	15.	5.	.64
	HYDROGRAPH AT						
+	ERDV07	0.	.00	0.	0.	0.	.64
	2 COMBINED AT						
+	CDV07	0.	.00	0.	0.	0.	.65
	ROUTED TO						
+	RRG07A	0.	.00	0.	0.	0.	.65
	HYDROGRAPH AT						
+	DRRG07	0.	.00	0.	0.	0.	1.75
	ROUTED TO						
+	RRG07C	0.	.00	0.	0.	0.	1.75
	HYDROGRAPH AT						
+	DRDVLP	0.	.00	0.	0.	0.	1.15
	ROUTED TO						
+	RDVLP	0.	.00	0.	0.	0.	1.15
	HYDROGRAPH AT						
+	DVLP	37.	4.67	14.	4.	1.	.14
	DIVERSION TO						

+		XDVLP	37.	4.67	14.	4.	1.	.14
+	HYDROGRAPH AT	ERDVLP	0.	.00	0.	0.	0.	.14
+	2 COMBINED AT	CDVLP	0.	.00	0.	0.	0.	.14
+	ROUTED TO	RRG07B	0.	.00	0.	0.	0.	.14
+	HYDROGRAPH AT	RG07	109.	4.67	35.	9.	3.	.35
+	DIVERSION TO	XRG07	109.	4.67	35.	9.	3.	.35
+	HYDROGRAPH AT	ERRG07	0.	.00	0.	0.	0.	.35
+	4 COMBINED AT	CRG07	0.	.00	0.	0.	0.	2.01
+	ROUTED TO	RRGAF	0.	.00	0.	0.	0.	2.01
+	HYDROGRAPH AT	RGAF	84.	4.67	28.	7.	2.	.33
+	DIVERSION TO	XRGAF	84.	4.67	21.	5.	2.	.33
+	HYDROGRAPH AT	ERRGAF	36.	6.08	8.	2.	1.	.33
+	2 COMBINED AT	CRGAF	8.	7.67	2.	1.	0.	2.34
+	HYDROGRAPH AT	DRBYAF	0.	.00	0.	0.	0.	1.39
+	ROUTED TO	RBY07	0.	.00	0.	0.	0.	1.39
+	ROUTED TO	RBYAF	0.	.00	0.	0.	0.	1.39
+	HYDROGRAPH AT	BYAF	196.	4.58	59.	15.	5.	.61
+	DIVERSION TO	XBYAF	196.	4.58	52.	13.	4.	.61
+	HYDROGRAPH AT	ERBYAF	46.	6.25	8.	2.	1.	.61
+	2 COMBINED AT	CBYAF	23.	6.25	4.	1.	0.	1.30
+	HYDROGRAPH AT	UHAF	86.	4.75	31.	8.	3.	.49
+	DIVERSION TO	XUHAF	86.	4.75	31.	8.	3.	.49
+	HYDROGRAPH AT	ERUHAF	0.	.00	0.	0.	0.	.49
+	3 COMBINED AT	CAF03	23.	7.67	5.	1.	0.	4.13
+	HYDROGRAPH AT	UH07	49.	4.83	20.	5.	2.	.25
+	ROUTED TO	RUH11	48.	5.00	20.	5.	2.	.25
+	ROUTED TO	RUH15	48.	5.17	20.	5.	2.	.25
+	HYDROGRAPH AT	UH15	480.	4.50	123.	31.	10.	1.02
+	DIVERSION TO	XUH15	480.	4.50	123.	31.	10.	1.02
+	HYDROGRAPH AT	ERUH15	9.	7.25	1.	0.	0.	1.02
+	2 COMBINED AT	CUH15	48.	5.17	22.	6.	2.	1.27
	ROUTED TO							

+		RBL15B	35.	6.00	17.	5.	2.	1.27
+	HYDROGRAPH AT	DRBL15	425.	5.00	152.	40.	13.	1.33
+	ROUTED TO	RBL15A	423.	5.08	152.	40.	13.	1.33
+	HYDROGRAPH AT	BL15	304.	4.58	82.	21.	7.	.96
+	DIVERSION TO	XBL15	304.	4.58	72.	18.	6.	.96
+	HYDROGRAPH AT	ERBL15	76.	5.75	11.	3.	1.	.96
+	3 COMBINED AT	CBL15	423.	5.17	167.	44.	15.	2.90
+	ROUTED TO	RMEAF	387.	5.33	156.	41.	14.	2.90
+	HYDROGRAPH AT	MEAF	482.	4.50	125.	32.	11.	1.37
+	DIVERSION TO	XMEAF	482.	4.50	79.	20.	7.	1.37
+	HYDROGRAPH AT	ERMEAF	282.	5.25	48.	12.	4.	1.37
+	2 COMBINED AT	CMEAF	562.	5.25	182.	48.	16.	4.27
+	HYDROGRAPH AT	BLAF	49.	4.83	20.	5.	2.	.28
+	DIVERSION TO	XBLAF	49.	4.83	20.	5.	2.	.28
+	HYDROGRAPH AT	ERBLAF	0.	.00	0.	0.	0.	.28
+	HYDROGRAPH AT	GRAF	289.	4.75	102.	27.	9.	.86
+	DIVERSION TO	XGRAF	153.	4.25	14.	4.	1.	.86
+	HYDROGRAPH AT	ERGRAF	289.	4.75	92.	23.	8.	.86
+	HYDROGRAPH AT	PEAF	336.	4.33	63.	16.	5.	.53
+	4 COMBINED AT	CAF04	790.	5.25	298.	78.	26.	5.94
+	HYDROGRAPH AT	OL11	116.	4.50	27.	7.	2.	.34
+	DIVERSION TO	XOL11	80.	4.25	6.	1.	0.	.34
+	HYDROGRAPH AT	EROL11	116.	4.50	22.	5.	2.	.34
+	ROUTED TO	RNO11	106.	4.83	22.	5.	2.	.34
+	HYDROGRAPH AT	NO11	479.	4.42	101.	26.	9.	.86
+	DIVERSION TO	XNO11	478.	4.33	47.	12.	4.	.86
+	HYDROGRAPH AT	ERNO11	415.	4.58	56.	14.	5.	.86
+	2 COMBINED AT	CNO11	419.	4.67	70.	17.	6.	1.20
+	ROUTED TO	RGL14A	279.	5.58	69.	17.	6.	1.20
+	HYDROGRAPH AT	NO07	109.	4.58	31.	8.	3.	.34
+	DIVERSION TO	XNO07	109.	4.58	22.	5.	2.	.34
	HYDROGRAPH AT							

```
+                    ERNO07       59.    5.50        10.         3.         1.        .34
       ROUTED TO
+                    RGL11        45.    6.00        10.         3.         1.        .34
       HYDROGRAPH AT
+                    GL11        212.    4.50        57.        15.         5.        .43
       DIVERSION TO
+                    XGL11       212.    4.50        57.        15.         5.        .43
       HYDROGRAPH AT
+                    ERGL11        0.     .00         0.         0.         0.        .43
       2 COMBINED AT
+                    CGL11        45.    6.00        10.         3.         1.        .77
       ROUTED TO
+                    RGL14B       25.    6.75         8.         2.         1.        .77
       HYDROGRAPH AT
+                    GL14        332.    4.33        76.        19.         6.        .48
       3 COMBINED AT
+                    CGL14       310.    5.58       125.        34.        11.       2.45
       ROUTED TO
+                    RGLAF       293.    5.83       125.        34.        11.       2.45
       HYDROGRAPH AT
+                    GLAF        205.    4.42        59.        15.         5.        .39
       DIVERSION TO
+                    XGLAF       147.    4.17        15.         4.         1.        .39
       HYDROGRAPH AT
+                    ERGLAF      205.    4.42        47.        12.         4.        .39
       2 COMBINED AT
+                    CGLAF       404.    4.67       165.        44.        15.       2.83
       HYDROGRAPH AT
+                    OLAF        218.    4.75        73.        19.         6.       1.03
       DIVERSION TO
+                    XOLAF       218.    4.75        68.        17.         6.       1.03
       HYDROGRAPH AT
+                    EROLAF       36.    6.67         7.         2.         1.       1.03
       HYDROGRAPH AT
+                    NOAF         88.    4.75        21.         6.         2.        .28
       3 COMBINED AT
+                    CAF05       425.    4.67       171.        46.        15.       4.15
1
                          SUMMARY OF KINEMATIC WAVE - MUSKINGUM-CUNGE ROUTING
                             (FLOW IS DIRECT RUNOFF WITHOUT BASE FLOW)
                                                                                INTERPOLATED TO
                                                                              COMPUTATION INTERVAL
     ISTAQ    ELEMENT      DT       PEAK     TIME TO      VOLUME      DT        PEAK     TIME TO     VOLUME
                                               PEAK                                       PEAK

                           (MIN)     (CFS)     (MIN)       (IN)     (MIN)      (CFS)     (MIN)       (IN)

          FOR STORM = 1  STORM AREA (SQ MI) =       .00
            RP35GW  MANE          1.73    158.00    370.13        .43      5.00    158.00    370.00         .43

 CONTINUITY SUMMARY (AC-FT) - INFLOW= .3905E+02 EXCESS= .0000E+00 OUTFLOW= .3908E+02 BASIN STORAGE= .7482E-10 PERCENT ERROR=   -.1

          FOR STORM = 2  STORM AREA (SQ MI) =       .50
            RP35GW  MANE           .85    158.00    263.01        .43      5.00    158.00    265.00         .43

 CONTINUITY SUMMARY (AC-FT) - INFLOW= .3890E+02 EXCESS= .0000E+00 OUTFLOW= .3898E+02 BASIN STORAGE= .3657E-10 PERCENT ERROR=   -.2

          FOR STORM = 3  STORM AREA (SQ MI) =      2.80
            RP35GW  MANE          1.67    158.00    370.38        .43      5.00    158.00    370.00         .43

 CONTINUITY SUMMARY (AC-FT) - INFLOW= .3927E+02 EXCESS= .0000E+00 OUTFLOW= .3926E+02 BASIN STORAGE= .7553E-10 PERCENT ERROR=    .0

          FOR STORM = 4  STORM AREA (SQ MI) =     16.00
            RP35GW  MANE          1.75    158.00    257.94        .43      5.00    158.00    260.00         .43

 CONTINUITY SUMMARY (AC-FT) - INFLOW= .3910E+02 EXCESS= .0000E+00 OUTFLOW= .3913E+02 BASIN STORAGE= .7522E-10 PERCENT ERROR=   -.1
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          FOR STORM = 5  STORM AREA (SQ MI) =     90.00
            RP35GW  MANE          2.82    158.00    266.08        .40      5.00    158.00    270.00         .40

 CONTINUITY SUMMARY (AC-FT) - INFLOW= .3614E+02 EXCESS= .0000E+00 OUTFLOW= .3610E+02 BASIN STORAGE= .1369E-09 PERCENT ERROR=    .1

          FOR STORM = 6  STORM AREA (SQ MI) =    100.00
            RP35GW  MANE          2.69    158.00    271.40        .39      5.00    158.00    275.00         .39

 CONTINUITY SUMMARY (AC-FT) - INFLOW= .3577E+02 EXCESS= .0000E+00 OUTFLOW= .3579E+02 BASIN STORAGE= .1246E-09 PERCENT ERROR=   -.1

          FOR STORM = 1  STORM AREA (SQ MI) =       .00
            RP35TB  MANE          2.23    318.00    269.86       1.04      5.00    318.00    270.00        1.04

 CONTINUITY SUMMARY (AC-FT) - INFLOW= .8758E+02 EXCESS= .0000E+00 OUTFLOW= .8759E+02 BASIN STORAGE= .4272E-09 PERCENT ERROR=    .0

          FOR STORM = 2  STORM AREA (SQ MI) =       .50
            RP35TB  MANE          2.35    318.00    270.65       1.03      5.00    318.00    275.00        1.03

 CONTINUITY SUMMARY (AC-FT) - INFLOW= .8712E+02 EXCESS= .0000E+00 OUTFLOW= .8713E+02 BASIN STORAGE= .3122E-09 PERCENT ERROR=    .0

          FOR STORM = 3  STORM AREA (SQ MI) =      2.80
            RP35TB  MANE          2.26    318.00    264.55       1.04      5.00    318.00    265.00        1.04

 CONTINUITY SUMMARY (AC-FT) - INFLOW= .8727E+02 EXCESS= .0000E+00 OUTFLOW= .8730E+02 BASIN STORAGE= .4115E-09 PERCENT ERROR=    .0

          FOR STORM = 4  STORM AREA (SQ MI) =     16.00
            RP35TB  MANE          2.23    318.00    264.62       1.02      5.00    318.00    265.00        1.02

 CONTINUITY SUMMARY (AC-FT) - INFLOW= .8607E+02 EXCESS= .0000E+00 OUTFLOW= .8610E+02 BASIN STORAGE= .4408E-09 PERCENT ERROR=    .0

          FOR STORM = 5  STORM AREA (SQ MI) =     90.00
            RP35TB  MANE          2.29    318.00    274.85        .93      5.00    318.00    275.00         .93

 CONTINUITY SUMMARY (AC-FT) - INFLOW= .7848E+02 EXCESS= .0000E+00 OUTFLOW= .7849E+02 BASIN STORAGE= .4532E-09 PERCENT ERROR=    .0

          FOR STORM = 6  STORM AREA (SQ MI) =    100.00
            RP35TB  MANE          2.33    318.00    279.90        .92      5.00    318.00    280.00         .92

 CONTINUITY SUMMARY (AC-FT) - INFLOW= .7758E+02 EXCESS= .0000E+00 OUTFLOW= .7760E+02 BASIN STORAGE= .4250E-09 PERCENT ERROR=    .0

          FOR STORM = 1  STORM AREA (SQ MI) =       .00
            RP35CT  MANE          1.95    554.00    269.06       1.67      5.00    554.00    270.00        1.67

 CONTINUITY SUMMARY (AC-FT) - INFLOW= .1470E+03 EXCESS= .0000E+00 OUTFLOW= .1471E+03 BASIN STORAGE= .9698E-09 PERCENT ERROR=    .0

          FOR STORM = 2  STORM AREA (SQ MI) =       .50
            RP35CT  MANE          2.01    554.00    269.45       1.67      5.00    554.00    270.00        1.67

 CONTINUITY SUMMARY (AC-FT) - INFLOW= .1467E+03 EXCESS= .0000E+00 OUTFLOW= .1467E+03 BASIN STORAGE= .5648E-09 PERCENT ERROR=    .0

          FOR STORM = 3  STORM AREA (SQ MI) =      2.80
            RP35CT  MANE          2.02    554.00    270.70       1.66      5.00    554.00    275.00        1.66

 CONTINUITY SUMMARY (AC-FT) - INFLOW= .1457E+03 EXCESS= .0000E+00 OUTFLOW= .1457E+03 BASIN STORAGE= .9133E-09 PERCENT ERROR=    .0

          FOR STORM = 4  STORM AREA (SQ MI) =     16.00
            RP35CT  MANE          2.09    554.00    280.40       1.60      5.00    554.00    285.00        1.60

   *** The remainder of the continuity summary has been deleted for brevity, but the entire output is included on the CD ***

 *** NORMAL END OF HEC-1 ***
```

```
1*************************************
 *                                   *
 *   FLOOD HYDROGRAPH PACKAGE  (HEC-1)   *
 *              JUN  1998            *
 *            VERSION 4.1            *
 *                                   *
 *  RUN DATE   01NOV10  TIME  11:13:24   *
 *                                   *
 *************************************
```

```
*************************************
*                                   *
*    U.S. ARMY CORPS OF ENGINEERS     *
*    HYDROLOGIC ENGINEERING CENTER    *
*          609 SECOND STREET          *
*       DAVIS, CALIFORNIA 95616       *
*           (916) 756-1104            *
*                                   *
*************************************
```

```
X     X  XXXXXXX   XXXXX          X
X     X  X       X     X        XX
X     X  X       X              X
XXXXXXX  XXXX    X       XXXXX  X
X     X  X       X              X
X     X  X       X     X        X
X     X  XXXXXXX   XXXXX        XXX
```

THIS PROGRAM REPLACES ALL PREVIOUS VERSIONS OF HEC-1 KNOWN AS HEC1 (JAN 73), HEC1GS, HEC1DB, AND HEC1KW.

THE DEFINITIONS OF VARIABLES -RTIMP- AND -RTIOR- HAVE CHANGED FROM THOSE USED WITH THE 1973-STYLE INPUT STRUCTURE.
THE DEFINITION OF -AMSKK- ON RM-CARD WAS CHANGED WITH REVISIONS DATED 28 SEP 81. THIS IS THE FORTRAN77 VERSION
NEW OPTIONS: DAMBREAK OUTFLOW SUBMERGENCE , SINGLE EVENT DAMAGE CALCULATION, DSS:WRITE STAGE FREQUENCY,
DSS:READ TIME SERIES AT DESIRED CALCULATION INTERVAL LOSS RATE:GREEN AND AMPT INFILTRATION
KINEMATIC WAVE: NEW FINITE DIFFERENCE ALGORITHM

1 HEC-1 INPUT PAGE 1

```
LINE          ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10
    1         ID      GLENDALE STORMWATER MANAGEMENT PLAN
    2         ID      Model for Maryvale Watershed
    3         ID      Future Conditions
    4         ID
    5         ID      Prepared for the City of Glendale
    6         ID      In Association with the Flood Control District of Maricopa County
    7         ID      City Project Number 089017
    8         ID
    9         ID      Prepared by Kimley-Horn and Associates, Inc.
   10         ID      KHA Project Number 091910009
   11         ID      October 2010
   12         ID
   13         ID      MODELING PARAMETERS
   14         ID      - 10 Year  24 Hour Storm Event
   15         ID      - NOAA 14 Rainfall Data
   16         ID      - Clark Unit Hydrograph
   17         ID      - Green and Ampt Rainfall Loss Method
   18         ID
   19         ID      Topo data extracted from Flood Control District database July 24, 2009
   20         ID      Land use obtained from City of Glendale General Plan August 2009, City of
   21         ID           Phoenix General Plan August 2009, and MAG General Plan Land Use 2007
   22         ID
   23         ID      Storage routing data obtained from As-built records where possible
   24         ID      When As-built data was not available data was obtained from HEC-1 models
   25         ID           and checked for accuracy. HEC-1 models used include:
   26         ID           - Maryvale ADMS, February 1997
   27         ID           - Maryvale model modified by DMJM for improvements along the Bethany
   28         ID             Home Outfall Channel, file BHGC00C6.dat, November 2004
   29         ID           - Update to ponding areas along Grand Canal in the City of Glendale
   30         ID             for a CLOMR by PEC, February 2008
   31         ID      The source of data is identified on each individual storage routing card
   32         ID
   33         ID    **************************************************************************
   34         ID
   35         ID      MODELING NOMENCLATURE
   36         ID      SUBBASIN HYDROGRAPH:
   37         ID         Example: OL51   - the subbasin northeast of Olive and 51st Avenue
   38         ID
   39         ID      STORM DRAIN DIVERSION:
   40         ID         Example: DOL51  - flow from subbasin OL51 is diverted to a storm drain
   41         ID
   42         ID      SUBBASIN DIVERSION:
   43         ID         Example: DWOL59 - flow is diverted west towards Olive and 59th Avenue
   44         ID         Example: DSNO51 - flow is diverted south towards Northern and 51st Ave
   45         ID
   46         ID      ROUTE HYDROGRAPH:
   47         ID         Example: RWOL59 - flow is routed west towards Olive and 59th Avenue
   48         ID         Example: RSNO59 - flow is routed south towards Northern and 59th Ave
   49         ID
   50         ID      COMBINE HYDROGRAPH:
   51         ID         Example: COL59  - combine flow at Olive and 59th Avenue
   52         ID
   53         ID      NAME ABBREVIATIONS
   54         ID         Jomax Road            JM
   55         ID         Happy Valley Road     HV
```


1 HEC-1 INPUT PAGE 2

```
LINE          ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10
   56         ID         Pinnacle Peak Road     PP
   57         ID         Deer Valley Road       DV
   58         ID         Loop 101               LO
   59         ID         Beardsley Road         BY
   60         ID         Union Hills Drive      UH
   61         ID         Bell Road              BL
   62         ID         Greenway Road          GW
   63         ID         Thunderbird Road       TB
   64         ID         Cactus Road            CT
   65         ID         Peoria Avenue          PE
   66         ID         Olive Avenue           OL
   67         ID         Northern Avenue        NO
   68         ID         Glendale Avenue        GL
   69         ID         Bethany Home Road      BH
   70         ID         Camelback Road         CB
   71         ID         Indian School Road     IS
   72         ID         Thomas Road            TM
   73         ID         McDowell Road          MD
   74         ID         Interstate 10          IN
   75         ID         Van Buren Street       VB
   76         ID         Avondale Boulevard     AV
   77         ID         Grand Avenue           GR
   78         ID         Grand Canal            GC
   79         ID         Brown Street           BR
   80         ID         Mountain View Road     MV
   81         ID         Orangewood Avenue      OW
   82         ID         Mitchell Drive         ML
   83         ID         Agua Fria River        AF
   84         ID         New River              NR
   85         ID         Skunk Creek            SK
   86         ID         Roosevelt Irrigation   RI
   87         ID
   88         ID      PREFIXES FOR MODELING OPERATIONS
   89         ID         RW     Routing flow in the west direction
   90         ID         RS     Routing flow in the south direction
   91         ID         RP     Routing storm drain pipe flow
   92         ID         C      Combination point
   93         ID         CI     Combination point at an intersection
   94         ID         CP     Combination point for storm drain pipe flow
   95         ID         SR     Storage for detention/retention basins
   96         ID         DW     Divert flow to the west
   97         ID         DE     Divert flow to the east
   98         ID         DS     Divert flow to the south
   99         ID         DN     Divert flow to the north
  100         ID         ER     Divert flow for existing 100-yr 2-hr retention
  101         ID         X      Existing retention divertion does not return to model
  102         ID         DR     Divert retrieval from surface flow
  103         ID         DI     Divert retrieval from intersection flow
  104         ID         D      Divert surface flow (remains after storm drain divert)
  105         ID         DP     Divert flow to a storm drain pipe
  106         ID         PR     Divert retrieval from a storm drain pipe
  107         ID
  108         ID    **************************************************************************
  109         IT       5       0       0    1000
  110         IN      15
```

1 HEC-1 INPUT PAGE 3

```
LINE          ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10
  111         IO       5
              *DIAGRAM
              *
  112         JD   2.222  0.0001
  113         PC   0.000   0.002   0.005   0.008   0.011   0.014   0.017   0.020   0.023   0.026
  114         PC   0.029   0.032   0.035   0.038   0.041   0.044   0.048   0.052   0.056   0.060
  115         PC   0.064   0.068   0.072   0.076   0.080   0.085   0.090   0.095   0.100   0.105
  116         PC   0.110   0.115   0.120   0.126   0.133   0.140   0.147   0.155   0.163   0.172
  117         PC   0.181   0.191   0.203   0.218   0.236   0.257   0.283   0.387   0.663   0.707
  118         PC   0.735   0.758   0.776   0.791   0.804   0.815   0.825   0.834   0.842   0.849
  119         PC   0.856   0.863   0.869   0.875   0.881   0.887   0.893   0.898   0.903   0.908
  120         PC   0.913   0.918   0.922   0.926   0.930   0.934   0.938   0.942   0.946   0.950
  121         PC   0.953   0.956   0.959   0.962   0.965   0.968   0.971   0.974   0.977   0.980
  122         PC   0.983   0.986   0.989   0.992   0.995   0.998   1.000
  123         JD   2.111    10.0
  124         JD   2.000    30.0
  125         JD   1.933    60.0
  126         JD   1.893    90.0
  127         JD   1.869   120.0
              *
  128         KK    GW83    BASIN
  129         KM   Runoff hydrograph for subbasin GW83 northeast of the intersection of Greenway
  130         KM   Road and 83rd Avenue
  131         BA   0.291
  132         LG    0.25    0.25    4.70    0.28      30
  133         UC   1.443   1.420
  134         UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
  135         UA     100
              *
```

```
136          KK   DGW83  DIVERT
137          KM   Divert calculated full flow capapcity of 45 cfs into 42-inch storm drain
138          KM   pipe at the intersection of Greenway Road and 83rd Avenue
139          DT  DPGW83      0.0     45.0
140          DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
141          DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
             *

142          KK  DSTB83  DIVERT
143          KM   Divert portion of runoff hydrograph from subbasin GW83 south to the
144          KM   intersection of Thunderbird Road and 83rd Avenue and the remaining flow west
145          KM   to Skunk Creek. The diversion is based on topography
146          DT  DWSK01      0.0      0.0
147          DI      0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0  10000.0  20000.0  50000.0
148          DQ      0.0     57.0    114.0    285.0    570.0   1140.0   2280.0   5700.0  11400.0  28500.0
             *

149          KK  RSTB83   ROUTE
150          KM   Route diversion DSTB83 south to combination point CTB83
151          RS       10     FLOW
152          RC   0.035    0.015    0.035     5280  0.0023     0.00
153          RX    0.00     0.00    48.00    48.00  251.00  251.00  299.00  299.00
154          RY    3.00     0.98     0.50     0.00    0.00    0.50    0.98    3.00
             *

1                                        HEC-1 INPUT                                        PAGE  4

LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9.....10

155          KK    TB67   BASIN
156          KM   Runoff hydrograph for subbasin TB67 northeast of the intersection of
157          KM   Thunderbird Road and 67th Avenue
158          BA   0.265
159          LG    0.21     0.15     9.70     0.05       25
160          UC   0.836    0.497
161          UA       0      5.0     16.0     30.0     65.0     77.0     84.0     90.0     94.0     97.0
162          UA     100
             *

163          KK  DWTB75  DIVERT
164          KM   Divert remaining runoff hydrograph from subbasin TB67 west to combination
165          KM   point CTB75
166          DT  DSCT67      0.0      0.0
167          DI      0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0  10000.0  20000.0  50000.0
168          DQ      0.0     40.0     80.0    200.0    400.0    800.0   1600.0   4000.0   8000.0  20000.0
             *

169          KK  RWTB75   ROUTE
170          KM   Route diversion DWTB75 west to combination point CTB75
171          RS        7     FLOW
172          RC   0.035    0.015    0.035     5280  0.0027     0.00
173          RX    0.00     0.00    48.00    48.00  251.00  251.00  299.00  299.00
174          RY    3.00     0.98     0.50     0.00    0.00    0.50    0.98    3.00
             *

175          KK    TB75   BASIN
176          KM   Runoff hydrograph for subbasin TB75 northeast of the intersection of
177          KM   Thunderbird Road and 75th Avenue
178          BA   1.026
179          LG    0.23     0.15     7.00     0.11       33
180          UC   1.435    0.773
181          UA       0      5.0     16.0     30.0     65.0     77.0     84.0     90.0     94.0     97.0
182          UA     100
             *

183          KK  ERTB75  DIVERT
184          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
185          KM   retention developed after 1990 in subbasin TB75
186          DT   XTB75      9.7      0.0
187          DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
188          DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
             *

189          KK   CTB75 COMBINE
190          KM   Combine route RWTB75 and subbasin TB75
191          HC        2     1.18
             *

1                                        HEC-1 INPUT                                        PAGE  5

LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9.....10

192          KK   DTB75  DIVERT
193          KM   Divert calculated full flow capapcity of 161 cfs into 66-inch storm drain
194          KM   pipe at the intersection of Thunderbird Road and 75th Avenue
195          DT  DPTB75      0.0    161.0
196          DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
197          DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
             *

198          KK  DWTB83  DIVERT
199          KM   Divert remaining runoff hydrograph from subbasin TB83 west to combination
```



```
200          KM   point CTB83
201          DT  DSCT75      0.0      0.0
202          DI      0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0  10000.0  20000.0  50000.0
203          DQ      0.0     45.0     90.0    225.0    450.0    900.0   1800.0   4500.0   9000.0  22500.0
             *

204          KK  RWTB83   ROUTE
205          KM   Route diversion DWTB83 west to combination point CTB83
206          RS        5     FLOW
207          RC   0.035    0.015    0.035     5280  0.0034     0.00
208          RX    0.00     0.00    76.50    76.50  372.50  372.50  449.00  449.00
209          RY    3.00     1.27     0.50     0.00    0.00    0.50    1.27    3.00
             *

210          KK    TB83   BASIN
211          KM   Runoff hydrograph for square mile subbasin TB83 northeast of the intersection
212          KM   Thunderbird Road and 83rd Avenue
213          BA   0.994
214          LG    0.25     0.21     6.40     0.14       31
215          UC   1.500    1.018
216          UA       0      5.0     16.0     30.0     65.0     77.0     84.0     90.0     94.0     97.0
217          UA     100
             *

218          KK  ERTB83  DIVERT
219          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
220          KM   retention developed after 1990 in subbasin TB83
221          DT   XTB83     19.4      0.0
222          DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
223          DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
             *

224          KK   CTB83 COMBINE
225          KM   Combine route RWTB83, route south RSTB83, and subbasin TB83
226          HC        3     1.77
             *

227          KK  PRTB75RETRIEVE
228          KM   Retrieve full flow capacity of 161 cfs from 66-inch storm drain pipe at the
229          KM   intersection of Thunderbird Road and 75th Avenue
230          DR  DPTB75
             *

1                                        HEC-1 INPUT                                        PAGE  6

LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9.....10

231          KK  RPTB83   ROUTE
232          KM   Route full flow capacity of 161 cfs through 66-inch storm drain pipe in
233          KM   Thunderbird Road to the intersection of Thunderbird Road and 83rd Avenue
234          RK    5194  0.0023   0.015             CIRC   5.500
             *

235          KK  CPTB83 COMBINE
236          KM   Combine pipe return PRTB75 with the runoff hydrograph at combination point
237          KM   CTB83 at the intersection of Thunderbird Road and 83rd Avenue
238          HC        2
             *

239          KK   DTB83  DIVERT
240          KM   Divert calculated full flow capapcity of 247 cfs into 72-inch storm drain
241          KM   pipe at the intersection of Thunderbird Road and 83rd Avenue
242          DT  DPTB83      0.0    247.0
243          DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
244          DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
             *

245          KK  DWTBLO  DIVERT
246          KM   Divert remaining runoff hydrograph from subbasin TB83 west to combination
247          KM   point CTBLO
248          DT  DSCT83      0.0      0.0
249          DI      0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0  10000.0  20000.0  50000.0
250          DQ      0.0     71.0    142.0    355.0    710.0   1420.0   2840.0   7100.0  14200.0  35500.0
             *

251          KK  RWTBLO   ROUTE
252          KM   Route diversion DWTBLO west to combination point CTBLO
253          RS        2     FLOW
254          RC   0.035    0.015    0.035     2002  0.0030     0.00
255          RX    0.00     0.00    16.50    16.50  107.50  107.50  124.00  124.00
256          RY    3.00     0.66     0.50     0.00    0.00    0.50    0.66    3.00
             *

257          KK    TBLO   BASIN
258          KM   Runoff hydrograph for subbasin TBLO northeast of the intersection of
259          KM   Thunderbird Road and SR Loop 101
260          BA   0.099
261          LG    0.14     0.15     8.80     0.05       72
262          UC   0.866    1.064
263          UA       0      5.0     16.0     30.0     65.0     77.0     84.0     90.0     94.0     97.0
264          UA     100
             *
```

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265          KK  ERTBLO  DIVERT
266          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
267          KM   retention developed after 1990 in subbasin TBLO
268          DT  XTBLO    10.8     0.0
269          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
270          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
             *
1                                        HEC-1 INPUT                                                    PAGE  7
        LINE         ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

271          KK   CTBLO COMBINE
272          KM   Combine route RWTBLO and subbasin TBLO
273          HC       2     0.62
             *

274          KK  PRTB83RETRIEVE
275          KM   Retrieve full flow capacity of 247 cfs from 72-inch storm drain pipe at the
276          KM   intersection of Thunderbird Road and 83rd Avenue
277          DR  DPTB83
             *

278          KK  RPTBLO   ROUTE
279          KM   Route full flow capacity of 247 cfs through 72-inch storm drain pipe in
280          KM   Thunderbird Road to the intersection of Thunderbird Road and 83rd Avenue
281          RK    1532  0.0034    0.015             CIRC    6.000
             *

282          KK  CPTBLO COMBINE
283          KM   Combine pipe return PRTBLO with the runoff hydrograph at combination point
284          KM   CTBLO at the intersection of Thunderbird Road and SR Loop 101
285          HC       2
             *

286          KK  RSCTLO   ROUTE
287          KM   Route runoff hydrograph at combination point CPTBLO south to combination
288          KM   point CCTLO
289          RS       1    FLOW
290          RC   0.035   0.015   0.035    4816  0.0016    0.00
291          RX    0.00    3.00   13.00   29.00   39.00   55.00   65.00   68.00
292          RY    9.00    8.00    8.00    0.00    0.00    8.00    8.00    9.00
             *

293          KK   CT59   BASIN
294          KM   Runoff hydrograph for subbasin CT59 northeast of the intersection of
295          KM   Cactus Road and 59th Avenue
296          BA   0.296
297          LG    0.24    0.15    8.80    0.06      30
298          UC   1.066   0.731
299          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
300          UA     100
             *

301          KK  ERCT59  DIVERT
302          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
303          KM   retention developed after 1990 in subbasin CT59
304          DT  XCT59    24.6     0.0
305          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
306          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
             *
1                                        HEC-1 INPUT                                                    PAGE  8
        LINE         ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

307          KK   D59CT  DIVERT
308          KM   Divert calculated full flow capapcity of 18 cfs into 30-inch storm drain
309          KM   pipe at the intersection of Cactus Road and 59th Avenue
310          DT  DP59CT     0.0     18.0
311          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
312          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
             *

313          KK  DWCT67  DIVERT
314          KM   Divert remaining runoff hydrograph from subbasin CT59 west to combination
315          KM   point CCT67
316          DT  DSPE59     0.0      0.0
317          DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
318          DQ     0.0    68.0   136.0   340.0   680.0  1360.0  2720.0  6800.0 13600.0 34000.0
             *

319          KK  RWCT67   ROUTE
320          KM   Route diversion DWCT67 west to combination point CCT67
321          RS      10    FLOW
322          RC   0.035   0.015   0.035    5280  0.0041    0.00
323          RX    0.00    0.00   33.50   33.50  144.50  144.50  178.00  178.00
324          RY    3.00    0.84    0.50    0.00    0.00    0.50    0.84    3.00
             *

325          KK  DRCT67RETRIEVE
326          KM   Retrieve divert DRCT67 from subbasin TB67 and divert south to combination
327          KM   point CCT67
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328          DR  DSCT67
             *

329          KK  RSCT67   ROUTE
330          KM   Route retrieval DRCT67 south to combination point CCT67
331          RS       6    FLOW
332          RC   0.035   0.015   0.035    5280  0.0035    0.00
333          RX    0.00    0.00   24.50   24.50  155.50  155.50  180.00  180.00
334          RY    3.00    0.74    0.50    0.00    0.00    0.50    0.74    3.00
             *

335          KK   CT67   BASIN
336          KM   Runoff hydrograph for subbasin CT67 northeast of the intersection of Cactus
337          KM   Road and 67th Avenue
338          BA   0.910
339          LG    0.26    0.15    7.30    0.11      28
340          UC   1.369   0.814
341          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
342          UA     100
             *

343          KK  ERCT67  DIVERT
344          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
345          KM   retention developed after 1990 in subbasin CT67
346          DT  XCT67    26.8     0.0
347          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
348          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
             *
1                                        HEC-1 INPUT                                                    PAGE  9
        LINE         ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

349          KK   CCT67 COMBINE
350          KM   Combine route RWCT67, route RSCT67, and subbasin CT67
351          HC       3     1.11
             *

352          KK   DCT67  DIVERT
353          KM   Divert calculated full flow capapcity of 268 cfs into 78-inch storm drain
354          KM   pipe at the intersection of Cactus Road and 67th Avenue
355          DT  DPCT67     0.0    268.0
356          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
357          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
             *

358          KK  DWCT75  DIVERT
359          KM   Divert remaining runoff hydrograph from combination point CCT67 west to
360          KM   combination point CCT75
361          DT  DSPE67     0.0      0.0
362          DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
363          DQ     0.0    43.0    86.0   215.0   430.0   860.0  1720.0  4300.0  8600.0 21500.0
             *

364          KK  RWCT75   ROUTE
365          KM   Route diversion DWCT75 west to combination point CCT75
366          RS       8    FLOW
367          RC   0.035   0.015   0.035    5280  0.0030    0.00
368          RX    0.00    0.00   76.50   76.50  372.50  372.50  449.00  449.00
369          RY    3.00    1.27    0.50    0.00    0.00    0.50    1.27    3.00
             *

370          KK  DRCT75RETRIEVE
371          KM   Retrieve divert DRCT75 from combination point CTB75 and divert south to
372          KM   combination point CCT75
373          DR  DSCT75
             *

374          KK  RSCT75   ROUTE
375          KM   Route retrieval DRCT75 south to combination point CCT75
376          RS       5    FLOW
377          RC   0.035   0.015   0.035    5280  0.0038    0.00
378          RX    0.00    0.00   57.50   57.50  291.50  291.50  349.00  349.00
379          RY    3.00    1.08    0.50    0.00    0.00    0.50    1.08    3.00
             *

380          KK   CT75   BASIN
381          KM   Runoff hydrograph for square mile subbasin CT75 northeast of the intersection
382          KM   of Cactus Road and 75th Avenue
383          BA   1.003
384          LG    0.26    0.15    8.80    0.06      27
385          UC   1.500   1.009
386          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
387          UA     100
             *
1                                        HEC-1 INPUT                                                    PAGE 10
        LINE         ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

388          KK  ERCT75  DIVERT
389          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
390          KM   retention developed after 1990 in subbasin CT75
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DT   XCT75     29.2      0.0
DI      0.0 50000.0       0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
DQ      0.0 50000.0       0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
*

KK   CCT75 COMBINE
KM   Combine route RWCT75, route RSCT75, and subbasin CT75
HC        3     2.17
*

KK  PRCT67RETRIEVE
KM   Retrieve full flow capacity of 268 cfs from 78-inch storm drain pipe at the
KM   intersection of Cactus Road and 67th Avenue
DR  DPCT67
*

KK  RPCT75    ROUTE
KM   Route full flow capacity of 268 cfs through 78-inch storm drain pipe in
KM   Cactus Road to the intersection of Cactus Road and 75th Avenue
RK     5321  0.0026    0.015             CIRC    6.500
*

KK  CPCT75 COMBINE
KM   Combine pipe return PRCT67 with the runoff hydrograph at combination point
KM   CCT75 at the intersection of Cactus Road and 75th Avenue
HC        2
*

KK   DCT75  DIVERT
KM   Divert calculated full flow capapcity of 651 cfs into 108-inch storm drain
KM   pipe at the intersection of Cactus Road and 75th Avenue
DT  DPCT75       0.0     651.0
DI      0.0 50000.0       0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
DQ      0.0 50000.0       0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
*

KK  DWCT83  DIVERT
KM   Divert remaining runoff hydrograph from combination point CCT75 west to
KM   combination point CCT83
DT  DSPE75       0.0      0.0
DI      0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0  10000.0  20000.0  50000.0
DQ      0.0     50.0    100.0    250.0    500.0   1000.0   2000.0   5000.0  10000.0  25000.0
*

KK  RWCT83    ROUTE
KM   Route diversion DWCT83 west to combination point CCT83
RS        4     FLOW
RC   0.035    0.015    0.035     5280   0.0026     0.00
RX     0.00     0.00    57.50    57.50   291.50   291.50   349.00   349.00
RY     3.00     1.08     0.50     0.00     0.00     0.50     1.08     3.00
*
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LINE      ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

KK  DRCT83RETRIEVE
KM   Retrieve divert DRCT83 from combination point CPTB83 and divert south to
KM   combination point CCT83
DR  DSCT83
*

KK  RSCT83    ROUTE
KM   Route retrieval DRCT83 south to combination point CCT83
RS        4     FLOW
RC   0.035    0.015    0.035     5280   0.0030     0.00
RX     0.00     0.00    48.00    48.00   251.00   251.00   299.00   299.00
RY     3.00     0.98     0.50     0.00     0.00     0.50     0.98     3.00
*

KK     CT83    BASIN
KM   Runoff hydrograph for square mile subbasin CT83 northeast of the intersection
KM   of Cactus Road and 83rd Avenue
BA   1.008
LG    0.25     0.15     8.40     0.06       30
UC   1.500    1.010
UA        0      5.0     16.0     30.0     65.0     77.0     84.0     90.0     94.0     97.0
UA      100
*

KK  ERCT83  DIVERT
KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
KM   retention developed after 1990 in subbasin CT83
DT   XCT83     28.8      0.0
DI      0.0 50000.0       0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
DQ      0.0 50000.0       0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
*

KK   CCT83 COMBINE
KM   Combine route RWCT83, route RSCT83, and subbasin CT83
HC        3     3.34
*
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KK  PRCT75RETRIEVE
KM   Retrieve full flow capacity of 651 cfs from 108-inch storm drain pipe at the
KM   intersection of Cactus Road and 75th Avenue
DR  DPCT75
*

KK  RPCT83    ROUTE
KM   Route full flow capacity of 651 cfs through 108-inch storm drain pipe in
KM   Cactus Road to the intersection of Cactus Road and 83rd Avenue
RK     5246  0.0027    0.015             CIRC    9.000
*
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LINE      ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

KK  CPCT83 COMBINE
KM   Combine pipe return PRCT75 with the runoff hydrograph at combination point
KM   CCT83 at the intersection of Cactus Road and 83rd Avenue
HC        2
*

KK   DCT83  DIVERT
KM   Divert calculated full flow capapcity of 663 cfs into 120-inch storm drain
KM   pipe at the intersection of Cactus Road and 83rd Avenue
DT  DPCT83       0.0     663.0
DI      0.0 50000.0       0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
DQ      0.0 50000.0       0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
*

KK  DWCTLO  DIVERT
KM   Divert remaining runoff hydrograph from combination point CCT83 west to
KM   combination point CCTLO
DT  DSPE83       0.0      0.0
DI      0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0  10000.0  20000.0  50000.0
DQ      0.0     41.0     82.0    205.0    410.0    820.0   1640.0   4100.0   8200.0  20500.0
*

KK  RWCTLO    ROUTE
KM   Route diversion DWCTLO west to combination point CCTLO
RS        3     FLOW
RC   0.035    0.015    0.035     6650   0.0048     0.00
RX     0.00     0.00    76.50    76.50   372.50   372.50   449.00   449.00
RY     3.00     1.27     0.50     0.00     0.00     0.50     1.27     3.00
*

KK     CTLO    BASIN
KM   Runoff hydrograph for subbasin CTLO northeast of the intersection of Cactus
KM   Road and SR Loop 101
BA   0.865
LG    0.20     0.15     7.30     0.09       47
UC   1.500    1.210
UA        0      5.0     16.0     30.0     65.0     77.0     84.0     90.0     94.0     97.0
UA      100
*

KK  ERCTLO  DIVERT
KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
KM   retention developed after 1990 in subbasin CTLO
DT   XCTLO      46.0      0.0
DI      0.0 50000.0       0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
DQ      0.0 50000.0       0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
*

KK   CCTLO COMBINE
KM   Combine route RWCTLO, route RSCTLO, and subbasin CTLO
HC        3     3.46
*
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LINE      ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

KK  PRCT83RETRIEVE
KM   Retrieve full flow capacity of 663 cfs from 120-inch storm drain pipe at the
KM   intersection of Cactus Road and 83rd Avenue
DR  DPCT83
*

KK  RPCTLO    ROUTE
KM   Route full flow capacity of 663 cfs through 120-inch storm drain pipe in
KM   Cactus Road to the intersection of Cactus Road and SR Loop 101
RK     6334  0.0016    0.015             CIRC   10.000
*

KK  CPCTLO COMBINE
KM   Combine pipe return PRCT83 with the runoff hydrograph at combination point
KM   CCTLO at the intersection of Cactus Road and SR Loop 101
HC        2
*

KK  DSCTLO  DIVERT
KM   Divert portion of runoff hydrograph from combination point CPCTLO south to
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          KM   combination point CGRLO
          DT  DWNR01      0.0  1927.0
          DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
          DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
          *

          KK  DSPELO  DIVERT
          KM   Divert remainder of runoff hydrograph from divert DSCTLO south to
          KM   combination point CGRLO
          DT  DSGR91      0.0      0.0
          DI      0.0  1299.0  1299.1 50000.0      0.0      0.0      0.0      0.0      0.0      0.0
          DQ      0.0      0.0  1299.1 50000.0      0.0      0.0      0.0      0.0      0.0      0.0
          *

          KK    PE51   BASIN
          KM   Runoff hydrograph for subbasin PE51 northeast of the intersection of Peoria
          KM   Avenue and 51st Avenue
          BA   0.419
          LG    0.22    0.15    8.80    0.05      37
          UC   1.111   0.688
          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
          UA     100
          *

          KK  DWPE59  DIVERT
          KM   Divert remaining runoff hydrograph from subbasin PE59 west to combination
          KM   point CPE59
          DT  DSOL51      0.0      0.0
          DI      0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
          DQ      0.0    40.0    80.0   200.0   400.0   800.0  1600.0  4000.0  8000.0 20000.0
          *

1                                        HEC-1 INPUT                                        PAGE 14

     LINE      ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

          KK  RWPE59   ROUTE
          KM   Route diversion DWPE59 west to combination point CPE59
          RS       6    FLOW
          RC   0.035   0.015   0.035    5280  0.0042    0.00
          RX    0.00    0.00   79.50   79.50  468.50  468.50  548.00  548.00
          RY    3.00    1.30    0.50    0.00    0.00    0.50    1.30    3.00
          *

          KK  DRPE59RETRIEVE
          KM   Retrieve divert DRPE59 from subbasin CPCT59 and divert south to combination
          KM   point CPE59
          DR  DSPE59
          *

          KK  RSPE59   ROUTE
          KM   Route diversion retrieval DRPE59 south to combination point CPE59
          RS      10    FLOW
          RC   0.035   0.015   0.035    5280  0.0037    0.00
          RX    0.00    0.00   58.50   58.50  339.50  339.50  398.00  398.00
          RY    3.00    1.08    0.50    0.00    0.00    0.50    1.08    3.00
          *

          KK    PE59   BASIN
          KM   Runoff hydrograph for square mile subbasin PE59 northeast of the intersection
          KM   of Peoria Avenue and 59th Avenue
          BA   0.989
          LG    0.25    0.15    8.80    0.05      31
          UC   1.500   0.988
          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
          UA     100
          *

          KK  ERPE59  DIVERT
          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
          KM   retention developed after 1990 in subbasin PE59
          DT  XPE59       8.6      0.0
          DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
          DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
          *

          KK   CPE59 COMBINE
          KM   Combine route RWPE59, route RSPE59, and subbasin PE59
          HC       3    1.44
          *

          KK  PR59CTRETRIEVE
          KM   Retrieve full flow capacity of 18 cfs from 30-inch storm drain pipe at the
          KM   intersection of Cactus Road and 59th Avenue
          DR  DP59CT
          *
          * KKRP59PE   ROUTE
          * KM Route full flow capacity of 18 cfs through 30-inch storm drain pipe in
          * KM 59th Avenue to the intersection of Peoria Avenue and 59th Avenue
          * RK  5358  0.0020   0.015            CIRC   2.500
          *

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     LINE      ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

          KK  CPPE59 COMBINE
          KM   Combine pipe return PR59CT with the runoff hydrograph at combination point
          KM   CPE59 at the intersection of Peoria Avenue and 59th Avenue
          HC       2
          *

          KK   D59PE  DIVERT
          KM   Divert calculated full flow capapcity of 235 cfs into 78-inch storm drain
          KM   pipe at the intersection of Peoria Avenue and 59th Avenue
          DT  DP59PE      0.0    235.0
          DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
          DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
          *

          KK  DWPE67  DIVERT
          KM   Divert remaining runoff hydrograph from combination point CPPE59 west to
          KM   combination point CPE67
          DT  DSOL59      0.0      0.0
          DI      0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
          DQ      0.0    57.0   114.0   285.0   570.0  1140.0  2280.0  5700.0 11400.0 28500.0
          *

          KK  RWPE67   ROUTE
          KM   Route diversion DWPE67 west to combination point CPE67
          RS       5    FLOW
          RC   0.035   0.015   0.035    5280  0.0026    0.00
          RX    0.00    0.00   51.50   51.50  296.50  296.50  348.00  348.00
          RY    3.00    1.02    0.50    0.00    0.00    0.50    1.02    3.00
          *

          KK  DRPE67RETRIEVE
          KM   Retrieve divert DRPE67 from combination point CCT67 and divert south to
          KM   combination point CPE67
          DR  DSPE67
          *

          KK  RSPE67   ROUTE
          KM   Route diversion retrieval DRPE67 south to combination point CPE67
          RS       9    FLOW
          RC   0.035   0.015   0.035    5280  0.0022    0.00
          RX    0.00    0.00   58.50   58.50  339.50  339.50  398.00  398.00
          RY    3.00    1.08    0.50    0.00    0.00    0.50    1.08    3.00
          *

          KK    PE67   BASIN
          KM   Runoff hydrograph for square mile subbasin PE67 northeast of the intersection
          KM   of Peoria Avenue and 67th Avenue
          BA   0.962
          LG    0.23    0.15    7.60    0.09      37
          UC   1.500   1.016
          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
          UA     100
          *

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     LINE      ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

          KK  ERPE67  DIVERT
          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
          KM   retention developed after 1990 in subbasin PE67
          DT  XPE67      56.2      0.0
          DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
          DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
          *

          KK   CPE67 COMBINE
          KM   Combine route RWPE67, route RSPE67, and subbasin PE67
          HC       3    2.06
          *

          KK  SRPE67 STORAGE
          KM   Storage route runoff hydrograph from combination point CPE67 through
          KM     regional detention basin located in subbasin PE67
          KM   Stage-storage data from Sunnyside Park As-built records, 1991
          RS       1    STOR
          SV            5.24   11.27   12.67   18.77   26.81   35.20
          SQ                  217.00 2430.00 6873.0012627.00
          SE   87.00   88.00   89.00   89.20   90.00   91.00   92.00
          *

          KK   D67PE  DIVERT
          KM   Divert calculated full flow capapcity of 162 cfs into 60-inch storm drain
          KM   pipe at the intersection of Peoria Avenue and 67th Avenue
          DT  DP67PE      0.0    162.0
          DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
          DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
          *

          KK  DWPE75  DIVERT
```

```
640          KM   Divert remaining runoff hydrograph from combination point CPE67 west to
641          KM   combination point CPE75
642          DT  DSOL67      0.0      0.0
643          DI     0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0 10000.0 20000.0 50000.0
644          DQ     0.0     38.0     76.0    190.0    380.0    760.0   1520.0  3800.0  7600.0 19000.0
             *

645          KK  RWPE75    ROUTE
646          KM   Route diversion DWPE75 west to combination point CPE75
647          RS        7     FLOW
648          RC   0.035    0.015    0.035     5280   0.0035     0.00
649          RX    0.00     0.00    86.00    86.00   413.00   413.00   499.00  499.00
650          RY    3.00     1.36     0.50     0.00     0.00     0.50     1.36    3.00
             *

651          KK  DRPE75RETRIEVE
652          KM   Retrieve divert DRPE75 from combination point CPCT75 and divert south to
653          KM   combination point CPE75
654          DR  DSPE75
             *

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LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

655          KK  RSPE75    ROUTE
656          KM   Route diversion retrieval DRPE75 south to combination point CPE75
657          RS        4     FLOW
658          RC   0.035    0.015    0.035     5280   0.0027     0.00
659          RX    0.00     0.00    57.50    57.50   291.50   291.50   349.00  349.00
660          RY    3.00     1.08     0.50     0.00     0.00     0.50     1.08    3.00
             *

661          KK    PE75    BASIN
662          KM   Runoff hydrograph for square mile subbasin PE75 northeast of the intersection
663          KM   of Peoria Avenue and 75th Avenue
664          BA   1.007
665          LG    0.24     0.15     8.00     0.07       33
666          UC   1.500    1.010
667          UA       0      5.0     16.0     30.0     65.0     77.0     84.0     90.0     94.0     97.0
668          UA     100
             *

669          KK  ERPE75   DIVERT
670          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
671          KM   retention developed after 1990 in subbasin PE75
672          DT   XPE75       9.4      0.0
673          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
674          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
             *

675          KK   CPE75 COMBINE
676          KM   Combine route RWPE75, route RSPE75, and subbasin PE75
677          HC        3     3.36
             *

678          KK   D75PE   DIVERT
679          KM   Divert calculated full flow capapcity of 179 cfs into 60-inch storm drain
680          KM   pipe at the intersection of Peoria Avenue and 75th Avenue
681          DT  DP75PE      0.0    179.0
682          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
683          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
             *

684          KK  DWPE83   DIVERT
685          KM   Divert remaining runoff hydrograph from combination point CPE75 west to
686          KM   combination point CPE83
687          DT  DSOL75      0.0      0.0
688          DI     0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0 10000.0 20000.0 50000.0
689          DQ     0.0     52.0    104.0    260.0    520.0   1040.0   2080.0  5200.0 10400.0 26000.0
             *

690          KK  RWPE83    ROUTE
691          KM   Route diversion DWPE83 west to combination point CPE83
692          RS        2     FLOW
693          RC   0.035    0.015    0.035     5280   0.0023     0.00
694          RX    0.00     0.00    57.50    57.50   291.50   291.50   349.00  349.00
695          RY    3.00     1.08     0.50     0.00     0.00     0.50     1.08    3.00
             *

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LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

696          KK  DRPE83RETRIEVE
697          KM   Retrieve divert DRPE83 from combination point CPCT83 and divert south to
698          KM   combination point CPE83
699          DR  DSPE83
             *

700          KK  RSPE83    ROUTE
701          KM   Route diversion retrieval DRPE83 south to combination point CPE83
702          RS        4     FLOW
```



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703          RC   0.035    0.015    0.035     5280   0.0023     0.00
704          RX    0.00     0.00    76.50    76.50   372.50   372.50   449.00  449.00
705          RY    3.00     1.27     0.50     0.00     0.00     0.50     1.27    3.00
             *

706          KK    PE83    BASIN
707          KM   Runoff hydrograph for square mile subbasin PE83 northeast of the intersection
708          KM   of Peoria Avenue, 83rd Avenue, and Grand Avenue
709          BA   1.000
710          LG    0.24     0.13    10.10     0.03       35
711          UC   1.500    1.010
712          UA       0      5.0     16.0     30.0     65.0     77.0     84.0     90.0     94.0     97.0
713          UA     100
             *

714          KK  ERPE83   DIVERT
715          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
716          KM   retention developed after 1990 in subbasin PE83
717          DT   XPE83      36.8      0.0
718          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
719          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
             *

720          KK   CPE83 COMBINE
721          KM   Combine route RWPE83, route RSPE83, and subbasin PE83
722          HC        3     3.97
             *

723          KK   DPE83   DIVERT
724          KM   Divert calculated full flow capapcity of 112 cfs into 48-inch storm drain
725          KM   pipe at the intersection of Peoria Avenue and 83rd Avenue
726          DT  DPPE83      0.0    112.0
727          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
728          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
             *

729          KK  DWGR91   DIVERT
730          KM   Divert portion of runoff hydrograph from subbasin CPE83 west through subbasin
731          KM   GR91 using the ratio of the widths and slopes od the streets going west and
732          KM   the widths and slopes of the streets going south. The remaining flow is
733          KM   diverted south through subbasin GR83
734          DT  DSGR83      0.0      0.0
735          DI     0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0 10000.0 20000.0 50000.0
736          DQ     0.0     48.0     96.0    240.0    480.0    960.0   1920.0  4800.0  9600.0 24000.0
             *

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LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

737          KK   DGR91   DIVERT
738          KM   Divert portion of DWGR91 west to subbasin GR91 using the ratio of the width
739          KM   of the collector and local streets and the width of the arterial street. The
740          KM   remaining flow is diverted west to subbasin PE91 along Peoria Avenue
741          DT  DWPE91      0.0      0.0
742          DI     0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0 10000.0 20000.0 50000.0
743          DQ     0.0     36.0     72.0    180.0    360.0    720.0   1440.0  3600.0  7200.0 18000.0
             *

744          KK  DRGR91RETRIEVE
745          KM   Retrieve divert DRGR91 from combination point CPCTLO and divert south to
746          KM   combination point CGR91
747          DR  DSGR91
             *

748          KK  RSGR91    ROUTE
749          KM   Route diversion retrieval DRGR91 south to combination point CGR91
750          RS        3     FLOW
751          RC   0.035    0.015    0.035     4969   0.0024     0.00
752          RX    0.00     0.00    57.50    57.50   291.50   291.50   349.00  349.00
753          RY    3.00     1.08     0.50     0.00     0.00     0.50     1.08    3.00
             *

754          KK    GR91    BASIN
755          KM   Runoff hydrograph for subbasin GR91 north of Grand Avenue and east of 91st
756          KM   Avenue
757          BA   0.514
758          LG    0.23     0.13    10.10     0.03       40
759          UC   1.118    0.582
760          UA       0      5.0     16.0     30.0     65.0     77.0     84.0     90.0     94.0     97.0
761          UA     100
             *

762          KK  ERGR91   DIVERT
763          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
764          KM   retention developed after 1990 in subbasin GR91
765          DT   XGR91      28.6      0.0
766          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
767          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
             *

768          KK   CGR91 COMBINE
769          KM   Combine divert DGR91, route RSGR91, and subbasin GR91
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 770          HC       3    3.58
              *

 771          KK  DWGRLO  DIVERT
 772          KM   Divert portion of runoff hydrograph from combination point CGR91 west to the
 773          KM   intersection of Grand Avenue and SR Loop 101 and the remaining flow south to
 774          KM   the intersection of Peoria Avenue and Grand Avenue. The diversion is based on
 775          KM   topography
 776          DT  DSPE91      0.0      0.0
 777          DI     0.0   100.0    200.0    500.0   1000.0   2000.0   4000.0 10000.0 20000.0 50000.0
 778          DQ     0.0    67.0    134.0    335.0    670.0   1340.0   2680.0  6700.0 13400.0 33500.0
              *
1                                        HEC-1 INPUT                                          PAGE 20
    LINE      ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 779          KK   CGRLO COMBINE
 780          KM   Combine divert DWGRLO and divert DSPELO
 781          HC       2    2.91
              *

 782          KK  RSPELO   ROUTE
 783          KM   Route hydrograph at combination point CGRLO south to combination point CIPEGR
 784          RS       1    FLOW
 785          RC  0.035   0.015   0.035    2704  0.0018    0.00
 786          RX   0.00    3.00   13.00   25.00   35.00   47.00   57.00   60.00
 787          RY   7.00    6.00    6.00    0.00    0.00    6.00    6.00    7.00
              *

 788          KK  DSOLLO  DIVERT
 789          KM   Divert remaining runoff hydrograph from combination point CPPELO south to
 790          KM   combination point COLLO
 791          DT  DWNR02      0.0  7462.0
 792          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
 793          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

 794          KK  DRPE91RETRIEVE
 795          KM   Retrieve divert DRPE91 from combination point CPE83 and divert west to
 796          KM   combination point CIPEGR
 797          DR  DSPE91
              *

 798          KK  SRGR91 STORAGE
 799          KM   Storage route runoff hydrograph from divert retrieval DRPE91 through ponding
 800          KM     area at Grand Avenue near the intersection of Peoria Avenue and 83rd Avenue
 801          KM   Storage routing ID RES22 in Maryvale ADMS, Feb 1997 - comments from ADMS:
 802          KM   PONDING AREA RESERVOIR ROUTE
 803          KM   SUB-BASIN 22-31E
 804          KM   PONDING AREA NORTHEAST OF GRAND AVENUE/RR EMBANKMENT
 805          RS       1    STOR
 806          SV            5.40    9.60   39.75
 807          SQ            0.10  970.0010990.00
 808          SE  1134.0 1136.00 1136.50 1138.00
              *

 809          KK  DIPE91RETRIEVE
 810          KM   Retrieve arterial street flow diverted to Peoria Avenue at the intersection
 811          KM   of Peoria Avenue and Grand Avenue
 812          DR  DWPE91
              *

 813          KK  CIPEGR COMBINE
 814          KM   Combine arterial street flow from Peoria Avenue DIPE91 with runoff hydrograph
 815          KM   DRPE91 at the intersection of Peoria Avenue and Grand Avenue
 816          HC       2    3.14
              *
1                                        HEC-1 INPUT                                          PAGE 21
    LINE      ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 817          KK  RWPE91   ROUTE
 818          KM   Route hydrograph at combination point CIPEGR at the intersection of Peoria
 819          KM   Avenue and Grand Avenue west to combination point CPE91
 820          RS       3    FLOW
 821          RC  0.035   0.015   0.035    5280  0.0037    0.00
 822          RX   0.00    0.00   67.00   67.00  332.00  332.00  399.00  399.00
 823          RY   3.00    1.17    0.50    0.00    0.00    0.50    1.17    3.00
              *

 824          KK   PE91   BASIN
 825          KM   Runoff hydrograph for subbasin PE91 northeast of the intersection of Peoria
 826          KM   Avenue and 91st Avenue
 827          BA   0.509
 828          LG   0.20    0.15    9.70    0.04      50
 829          UC   1.008   0.548
 830          UA      0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
 831          UA    100
              *

 832          KK  ERPE91  DIVERT
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 833          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
 834          KM   retention developed after 1990 in subbasin PE91
 835          DT   XPE91    13.1      0.0
 836          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
 837          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

 838          KK   CPE91 COMBINE
 839          KM   Combine route RWPE91 and subbasin PE91
 840          HC       2    3.65
              *

 841          KK  PRPE83RETRIEVE
 842          KM   Retrieve full flow capacity of 112 cfs from 48-inch storm drain pipe at the
 843          KM   intersection of Peoria Avenue and 83rd Avenue
 844          DR  DPPE83
              *

 845          KK  RPPE91   ROUTE
 846          KM   Route full flow capacity of 112 cfs through 48-inch storm drain pipe in
 847          KM   Peoria Avenue to the intersection of Peoria Avenue and 91st Avenue
 848          RK    5350  0.0061   0.015             CIRC   4.000
              *

 849          KK  CPPE91 COMBINE
 850          KM   Combine pipe return PRPE83 with the runoff hydrograph at combination point
 851          KM   CPE91 at the intersection of Peoria Avenue and 91st Avenue
 852          HC       2
              *
1                                        HEC-1 INPUT                                          PAGE 22
    LINE      ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 853          KK   DPE91  DIVERT
 854          KM   Divert calculated full flow capapcity of 147 cfs into 72-inch storm drain
 855          KM   pipe at the intersection of Peoria Avenue and 91st Avenue
 856          DT  DPPE91      0.0    147.0
 857          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
 858          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

 859          KK  DWPELO  DIVERT
 860          KM   Divert remaining runoff hydrograph from combination point CPPE91 west to
 861          KM   combination point CPELO
 862          DT  DSOL91      0.0      0.0
 863          DI     0.0   100.0    200.0    500.0   1000.0   2000.0   4000.0 10000.0 20000.0 50000.0
 864          DQ     0.0    55.0    110.0    275.0    550.0   1100.0   2200.0  5500.0 11000.0 27500.0
              *

 865          KK  RWPELO   ROUTE
 866          KM   Route diversion DWPELO west to combination point CPELO
 867          RS       1    FLOW
 868          RC  0.035   0.015   0.035    1289  0.0017    0.00
 869          RX   0.00    0.00   73.50   73.50  350.50  350.50  424.00  424.00
 870          RY   3.00    1.23    0.50    0.00    0.00    0.50    1.23    3.00
              *

 871          KK   PELO   BASIN
 872          KM   Runoff hydrograph for subbasin PELO northeast of the intersection of Peoria
 873          KM   Avenue and SR Loop 101
 874          BA   0.271
 875          LG   0.19    0.21    6.40    0.13      52
 876          UC   1.151   0.961
 877          UA      0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
 878          UA    100
              *

 879          KK  ERPELO  DIVERT
 880          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
 881          KM   retention developed after 1990 in subbasin PELO
 882          DT   XPELO      9.1      0.0
 883          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
 884          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

 885          KK   CPELO COMBINE
 886          KM   Combine route RWPELO, route RSPELO, and subbasin PELO
 887          HC       3    4.81
              *

 888          KK  PRPE91RETRIEVE
 889          KM   Retrieve full flow capacity of 147 cfs from 72-inch storm drain pipe at the
 890          KM   intersection of Peoria Avenue and 91st Avenue
 891          DR  DPPE91
              *
1                                        HEC-1 INPUT                                          PAGE 23
    LINE      ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 892          KK  RPPELO   ROUTE
 893          KM   Route full flow capacity of 147 cfs through 72-inch storm drain pipe in
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 894          KM   Peoria Avenue to the intersection of Peoria Avenue and St Loop 101
 895          RK    1594  0.0012   0.015            CIRC   6.000
              *
 896          KK  CPPELO COMBINE
 897          KM   Combine pipe return PRPE91 with the runoff hydrograph at combination point
 898          KM   CPELO at the intersection of Peoria Avenue and SR Loop 101
 899          HC       2
              *
 900          KK   DPELO  DIVERT
 901          KM   Divert calculated full flow capapcity of 255 cfs into 72-inch storm drain
 902          KM   pipe at the intersection of Peoria Avenue and Loop 101
 903          DT  DPPELO      0.0   255.0
 904          DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
 905          DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *
 906          KK  RSOLLO   ROUTE
 907          KM   Route diversion DSOLLO south to combination point COLLO
 908          RS        1    FLOW
 909          RC   0.035    0.015    0.035     5324  0.0018     0.00
 910          RX    0.00     3.00    13.00    33.00    63.00    83.00    93.00    96.00
 911          RY   11.00    10.00    10.00     0.00     0.00    10.00    10.00    11.00
              *
 912          KK    OL35   BASIN
 913          KM   Runoff hydrograph for subbasin OL35 northeast of the intersection of Olive
 914          KM   Avenue and 35th Avenue
 915          BA   0.214
 916          LG    0.10     0.25     5.40     0.23       58
 917          UC   0.848    0.870
 918          UA        0      5.0     16.0     30.0     65.0     77.0     84.0     90.0     94.0     97.0
 919          UA      100
              *
 920          KK   D35OL  DIVERT
 921          KM   Divert calculated full flow capapcity of 61 cfs into 42-inch storm drain
 922          KM   pipe at the intersection of Olive Avenue and 35th Avenue
 923          DT  DP35OL      0.0     61.0
 924          DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
 925          DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *
 926          KK  DWOL43  DIVERT
 927          KM   Divert remaining runoff hydrograph from subbasin OL35 west to combination
 928          KM   point COL43
 929          DT  DSNO35      0.0      0.0
 930          DI      0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0  10000.0  20000.0  50000.0
 931          DQ      0.0     70.0    140.0    350.0    700.0   1400.0   2800.0   7000.0  14000.0  35000.0
              *
1                                        HEC-1 INPUT                                                PAGE 24
     LINE     ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10
 932          KK  RWOL43   ROUTE
 933          KM   Route diversion DWOL43 west to combination point COL43
 934          RS       10    FLOW
 935          RC   0.035    0.015    0.035     5280  0.0022     0.00
 936          RX    0.00     0.00    35.50    35.50   188.50   188.50   224.00   224.00
 937          RY    3.00     0.86     0.50     0.00     0.00     0.50     0.86     3.00
              *
 938          KK    OL43   BASIN
 939          KM   Runoff hydrograph for subbasin OL43 northeast of the intersection of Olive
 940          KM   Avenue and 43rd Avenue
 941          BA   0.635
 942          LG    0.25     0.25     5.40     0.20       33
 943          UC   1.500    0.939
 944          UA        0      5.0     16.0     30.0     65.0     77.0     84.0     90.0     94.0     97.0
 945          UA      100
              *
 946          KK   COL43 COMBINE
 947          KM   Combine route RWOL43 and subbasin OL43
 948          HC       2     0.70
              *
 949          KK   D43OL  DIVERT
 950          KM   Divert calculated full flow capapcity of 85 cfs into 48-inch storm drain
 951          KM   pipe at the intersection of Olive Avenue and 43rd Avenue
 952          DT  DP43OL      0.0     85.0
 953          DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
 954          DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *
 955          KK  DWOL51  DIVERT
 956          KM   Divert remaining runoff hydrograph from combination point COL43 west to
 957          KM   combination point COL51
 958          DT  DSNO43      0.0      0.0
 959          DI      0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0  10000.0  20000.0  50000.0
 960          DQ      0.0     59.0    118.0    295.0    590.0   1180.0   2360.0   5900.0  11800.0  29500.0
```



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              *
 961          KK  RWOL51   ROUTE
 962          KM   Route diversion DWOL51 west to combination point COL51
 963          RS        7    FLOW
 964          RC   0.035    0.015    0.035     5280  0.0035     0.00
 965          RX    0.00     0.00    47.50    47.50   230.50   230.50   278.00   278.00
 966          RY    3.00     0.98     0.50     0.00     0.00     0.50     0.98     3.00
              *
 967          KK  DROL51RETRIEVE
 968          KM   Retrieve divert DROL51 from subbasin CPE51 and divert south to combination
 969          KM   point COL51
 970          DR  DSOL51
              *
1                                        HEC-1 INPUT                                                PAGE 25
     LINE     ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10
 971          KK  RSOL51   ROUTE
 972          KM   Route diversion retrieval DROL51 south to combination point COL51
 973          RS        7    FLOW
 974          RC   0.035    0.015    0.035     5280  0.0031     0.00
 975          RX    0.00     0.00    68.50    68.50   359.50   359.50   428.00   428.00
 976          RY    3.00     1.18     0.50     0.00     0.00     0.50     1.18     3.00
              *
 977          KK    OL51   BASIN
 978          KM   Runoff hydrograph for square mile subbasin OL51 northeast of the intersection
 979          KM   of Olive Avenue and 51st Avenue
 980          BA   0.993
 981          LG    0.23     0.15     7.30     0.10       36
 982          UC   1.500    1.014
 983          UA        0      5.0     16.0     30.0     65.0     77.0     84.0     90.0     94.0     97.0
 984          UA      100
              *
 985          KK  EROL51  DIVERT
 986          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
 987          KM   retention developed after 1990 in subbasin OL51
 988          DT   XOL51      6.0      0.0
 989          DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
 990          DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *
 991          KK   COL51 COMBINE
 992          KM   Combine route RWOL51, route RSOL51, and subbasin OL51
 993          HC       3     1.45
              *
 994          KK   DOL51  DIVERT
 995          KM   Divert calculated full flow capapcity of 297 cfs into 78-inch storm drain
 996          KM   pipe at the intersection of Olive Avenue and 51st Avenue
 997          DT  DPOL51      0.0    297.0
 998          DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
 999          DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *
1000          KK  DWOL59  DIVERT
1001          KM   Divert remaining runoff hydrograph from combination point COL51 west to
1002          KM   combination point COL59
1003          DT  DSNO51      0.0      0.0
1004          DI      0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0  10000.0  20000.0  50000.0
1005          DQ      0.0     34.0     68.0    170.0    340.0    680.0   1360.0   3400.0   6800.0  17000.0
              *
1006          KK  RWOL59   ROUTE
1007          KM   Route diversion DWOL59 west to combination point COL59
1008          RS        5    FLOW
1009          RC   0.035    0.015    0.035     5280  0.0034     0.00
1010          RX    0.00     0.00    75.50    75.50   402.50   402.50   478.00   478.00
1011          RY    3.00     1.25     0.50     0.00     0.00     0.50     1.25     3.00
              *
1                                        HEC-1 INPUT                                                PAGE 26
     LINE     ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10
1012          KK  DROL59RETRIEVE
1013          KM   Retrieve divert DROL59 from combination point CPPE59 and divert south to
1014          KM   combination point COL59
1015          DR  DSOL59
              *
1016          KK  RSOL59   ROUTE
1017          KM   Route diversion retrieval DROL59 south to combination point COL59
1018          RS        5    FLOW
1019          RC   0.035    0.015    0.035     5280  0.0023     0.00
1020          RX    0.00     0.00    72.50    72.50   425.50   425.50   498.00   498.00
1021          RY    3.00     1.23     0.50     0.00     0.00     0.50     1.23     3.00
              *
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1022          KK    OL59   BASIN
1023          KM    Runoff hydrograph for square mile subbasin OL59 northeast of the intersection
1024          KM    of Olive Avenue and 59th Avenue
1025          BA    0.990
1026          LG     0.24    0.15    8.80    0.05      34
1027          UC    1.500   1.012
1028          UA        0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
1029          UA      100
              *

1030          KK  EROL59  DIVERT
1031          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
1032          KM   retention developed after 1990 in subbasin OL59
1033          DT   XOL59     21.9      0.0
1034          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
1035          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

1036          KK   COL59 COMBINE
1037          KM   Combine route RWOL59, route RSOL59, and subbasin OL59
1038          HC        3    2.78
              *

1039          KK  PR59PERETRIEVE
1040          KM   Retrieve full flow capacity of 235 cfs from 78-inch storm drain pipe at the
1041          KM   intersection of Peoria Avenue and 59th Avenue
1042          DR  DP59PE
              *

1043          KK  RP59BR   ROUTE
1044          KM   Route full flow capacity of 235 cfs through 78-inch storm drain pipe in
1045          KM   59th Avenue to the intersection of Brown Street and 59th Avenue
1046          RK    1231  0.0020   0.015             CIRC   6.500
              *
1                                        HEC-1 INPUT                                        PAGE 27

LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1047          KK   DBR59  DIVERT
1048          KM   Divert calculated full flow capapcity of 161 cfs into 60-inch storm drain
1049          KM   pipe at the intersection of Brown Street and 59th Avenue
1050          DT   DPBR59      0.0    161.0
1051          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
1052          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

1053          KK  RP59OL   ROUTE
1054          KM   Route full flow capacity of 161 cfs through 60-inch storm drain pipe in
1055          KM   59th Avenue to the intersection of Olive Avenue and 59th Avenue
1056          RK    1446  0.0031   0.015             CIRC   3.500
              *

1057          KK  PROL51RETRIEVE
1058          KM   Retrieve full flow capacity of 297 cfs from 78-inch storm drain pipe at the
1059          KM   intersection of Olive Avenue and 51st Avenue
1060          DR  DPOL51
              *

1061          KK  RPOL59   ROUTE
1062          KM   Route full flow capacity of 297 cfs through 78-inch storm drain pipe in
1063          KM   Olive Avenue to the intersection of Olive Avenue and 59th Avenue
1064          RK    5117  0.0032   0.015             CIRC   6.500
              *

1065          KK  CPOL59 COMBINE
1066          KM   Combine pipe return PROL51 and the remainder of pipe return PR59PE with the
1067          KM   runoff hydrograph at combination point COL59 at the intersection of Olive
1068          KM   Avenue and 59th Avenue
1069          HC        3
              *

1070          KK   DOL59  DIVERT
1071          KM   Divert calculated full flow capapcity of 475 cfs into 90-inch storm drain
1072          KM   pipe at the intersection of Olive Avenue and 59th Avenue
1073          DT   DPOL59      0.0    475.0
1074          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
1075          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

1076          KK  DWOL67  DIVERT
1077          KM   Divert remaining runoff hydrograph from combination point CPOL59 west to
1078          KM   combination point COL67
1079          DT   DSNO59      0.0      0.0
1080          DI       0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0  10000.0  20000.0  50000.0
1081          DQ       0.0     61.0    122.0    305.0    610.0   1220.0   2440.0   6100.0  12200.0  30500.0
              *
1                                        HEC-1 INPUT                                        PAGE 28

LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1082          KK  RWOL67   ROUTE
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1083          KM   Route diversion DWOL67 west to combination point COL67
1084          RS        3    FLOW
1085          RC    0.035   0.015   0.035    5280  0.0034     0.00
1086          RX     0.00    0.00   54.50   54.50  273.50  273.50  328.00  328.00
1087          RY     3.00    1.04    0.50    0.00    0.00    0.50    1.04    3.00
              *

1088          KK  DROL67RETRIEVE
1089          KM   Retrieve divert DROL67 from combination point CPE67 and divert south to
1090          KM   combination point COL67
1091          DR  DSOL67
              *

1092          KK  RSOL67   ROUTE
1093          KM   Route diversion retrieval DROL67 south to combination point COL67
1094          RS        8    FLOW
1095          RC    0.035   0.015   0.035    5280  0.0031     0.00
1096          RX     0.00    0.00   45.50   45.50  284.50  284.50  330.00  330.00
1097          RY     3.00    0.96    0.50    0.00    0.00    0.50    0.96    3.00
              *

1098          KK    OL67   BASIN
1099          KM   Runoff hydrograph for square mile subbasin OL67 northeast of the intersection
1100          KM   of Olive Avenue and 67th Avenue
1101          BA    0.960
1102          LG     0.23    0.15    8.40    0.07      36
1103          UC    1.412   0.952
1104          UA        0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
1105          UA      100
              *

1106          KK  EROL67  DIVERT
1107          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
1108          KM   retention developed after 1990 in subbasin OL67
1109          DT   XOL67     39.8      0.0
1110          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
1111          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

1112          KK   COL67 COMBINE
1113          KM   Combine route RWOL67, route RSOL67, and subbasin OL67
1114          HC        3    2.84
              *

1115          KK  PRBR59RETRIEVE
1116          KM   Retrieve full flow capacity of 161 cfs from 60-inch storm drain pipe at the
1117          KM   intersection of Brown Street and 59th Avenue
1118          DR  DPBR59
              *
1                                        HEC-1 INPUT                                        PAGE 29

LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1119          KK  RPBR63   ROUTE
1120          KM   Route full flow capacity of 161 cfs through 60-inch storm drain pipe in
1121          KM   63rd Avenue to the intersection of Brown Street and 63rd Avenue
1122          RK     528  0.0038   0.015             CIRC   5.000
              *

1123          KK  SRBR63 STORAGE
1124          KM   Storage route pipe flow PRBR59 from the storm drain in Brown Street
1125          KM     through regional detention basin located near the intersection of Brown
1126          KM     Street and 63rd Avenue
1127          KM   Stage-storage from Sahuaro Ranch Park - Phase VI Civil Survey, 1988
1128          RS        1    STOR
1129          SV             0.83    1.95    7.59    8.05    8.59
1130          SQ             9.00   25.00   52.00  201.00  474.00
1131          SE    57.00   58.00   59.00   63.00   63.30   63.50
              *

1132          KK  RP63OL   ROUTE
1133          KM   Route full flow capacity of 161 cfs through 60-inch storm drain pipe in
1134          KM   63rd Avenue to the intersection of Olive Avenue and 63rd Avenue
1135          RK    3878  0.0040   0.015             CIRC   2.500
              *

1136          KK  PROL59RETRIEVE
1137          KM   Retrieve full flow capacity of 475 cfs from 90-inch diameter pipe at the
1138          KM   intersection of Olive Avenue and 59th Avenue
1139          DR  DPOL59
              *

1140          KK  RPOL63   ROUTE
1141          KM   Route full flow capacity of 475 cfs through 90-inch storm drain pipe in
1142          KM   in Olive Avenue to the intersection of Olive Avenue and 63rd Avenue
1143          RK    2835  0.0038   0.015             CIRC   7.500
              *

1144          KK  CPOL63 COMBINE
1145          KM   Combine pipe return PROL67 with pipe return PRBR59 at the intersection of
1146          KM   Olive Avenue and 63rd Avenue
1147          HC        2    2.84
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                *
1148            KK  RPOL67    ROUTE
1149            KM   Route full flow capacity of 161 cfs through 60inch storm drain pipe in
1150            KM   59th Avenue to the intersection of Olive Avenue and 59th Avenue
1151            RK    2409  0.0033    0.015            CIRC    7.500
                *
1152            KK  PR67PERETRIEVE
1153            KM   Retrieve full flow capacity of 161 cfs from 60-inch storm drain pipe at the
1154            KM   intersection of Olive Avenue and 67th Avenue
1155            DR  DP67PE
                *
                * KKRP67MV   ROUTE
                * KM Route full flow capacity of 162 cfs through 60-inch storm drain pipe in
                * KM 67th Avenue to the intersection of Mountain View Road and 67th Avenue
                * RK  2679  0.0039   0.015            CIRC    5.000
                *
1                                        HEC-1 INPUT                                    PAGE 30

LINE            ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1156            KK  SR67MV STORAGE
1157            KM   Storage route pipe flow PR67PE from storm drain in 67th Avenue through
1158            KM     regional detention basin located near the intersection of Mountain View
1159            KM     Road and 67th Avenue
1160            KM   Stage-storage from Chaparral Ranch Retention Basin Plans, 1984
1161            RS       1     STOR
1162            SV             2.29    2.93    3.65    5.28
1163            SQ            17.00  201.00  531.00 1457.00
1164            SE  1170.0 1171.00 1171.30 1171.50 1172.00
                *
                * KKRP67OL   ROUTE
                * KM Route full flow capacity of 175 cfs through 66-inch storm drain pipe in
                * KM 67th Avenue to the intersection of Olive Avenue and 67th Avenue
                * RK  2627  0.0027   0.015            CIRC    5.500
                *
1165            KK  CPOL67 COMBINE
1166            KM   Combine pipe return PR67PE with the runoff hydrograph at combination point
1167            KM   COL67 at the intersection of Olive Avenue and 67th Avenue
1168            HC       3
                *
1169            KK   DOL67  DIVERT
1170            KM   Divert calculated full flow capapcity of 662 cfs into 72-inch storm drain
1171            KM   pipe at the intersection of Olive Avenue and 67th Avenue
1172            DT  DPOL67      0.0     662.0
1173            DI      0.0 50000.0       0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
1174            DQ      0.0 50000.0       0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
                *
1175            KK  DWOL75  DIVERT
1176            KM   Divert remaining runoff hydrograph from combination point CPOL67 west to
1177            KM   combination point COL75
1178            DT  DSNO67      0.0     0.0
1179            DI      0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
1180            DQ      0.0    44.0    88.0   220.0   440.0   880.0  1760.0  4400.0  8800.0 22000.0
                *
1181            KK  RWOL75   ROUTE
1182            KM   Route diversion DWOL75 west to combination point COL75
1183            RS       4     FLOW
1184            RC   0.035   0.015   0.035    5280  0.0031    0.00
1185            RX    0.00    0.00   67.00   67.00  332.00  332.00  399.00  399.00
1186            RY    3.00    1.17    0.50    0.00    0.00    0.50    1.17    3.00
                *
1187            KK  DROL75RETRIEVE
1188            KM   Retrieve divert DROL75 from combination point CPE75 and divert south to
1189            KM   combination point COL75
1190            DR  DSOL75
                *
1                                        HEC-1 INPUT                                    PAGE 31

LINE            ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1191            KK  RSOL75   ROUTE
1192            KM   Route diversion retrieval DROL75 south to combination point COL75
1193            RS       3     FLOW
1194            RC   0.035   0.015   0.035    5280  0.0027    0.00
1195            RX    0.00    0.00   57.50   57.50  291.50  291.50  349.00  349.00
1196            RY    3.00    1.08    0.50    0.00    0.00    0.50    1.08    3.00
                *
1197            KK   OL75   BASIN
1198            KM   Runoff hydrograph for square mile subbasin OL75 northeast of the intersection
1199            KM   of Olive Avenue and 75th Avenue
1200            BA   1.004
1201            LG    0.23    0.15    8.80    0.06      32
1202            UC   1.500   1.012
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1203            UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
1204            UA     100
                *
1205            KK  EROL75  DIVERT
1206            KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
1207            KM   retention developed after 1990 in subbasin OL75
1208            DT   XOL75     40.9      0.0
1209            DI      0.0 50000.0       0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
1210            DQ      0.0 50000.0       0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
                *
1211            KK   COL75 COMBINE
1212            KM   Combine route RWOL75, route RSOL75, and subbasin OL75
1213            HC       3     4.34
                *
1214            KK  PROL67RETRIEVE
1215            KM   Retrieve full flow capacity of 662 cfs from 72-inch storm drain pipe at the
1216            KM   intersection of Olive Avenue and 67th Avenue
1217            DR  DPOL67
                *
1218            KK  RPOL71   ROUTE
1219            KM   Route full flow capacity of 662 cfs through 72-inch storm drain pipe in
1220            KM   Olive Avenue to the intersection of Olive Avenue and 71st Avenue
1221            RK    2746  0.0243   0.015            CIRC    6.000
                *
1222            KK  CPOL71 COMBINE
1223            KM   Combine pipe return PROL67 with the runoff hydrograph at combination point
1224            KM   COL71 at the intersection of Olive Avenue and 71st Avenue
1225            HC       2
                *
1                                        HEC-1 INPUT                                    PAGE 32

LINE            ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1226            KK  SROL71 STORAGE
1227            KM   Storage route runoff hydrograph from combination point CPOL71 through
1228            KM     regional detention basin located near the intersection of Olive Avenue
1229            KM     and 71st Avenue
1230            KM   Stage-storage data from topography provided by FCDMC dated 3/28/1994
1231            RS       1     STOR
1232            SV             8.78   27.11   47.24   69.15   92.94  105.55  118.61
1233            SQ            57.00  147.00  148.00  184.00  213.00 2792.00 7494.00
1234            SE  1128.0 1130.00 1132.00 1134.00 1136.00 1138.00 1139.00 1140.00
                *
1235            KK   DOL71  DIVERT
1236            KM   Divert calculated full flow capapcity of 386 cfs into 78-inch storm drain
1237            KM   pipe at the intersection of Olive Avenue and 71st Avenue
1238            DT  DPOL71      0.0     386.0
1239            DI      0.0 50000.0       0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
1240            DQ      0.0 50000.0       0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
                *
1241            KK  PR75PERETRIEVE
1242            KM   Retrieve full flow capacity of 179 cfs from 60-inch storm drain pipe at the
1243            KM   intersection of Peoria Avenue and 75th Avenue
1244            DR  DP75PE
                *
1245            KK  RP75OL   ROUTE
1246            KM   Route full flow capacity of 179 cfs through 60-inch storm drain pipe in
1247            KM   75th Avenue to the intersection of Olive Avenue and 75th Avenue
1248            RK    5035  0.0047   0.015            CIRC    5.000
                *
1249            KK  PROL71RETRIEVE
1250            KM   Retrieve full flow capacity of 386 cfs from 78-inch storm drain pipe at the
1251            KM   intersection of Olive Avenue and 71st Avenue
1252            DR  DPOL71
                *
1253            KK  RPOL75   ROUTE
1254            KM   Route full flow capacity of 386 cfs through 78-inch storm drain pipe in
1255            KM   Olive Avenue to the intersection of Olive Avenue and 75th Avenue
1256            RK    2971  0.0054   0.015            CIRC    6.500
                *
1257            KK  CPOL75 COMBINE
1258            KM   Combine pipe return PROL71 with the runoff hydrograph at combination point
1259            KM   COL75 at the intersection of Olive Avenue and 75th Avenue
1260            HC       3
                *
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LINE            ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1261            KK   DOL75  DIVERT
```

```
KM   Divert calculated full flow capapcity of 239 cfs into 90-inch storm drain
KM   pipe at the intersection of Olive Avenue and 75th Avenue
DT  DPOL75      0.0   239.0
DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
*

KK  DWGR83  DIVERT
KM   Divert remaining runoff hydrograph from combination point CPOL75 west to
KM   combination point CGR83
DT  DSGR75      0.0      0.0
DI      0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0  10000.0  20000.0  50000.0
DQ      0.0     51.0    102.0    255.0    510.0   1020.0   2040.0   5100.0  10200.0  25500.0
*

KK  DRGR83RETRIEVE
KM   Retrieve divert DRGR83 from combination point CPE83 and divert south to
KM   combination point CGR83
DR  DSGR83
*

KK   D83GR   DIVERT
DT  DSOL83      0.0      0.0
DI      0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0  10000.0  20000.0  50000.0
DQ      0.0     28.0     56.0    140.0    280.0    560.0   1120.0   2800.0   5600.0  14000.0
*

KK  RSGR83   ROUTE
KM   Route diversion D83GR south to combination point CGR83
RS       10     FLOW
RC   0.035    0.015    0.035     7145   0.0003     0.00
RX    0.00     0.00    67.00    67.00   332.00   332.00   399.00   399.00
RY    3.00     1.17     0.50     0.00     0.00     0.50     1.17     3.00
*

KK    GR83   BASIN
KM   Runoff hydrograph for subbasin GR83 southeast of the intersection of Grand
KM   Avenue and 83rd Avenue
BA   0.468
LG    0.17     0.13    10.10     0.03       58
UC   1.068    0.604
UA       0      5.0     16.0     30.0     65.0     77.0     84.0     90.0     94.0     97.0
UA     100
*

KK  ERGR83  DIVERT
KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
KM   retention developed after 1990 in subbasin GR83
DT  XGR83     32.4      0.0
DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
*
```

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LINE      ID.......1.......2.......3.......4.......5.......6.......7.......8.......9.....10

KK   CGR83 COMBINE
KM   Combine divert DWGR83, route RSGR83, and subbasin GR83
HC        3     3.99
*

KK  SRGR83 STORAGE
KM   Storage routing ID RES26S in Maryvale ADMS, Feb 1997 - comments from ADMS:
KM   PONDING AREA RESERVOIR ROUTE
KM   SUB-BASIN 26-31E
KM   PONDING AREA NORTHEAST OF GRAND AVENUE/RR EMBANKMENT
KM   OUTFLOW REPRESENTS BOTH FLOW WEST (OVER THE RR EMBANKEMENT) AND
KM   FLOW SOUTH OVER OLIVE AVENUE
KM   ------------------------------------------------------------------------------
KM   REVISION TO MARYVALE ADMS MODEL KHA --> COMBINED STORAGE AT 75TH AND 83RD AVE
KM
KM   Storage route runoff hydrograph from combination point CGR83 through ponding
KM     area at Grand Avenue between 75th Avenue and 83rd Avenue
KM   ------------------------------------------------------------------------------
RS        1     STOR
SV             3.40    27.60    58.20   102.60   145.28   278.39   315.39   329.41   339.52
SV   350.22   367.41
SQ        0      0.1      0.2     0.35   2170.1  4810.15   51070.   51070.   51070.     5117
SQ   51230.   52040.
SE    1132.    1134.    1136.    1137.    1138.   1138.5    1140.    1141.   1141.3     1141
SE   1141.7    1142.
*

KK  DWOL83  DIVERT
KM   Divert ID D26AW in Maryvale ADMS, Feb 1997
KM   Divert remaining runoff hydrograph from combination point CGR83 west to
KM   combination point COL83
DT  DS75NO      0.0      0.0
DI      0.0   2170.0   4810.0  52040.0      0.0      0.0      0.0      0.0      0.0      0.0
DQ      0.0   2170.0   4160.0  51390.0      0.0      0.0      0.0      0.0      0.0      0.0
*
```



```
KK  RWOL83   ROUTE
KM   Route diversion DWOL83 west to combination point COL83
RS        1     FLOW
RC   0.035    0.015    0.035     5280   0.0027     0.00
RX    0.00     0.00    26.00    26.00   148.00   148.00   174.00   174.00
RY    3.00     0.76     0.50     0.00     0.00     0.50     0.76     3.00
*

KK  DIOL83RETRIEVE
KM   Retrieve arterial street flow diverted to 83rd Avenue at the intersection
KM   of 83rd Avenue and Grand Avenue
DR  DSOL83
*
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LINE      ID.......1.......2.......3.......4.......5.......6.......7.......8.......9.....10

KK  RSOL83   ROUTE
KM   Route diversion retrieval DIOL83 south to combination point COL83
RS        5     FLOW
RC   0.035    0.015    0.035     5280   0.0031     0.00
RX    0.00     0.00    67.00    67.00   332.00   332.00   399.00   399.00
RY    3.00     1.17     0.50     0.00     0.00     0.50     1.17     3.00
*

KK    OL83   BASIN
KM   Runoff hydrograph for subbasin OL83 northeast of the intersection
KM   of Olive Avenue and 83rd Avenue
BA   0.537
LG    0.19     0.13    10.10     0.03       53
UC   1.141    0.625
UA       0      5.0     16.0     30.0     65.0     77.0     84.0     90.0     94.0     97.0
UA     100
*

KK  EROL83  DIVERT
KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
KM   retention developed after 1990 in subbasin OL83
DT  XOL83     36.7      0.0
DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
*

KK   COL83 COMBINE
KM   Combine route RWOL83, route RSOL83, and subbasin OL83
HC        3     1.06
*

KK    NO27   BASIN
KM   Runoff hydrograph for subbasin NO27 northeast of the intersection of Northern
KM   Avenue and 27th Avenue
BA   0.126
LG    0.18     0.15     8.80     0.05       63
UC   0.898    1.187
UA       0      5.0     16.0     30.0     65.0     77.0     84.0     90.0     94.0     97.0
UA     100
*

KK   D27NO  DIVERT
KM   Divert calculated full flow capapcity of 114 cfs into 54-inch storm drain
KM   pipe at the intersection of Northern Avenue and 27th Avenue
DT  DP27NO      0.0    114.0
DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
*
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LINE      ID.......1.......2.......3.......4.......5.......6.......7.......8.......9.....10

KK  DWNO35  DIVERT
KM   Divert remaining runoff hydrograph from subbasin NO27 west to combination
KM   point CNO35
DT  DSGL27      0.0      0.0
DI      0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0  10000.0  20000.0  50000.0
DQ      0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0  10000.0  20000.0  50000.0
*

KK  RWNO35   ROUTE
KM   Route diversion DWNO35 west to combination point CNO35
RS        1     FLOW
RC   0.035    0.015    0.035     5280   0.0001     0.00
RX    0.00     0.00    76.50    76.50   372.50   372.50   449.00   449.00
RY    3.00     1.27     0.50     0.00     0.00     0.50     1.27     3.00
*

KK  DRNO35RETRIEVE
KM   Retrieve divert DRNO35 from subbasin OL35 and divert south to
KM   combination point CNO35
DR  DSNO35
*
```

```
1394          KK  RSNO35    ROUTE
1395          KM   Route diversion retrieval DRNO35 south to combination point CNO35
1396          RS       10     FLOW
1397          RC  0.035   0.015   0.035    5280  0.0036     0.00
1398          RX   0.00    0.00   67.00   67.00  332.00  332.00  399.00  399.00
1399          RY   3.00    1.17    0.50    0.00    0.00    0.50    1.17    3.00
              *

1400          KK    NO35   BASIN
1401          KM   Runoff hydrograph for square mile subbasin NO35 northeast of the intersection
1402          KM   of Norhtern Avenue and 35th Avenue
1403          BA  0.991
1404          LG   0.24    0.25    5.80    0.17      38
1405          UC  1.500   0.921
1406          UA      0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
1407          UA    100
              *

1408          KK   CNO35 COMBINE
1409          KM   Combine route RWNO35, route RSNO35, and subbasin NO35
1410          HC       3    1.14
              *

1411          KK  PR27NORETRIEVE
1412          KM   Retrieve full flow capacity of 114 cfs from 54-inch diameter pipe at the
1413          KM   intersection of Northern Avenue and 27th Avenue
1414          DR  DP27NO
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9.....10

1415          KK  CPNO29 COMBINE
1416          KM   Combine pipe return PR27NO with the runoff hydrograph at combination point
1417          KM   CNO29 at the intersection of Northern Avenue and 29th Avenue
1418          HC       2
              *

1419          KK   D29NO  DIVERT
1420          KM   Divert calculated full flow capapcity of 114 cfs into 54-inch storm drain
1421          KM   pipe at the intersection of Northern Avenue and 29th Avenue
1422          DT  DP29NO      0.0   114.0
1423          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
1424          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

1425          KK  PR35OLRETRIEVE
1426          KM   Retrieve full flow capacity of 61 cfs from 42-inch diameter pipe at the
1427          KM    intersection of Northern Avenue and 35th Avenue
1428          DR  DP35OL
              *

1429          KK  RP35NO    ROUTE
1430          KM   Route full flow capacity of 61 cfs through 42-inch storm drain pipe in
1431          KM   35th Avenue to the intersection of Northern Avenue and 35th Avenue
1432          RK    5191  0.0037   0.015            CIRC   3.500
              *

1433          KK  CPNO35 COMBINE
1434          KM   Combine pipe return PR35OL with the runoff hydrograph at combination point
1435          KM   CNO35 at the intersection of Northern Avenue and 35th Avenue
1436          HC       2
              *

1437          KK   D35NO  DIVERT
1438          KM   Capacity of storm drain in 31st Avenue and 35th Avenue diverted together.
1439          KM   Divert combined calculated full flow capacity of 26 cfs in the 30-inch storm
1440          KM   drain pipe in 31st Avenue and 87 cfs in the 48-inch storm drain pipe in
1441          KM   35th Avenue. The total calculated combined full flow capacity diverted at the
1442          KM   intersection of 35th Avenue and Northern Avenue is 113 cfs in an equivalent
1443          KM   diameter pipe of 53 inches
1444          DT  DP35NO      0.0   113.0
1445          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
1446          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

1447          KK  DWNO43  DIVERT
1448          KM   Divert remaining runoff hydrograph from combination point CPNO353 west to
1449          KM   combination point CNO43
1450          DT  DSGL35      0.0     0.0
1451          DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
1452          DQ     0.0    46.0    92.0   230.0   460.0   920.0  1840.0  4600.0  9200.0 23000.0
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9.....10

1453          KK  RWNO43    ROUTE
1454          KM   Route diversion DWNO43 west to combination point CNO43
1455          RS       8     FLOW
1456          RC  0.035   0.015   0.035    5280  0.0021     0.00
```



```
1457          RX    0.00    0.00  114.50  114.50  534.50  534.50  649.00  649.00
1458          RY    3.00    1.64    0.50    0.00    0.00    0.50    1.64    3.00
              *

1459          KK  DRNO43RETRIEVE
1460          KM   Retrieve divert DRNO43 from combination point COL43 and divert south to
1461          KM   combination point CNO43
1462          DR  DSNO43
              *

1463          KK  RSNO43    ROUTE
1464          KM   Route diversion retrieval DRNO43 south to combination point CNO43
1465          RS       7     FLOW
1466          RC  0.035   0.015   0.035    5280  0.0035     0.00
1467          RX   0.00    0.00   67.00   67.00  332.00  332.00  399.00  399.00
1468          RY   3.00    1.17    0.50    0.00    0.00    0.50    1.17    3.00
              *

1469          KK    NO43   BASIN
1470          KM   Runoff hydrograph for square mile subbasin NO43 northeast of the intersection
1471          KM   of Norhtern Avenue and 43rd Avenue
1472          BA  0.995
1473          LG   0.24    0.21    6.40    0.14      33
1474          UC  1.500   1.009
1475          UA      0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
1476          UA    100
              *

1477          KK   CNO43 COMBINE
1478          KM   Combine route RWNO43, route RSNO43, and subbasin NO43
1479          HC       3    2.02
              *

1480          KK  PR43OLRETRIEVE
1481          KM   Retrieve full flow capacity of 85 cfs from 48-inch storm drain pipe at the
1482          KM   intersection of Olive Avenue and 43rd Avenue
1483          DR  DP43OL
              *

1484          KK  RP43NO    ROUTE
1485          KM   Route full flow capacity of 85 cfs through 48-inch storm drain pipe in
1486          KM   43rd Avenue to the intersection of Northern Avenue and 43rd Avenue
1487          RK    5100  0.0035   0.015            CIRC   4.000
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9.....10

1488          KK  CPNO43 COMBINE
1489          KM   Combine pipe return PR43OL with the runoff hydrograph at combination point
1490          KM   CPNO43 at the intersection of Northern Avenue and 43rd Avenue
1491          HC       2
              *

1492          KK   D43NO  DIVERT
1493          KM   Capacity of storm drain in 43rd Avenue and 39th Avenue diverted together.
1494          KM   Divert combined calculated full flow capacity of 124 cfs in the 54-inch storm
1495          KM   drain pipe in 39th AVenue and 117 cfs in the 54-inch storm drain pipe in
1496          KM   43rd Avenue. The total calculated combined full flow capacity diverted at the
1497          KM   intersection of 43rd Avenue and Northern Avenue is 241 cfs in an equivalent
1498          KM   diameter pipe of 71 inches
1499          DT  DP43NO      0.0   241.0
1500          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
1501          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

1502          KK  DWNO51  DIVERT
1503          KM   Divert remaining runoff hydrograph from combination point CPNO43 west to
1504          KM   combination point CNO51
1505          DT  DSGL43      0.0     0.0
1506          DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
1507          DQ     0.0    51.0   102.0   255.0   510.0  1020.0  2040.0  5100.0 10200.0 25500.0
              *

1508          KK  RWNO51    ROUTE
1509          KM   Route diversion DWNO51 west to combination point CNO51
1510          RS       5     FLOW
1511          RC  0.035   0.015   0.035    5280  0.0019     0.00
1512          RX   0.00    0.00   65.50   65.50  382.50  382.50  448.00  448.00
1513          RY   3.00    1.16    0.50    0.00    0.00    0.50    1.16    3.00
              *

1514          KK  DRNO51RETRIEVE
1515          KM   Retrieve divert DRNO51 from combination point COL51 and divert south to
1516          KM   combination point CNO51
1517          DR  DSNO51
              *

1518          KK  RSNO51    ROUTE
1519          KM   Route diversion retrieval DRNO51 south to combination point CNO51
1520          RS       7     FLOW
1521          RC  0.035   0.015   0.035    5280  0.0019     0.00
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1522          RX    0.00    0.00   54.50   54.50  273.50  273.50  328.00  328.00
1523          RY    3.00    1.04    0.50    0.00    0.00    0.50    1.04    3.00
              *
1524          KK    NO51    BASIN
1525          KM   Runoff hydrograph for square mile subbasin NO51 northeast of the intersection
1526          KM   of Norhtern Avenue and 51st Avenue
1527          BA   0.993
1528          LG    0.24    0.25    6.00    0.16      37
1529          UC   1.500   1.010
1                                      HEC-1 INPUT                                    PAGE 40

LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1530          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
1531          UA     100
              *
1532          KK   CNO51 COMBINE
1533          KM   Combine route RWNO51, route RSNO51, and subbasin NO51
1534          HC       3    2.47
              *
1535          KK   DNO51  DIVERT
1536          KM   Divert calculated full flow capapcity of 168 cfs into 66-inch storm drain
1537          KM   pipe at the intersection of Northern Avenue and 51st Avenue
1538          DT  DPNO51     0.0   168.0
1539          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
1540          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *
1541          KK  DWNO59  DIVERT
1542          KM   Divert remaining runoff hydrograph from combination point CNO51 west to
1543          KM   combination point CNO59
1544          DT  DSGL51     0.0     0.0
1545          DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
1546          DQ     0.0    44.0    88.0   220.0   440.0   880.0  1760.0  4400.0  8800.0 22000.0
              *
1547          KK  RWNO59   ROUTE
1548          KM   Route diversion DWNO59 west to combination point CNO59
1549          RS       3    FLOW
1550          RC   0.035   0.015   0.035    5280  0.0040    0.00
1551          RX    0.00    0.00   58.50   58.50  339.50  339.50  398.00  398.00
1552          RY    3.00    1.08    0.50    0.00    0.00    0.50    1.08    3.00
              *
1553          KK  DRNO59RETRIEVE
1554          KM   Retrieve divert DRNO59 from combination point CPOL59 and divert south to
1555          KM   combination point CNO59
1556          DR  DSNO59
              *
1557          KK  RSNO59   ROUTE
1558          KM   Route diversion retrieval DRNO59 south to combination point CNO59
1559          RS       4    FLOW
1560          RC   0.035   0.015   0.035    5280  0.0024    0.00
1561          RX    0.00    0.00   86.50   86.50  511.50  511.50  598.00  598.00
1562          RY    3.00    1.36    0.50    0.00    0.00    0.50    1.36    3.00
              *
1563          KK    NO59   BASIN
1564          KM   Runoff hydrograph for square mile subbasin NO59 northeast of the intersection
1565          KM   of Norhtern Avenue and 59th Avenue
1566          BA   0.992
1567          LG    0.23    0.15    7.60    0.09      33
1568          UC   1.500   1.011
1569          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
1570          UA     100
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1571          KK  ERNO59  DIVERT
1572          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
1573          KM   retention developed after 1990 in subbasin NO59
1574          DT   XNO59    22.4     0.0
1575          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
1576          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *
1577          KK   CNO59 COMBINE
1578          KM   Combine route RWNO59, route RSNO59, and subbasin NO59
1579          HC       3    4.06
              *
1580          KK  SRNO59 STORAGE
1581          KM   Storage route runoff hydrograph from combination point CNO59 through
1582          KM     regional detention basin located in subbasin NO59
1583          KM   Combined storage from two retention basins
1584          KM   Stage-storage data from Butler Park Detention Basin As-built record, 1991 and
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1585          KM     Butler Park Street Improvements Retention Basin As-built record, 1990
1586          RS       1    STOR
1587          SV            1.87    4.65    7.68   15.59
1588          SQ                                  2430.00
1589          SE   96.00   97.00   98.00   99.00  100.00
              *
1590          KK  PRNO51RETRIEVE
1591          KM   Retrieve full flow capacity of 168 cfs from 66-inch storm drain pipe at the
1592          KM   intersection of Northern Avenue and 51st Avenue
1593          DR  DPNO51
              *
1594          KK  RPNO59   ROUTE
1595          KM   Route full flow capacity of 168 cfs through 66-inch storm drain pipe in
1596          KM   Northern Avenue to the intersection of Northern Avenue and 51st Avenue
1597          RK    5146  0.0025   0.015            CIRC   5.500
              *
1598          KK  CPNO59 COMBINE
1599          KM   Combine pipe return PRNO51 with the runoff hydrograph at combination point
1600          KM   CNO59 at the intersection of Northern Avenue and 59th Avenue
1601          HC       2
              *
1602          KK   DNO59  DIVERT
1603          KM   Divert calculated full flow capapcity of 134 cfs into 72-inch storm drain
1604          KM   pipe at the intersection of Northern Avenue and 59th Avenue
1605          DT  DPNO59     0.0   134.0
1606          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
1607          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *
1                                      HEC-1 INPUT                                    PAGE 42

LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1608          KK  DWNO67  DIVERT
1609          KM   Divert remaining runoff hydrograph from combination point CPNO59 west to
1610          KM   combination point CNO67
1611          DT  DSGL59     0.0     0.0
1612          DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
1613          DQ     0.0    33.0    66.0   165.0   330.0   660.0  1320.0  3300.0  6600.0 16500.0
              *
1614          KK  RWNO67   ROUTE
1615          KM   Route diversion DWNO67 west to combination point CNO67
1616          RS       3    FLOW
1617          RC   0.035   0.015   0.035    5280  0.0029    0.00
1618          RX    0.00    0.00   58.50   58.50  339.50  339.50  398.00  398.00
1619          RY    3.00    1.08    0.50    0.00    0.00    0.50    1.08    3.00
              *
1620          KK  DRNO67RETRIEVE
1621          KM   Retrieve divert DRNO67 from combination point CPOL67 and divert south to
1622          KM   combination point CNO67
1623          DR  DSNO67
              *
1624          KK  RSNO67   ROUTE
1625          KM   Route diversion retrieval DRNO67 south to combination point CNO67
1626          RS       5    FLOW
1627          RC   0.035   0.015   0.035    5280  0.0019    0.00
1628          RX    0.00    0.00   58.50   58.50  339.50  339.50  398.00  398.00
1629          RY    3.00    1.08    0.50    0.00    0.00    0.50    1.08    3.00
              *
1630          KK    NO67   BASIN
1631          KM   Runoff hydrograph for square mile subbasin NO67 northeast of the intersection
1632          KM   of Norhtern Avenue and 67th Avenue
1633          BA   0.956
1634          LG    0.22    0.15    8.80    0.05      45
1635          UC   1.500   1.020
1636          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
1637          UA     100
              *
1638          KK  ERNO67  DIVERT
1639          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
1640          KM   retention developed after 1990 in subbasin NO67
1641          DT   XNO67    54.3     0.0
1642          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
1643          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *
1644          KK   CNO67 COMBINE
1645          KM   Combine route RWNO67, route RSNO67, and subbasin NO67
1646          HC       3    4.93
              *
1                                      HEC-1 INPUT                                    PAGE 43

LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10
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```
KK  DWGR75  DIVERT
KM   Divert portion of runoff hydrograph from subbasin CNO67 west through subbasin
KM   GR75 using the ratio of the widths and slopes of the streets going west and
KM   the widths and slopes of the streets going south. The remaining flow is
KM   diverted south through subbasin GR67
DT  DSGR67      0.0      0.0
DI     0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0 10000.0 20000.0 50000.0
DQ     0.0     65.0    130.0    325.0    650.0   1300.0   2600.0  6500.0 13000.0 32500.0
*

KK   DGR75  DIVERT
KM   Divert portion of DWGR75 west to subbasin GR75 using the ratio of the width
KM   of the collector and local streets and the width of the arterial street. The
KM   remaining flow is diverted west to subbasin NO75 along Northern Avenue
DT  DWNO75      0.0      0.0
DI     0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0 10000.0 20000.0 50000.0
DQ     0.0     33.0     66.0    165.0    330.0    660.0   1320.0  3300.0  6600.0 16500.0
*

KK  RWGR75   ROUTE
KM   Route diversion DGR75 west to combination point CGR75
RS       10    FLOW
RC   0.035    0.015    0.035     7409   0.0008     0.00
RX    0.00     0.00    44.50    44.50   253.50   253.50   298.00   298.00
RY    3.00     0.94     0.50     0.00     0.00     0.50     0.94     3.00
*

KK  DRGR75RETRIEVE
KM   Retrieve divert DRGR75 from combination point CPOL75 and divert south to
KM   combination point CGR75
DR  DSGR75
*

KK   D75GR  DIVERT
KM   Divert portion of divert retrieval DRGR75 south to subbasin NO75 along
KM   collector and local streets. The remaining flow is diverted south to subbasin
KM   GR75 along 75th Avenue to combination point CGR75
DT  DSNO75      0.0      0.0
DI     0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0 10000.0 20000.0 50000.0
DQ     0.0     36.0     72.0    180.0    360.0    720.0   1440.0  3600.0  7200.0 18000.0
*

KK    GR75   BASIN
KM   Runoff hydrograph for subbasin GR75 southeast of the intersection of Grand
KM   Avenue and 75th Avenue
BA   0.496
LG    0.21     0.15     8.80     0.05       55
UC   1.038    0.566
UA       0      5.0     16.0     30.0     65.0     77.0     84.0     90.0     94.0     97.0
UA     100
*
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LINE      ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10
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```
KK  ERGR75  DIVERT
KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
KM   retention developed after 1990 in subbasin GR75
DT   XGR75     31.1      0.0
DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
*

KK   CGR75 COMBINE
KM   Combine runoff hydrographs from route RWGR75, divert D75GR, and subbasin GR75
HC       3     3.09
*

KK  SRGR75 STORAGE
KM   Storage route runoff hydrograph from combination point CGR75 through regional
KM     detention basin located near the intersection of Grand Avenue and Olive
KM     Avenue
KM   Stage-storage-discharge data from State Highway Wickenburg-Phoenix Highway
KM     (US 60), Grand Ave: 75th Ave-Olive Ave As-builts, ADOT, August 2004
RS       1    STOR
SV            0.39     2.08     4.83     7.73    14.05    21.04    28.74    37.16    46.32
SV    56.2     66.9     72.6     75.5     78.4
SQ     0.0      8.0     20.0     25.0     29.0     36.0     42.0     47.0     52.0     56.0
SQ    60.0     64.0     66.0    305.0   1417.0
SE  1118.0   1119.0   1120.0   1121.0   1122.0   1124.0   1126.0   1128.0   1130.0   1132.0
SE  1134.0   1136.0   1137.0   1137.5   1138.0
*

KK  PROL75RETRIEVE
KM   Retrieve full flow capacity of 239 cfs from 90-inch storm drain pipe at the
KM   intersection of Olive Avenue and 75th Avenue
DR  DPOL75
*

KK  CPOLGR COMBINE
KM   Combine pipe return PROL75 with storage route SRGR75 at combination point
```



```
KM   CPOLGR at the intersection of Olive Avenue and Grand Avenue
HC       2
*

KK  DPOLGR  DIVERT
KM   Divert calculated full flow capapcity of 239 cfs into 90-inch storm drain
KM   pipe at the intersection of Olive Avenue and Grand Avenue. The pipe flow is
KM   followed to combination point CPOL83 and the remaining surface flow is
KM   diverted to combination point CIGR75 at the intersection of Grand Avenue and
KM   75th Avenue
DT  DOLGR       0.0      0.0
DI     0.0    239.0    239.1 50000.0      0.0      0.0      0.0      0.0      0.0      0.0
DQ     0.0      0.0      0.1 49761.0      0.0      0.0      0.0      0.0      0.0      0.0
*
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LINE      ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10
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```
KK  RPOL83   ROUTE
KM   Route full flow capacity of 239 cfs through 90-inch storm drain pipe in
KM   Olive Avenue to the intersection of Olive Avenue and 83rd Avenue
RK    4974  0.0010   0.015            CIRC   7.500
*

KK  CPOL83 COMBINE
KM   Combine pipe return PROL75 with the runoff hydrograph at combination point
KM   COL83 at the intersection of Olive Avenue and 83rd Avenue
HC       2
*

KK  SROL83 STORAGE
KM   Storage route runoff hydrograph from combination point CPOL83 through
KM     regional detention basin located near the intersection of Olive Avenue
KM     and 83rd Avenue
KM   Stage-storage data from topography provided by FCDMC dated 3/28/1994
RS       1    STOR
SV            5.45    13.07    21.61    23.90    26.31    31.42
SQ           57.00   147.00   148.00   635.00  1517.00  4002.00
SE  1118.0 1120.00 1122.00 1124.00 1124.50 1125.00 1126.00
*

KK   DOL83  DIVERT
KM   Divert calculated full flow capapcity of 243 cfs into 90-inch storm drain
KM   pipe at the intersection of Olive Avenue and 83rd Avenue
DT  DPOL83      0.0    243.0
DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
*

KK  DWOL91  DIVERT
KM   Divert remaining runoff hydrograph from combination point CPOL83 west to
KM   combination point COL91
DT  DSNO83      0.0      0.0
DI     0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0 10000.0 20000.0 50000.0
DQ     0.0     39.0     78.0    195.0    390.0    780.0   1560.0  3900.0  7800.0 19500.0
*

KK  RWOL91   ROUTE
KM   Route diversion DWOL91 west to combination point COL91
RS       10    FLOW
RC   0.035    0.015    0.035     5280   0.0025     0.00
RX    0.00     0.00    76.50    76.50   372.50   372.50   449.00   449.00
RY    3.00     1.27     0.50     0.00     0.00     0.50     1.27     3.00
*

KK  DROL91RETRIEVE
KM   Retrieve divert DROL91 from combination point CPPE91 and divert south to
KM   combination point COL91
DR  DSOL91
*
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LINE      ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10
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```
KK  RSOL91   ROUTE
KM   Route diversion retrieval DROL91 south to combination point COL91
RS        4    FLOW
RC   0.035    0.015    0.035     5280   0.0019     0.00
RX    0.00     0.00    86.00    86.00   413.00   413.00   499.00   499.00
RY    3.00     1.36     0.50     0.00     0.00     0.50     1.36     3.00
*

KK    OL91   BASIN
KM   Runoff hydrograph for square mile subbasin OL91 northeast of the intersection
KM   of Olive Avenue and 91st Avenue
BA   1.016
LG    0.21     0.15     9.70     0.04       43
UC   1.500    1.013
UA       0      5.0     16.0     30.0     65.0     77.0     84.0     90.0     94.0     97.0
UA     100
*
```

```
1779          KK  EROL91  DIVERT
1780          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
1781          KM   retention developed after 1990 in subbasin OL91
1782          DT   XOL91     47.7      0.0
1783          DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
1784          DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

1785          KK   COL91 COMBINE
1786          KM   Combine route RWOL91, route RSOL91, and subbasin OL91
1787          HC        3     3.68
              *

1788          KK  PROL83RETRIEVE
1789          KM   Retrieve full flow capacity of 243 cfs from 90-inch storm drain pipe at the
1790          KM   intersection of Olive Avenue and 83rd Avenue
1791          DR  DPOL83
              *

1792          KK  RPOL91   ROUTE
1793          KM   Route full flow capacity of 243 cfs through 90-inch storm drain pipe in
1794          KM   Olive Avenue to the intersection of Olive Avenue and 91st Avenue
1795          RK    5184  0.0010    0.015             CIRC    7.500
              *

1796          KK  CPOL91 COMBINE
1797          KM   Combine pipe return PROL83 with the runoff hydrograph at combination point
1798          KM   COL91 at the intersection of Olive Avenue and 91st Avenue
1799          HC        2
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9.....10

1800          KK  DWOLLO  DIVERT
1801          KM   Divert remaining runoff hydrograph from combination point CPOL91 west to
1802          KM   combination point COLLO
1803          DT  DSNO91      0.0       0.0
1804          DI      0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
1805          DQ      0.0    67.0   134.0   335.0   670.0  1340.0  2680.0  6700.0 13400.0 33500.0
              *

1806          KK  RWOLLO   ROUTE
1807          KM   Route diversion DWOLLO west to combination point COLLO
1808          RS        1     FLOW
1809          RC    0.035   0.015   0.035     600  0.0039     0.00
1810          RX     0.00    0.00   16.50   16.50  107.50  107.50  124.00  124.00
1811          RY     3.00    0.66    0.50    0.00    0.00    0.50    0.66    3.00
              *

1812          KK   OLLO   BASIN
1813          KM   Runoff hydrograph for subbasin OLLO northeast of the intersection of Olive
1814          KM   Avenue and SR Loop 101
1815          BA   0.160
1816          LG    0.10    0.15    8.80    0.05      83
1817          UC   0.770   0.861
1818          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
1819          UA     100
              *

1820          KK  EROLLO  DIVERT
1821          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
1822          KM   retention developed after 1990 in subbasin OLLO
1823          DT   XOLLO     11.4      0.0
1824          DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
1825          DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

1826          KK   COLLO COMBINE
1827          KM   Combine route RWOLLO, route RSOLLO, and subbasin OLLO
1828          HC        3     6.18
              *

1829          KK  RSNOLO   ROUTE
1830          KM   Route hydrograph at combination point COLLO south to combination point CNOLO
1831          RS        1     FLOW
1832          RC    0.035   0.015   0.035    6136  0.0023     0.00
1833          RX     0.00    4.00   16.00   26.00   34.00   44.00   56.00   59.00
1834          RY     6.24    5.24    5.00    0.00    0.20    5.20    5.44    6.44
              *

1835          KK  DROLGRRETRIEVE
1836          KM   Retrieve remaining surface flow runoff hydrograph DROLGR following pipe
1837          KM   diversion DPOLGR after combination point CPOLGR at the intersection of Grand
1838          KM   Avenue and Olive Avenue
1839          DR   DOLGR
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9.....10
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1840          KK  DI75NORETRIEVE
1841          KM   Retrieve arterial street flow diverted to 75th Avenue at the intersection
1842          KM   of 75th Avenue and Grand Avenue
1843          DR  DSNO75
              *

1844          KK  DR75NORETRIEVE
1845          KM   Retrieve divert DR75NO from combination point CGR83 and divert south to
1846          KM   combination point CIGR75
1847          DR  DS75NO
              *

1848          KK  CIGR75 COMBINE
1849          KM   Combine arterial street flow from 75th Avenue DI75NO, divert retrieval DR75NO
1850          KM   and storage route SRGR75 at the intersection of 75th Avenue and Grand Avenue
1851          HC        3     7.85
              *

1852          KK  RSNO75   ROUTE
1853          KM   Route hydrograph at intersection combination point CIGR75
1854          KM   south to combination point CNO75
1855          RS        2     FLOW
1856          RC    0.035   0.015   0.035    5280  0.0019     0.00
1857          RX     0.00    0.00   29.00   29.00  170.00  170.00  199.00  199.00
1858          RY     3.00    0.79    0.50    0.00    0.00    0.50    0.79    3.00
              *

1859          KK  DINO75RETRIEVE
1860          KM   Retrieve arterial street flow diverted to Northern Avenue and 75th Avenue
1861          KM   from the intersection of Northern Avenue and 67th Avenue
1862          DR  DWNO75
              *

1863          KK  RWNO75   ROUTE
1864          KM   Route diversion retrieval DINO75 at the intersection of Norhtern Avenue
1865          KM   and 75th Avenue west to combination point CNO75
1866          RS        4     FLOW
1867          RC    0.035   0.015   0.035    5280  0.0030     0.00
1868          RX     0.00    0.00   16.50   16.50  107.50  107.50  124.00  124.00
1869          RY     3.00    0.66    0.50    0.00    0.00    0.50    0.66    3.00
              *

1870          KK    NO75   BASIN
1871          KM   Runoff hydrograph for subbasin NO75 northeast of the intersection of
1872          KM   Norhtern Avenue and 75th Avenue
1873          BA   0.506
1874          LG    0.10    0.15    8.40    0.06      80
1875          UC   0.933   0.501
1876          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
1877          UA     100
              *
1                                                HEC-1 INPUT                                                PAGE 49

LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9.....10

1878          KK  ERNO75  DIVERT
1879          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
1880          KM   retention developed after 1990 in subbasin NO75
1881          DT   XNO75     19.5      0.0
1882          DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
1883          DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

1884          KK   CNO75 COMBINE
1885          KM   Combine route RWNO75, route RSNO75, and subbasin NO75
1886          HC        3     8.93
              *

1887          KK   DNO75  DIVERT
1888          KM   Divert calculated full flow capapcity of 161 cfs into 60-inch storm drain
1889          KM   pipe at the intersection of Northern Avenue and 75th Avenue
1890          DT  DPNO75      0.0     161.0
1891          DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
1892          DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

1893          KK  DWNO83  DIVERT
1894          KM   Divert remaining runoff hydrograph from combination point CNO75 west to
1895          KM   combination point CNO83
1896          DT  DSOW75      0.0       0.0
1897          DI      0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
1898          DQ      0.0    48.0    96.0   240.0   480.0   960.0  1920.0  4800.0  9600.0 24000.0
              *

1899          KK  RWNO83   ROUTE
1900          KM   Route diversion DWNO83 west to combination point CNO83
1901          RS        2     FLOW
1902          RC    0.035   0.015   0.035    5280  0.0048     0.00
1903          RX     0.00    0.00   35.50   35.50  188.50  188.50  224.00  224.00
1904          RY     3.00    0.86    0.50    0.00    0.00    0.50    0.86    3.00
              *
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```
1905          KK  DRNO83RETRIEVE
1906          KM   Retrieve divert DRNO83 from combination point COL83 and divert south to
1907          KM   combination point CNO83
1908          DR  DSNO83
              *

1909          KK  RSNO83   ROUTE
1910          KM   Route diversion retrieval DRNO83 south to combination point CNO83
1911          RS      10    FLOW
1912          RC  0.035   0.015   0.035    5280  0.0040    0.00
1913          RX   0.00    0.00   35.50   35.50  188.50  188.50  224.00  224.00
1914          RY   3.00    0.86    0.50    0.00    0.00    0.50    0.86    3.00
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


1915          KK   NO83   BASIN
1916          KM   Runoff hydrograph for square mile subbasin NO83 northeast of the intersection
1917          KM   of Norhtern Avenue and 83rd Avenue
1918          BA  1.005
1919          LG   0.10    0.15    8.80    0.05      80
1920          UC  1.500   1.012
1921          UA      0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
1922          UA    100
              *

1923          KK  ERNO83  DIVERT
1924          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
1925          KM   retention developed after 1990 in subbasin NO83
1926          DT   XNO83    74.7     0.0
1927          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
1928          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

1929          KK   CNO83 COMBINE
1930          KM   Combine route RWNO83, route RSNO83, and subbasin NO83
1931          HC       3    6.05
              *

1932          KK  PRNO75RETRIEVE
1933          KM   Retrieve full flow capacity of 161 cfs from 60-inch storm drain pipe at the
1934          KM   intersection of Thunderbird Road and 75th Avenue
1935          DR  DPNO75
              *

1936          KK  RPNO83   ROUTE
1937          KM   Route full flow capacity of 161 cfs through 60-inch storm drain pipe in
1938          KM   Northern Avenue to the intersection of Northern Avenue and 83rd Avenue
1939          RK    5291  0.0038   0.015            CIRC   5.000
              *

1940          KK  CPNO83 COMBINE
1941          KM   Combine pipe return PRNO75 with the runoff hydrograph at combination point
1942          KM   CNO83 at the intersection of Northern Avenue and 83rd Avenue
1943          HC       2
              *

1944          KK   DNO83  DIVERT
1945          KM   Divert calculated full flow capapcity of 233 cfs into 72-inch storm drain
1946          KM   pipe at the intersection of Northern Avenue and 83rd Avenue
1947          DT  DPNO83      0.0   233.0
1948          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
1949          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *
1                                        HEC-1 INPUT                                    PAGE 51

LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


1950          KK  RWNO91   ROUTE
1951          KM   Route diversion DWNO91 west to combination point CNO91
1952          RS       4    FLOW
1953          RC  0.035   0.015   0.035    5280  0.0014    0.00
1954          RX   0.00    0.00   45.00   45.00  229.00  229.00  274.00  274.00
1955          RY   3.00    0.95    0.50    0.00    0.00    0.50    0.95    3.00
              *

1956          KK  DRNO91RETRIEVE
1957          KM   Retrieve divert DRNO91 from combination point CPOL91 and divert south to
1958          KM   combination point CNO91
1959          DR  DSNO91
              *

1960          KK  RSNO91   ROUTE
1961          KM   Route diversion retrieval DRNO91 south to combination point CNO91
1962          RS       3    FLOW
1963          RC  0.035   0.015   0.035    5280  0.0029    0.00
1964          RX   0.00    0.00   48.00   48.00  251.00  251.00  299.00  299.00
1965          RY   3.00    0.98    0.50    0.00    0.00    0.50    0.98    3.00
              *
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1966          KK   NO91   BASIN
1967          KM   Runoff hydrograph for square mile subbasin NO91 northeast of the intersection
1968          KM   of Norhtern Avenue and 91st Avenue
1969          BA  0.993
1970          LG   0.24    0.15    8.00    0.07      33
1971          UC  1.500   1.014
1972          UA      0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
1973          UA    100
              *

1974          KK  ERNO91  DIVERT
1975          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
1976          KM   retention developed after 1990 in subbasin NO91
1977          DT   XNO91    53.9     0.0
1978          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
1979          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

1980          KK   CNO91 COMBINE
1981          KM   Combine route RWNO91, route RSNO91, and subbasin NO91
1982          HC       3    9.52
              *

1983          KK  PRNO83RETRIEVE
1984          KM   Retrieve full flow capacity of 233 cfs from 72-inch storm drain pipe at the
1985          KM   intersection of Northern Avenue and 83rd Avenue
1986          DR  DPNO83
              *
1                                        HEC-1 INPUT                                    PAGE 52

LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


1987          KK  RPNO91   ROUTE
1988          KM   Route full flow capacity of 233 cfs through 72-inch storm drain pipe in
1989          KM   Northern Avenue to the intersection of Northern Avenue and 91st Avenue
1990          RK    6941  0.0030   0.015            CIRC   6.000
              *

1991          KK  CPNO91 COMBINE
1992          KM   Combine pipe return PRNO83 with the runoff hydrograph at combination point
1993          KM   CNO91 at the intersection of Northern Avenue and 91st Avenue
1994          HC       2
              *

1995          KK  SRNO91 STORAGE
1996          KM   Storage route runoff hydrograph from combination point CPNO91 through
1997          KM     regional detention basin located near the intersection of Northern Avenue
1998          KM     and 87th Avenue
1999          KM   Stage-storage data from Northern and Butler Storm Drains Sub-Phase "A"
2000          KM     As-built records, 2001
2001          RS       1    STOR
2002          SV            7.00   21.80   62.20   67.50   72.90   84.00  107.20
2003          SQ           18.00   26.00   38.00 1526.00 4245.0011934.0033681.00
2004          SE  1089.2 1090.90 1092.50 1095.80 1096.20 1096.60 1097.50 1099.10
              *

2005          KK   DNO91  DIVERT
2006          KM   Divert calculated full flow capapcity of 69 cfs into 60-inch storm drain
2007          KM   pipe at the intersection of Northern Avenue and 29th Avenue
2008          DT  DPNO91      0.0     69.0
2009          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
2010          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

2011          KK  DWNOLO  DIVERT
2012          KM   Divert remaining runoff hydrograph from combination point CPNO91 west to
2013          KM   combination point CNOLO
2014          DT  DSGL91      0.0     0.0
2015          DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
2016          DQ     0.0    53.0   106.0   265.0   530.0  1060.0  2120.0  5300.0 10600.0 26500.0
              *

2017          KK  RWNOLO   ROUTE
2018          KM   Route diversion DWNOLO west to combination point CNOLO
2019          RS       2    FLOW
2020          RC  0.035   0.015   0.035    3480  0.0026    0.00
2021          RX   0.00    0.00   45.00   45.00  229.00  229.00  274.00  274.00
2022          RY   3.00    0.95    0.50    0.00    0.00    0.50    0.95    3.00
              *

2023          KK   NOLO   BASIN
2024          KM   Runoff hydrograph for subbasin NOLO northeast of the intersection of Northern
2025          KM   Avenue and SR Loop 101
2026          BA  0.280
2027          LG   0.10    0.15    7.30    0.09      84
2028          UC  0.882   0.997
1                                        HEC-1 INPUT                                    PAGE 53

LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


2029          UA      0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
```

```
2030          UA     100
              *

2031          KK  ERNOLO  DIVERT
2032          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
2033          KM   retention developed after 1990 in subbasin NOLO
2034          DT   XNOLO    19.9      0.0
2035          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
2036          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

2037          KK   CNOLO COMBINE
2038          KM   Combine route RWNOLO, route RSNOLO, and subbasin NOLO
2039          HC        3   10.91
              *

2040          KK  PRNO91RETRIEVE
2041          KM   Retrieve full flow capacity of 69 cfs from 60-inch storm drain pipe at the
2042          KM   intersection of Northern Avenue and 91st Avenue
2043          DR  DPNO91
              *

2044          KK  RPNOLO   ROUTE
2045          KM   Route full flow capacity of 69cfs through 60-inch storm drain pipe in
2046          KM   Northern Avenue to the intersection of Northern Avenue and SR Loop 101
2047          RK    2827  0.0007   0.015             CIRC   5.000
              *

2048          KK  CPNOLO COMBINE
2049          KM   Combine pipe return PRNO91 with the runoff hydrograph at combination point
2050          KM   CNOLO at the intersection of Northern Avenue and SR Loop 101
2051          HC        2
              *

2052          KK   DNOLO  DIVERT
2053          KM   Divert calculated full flow capapcity of 15 cfs into 24-inch storm drain
2054          KM   pipe at the intersection of Northern Avenue and SR Loop 101
2055          DT  DPNOLO     0.0     15.0
2056          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
2057          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

2058          KK  DSGLLO  DIVERT
2059          KM   Divert remaining runoff hydrograph from combination point CPNOLO south to
2060          KM   combination point CGLLO
2061          DT  DWNR03     0.0    917.0
2062          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
2063          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *
1                                        HEC-1 INPUT                                                PAGE 54

LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

2064          KK  RSGLLO   ROUTE
2065          KM   Route diversion DSGLLO south to combination point CGLLO
2066          RS       1    FLOW
2067          RC   0.035   0.015   0.035    2381  0.0023    0.00
2068          RX    0.00    4.00   16.00   26.00   34.00   44.00   56.00   59.00
2069          RY    6.24    5.24    5.00    0.00    0.20    5.20    5.44    6.44
              *

2070          KK  DRGL43RETRIEVE
2071          KM   Retrieve divert DRGL43 from combination point CPNO43 and divert south to
2072          KM   combination point CGL43
2073          DR  DSGL43
              *

2074          KK  RSGL43   ROUTE
2075          KM   Route diversion retrieval DRGL43 south to combination point CGL43
2076          RS       4    FLOW
2077          RC   0.035   0.015   0.035    5280  0.0034    0.00
2078          RX    0.00    0.00   57.50   57.50  291.50  291.50  349.00  349.00
2079          RY    3.00    1.08    0.50    0.00    0.00    0.50    1.08    3.00
              *

2080          KK   GL43   BASIN
2081          KM   Runoff hydrograph for square mile subbasin GL43 northeast of the intersection
2082          KM   of Glendale Avenue and 43rd Avenue
2083          BA   0.998
2084          LG    0.24    0.15    7.30    0.09      36
2085          UC   1.500   1.007
2086          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
2087          UA     100
              *

2088          KK   CGL43 COMBINE
2089          KM   Combine route RSGL43, and subbasin GL43
2090          HC        2    2.03
              *

2091          KK  PR43NORETRIEVE
2092          KM   Retrieve combined full flow capacity of 241 cfs from 71-inch equivalent
```



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2093          KM   diameter pipe at the intersection of Northern Avenue and 43rd Avenue
2094          DR  DP43NO
              *

2095          KK  RP43GL   ROUTE
2096          KM   Route the combined full flow capacity of 241 cfs through an equivalent storm
2097          KM   drain pipe diameter of 71 inches in 43rd Avenue to the intersection of
2098          KM   43rd Avenue and Glendale Avenue
2099          RK    5336  0.0035   0.015             CIRC   5.917
              *
1                                        HEC-1 INPUT                                                PAGE 55

LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

2100          KK  CPGL43 COMBINE
2101          KM   Combine pipe return PR43NO with the runoff hydrograph at combination point
2102          KM   CGL43 at the intersection of Glendale Avenue and 43rd Avenue
2103          HC        2
              *

2104          KK   D43GL  DIVERT
2105          KM   Capacity of storm drain in 39th Avenue and 43rd Avenue diverted together.
2106          KM   Divert combined calculated full flow capacity of 268 cfs in the 72-inch storm
2107          KM   drain pipe in 39th Avenue and 117 cfs in the 54-inch storm drain pipe in
2108          KM   43rd Avenue. The total calculated combined full flow capacity diverted at the
2109          KM   intersection of 43rd Avenue and Glendale Avenue is 385 cfs in an equivalent
2110          KM   diameter pipe of 85 inches
2111          DT  DP43GL     0.0    385.0
2112          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
2113          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

2114          KK  DWGL51  DIVERT
2115          KM   Divert remaining runoff hydrograph from combination point CPGL43 west to
2116          KM   combination point CGL51
2117          DT  DSBH43     0.0      0.0
2118          DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
2119          DQ     0.0    59.0   118.0   295.0   590.0  1180.0  2360.0  5900.0 11800.0 29500.0
              *

2120          KK  RWGL51   ROUTE
2121          KM   Route diversion DWGL51 west to combination point CGL51
2122          RS       6    FLOW
2123          RC   0.035   0.015   0.035    5280  0.0011    0.00
2124          RX    0.00    0.00   61.50   61.50  316.50  316.50  378.00  378.00
2125          RY    3.00    1.12    0.50    0.00    0.00    0.50    1.12    3.00
              *

2126          KK  DRGL51RETRIEVE
2127          KM   Retrieve divert DRGL51 from combination point CNO51 and divert south to
2128          KM   combination point CGL51
2129          DR  DSGL51
              *

2130          KK  RSGL51   ROUTE
2131          KM   Route diversion retrieval DRGL51 south to combination point CGL51
2132          RS       4    FLOW
2133          RC   0.035   0.015   0.035    5280  0.0027    0.00
2134          RX    0.00    0.00   61.50   61.50  316.50  316.50  378.00  378.00
2135          RY    3.00    1.12    0.50    0.00    0.00    0.50    1.12    3.00
              *

2136          KK   GL51   BASIN
2137          KM   Runoff hydrograph for square mile subbasin GL51 northeast of the intersection
2138          KM   of Glendale Avenue and 51st Avenue
2139          BA   1.002
2140          LG    0.23    0.25    5.40    0.20      42
2141          UC   1.500   1.009
1                                        HEC-1 INPUT                                                PAGE 56

LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

2142          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
2143          UA     100
              *

2144          KK   CGL51 COMBINE
2145          KM   Combine route RWGL51, route RSGL51, and subbasin GL51
2146          HC        3    2.91
              *

2147          KK  DWGL59  DIVERT
2148          KM   Divert remaining runoff hydrograph from combination point CGL51 west to
2149          KM   combination point CGL59
2150          DT  DSBH51     0.0      0.0
2151          DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
2152          DQ     0.0    47.0    94.0   235.0   470.0   940.0  1880.0  4700.0  9400.0 23500.0
              *

2153          KK   D47GL  DIVERT
2154          KM   Capacity of storm drain in 47th Avenue and 49th Avenue diverted together.
2155          KM   Divert combined calculated full flow capacity of 284 cfs in the 60-inch storm
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2156          KM   drain pipe in 47th Avenue and 96 cfs in the 48-inch storm drain pipe in
2157          KM   49th Avenue. The total calculated combined full flow capacity diverted at the
2158          KM   intersection of 47rd Avenue and Glendale Avenue is 379 cfs in an equivalent
2159          KM   diameter pipe of 85 inches
2160          DT  DP47GL      0.0   379.0
2161          DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
2162          DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

2163          KK  RWGL59    ROUTE
2164          KM   Route diversion DWGL59 west to combination point CGL59
2165          RS        5     FLOW
2166          RC    0.035    0.015    0.035     5280   0.0031     0.00
2167          RX     0.00     0.00    68.50    68.50   359.50   359.50   428.00   428.00
2168          RY     3.00     1.18     0.50     0.00     0.00     0.50     1.18     3.00
              *

2169          KK  DRGL59RETRIEVE
2170          KM   Retrieve divert DRGL59 from combination point CPNO59 and divert south to
2171          KM   combination point CGL59
2172          DR  DSGL59
              *

2173          KK  RSGL59    ROUTE
2174          KM   Route diversion retrieval DRGL59 south to combination point CGL59
2175          RS        4     FLOW
2176          RC    0.035    0.015    0.035     5280   0.0018     0.00
2177          RX     0.00     0.00    37.50    37.50   210.50   210.50   248.00   248.00
2178          RY     3.00     0.88     0.50     0.00     0.00     0.50     0.88     3.00
              *
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LINE          ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

2179          KK    GL59    BASIN
2180          KM   Runoff hydrograph for square mile subbasin GL59 northeast of the intersection
2181          KM   of Glendale Avenue and 59th Avenue
2182          BA   1.015
2183          LG    0.20     0.25     5.20     0.22       47
2184          UC   1.500    1.014
2185          UA       0      5.0     16.0     30.0     65.0     77.0     84.0     90.0     94.0     97.0
2186          UA     100
              *

2187          KK  ERGL59   DIVERT
2188          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
2189          KM   retention developed after 1990 in subbasin GL59
2190          DT   XGL59     22.3      0.0
2191          DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
2192          DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

2193          KK    CGL59 COMBINE
2194          KM   Combine route RWGL59, route RSGL59, and subbasin GL59
2195          HC        3     3.91
              *

2196          KK    D59GL   DIVERT
2197          KM   Divert calculated full flow capapcity of 217 cfs into 72-inch storm drain
2198          KM   pipe at the intersection of Glendale Avenue and 59th Avenue
2199          DT  DP59GL      0.0   217.0
2200          DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
2201          DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

2202          KK  DWGR67   DIVERT
2203          KM   Divert portion of runoff hydrograph from combination point CGL59 west through
2204          KM   subbasin GR67 using the ratio of the widths and slopes of the streets going
2205          KM   west and the widths and slopes of the streets going south. The remaining flow
2206          KM   is diverted south through subbasin GR59
2207          DT  DSGR59      0.0      0.0
2208          DI      0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0  10000.0  20000.0  50000.0
2209          DQ      0.0     46.0     92.0    230.0    460.0    920.0   1840.0   4600.0   9200.0  23000.0
              *

2210          KK    DGR67   DIVERT
2211          KM   Divert portion of DWGR67 west to subbasin GR67 using the ratio of the width
2212          KM   of the collector and local streets and the width of the arterial street. The
2213          KM   remaining flow is diverted west to subbasin GL67 along Glendale Avenue
2214          DT  DWGL67      0.0      0.0
2215          DI      0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0  10000.0  20000.0  50000.0
2216          DQ      0.0     26.0     52.0    130.0    260.0    520.0   1040.0   2600.0   5200.0  13000.0
              *
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LINE          ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

2217          KK  DRGL35RETRIEVE
2218          KM   Retrieve divert DRGL35 from combination point CPNO35 and divert south to
2219          KM   combination point CGL35
2220          DR  DSGL35
```



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              *

2221          KK  RSGL35    ROUTE
2222          KM   Route diversion retrieval DRGL35 south to combination point CGL35
2223          RS        7     FLOW
2224          RC    0.035    0.015    0.035     5280   0.0032     0.00
2225          RX     0.00     0.00    76.50    76.50   372.50   372.50   449.00   449.00
2226          RY     3.00     1.27     0.50     0.00     0.00     0.50     1.27     3.00
              *

2227          KK    GL35    BASIN
2228          KM   Runoff hydrograph for square mile subbasin GL35 northeast of the intersection
2229          KM   of Glendale Avenue and 35th Avenue
2230          BA   1.004
2231          LG    0.23     0.23     6.20     0.15       34
2232          UC   1.500    1.012
2233          UA       0      5.0     16.0     30.0     65.0     77.0     84.0     90.0     94.0     97.0
2234          UA     100
              *

2235          KK    CGL35 COMBINE
2236          KM   Combine route RSGL35, and subbasin GL35
2237          HC        2     1.53
              *

2238          KK  PR35NORETRIEVE
2239          KM   Retrieve combined full flow capacity of 113 cfs from 53-inch equivalent
2240          KM   diameter pipe at the intersection of Northern Avenue and 35th Avenue
2241          DR  DP35NO
              *

2242          KK  RP35GL    ROUTE
2243          KM   Route the combined full flow capacity of 113 cfs through an equivalent storm
2244          KM   drain pipe diameter of 53 inches in 35th Avenue to the intersection of
2245          KM   35th Avenue and Glendale Avenue
2246          RK     5335  0.0037   0.015             CIRC   4.417
              *

2247          KK  CPGL35 COMBINE
2248          KM   Combine pipe return PR35NO with the runoff hydrograph at combination point
2249          KM   CGL35 at the intersection of Glendale Avenue and 35th Avenue
2250          HC        2
              *

2251          KK    D35GL   DIVERT
2252          KM   Capacity of storm drain in 31st Avenue and 35th Avenue diverted together.
2253          KM   Divert combined calculated full flow capacity of 165 cfs in the 60-inch storm
2254          KM   drain pipe in 31st Avenue and 61 cfs in the 42-inch storm drain pipe in
2255          KM   49th Avenue. The total calculated combined full flow capacity diverted at the
2256          KM   intersection of 35th Avenue and Glendale Avenue is 226 cfs in an equivalent
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LINE          ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

2257          KM   diameter pipe of 69 inches
2258          DT  DP35GL      0.0   226.0
2259          DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
2260          DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

2261          KK  DEGL27   DIVERT
2262          KM   Divert remaining runoff hydrograph from combination point CPGL35 east to
2263          KM   combination point CGL27
2264          DT  DSBH35      0.0      0.0
2265          DI      0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0  10000.0  20000.0  50000.0
2266          DQ      0.0     61.0    122.0    305.0    610.0   1220.0   2440.0   6100.0  12200.0  30500.0
              *

2267          KK  DRGL27RETRIEVE
2268          KM   Retrieve divert DRGL27 from subbasin NO27 and divert south to combination
2269          KM   point CGL27
2270          DR  DSGL27
              *

2271          KK  RSGL27    ROUTE
2272          KM   Route diversion retrieval DRGL27 south to combination point CGL27
2273          RS        1     FLOW
2274          RC    0.035    0.015    0.035     5280   0.0040     0.00
2275          RX     0.00     0.00    26.00    26.00   148.00   148.00   174.00   174.00
2276          RY     3.00     0.76     0.50     0.00     0.00     0.50     0.76     3.00
              *

2277          KK    GL27    BASIN
2278          KM   Runoff hydrograph for subbasin GL27 northeast of the intersection of Glendale
2279          KM   Avenue and 27th Avenue
2280          BA   0.258
2281          LG    0.23     0.17     6.80     0.11       45
2282          UC   1.135    0.922
2283          UA       0      5.0     16.0     30.0     65.0     77.0     84.0     90.0     94.0     97.0
2284          UA     100
              *

2285          KK    CGL27 COMBINE
```

```
2286          KM   Combine divert DEGL27, route RSGL27, and subbasin GL27
2287          HC       3    0.98
              *

2288          KK  PR29NORETRIEVE
2289          KM   Retrieve full flow capacity of 114 cfs from 54-inch diameter pipe at the
2290          KM   intersection of Northern Avenue and 29th Avenue
2291          DR  DP29NO
              *

2292          KK  RP27GL   ROUTE
2293          KM   Route full flow capacity of 114 cfs through 54-inch storm drain pipe in
2294          KM   in 27th Avenue to the intersection of 27th Avenue and Glendale Avenue
2295          RK    5260  0.0034   0.015            CIRC   4.500
              *

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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

2296          KK  CPGL27 COMBINE
2297          KM   Combine pipe return PR29NO with the runoff hydrograph at combination point
2298          KM   CGL27 at the intersection of Glendale Avenue and 27th Avenue
2299          HC       2
              *

2300          KK   D27GL  DIVERT
2301          KM   Divert calculated full flow capapcity of 132 cfs into 57-inch storm drain
2302          KM   pipe at the intersection of Glendale Avenue and 27th Avenue
2303          DT  DP27GL     0.0   132.0
2304          DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
2305          DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

2306          KK  RSBH27   ROUTE
2307          KM   Route remainder of divert D27GL south to combination point CBH27
2308          RS       1    FLOW
2309          RC   0.035   0.015   0.035    5280  0.0039     0.00
2310          RX    0.00    0.00   26.00   26.00  148.00  148.00  174.00  174.00
2311          RY    3.00    0.76    0.50    0.00    0.00    0.50    0.76    3.00
              *

2312          KK   BH27   BASIN
2313          KM   Runoff hydrograph for subbasin BH27 northeast of the intersection of Bethany
2314          KM   Home Road and 27th Avenue
2315          BA   0.258
2316          LG    0.21    0.25    4.80    0.25      55
2317          UC   1.019   0.818
2318          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
2319          UA     100
              *

2320          KK   CBH27 COMBINE
2321          KM   Combine route RSBH27, and subbasin BH27
2322          HC       2    1.24
              *

2323          KK  PR27GLRETRIEVE
2324          KM   Retrieve full flow capacity of 132 cfs from 57-inch storm drain pipe at the
2325          KM   intersection of Glendale Avenue and 27th Avenue
2326          DR  DP27GL
              *

2327          KK  RP27BH   ROUTE
2328          KM   Route full flow capacity of 132 cfs through 57-inch storm drain pipe in
2329          KM   27th Avenue to the intersection of Bethany Home Road and 27th Avenue
2330          RK    5221  0.0034   0.015            CIRC   4.750
              *

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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

2331          KK  CPBH27 COMBINE
2332          KM   Combine pipe return PR27GL with the runoff hydrograph at combination point
2333          KM   CBH27 at the intersection of Bethany Home Road and 27th Avenue
2334          HC       2
              *

2335          KK   D27BH  DIVERT
2336          KM   Divert calculated full flow capapcity of 132 cfs into 57-inch storm drain
2337          KM   pipe at the intersection of Bethany Home Road and 27th Avenue
2338          DT  DP27BH     0.0   132.0
2339          DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
2340          DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

2341          KK  DWBH35  DIVERT
2342          KM   Divert remaining runoff hydrograph from combination point CPBH27 west to
2343          KM   combination point CBH35
2344          DT  DSCB27     0.0     0.0
2345          DI      0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
2346          DQ      0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
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              *

2347          KK  RWBH35   ROUTE
2348          KM   Route diversion DWBH35 west to combination point CBH35
2349          RS       1    FLOW
2350          RC   0.035   0.015   0.035    5280  0.0002     0.00
2351          RX    0.00    0.00   86.00   86.00  413.00  413.00  499.00  499.00
2352          RY    3.00    1.36    0.50    0.00    0.00    0.50    1.36    3.00
              *

2353          KK  DRBH35RETRIEVE
2354          KM   Retrieve divert DRBH35 from combination point CGL35 and divert south to
2355          KM   combination point CBH35
2356          DR  DSBH35
              *

2357          KK  RSBH35   ROUTE
2358          KM   Route diversion retrieval DRBH35 south to combination point CBH35
2359          RS       4    FLOW
2360          RC   0.035   0.015   0.035    5280  0.0049     0.00
2361          RX    0.00    0.00   67.00   67.00  332.00  332.00  399.00  399.00
2362          RY    3.00    1.17    0.50    0.00    0.00    0.50    1.17    3.00
              *

2363          KK   BH35   BASIN
2364          KM   Runoff hydrograph for square mile subbasin BH35 northeast of the intersection
2365          KM   of Bethany Home Road and 35th Avenue
2366          BA   1.005
2367          LG    0.23    0.25    5.20    0.22      37
2368          UC   1.174   0.441
2369          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
2370          UA     100
              *

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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

2371          KK  ERBH35  DIVERT
2372          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
2373          KM   retention developed after 1990 and NOAA14 rainfall for future retention in
2374          KM   subbasin BH35
2375          DT   XBH35     3.2      0.0
2376          DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
2377          DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

2378          KK   CBH35 COMBINE
2379          KM   Combine route RWBH35, route RSBH35, and subbasin BH35
2380          HC       3    1.94
              *

2381          KK  PR35GLRETRIEVE
2382          KM   Retrieve combined full flow capacity of 226 cfs from 69-inch equivalent
2383          KM   diameter pipe at the intersection of Glendale Avenue and 35th Avenue
2384          DR  DP35GL
              *

2385          KK  RP35BH   ROUTE
2386          KM   Route the combined full flow capacity of 226 cfs through an equivalent storm
2387          KM   drain pipe diameter of 69 inches in 35th Avenue to the intersection of
2388          KM   35th Avenue and Bethany Home Road
2389          RK    5147  0.0037   0.015            CIRC   5.750
              *

2390          KK  CPBH35 COMBINE
2391          KM   Combine pipe return PR35GL with the runoff hydrograph at combination point
2392          KM   CBH35 at the intersection of Bethany Home Road and 35th Avenue
2393          HC       2
              *

2394          KK   D35BH  DIVERT
2395          KM   Capacity of storm drain in 31st Avenue and 35th Avenue diverted together.
2396          KM   Divert combined calculated full flow capacity of 165 cfs in the 60-inch storm
2397          KM   drain pipe in 31st Avenue and 61 cfs in the 42-inch storm drain pipe in
2398          KM   49th Avenue. The total calculated combined full flow capacity diverted at the
2399          KM   intersection of 35th Avenue and Bethany Home Road is 226 cfs in an equivalent
2400          KM   diameter pipe of 69 inches
2401          DT  DP35BH     0.0   226.0
2402          DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
2403          DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

2404          KK  DWBH43  DIVERT
2405          KM   Divert remaining runoff hydrograph from combination point CPBH35 west to
2406          KM   combination point CBH43
2407          DT  DSCB35     0.0     0.0
2408          DI      0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
2409          DQ      0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
              *

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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10
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2410          KK  RWBH43    ROUTE
2411          KM   Route diversion DWBH43 west to combination point CBH43
2412          RS       1     FLOW
2413          RC   0.035    0.015    0.035     5280   0.0001     0.00
2414          RX    0.00     0.00   133.50   133.50   615.50   615.50   749.00   749.00
2415          RY    3.00     1.84     0.50     0.00     0.00     0.50     1.84     3.00
              *

2416          KK  DRBH43RETRIEVE
2417          KM   Retrieve divert DRBH43 from combination point CGL43 and divert south to
2418          KM   combination point CBH43
2419          DR  DSBH43
              *

2420          KK  RSBH43    ROUTE
2421          KM   Route diversion retrieval DRBH43 south to combination point CBH43
2422          RS       4     FLOW
2423          RC   0.035    0.015    0.035     5280   0.0028     0.00
2424          RX    0.00     0.00    57.50    57.50   291.50   291.50   349.00   349.00
2425          RY    3.00     1.08     0.50     0.00     0.00     0.50     1.08     3.00
              *

2426          KK    BH43    BASIN
2427          KM   Runoff hydrograph for square mile subbasin BH43 northeast of the intersection
2428          KM   of Bethany Home Road and 43rd Avenue
2429          BA   0.993
2430          LG    0.23     0.25     5.20     0.24       32
2431          UC   1.500    1.014
2432          UA        0      5.0     16.0     30.0     65.0     77.0     84.0     90.0     94.0     97.0
2433          UA      100
              *

2434          KK    CBH43 COMBINE
2435          KM   Combine route RWBH43, route RSBH43, and subbasin BH43
2436          HC       3     2.19
              *

2437          KK  PR43GLRETRIEVE
2438          KM   Retrieve combined full flow capacity of 385 cfs from 85-inch equivalent
2439          KM   diameter pipe at the intersection of Glendale Avenue and 43rd Avenue
2440          DR  DP43GL
              *

2441          KK  RP43BH    ROUTE
2442          KM   Route the combined full flow capacity of 385 cfs through an equivalent storm
2443          KM   drain pipe diameter of 85 inches in 43rd Avenue to the intersection of
2444          KM   43rd Avenue and Bethany Home Road
2445          RK    5295  0.0035    0.015             CIRC    7.083
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

2446          KK  CPBH43 COMBINE
2447          KM   Combine pipe return PR43GL with the runoff hydrograph at combination point
2448          KM   CBH43 at the intersection of Bethany Home Road and 43rd Avenue
2449          HC       2
              *

2450          KK    D43BH  DIVERT
2451          KM   Capacity of storm drain in 39th Avenue and 43rd Avenue diverted together.
2452          KM   Divert combined calculated full flow capacity of 268 cfs in the 72-inch storm
2453          KM   drain pipe in 39th Avenue and 117 cfs in the 54-inch storm drain pipe in
2454          KM   43rd Avenue. The total calculated combined full flow capacity diverted at the
2455          KM   intersection of 43rd Avenue and Glendale Avenue is 385 cfs in an equivalent
2456          KM   diameter pipe of 85 inches
2457          DT  DP43BH      0.0    385.0
2458          DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
2459          DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

2460          KK  DWBH51  DIVERT
2461          KM   Divert remaining runoff hydrograph from combination point CPBH43 west to
2462          KM   combination point CBH51
2463          DT  DSCB43      0.0      0.0
2464          DI      0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0 10000.0 20000.0 50000.0
2465          DQ      0.0     51.0    102.0    255.0    510.0   1020.0   2040.0  5100.0 10200.0 25500.0
              *

2466          KK  RWBH51    ROUTE
2467          KM   Route diversion DWBH51 west to combination point CBH51
2468          RS       5     FLOW
2469          RC   0.035    0.015    0.035     5280   0.0016     0.00
2470          RX    0.00     0.00    75.50    75.50   402.50   402.50   478.00   478.00
2471          RY    3.00     1.25     0.50     0.00     0.00     0.50     1.25     3.00
              *

2472          KK  DRBH51RETRIEVE
2473          KM   Retrieve divert DRBH51 from combination point CGL51 and divert south to
2474          KM   combination point CBH51
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2475          DR  DSBH51
              *

2476          KK  RSBH51    ROUTE
2477          KM   Route diversion retrieval DRBH51 south to combination point CBH51
2478          RS       5     FLOW
2479          RC   0.035    0.015    0.035     5280   0.0030     0.00
2480          RX    0.00     0.00    61.50    61.50   316.50   316.50   378.00   378.00
2481          RY    3.00     1.12     0.50     0.00     0.00     0.50     1.12     3.00
              *

2482          KK    BH51    BASIN
2483          KM   Runoff hydrograph for square mile subbasin BH51 northeast of the intersection
2484          KM   of Bethany Home Road and 51st Avenue
2485          BA   0.995
2486          LG    0.22     0.23     6.20     0.15       43
2487          UC   1.500    1.025
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

2488          UA        0      5.0     16.0     30.0     65.0     77.0     84.0     90.0     94.0     97.0
2489          UA      100
              *

2490          KK    CBH51 COMBINE
2491          KM   Combine route RWBH51, route RSBH51, and subbasin BH51
2492          HC       3     3.42
              *

2493          KK  PR47GLRETRIEVE
2494          KM   Retrieve combined full flow capacity of 379 cfs from 85-inch equivalent
2495          KM   diameter pipe at the intersection of Glendale Avenue and 47th Avenue
2496          DR  DP47GL
              *

2497          KK  RP51BH    ROUTE
2498          KM   Route the combined full flow capacity of 379 cfs through an equivalent storm
2499          KM   drain pipe diameter of 85 inches in 51st Avenue to the intersection of
2500          KM   51st Avenue and Bethany Home Road
2501          RK    2773  0.0118    0.015             CIRC    7.083
              *

2502          KK  CPBH51 COMBINE
2503          KM   Combine pipe return PR47GL with the runoff hydrograph at combination point
2504          KM   CBH51 at the intersection of Bethany Home Road and 51st Avenue
2505          HC       2
              *

2506          KK  SRBH51 STORAGE
2507          KM   Storage route runoff hydrograph from combination point CPBH51 through the
2508          KM     regional detention basin located near the intersection of Bethany Home Road
2509          KM     and 51st Avenue
2510          KM   Combined storage from two retention basins
2511          KM   Stage-storage data from topography provided by FCDMC dated 3/28/1994
2512          RS       1     STOR
2513          SV             1.99    12.41    22.30    22.30    31.52    42.36    53.20
2514          SQ             8.00    24.00  1649.00  1649.00  1649.00  1649.00  4349.00
2515          SE  1146.0 1148.00 1150.00 1151.00 1152.00 1154.00 1156.00 1157.00
              *

2516          KK  DWGR59  DIVERT
2517          KM   Divert portion of runoff hydrograph from combination point CPBH51 west
2518          KM   through subbasin GR59 using the ratio of the widths and slopes of the streets
2519          KM   going west and the widths and slopes of the streets going south. The
2520          KM   remaining flow is diverted south through subbasin GR43
2521          DT  DSGR43      0.0      0.0
2522          DI      0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0 10000.0 20000.0 50000.0
2523          DQ      0.0     32.0     64.0    160.0    320.0    640.0   1280.0  3200.0  6400.0 16000.0
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

2524          KK    DGR59  DIVERT
2525          KM   Divert portion of DWGR59 west to subbasin GR59 using the ratio of the width
2526          KM   of the collector and local streets and the width of the arterial street. The
2527          KM   remaining flow is diverted west to subbasin BH59 along Bethany Home Road
2528          DT  DWBH59      0.0      0.0
2529          DI      0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0 10000.0 20000.0 50000.0
2530          DQ      0.0     23.0     46.0    115.0    230.0    460.0    920.0  2300.0  4600.0 11500.0
              *

2531          KK  DRGR59RETRIEVE
2532          KM   Retrieve divert DRGR59 from combination point CGL59 and divert south to
2533          KM   combination point CGR59
2534          DR  DSGR59
              *

2535          KK    D59GR  DIVERT
2536          KM   Divert portion of divert retrieval DRGR59 south to subbasin BH59 along 59th
2537          KM   Avenue. Divert remaining runoff hydrograph south to combination point CGR59
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2538          DT  DSBH59      0.0      0.0
2539          DI      0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0 10000.0 20000.0 50000.0
2540          DQ      0.0     52.0    104.0    260.0    520.0   1040.0   2080.0  5200.0 10400.0 26000.0
              *

2541          KK   GR59   BASIN
2542          KM   Runoff hydrograph for subbasin GR59 southeast of the intersection of Grand
2543          KM   Avenue and 59th Avenue
2544          BA   0.518
2545          LG    0.16    0.25    4.80    0.25      62
2546          UC   0.741   0.383
2547          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
2548          UA     100
              *

2549          KK   CGR59 COMBINE
2550          KM   Combine remainder of divert retrieval DRGR59, divert DGR59, and subbasin GR59
2551          HC       3    3.18
              *

2552          KK  DNGR67  DIVERT
2553          KM   Divert portion of runoff hydrograph from combination point CGR59 north to the
2554          KM   intersection of 67th Avenue and Grand Avenue and the remaining flow south
2555          KM   to the intersection of Bethany Home Road and Grand Avenue. The diversion is
2556          KM   based on topography
2557          DT   DBH59      0.0      0.0
2558          DI       0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0 10000.0 20000.0 50000.0
2559          DQ       0.0     50.0    100.0    250.0    500.0   1000.0   2000.0  5000.0 10000.0 25000.0
              *

2560          KK   DGRGL  DIVERT
2561          KM   Divert calculated full flow capapcity of 234 cfs into 60-inch storm drain
2562          KM   pipe at the intersection of Grand Avenue and Glendale Avenue
2563          DT  DPGRGL      0.0    234.0
2564          DI       0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
2565          DQ       0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9.....10

2566          KK  CIGR59 COMBINE
2567          KM   Combine diverts DRGL and DGR67 at the intersection of Grand Avenue and 59th
2568          KM   Avenue
2569          HC       2    3.15
              *

2570          KK  RWGR67   ROUTE
2571          KM   Route diversion DGR67 west to combination point CGR67
2572          RS       8    FLOW
2573          RC   0.035   0.015   0.035    7222  0.0008     0.00
2574          RX    0.00    0.00   75.50   75.50  402.50  402.50  478.00  478.00
2575          RY    3.00    1.25    0.50    0.00    0.00    0.50    1.25    3.00
              *

2576          KK  DRGR67RETRIEVE
2577          KM   Retrieve divert DRGR67 from combination point CNO67 and divert south to
2578          KM   combination point CGR67
2579          DR  DSGR67
              *

2580          KK   GR67   BASIN
2581          KM   Runoff hydrograph for subbasin GR67 southeast of the intersection of Grand
2582          KM   Avenue and 67th Avenue
2583          BA   0.497
2584          LG    0.16    0.15    7.60    0.09      44
2585          UC   0.925   0.501
2586          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
2587          UA     100
              *

2588          KK  ERGR67  DIVERT
2589          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
2590          KM   retention developed after 1990 in subbasin GR67
2591          DT   XGR67     1.2      0.0
2592          DI       0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
2593          DQ       0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

2594          KK  CGR67 COMBINE
2595          KM   Combine route RWGR67, divert retrieval DRGR67, and subbasin GR67
2596          HC       3    6.83
              *

2597          KK  PRNO59RETRIEVE
2598          KM   Retrieve full flow capacity of 134 cfs from 72-inch storm drain pipe at the
2599          KM   intersection of Northern Avenue and 59th Avenue
2600          DR  DPNO59
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9.....10
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2601          KK  RPNO67   ROUTE
2602          KM   Route full flow capacity of 134 cfs through 72-inch storm drain pipe in
2603          KM   Grand Avenue to the intersection of Grand Avenue and 67th Avenue
2604          RK    2688  0.0010   0.015            CIRC   6.000
              *

2605          KK  PR59GLRETRIEVE
2606          KM   Retrieve full flow capacity of 217 cfs from 72-inch storm drain pipe at the
2607          KM   intersection of Glendale Avenue and 59th Avenue
2608          DR  DP59GL
              *

2609          KK  PRGRGLRETRIEVE
2610          KM   Retrieve full flow capacity of 234 cfs from 60-inch storm drain pipe at the
2611          KM   intersection of Grand Avenue and Glendale Avenue
2612          DR  DPGRGL
              *

2613          KK  CPGL59 COMBINE
2614          KM   Combine pipe return PR59GL with pipe return PRGRGL at combination point
2615          KM   CGL59 near the intersection of Glendale Avenue and 59th Avenue
2616          HC       2    1.42
              *

2617          KK  RPGR67   ROUTE
2618          KM   Route combined full flow capacity of 451 cfs through 108-inch storm drain pip
2619          KM   Grand Avenue to the intersection of Grand Avenue and 67th Avenue
2620          RK    4247  0.0018   0.015            CIRC   9.000
              *

2621          KK  CPGR67 COMBINE
2622          KM   Combine pipe return PRNO59, pipe route RPGR67 and the runoff hydrograph at
2623          KM   combination point CGR67 at the intersection of Grand Avenue and 67th Avenue
2624          HC       3
              *

2625          KK  SRGR67 STORAGE
2626          KM   Storage route runoff hydrograph from combination point CPGR67 through
2627          KM     regional detention basin located near the intersection of Grand Avenue
2628          KM     and 67th Avenue
2629          KM   Stage-storage data from Orangewood Ave Storm Drain Sub-Phase "C" As-builts
2630          RS       1     STOR
2631          SV             2.25    11.38    31.32    57.76   140.64   378.04   409.71   478.76
2632          SQ            24.00    62.00   105.00   133.00   189.00   299.00 1529.00 6654.00
2633          SE  1130.0 1131.00 1132.00 1133.00 1134.00 1136.00 1142.00 1143.00 1145.00
              *

2634          KK   D67GR  DIVERT
2635          KM   Divert calculated full flow capapcity of 546 cfs into 108-inch storm drain
2636          KM   pipe at the intersection of Grand Avenue and 67th Avenue
2637          DT  DP67GR      0.0    546.0
2638          DI       0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
2639          DQ       0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *
1                                                  HEC-1 INPUT                                        PAGE 69

LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9.....10

2640          KK  RSOW67   ROUTE
2641          KM   Route remainder of divert D67GR south to combination point COW67
2642          RS       1    FLOW
2643          RC   0.035   0.015   0.035    2640  0.0035     0.00
2644          RX    0.00    0.00   17.50   17.50  112.50  112.50  130.00  130.00
2645          RY    3.00    0.68    0.50    0.00    0.00    0.50    0.68    3.00
              *

2646          KK   OW67   BASIN
2647          KM   Runoff hydrograph for subbasin OW67 northeast of the intersection of
2648          KM   Orangewood Avenue and 67th Avenue
2649          BA   0.119
2650          LG    0.15    0.15    8.00    0.07      80
2651          UC   0.464   0.319
2652          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
2653          UA     100
              *

2654          KK  EROW67  DIVERT
2655          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
2656          KM   retention developed after 1990 and NOAA14 rainfall for future retention in
2657          KM   subbasin OW67
2658          DT   XOW67     2.5      0.0
2659          DI       0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
2660          DQ       0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

2661          KK   COW67 COMBINE
2662          KM   Combine route RWOW67 and subbasin OW67
2663          HC       2    6.95
              *
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2664          KK  PRGR67RETRIEVE
2665          KM   Retrieve full flow capacity of 546 cfs from 108-inch storm drain pipe at the
2666          KM   intersection of Grand Avenue and 67th Avenue
2667          DR  DP67GR
              *

2668          KK  RPOW67   ROUTE
2669          KM   Route full flow capacity of 546 cfs through 108-inch storm drain pipe in
2670          KM   Orangewood Avenue to the intersection of Orangewood Avenue and 67th Avenue
2671          RK    2517  0.0019   0.015           CIRC   9.000
              *

2672          KK  CPOW67 COMBINE
2673          KM   Combine pipe return PRGR67 with the runoff hydrograph at combination point
2674          KM   COW67 at the intersection of Orangewood Avenue and 67th Avenue
2675          HC       2
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

2676          KK   DOW67  DIVERT
2677          KM   Divert calculated full flow capapcity of 181 cfs into 66-inch storm drain
2678          KM   pipe at the intersection of Orangewood Avenue and 67th Avenue
2679          DT  DPOW67      0.0   181.0
2680          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
2681          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

2682          KK  DWOW75  DIVERT
2683          KM   Divert remaining runoff hydrograph from combination point CPOW67 west to
2684          KM   combination point COW75
2685          DT  DSGL67      0.0     0.0
2686          DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
2687          DQ     0.0    51.0   102.0   255.0   510.0  1020.0  2040.0  5100.0 10200.0 25500.0
              *

2688          KK  RWOW75   ROUTE
2689          KM   Route diversion DWOW75 west to combination point COW75
2690          RS       5    FLOW
2691          RC   0.035   0.015   0.035    5280  0.0025    0.00
2692          RX    0.00    0.00   34.00   34.00  184.00  184.00  218.00  218.00
2693          RY    3.00    0.84    0.50    0.00    0.00    0.50    0.84    3.00
              *

2694          KK  DROW75RETRIEVE
2695          KM   Retrieve divert DROW75 from combination point CNO75 and divert south to
2696          KM   combination point COW75
2697          DR  DSOW75
              *

2698          KK  RSOW75   ROUTE
2699          KM   Route diversion retrieval DROW75 south to combination point COW75
2700          RS       1    FLOW
2701          RC   0.035   0.015   0.035    2640  0.0025    0.00
2702          RX    0.00    0.00   47.50   47.50  240.50  240.50  288.00  288.00
2703          RY    3.00    0.98    0.50    0.00    0.00    0.50    0.98    3.00
              *

2704          KK   OW75   BASIN
2705          KM   Runoff hydrograph for half square mile subbasin OW75 northeast of the
2706          KM   intersection of Orangewood Avenue and 75th Avenue
2707          BA   0.498
2708          LG    0.17    0.15    8.80    0.05      60
2709          UC   0.975   0.741
2710          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
2711          UA     100
              *

2712          KK  EROW75  DIVERT
2713          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
2714          KM   retention developed after 1990 in subbasin OW75
2715          DT   XOW75    28.5     0.0
2716          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
2717          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *
1                                        HEC-1 INPUT                                    PAGE 71

LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

2718          KK   COW75 COMBINE
2719          KM   Combine route RWOW75, route RSOW75, and subbasin OW75
2720          HC       3    8.17
              *

2721          KK  PROW67RETRIEVE
2722          KM   Retrieve full flow capacity of 181 cfs from 66-inch storm drain pipe at the
2723          KM   intersection of Orangewood Avenue and 67th Avenue
2724          DR  DPOW67
              *
```



```
2725          KK  RPOW71   ROUTE
2726          KM   Route full flow capacity of 181 cfs through 66-inch storm drain pipe in
2727          KM   Orangewood Avenue to the intersection of Orangewood Avenue and 71st Avenue
2728          RK    2145  0.0029   0.015           CIRC   5.500
              *

2729          KK  CPOW71 COMBINE
2730          KM   Combine pipe return PROW67 with the runoff hydrograph at combination point
2731          KM   COW71 at the intersection of Orangewood Avenue and 71st Avenue
2732          HC       2
              *

2733          KK  SROW75 STORAGE
2734          KM   Storage route runoff hydrograph from combination point CPOW71 through
2735          KM     regional detention basin located near the intersection of Orangewood Avenue
2736          KM     and 71st Avenue
2737          KM   Stage-storage data from Orangewood Avenue Storm Drain As-builts, 1980
2738          RS       1     STOR
2739          SV            8.74   20.36   34.36   49.53   65.12   97.58  118.22
2740          SQ                           42.00  400.00 1044.00 2459.00 3812.00
2741          SE  1121.0 1122.00 1123.00 1124.00 1125.00 1126.00 1128.00 1129.00
              *

2742          KK   DOW71  DIVERT
2743          KM   Divert calculated full flow capapcity of 44 cfs into 42-inch storm drain
2744          KM   pipe at the intersection of Orangewood Avenue and 71st Avenue
2745          DT  DPOW71      0.0    44.0
2746          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
2747          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

2748          KK  PROW71RETRIEVE
2749          KM   Retrieve full flow capacity of 44 cfs from 42-inch storm drain pipe at the
2750          KM   intersection of Orangewood Avenue and 71st Avenue
2751          DR  DPOW71
              *

2752          KK  RPOW75   ROUTE
2753          KM   Route full flow capacity of 44 cfs through 42-inch storm drain pipe in
2754          KM   Orangewood Avenue to the intersection of Orangewood Avenue and 75th Avenue
2755          RK    3391  0.0019   0.015           CIRC   3.500
              *
1                                        HEC-1 INPUT                                    PAGE 72

LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

2756          KK  CPOW75 COMBINE
2757          KM   Combine pipe return PROW71 with the runoff hydrograph at combination point
2758          KM   COW75 at the intersection of Orangewood Avenue and 75th Avenue
2759          HC       2
              *

2760          KK   DOW75  DIVERT
2761          KM   Divert calculated full flow capapcity of 66 cfs into 48-inch storm drain
2762          KM   pipe at the intersection of Orangewood Avenue and 75th Avenue
2763          DT  DPOW75      0.0    66.0
2764          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
2765          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

2766          KK  DWOW83  DIVERT
2767          KM   Divert remaining runoff hydrograph from combination point CPOW75 west to
2768          KM   combination point COW83
2769          DT  DSGL75      0.0     0.0
2770          DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
2771          DQ     0.0    76.0   152.0   380.0   760.0 1520.0  3040.0  7600.0 15200.0 38000.0
              *

2772          KK  RWOW83   ROUTE
2773          KM   Route diversion DWOW83 west to combination point COW83
2774          RS       3    FLOW
2775          RC   0.035   0.015   0.035    5280  0.0029    0.00
2776          RX    0.00    0.00   20.00   20.00   98.00   98.00  118.00  118.00
2777          RY    3.00    0.70    0.50    0.00    0.00    0.50    0.70    3.00
              *

2778          KK   OW83   BASIN
2779          KM   Runoff hydrograph for half square mile subbasin OW83 northeast of the
2780          KM   intersection of Orangewood Avenue and 83rd Avenue
2781          BA   0.496
2782          LG    0.25    0.15    8.40    0.07      33
2783          UC   1.500   1.197
2784          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
2785          UA     100
              *

2786          KK  EROW83  DIVERT
2787          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
2788          KM   retention developed after 1990 in subbasin OW83
2789          DT   XOW83    16.5     0.0
2790          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
2791          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
```

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                *
2792            KK  COW83 COMBINE
2793            KM  Combine route RWOW83 and subbasin OW83
2794            HC       2    2.46
                *
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LINE            ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


2795            KK  PROW75RETRIEVE
2796            KM   Retrieve full flow capacity of 66 cfs from 48-inch storm drain pipe at the
2797            KM   intersection of Orangewood Avenue and 75th Avenue
2798            DR  DPOW75
                *

2799            KK  RPOW83   ROUTE
2800            KM   Route full flow capacity of 66 cfs through 48-inch storm drain pipe in
2801            KM   Orangewood Avenue to the intersection of Orangewood Avenue and 67th Avenue
2802            RK    5178  0.0021   0.015            CIRC   4.000
                *

2803            KK  CPOW83 COMBINE
2804            KM   Combine pipe return PROW75 with the runoff hydrograph at combination point
2805            KM   COW83 at the intersection of Orangewood Avenue and 83rd Avenue
2806            HC       2
                *

2807            KK   D83OW  DIVERT
2808            KM   Divert calculated full flow capapcity of 255 cfs into 72-inch storm drain
2809            KM   pipe at the intersection of Orangewood Avenue and 83rd Avenue
2810            DT  DP83OW      0.0   255.0
2811            DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
2812            DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
                *

2813            KK  DWOW91  DIVERT
2814            KM   Divert remaining runoff hydrograph from combination point CPOW83 west to
2815            KM   combination point CGL91
2816            DT  DSGL83      0.0      0.0
2817            DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
2818            DQ     0.0    85.0   170.0   425.0   850.0  1700.0  3400.0  8500.0 17000.0 42500.0
                *

2819            KK  RWOW91   ROUTE
2820            KM   Route diversion DWOW91 west to combination point COW91
2821            RS       7    FLOW
2822            RC   0.035   0.015   0.035    5280  0.0038    0.00
2823            RX    0.00    0.00    7.00    7.00   43.00   43.00   50.00   50.00
2824            RY    3.00    0.57    0.50    0.00    0.00    0.50    0.57    3.00
                *

2825            KK  DIGL67RETRIEVE
2826            KM   Retrieve arterial street flow diverted to Glendale Avenue at the intersection
2827            KM   of Glendale Avenue and 67th Avenue
2828            DR  DWGL67
                *

2829            KK  RWGL67   ROUTE
2830            KM   Route diversion retrieval DIGL67 at the intersection of Glendale Avenue
2831            KM   and 67th Avenue west to combination point CGL67
2832            RS       4    FLOW
2833            RC   0.035   0.015   0.035    5280  0.0037    0.00
2834            RX    0.00    0.00   41.50   41.50  218.50  218.50  260.00  260.00
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LINE            ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

2835            RY    3.00    0.92    0.50    0.00    0.00    0.50    0.92    3.00
                *

2836            KK    GL67   BASIN
2837            KM   Runoff hydrograph for square mile subbasin GL67 northeast of the intersection
2838            KM   of Glendale Avenue and 67th Avenue
2839            BA   0.359
2840            LG    0.19    0.25    5.40    0.19      63
2841            UC   0.809   0.507
2842            UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
2843            UA     100
                *

2844            KK  DRGL67RETRIEVE
2845            KM   Retrieve divert DRGL67 from combination point CPOW67 and divert south to
2846            KM   combination point CGL67
2847            DR  DSGL67
                *

2848            KK  RSGL67   ROUTE
2849            KM   Route diversion retrieval DRGL67 south to combination point CGL67
2850            RS       2    FLOW
2851            RC   0.035   0.015   0.035    2640  0.0052    0.00
2852            RX    0.00    0.00   27.50   27.50  132.50  132.50  160.00  160.00
```



```
2853            RY    3.00    0.78    0.50    0.00    0.00    0.50    0.78    3.00
                *

2854            KK  CGL67 COMBINE
2855            KM  Combine route RWGL67, route RSGL67, and subbasin GL67
2856            HC       3    4.47
                *

2857            KK  DWGL75  DIVERT
2858            KM   Divert remaining runoff hydrograph from combination point CGL67 west to
2859            KM   combination point CGL75
2860            DT  DSBH67      0.0      0.0
2861            DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
2862            DQ     0.0    49.0    98.0   245.0   490.0   980.0  1960.0  4900.0  9800.0 24500.0
                *

2863            KK  RWGL75   ROUTE
2864            KM   Route diversion DWGL75 west to combination point CGL75
2865            RS       6    FLOW
2866            RC   0.035   0.015   0.035    5280  0.0034    0.00
2867            RX    0.00    0.00   47.00   47.00  283.00  283.00  330.00  330.00
2868            RY    3.00    0.97    0.50    0.00    0.00    0.50    0.97    3.00
                *

2869            KK  DRGL75RETRIEVE
2870            KM   Retrieve divert DRGL75 from combination point CPOW75 and divert south to
2871            KM   combination point CGL75
2872            DR  DSGL75
                *
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LINE            ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


2873            KK  RSGL75   ROUTE
2874            KM   Route diversion retrieval DRGL75 south to combination point CGL75
2875            RS       1    FLOW
2876            RC   0.035   0.015   0.035    2640  0.0035    0.00
2877            RX    0.00    0.00   54.50   54.50  283.50  283.50  338.00  338.00
2878            RY    3.00    1.04    0.50    0.00    0.00    0.50    1.04    3.00
                *

2879            KK    GL75   BASIN
2880            KM   Runoff hydrograph for half square mile subbasin GL75 northeast of the
2881            KM   intersection of Glendale Avenue and 75th Avenue
2882            BA   0.499
2883            LG    0.24    0.15    8.80    0.05      46
2884            UC   1.476   1.172
2885            UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
2886            UA     100
                *

2887            KK  ERGL75  DIVERT
2888            KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
2889            KM   retention developed after 1990 in subbasin GL75
2890            DT  XGL75     42.2      0.0
2891            DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
2892            DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
                *

2893            KK   CGL75 COMBINE
2894            KM   Combine route RWGL75, route RSGL75, and subbasin GL75
2895            HC       3    8.97
                *

2896            KK  DWGL83  DIVERT
2897            KM   Divert remaining runoff hydrograph from combination point CGL75 west to
2898            KM   combination point CGL83
2899            DT  DSBH75      0.0      0.0
2900            DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
2901            DQ     0.0    50.0   100.0   250.0   500.0  1000.0  2000.0  5000.0 10000.0 25000.0
                *

2902            KK  RWGL83   ROUTE
2903            KM   Route diversion DWGL83 west to combination point CGL83
2904            RS       3    FLOW
2905            RC   0.035   0.015   0.035    5280  0.0032    0.00
2906            RX    0.00    0.00   47.00   47.00  283.00  283.00  330.00  330.00
2907            RY    3.00    0.97    0.50    0.00    0.00    0.50    0.97    3.00
                *

2908            KK  DRGL83RETRIEVE
2909            KM   Retrieve divert DRGL83 from combination point CPOW83 and divert south to
2910            KM   combination point CGL83
2911            DR  DSGL83
                *
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LINE            ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


2912            KK  RSGL83   ROUTE
2913            KM   Route diversion retrieval DRGL83 south to combination point CGL83
```

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2914          RS      3    FLOW
2915          RC  0.035   0.015   0.035    2640  0.0041    0.00
2916          RX   0.00    0.00   38.50   38.50  241.50  241.50  280.00  280.00
2917          RY   3.00    0.88    0.50    0.00    0.00    0.50    0.88    3.00
              *
2918          KK   GL83   BASIN
2919          KM   Runoff hydrograph for half square mile subbasin GL83 northeast of the
2920          KM   intersection of Glendale Avenue and 83rd Avenue
2921          BA  0.495
2922          LG   0.25    0.15    7.00    0.11      31
2923          UC  1.485   1.179
2924          UA      0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
2925          UA    100
              *
2926          KK  ERGL83  DIVERT
2927          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
2928          KM   retention developed after 1990 in subbasin GL83
2929          DT   XGL83    18.1     0.0
2930          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
2931          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *
2932          KK   CGL83 COMBINE
2933          KM   Combine route RWGL83, route RSGL83, and subbasin GL83
2934          HC       3    7.11
              *
2935          KK  PR83OWRETRIEVE
2936          KM   Retrieve full flow capacity of 255 cfs from 72-inch storm drain pipe at the
2937          KM   intersection of Orangewood Avenue and 83rd Avenue
2938          DR  DP83OW
              *
2939          KK  RP83GL   ROUTE
2940          KM   Route full flow capacity of 255 cfs through 72-inch storm drain pipe in
2941          KM   83rd Avenue to the intersection of Glendale Avenue and 83rd Avenue
2942          RK    2644  0.0036   0.015            CIRC   6.000
              *
2943          KK  CPGL83 COMBINE
2944          KM   Combine pipe return PR83OW with the runoff hydrograph at combination point
2945          KM   CGL83 at the intersection of Glendale Avenue and 83rd Avenue
2946          HC       2
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

2947          KK   DGL83  DIVERT
2948          KM   Divert calculated full flow capapcity of 374 cfs into 84-inch storm drain
2949          KM   pipe at the intersection of Glendale Avenue and 83rd Avenue
2950          DT  DPGL83      0.0   374.0
2951          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
2952          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *
2953          KK  DWGL91  DIVERT
2954          KM   Divert remaining runoff hydrograph from combination point CPGL83 west to
2955          KM   combination point CGL91
2956          DT  DSBH83      0.0     0.0
2957          DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
2958          DQ     0.0    63.0   126.0   315.0   630.0  1260.0  2520.0  6300.0 12600.0 31500.0
              *
2959          KK  RWGL91   ROUTE
2960          KM   Route diversion DWGL91 west to combination point CGL92
2961          RS       4    FLOW
2962          RC  0.035   0.015   0.035    5280  0.0032    0.00
2963          RX   0.00    0.00   33.00   33.00  197.00  197.00  230.00  230.00
2964          RY   3.00    0.83    0.50    0.00    0.00    0.50    0.83    3.00
              *
2965          KK  DRGL91RETRIEVE
2966          KM   Retrieve divert DRGL91 from combination point CCPNO91 and divert south to
2967          KM   combination point CGL91
2968          DR  DSGL91
              *
2969          KK  RSGL91   ROUTE
2970          KM   Route diversion retrieval DRGL91 south to combination point CGL91
2971          RS       2    FLOW
2972          RC  0.035   0.015   0.035    5280  0.0032    0.00
2973          RX   0.00    0.00   38.50   38.50  241.50  241.50  280.00  280.00
2974          RY   3.00    0.88    0.50    0.00    0.00    0.50    0.88    3.00
              *
2975          KK   GL91   BASIN
2976          KM   Runoff hydrograph for square mile subbasin GL91 northeast of the intersection
2977          KM   of Glendale Avenue and 91st Avenue
2978          BA  0.979
```



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2979          LG   0.25    0.17    6.80    0.12      34
2980          UC  1.500   1.019
2981          UA      0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
2982          UA    100
              *
2983          KK  ERGL91  DIVERT
2984          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
2985          KM   retention developed after 1990 in subbasin GL91
2986          DT   XGL91    65.2     0.0
2987          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
2988          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

2989          KK   CGL91 COMBINE
2990          KM   Combine route RWGL91, route RSGL91, route RWoW91, and subbasin GL91
2991          HC       4    9.02
              *
2992          KK  PRGL83RETRIEVE
2993          KM   Retrieve full flow capacity of 374 cfs from 84-inch storm drain pipe at the
2994          KM   intersection of Glendale Avenue and 83rd Avenue
2995          DR  DPGL83
              *
2996          KK  RPGL91   ROUTE
2997          KM   Route full flow capacity of 374 cfs through 84-inch storm drain pipe in
2998          KM   Glendale Avenue to the intersection of Glendale Avenue and 91st Avenue
2999          RK    5306  0.0034   0.015            CIRC   7.000
              *
3000          KK  CPGL91 COMBINE
3001          KM   Combine pipe return PRGL83 with the runoff hydrograph at combination point
3002          KM   CGL91 at the intersection of Glendale Avenue and 91st Avenue
3003          HC       2
              *
3004          KK   DGL91  DIVERT
3005          KM   Divert calculated full flow capapcity of 449 cfs into 90-inch storm drain
3006          KM   pipe at the intersection of Glendale Avenue and 91st Avenue
3007          DT  DPGL91      0.0   449.0
3008          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
3009          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *
3010          KK  DWGLLO  DIVERT
3011          KM   Divert remaining runoff hydrograph from combination point CPGL91 west to
3012          KM   combination point CGLLO
3013          DT  DSBH91      0.0     0.0
3014          DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
3015          DQ     0.0    62.0   124.0   310.0   620.0  1240.0  2480.0  6200.0 12400.0 31000.0
              *
3016          KK  RWGLLO   ROUTE
3017          KM   Route diversion DWGLLO west to combination point CGLLO
3018          RS       3    FLOW
3019          RC  0.035   0.015   0.035    4441  0.0027    0.00
3020          RX   0.00    0.00   19.00   19.00  111.00  111.00  130.00  130.00
3021          RY   3.00    0.69    0.50    0.00    0.00    0.50    0.69    3.00
              *
3022          KK   GLLO   BASIN
3023          KM   Runoff hydrograph for subbasin GLLO northeast of the intersection of Glendale
3024          KM   Avenue and SR Loop 101
3025          BA  0.848
3026          LG   0.10    0.19    6.60    0.12      80
3027          UC  1.500   1.025
3028          UA      0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

3029          UA    100
              *
3030          KK  ERGLLO  DIVERT
3031          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
3032          KM   retention developed after 1990 in subbasin GLLO
3033          DT   XGLLO    75.5     0.0
3034          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
3035          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *
3036          KK   CGLLO COMBINE
3037          KM   Combine route RWGLLO, route RSGLLO, and subbasin GLLO
3038          HC       3   15.23
              *
3039          KK  PRGL91RETRIEVE
```

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3040          KM   Retrieve full flow capacity of 449 cfs from 90-inch storm drain pipe at the
3041          KM   intersection of Glendale Avenue and 91st Avenue
3042          DR   DPGL91
              *
3043          KK  RPGLLO    ROUTE
3044          KM   Route full flow capacity of 449 cfs through 90-inch storm drain pipe in
3045          KM   Glendale Avenue to the intersection of Glendale Avenue and SR Loop 101
3046          RK    4160  0.0034   0.015            CIRC   7.500
              *
3047          KK  CPGLLO COMBINE
3048          KM   Combine pipe return PRGL91 with the runoff hydrograph at combination point
3049          KM   CGLLO at the intersection of Glendale Avenue and SR Loop 101
3050          HC       2
              *
3051          KK  RSBHLO    ROUTE
3052          KM   Route hydrograph at combination point CPGLLO south to combination point CBHLO
3053          RS       2     FLOW
3054          RC   0.035   0.015   0.035    5165  0.0005    0.00
3055          RX    0.00    4.00   16.00   34.00   57.00   74.00   86.00   89.00
3056          RY   10.24    9.24    9.00    0.00    0.20    8.70    8.97    9.94
              *
3057          KK  DIBH59RETRIEVE
3058          KM   Retrieve arterial street flow diverted to Bethany Home Road at the intersecti
3059          KM   of Bethany Home Road and Grand Avenue
3060          DR  DWBH59
              *
3061          KK  DRBH59RETRIEVE
3062          KM   Retrieve divert DRBH59 from combination point CGR59 and divert south to
3063          KM   combination point CIBHGR
3064          DR   DBH59
              *
```



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LINE          ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10
              *
3065          KK  SRGR59 STORAGE
3066          KM   Storage route runoff hydrograph from divert retrieval DRBH59 through ponding
3067          KM     area at Grand Avenue between 51st and 59th Avenues
3068          KM   Storage routing ID RES8 in DMJM HEC-1 revision (model BHGC00C6, Nov 2004)
3069          KM   Comments from DMJM model:
3070          KM   PONDING AREA RESERVOIR ROUTE
3071          KM   PONDING AREA NORTHEAST OF GRAND AVENUE/RR EMBANKMENT
3072          KM   SUB-BASIN 8-22E
3073          RS       1     STOR
3074          SV            14.95   50.65   78.30  116.78  220.43
3075          SQ             0.10    0.20  310.00 1070.00 4090.00
3076          SE  1148.0 1149.00 1150.00 1150.50 1151.00 1152.00
              *
3077          KK  CIBHGR COMBINE
3078          KM   Combine arterial street flow from Bethany Home Road DIBH59 with runoff
3079          KM   hydrograph DRBH59 at the intersection of Bethany Home Road and Grand Avenue
3080          HC       2    2.13
              *
3081          KK  RWBH59    ROUTE
3082          KM   Route hydrograph at combination point CIBHGR at the intersection of Bethany
3083          KM   Home Road and Grand Avenue west to combination point CBH59
3084          RS       4     FLOW
3085          RC   0.035   0.015   0.035    5280  0.0025    0.00
3086          RX    0.00    0.00   47.50   47.50  230.50  230.50  278.00  278.00
3087          RY    3.00    0.98    0.50    0.00    0.00    0.50    0.98    3.00
              *
3088          KK  DI59BHRETRIEVE
3089          KM   Retrieve arterial street flow diverted to 59th Avenue at the intersection
3090          KM   of Bethany Home Road and Grand Avenue
3091          DR  DSBH59
              *
3092          KK  RSBH59    ROUTE
3093          KM   Route diversion retrieval DI59HB at the intersection of Bethany Home Road and
3094          KM   59th Avenue south to combination point CBH59
3095          RS       4     FLOW
3096          RC   0.035   0.015   0.035    5280  0.0024    0.00
3097          RX    0.00    0.00   30.50   30.50  167.50  167.50  198.00  198.00
3098          RY    3.00    0.80    0.50    0.00    0.00    0.50    0.80    3.00
              *
3099          KK     BH59    BASIN
3100          KM   Runoff hydrograph for subbasin BH59 northeast of the intersection of Bethany
3101          KM   Home Road and 59th Avenue
3102          BA   0.493
3103          LG    0.16    0.25    5.00    0.23      71
3104          UC   0.807   0.436
3105          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
3106          UA     100
```



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LINE          ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10
              *
3107          KK  ERBH59  DIVERT
3108          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
3109          KM   retention developed after 1990 and NOAA14 rainfall for future retention in
3110          KM   subbasin BH59
3111          DT   XBH59     3.1     0.0
3112          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
3113          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *
3114          KK   CBH59 COMBINE
3115          KM   Combine route RWBH59, route RSBH59, and subbasin BH59
3116          HC       3    3.58
              *
3117          KK  DWBH67  DIVERT
3118          KM   Divert remaining runoff hydrograph from combination point CBH59 west to
3119          KM   combination point CBH67
3120          DT  DSCB59     0.0     0.0
3121          DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
3122          DQ     0.0    42.0    84.0   210.0   420.0   840.0  1680.0  4200.0  8400.0 21000.0
              *
3123          KK  RWBH67    ROUTE
3124          KM   Route diversion DWBH67 west to combination point CBH67
3125          RS       3     FLOW
3126          RC   0.035   0.015   0.035    5280  0.0028    0.00
3127          RX    0.00    0.00   68.50   68.50  359.50  359.50  428.00  428.00
3128          RY    3.00    1.18    0.50    0.00    0.00    0.50    1.18    3.00
              *
3129          KK  DRBH67RETRIEVE
3130          KM   Retrieve divert DRBH67 from combination point CGL75 and divert south to
3131          KM   combination point CBH67
3132          DR  DSBH67
              *
3133          KK  RSBH67    ROUTE
3134          KM   Route diversion retrieval DRBH67 south to combination point CBH67
3135          RS       9     FLOW
3136          RC   0.035   0.015   0.035    5280  0.0015    0.00
3137          RX    0.00    0.00   75.50   75.50  402.50  402.50  478.00  478.00
3138          RY    3.00    1.25    0.50    0.00    0.00    0.50    1.25    3.00
              *
3139          KK     BH67    BASIN
3140          KM   Runoff hydrograph for square mile subbasin BH67 northeast of the intersection
3141          KM   of Bethany Home Road and 67th Avenue
3142          BA   0.971
3143          LG    0.23    0.25    5.60    0.19      40
3144          UC   1.500   1.015
3145          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
3146          UA     100
              *
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LINE          ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10
              *
3147          KK   CBH67 COMBINE
3148          KM   Combine route RWBH67, route RSBH67, and subbasin BH67
3149          HC       3    5.24
              *
3150          KK  DWBH75  DIVERT
3151          KM   Divert remaining runoff hydrograph from combination point CBH67 west to
3152          KM   combination point CBH75
3153          DT  DSCB67     0.0     0.0
3154          DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
3155          DQ     0.0    44.0    88.0   220.0   440.0   880.0  1760.0  4400.0  8800.0 22000.0
              *
3156          KK  RWBH75    ROUTE
3157          KM   Route diversion DWBH75 west to combination point CBH75
3158          RS       4     FLOW
3159          RC   0.035   0.015   0.035    5280  0.0038    0.00
3160          RX    0.00    0.00   61.50   61.50  316.50  316.50  378.00  378.00
3161          RY    3.00    1.12    0.50    0.00    0.00    0.50    1.12    3.00
              *
3162          KK  DRBH75RETRIEVE
3163          KM   Retrieve divert DRBH75 from combination point CGL75 and divert south to
3164          KM   combination point CBH75
3165          DR  DSBH75
              *
3166          KK  RSBH75    ROUTE
3167          KM   Route diversion retrieval DRBH75 south to combination point CBH75
```

```
3168          RS      4    FLOW
3169          RC  0.035   0.015   0.035    5280  0.0019    0.00
3170          RX   0.00    0.00   68.50   68.50  359.50  359.50  428.00  428.00
3171          RY   3.00    1.18    0.50    0.00    0.00    0.50    1.18    3.00
              *

3172          KK    BH75   BASIN
3173          KM   Runoff hydrograph for square mile subbasin BH75 northeast of the intersection
3174          KM   of Bethany Home Road and 75th Avenue
3175          BA   1.003
3176          LG   0.24    0.15    9.70    0.04      37
3177          UC   1.500   1.009
3178          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
3179          UA     100
              *

3180          KK  ERBH75  DIVERT
3181          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
3182          KM   retention developed after 1990 in subbasin BH75
3183          DT   XBH75     69.9      0.0
3184          DI     0.0 50000.0      0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
3185          DQ     0.0 50000.0      0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


3186          KK   CBH75 COMBINE
3187          KM   Combine route RWBH75, route RSBH75, and subbasin BH75
3188          HC       3    8.42
              *

3189          KK   DBH75  DIVERT
3190          KM   Divert calculated full flow capapcity of 560 cfs into 108-inch storm drain
3191          KM   pipe at the intersection of Bethany Home Road and 75th Avenue
3192          DT  DPBH75      0.0     560.0
3193          DI     0.0 50000.0      0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
3194          DQ     0.0 50000.0      0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

3195          KK  DWBH83  DIVERT
3196          KM   Divert remaining runoff hydrograph from combination point CBH75 west to
3197          KM   combination point CBH83
3198          DT  DSCB75      0.0      0.0
3199          DI     0.0   100.0    200.0    500.0   1000.0   2000.0   4000.0 10000.0 20000.0 50000.0
3200          DQ     0.0    53.0    106.0    265.0    530.0   1060.0   2120.0  5300.0 10600.0 26500.0
              *

3201          KK  RWBH83   ROUTE
3202          KM   Route diversion DWBH83 west to combination point CBH83
3203          RS       8    FLOW
3204          RC   0.035   0.015   0.035    5280  0.0034    0.00
3205          RX    0.00    0.00   47.50   47.50  230.50  230.50  278.00  278.00
3206          RY    3.00    0.98    0.50    0.00    0.00    0.50    0.98    3.00
              *

3207          KK  DRBH83RETRIEVE
3208          KM   Retrieve divert DRBH83 from combination point CGL83 and divert south to
3209          KM   combination point CBH83
3210          DR  DSBH83
              *

3211          KK  RSBH83   ROUTE
3212          KM   Route diversion retrieval DRBH83 south to combination point CBH83
3213          RS       5    FLOW
3214          RC   0.035   0.015   0.035    5280  0.0021    0.00
3215          RX    0.00    0.00   72.50   72.50  425.50  425.50  498.00  498.00
3216          RY    3.00    1.23    0.50    0.00    0.00    0.50    1.23    3.00
              *

3217          KK    BH83   BASIN
3218          KM   Runoff hydrograph for square mile subbasin BH83 northeast of the intersection
3219          KM   of Bethany Home Road and 83rd Avenue
3220          BA   0.998
3221          LG   0.22    0.15    7.60    0.09      31
3222          UC   1.500   1.016
3223          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
3224          UA     100
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


3225          KK  ERBH83  DIVERT
3226          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
3227          KM   retention developed after 1990 in subbasin BH83
3228          DT   XBH83     62.4      0.0
3229          DI     0.0 50000.0      0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
3230          DQ     0.0 50000.0      0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *
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```
3231          KK   CBH83 COMBINE
3232          KM   Combine route RWBH83, route RSBH83, and subbasin BH83
3233          HC       3    9.47
              *

3234          KK  PRBH75RETRIEVE
3235          KM   Retrieve full flow capacity of 560 cfs from 108-inch storm drain pipe at the
3236          KM   intersection of Bethany Home Road and 75th Avenue
3237          DR  DPBH75
              *

3238          KK  RPBH83   ROUTE
3239          KM   Route full flow capacity of 560 cfs through 108-inch storm drain pipe in
3240          KM   Bethany Home Road to the intersection of Bethany Home Road and 83rd Avenue
3241          RK    4286  0.0020   0.015            CIRC   9.000
              *

3242          KK  CPBH83 COMBINE
3243          KM   Combine pipe return PRBH75 with the runoff hydrograph at combination point
3244          KM   CBH83 at the intersection of Bethany Home Road and 83rd Avenue
3245          HC       2
              *

3246          KK  DWBH91  DIVERT
3247          KM   Divert remaining runoff hydrograph from combination point CPBH83 west to
3248          KM   combination point CIBH83
3249          DT  DSGC83      0.0      0.0
3250          DI     0.0   100.0    200.0    500.0   1000.0   2000.0   4000.0 10000.0 20000.0 50000.0
3251          DQ     0.0    34.0     68.0    170.0    340.0    680.0   1360.0  3400.0  6800.0 17000.0
              *

3252          KK  DRCB27RETRIEVE
3253          KM   Retrieve divert DRCB27 from combination point CPBH27 and divert south to
3254          KM   combination point CCB27
3255          DR  DSCB27
              *

3256          KK  RSCB27   ROUTE
3257          KM   Route diversion retrieval DRCB27 south to combination point CCB27
3258          RS       3    FLOW
3259          RC   0.035   0.015   0.035    5280  0.0037    0.00
3260          RX    0.00    0.00   26.00   26.00  148.00  148.00  174.00  174.00
3261          RY    3.00    0.76    0.50    0.00    0.00    0.50    0.76    3.00
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


3262          KK    CB27   BASIN
3263          KM   Runoff hydrograph for subbasin CB27 northeast of the intersection of
3264          KM   Camelback Road and 27th Avenue
3265          BA   0.262
3266          LG   0.20    0.25    5.10    0.22      54
3267          UC   1.047   0.842
3268          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
3269          UA     100
              *

3270          KK   CCB27 COMBINE
3271          KM   Combine route RSCB27, and subbasin CB27
3272          HC       2    1.50
              *

3273          KK  PR27BHRETRIEVE
3274          KM   Retrieve full flow capacity of 132 cfs from 57-inch diameter pipe at the
3275          KM   intersection of Bethany Home Road and 27th Avenue
3276          DR  DP27BH
              *

3277          KK  RP27CB   ROUTE
3278          KM   Route full flow capacity of 132 cfs through 57-inch storm drain pipe in
3279          KM   27th Avenue to the intersection of 27th Avenue and Camelback Road
3280          RK    5336  0.0034   0.015            CIRC   4.750
              *

3281          KK  CPCB27 COMBINE
3282          KM   Combine pipe return PR27BH with the runoff hydrograph at combination point
3283          KM   CGL83 at the intersection of Camelback Road and 27th Avenue
3284          HC       2
              *

3285          KK   D27CB  DIVERT
3286          KM   Divert calculated full flow capapcity of 132 cfs into 57-inch storm drain
3287          KM   pipe at the intersection of Camelback Road and 27th Avenue
3288          DT  DP27CB      0.0    132.0
3289          DI     0.0 50000.0      0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
3290          DQ     0.0 50000.0      0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

3291          KK  DWCB35  DIVERT
3292          KM   Divert remaining runoff hydrograph from combination point CPCB27 west to
3293          KM   combination point CCB35
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3294  DT  DSIS27      0.0      0.0
3295  DI      0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0  10000.0  20000.0  50000.0
3296  DQ      0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0  10000.0  20000.0  50000.0
      *
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LINE  ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

3297  KK  RWCB35    ROUTE
3298  KM   Route diversion DWCB35 west to combination point CCB35
3299  RS       1     FLOW
3300  RC   0.035    0.015    0.035     5280   0.0006      0.00
3301  RX    0.00     0.00   105.00   105.00   494.00   494.00   599.00   599.00
3302  RY    3.00     1.55     0.50     0.00     0.00     0.50     1.55     3.00
      *
3303  KK  DRCB35RETRIEVE
3304  KM   Retrieve divert DRCB35 from combination point CPBH35 and divert south to
3305  KM   combination point CCB35
3306  DR  DSCB35
      *
3307  KK  RSCB35    ROUTE
3308  KM   Route diversion retrieval DRCB35 south to combination point CCB35
3309  RS       4     FLOW
3310  RC   0.035    0.015    0.035     5280   0.0040      0.00
3311  RX    0.00     0.00    95.50    95.50   453.50   453.50   549.00   549.00
3312  RY    3.00     1.46     0.50     0.00     0.00     0.50     1.46     3.00
      *
3313  KK    CB35    BASIN
3314  KM   Runoff hydrograph for square mile subbasin CB35 northeast of the intersection
3315  KM   of Camelback Road and 35th Avenue
3316  BA  1.000
3317  LG    0.24     0.25     5.00     0.25       39
3318  UC   1.500    1.010
3319  UA       0      5.0     16.0     30.0     65.0     77.0     84.0     90.0     94.0     97.0
3320  UA     100
      *
3321  KK   CCB35 COMBINE
3322  KM   Combine route RWCB35, route RSCB35, and subbasin CB35
3323  HC       3     2.94
      *
3324  KK  PR27CBRETRIEVE
3325  KM   Retrieve combined full flow capacity of 132 cfs from 57-inch equivalent
3326  KM   diameter pipe at the intersection of Camelback Road and 27th Avenue
3327  DR  DP27CB
      *
3328  KK  CPCB29 COMBINE
3329  KM   Combine pipe return PR27CB with the runoff hydrograph at combination point
3330  KM   CCB29 at the intersection of Camelback Road and 29thth Avenue
3331  HC       2
      *
1                                    HEC-1 INPUT                                        PAGE 87

LINE  ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

3332  KK    D29CB   DIVERT
3333  KM   Divert calculated full flow capapcity of 132 cfs into 57-inch storm drain
3334  KM   pipe at the intersection of Camelback Road and 29th Avenue
3335  DT  DP29CB      0.0    132.0
3336  DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
3337  DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
      *
3338  KK  PR35BHRETRIEVE
3339  KM   Retrieve combined full flow capacity of 226 cfs from 69-inch equivalent
3340  KM   diameter pipe at the intersection of Bethany Home Road and 35th Avenue
3341  DR  DP35BH
      *
3342  KK  RP35CB    ROUTE
3343  KM   Route the combined full flow capacity of 226 cfs through an equivalent storm
3344  KM   drain pipe diameter of 69 inches in 35th Avenue to the intersection of
3345  KM   35th Avenue and Camelback Road
3346  RK    5249  0.0037    0.015            CIRC    5.750
      *
3347  KK  CPCB35 COMBINE
3348  KM   Combine pipe return PR35BH with the runoff hydrograph at combination point
3349  KM   CCB35 at the intersection of Camelback Road and 35th Avenue
3350  HC       2
      *
3351  KK    D35CB   DIVERT
3352  KM   Capacity of storm drain in 31st Avenue and 35th Avenue diverted together.
3353  KM   Divert combined calculated full flow capacity of 213 cfs in the 66-inch storm
3354  KM   drain pipe in 31st Avenue and 40 cfs in the 36-inch storm drain pipe in
```



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3355  KM   35th Avenue. The total calculated combined full flow capacity diverted at the
3356  KM   intersection of 35th Avenue and Camelback Road is 253 cfs in an equivalent
3357  KM   diameter pipe of 73 inches
3358  DT  DP35CB      0.0    253.0
3359  DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
3360  DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
      *
3361  KK  DWCB43   DIVERT
3362  KM   Divert remaining runoff hydrograph from combination point CPCB35 west to
3363  KM   combination point CCB43
3364  DT  DSIS35      0.0      0.0
3365  DI      0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0  10000.0  20000.0  50000.0
3366  DQ      0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0  10000.0  20000.0  50000.0
      *
3367  KK  RWCB43    ROUTE
3368  KM   Route diversion DWCB43 west to combination point CCB43
3369  RS       1     FLOW
3370  RC   0.035    0.015    0.035     5280   0.0001      0.00
3371  RX    0.00     0.00    86.00    86.00   413.00   413.00   499.00   499.00
3372  RY    3.00     1.36     0.50     0.00     0.00     0.50     1.36     3.00
      *
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LINE  ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

3373  KK  DRCB43RETRIEVE
3374  KM   Retrieve divert DRCB43 from combination point CPBH43 and divert south to
3375  KM   combination point CCB43
3376  DR  DSCB43
      *
3377  KK  RSCB43    ROUTE
3378  KM   Route diversion retrieval DRCB43 south to combination point CCB43
3379  RS       3     FLOW
3380  RC   0.035    0.015    0.035     5280   0.0032      0.00
3381  RX    0.00     0.00    57.50    57.50   291.50   291.50   349.00   349.00
3382  RY    3.00     1.08     0.50     0.00     0.00     0.50     1.08     3.00
      *
3383  KK    CB43    BASIN
3384  KM   Runoff hydrograph for square mile subbasin CB43 northeast of the intersection
3385  KM   of Camelback Road and 43rd Avenue
3386  BA  0.999
3387  LG    0.24     0.25     4.80     0.26       35
3388  UC   1.233    0.467
3389  UA       0      5.0     16.0     30.0     65.0     77.0     84.0     90.0     94.0     97.0
3390  UA     100
      *
3391  KK   CCB43 COMBINE
3392  KM   Combine route RWCB43, route RSCB43, and subbasin CB43
3393  HC       3     2.12
      *
3394  KK  PR43BHRETRIEVE
3395  KM   Retrieve combined full flow capacity of 385 cfs from 85-inch equivalent
3396  KM   diameter pipe at the intersection of Bethany Home Road and 43rd Avenue
3397  DR  DP43BH
      *
3398  KK  RP43CB    ROUTE
3399  KM   Route the combined full flow capacity of 385 cfs through an equivalent storm
3400  KM   drain pipe diameter of 85 inches in 43rd Avenue to the intersection of
3401  KM   43rd Avenue and Camelback Road
3402  RK    5172  0.0035    0.015            CIRC    7.083
      *
3403  KK  CPCB43 COMBINE
3404  KM   Combine pipe return PR43BH with the runoff hydrograph at combination point
3405  KM   CCB43 at the intersection of Camelback Road and 43rd Avenue
3406  HC       2
      *
3407  KK    D39CB   DIVERT
3408  KM   Divert calculated full flow capapcity of 268 cfs into 72-inch storm drain
3409  KM   pipe at the intersection of Camelback Road and 39th Avenue
3410  DT  DP39CB      0.0    268.0
3411  DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
3412  DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
      *
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LINE  ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

3413  KK    D43CB   DIVERT
3414  KM   Divert calculated full flow capapcity of 155 cfs into 60-inch storm drain
3415  KM   pipe at the intersection of Camelback Road and 43rd Avenue
3416  DT  DP43CB      0.0    155.0
3417  DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
```

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3418          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

3419          KK  DWGR43  DIVERT
3420          KM   Divert portion of runoff hydrograph from combination point CPCB43 west
3421          KM   through subbasin GR43 using the ratio of the widths and slopes of the streets
3422          KM   going west and the widths and slopes of the streets going south. The
3423          KM   remaining flow is diverted south through subbasin IS43
3424          DT  DSGR35      0.0     0.0
3425          DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
3426          DQ     0.0    57.0   114.0   285.0   570.0  1140.0  2280.0  5700.0 11400.0 28500.0
              *

3427          KK   DGR43  DIVERT
3428          KM   Divert portion of DWGR43 west to subbasin GR43 using the ratio of the width
3429          KM   of the collector and local streets and the width of the arterial street. The
3430          KM   remaining flow is diverted west to subbasin CB51 along Camelback Road
3431          DT   DCB51      0.0     0.0
3432          DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
3433          DQ     0.0    25.0    50.0   125.0   250.0   500.0  1000.0  2500.0  5000.0 12500.0
              *

3434          KK  DRGR43RETRIEVE
3435          KM   Retrieve divert DRGR43 from combination point CPBH51 and divert south to
3436          KM   combination point CGR43
3437          DR  DSGR43
              *

3438          KK  RSGR43    ROUTE
3439          KM   Route diversion retrieval DRGR43 south to combination point CGR43
3440          RS       6     FLOW
3441          RC   0.035   0.015   0.035    7370  0.0013     0.00
3442          RX    0.00    0.00   31.50   31.50  143.50  143.50  175.00  175.00
3443          RY    3.00    0.82    0.50    0.00    0.00    0.50    0.82    3.00
              *

3444          KK    GR43    BASIN
3445          KM   Runoff hydrograph for subbasin GR43 northwest of the intersection of Grand
3446          KM   Avenue and 43rd Avenue
3447          BA   0.514
3448          LG    0.21    0.25    4.90    0.24      51
3449          UC   0.953   0.517
3450          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
3451          UA     100
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

3452          KK  ERGR43  DIVERT
3453          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
3454          KM   retention developed after 1990 in subbasin GR43
3455          DT   XGR43      6.6     0.0
3456          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
3457          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

3458          KK   CGR43 COMBINE
3459          KM   Combine route RSGR43, remainder of combination point CPCB43, and subbasin
3460          KM   GR43
3461          HC       3     2.28
              *

3462          KK  SRGR43 STORAGE
3463          KM   Combined storage routing IDs BCm1 and BCm2 from PEC model, Feb 2008
3464          KM   Storage routing through two basins along Grand Avenue between 51st Avenue and
3465          KM     Bethany Home and 43rd Avenue and Camelback
3466          RS       1     STOR
3467          SV           20.40   65.70  122.40  136.72  212.40  323.58  339.80
3468          SE  1126.0  1131.0  1136.0  1141.0  1142.0  1146.0  1150.0  1151.0
3469          SQ     0.0     0.0     0.0    10.0    17.0    40.0    80.0   100.0   160.0     200
3470          SQ   300.0   400.0   500.0   600.0   700.0   800.0   900.0  1000.0  1100.0
3471          SE  1126.0  1140.0  1142.5 1142.67  1142.7 1142.8 1142.91 1142.95 1143.05    1143.
3472          SE  1143.2 1143.38 1143.48 1143.58 1143.67 1143.75 1143.83 1143.91 1143.98
              *

3473          KK   DGR35  DIVERT
3474          KM   Divert portion of runoff hydrograph from combination point CGR43 west to
3475          KM   combination point CICBGR using the ratio of the widths and slopes of the
3476          KM   streets going east and the widths and slopes of the streets going south. The
3477          KM   remaining flow is diverted east through subbasin GR35 along Grand Avenue.
3478          DT  DEGR35      0.0     0.0
3479          DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
3480          DQ     0.0    35.0    70.0   175.0   350.0   700.0  1400.0  3500.0  7000.0 17500.0
              *

3481          KK  DWCB51  DIVERT
3482          KM   Divert portion of DGR35 south to subbasin IS43 using the ratio of the width
3483          KM   of the collector and local streets and the width of the arterial street. The
3484          KM   remaining flow is diverted west to combination point CICBGR at the
3485          KM   intersection of Camelback Road and 51st Avenue
3486          DT  DSIS43      0.0     0.0
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3487          DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
3488          DQ     0.0    65.0   130.0   325.0   650.0  1300.0  2600.0  6500.0 13000.0 32500.0
              *

3489          KK  DICB51RETRIEVE
3490          KM   Retrieve arterial street flow diverted to Camelback Road at the intersection
3491          KM   of Bethany Home Road and 51st Avenue
3492          DR   DCB51
              *
```



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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

3493          KK  CICBGR COMBINE
3494          KM   Combine arterial street flow from Camelback Rd DICB51 with runoff hydrograph
3495          KM   DWCB51 at the intersection of Camelback Road and 51st Avenue
3496          HC       2     0.74
              *

3497          KK  RWCB51    ROUTE
3498          KM   Route hydrograph at combination point CICBGR at the intersection of Camelback
3499          KM   Road and 51st Avenue west to combination point CCB51
3500          RS       6     FLOW
3501          RC   0.035   0.015   0.035    5280  0.0014     0.00
3502          RX    0.00    0.00   16.50   16.50  107.50  107.50  124.00  124.00
3503          RY    3.00    0.66    0.50    0.00    0.00    0.50    0.66    3.00
              *

3504          KK    CB51    BASIN
3505          KM   Runoff hydrograph for subbasin CB51 northeast of the intersection
3506          KM   of Camelback Road and 51st Avenue
3507          BA   0.483
3508          LG    0.15    0.25    5.00    0.23      80
3509          UC   0.536   0.276
3510          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
3511          UA     100
              *

3512          KK   CCB51 COMBINE
3513          KM   Combine hydrograph at combination point CICBGR and subbasin CB51
3514          HC       2     1.23
              *

3515          KK  DWCB59  DIVERT
3516          KM   Divert remaining runoff hydrograph from combination point CCB51 west to
3517          KM   combination point CCB59
3518          DT  DSIS51      0.0     0.0
3519          DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
3520          DQ     0.0    51.0   102.0   255.0   510.0  1020.0  2040.0  5100.0 10200.0 25500.0
              *

3521          KK  RWCB59    ROUTE
3522          KM   Route diversion DWCB59 west to combination point CCB59
3523          RS       4     FLOW
3524          RC   0.035   0.015   0.035    5280  0.0023     0.00
3525          RX    0.00    0.00   48.00   48.00  251.00  251.00  299.00  299.00
3526          RY    3.00    0.98    0.50    0.00    0.00    0.50    0.98    3.00
              *

3527          KK  DRCB59RETRIEVE
3528          KM   Retrieve divert DRCB59 from combination point CBH59 and divert south to
3529          KM   combination point CCB59
3530          DR  DSCB59
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

3531          KK  RSCB59    ROUTE
3532          KM   Route diversion retrieval DRCB59 south to combination point CCB59
3533          RS       3     FLOW
3534          RC   0.035   0.015   0.035    5280  0.0030     0.00
3535          RX    0.00    0.00   48.00   48.00  251.00  251.00  299.00  299.00
3536          RY    3.00    0.98    0.50    0.00    0.00    0.50    0.98    3.00
              *

3537          KK    CB59    BASIN
3538          KM   Runoff hydrograph for square mile subbasin CB59 northeast of the intersection
3539          KM   of Camelback Road and 59th Avenue
3540          BA   1.010
3541          LG    0.16    0.25    5.10    0.22      72
3542          UC   1.216   0.802
3543          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
3544          UA     100
              *

3545          KK  ERCB59  DIVERT
3546          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
3547          KM   retention developed after 1990 in subbasin CB59
3548          DT   XCB59     16.6     0.0
3549          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
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3550          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

3551          KK   CCB59 COMBINE
3552          KM   Combine route RWCB59, route RSCB59, and subbasin CB59
3553          HC       3    3.11
              *

3554          KK   DCB59  DIVERT
3555          KM   Divert calculated full flow capapcity of 351 cfs into 84-inch storm drain
3556          KM   pipe at the intersection of Camelback Road and 59th Avenue
3557          KM   This is a future storm drain currently under design
3558          DT  DPCB59      0.0   351.0
3559          DI      0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
3560          DQ      0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

3561          KK  DWCB67  DIVERT
3562          KM   Divert remaining runoff hydrograph from combination point CCB59 west to
3563          KM   combination point CCB67
3564          DT  DSI559      0.0     0.0
3565          DI      0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
3566          DQ      0.0    53.0   106.0   265.0   530.0  1060.0  2120.0  5300.0 10600.0 26500.0
              *

3567          KK  RWCB67   ROUTE
3568          KM   Route diversion DWCB67 west to combination point CCB67
3569          RS       4    FLOW
3570          RC   0.035   0.015   0.035    5280  0.0025    0.00
3571          RX    0.00    0.00   67.00   67.00  332.00  332.00  399.00  399.00
3572          RY    3.00    1.17    0.50    0.00    0.00    0.50    1.17    3.00
              *

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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

3573          KK  DRCB67RETRIEVE
3574          KM   Retrieve divert DRCB67 from combination point CBH67 and divert south to
3575          KM   combination point CCB67
3576          DR  DSCB67
              *

3577          KK  RSCB67   ROUTE
3578          KM   Route diversion retrieval DRCB67 south to combination point CCB67
3579          RS       4    FLOW
3580          RC   0.035   0.015   0.035    5280  0.0027    0.00
3581          RX    0.00    0.00   57.50   57.50  291.50  291.50  349.00  349.00
3582          RY    3.00    1.08    0.50    0.00    0.00    0.50    1.08    3.00
              *

3583          KK    CB67   BASIN
3584          KM   Runoff hydrograph for square mile subbasin CB67 northeast of the intersection
3585          KM   of Camelback Road and 67th Avenue
3586          BA   0.970
3587          LG    0.24    0.15    7.60    0.08      36
3588          UC   1.500   1.016
3589          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
3590          UA     100
              *

3591          KK  ERCB67  DIVERT
3592          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
3593          KM   retention developed after 1990 in subbasin CB67
3594          DT  XCB67       3.2     0.0
3595          DI      0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
3596          DQ      0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

3597          KK   CCB67 COMBINE
3598          KM   Combine route RWCB67, route RSCB67, and subbasin CB67
3599          HC       3    4.73
              *

3600          KK  PRCB59RETRIEVE
3601          KM   Retrieve full flow capacity of 351 cfs from 84-inch diameter pipe at the
3602          KM   intersection of Camelback Road and 59th Avenue
3603          KM   This is a future storm drain currently under design
3604          DR  DPCB59
              *

3605          KK  RPCB67   ROUTE
3606          KM   Route full flow capacity of 351 cfs through 84-inch storm drain pipe in
3607          KM   Camelback Road to the intersection of 67th Avenue and Camelback Road
3608          KM   This is a future storm drain currently under design
3609          RK    2642  0.0030   0.015            CIRC   7.000
              *

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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

3610          KK  CPCB67 COMBINE
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3611          KM   Combine pipe return PRCB59 with the runoff hydrograph at combination point
3612          KM   CCB67 at the intersection of Camelback Road and 67th Avenue
3613          HC       2
              *

3614          KK   DCB67  DIVERT
3615          KM   Divert calculated full flow capapcity of 504 cfs into 102-inch storm drain
3616          KM   pipe at the intersection of Camelback Road and 67th Avenue
3617          KM   This is a future storm drain currently under design
3618          DT  DPCB67      0.0   504.0
3619          DI      0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
3620          DQ      0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

3621          KK  DWCB75  DIVERT
3622          KM   Divert remaining runoff hydrograph from combination point CPCB67 west to
3623          KM   combination point CCB75
3624          DT  DSGC67      0.0     0.0
3625          DI      0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
3626          DQ      0.0    43.0    86.0   215.0   430.0   860.0  1720.0  4300.0  8600.0 21500.0
              *

3627          KK  RWCB75   ROUTE
3628          KM   Route diversion DWCB75 west to combination point CCB75
3629          RS       4    FLOW
3630          RC   0.035   0.015   0.035    5280  0.0024    0.00
3631          RX    0.00    0.00   86.00   86.00  413.00  413.00  499.00  499.00
3632          RY    3.00    1.36    0.50    0.00    0.00    0.50    1.36    3.00
              *

3633          KK  DRCB75RETRIEVE
3634          KM   Retrieve divert DRCB75 from combination point CBH75 and divert south to
3635          KM   combination point CCB75
3636          DR  DSCB75
              *

3637          KK  RSCB75   ROUTE
3638          KM   Route diversion retrieval DRCB75 south to combination point CCB75
3639          RS      10    FLOW
3640          RC   0.035   0.015   0.035    5280  0.0013    0.00
3641          RX    0.00    0.00   86.00   86.00  413.00  413.00  499.00  499.00
3642          RY    3.00    1.36    0.50    0.00    0.00    0.50    1.36    3.00
              *

3643          KK    CB75   BASIN
3644          KM   Runoff hydrograph for square mile subbasin CB75 northeast of the intersection
3645          KM   of Camelback Road and 75th Avenue
3646          BA   0.998
3647          LG    0.24    0.15    7.30    0.10      33
3648          UC   1.500   1.012
3649          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
3650          UA     100
              *

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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

3651          KK  ERCB75  DIVERT
3652          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
3653          KM   retention developed after 1990 in subbasin CB75
3654          DT  XCB75      25.1     0.0
3655          DI      0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
3656          DQ      0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

3657          KK   CCB75 COMBINE
3658          KM   Combine RWCB75, route RSCB75, and subbasin CB75
3659          HC       3    8.14
              *

3660          KK  PRCB67RETRIEVE
3661          KM   Retrieve full flow capacity of 504 cfs from 102-inch diameter pipe at the
3662          KM   intersection of Camelback Road and 67th Avenue
3663          KM   This is a future storm drain currently under design
3664          DR  DPCB67
              *

3665          KK  RPCB75   ROUTE
3666          KM   Route full flow capacity of 504 cfs through 102-inch storm drain pipe in
3667          KM   Camelback Road to the intersection of 75th Avenue and Camelback Road
3668          KM   This is a future storm drain currently under design
3669          RK    4997  0.0022   0.015            CIRC   8.500
              *

3670          KK  CPCB75 COMBINE
3671          KM   Combine pipe return PRCB67 with the runoff hydrograph at combination point
3672          KM   CCB75 at the intersection of Camelback Road and 75th Avenue
3673          HC       2
              *

3674          KK  DWGC83  DIVERT
3675          KM   Divert remaining runoff hydrograph from combination point CPCB75 west to
```

```
3676          KM   combination point CICB75
3677          DT  DSGC75      0.0      0.0
3678          DI      0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0 10000.0 20000.0 50000.0
3679          DQ      0.0     44.0     88.0    220.0    440.0    880.0   1760.0  4400.0  8800.0 22000.0
              *

3680          KK  DRIS27RETRIEVE
3681          KM   Retrieve divert DRIS27 from combination point CPCB27 and divert south to
3682          KM   combination point CIS27
3683          DR  DSIS27
              *

3684          KK  RSIS27   ROUTE
3685          KM   Route diversion retrieval DRIS27 south to combination point CIS27
3686          RS      3    FLOW
3687          RC   0.035   0.015   0.035    5280  0.0038    0.00
3688          RX    0.00    0.00   26.00   26.00  148.00  148.00  174.00  174.00
3689          RY    3.00    0.76    0.50    0.00    0.00    0.50    0.76    3.00
              *
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LINE          ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10


3690          KK    IS27   BASIN
3691          KM   Runoff hydrograph for subbasin IS27 northeast of the intersection of Indian
3692          KM   School Road and 27th Avenue
3693          BA   0.239
3694          LG    0.20    0.15    7.30    0.09      58
3695          UC   1.270   1.090
3696          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
3697          UA     100
              *

3698          KK   CIS27 COMBINE
3699          KM   Combine route RSIS27 and subbasin IS27
3700          HC       2    1.74
              *

3701          KK  PR29CBRETRIEVE
3702          KM   Retrieve full flow capacity of 132 cfs from 57-inch storm drain pipe at the
3703          KM   intersection of Camelback Road and 29th Avenue
3704          DR  DP29CB
              *

3705          KK  RP27IS   ROUTE
3706          KM   Route full flow capacity of 132 cfs through 57-inch storm drain pipe in
3707          KM   27th Avenue to the intersection of Indian School Road and 43rd Avenue
3708          RK    5210  0.0034   0.015            CIRC   4.750
              *

3709          KK  CPIS27 COMBINE
3710          KM   Combine pipe return PR29CB with the runoff hydrograph at combination point
3711          KM   CIS27 at the intersection of Indian School Road and 27th Avenue
3712          HC       2
              *

3713          KK   D27IS  DIVERT
3714          KM   Divert calculated full flow capapcity of 151 cfs into 60-inch storm drain
3715          KM   pipe at the intersection of Indian School Road and 27th Avenue
3716          DT  DP27IS      0.0    151.0
3717          DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
3718          DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

3719          KK  DWIS35  DIVERT
3720          KM   Divert remaining runoff hydrograph from combination point CIS27 west to
3721          KM   combination point CIS35
3722          DT  DSGC27      0.0      0.0
3723          DI      0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0 10000.0 20000.0 50000.0
3724          DQ      0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0 10000.0 20000.0 50000.0
              *
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LINE          ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10


3725          KK  RWIS35   ROUTE
3726          KM   Route diversion DWIS35 west to combination point CIS35
3727          RS      1    FLOW
3728          RC   0.035   0.015   0.035    5280  0.0006    0.00
3729          RX    0.00    0.00   95.50   95.50  453.50  453.50  549.00  549.00
3730          RY    3.00    1.46    0.50    0.00    0.00    0.50    1.46    3.00
              *

3731          KK  DRIS35RETRIEVE
3732          KM   Retrieve divert DRIS35 from combination point CPCB35 and divert south to
3733          KM   combination point CIS35
3734          DR  DSIS35
              *

3735          KK  RSIS35   ROUTE
3736          KM   Route diversion retrieval DRIS35 south to combination point CIS35
```



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3737          RS      3    FLOW
3738          RC   0.035   0.015   0.035    5280  0.0038    0.00
3739          RX    0.00    0.00   86.00   86.00  413.00  413.00  499.00  499.00
3740          RY    3.00    1.36    0.50    0.00    0.00    0.50    1.36    3.00
              *

3741          KK    IS35   BASIN
3742          KM   Runoff hydrograph for square mile subbasin IS35 northeast of the intersection
3743          KM   Indian School Road and 35th Avenue
3744          BA   0.990
3745          LG    0.24    0.15    7.60    0.09      31
3746          UC   1.087   0.408
3747          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
3748          UA     100
              *

3749          KK   CIS35 COMBINE
3750          KM   Combine route RWIS35, route RSIS35, and subbasin IS35
3751          HC       3    3.93
              *

3752          KK  PR35CBRETRIEVE
3753          KM   Retrieve combined full flow capacity of 253 cfs from 73-inch equivalent
3754          KM   diameter pipe at the intersection of Camelback Road and 35th Avenue
3755          DR  DP35CB
              *

3756          KK  RP35IS   ROUTE
3757          KM   Route the combined full flow capacity of 253 cfs through an equivalent storm
3758          KM   drain pipe diameter of 73 inches in 35th Avenue to the intersection of
3759          KM   35th Avenue and Indian School Road
3760          RK    2083  0.0037   0.015            CIRC   6.083
              *
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LINE          ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10


3761          KK  CPIS35 COMBINE
3762          KM   Combine pipe return PR35CB with the runoff hydrograph at combination point
3763          KM   CIS35 at the intersection of Indian School Road and 35th Avenue
3764          HC       2
              *

3765          KK   D31IS  DIVERT
3766          KM   Divert calculated full flow capapcity of 268 cfs into 72-inch storm drain
3767          KM   pipe at the intersection of Indian School Road and 31st Avenue
3768          DT  DP31IS      0.0    268.0
3769          DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
3770          DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

3771          KK   D35IS  DIVERT
3772          KM   Divert calculated full flow capapcity of 40 cfs into 36-inch storm drain
3773          KM   pipe at the intersection of Indian School Road and 35th Avenue
3774          DT  DP35IS      0.0     40.0
3775          DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
3776          DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

3777          KK  DWGR35  DIVERT
3778          KM   Divert remaining runoff hydrograph from combination point CIS35 west to
3779          KM   combination point CGR35
3780          DT  DSGC35      0.0      0.0
3781          DI      0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0 10000.0 20000.0 50000.0
3782          DQ      0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0 10000.0 20000.0 50000.0
              *

3783          KK  DIGR35RETRIEVE
3784          KM   Retrieve arterial street flow diverted to Grand Avenue at the intersection
3785          KM   of Grand Avenue and 35th Avenue
3786          DR  DEGR35
              *

3787          KK  DRGR35RETRIEVE
3788          KM   Retrieve subbasin flow diverted to the intersection of 43rd Avenue and
3789          KM   Grand Avenue
3790          DR  DSGR35
              *

3791          KK   D35GR  DIVERT
3792          KM   Divert portion of divert return DRGR35 south to subbasin GR35 using the ratio
3793          KM   of the width of the collector and local streets and the width of the arterial
3794          KM   street. The remaining flow is diverted south to combination point CICB43
3795          KM   along 43rd Avenue
3796          DT  DS43IS      0.0      0.0
3797          DI      0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0 10000.0 20000.0 50000.0
3798          DQ      0.0     36.0     72.0    180.0    360.0    720.0   1440.0  3600.0  7200.0 18000.0
              *
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LINE          ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10
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3799          KK  CIGR43 COMBINE
3800          KM   Combine arterial street flow from Grand Avenue DIGR35 with runoff hydrograph
3801          KM   D35GR at the intersection of 43rd Avenue and Grand Avenue
3802          HC       2    1.58
              *

3803          KK  RSGR35   ROUTE
3804          KM   Route hydrograph at combination point CIGR43 at the intersection of Grand
3805          KM   Avenue and 43rd Avenue south to combination point CGR35
3806          RS       5    FLOW
3807          RC   0.035   0.015   0.035    7095  0.0033    0.00
3808          RX    0.00    0.00   48.00   48.00  251.00  251.00  299.00  299.00
3809          RY    3.00    0.98    0.50    0.00    0.00    0.50    0.98    3.00
              *

3810          KK   GR35   BASIN
3811          KM   Runoff hydrograph for subbasin GR35 northwest of the intersection of Grand
3812          KM   Avenue, 35th Avenue, and Indian School Road
3813          BA   0.531
3814          LG    0.20    0.25    4.80    0.26      51
3815          UC   0.994   0.548
3816          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
3817          UA     100
              *

3818          KK   CGR35 COMBINE
3819          KM   Combine divert DWGR35, route RSGR35, and subbasin GR35
3820          HC       3    2.11
              *

3821          KK  PR39CBRETRIEVE
3822          KM   Retrieve full flow capacity of 268 cfs from 72-inch diameter pipe at the
3823          KM   intersection of Camelback Road and 39th Avenue
3824          DR  DP39CB
              *

3825          KK  RP39GR   ROUTE
3826          KM   Route the full flow capacity of 268 cfs through 72-inch storm drain pipe
3827          KM   diameter in 39th Avenue to the intersection of 39th Avenue and Indian School
3828          KM   Road
3829          RK    2846  0.0040   0.015            CIRC   6.000
              *

3830          KK  CPGR35 COMBINE
3831          KM   Combine pipe return PR39CB with the runoff hydrograph at combination point
3832          KM   CGC35 at the intersection of Grand Avenue and 35th Avenue
3833          HC       2
              *

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LINE          ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

3834          KK  DP39GR  DIVERT
3835          KM   Divert calculated full flow capapcity of 251 cfs into 72-inch storm drain
3836          KM   pipe at the intersection of Grand Avenue and 39th Avenue. The pipe flow is
3837          KM   followed to combination point CPIS43 and the remaining surface flow is
3838          KM   diverted to combination point CIIS53 at the intersection of Indian School
3839          KM   Road and 35th Avenue
3840          DT  D39GR     0.0     0.0
3841          DI     0.0   251.0   251.1 50000.0     0.0     0.0     0.0     0.0     0.0     0.0
3842          DQ     0.0     0.0     0.1 49749.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

3843          KK  RP39IS   ROUTE
3844          KM   Route the full flow capacity of 251 cfs through 72-inch storm drain pipe
3845          KM   diameter in 39th Avenue to the intersection of 39th Avenue and Indian School
3846          KM   Road
3847          RK    2428  0.0035   0.015            CIRC   6.000
              *

3848          KK  DRIS43RETRIEVE
3849          KM   Retrieve divert DRIS43 in 43rd Avenue from combination point CGR43 and divert
3850          KM   south to intersection combination point CICB43
3851          DR  DSIS43
              *

3852          KK  DI43ISRETRIEVE
3853          KM   Retrieve subbasin flow diverted to the intersection of Camelback Road and
3854          KM   43rd Avenue
3855          DR  DS43IS
              *

3856          KK  CICB43 COMBINE
3857          KM   Combine arterial street flow from 43rd Avenue DRIS43 with arterial street
3858          KM   flow DI43IS at the intersection of 43rd Avenue and Camelback Road
3859          HC       2    1.40
              *

3860          KK  RSIS43   ROUTE
3861          KM   Route hydrograph at intersection combination point CICB43 at the intersection
3862          KM   of Camelback Road and 43rd Avenue south to combination point CIS43
```



```
3863          RS       3    FLOW
3864          RC   0.035   0.015   0.035    5280  0.0048    0.00
3865          RX    0.00    0.00   16.50   16.50  107.50  107.50  124.00  124.00
3866          RY    3.00    0.66    0.50    0.00    0.00    0.50    0.66    3.00
              *

3867          KK   IS43   BASIN
3868          KM   Runoff hydrograph for subbasin IS43 northeast of the intersection of Indian
3869          KM   School Road and 43rd Avenue
3870          BA   0.467
3871          LG    0.15    0.25    4.80    0.25      80
3872          UC   0.544   0.274
3873          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
3874          UA     100
              *

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LINE          ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

3875          KK   CIS43 COMBINE
3876          KM   Combine route RSIS43 and subbasin IS43
3877          HC       2    1.87
              *

3878          KK  PR43CBRETRIEVE
3879          KM   Retrieve full flow capacity of 155 cfs from 60-inch storm drain pipe at the
3880          KM   intersection of Camelback Road and 43rd Avenue
3881          DR  DP43CB
              *

3882          KK  RP43IS   ROUTE
3883          KM   Route full flow capacity of 155 cfs through 60-inch storm drain pipe in
3884          KM   43rd Avenue to the intersection of Indian School Road and 43rd Avenue
3885          RK    5374  0.0035   0.015            CIRC   5.000
              *

3886          KK  CPIS43 COMBINE
3887          KM   Combine pipe return PR43CB with the runoff hydrograph at combination point
3888          KM   CIS43 at the intersection of Indian School Road and 43rd Avenue
3889          HC       3
              *

3890          KK   D43IS  DIVERT
3891          KM   Capacity of storm drain in 39th Avenue and 43rd Avenue diverted together.
3892          KM   Divert combined calculated full flow capacity of 251 cfs in the 72-inch storm
3893          KM   drain pipe in 39th Avenue and 154 cfs in the 60-inch storm drain pipe in
3894          KM   43rd Avenue. The total calculated combined full flow capacity diverted at the
3895          KM   intersection of 43rd Avenue and Indian School Road is 406 cfs in an
3896          KM   equivalent diameter pipe of 87 inches
3897          DT  DP43IS     0.0   406.0
3898          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
3899          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

3900          KK  DWIS51  DIVERT
3901          KM   Divert runoff hydrograph from combination point CPIS43 west to combination
3902          KM   point CIS51
3903          DT  DSGC43     0.0     0.0
3904          DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
3905          DQ     0.0    83.0   166.0   415.0   830.0  1660.0  3320.0  8300.0 16600.0 41500.0
              *

3906          KK  RWIS51   ROUTE
3907          KM   Route diversion DWIS51 west to combination point CIS51
3908          RS      10    FLOW
3909          RC   0.035   0.015   0.035    5280  0.0003    0.00
3910          RX    0.00    0.00   45.00   45.00  229.00  229.00  274.00  274.00
3911          RY    3.00    0.95    0.50    0.00    0.00    0.50    0.95    3.00
              *

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LINE          ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

3912          KK  DRIS51RETRIEVE
3913          KM   Retrieve divert DRIS51 from combination point CCB51 and divert south to
3914          KM   combination point CIS51
3915          DR  DSIS51
              *

3916          KK  RSIS51   ROUTE
3917          KM   Route diversion retrieval DRIS51 south to combination point CIS51
3918          RS       3    FLOW
3919          RC   0.035   0.015   0.035    5280  0.0037    0.00
3920          RX    0.00    0.00   38.50   38.50  210.50  210.50  249.00  249.00
3921          RY    3.00    0.88    0.50    0.00    0.00    0.50    0.88    3.00
              *

3922          KK   IS51   BASIN
3923          KM   Runoff hydrograph for square mile subbasin IS51 northeast of the intersection
3924          KM   of Indian School Road and 51st Avenue
3925          BA   0.994
```

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3926          LG    0.19    0.25    5.00    0.23      59
3927          UC   1.433   0.960
3928          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
3929          UA     100
              *

3930          KK  ERIS51  DIVERT
3931          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
3932          KM   retention developed after 1990 in subbasin IS51
3933          DT   XIS51     49.9      0.0
3934          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
3935          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

3936          KK   CIS51 COMBINE
3937          KM   Combine route RWIS51, route RSIS51, and subbasin IS51
3938          HC       3    1.94
              *

3939          KK   D51IS  DIVERT
3940          KM   Divert calculated full flow capapcity of 244 cfs into 72-inch storm drain
3941          KM   pipe at the intersection of Indian School Road and 51st Avenue
3942          DT   DP51IS      0.0     244.0
3943          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
3944          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

3945          KK  DWIS59  DIVERT
3946          KM   Divert remaining runoff hydrograph from combination point CIS51 west to
3947          KM   combination point CIS59
3948          DT  DSGC51      0.0     0.0
3949          DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
3950          DQ     0.0    62.0   124.0   310.0   620.0  1240.0  2480.0  6200.0 12400.0 31000.0
              *
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LINE          ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

3951          KK  RWIS59   ROUTE
3952          KM   Route diversion DWIS59 west to combination point CIS59
3953          RS       10     FLOW
3954          RC   0.035   0.015   0.035    5280  0.0016    0.00
3955          RX    0.00    0.00   67.00   67.00  332.00  332.00  399.00  399.00
3956          RY    3.00    1.17    0.50    0.00    0.00    0.50    1.17    3.00
              *

3957          KK  DRIS59RETRIEVE
3958          KM   Retrieve divert DRIS59 from combination point CCB59 and divert south to
3959          KM   combination point CIS59
3960          DR  DSIS59
              *

3961          KK  RSIS59   ROUTE
3962          KM   Route diversion retrieval DRIS59 south to combination point CIS59
3963          RS       4     FLOW
3964          RC   0.035   0.015   0.035    5280  0.0030    0.00
3965          RX    0.00    0.00   67.00   67.00  332.00  332.00  399.00  399.00
3966          RY    3.00    1.17    0.50    0.00    0.00    0.50    1.17    3.00
              *

3967          KK    IS59   BASIN
3968          KM   Runoff hydrograph for square mile subbasin IS59 northeast of the intersection
3969          KM   of Indian School Road and 59th Avenue
3970          BA   1.014
3971          LG    0.22    0.25    5.30    0.21      43
3972          UC   1.500   1.006
3973          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
3974          UA     100
              *

3975          KK   CIS59 COMBINE
3976          KM   Combine route RWIS59, route RSIS59, and subbasin IS59
3977          HC       3    3.38
              *

3978          KK   D59IS  DIVERT
3979          KM   Divert calculated full flow capapcity of 353 cfs into 81-inch storm drain
3980          KM   pipe at the intersection of Indian School Road and 59th Avenue
3981          DT   DP59IS      0.0     353.0
3982          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
3983          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

3984          KK  DWGC67  DIVERT
3985          KM   Divert remaining runoff hydrograph from combination point CIS59 west to
3986          KM   combination point CGC67
3987          DT  DSGC59      0.0     0.0
3988          DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
3989          DQ     0.0    60.0   120.0   300.0   600.0  1200.0  2400.0  6000.0 12000.0 30000.0
              *
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LINE          ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

3990          KK  RWGC67   ROUTE
3991          KM   Route diversion DWGC67 west to combination point CGC67
3992          RS       4     FLOW
3993          RC   0.035   0.015   0.035    3841  0.0016    0.00
3994          RX    0.00    0.00   48.00   48.00  251.00  251.00  299.00  299.00
3995          RY    3.00    0.98    0.50    0.00    0.00    0.50    0.98    3.00
              *

3996          KK  DRGC67RETRIEVE
3997          KM   Retrieve divert DRGC67 from combination point CCB67 and divert south to
3998          KM   combination point CGC67
3999          DR  DSGC67
              *

4000          KK  RSGC67   ROUTE
4001          KM   Route diversion retrieval DRGC67 south to combination point CGC67
4002          RS       5     FLOW
4003          RC   0.035   0.015   0.035    5280  0.0017    0.00
4004          RX    0.00    0.00   76.50   76.50  372.50  372.50  449.00  449.00
4005          RY    3.00    1.27    0.50    0.00    0.00    0.50    1.27    3.00
              *

4006          KK    GC67   BASIN
4007          KM   Runoff hydrograph for subbasin GC67 northeast of the intersection of the
4008          KM   Grand Canal and 67th Avenue
4009          BA   0.936
4010          LG    0.21    0.15    7.30    0.11      28
4011          UC   1.500   0.934
4012          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
4013          UA     100
              *

4014          KK   CGC67 COMBINE
4015          KM   Combine route RWGC67, route RSGC67, and subbasin GC67
4016          HC       3    4.34
              *

4017          KK   D67IS  DIVERT
4018          KM   Divert calculated full flow capapcity of 175 cfs into 66-inch storm drain
4019          KM   pipe at the intersection of Indian School Road and 67th Avenue
4020          DT   DP67IS      0.0     175.0
4021          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
4022          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

4023          KK  DWGC75  DIVERT
4024          KM   Divert remaining runoff hydrograph from combination point CGC67 west to
4025          KM   combination point CGC75
4026          DT  DSISGC      0.0     0.0
4027          DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
4028          DQ     0.0    51.0   102.0   255.0   510.0  1020.0  2040.0  5100.0 10200.0 25500.0
              *
1                                        HEC-1 INPUT                                    PAGE105

LINE          ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

4029          KK  DRGR39RETRIEVE
4030          KM   Retrieve remaining surface flow runoff hydrograph DRGR39 following pipe
4031          KM   diversion DP39GR after combination point CPGR35 at the intersection of 39th
4032          KM   Avenue and Grand Avenue
4033          DR   D39GR
              *

4034          KK   DGC35  DIVERT
4035          KM   Divert runoff hydrograph DRGR39 along Grand Avenue.  Remaining hydrograph
4036          KM   flows along 35th Avenue to the intersection of 35th Avenue and the Grand
4037          KM   Canal
4038          DT  DEGCGR      0.0     0.0
4039          DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
4040          DQ     0.0    48.0    96.0   240.0   480.0   960.0  1920.0  4800.0  9600.0 24000.0
              *

4041          KK  DRGC35RETRIEVE
4042          KM   Retrieve remaining runoff hydrograph DRGC35 coming south from combination
4043          KM   point CPIS35 at the intersection of 35th Avenue and Grand Avenue
4044          DR  DSGC35
              *

4045          KK  DS35GC  DIVERT
4046          KM   Divert runoff hydrograph DRGC35 along Grand Avenue. Remaining hydrograph
4047          KM   flows along 35th Avenue to the intersection of 35th Avenue and the Grand
4048          KM   Canal
4049          DT  DSGCGR      0.0     0.0
4050          DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
4051          DQ     0.0    25.0    50.0   125.0   250.0   500.0  1000.0  2500.0  5000.0 12500.0
              *

4052          KK  CIIS35 COMBINE
4053          KM   Combine arterial street flow from 35th Avenue DIGC35 with areterial street
```

```
4054          KM   flow from 35th Avenue DRGC35 at the intersection of 35th Avenue and Indian
4055          KM   School Road
4056          HC       2    2.06
              *

4057          KK  RSGC35   ROUTE
4058          KM   Route hydrograph at combination point CIIS35 at the intersection of Indian
4059          KM   School Road and 35th Avenue south to combination point CGC35
4060          RS       1     FLOW
4061          RC   0.035   0.015   0.035    1973  0.0033    0.00
4062          RX    0.00    0.00   16.50   16.50  107.50  107.50  124.00  124.00
4063          RY    3.00    0.66    0.50    0.00    0.00    0.50    0.66    3.00
              *

4064          KK    GC35   BASIN
4065          KM   Runoff hydrograph for subbasin GC35 northeast of the intersection of the
4066          KM   Grand Canal and 35th Avenue
4067          BA   0.077
4068          LG    0.15    0.25    4.25    0.35      80
4069          UC   0.407   0.266
4070          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
1                                      HEC-1 INPUT                                        PAGE106

LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9.....10

4071          UA     100
              *

4072          KK   CGC35 COMBINE
4073          KM   Combine route RSGC35 and subbasin GC35
4074          HC       2    2.14
              *

4075          KK  PR35ISRETRIEVE
4076          KM   Retrieve full flow capacity of 40 cfs from 36-inch diameter pipe at the
4077          KM   intersection of Indian School Road and 35th Avenue
4078          DR  DP35IS
              *

4079          KK  RP35GC   ROUTE
4080          KM   Route the full flow capacity of 40 cfs through 36-inch storm drain pipe
4081          KM   diameter in 35th Avenue to the intersection of 35th Avenue and the Grand
4082          KM   Canal
4083          RK    2327  0.0035   0.015             CIRC   3.000
              *

4084          KK  CPGC35 COMBINE
4085          KM   Combine pipe return PR35IS with the runoff hydrograph at combination point
4086          KM   CGC35 at the intersection of the Grand Canal and 35th Avenue
4087          HC       2
              *

4088          KK   D35GC  DIVERT
4089          KM   Divert calculated full flow capapcity of 40 cfs into 36-inch storm drain
4090          KM   pipe at the intersection of the Grand Canal and 35th Avenue
4091          DT  DP35GC      0.0     40.0
4092          DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
4093          DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

4094          KK  DWGC43  DIVERT
4095          KM   Divert runoff hydrograph from combination point CGC35 west to combination
4096          KM   point CGC35
4097          DT  DSTM35      0.0      0.0
4098          DI      0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0  10000.0  20000.0  50000.0
4099          DQ      0.0     85.0    170.0    425.0    850.0   1700.0   3400.0   8500.0  17000.0  42500.0
              *

4100          KK  RWGC43   ROUTE
4101          KM   Route hydrograph at combination point CGC35 at the intersection of the Grand
4102          KM   Canal and 35th Avenue west to combination point CGC43
4103          RS       6     FLOW
4104          RC   0.035   0.015   0.035    6627  0.0009    0.00
4105          RX    0.00    0.00    9.50    9.50   40.50   40.50   50.00   50.00
4106          RY    3.00    0.60    0.50    0.00    0.00    0.50    0.60    3.00
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9.....10

4107          KK  DRGC43RETRIEVE
4108          KM   Retrieve divert DRGC43 from combination point CPIS43 and divert south to
4109          KM   combination point CGC43
4110          DR  DSGC43
              *

4111          KK  RSGC43   ROUTE
4112          KM   Route diversion retrieval DRGC43 south to combination point CGC43
4113          RS       1     FLOW
4114          RC   0.035   0.015   0.035    2155  0.0038    0.00
4115          RX    0.00    0.00   57.50   57.50  291.50  291.50  349.00  349.00
4116          RY    3.00    1.08    0.50    0.00    0.00    0.50    1.08    3.00
```



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              *

4117          KK    GC43   BASIN
4118          KM   Runoff hydrograph for subbasin GC43 northeast of the intersection of the
4119          KM   Grand Canal and 43rd Avenue
4120          BA   0.370
4121          LG    0.15    0.25    6.00    0.15      80
4122          UC   0.991   0.879
4123          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
4124          UA     100
              *

4125          KK   CGC43 COMBINE
4126          KM   Combine route RWGC43, route RSGC43, and subbasin GC43
4127          HC       3    2.23
              *

4128          KK  PR43ISRETRIEVE
4129          KM   Retrieve combined full flow capacity of 406 cfs from 87-inch equivalent
4130          KM   diameter pipe at the intersection of Indian School Road and 43rd Avenue
4131          DR  DP43IS
              *

4132          KK  RP43GC   ROUTE
4133          KM   Route the combined full flow capacity of 406 cfs through an equivalent storm
4134          KM   drain pipe diameter of 87 inches in 43rd Avenue to the intersection of
4135          KM   43rd Avenue and the Grand Canal
4136          RK    2347  0.0035   0.015             CIRC   6.083
              *

4137          KK  CPGC43 COMBINE
4138          KM   Combine pipe return PR43IS with the runoff hydrograph at combination point
4139          KM   CGC43 at the intersection of the Grand Canal and 43rd Avenue
4140          HC       2
              *

4141          KK   D43GC  DIVERT
4142          KM   Capacity of storm drain in 39th Avenue and 43rd Avenue diverted together.
4143          KM   Divert combined calculated full flow capacity of 251 cfs in the 72-inch storm
4144          KM   drain pipe in 39th Avenue and 154 cfs in the 60-inch storm drain pipe in
4145          KM   43rdAvenue. The total calculated combined full flow capacity diverted at the
4146          KM   intersection of 43rd Avenue and the Grand Canal is 406 cfs in an
1                                      HEC-1 INPUT                                        PAGE108

LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9.....10

4147          KM   equivalent diameter pipe of 87 inches
4148          DT  DP43GC      0.0     406.0
4149          DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
4150          DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

4151          KK  SRGC43 STORAGE
4152          KM    Storage routing ID PA43 in Maryvale ADMS, Feb 1997 - comments from ADMS:
4153          KM    STORAGE ROUTING
4154          KM    PONDING AREA IN THE VICINITY OF 43RD AVE
4155          KM    PRELIMINARY COMPUTATIONS BY WPA 6/96
4156          KM    CAPACITY OF SURFACE FLOW NORTH OF CANAL = 200 CFS
4157          KM    DIVERSION OF FLOW UNDER THE GRAND CANAL BY AN EXISTING STORM DRAIN SYSTEM
4158          KM    ESTIMATED STORM DRAIN CAPACITY(63") = 89 CFS
4159          KM    TOP OF CANAL BANK ELEVATION = 1108
4160          KM
4161          KM    ------------------------------------------------------------------------
4162          KM    REVISED BY KHA ---> storm drain flows diverted previously. Subtracted out
4163          KM                        pipe capacity from SQ cards
4164          KM                        Confirmed capacity of surface flow on north side of bank
4165          KM
4166          KM    Storage route runoff hydrograph from divert D43GC through ponding
4167          KM     area at the Grand Canal between 35th and 43rd Avenues
4168          KM    ------------------------------------------------------------------------
4169          RS         1      STOR      -1    1104.
4170          SV                 0.01     0.10     0.64     4.77     6.79    29.76    33.00
4171          SQ                                                  200.00  200.00 2200.00
4172          SE  1104.0 1104.10 1105.00 1106.00 1106.80 1107.00 1108.00 1109.00
              *

4173          KK  DWGC51  DIVERT
4174          KM    Divert ID D43 in Maryvale ADMS, Feb 1997 - comments from ADMS:
4175          KM    FLOW DIVERSION AT 43RD AVE
4176          KM    DIVERSION TO SOUTH
4177          KM    PRELIMINARY COMPUTATIONS BY WPA 6/96
4178          KM    CAPACITY OF SURFACE FLOW NORTH OF CANAL = 200 CFS
4179          KM    DIVERSION OF FLOW SOUTH UNDER THE GRAND CANAL BY EXIST. STORM DRAIN SYSTEM
4180          KM    ESTIMATED STORM DRAIN CAPACITY(63") = 89 CFS
4181          KM    ------------------------------------------------------------------------
4182          KM    Divert runoff hydrograph from combination point CGC43 west to combination
4183          KM    point CGC51
4184          KM    ------------------------------------------------------------------------
4185          DT  DSTM43      0.0      0.0
4186          DI      0.0    200.0   2200.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
4187          DQ      0.0      0.0   2000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *
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     4188          KK  RWGC51   ROUTE
     4189          KM   Route diversion DWGC51 west to combination point CGC51
     4190          RS      10     FLOW
     4191          RC   0.035   0.015   0.035    5614  0.0005    0.00
     4192          RX    0.00    0.00   19.00   19.00   81.00   81.00  100.00  100.00
     4193          RY    3.00    0.69    0.50    0.00    0.00    0.50    0.69    3.00
                   *
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     LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


     4194          KK  DRGC51RETRIEVE
     4195          KM   Retrieve divert DRGC51 from combination point CIS51 and divert south to
     4196          KM   combination point CGC51
     4197          DR  DSGC51
                   *

     4198          KK  RSGC51   ROUTE
     4199          KM   Route diversion retrieval DRGC51 south to combination point CGC51
     4200          RS       3     FLOW
     4201          RC   0.035   0.015   0.035    2155  0.0045    0.00
     4202          RX    0.00    0.00   67.00   67.00  332.00  332.00  399.00  399.00
     4203          RY    3.00    1.17    0.50    0.00    0.00    0.50    1.17    3.00
                   *

     4204          KK    GC51   BASIN
     4205          KM   Runoff hydrograph for subbasin GC51 northeast of the intersection of the
     4206          KM   Grand Canal and 51st Avenue
     4207          BA   0.448
     4208          LG    0.24    0.25    5.00    0.24      36
     4209          UC   1.500   1.228
     4210          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
     4211          UA     100
                   *

     4212          KK   CGC51 COMBINE
     4213          KM   Combine route RWGC51, route RSGC51, and subbasin GC51
     4214          HC       3    2.04
                   *

     4215          KK  PR51ISRETRIEVE
     4216          KM   Retrieve full flow capacity of 244 cfs from 72-inch storm drain pipe at the
     4217          KM   intersection of Indian School Road and 51st Avenue
     4218          DR  DP51IS
                   *

     4219          KK  RP51ML   ROUTE
     4220          KM   Route full flow capacity of 244 cfs through 72-inch storm drain pipe in
     4221          KM   51st Avenue to the intersection of Mitchell Drive and 51st Avenue
     4222          RK    2089  0.0033   0.015             CIRC   6.000
                   *

     4223          KK  CPML51 COMBINE
     4224          KM   Combine pipe return PR51IS with the runoff hydrograph at combination point
     4225          KM   CGC51 at the intersection of the Grand Canal and 51st Avenue
     4226          HC       2
                   *

     4227          KK   DML51  DIVERT
     4228          KM   Divert calculated full flow capapcity of 136 cfs into 72-inch storm drain
     4229          KM   pipe at the intersection of Mitchell Drive and 51st Avenue
     4230          DT  DPML51     0.0   136.0
     4231          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
     4232          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
                   *
1                                       HEC-1 INPUT                                          PAGE110

     LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


     4233          KK   D51GC  DIVERT
     4234          KM   Divert calculated full flow capapcity of 113 cfs into 54-inch storm drain
     4235          KM   pipe near the intersection of the Grand Canal and 51st Avenue
     4236          DT  DP51GC     0.0   113.0
     4237          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
     4238          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
                   *

     4239          KK  SRGC51 STORAGE
     4240          KM    Storage routing ID PA47 in Maryvale ADMS, Feb 1997 - comments from ADMS:
     4241          KM    PONDING AREA IN THE VICINITY OF 47TH  AND 51ST AVE
     4242          KM
     4243          KM    PRELIMINARY COMPUTATIONS BY WPA 6/96
     4244          KM    CAPACITY OF FLOW NORTH OF CANAL = 300 CFS+(STORM DRAIN CAP)105CFS PER CVL
     4245          KM    DIVERSION OF FLOW OVER THE CANAL BANKS
     4246          KM    TOP OF CANAL BANK ELEV = 1105
     4247          KM   ==========================================================================
     4248          KM   REVISION TO MARYVALE ADMS MODEL BY KHA --> COMBINE DIVERTS AT 47TH & 51ST AVE
     4249          KM                       SUBTRACTED OUT STORM DRAIN CAPACITY FROM SQ CARDS
     4250          KM                       CONFIRMED CAPACITY OF SURFACE FLOW ON NORTH SIDE OF BANK
     4251          KM
     4252          KM   Storage route runoff hydrograph from divert D51GC through ponding
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     4253          KM     area at the Grand Canal between 43rd 51st Avenues
     4254          KM   ==========================================================================
     4255          RS       1    STOR      -1
     4256          SV            4.82   23.64   29.62   63.89   86.57
     4257          SQ           25.00  275.00  350.00 1350.00 4250.00
     4258          SE  1103.0 1104.00 1104.80 1105.00 1105.50 1106.00
                   *

     4259          KK  DWGC53  DIVERT
     4260          KM    Divert ID D47 in Maryvale ADMS, Feb 1997 - comments from ADMS:
     4261          KM    DIVERSION AT 47TH AVE
     4262          KM    PRELIMINARY COMPUTATIONS BY WPA 6/96
     4263          KM    AN EXISTING STORM DRAIN SYSTEM CONVEYS FLOW TO THE WEST ONLY
     4264          KM    CAPACITY OF FLOW NORTH OF CANAL = 300 CFS+(STORM DRAIN CAP)105CFS PER CVL
     4265          KM    DIVERSION OF FLOW OVER THE CANAL BANKS
     4266          KM   ==========================================================================
     4267          KM   REVISION TO MARYVALE ADMS MODEL BY KHA --> COMBINE DIVERTS AT 47TH & 51ST AVE
     4268          KM                       SUBTRACTED OUT STORM DRAIN CAPACITY FROM SQ CARDS
     4269          KM                       CONFIRMED CAPACITY OF SURFACE FLOW ON NORTH SIDE OF BANK
     4270          KM
     4271          KM   Divert remaining runoff hydrograph from combination point CPGC51 west to
     4272          KM   combination point CGC59
     4273          KM   ==========================================================================
     4274          DT  DSTM51     0.0     0.0
     4275          DI     0.0   300.0  2300.0  4250.0     0.0     0.0     0.0     0.0     0.0     0.0
     4276          DQ     0.0     0.1  2000.0  3950.0     0.0     0.0     0.0     0.0     0.0     0.0
                   *
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     LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


     4277          KK  RWGC53   ROUTE
     4278          KM   Route diversion DWGC53 west to combination point CGC53
     4279          RS       4     FLOW
     4280          RC   0.035   0.015   0.035    1296  0.0012    0.00
     4281          RX    0.00    0.00    9.50    9.50   40.50   40.50   50.00   50.00
     4282          RY    3.00    0.60    0.50    0.00    0.00    0.50    0.60    3.00
                   *

     4283          KK  DRGC59RETRIEVE
     4284          KM   Retrieve divert DRGC59 from combination point CIS59 and divert south to
     4285          KM   combination point CGC59
     4286          DR  DSGC59
                   *

     4287          KK  RSGC59   ROUTE
     4288          KM   Route diversion retrieval DRGC59 south to combination point CGC59
     4289          RS       2     FLOW
     4290          RC   0.035   0.015   0.035    2502  0.0025    0.00
     4291          RX    0.00    0.00   57.50   57.50  291.50  291.50  349.00  349.00
     4292          RY    3.00    1.08    0.50    0.00    0.00    0.50    1.08    3.00
                   *

     4293          KK    GC59   BASIN
     4294          KM   Runoff hydrograph for subbasin GC59 northeast of the intersection of the
     4295          KM   Grand Canal and 59th Avenue
     4296          BA   0.410
     4297          LG    0.24    0.23    6.20    0.16      42
     4298          UC   1.248   0.916
     4299          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
     4300          UA     100
                   *

     4301          KK   CGC55 COMBINE
     4302          KM   Combine route RSGC59 and subbasin GC59
     4303          HC       2    2.42
                   *

     4304          KK  DEGC53  DIVERT
     4305          KM   Divert portion of runoff hydrograph from combination point CGC55  to
     4306          KM   combination point CGC53 where it will be routed through the Maryvale Ball
     4307          KM   Park basin near the intersection of the Grand Canal and 53rd Avenue.  The
     4308          KM   remaining flow is diverted to combination point CPGC59. The diversion is
     4309          KM   based on topography
     4310          DT  DWGC59     0.0     0.0
     4311          DI     0.0   173.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0     0.0
     4312          DQ     0.0     0.0    14.0   167.0   422.0   932.0  1952.0  5012.0 10112.0     0.0
                   *

     4313          KK  PRML51RETRIEVE
     4314          KM   Retrieve full flow capacity of 136 cfs from 72-inch storm drain pipe at the
     4315          KM   intersection of Mitchell Drive and 51st Avenue
     4316          DR  DPML51
                   *
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     LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


     4317          KK  RPML53   ROUTE
     4318          KM   Route full flow capacity of 136 cfs through 72-inch storm drain pipe in
     4319          KM   Mitchell Drive to the intersection of Mitchell Drive and 53rd Avenue
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4320          RK    1084  0.0010   0.015            CIRC   6.000
              *

4321          KK   CGC53 COMBINE
4322          KM   Combine route RWGC53, route RPML53, and divert DGC53
4323          HC       3    2.27
              *

4324          KK  SRGC53 STORAGE
4325          KM   Storage route runoff hydrograph from combination point CPGC59 thru detention
4326          KM     basin at Grand Avenue near the intersection of Grand Avenue and 59th Avenue
4327          KM   Stage-storage data from Maryvale Baseball Park Grading and Drainage As-built
4328          KM     Record, 1997
4329          RS       1    STOR
4330          SV             1.90    5.90   10.00   15.20   22.20   31.70   44.60   59.50   75.60
4331          SV    93.0
4332          SQ      0.0    10.0    28.0    44.0    56.0    65.0    73.0    81.0    88.0      94
4333          SQ  1358.0
4334          SE  1094.0  1095.0  1096.0  1097.0  1098.0  1099.0  1100.0  1101.0  1102.0    1103
4335          SE  1104.0
              *

4336          KK   DGC53  DIVERT
4337          KM   Storm drain outflow from Maryvale Baseball Park basin. Divert calculated full
4338          KM   flow capapcity of 20 cfs into 36-inch storm drain pipe at the intersection of
4339          KM   the Grand Canal and 53rd Avenue
4340          DT  DPGC53      0.0     20.0
4341          DI      0.0 50000.0      0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
4342          DQ      0.0 50000.0      0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

4343          KK  PR59ISRETRIEVE
4344          KM   Retrieve full flow capacity of 353 cfs from 81-inch storm drain pipe at the
4345          KM   intersection of Indian School Road and 59th Avenue
4346          DR  DP59IS
              *

4347          KK  RP59GC   ROUTE
4348          KM   Route full flow capacity of 353 cfs through 81-inch storm drain pipe in
4349          KM   59th Avenue to the intersection of the Grand Canal and 59th Avenue
4350          RK    1243  0.0037   0.015            CIRC   6.750
              *

4351          KK  DRGC59RETRIEVE
4352          KM   Retrieve divert DRGC59 from combination point CGC55 and divert to
4353          KM   combination point CPGC59
4354          DR  DWGC59
              *

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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

4355          KK  CPGC59 COMBINE
4356          KM   Combine pipe return PR59IS with the runoff hydrograph at combination point
4357          KM   CGC59 at the intersection of the Grand Canal and 59th Avenue
4358          HC       2    1.24
              *

4359          KK   D59GC  DIVERT
4360          KM   Divert calculated full flow capapcity of 258 cfs into 72-inch storm drain
4361          KM   pipe at the intersection of the Grand Canal and 59th Avenue
4362          DT  DP59GC      0.0    258.0
4363          DI      0.0 50000.0      0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
4364          DQ      0.0 50000.0      0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

4365          KK   CGC59 COMBINE
4366          KM   Combine divert DGC53 and divert D59GC
4367          HC       2    3.50
              *

4368          KK  DWISGC  DIVERT
4369          KM    Divert ID D55 in Maryvale ADMS, Feb 1997 - comments from ADMS:
4370          KM    FLOW DIVERSION TO SOUTH
4371          KM    PRELIMINARY COMPUTATIONS BY WPA 6/96
4372          KM    CAPACITY OF SURFACE FLOW NORTH OF CANAL =  50 CFS
4373          KM    AN EXISTING STORM DRAIN SYSTEM CONVEYS FLOW TO THE WEST ONLY
4374          KM    DIVERSION OF FLOW OVER THE GRAND CANAL
4375          KM    STORM DRAIN CAPACITY WEST = 74 CFS PER CVL
4376          KM    TOP OF CANAL BANK ELEV = 1103
4377          KM    ------------------------------------------------------------------------
4378          KM   REVISION TO MARYVALE ADMS MODEL BY KHA --> COMBINE DIVERTS AT 55TH & 59TH AVE
4379          KM                          SUBTRACTED OUT STORM DRAIN CAPACITY FROM SQ CARDS
4380          KM                          CONFIRMED CAPACITY OF SURFACE FLOW ON NORTH SIDE OF BANK
4381          KM
4382          KM   Divert remaining runoff hydrograph from combination point CPGC59 west to
4383          KM   combination point CISGC
4384          KM    ------------------------------------------------------------------------
4385          DT  DSTM59      0.0     0.0
4386          DI      0.0     50.0    555.0  2689.0     0.0     0.0     0.0     0.0     0.0     0.0
4387          DQ      0.0      0.2    505.0  1030.0     0.0     0.0     0.0     0.0     0.0     0.0
              *
```



```
4388          KK  RWISGC   ROUTE
4389          KM   Route diversion DWISGC west to combination point CISGC
4390          RS       3    FLOW
4391          RC   0.035   0.015   0.035    4300  0.0009    0.00
4392          RX    0.00    0.00    9.50    9.50   40.50   40.50   50.00   50.00
4393          RY    3.00    0.60    0.50    0.00    0.00    0.50    0.60    3.00
              *

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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

4394          KK  DRISGCRETRIEVE
4395          KM   Retrieve divert DRISGC from combination point CGC67 and divert south to
4396          KM   combination point CISGC
4397          DR  DSISGC
              *

4398          KK  RSISGC   ROUTE
4399          KM   Route diversion retrieval DRISGC south to combination point CISGC
4400          RS       1    FLOW
4401          RC   0.035   0.015   0.035    1231  0.0022    0.00
4402          RX    0.00    0.00   31.50   31.50  143.50  143.50  175.00  175.00
4403          RY    3.00    0.82    0.50    0.00    0.00    0.50    0.82    3.00
              *

4404          KK    ISGC   BASIN
4405          KM   Runoff hydrograph for subbasin ISGC southeast of the intersection of Indian
4406          KM   School Road and the Grand Canal
4407          BA   0.159
4408          LG    0.25    0.15    7.00    0.11      32
4409          UC   1.500   1.708
4410          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
4411          UA     100
              *

4412          KK   CISGC COMBINE
4413          KM   Combine route RWISGC, route RSISGC, and subbasin ISGC
4414          HC       3    3.33
              *

4415          KK  PR59GCRETRIEVE
4416          KM   Retrieve full flow capacity of 258 cfs from 72-inch storm drain pipe at the
4417          KM   intersection of the Grand Canal and 59th Avenue
4418          DR  DP59GC
              *

4419          KK  CPISGC COMBINE
4420          KM   Combine pipe return PR59GC with the runoff hydrograph at combination point
4421          KM   CISGC at the intersection of Indian School Road and the Grand Canal
4422          HC       2
              *

4423          KK   DGC63  DIVERT
4424          KM   Divert calculated full flow capapcity of 258 cfs into 72-inch storm drain
4425          KM   pipe at the intersection of the Grand Canal and 63rd Avenue
4426          DT  DPGC63      0.0    258.0
4427          DI      0.0 50000.0      0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
4428          DQ      0.0 50000.0      0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

4429          KK  SRISGC STORAGE
4430          KM   Storage route runoff hydrograph from combination point CPISGC through
4431          KM     regional detention basin located near the intersection of the Grand Canal
4432          KM     and Indian School Road (Sunset Basin).
4433          KM   Stage-storage data from Bethany Home Outfall Channel TDN for CLOMR, Jan 2003
4434          KM   Discharge data for 96-in outlet pipe under construction Dec 2009
4435          RS       1    STOR
4436          SV             1.52    4.61   12.85   22.46   33.32   45.48   48.72   52.06
4437          SQ             3.00   12.00   46.00   83.00   91.00  593.00 1600.00 3421.00
4438          SE    85.00   86.00   87.00   89.00   91.00   93.00   95.00   95.50   96.00
              *

4439          KK  DPGC67  DIVERT
4440          KM   Divert excess flow that overtops the subbasin to the south.  The calculated
4441          KM   full flow capapcity in the 96-inch storm drain pipe leaving the basin is
4442          KM   is diverted north to combination point CGC75
4443          DT  DSTM67      0.0     0.0
4444          DI      0.0     3.0    12.0    46.0    83.0    91.0   593.0  1600.0  3421.0     0.0
4445          DQ      0.0     0.0     0.0     0.0     0.0     0.0     0.0   983.0  2781.0     0.0
              *

4446          KK  DRGC75RETRIEVE
4447          KM   Retrieve divert DRGC75 from combination point CCB75 and divert south to
4448          KM   combination point CGC75
4449          DR  DSGC75
              *
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4450          KK    GC75   BASIN
4451          KM   Runoff hydrograph for subbasin GC75 southeast of the intersection of the
4452          KM   Grand Canal and 75th Avenue
4453          BA   0.410
4454          LG    0.24    0.15    8.00    0.07      33
4455          UC   1.500   1.585
4456          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
4457          UA     100
              *


4458          KK   CGC75 COMBINE
4459          KM   Combine divert DWGC75, pipe diversion DPGC67, divert retrieval DRGC75, and
4460          KM   subbasin GC75
4461          HC       4    9.44
              *


4462          KK  SRGC75 STORAGE
4463          KM   Storage route runoff hydrograph from combination point CGC75 through regional
4464          KM     detention basin along the Grand Canal between 67th and 75th Avenues
4465          KM   Vol/Elev data taken from DMJM HEC-1 revision (model BHGC00C6, Nov 2004)
4466          KM     confirmd by comparing with Bethany Home Outfall Channel Reach B As-builts
4467          KM   Discharge data calculated from discharge channel in As-builts (Bethany Home
4468          KM     Outfall Channel Reach C - 83rd Ave to 73rd Ave, June 2007)
4469          KM     Rect concrete channel, width = 14 ft, slope = 0.000992 ft/ft
4470          RS       1    STOR
4471          SV            0.00    0.00    0.07    0.73    2.73    6.42   12.25   20.32   29.62
4472          SV  40.248  52.049  65.081  79.346  94.800  103.1   111.4
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

4473          SQ     0.0     0.0     0.0    36.0   120.0   230.0   356.0   493.0   639.0     790
4474          SQ   947.0  1107.0  1270.0  1436.0  1604.0  1689.0  1774.0
4475          SE  1074.7  1078.0  1081.0  1083.0  1084.0  1085.0  1086.0  1087.0  1088.0    1089
4476          SE  1090.0  1091.0  1092.0  1093.0  1094.0  1094.5  1095.0
              *


4477          KK  CICB75 COMBINE
4478          KM   Combine runoff hydrograph DWGC83 with runoff hydrograph from combination
4479          KM   point CGC75 at the intersection of Camelback Road and 75th Avenue
4480          HC       2   14.03
              *


4481          KK  RWGC83   ROUTE
4482          KM   Route hydrograph at combination point CICB75 at the intersection of Camelback
4483          KM   Road and 75th Avenue west to combination point CGC83
4484          RS       2    FLOW
4485          RC   0.035   0.015   0.035    6563  0.0010    0.00
4486          RX    0.00    3.00   13.00   13.00   31.00   31.00   41.00   44.00
4487          RY   10.00    9.00    9.00    0.00    0.00    9.00    9.00   10.00
              *


4488          KK  DRGC83RETRIEVE
4489          KM   Retrieve divert DRGC83 from combination point CBH83 and divert south to
4490          KM   combination point CGC83
4491          DR  DSGC83
              *


4492          KK    GC83   BASIN
4493          KM   Runoff hydrograph for subbasin GC83 southeast of the intersection of the
4494          KM   Grand Canal and 83rd Avenue
4495          BA   0.426
4496          LG    0.23    0.15    8.40    0.07      30
4497          UC   1.500   1.722
4498          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
4499          UA     100
              *


4500          KK  ERGC83  DIVERT
4501          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
4502          KM   retention developed after 1990 in subbasin GC83
4503          DT   XGC83     31.2      0.0
4504          DI       0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
4505          DQ       0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *


4506          KK   CGC83 COMBINE
4507          KM   Combine route RWGC83, divert retrieval DRGC83, and subbasin GC83
4508          HC       3   17.67
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


4509          KK  CIBH83 COMBINE
4510          KM   Combine runoff hydrograph DWBH91 with runoff hydrograph from combination
4511          KM   point CGC83 at the intersection of 83rd Avenue and Bethany Home Road
4512          HC       2   23.92
              *


4513          KK  RWBH91   ROUTE
4514          KM   Route hydrograph at combination point CIBH83 at the intersection of Bethany
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4515          KM   Home Road and 91st Avenue west to combination point CBH91
4516          RS       3    FLOW
4517          RC   0.035   0.015   0.035    6508  0.0008    0.00
4518          RX    0.00    4.00   18.00   66.00  126.00  162.00  172.00  176.00
4519          RY   13.14   12.14   12.00    0.00    0.60    9.15    9.25   10.25
              *


4520          KK  DRBH91RETRIEVE
4521          KM   Retrieve divert DRBH91 from combination point CPGL91 and divert south to
4522          KM   combination point CBH91
4523          DR  DSBH91
              *


4524          KK  RSBH91   ROUTE
4525          KM   Route diversion retrieval DRBH91 south to combination point CBH91
4526          RS       3    FLOW
4527          RC   0.035   0.015   0.035    5280  0.0019    0.00
4528          RX    0.00    0.00   37.50   37.50  210.50  210.50  248.00  248.00
4529          RY    3.00    0.88    0.50    0.00    0.00    0.50    0.88    3.00
              *


4530          KK    BH91   BASIN
4531          KM   Runoff hydrograph for square mile subbasin BH91 northeast of the intersection
4532          KM   of Bethany Home Road and 91st Avenue
4533          BA   1.032
4534          LG    0.23    0.15    7.60    0.09      28
4535          UC   1.500   1.032
4536          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
4537          UA     100
              *


4538          KK  ERBH91  DIVERT
4539          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
4540          KM   retention developed after 1990 in subbasin BH91
4541          DT   XBH91     17.3      0.0
4542          DI       0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
4543          DQ       0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *


4544          KK   CBH91 COMBINE
4545          KM   Combine route RWBH91, route RSBH91, and subbasin BH91
4546          HC       3   30.54
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


4547          KK  RWBHLO   ROUTE
4548          KM   Route hydrograph at combination point CBH91 west to combination point CBHLO
4549          RS       1    FLOW
4550          RC   0.035   0.015   0.035    4110  0.0011    0.00
4551          RX    0.00    4.00   18.00   46.50  135.50  153.40  167.40  171.40
4552          RY    8.26    7.26    7.12    0.00    0.85    5.32    5.46    6.46
              *


4553          KK    BHLO   BASIN
4554          KM   Runoff hydrograph for subbasin BHLO northeast of the intersection of Bethany
4555          KM   Home Road and SR Loop 101
4556          BA   0.788
4557          LG    0.10    0.15    7.30    0.09      81
4558          UC   0.903   0.592
4559          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
4560          UA     100
              *


4561          KK  ERBHLO  DIVERT
4562          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
4563          KM   retention developed after 1990 in subbasin BHLO
4564          DT   XBHLO     41.5      0.0
4565          DI       0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
4566          DQ       0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *


4567          KK   CBHLO COMBINE
4568          KM   Combine route RWBHLO, route RSBHLO, and subbasin BHLO
4569          HC       3   46.47
              *


4570          KK  RWBH99   ROUTE
4571          KM   Route hydrograph at combination point CBHLO west to combination point CBH99
4572          RS       1    FLOW
4573          RC   0.035   0.015   0.035    1075  0.0011    0.00
4574          RX    0.00    4.00   18.00   46.50  135.50  153.40  167.40  171.40
4575          RY    8.26    7.26    7.12    0.00    0.85    5.32    5.46    6.46
              *


4576          KK    BH99   BASIN
4577          KM   Runoff hydrograph for subbasin BH99 northeast of the intersection of Bethany
4578          KM   Home Road and 99th Avenue
4579          BA   0.184
4580          LG    0.10    0.19    6.60    0.12      78
4581          UC   1.403   1.526
```

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4582          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
4583          UA     100
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


4584          KK   CBH99 COMBINE
4585          KM   Combine route RWBH99 and subbasin BH99
4586          HC       2   46.65
              *

4587          KK  RWBHRI   ROUTE
4588          KM   Route hydrograph at combination point CBH99 west to combination point CGLNR
4589          RS       1    FLOW
4590          RC  0.035   0.015   0.035    2392  0.0010    0.00
4591          RX   0.00    4.00   18.00   46.50  135.50  153.40  167.40  171.40
4592          RY   8.26    7.26    7.12    0.00    0.85    5.32    5.46    6.46
              *

4593          KK    GLNR   BASIN
4594          KM   Runoff hydrograph for subbasin GLNR north of Glendale Avenue and east of New
4595          KM   River
4596          BA   0.483
4597          LG    0.10    0.21    6.40    0.13      76
4598          UC   1.500   1.444
4599          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
4600          UA     100
              *

4601          KK  ERGLNR  DIVERT
4602          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
4603          KM   retention developed after 1990 in subbasin GLNR
4604          DT   XGLNR    31.6     0.0
4605          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
4606          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

4607          KK  DSBHRI  DIVERT
4608          KM   Divert portion of runoff hydrograph from subbasin GLNR south to the
4609          KM   intersection of Bethany Home Road and the Roosevelt Irrigation District canal
4610          KM   and the remaining flow west to New River. The diversion is based on
4611          KM   topography
4612          KM   Divert remaining runoff hydrograph from subbasin GLNR south to combination
4613          KM   point CBHRI
4614          DT  DWNR04     0.0     0.0
4615          DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
4616          DQ     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
              *

4617          KK  RSBHRI   ROUTE
4618          KM   Route subbasin diversion DSBHRI south to combination point CBHRI
4619          RS       1    FLOW
4620          RC  0.035   0.015   0.035    5280  0.0015    0.00
4621          RX   0.00    0.00    7.00    7.00   43.00   43.00   50.00   50.00
4622          RY   3.00    0.57    0.50    0.00    0.00    0.50    0.57    3.00
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


4623          KK    BHRI   BASIN
4624          KM   Runoff hydrograph for subbasin BHRI north of Bethany Home Road and east of
4625          KM   the Roosevelt Irrigation District canal
4626          BA   0.512
4627          LG    0.10    0.24    6.20    0.14      77
4628          UC   1.497   1.103
4629          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
4630          UA     100
              *

4631          KK  ERBHRI  DIVERT
4632          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
4633          KM   retention developed after 1990 and NOAA14 rainfall for future retention in
4634          KM   subbasin BHRI
4635          DT   XBHRI    45.9     0.0
4636          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
4637          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

4638          KK   DBHNR  DIVERT
4639          KM   Divert portion of runoff hydrograph from subbasin BHRI west to the
4640          KM   intersection of Bethany Home Road and New River and the remaining flow
4641          KM   west to New River. The diversion is based on topography
4642          DT  DWBHAF     0.0     0.0
4643          DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
4644          DQ     0.0    79.0   158.0   395.0   790.0  1580.0  3160.0  7900.0 15800.0 39500.0
              *

4645          KK   CBHRI COMBINE
4646          KM   Combine route RWBHRI, route RSBHRI, and and divert DBHNR
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4647          HC       3   47.17
              *

4648          KK  RWBHNR   ROUTE
4649          KM   Route remaining hydrograph at combination point CBHRI west to combination
4650          KM   point CBHNR
4651          RS       1    FLOW
4652          RC  0.035   0.015   0.035    3231  0.0010    0.00
4653          RX   0.00    4.00   18.00   46.50  135.50  153.40  167.40  171.40
4654          RY   8.26    7.26    7.12    0.00    0.85    5.32    5.46    6.46
              *

4655          KK    BHNR   BASIN
4656          KM   Runoff hydrograph for subbasin BHNR north of Bethany Home Road and east of
4657          KM   New River
4658          BA   0.258
4659          LG    0.10    0.25    6.20    0.14      71
4660          UC   1.252   0.817
4661          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
4662          UA     100
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


4663          KK  ERBHNR  DIVERT
4664          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
4665          KM   retention developed after 1990 and NOAA14 rainfall for future retention in
4666          KM   subbasin BHNR
4667          DT   XBHNR    21.3     0.0
4668          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
4669          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

4670          KK   CBHNR COMBINE
4671          KM   Combine route RWBHNR and subbasin BHNR
4672          HC       2   47.42
              *

4673          KK    CB99   BASIN
4674          KM   Runoff hydrograph for subbasin CB99 northeast of the intersection of
4675          KM   Camelback Road and 99th Avenue
4676          BA   0.201
4677          LG    0.10    0.15    7.30    0.09      79
4678          UC   1.179   1.265
4679          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
4680          UA     100
              *

4681          KK  ERCB99  DIVERT
4682          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
4683          KM   retention developed after 1990 in subbasin CB99
4684          DT   XCB99    15.0     0.0
4685          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
4686          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

4687          KK  DWCBRI  DIVERT
4688          KM   Divert remaining runoff hydrograph from subbasin CB99 west to combination
4689          KM   point CCBRI
4690          DT  DSIS99     0.0     0.0
4691          DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
4692          DQ     0.0    49.0    98.0   245.0   490.0   980.0  1960.0  4900.0  9800.0 24500.0
              *

4693          KK  RWCBRI   ROUTE
4694          KM   Route diversion DWCBRI west to combination point CCBRI
4695          RS       8    FLOW
4696          RC  0.035   0.015   0.035    3883  0.0021    0.00
4697          RX   0.00    0.00   16.50   16.50  107.50  107.50  124.00  124.00
4698          RY   3.00    0.66    0.50    0.00    0.00    0.50    0.66    3.00
              *

4699          KK    CBRI   BASIN
4700          KM   Runoff hydrograph for subbasin CBRI north of Camelback Road and east of the
4701          KM   Roosevelt Irrigation District canal
4702          BA   0.698
4703          LG    0.24    0.15    7.00    0.10      36
4704          UC   1.500   1.250
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4705          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
4706          UA     100
              *

4707          KK  ERCBRI  DIVERT
4708          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
4709          KM   retention developed after 1990 in subbasin CBRI
4710          DT   XCBRI    64.0     0.0
4711          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
```

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4712          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

4713          KK   CCBRI COMBINE
4714          KM   Combine route RWCBRI and subbasin CBRI
4715          HC       2    0.80
              *

4716          KK  DWCB07  DIVERT
4717          KM   Divert runoff hydrograph from combination point CCBRI west to combination
4718          KM   point CCB07
4719          DT  DSIS07      0.0     0.0
4720          DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
4721          DQ     0.0    69.0   138.0   345.0   690.0  1380.0  2760.0  6900.0 13800.0 34500.0
              *

4722          KK    CB07   BASIN
4723          KM   Runoff hydrograph for subbasin CB07 northeast of the intersection of
4724          KM   Camelback Road and 107th Avenue
4725          BA   0.317
4726          LG    0.29    0.26    6.00    0.21       6
4727          UC   1.500   1.108
4728          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
4729          UA     100
              *

4730          KK   CCB07 COMBINE
4731          KM   Combine divert DWCB07 and subbasin CB07
4732          HC       2    0.56
              *

4733          KK  DWCBNR  DIVERT
4734          KM   Divert runoff hydrograph from combination point CCB07 west to combination
4735          KM   point CCBNR
4736          DT   DIS07      0.0     0.0
4737          DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
4738          DQ     0.0    69.0   138.0   345.0   690.0  1380.0  2760.0  6900.0 13800.0 34500.0
              *

4739          KK  RWCBNR   ROUTE
4740          KM   Route diversion DWCBNR west to combination point CCBNR
4741          RS       9    FLOW
4742          RC   0.035   0.015   0.035    3883  0.0010     0.00
4743          RX    0.00    0.00   16.50   16.50  107.50  107.50  124.00  124.00
4744          RY    3.00    0.66    0.50    0.00    0.00    0.50    0.66    3.00
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

4745          KK    CBNR   BASIN
4746          KM   Runoff hydrograph for subbasin CBNR north of Camelback Road and east of New
4747          KM   River
4748          BA   0.466
4749          LG    0.13    0.28    5.80    0.24       5
4750          UC   1.500   1.384
4751          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
4752          UA     100
              *

4753          KK  ERCBNR  DIVERT
4754          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
4755          KM   retention developed after 1990 and NOAA14 rainfall for future retention in
4756          KM   subbasin CBNR
4757          DT   XCBNR     3.7     0.0
4758          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
4759          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

4760          KK   CCBNR COMBINE
4761          KM   Combine route RWCBNR and subbasin CBNR
4762          HC       2    0.64
              *

4763          KK  DRIS99RETRIEVE
4764          KM   Retrieve divert DRIS99 from subbasin CB99 and divert south to
4765          KM   combination point CIS99
4766          DR  DSIS99
              *

4767          KK  RSIS99   ROUTE
4768          KM   Route diversion retrieval DRIS99 south to combination point CIS99
4769          RS      10    FLOW
4770          RC   0.035   0.015   0.035    5280  0.0020     0.00
4771          RX    0.00    0.00   16.50   16.50  107.50  107.50  124.00  124.00
4772          RY    3.00    0.66    0.50    0.00    0.00    0.50    0.66    3.00
              *

4773          KK    IS99   BASIN
4774          KM   Runoff hydrograph for subbasin IS99 northeast of the intersection of Indian
4775          KM   School Road and 99th Avenue
4776          BA   0.323
```



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4777          LG    0.10    0.15    9.70    0.04      80
4778          UC   0.788   0.626
4779          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
4780          UA     100
              *

4781          KK   CIS99 COMBINE
4782          KM   Combine route RSIS99 and subbasin IS99
4783          HC       2    0.42
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

4784          KK  DWIS07  DIVERT
4785          KM   Divert runoff hydrograph from combination point CIS99 west to combination
4786          KM   point CIS07
4787          DT  DSTM99      0.0     0.0
4788          DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
4789          DQ     0.0    26.0    52.0   130.0   260.0   520.0  1040.0  2600.0  5200.0 13000.0
              *

4790          KK  RWIS07   ROUTE
4791          KM   Route diversion DWIS07 west to combination point CIS07
4792          RS       5    FLOW
4793          RC   0.035   0.015   0.035    5280  0.0022     0.00
4794          RX    0.00    0.00   35.50   35.50  188.50  188.50  224.00  224.00
4795          RY    3.00    0.86    0.50    0.00    0.00    0.50    0.86    3.00
              *

4796          KK  DI07ISRETRIEVE
4797          KM   Retrieve arterial street flow diverted to 107th Avenue at the intersection
4798          KM   of 107th Avenue and Camelback Road
4799          DR   DIS07
              *

4800          KK  DRIS07RETRIEVE
4801          KM   Retrieve divert DRIS07 from combination point CCBRI and divert south to
4802          KM   combination point CICB07
4803          DR  DSIS07
              *

4804          KK  CICB07 COMBINE
4805          KM   Combine arterial street flow from 107th Avenue DI07IS with runoff hydrograph
4806          KM   DSIS07 at the intersection of 107th Avenue and Camelback Road
4807          HC       2    0.94
              *

4808          KK  RSIS07   ROUTE
4809          KM   Route hydrograph at combination point CICB07 at the intersection of Camelback
4810          KM   Road and 107th Avenue south to combination point CIS07
4811          RS       7    FLOW
4812          RC   0.035   0.015   0.035    5280  0.0026     0.00
4813          RX    0.00    0.00   26.00   26.00  148.00  148.00  174.00  174.00
4814          RY    3.00    0.76    0.50    0.00    0.00    0.50    0.76    3.00
              *

4815          KK    IS07   BASIN
4816          KM   Runoff hydrograph for square mile subbasin IS07 northeast of the intersection
4817          KM   of Indian Schhol Road and 107th Avenue
4818          BA   1.021
4819          LG    0.21    0.15    8.00    0.08      32
4820          UC   1.500   1.010
4821          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
4822          UA     100
              *
1                                    HEC-1 INPUT                                    PAGE125

LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

4823          KK  ERIS07  DIVERT
4824          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
4825          KM   retention developed after 1990 in subbasin IS07
4826          DT   XIS07    17.4     0.0
4827          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
4828          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

4829          KK   CIS07 COMBINE
4830          KM   Combine route RWIS07, route RSIS07 and subbasin IS07
4831          HC       3    2.28
              *

4832          KK  DWISAF  DIVERT
4833          KM   Divert runoff hydrograph from combination point CIS07 west to combination
4834          KM   point CISAF
4835          DT  DSRI07      0.0     0.0
4836          DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
4837          DQ     0.0    25.0    50.0   125.0   250.0   500.0  1000.0  2500.0  5000.0 12500.0
              *
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4838          KK  RWISAF   ROUTE
4839          KM   Route diversion DWISAF west to combination point CISAF
4840          RS       7    FLOW
4841          RC   0.035   0.015   0.035    6868  0.0013    0.00
4842          RX    0.00    0.00   67.00   67.00  332.00  332.00  399.00  399.00
4843          RY    3.00    1.17    0.50    0.00    0.00    0.50    1.17    3.00
              *
4844          KK    ISAF   BASIN
4845          KM   Runoff hydrograph for subbasin ISAF north of Indian School Road and east of
4846          KM   the Agua Fria River
4847          BA   0.989
4848          LG    0.22    0.25    4.80    0.25      47
4849          UC   1.500   1.137
4850          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
4851          UA     100
              *
4852          KK   CISAF COMBINE
4853          KM   Combine route RWISAF and subbasin ISAF
4854          HC       2    2.69
              *
4855          KK  DRTM99RETRIEVE
4856          KM   Retrieve divert DRTM99 from combination point CIS99 and divert south to
4857          KM   combination point CTM99
4858          DR  DSTM99
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

4859          KK  RSTM99   ROUTE
4860          KM   Route diversion retrieval DRTM99 south to combination point CTM99
4861          RS       8    FLOW
4862          RC   0.035   0.015   0.035    5280  0.0009    0.00
4863          RX    0.00    0.00   16.50   16.50  107.50  107.50  124.00  124.00
4864          RY    3.00    0.66    0.50    0.00    0.00    0.50    0.66    3.00
              *
4865          KK    TM99   BASIN
4866          KM   Runoff hydrograph for subbasin TM99 northeast of the intersection of Thomas
4867          KM   Road and 99th Avenue
4868          BA   0.505
4869          LG    0.10    0.15    8.80    0.05      80
4870          UC   0.971   0.731
4871          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
4872          UA     100
              *
4873          KK   CTM99 COMBINE
4874          KM   Combine route RSTM99 and subbasin TM99
4875          HC       2    0.62
              *
4876          KK  DWRI07  DIVERT
4877          KM   Divert runoff hydrograph from combination point CTM99 west to combination
4878          KM   point CRI07
4879          DT  DSMD99      0.0     0.0
4880          DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
4881          DQ     0.0    46.0    92.0   230.0   460.0   920.0  1840.0  4600.0  9200.0 23000.0
              *
4882          KK  RWRI07   ROUTE
4883          KM   Route diversion DWRI07 west to combination point CRI07
4884          RS       7    FLOW
4885          RC   0.035   0.015   0.035    5402  0.0013    0.00
4886          RX    0.00    0.00   16.50   16.50  107.50  107.50  124.00  124.00
4887          RY    3.00    0.66    0.50    0.00    0.00    0.50    0.66    3.00
              *
4888          KK  DRRI07RETRIEVE
4889          KM   Retrieve divert DRRI07 from combination point CIS07 and divert south to
4890          KM   combination point CRI07
4891          DR  DSRI07
              *
4892          KK  RSRI07   ROUTE
4893          KM   Route diversion retrieval DRRI07 south to combination point CRI07
4894          RS       3    FLOW
4895          RC   0.035   0.015   0.035    2640  0.0008    0.00
4896          RX    0.00    0.00   26.00   26.00  148.00  148.00  174.00  174.00
4897          RY    3.00    0.76    0.50    0.00    0.00    0.50    0.76    3.00
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

4898          KK    RI07   BASIN
4899          KM   Runoff hydrograph for subbasin RI07 northeast of the intersection of the
4900          KM   Roosevelt Irrigation District Canal and 107th Avenue
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4901          BA   0.759
4902          LG    0.17    0.15    8.80    0.05      58
4903          UC   1.471   0.929
4904          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
4905          UA     100
              *
4906          KK  ERRI07  DIVERT
4907          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
4908          KM   retention developed after 1990 in subbasin RI07
4909          DT   XRI07     65.5      0.0
4910          DI       0.0 50000.0      0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
4911          DQ       0.0 50000.0      0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *
4912          KK   CRI07 COMBINE
4913          KM   Combine route RWRI07, route RSRI07 and subbasin RI07
4914          HC       3    1.67
              *
4915          KK   DRIAF  DIVERT
4916          KM   Divert portion of runoff hydrograph from combination point CRIAF south to the
4917          KM   intersection of Thomas Road and 107th Avenue and the remaining flow
4918          KM   west to the intersection of the Roosevelt Irrigation District canal and the
4919          KM   Agua Fria River. The diversion is based on topography
4920          DT   DTM07      0.0     0.0
4921          DI       0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
4922          DQ       0.0    49.0    98.0   245.0   490.0   980.0  1960.0  4900.0  9800.0 24500.0
              *
4923          KK  DWRIAF  DIVERT
4924          KM   Divert runoff hydrograph from combination point CRI07 west to combination
4925          KM   point CRIAF
4926          DT  DSTM07      0.0     0.0
4927          DI       0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
4928          DQ       0.0    62.0   124.0   310.0   620.0  1240.0  2480.0  6200.0 12400.0 31000.0
              *
4929          KK  RWRIAF   ROUTE
4930          KM   Route diversion DWRIAF west to combination point CRIAF
4931          RS      10    FLOW
4932          RC   0.035   0.015   0.035    10904  0.0007    0.00
4933          RX    0.00    0.00   22.00   22.00  103.00  103.00  125.00  125.00
4934          RY    3.00    0.72    0.50    0.00    0.00    0.50    0.72    3.00
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

4935          KK    RIAF   BASIN
4936          KM   Runoff hydrograph for subbasin RIAF north of the Roosevelt Irrigation
4937          KM   District Canal and east of the Agua Fria River
4938          BA   0.659
4939          LG    0.22    0.18    6.60    0.13      41
4940          UC   1.500   1.317
4941          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
4942          UA     100
              *
4943          KK   CRIAF COMBINE
4944          KM   Combine route RWRIAF and subbasin RIAF
4945          HC       2    0.98
              *
4946          KK  DRBHAFRETRIEVE
4947          DR  DWBHAF
              *
4948          KK  SRBHRI STORAGE
4949          KM   Storage route runoff hydrograph from combination point CRIAF through ponding
4950          KM    area at the Roosevelt Irrigation District Canal and the Agua Fria River
4951          KM   Stage-storage-discharge data from Maryvale ADMS, Feb 1997
4952          RS       1    STOR
4953          SV            15.00   34.70   63.80  107.60
4954          SQ             0.10    0.20 4536.0013441.00
4955          SE  1050.0 1052.00 1053.00 1054.00 1055.00
              *
4956          KK   CAF01 COMBINE
4957          KM   Combine combination point CCBNR, combination point CISAF, and combination
4958          KM   point CRIAF
4959          HC       5    4.31
              *
4960          KK    CB83   BASIN
4961          KM   Runoff hydrograph for subbasin CB83 northeast of the intersection of
4962          KM   Camelback Road and 83rd Avenue
4963          BA   0.554
4964          LG    0.27    0.15    8.00    0.08      20
4965          UC   1.187   0.636
4966          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
4967          UA     100
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      4968             KK  ERCB83  DIVERT
      4969             KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
      4970             KM   retention developed after 1990 in subbasin CB83
      4971             DT   XCB83    18.0     0.0
      4972             DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
      4973             DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
                       *
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      LINE             ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


      4974             KK   D83CB  DIVERT
      4975             KM   Divert calculated full flow capapcity of 10 cfs into 24-inch storm drain
      4976             KM   pipe at the intersection of Camelback Road and 83rd Avenue
      4977             DT  DP83CB     0.0    10.0
      4978             DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
      4979             DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
                       *

      4980             KK  DWCB91  DIVERT
      4981             KM   Divert remaining runoff hydrograph from subbasin CB83 west to combination
      4982             KM   point CCB91
      4983             DT  DSIS83     0.0     0.0
      4984             DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
      4985             DQ     0.0    44.0    88.0   220.0   440.0   880.0  1760.0  4400.0  8800.0 22000.0
                       *

      4986             KK  RWCB91   ROUTE
      4987             KM   Route diversion DWCB91 west to combination point CCB91
      4988             RS       7    FLOW
      4989             RC   0.035   0.015   0.035    5280  0.0036    0.00
      4990             RX    0.00    0.00   57.50   57.50  291.50  291.50  349.00  349.00
      4991             RY    3.00    1.08    0.50    0.00    0.00    0.50    1.08    3.00
                       *

      4992             KK    CB91   BASIN
      4993             KM   Runoff hydrograph for square mile subbasin CB91 northeast of the intersection
      4994             KM   of Camelback Road and 91st Avenue
      4995             BA   0.961
      4996             LG    0.25    0.15    8.80    0.06      28
      4997             UC   1.500   1.013
      4998             UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
      4999             UA     100
                       *

      5000             KK  ERCB91  DIVERT
      5001             KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
      5002             KM   retention developed after 1990 in subbasin CB91
      5003             DT   XCB91    66.1     0.0
      5004             DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
      5005             DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
                       *

      5006             KK   CCB91 COMBINE
      5007             KM   Combine route RWCB91 and subbasin CB91
      5008             HC       2    1.32
                       *

      5009             KK  DWCBLO  DIVERT
      5010             KM   Divert remaining runoff hydrograph from combination point CCB91 west to
      5011             KM   combination point CCBLO
      5012             DT  DSIS91     0.0     0.0
      5013             DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
      5014             DQ     0.0    47.0    94.0   235.0   470.0   940.0  1880.0  4700.0  9400.0 23500.0
                       *
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      LINE             ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


      5015             KK  RWCBLO   ROUTE
      5016             KM   Route diversion DWCBLO west to combination point CCBLO
      5017             RS       6    FLOW
      5018             RC   0.035   0.015   0.035    4287  0.0028    0.00
      5019             RX    0.00    0.00   48.00   48.00  251.00  251.00  299.00  299.00
      5020             RY    3.00    0.98    0.50    0.00    0.00    0.50    0.98    3.00
                       *

      5021             KK    CBLO   BASIN
      5022             KM   Runoff hydrograph for subbasin CBLO northeast of the intersection of
      5023             KM   Camelback Road and SR Loop 101
      5024             BA   0.818
      5025             LG    0.18    0.15    8.80    0.06      53
      5026             UC   1.360   0.942
      5027             UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
      5028             UA     100
                       *

      5029             KK  ERCBLO  DIVERT
      5030             KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
```



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      5031             KM   retention developed after 1990 in subbasin CBLO
      5032             DT   XCBLO    55.1     0.0
      5033             DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
      5034             DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
                       *

      5035             KK   CCBLO COMBINE
      5036             KM   Combine route RWCBLO and subbasin CBLO
      5037             HC       2    1.52
                       *

      5038             KK  RSISLO   ROUTE
      5039             KM   Route hydrograph at combination point CCBLO south to combination point CISLO
      5040             RS       5    FLOW
      5041             RC   0.035   0.015   0.035    5583  0.0010    0.00
      5042             RX    0.00    4.00   14.00   29.00   49.00   64.00   94.00   97.00
      5043             RY   11.20   10.20   10.00    0.00    0.40   10.40   11.84   12.84
                       *

      5044             KK    IS75   BASIN
      5045             KM   Runoff hydrograph for subbasin IS75 northeast of the intersection of Indian
      5046             KM   School Road and 75th Avenue
      5047             BA   0.615
      5048             LG    0.23    0.15    7.60    0.08      41
      5049             UC   1.288   0.793
      5050             UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
      5051             UA     100
                       *
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      LINE             ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


      5052             KK  ERIS75  DIVERT
      5053             KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
      5054             KM   retention developed after 1990 in subbasin IS75
      5055             DT   XIS75     0.8     0.0
      5056             DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
      5057             DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
                       *

      5058             KK   D75IS  DIVERT
      5059             KM   Divert calculated full flow capapcity of 123 cfs into 60-inch storm drain
      5060             KM   pipe at the intersection of Indian School Road and 75th Avenue
      5061             DT  DP75IS     0.0   123.0
      5062             DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
      5063             DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
                       *

      5064             KK  DWIS83  DIVERT
      5065             KM   Divert remaining runoff hydrograph from combination point CPIS75 west to
      5066             KM   combination point CIS83
      5067             DT  DSTM75     0.0     0.0
      5068             DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
      5069             DQ     0.0    35.0    70.0   175.0   350.0   700.0  1400.0  3500.0  7000.0 17500.0
                       *

      5070             KK  RWIS83   ROUTE
      5071             KM   Route diversion DWIS83 west to combination point CIS83
      5072             RS       7    FLOW
      5073             RC   0.035   0.015   0.035    5280  0.0028    0.00
      5074             RX    0.00    0.00   76.50   76.50  372.50  372.50  449.00  449.00
      5075             RY    3.00    1.27    0.50    0.00    0.00    0.50    1.27    3.00
                       *

      5076             KK  DRIS83RETRIEVE
      5077             KM   Retrieve divert DRIS83 from subbasin CB83 and divert south to combination
      5078             KM   point CIS83
      5079             DR  DSIS83
                       *

      5080             KK  RSIS83   ROUTE
      5081             KM   Route diversion retrieval DRIS83 south to combination point CIS83
      5082             RS       9    FLOW
      5083             RC   0.035   0.015   0.035    5280  0.0022    0.00
      5084             RX    0.00    0.00   57.50   57.50  291.50  291.50  349.00  349.00
      5085             RY    3.00    1.08    0.50    0.00    0.00    0.50    1.08    3.00
                       *

      5086             KK    IS83   BASIN
      5087             KM   Runoff hydrograph for square mile subbasin IS83 northeast of the intersection
      5088             KM   Indian School Road and 83rd Avenue
      5089             BA   0.991
      5090             LG    0.24    0.17    6.80    0.12      34
      5091             UC   1.500   1.007
      5092             UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
      5093             UA     100
                       *
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      LINE             ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10
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5094          KK   CIS83 COMBINE
5095          KM   Combine route RWIS83, route RSIS83 and subbasin IS83
5096          HC        3    1.64
              *

5097          KK  PR83CBRETRIEVE
5098          KM   Retrieve full flow capacity of 10 cfs from 24-inch storm drain pipe at the
5099          KM   intersection of Camelback Road and 83rd Avenue
5100          DR  DP83CB
              *

5101          KK  RP831S   ROUTE
5102          KM   Route full flow capacity of 10 cfs through 24-inch storm drain pipe in
5103          KM   83rd Avenue to the intersection of Indian School Road and 83rd Avenue
5104          RK    5208  0.0019   0.015            CIRC   2.000
              *

5105          KK  CPIS83 COMBINE
5106          KM   Combine pipe return PR83CB with the runoff hydrograph at combination point
5107          KM   CIS83 at the intersection of Indian School Road and 83rd Avenue
5108          HC        2
              *

5109          KK   D83IS  DIVERT
5110          KM   Divert calculated full flow capapcity of 187 cfs into 72-inch storm drain
5111          KM   pipe at the intersection of Indian School Road and 83rd Avenue
5112          DT  DP83IS     0.0   187.0
5113          DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
5114          DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

5115          KK  DWIS91  DIVERT
5116          KM   Divert remaining runoff hydrograph from combination point CPIS83 west to
5117          KM   combination point CIS91
5118          DT  DSTM83      0.0      0.0
5119          DI      0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0 10000.0 20000.0 50000.0
5120          DQ      0.0     55.0    110.0    275.0    550.0   1100.0   2200.0  5500.0 11000.0 27500.0
              *

5121          KK  RWIS91   ROUTE
5122          KM   Route diversion DWIS91 west to combination point CIS91
5123          RS        3    FLOW
5124          RC   0.035    0.015    0.035     5280   0.0030     0.00
5125          RX    0.00     0.00    54.50    54.50   269.50   269.50   324.00   324.00
5126          RY    3.00     1.04     0.50     0.00     0.00     0.50     1.04     3.00
              *

5127          KK  DRIS91RETRIEVE
5128          KM   Retrieve divert DRIS91 from combination point CCB91 and divert south to
5129          KM   combination point CIS91
5130          DR  DSIS91
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


5131          KK  RSIS91   ROUTE
5132          KM   Route diversion retrieval DRIS91 south to combination point CIS91
5133          RS        9    FLOW
5134          RC   0.035    0.015    0.035     5280   0.0017     0.00
5135          RX    0.00     0.00    57.50    57.50   291.50   291.50   349.00   349.00
5136          RY    3.00     1.08     0.50     0.00     0.00     0.50     1.08     3.00
              *

5137          KK    IS91   BASIN
5138          KM   Runoff hydrograph for square mile subbasin IS91 northeast of the intersection
5139          KM   Indian School Road and 91st Avenue
5140          BA   0.999
5141          LG    0.25     0.15     9.70     0.04       37
5142          UC   1.500    1.011
5143          UA       0      5.0     16.0     30.0     65.0     77.0     84.0     90.0     94.0     97.0
5144          UA     100
              *

5145          KK  ERIS91  DIVERT
5146          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
5147          KM   retention developed after 1990 in subbasin IS91
5148          DT  XIS91     24.6      0.0
5149          DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
5150          DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

5151          KK   CIS91 COMBINE
5152          KM   Combine route RWIS91, route RSIS91 and subbasin IS91
5153          HC        3    2.36
              *

5154          KK   D91IS  DIVERT
5155          KM   Divert calculated full flow capapcity of 190 cfs into 72-inch storm drain
5156          KM   pipe at the intersection of Indian School Road and 91st Avenue
5157          DT  DP91IS     0.0   190.0
5158          DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
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5159          DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

5160          KK  DWISLO  DIVERT
5161          KM   Divert remaining runoff hydrograph from combination point CIS91 west to
5162          KM   combination point CISLO
5163          DT  DSTM91      0.0      0.0
5164          DI      0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0 10000.0 20000.0 50000.0
5165          DQ      0.0     57.0    114.0    285.0    570.0   1140.0   2280.0  5700.0 11400.0 28500.0
              *

5166          KK  RWISLO   ROUTE
5167          KM   Route diversion DWISLO west to combination point CISLO
5168          RS        1    FLOW
5169          RC   0.035    0.015    0.035     2651   0.0039     0.00
5170          RX    0.00     0.00    35.50    35.50   188.50   188.50   224.00   224.00
5171          RY    3.00     0.86     0.50     0.00     0.00     0.50     0.86     3.00
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


5172          KK    ISLO   BASIN
5173          KM   Runoff hydrograph for subbasin ISLO northeast of the intersection of Indian
5174          KM   School Road and SR Loop 101
5175          BA   0.684
5176          LG    0.17     0.15     9.70     0.04       56
5177          UC   1.208    0.788
5178          UA       0      5.0     16.0     30.0     65.0     77.0     84.0     90.0     94.0     97.0
5179          UA     100
              *

5180          KK  ERISLO  DIVERT
5181          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
5182          KM   retention developed after 1990 in subbasin ISLO
5183          DT  XISLO     58.0      0.0
5184          DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
5185          DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

5186          KK   CISLO COMBINE
5187          KM   Combine route RWISLO, route RSISLO and subbasin ISLO
5188          HC        3    3.22
              *

5189          KK  RSTMLO   ROUTE
5190          KM   Route hydrograph at combination point CISLO south to combination point CTMLO
5191          RS        3    FLOW
5192          RC   0.035    0.015    0.035     5309   0.0010     0.00
5193          RX    0.00     4.00    14.00    29.00    44.00    59.00    73.00    76.00
5194          RY   11.20    10.20    10.00     0.00     0.30    10.30    10.58    11.58
              *

5195          KK  DRGCGRRETRIEVE
5196          KM   Retrieve divert DRGCGR from combination point CGR35 and divert south to
5197          KM   combination point CIGR35
5198          DR  DEGCGR
              *

5199          KK  DIGCGRRETRIEVE
5200          KM   Retrieve divert DIGCGR from combination point CPIS35 and divert south to
5201          KM   combination point CIGR35
5202          DR  DSGCGR
              *

5203          KK  CIGR35 COMBINE
5204          KM   Combine arterial street flow from Grand Avenue DEGCGR with runoff hydrograph
5205          KM   DGRGC at the intersection of 35th Avenue and Grand Avenue
5206          HC        2    3.97
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


5207          KK  RSGCGR   ROUTE
5208          KM   Route hydrograph at combination point CIGR35 at the intersection of Grand
5209          KM   Avenue and 35th Avenue south to combination point CGCGR
5210          RS        2    FLOW
5211          RC   0.035    0.015    0.035     3104   0.0029     0.00
5212          RX    0.00     0.00    48.00    48.00   251.00   251.00   299.00   299.00
5213          RY    3.00     0.98     0.50     0.00     0.00     0.50     0.98     3.00
              *

5214          KK  DRGC27RETRIEVE
5215          KM   Retrieve divert DRGC27 from combination point CPIS27 and divert south to
5216          KM   combination point CGCGR
5217          DR  DSGC27
              *

5218          KK  RSGC27   ROUTE
5219          KM   Route diversion retrieval DRGC27 south to combination point CGC27
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5220          RS      1    FLOW
5221          RC   0.035   0.015   0.035    1755  0.0028    0.00
5222          RX    0.00    0.00   16.50   16.50  107.50  107.50  124.00  124.00
5223          RY    3.00    0.66    0.50    0.00    0.00    0.50    0.66    3.00
              *

5224          KK    GCGR   BASIN
5225          KM   Runoff hydrograph for subbasin GCGR northeast of the intersection of Grand
5226          KM   Avenue and the Grand Canal
5227          BA   0.376
5228          LG    0.15    0.25    5.00    0.23      77
5229          UC   0.335   0.079
5230          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
5231          UA     100
              *

5232          KK   CGCGR COMBINE
5233          KM   Combine route RSGCGR, route RSGC27, and subbasin GCGR
5234          HC       3    6.09
              *

5235          KK  PR31ISRETRIEVE
5236          KM   Retrieve full flow capacity of 268 cfs from 72-inch diameter pipe at the
5237          KM   intersection of Indian School Road and 31st Avenue
5238          DR  DP31IS
              *

5239          KK  RP31GC   ROUTE
5240          KM   Route full flow capacity of 268 cfs through 72-inch storm drain pipe
5241          KM   in 31st Avenue to the intersection of 31st Avenue and the Grand Canal
5242          RK    2506  0.0040   0.015            CIRC   6.000
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

5243          KK  PR27ISRETRIEVE
5244          KM   Retrieve full flow capacity of 151 cfs from 60-inch diameter pipe at the
5245          KM   intersection of Indian School Road and 27th Avenue
5246          DR  DP27IS
              *

5247          KK  RP27GC   ROUTE
5248          KM   Route full flow capacity of 151 cfs through 60-inch storm drain pipe in
5249          KM   in 27th Avenue to the intersection of 27th Avenue and the Grand Canal
5250          RK    1763  0.0034   0.015            CIRC   5.000
              *

5251          KK  CPGCGR COMBINE
5252          KM   Combine pipe return PR27IS and pipe return PR35IS with the runoff hydrograph
5253          KM   at combination point CGCGR at the intersection of the Grand Canal and Grand
5254          KM   Avenue
5255          HC       3
              *

5256          KK   DGCGR  DIVERT
5257          KM   Capacity of storm drain in 27th Avenue and 29th Avenue diverted together.
5258          KM   Divert combined calculated full flow capacity of 257 cfs in the 72-inch storm
5259          KM   drain pipe in 27th Avenue and 165 cfs in the 60-inch storm drain pipe in
5260          KM   29th Avenue. The total calculated combined full flow capacity diverted at the
5261          KM   intersection of the Grand Canal and Grand Avenue is 422 cfs in an equivalent
5262          KM   diameter pipe of 87 inches
5263          DT  DPGCGR      0.0   422.0
5264          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
5265          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

5266          KK  SRGCGR STORAGE
5267          KM   Storage route runoff hydrograph from divert DGCGR through ponding
5268          KM     area at the Grand Canal between I-17 and Grand Avenue
5269          KM   Storage routing ID RES26E in Maryvale ADMS, Feb 1997 - comments from ADMS:
5270          KM   PONDING AREA RESERVOIR ROUTE
5271          KM   PONDING AREA NORTHEAST OF GRAND AVENUE/RR EMBANKMENT
5272          KM   SUB-BASIN 26-22E
5273          RS       1    STOR      0.
5274          SV            0.10   13.20   45.92   91.09  149.48
5275          SQ          160.00  160.00  376.00 1056.00 6078.00
5276          SE  1095.0 1096.00 1097.00 1098.00 1099.00 1100.00
              *

5277          KK  RSGR27   ROUTE
5278          KM   Route diversion retrieval DRGR27 south to combination point CGR27
5279          RS       3    FLOW
5280          RC   0.035   0.015   0.035    4632  0.0019    0.00
5281          RX    0.00    0.00   33.00   33.00  215.00  215.00  248.00  248.00
5282          RY    3.00    0.83    0.50    0.00    0.00    0.50    0.83    3.00
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10
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5283          KK    GR27   BASIN
5284          KM   Runoff hydrograph for subbasin GR27 northwest of the intersection of Grand
5285          KM   Avenue and 27th Avenue
5286          BA   0.407
5287          LG    0.18    0.15    8.40    0.06      66
5288          UC   0.720   0.398
5289          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
5290          UA     100
              *

5291          KK   CTM27 COMBINE
5292          KM   Combine route RSGR27 and subbasin GR27
5293          HC       2    6.50
              *

5294          KK   DTM27  DIVERT
5295          KM   Divert portion of runoff hydrograph from combination point CTM27  to storage
5296          KM   route SRTM27 where it will be routed through the Verde Basin near the
5297          KM   intersection of Thomas and 27th Avenue.  The remaining flow is diverted to
5298          KM   combination point CGR27. The diversion is based on topography
5299          DT   DGR27      0.0     0.0
5300          DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
5301          DQ     0.0    50.0   100.0   250.0   500.0  1000.0  2000.0  5000.0 10000.0 25000.0
              *

5302          KK  SRTM27 STORAGE
5303          KM   Storage route runoff hydrograph from storm drain route RP27TM thru regional
5304          KM     detention basin near the intersection of Thomas Road and 27th Avenue
5305          KM   Stage-storage-discharge data from 26th Avenue and Verde Lane Drainage
5306          KM     Improvement Project Phase II Plans, November 2005 (Verde Basin)
5307          RS       1    STOR
5308          SV            0.50    1.40    3.10    5.70    9.00   12.50   16.30   20.00   22.00
5309          SV    24.1
5310          SQ     0.0    49.0    20.0    25.0    29.0    33.0    36.0    39.0    42.0   521.0
5311          SQ  1395.0
5312          SE  1088.0  1089.0  1090.0  1091.0  1092.0  1093.0  1094.0  1095.0  1096.0  1096.5
5313          SE  1097.0
              *

5314          KK  PRGCGRRETRIEVE
5315          KM   Retrieve combined full flow capacity of 422 cfs from 87-inch equivalent
5316          KM   diameter pipe at the intersection of the Grand Canal and Grand Avenue
5317          DR  DPGCGR
              *

5318          KK   D31GR  DIVERT
5319          KM   Divert calculated full flow capapcity of 257 cfs into 72-inch storm drain
5320          KM   pipe at the intersection of Grand Avenue and 31st Avenue
5321          DT  DP31GR      0.0   257.0
5322          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
5323          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *
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5324          KK  RP27TM   ROUTE
5325          KM   Route full flow capacity of 151 cfs through 60-inch storm drain pipe in
5326          KM   27th Avenue to the intersection of Thomas Road and 27th Avenue
5327          RK    3088  0.0034   0.015            CIRC   5.000
              *

5328          KK  CPGR27 COMBINE
5329          KM   Combine remainder of pipe return PRGCGR with the runoff hydrograph at
5330          KM   storage route SRTM27 at the intersection of Grand Avenue and 27th Avenue
5331          HC       2
              *

5332          KK   D27GR  DIVERT
5333          KM   Divert calculated full flow capapcity of 195 cfs into 66-inch storm drain
5334          KM   pipe at the intersection of Grand Avenue and 27th Avenue
5335          DT  DP27GR      0.0   195.0
5336          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
5337          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

5338          KK  DRGR27RETRIEVE
5339          KM   Retrieve divert DRGR27 from combination point CRM27 and divert south to
5340          KM   combination point CGR27
5341          DR   DGR27
              *

5342          KK   CGR27 COMBINE
5343          KM   Combine divert D27GR and divert retrieval DRGR27
5344          HC       2    6.50
              *

5345          KK  SRGR27 STORAGE
5346          KM   Storage route runoff hydrograph from divert D27GR through regional detention
5347          KM     basin near the intersection of Grand Avenue and 27th Avenue.
5348          KM   Stage-storage-discharge data from State Highway Wickenburg-Phoenix Highway
5349          KM     (US 60), 27th Avnue/Thomas Road As-builts, ADOT, August 2006
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5350          RS       1    STOR
5351          SV                0.30    2.10    8.50   15.80   23.90   32.70   42.20   47.30   49.93
5352          SV     52.6    57.8
5353          SQ        0       2       7      14      19      22      25      28      29       3
5354          SQ      813    1469
5355          SE  1084.0  1085.0  1086.0  1088.0  1090.0  1092.0  1094.0  1096.0  1097.0    1097
5356          SE  1098.0  1098.5
              *

5357          KK  DWTM35  DIVERT
5358          KM   Divert remaining runoff hydrograph from combination point CPGR27 west to
5359          KM   combination point CTM35
5360          DT  DSMD27      0.0     0.0
5361          DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
5362          DQ     0.0    68.0   136.0   340.0   680.0  1360.0  2720.0  6800.0 13600.0 34000.0
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

5363          KK  RWTM35   ROUTE
5364          KM   Route diversion DWTM35 west to combination point CTM35
5365          RS       5    FLOW
5366          RC   0.035   0.015   0.035    5280  0.0008    0.00
5367          RX    0.00    0.00   16.50   16.50  107.50  107.50  124.00  124.00
5368          RY    3.00    0.66    0.50    0.00    0.00    0.50    0.66    3.00
              *

5369          KK  DRTM35RETRIEVE
5370          KM   Retrieve divert DRTM35 from combination point CGC35 and divert south to
5371          KM   combination point CTM35
5372          DR  DSTM35
              *

5373          KK  RSTM35   ROUTE
5374          KM   Route diversion retrieval DRTM35 south to combination point CTM35
5375          RS       1    FLOW
5376          RC   0.035   0.015   0.035    3050  0.0051    0.00
5377          RX    0.00    0.00   16.50   16.50  107.50  107.50  124.00  124.00
5378          RY    3.00    0.66    0.50    0.00    0.00    0.50    0.66    3.00
              *

5379          KK    TM35   BASIN
5380          KM   Runoff hydrograph for subbasin TM35 northeast of the intersection of Thomas
5381          KM   Road and 35th Avenue
5382          BA   0.393
5383          LG    0.14    0.15    7.60    0.08      80
5384          UC   0.649   0.381
5385          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
5386          UA     100
              *

5387          KK   CTM35 COMBINE
5388          KM   Combine route RWTM35, route RSTM35, and subbasin TM35
5389          HC       3    4.31
              *

5390          KK  PR31GRRETRIEVE
5391          KM   Retrieve full flow capacity of 257 cfs from 72-inch storm drain pipe at the
5392          KM   intersection of Grand Avenue and 31st Avenue
5393          DR  DP31GR
              *

5394          KK  RP31TM   ROUTE
5395          KM   Route full flow capacity of 257 cfs through 72-inch storm drain pipe in
5396          KM   31st Avenue to the intersection of Thomas Road and 31st Avenue
5397          RK    3862  0.0037   0.015             CIRC   6.000
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

5398          KK  PR35GCRETRIEVE
5399          KM   Retrieve full flow capacity of 40 cfs from 36-inch storm drain pipe at the
5400          KM   intersection of the Grand Canal and 35th Avenue
5401          DR  DP35GC
              *

5402          KK  RP35TM   ROUTE
5403          KM   Route full flow capacity of 40 cfs through 36-inch storm drain pipe in
5404          KM   35th Avenue to the intersection of Thomas Road and 35th Avenue
5405          RK    3051  0.0035   0.015             CIRC   3.000
              *

5406          KK  CPTM35 COMBINE
5407          KM   Combine pipe returns PR31GR and PR35GC with the runoff hydrograph at
5408          KM   combination point CTM35 at the intersection of Thomas Road and 35th Avenue
5409          HC       3
              *

5410          KK   D35TM  DIVERT
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5411          KM   Capacity of storm drain in 31st Avenue and 35th Avenue diverted together.
5412          KM   Divert combined calculated full flow capacity of 213 cfs in the 66-inch storm
5413          KM   drain pipe in 31st AVenue and 87 cfs in the 48-inch storm drain pipe in
5414          KM   35th Avenue. The total calculated combined full flow capacity diverted at the
5415          KM   intersection of 35th Avenue and Thomas Road is 300 cfs in an equivalent
5416          KM   diameter pipe of 77 inches
5417          DT  DP35TM      0.0   300.0
5418          DI      0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
5419          DQ      0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

5420          KK  DWTM43  DIVERT
5421          KM   Divert remaining runoff hydrograph from combination point CPTM35 west to
5422          KM   combination point CTM43
5423          DT  DSMD35      0.0     0.0
5424          DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
5425          DQ     0.0    84.0   168.0   420.0   840.0  1680.0  3360.0  8400.0 16800.0 42000.0
              *

5426          KK  RWTM43   ROUTE
5427          KM   Route diversion DWTM43 west to combination point CTM43
5428          RS       9    FLOW
5429          RC   0.035   0.015   0.035    5280  0.0003    0.00
5430          RX    0.00    0.00   38.50   38.50  210.50  210.50  249.00  249.00
5431          RY    3.00    0.88    0.50    0.00    0.00    0.50    0.88    3.00
              *

5432          KK  DRTM43RETRIEVE
5433          KM   Retrieve divert DRTM43 from combination point CGC43 and divert south to
5434          KM   combination point CTM43
5435          DR  DSTM43
              *
1                                        HEC-1 INPUT                                    PAGE141

LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

5436          KK  RSTM43   ROUTE
5437          KM   Route diversion retrieval DRTM43 south to combination point CTM43
5438          RS       1    FLOW
5439          RC   0.035   0.015   0.035    3050  0.0045    0.00
5440          RX    0.00    0.00   16.50   16.50  107.50  107.50  124.00  124.00
5441          RY    3.00    0.66    0.50    0.00    0.00    0.50    0.66    3.00
              *

5442          KK    TM43   BASIN
5443          KM   Runoff hydrograph for subbasin TM43 northeast of the intersection of Thomas
5444          KM   Road and 43rd Avenue
5445          BA   0.636
5446          LG    0.23    0.15    8.80    0.05      37
5447          UC   1.500   1.083
5448          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
5449          UA     100
              *

5450          KK  ERTM43  DIVERT
5451          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
5452          KM   retention developed after 1990 in subbasin TM43
5453          DT   XTM43     1.7     0.0
5454          DI      0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
5455          DQ      0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

5456          KK   CTM43 COMBINE
5457          KM   Combine route RWTM43, route RSTM43, and subbasin TM43
5458          HC       3    3.16
              *

5459          KK  PR43GCRETRIEVE
5460          KM   Retrieve combined full flow capacity of 406 cfs from 87-inch equivalent
5461          KM   diameter pipe at the intersection of the Grand Canal and 43rd Avenue
5462          DR  DP43GC
              *

5463          KK  RP43TM   ROUTE
5464          KM   Route the combined full flow capacity of 406 cfs through an equivalent storm
5465          KM   drain pipe diameter of 87 inches in 43rd Avenue to the intersection of
5466          KM   43rd Avenue and Thomas Road
5467          RK    2924  0.0035   0.015             CIRC   7.250
              *

5468          KK  CPTM43 COMBINE
5469          KM   Combine pipe return PR43GC with the runoff hydrograph at combination point
5470          KM   CTM43 at the intersection of the Grand Canal and 43rd Avenue
5471          HC       2
              *
1                                        HEC-1 INPUT                                    PAGE142

LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

5472          KK   D43TM  DIVERT
5473          KM   Capacity of storm drain in 39th Avenue and 43rd Avenue diverted together.
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5474          KM   Divert combined calculated full flow capacity of 404 cfs in the 84-inch storm
5475          KM   drain pipe in 39th AVenue and 225 cfs in the 69-inch storm drain pipe in
5476          KM   43rd Avenue. The total calculated combined full flow capacity diverted at the
5477          KM   intersection of 43rd Avenue and Thomas Road is 629 cfs in an equivalent
5478          KM   diameter pipe of 102 inches
5479          DT   DP43TM      0.0    629.0
5480          DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
5481          DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *
5482          KK  DWTM51  DIVERT
5483          KM   Divert remaining runoff hydrograph from combination point CTM43 west to
5484          KM   combination point CTM51
5485          DT  DSMD43      0.0      0.0
5486          DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
5487          DQ     0.0    79.0   158.0   395.0   790.0  1580.0  3160.0  7900.0 15800.0 39500.0
              *
5488          KK  RWTM51   ROUTE
5489          KM   Route diversion DWTM51 west to combination point CTM51
5490          RS       9     FLOW
5491          RC   0.035   0.015   0.035    5280  0.0004     0.00
5492          RX    0.00    0.00   48.00   48.00  251.00  251.00  299.00  299.00
5493          RY    3.00    0.98    0.50    0.00    0.00    0.50    0.98    3.00
              *
5494          KK  DRTM51RETRIEVE
5495          KM   Retrieve divert DRTM51 from combination point CPGC51 and divert south to
5496          KM   combination point CTM51
5497          DR  DSTM51
              *
5498          KK  RSTM51   ROUTE
5499          KM   Route diversion retrieval DRTM51 south to combination point CTM51
5500          RS       2     FLOW
5501          RC   0.035   0.015   0.035    2916  0.0044     0.00
5502          RX    0.00    0.00   29.00   29.00  170.00  170.00  199.00  199.00
5503          RY    3.00    0.79    0.50    0.00    0.00    0.50    0.79    3.00
              *
5504          KK    TM51   BASIN
5505          KM   Runoff hydrograph for subbasin TM51 northeast of the intersection of Thomas
5506          KM   Road and 51st Avenue
5507          BA   0.545
5508          LG    0.24    0.19    6.60    0.13      33
5509          UC   1.500   1.165
5510          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
5511          UA     100
              *
1                                        HEC-1 INPUT                                        PAGE143
LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9.....10
5512          KK   CTM51 COMBINE
5513          KM   Combine route RWTM51, route RSTM51, and subbasin TM51
5514          HC       3    2.15
              *
5515          KK  PR51GCRETRIEVE
5516          KM   Retrieve full flow capacity of 113 cfs from 54-inch storm drain pipe near the
5517          KM   intersection of the Grand Canal and 51st Avenue
5518          DR  DP51GC
              *
5519          KK  PRGC53RETRIEVE
5520          KM   Retrieve full flow capacity of 20 cfs from 36-inch storm drain pipe at the
5521          KM   intersection of the Grand Canal and 53rd Avenue
5522          DR  DPGC53
              *
5523          KK  RPGC51   ROUTE
5524          KM   Route full flow capacity of 20 cfs through 36-inch storm drain near the
5525          KM   Grand Canal to the intersection of the Grand Canal and 51st Avenue
5526          RK    1038  0.0009   0.015            CIRC   3.000
              *
5527          KK  CPGC51 COMBINE
5528          KM   Combine pipe return PR51GC with pipe route RPGC51 at the intersection of
5529          KM   the Grand Canal and 51st Avenue
5530          HC       2    2.15
              *
5531          KK  RP51TM   ROUTE
5532          KM   Route combined full flow capacity of 133 cfs through a 72-inch storm drain
5533          KM   pipe in 51st Avenue to the intersection of Thomas Road and 51st Avenue
5534          RK    2803  0.0033   0.015            CIRC   6.000
              *
5535          KK  CPTM51 COMBINE
5536          KM   Combine the runoff hydrograph at combination point CTM51 with pipe route
5537          KM   RP51TM at the intersection of Thomas Road and 51st Avenue
5538          HC       2
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              *
5539          KK   D51TM  DIVERT
5540          KM   Divert calculated full flow capapcity of 244 cfs into 72-inch storm drain
5541          KM   pipe at the intersection of Thomas Road and 51st Avenue
5542          DT  DP51TM      0.0    244.0
5543          DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
5544          DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *
1                                        HEC-1 INPUT                                        PAGE144
LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9.....10
5545          KK  DWTM59  DIVERT
5546          KM   Divert remaining runoff hydrograph from combination point CPTM51 west to
5547          KM   combination point CTM59
5548          DT  DSMD51      0.0      0.0
5549          DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
5550          DQ     0.0    64.0   128.0   320.0   640.0  1280.0  2560.0  6400.0 12800.0 32000.0
              *
5551          KK  RWTM59   ROUTE
5552          KM   Route diversion DWTM59 west to combination point CTM59
5553          RS       6     FLOW
5554          RC   0.035   0.015   0.035    5280  0.0013     0.00
5555          RX    0.00    0.00   48.00   48.00  251.00  251.00  299.00  299.00
5556          RY    3.00    0.98    0.50    0.00    0.00    0.50    0.98    3.00
              *
5557          KK  DRTM59RETRIEVE
5558          KM   Retrieve divert DRTM59 from combination point CPGC59 and divert south to
5559          KM   combination point CTM59
5560          DR  DSTM59
              *
5561          KK  RSTM59   ROUTE
5562          KM   Route diversion retrieval DRTM59 south to combination point CTM59
5563          RS       1     FLOW
5564          RC   0.035   0.015   0.035    2752  0.0054     0.00
5565          RX    0.00    0.00   29.00   29.00  170.00  170.00  199.00  199.00
5566          RY    3.00    0.79    0.50    0.00    0.00    0.50    0.79    3.00
              *
5567          KK    TM59   BASIN
5568          KM   Runoff hydrograph for subbasin TM59 northeast of the intersection of Thomas
5569          KM   Road and 59th Avenue
5570          BA   0.599
5571          LG    0.24    0.19    6.60    0.14      31
5572          UC   1.500   1.092
5573          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
5574          UA     100
              *
5575          KK   CTM59 COMBINE
5576          KM   Combine route RWTM59, route RSTM59, and subbasin TM59
5577          HC       3    3.90
              *
5578          KK  PRGC63RETRIEVE
5579          KM   Retrieve full flow capacity of 258 cfs from 72-inch storm drain pipe at the
5580          KM   intersection of the Grand Canal and 63rd Avenue
5581          DR  DPGC63
              *
1                                        HEC-1 INPUT                                        PAGE145
LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9.....10
5582          KK  RP59TM   ROUTE
5583          KM   Route full flow capacity of 258 cfs through 72-inch storm drain pipe in
5584          KM   59th Avenue to the intersection of Thomas Road and 59th Avenue
5585          RK    4111  0.0037   0.015            CIRC   6.000
              *
5586          KK  CPTM59 COMBINE
5587          KM   Combine pipe return PRGC63 with the runoff hydrograph at combination point
5588          KM   CTM59 at the intersection of Thomas Road and 59th Avenue
5589          HC       2
              *
5590          KK   D59TM  DIVERT
5591          KM   Divert calculated full flow capapcity of 389 cfs into 84-inch storm drain
5592          KM   pipe at the intersection of Thomas Road and 59th Avenue
5593          DT  DP59TM      0.0    389.0
5594          DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
5595          DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *
5596          KK  DWTM67  DIVERT
5597          KM   Divert remaining runoff hydrograph from combination point CPTM59 west to
5598          KM   combination point CTM67
5599          DT  DSMD59      0.0      0.0
```

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5600          DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
5601          DQ     0.0    41.0    82.0   205.0   410.0   820.0  1640.0  4100.0  8200.0 20500.0
              *

5602          KK  RWTM67    ROUTE
5603          KM   Route diversion DWTM67 west to combination point CTM67
5604          RS       4     FLOW
5605          RC   0.035   0.015   0.035    5280  0.0015    0.00
5606          RX    0.00    0.00   95.50   95.50  453.50  453.50  549.00  549.00
5607          RY    3.00    1.46    0.50    0.00    0.00    0.50    1.46    3.00
              *

5608          KK  DRTM67RETRIEVE
5609          KM   Retrieve divert DRTM67 from combination point CPISGC and divert south to
5610          KM   combination point CTM67
5611          DR  DSTM67
              *

5612          KK  RSTM67    ROUTE
5613          KM   Route diversion DRTM67 south to combination point CTM67
5614          RS       4     FLOW
5615          RC   0.035   0.015   0.035    5280  0.0029    0.00
5616          RX    0.00    0.00    9.50    9.50   40.50   40.50   50.00   50.00
5617          RY    3.00    0.60    0.50    0.00    0.00    0.50    0.60    3.00
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

5618          KK    TM67    BASIN
5619          KM   Runoff hydrograph for subbasin TM67 northeast of the intersection of Thomas
5620          KM   Road and 67th Avenue
5621          BA   0.813
5622          LG    0.24    0.15    8.00    0.07      36
5623          UC   1.500   1.003
5624          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
5625          UA     100
              *

5626          KK  ERTM67  DIVERT
5627          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
5628          KM   retention developed after 1990 in subbasin TM67
5629          DT   XTM67     1.1     0.0
5630          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
5631          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

5632          KK   CTM67 COMBINE
5633          KM   Combine route RWTM67, route RSTM67, and subbasin TM67
5634          HC       3    3.12
              *

5635          KK  PR67ISRETRIEVE
5636          KM   Retrieve full flow capacity of 175 cfs from 66-inch storm drain pipe at the
5637          KM   intersection of Indian School Road and 67th Avenue
5638          DR  DP67IS
              *

5639          KK  RP67TM    ROUTE
5640          KM   Route full flow capacity of 175 cfs through 66-inch storm drain pipe in
5641          KM   67th Avenue to the intersection of Thomas Road and 67th Avenue
5642          RK    5268  0.0027   0.015             CIRC   5.500
              *

5643          KK  CPTM67 COMBINE
5644          KM   Combine pipe flow at combination point CPIS67 with runoff hydrograph at
5645          KM   combination point CTM67 at the intersection of Thomas Road and 67th Avenue
5646          HC       2
              *

5647          KK   D67TM  DIVERT
5648          KM   Divert calculated full flow capapcity of 273 cfs into 78-inch storm drain
5649          KM   pipe at the intersection of Thomas Road and 67th Avenue
5650          DT  DP67TM      0.0   273.0
5651          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
5652          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

5653          KK  DWTM75  DIVERT
5654          KM   Divert remaining runoff hydrograph from combination point CPTM67 west to
5655          KM   combination point CTM75
5656          DT  DSMD67      0.0     0.0
5657          DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
5658          DQ     0.0    45.0    90.0   225.0   450.0   900.0  1800.0  4500.0  9000.0 22500.0
              *

5659          KK  RWTM75    ROUTE
5660          KM   Route diversion DWTM75 west to combination point CTM75
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5661          RS       5     FLOW
5662          RC   0.035   0.015   0.035    5280  0.0023    0.00
5663          RX    0.00    0.00   76.50   76.50  372.50  372.50  449.00  449.00
5664          RY    3.00    1.27    0.50    0.00    0.00    0.50    1.27    3.00
              *

5665          KK  DRTM75RETRIEVE
5666          KM   Retrieve divert DRTM75 from combination point CPIS75 and divert south to
5667          KM   combination point CTM75
5668          DR  DSTM75
              *

5669          KK  RSTM75    ROUTE
5670          KM   Route diversion retrieval DRTM75 south to combination point CTM75
5671          RS       7     FLOW
5672          RC   0.035   0.015   0.035    5280  0.0027    0.00
5673          RX    0.00    0.00   38.50   38.50  210.50  210.50  249.00  249.00
5674          RY    3.00    0.88    0.50    0.00    0.00    0.50    0.88    3.00
              *

5675          KK    TM75    BASIN
5676          KM   Runoff hydrograph for square mile subbasin TM75 northeast of the intersection
5677          KM   of Thomas Road and 75th Avenue
5678          BA   0.997
5679          LG    0.22    0.15    9.70    0.04      41
5680          UC   1.500   1.012
5681          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
5682          UA     100
              *

5683          KK  ERTM75  DIVERT
5684          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
5685          KM   retention developed after 1990 in subbasin TM75
5686          DT   XTM75     2.0     0.0
5687          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
5688          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

5689          KK   CTM75 COMBINE
5690          KM   Combine route RWTM75, route RSTM75, and subbasin TM75
5691          HC       3    2.92
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

5692          KK  PR75ISRETRIEVE
5693          KM   Retrieve full flow capacity of 123 cfs from 60-inch storm drain pipe at the
5694          KM   intersection of Indian School Road and 75th Avenue
5695          DR  DP75IS
              *

5696          KK  RP75TM    ROUTE
5697          KM   Route full flow capacity of 123 cfs through 60-inch storm drain pipe in
5698          KM   75th Avenue to the intersection of Thomas Road and 75th Avenue
5699          RK    5256  0.0022   0.015             CIRC   5.000
              *

5700          KK  CPTM75 COMBINE
5701          KM   Combine pipe return PR75IS with the runoff hydrograph at combination point
5702          KM   CTM75 at the intersection of Thomas Road and 75th Avenue
5703          HC       2
              *

5704          KK   D75TM  DIVERT
5705          KM   Divert calculated full flow capapcity of 303 cfs into 84-inch storm drain
5706          KM   pipe at the intersection of Thomas Road and 75th Avenue
5707          DT  DP75TM      0.0   303.0
5708          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
5709          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

5710          KK  DWTM83  DIVERT
5711          KM   Divert remaining runoff hydrograph from combination point CPTM75 west to
5712          KM   combination point CTM83
5713          DT  DSMD75      0.0     0.0
5714          DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
5715          DQ     0.0    48.0    96.0   240.0   480.0   960.0  1920.0  4800.0  9600.0 24000.0
              *

5716          KK  RWTM83    ROUTE
5717          KM   Route diversion DWTM83 west to combination point CTM83
5718          RS       4     FLOW
5719          RC   0.035   0.015   0.035    5280  0.0025    0.00
5720          RX    0.00    0.00   76.50   76.50  372.50  372.50  449.00  449.00
5721          RY    3.00    1.27    0.50    0.00    0.00    0.50    1.27    3.00
              *

5722          KK  DRTM83RETRIEVE
5723          KM   Retrieve divert DRTM83 from combination point CPIS83 and divert south to
5724          KM   combination point CTM83
5725          DR  DSTM83
```

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                *
5726            KK  RSTM83    ROUTE
5727            KM   Route diversion retrieval DRTM83 south to combination point CTM83
5728            RS      4     FLOW
5729            RC  0.035   0.015   0.035    5280  0.0023    0.00
5730            RX   0.00    0.00   76.50   76.50  372.50  372.50  449.00  449.00
5731            RY   3.00    1.27    0.50    0.00    0.00    0.50    1.27    3.00
                *
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LINE            ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


5732            KK    TM83    BASIN
5733            KM   Runoff hydrograph for square mile subbasin TM83 northeast of the intersection
5734            KM   of Thomas Road and 83rd Avenue
5735            BA   0.992
5736            LG    0.24    0.15    7.30    0.10      34
5737            UC   1.500   1.011
5738            UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
5739            UA     100
                *

5740            KK    CTM83 COMBINE
5741            KM   Combine route RWTM83, route RSTM83, and subbasin TM83
5742            HC       3    3.41
                *

5743            KK  PR83ISRETRIEVE
5744            KM   Retrieve full flow capacity of 187 cfs from 72-inch storm drain pipe at the
5745            KM   intersection of Indian School Road and 83rd Avenue
5746            DR  DP83IS
                *

5747            KK  RP83TM    ROUTE
5748            KM   Route full flow capacity of 187 cfs through 72-inch storm drain pipe in
5749            KM   83rd Avenue to the intersection of Thomas Road and 83rd Avenue
5750            RK    5330  0.0019   0.015            CIRC   6.000
                *

5751            KK  CPTM83 COMBINE
5752            KM   Combine pipe return PR83IS with the runoff hydrograph at combination point
5753            KM   CTM83 at the intersection of Thomas Road and 83rd Avenue
5754            HC       2
                *

5755            KK   D83TM  DIVERT
5756            KM   Divert calculated full flow capapcity of 283 cfs into 84-inch storm drain
5757            KM   pipe at the intersection of Thomas Road and 83rd Avenue
5758            DT  DP83TM      0.0   283.0
5759            DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
5760            DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
                *

5761            KK  DWTM91  DIVERT
5762            KM   Divert remaining runoff hydrograph from combination point CPTM83 west to
5763            KM   combination point CTM91
5764            DT  DSMD83      0.0     0.0
5765            DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
5766            DQ     0.0    23.0    46.0   115.0   230.0   460.0   920.0  2300.0  4600.0 11500.0
                *
1                                        HEC-1 INPUT                                    PAGE150

LINE            ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


5767            KK  RWTM91    ROUTE
5768            KM   Route diversion DWTM91 west to combination point CTM91
5769            RS       3     FLOW
5770            RC  0.035   0.015   0.035    5280  0.0028    0.00
5771            RX   0.00    0.00  114.50  114.50  534.50  534.50  649.00  649.00
5772            RY   3.00    1.64    0.50    0.00    0.00    0.50    1.64    3.00
                *

5773            KK  DRTM91RETRIEVE
5774            KM   Retrieve divert DRTM91 from combination point CIS91 and divert south to
5775            KM   combination point CTM91
5776            DR  DSTM91
                *

5777            KK  RSTM91    ROUTE
5778            KM   Route diversion retrieval DRTM91 south to combination point CTM91
5779            RS      4     FLOW
5780            RC  0.035   0.015   0.035    5280  0.0021    0.00
5781            RX   0.00    0.00   67.00   67.00  332.00  332.00  399.00  399.00
5782            RY   3.00    1.17    0.50    0.00    0.00    0.50    1.17    3.00
                *

5783            KK    TM91    BASIN
5784            KM   Runoff hydrograph for square mile subbasin TM91 northeast of the intersection
5785            KM   of Thomas Road and 91st Avenue
5786            BA   1.003
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5787            LG    0.24    0.15    7.30    0.09      36
5788            UC   1.500   1.009
5789            UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
5790            UA     100
                *

5791            KK  ERTM91  DIVERT
5792            KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
5793            KM   retention developed after 1990 in subbasin TM91
5794            DT   XTM91    14.8     0.0
5795            DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
5796            DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
                *

5797            KK    CTM91 COMBINE
5798            KM   Combine route RWTM91, route RSTM91, and subbasin TM91
5799            HC       3    4.96
                *

5800            KK  PR91ISRETRIEVE
5801            KM   Retrieve full flow capacity of 190 cfs from 72-inch storm drain pipe at the
5802            KM   intersection of Indian School Road and 91st Avenue
5803            DR  DP91IS
                *
1                                        HEC-1 INPUT                                    PAGE151

LINE            ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


5804            KK  RP91TM    ROUTE
5805            KM   Route full flow capacity of 190 cfs through 72-inch storm drain pipe in
5806            KM   91st Avenue to the intersection of Thomas Road and 91st Avenue
5807            RK    5130  0.0020   0.015            CIRC   6.000
                *

5808            KK  CPTM91 COMBINE
5809            KM   Combine pipe return PR91IS with the runoff hydrograph at combination point
5810            KM   CTM91 at the intersection of Thomas Road and 91st Avenue
5811            HC       2
                *

5812            KK   D91TM  DIVERT
5813            KM   Divert calculated full flow capapcity of 287 cfs into 84-inch storm drain
5814            KM   pipe at the intersection of Thomas Road and 91st Avenue
5815            DT  DP91TM      0.0   287.0
5816            DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
5817            DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
                *

5818            KK  DWTMLO  DIVERT
5819            KM   Divert remaining runoff hydrograph from combination point CPTM91 west to
5820            KM   combination point CTMLO
5821            DT  DSMD91      0.0     0.0
5822            DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
5823            DQ     0.0    77.0   154.0   385.0   770.0  1540.0  3080.0  7700.0 15400.0 38500.0
                *

5824            KK  RWTMLO    ROUTE
5825            KM   Route diversion DWTMLO west to combination point CTMLO
5826            RS       2     FLOW
5827            RC  0.035   0.015   0.035    2623  0.0015    0.00
5828            RX   0.00    0.00   16.50   16.50  107.50  107.50  124.00  124.00
5829            RY   3.00    0.66    0.50    0.00    0.00    0.50    0.66    3.00
                *

5830            KK    TMLO    BASIN
5831            KM   Runoff hydrograph for subbasin TMLO northeast of the intersection of Thomas
5832            KM   Road and SR Loop 101
5833            BA   0.496
5834            LG    0.11    0.15    8.80    0.05      75
5835            UC   0.929   0.704
5836            UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
5837            UA     100
                *

5838            KK  ERTMLO  DIVERT
5839            KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
5840            KM   retention developed after 1990 in subbasin TMLO
5841            DT   XTMLO    39.3     0.0
5842            DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
5843            DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
                *
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LINE            ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


5844            KK    CTMLO COMBINE
5845            KM   Combine route RWTMLO, route RSTMLO, and subbasin TMLO
5846            HC       3    4.87
                *

5847            KK  RSMDLO    ROUTE
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```
5848          KM   Route hydrograph at combination point CTMLO south to combination point CMDLO
5849          RS       2    FLOW
5850          RC  0.035   0.015   0.035    5729  0.0012    0.00
5851          RX   0.00    3.00    5.00   39.00   47.00   51.00   65.00   68.00
5852          RY  18.00   17.00   17.00    0.00    0.16   17.16   17.44   18.44
              *

5853          KK  DRMD27RETRIEVE
5854          KM   Retrieve divert DRMD27 from combination point CPGR27 and divert south to
5855          KM   combination point CMD27
5856          DR  DSMD27
              *

5857          KK  RSMD27   ROUTE
5858          KM   Route diversion retrieval DRMD27 south to combination point CMD27
5859          RS       2    FLOW
5860          RC  0.035   0.015   0.035    5280  0.0034    0.00
5861          RX   0.00    0.00   16.50   16.50  107.50  107.50  124.00  124.00
5862          RY   3.00    0.66    0.50    0.00    0.00    0.50    0.66    3.00
              *

5863          KK   MD27   BASIN
5864          KM   Runoff hydrograph for subbasin MD27 northeast of the intersection of McDowell
5865          KM   Road and 27th Avenue
5866          BA  0.241
5867          LG   0.15    0.15    8.00    0.07      80
5868          UC  0.595   0.456
5869          UA      0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
5870          UA    100
              *

5871          KK   CMD27 COMBINE
5872          KM   Combine route RSMD27 and subbasin MD27
5873          HC       2    4.65
              *

5874          KK  PR27GRRETRIEVE
5875          KM   Retrieve full flow capacity of 195 cfs from 66-inch storm drain pipe at the
5876          KM   intersection of Grand Avenue and 27th Avenue
5877          DR  DP27GR
              *

5878          KK  RP27MD   ROUTE
5879          KM   Route full flow capacity of 195 cfs through 66-inch storm drain pipe in
5880          KM   27th Avenue to the intersection of McDowell Road and 27th Avenue
5881          RK    5006  0.0034   0.015            CIRC   5.500
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


5882          KK  CPMD27 COMBINE
5883          KM   Combine pipe return PR27GR with the runoff hydrograph at combination point
5884          KM   CMD27 at the intersection of McDowell Road and 27th Avenue
5885          HC       2
              *

5886          KK   D27MD  DIVERT
5887          KM   Divert calculated full flow capapcity of 246 cfs into 72-inch storm drain
5888          KM   pipe at the intersection of McDowell Road and 27th Avenue
5889          DT  DP27MD      0.0    246.0
5890          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
5891          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

5892          KK  RWMD35   ROUTE
5893          KM   Route remainder of diversion D27MD west to combination point CMD35
5894          RS      10    FLOW
5895          RC  0.035   0.015   0.035    5280  0.0009    0.00
5896          RX   0.00    0.00   48.00   48.00  251.00  251.00  299.00  299.00
5897          RY   3.00    0.98    0.50    0.00    0.00    0.50    0.98    3.00
              *

5898          KK  DRMD35RETRIEVE
5899          KM   Retrieve divert DRMD35 from combination point CPTM35 and divert south to
5900          KM   combination point CMD35
5901          DR  DSMD35
              *

5902          KK  RSMD35   ROUTE
5903          KM   Route diversion retrieval DRMD35 south to combination point CMD35
5904          RS       2    FLOW
5905          RC  0.035   0.015   0.035    5280  0.0036    0.00
5906          RX   0.00    0.00   67.00   67.00  332.00  332.00  399.00  399.00
5907          RY   3.00    1.17    0.50    0.00    0.00    0.50    1.17    3.00
              *

5908          KK   MD35   BASIN
5909          KM   Runoff hydrograph for square mile subbasin MD35 northeast of the intersection
5910          KM   of McDowell Road and 35th Avenue
5911          BA  0.999
5912          LG   0.19    0.13   10.10    0.03      59
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5913          UC   1.469   0.976
5914          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
5915          UA     100
              *

5916          KK  ERMD35  DIVERT
5917          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
5918          KM   retention developed after 1990 and NOAA14 rainfall for future retention in
5919          KM   subbasin MD35
5920          DT  XMD35       1.5     0.0
5921          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
5922          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


5923          KK   CMD35 COMBINE
5924          KM   Combine route RWMD35, route RSMD35, and subbasin MD35
5925          HC       3    9.29
              *

5926          KK  PR35TMRETRIEVE
5927          KM   Retrieve combined full flow capacity of 300 cfs from 77-inch equivalent
5928          KM   diameter pipe at the intersection of Thomas Road and 35th Avenue
5929          DR  DP35TM
              *

5930          KK  RP35MD   ROUTE
5931          KM   Route the combined full flow capacity of 300 cfs through an equivalent storm
5932          KM   drain pipe diameter of 77 inches in 35th Avenue to the intersection of
5933          KM   McDowell Road and 35th Avenue
5934          RK    5093  0.0037   0.015            CIRC   6.417
              *

5935          KK  CPMD35 COMBINE
5936          KM   Combine pipe return PR35TM with the runoff hydrograph at combination point
5937          KM   CMD35 at the intersection of McDowell Road and 35th Avenue
5938          HC       2
              *

5939          KK   D35MD  DIVERT
5940          KM   Capacity of storm drain in 31st Avenue and 35th Avenue diverted together.
5941          KM   Divert combined calculated full flow capacity of 405 cfs in the 84-inch storm
5942          KM   drain pipe in 31st AVenue and 102 cfs in the 51-inch storm drain pipe in
5943          KM   35th Avenue. The total calculated combined full flow capacity diverted at the
5944          KM   intersection of 35th Avenue and McDowell Road is 507 cfs in an equivalent
5945          KM   diameter pipe of 93 inches
5946          DT  DP35MD      0.0    507.0
5947          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
5948          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

5949          KK  DWMD43  DIVERT
5950          KM   Divert remaining runoff hydrograph from combination point CPMD35 west to
5951          KM   combination point CMD43
5952          DT  DSIN35      0.0     0.0
5953          DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
5954          DQ     0.0    63.0   126.0   315.0   630.0  1260.0  2520.0  6300.0 12600.0 31500.0
              *

5955          KK  RWMD43   ROUTE
5956          KM   Route diversion DWMD43 west to combination point CMD43
5957          RS       7    FLOW
5958          RC  0.035   0.015   0.035    5280  0.0004    0.00
5959          RX   0.00    0.00   95.50   95.50  453.50  453.50  549.00  549.00
5960          RY   3.00    1.46    0.50    0.00    0.00    0.50    1.46    3.00
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


5961          KK  DRMD43RETRIEVE
5962          KM   Retrieve divert DRMD43 from combination point CTM43 and divert south to
5963          KM   combination point CMD43
5964          DR  DSMD43
              *

5965          KK  RSMD43   ROUTE
5966          KM   Route diversion retrieval DRMD43 south to combination point CMD43
5967          RS       3    FLOW
5968          RC  0.035   0.015   0.035    5280  0.0037    0.00
5969          RX   0.00    0.00   67.00   67.00  332.00  332.00  399.00  399.00
5970          RY   3.00    1.17    0.50    0.00    0.00    0.50    1.17    3.00
              *

5971          KK   MD43   BASIN
5972          KM   Runoff hydrograph for square mile subbasin MD43 northeast of the intersection
5973          KM   of McDowell Road and 43rd Avenue
5974          BA  0.999
5975          LG   0.22    0.15    9.70    0.04      41
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```
5976          UC   1.107   0.414
5977          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
5978          UA     100
              *

5979          KK   CMD43 COMBINE
5980          KM   Combine route RWMD43, route RSMD43, and subbasin MD43
5981          HC       3    6.96
              *

5982          KK  PR43TMRETRIEVE
5983          KM   Retrieve combined full flow capacity of 629 cfs from 102-inch equivalent
5984          KM   diameter pipe at the intersection of Thomas Road and 43rd Avenue
5985          DR  DP43TM
              *

5986          KK  RP43MD   ROUTE
5987          KM   Route the combined full flow capacity of 629 cfs through an equivalent storm
5988          KM   drain pipe diameter of 102 inches in 43rd Avenue to the intersection of
5989          KM   43rd Avenue and McDowell Road
5990          RK    5212  0.0035   0.015            CIRC   8.500
              *

5991          KK  CPMD43 COMBINE
5992          KM   Combine pipe return PR43TM with the runoff hydrograph at combination point
5993          KM   CMD43 at the intersection of McDowell Road and 43rd Avenue
5994          HC       2
              *

5995          KK   D43MD  DIVERT
5996          KM   Capacity of storm drain in 39th Avenue and 43rd Avenue diverted together.
5997          KM   Divert combined calculated full flow capacity of 404 cfs in the 84-inch storm
5998          KM   drain pipe in 39th AVenue and 225 cfs in the 69-inch storm drain pipe in
5999          KM   43rd Avenue. The total calculated combined full flow capacity diverted at the
6000          KM   intersection of 35th Avenue and McDowell Road is 629 cfs in an equivalent
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

6001          KM   diameter pipe of 102 inches
6002          DT  DP43MD     0.0   629.0
6003          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
6004          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

6005          KK  DWMD51  DIVERT
6006          KM   Divert remaining runoff hydrograph from combination point CPMD43 west to
6007          KM   combination point CMD51
6008          DT  DSIN43     0.0     0.0
6009          DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
6010          DQ     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
              *

6011          KK  RWMD51   ROUTE
6012          KM   Route diversion DWMD51 west to combination point CMD51
6013          RS       1    FLOW
6014          RC   0.035   0.015   0.035    5280  0.0002    0.00
6015          RX    0.00    0.00   57.50   57.50  291.50  291.50  349.00  349.00
6016          RY    3.00    1.08    0.50    0.00    0.00    0.50    1.08    3.00
              *

6017          KK  DRMD51RETRIEVE
6018          KM   Retrieve divert DRMD51 from combination point CPTM51 and divert south to
6019          KM   combination point CMD51
6020          DR  DSMD51
              *

6021          KK  RSMD51   ROUTE
6022          KM   Route diversion retrieval DRMD51 south to combination point CMD51
6023          RS       4    FLOW
6024          RC   0.035   0.015   0.035    5280  0.0035    0.00
6025          RX    0.00    0.00   54.50   54.50  269.50  269.50  324.00  324.00
6026          RY    3.00    1.04    0.50    0.00    0.00    0.50    1.04    3.00
              *

6027          KK    MD51   BASIN
6028          KM   Runoff hydrograph for square mile subbasin MD51 northeast of the intersection
6029          KM   of McDowell Road and 51st Avenue
6030          BA   1.001
6031          LG    0.23    0.15    8.40    0.07      35
6032          UC   1.500   1.010
6033          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
6034          UA     100
              *

6035          KK   CMD51 COMBINE
6036          KM   Combine route RWMD51, route RSMD51, and subbasin MD51
6037          HC       3    2.37
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10
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6038          KK  PR51TMRETRIEVE
6039          KM   Retrieve full flow capacity of 244 cfs from 72-inch storm drain pipe at the
6040          KM   intersection of Thomas Road and 51st Avenue
6041          DR  DP51TM
              *

6042          KK  RP51MD   ROUTE
6043          KM   Route full flow capacity of 244 cfs through 72-inch storm drain pipe in
6044          KM   51st Avenue to the intersection of McDowell Road and 51st Avenue
6045          RK    5322  0.0033   0.015            CIRC   6.000
              *

6046          KK  CPMD51 COMBINE
6047          KM   Combine pipe return PR51TM with the runoff hydrograph at combination point
6048          KM   CMD51 at the intersection of McDowell Road and 51st Avenue
6049          HC       2
              *

6050          KK   D51MD  DIVERT
6051          KM   Divert calculated full flow capapcity of 368 cfs into 84-inch storm drain
6052          KM   pipe at the intersection of McDowell Road and 51st Avenue
6053          DT  DP51MD     0.0   368.0
6054          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
6055          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

6056          KK  DWMD59  DIVERT
6057          KM   Divert remaining runoff hydrograph from combination point CPMD43 west to
6058          KM   combination point CMD51
6059          DT  DSIN51     0.0     0.0
6060          DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
6061          DQ     0.0    39.0    78.0   195.0   390.0   780.0  1560.0  3900.0  7800.0 19500.0
              *

6062          KK  RWMD59   ROUTE
6063          KM   Route diversion DWMD59 west to combination point CMD59
6064          RS       7    FLOW
6065          RC   0.035   0.015   0.035    5280  0.0014    0.00
6066          RX    0.00    0.00   57.50   57.50  291.50  291.50  349.00  349.00
6067          RY    3.00    1.08    0.50    0.00    0.00    0.50    1.08    3.00
              *

6068          KK  DRMD59RETRIEVE
6069          KM   Retrieve divert DRMD59 from combination point CPTM59 and divert south to
6070          KM   combination point CMD59
6071          DR  DSMD59
              *

6072          KK  RSMD59   ROUTE
6073          KM   Route diversion retrieval DRMD59 south to combination point CMD59
6074          RS       3    FLOW
6075          RC   0.035   0.015   0.035    5280  0.0035    0.00
6076          RX    0.00    0.00   38.50   38.50  210.50  210.50  249.00  249.00
6077          RY    3.00    0.88    0.50    0.00    0.00    0.50    0.88    3.00
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

6078          KK    MD59   BASIN
6079          KM   Runoff hydrograph for square mile subbasin MD59 northeast of the intersection
6080          KM   of McDowell Road and 59th Avenue
6081          BA   1.005
6082          LG    0.25    0.15    7.60    0.08      33
6083          UC   1.500   1.008
6084          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
6085          UA     100
              *

6086          KK   CMD59 COMBINE
6087          KM   Combine route RWMD59, route RSMD59, and subbasin MD59
6088          HC       3    4.05
              *

6089          KK  PR59TMRETRIEVE
6090          KM   Retrieve full flow capacity of 389 cfs from 84-inch storm drain pipe at the
6091          KM   intersection of Thomas Road and 59th Avenue
6092          DR  DP59TM
              *

6093          KK  RP59MD   ROUTE
6094          KM   Route full flow capacity of 389 cfs through 84-inch storm drain pipe in
6095          KM   59th Avenue to the intersection of McDowell Road and 59th Avenue
6096          RK    5206  0.0037   0.015            CIRC   7.000
              *

6097          KK  CPMD59 COMBINE
6098          KM   Combine pipe return PR59TM with the runoff hydrograph at combination point
6099          KM   CMD59 at the intersection of McDowell Road and 59th Avenue
6100          HC       2
              *
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6101          KK   D59MD  DIVERT
6102          KM   Divert calculated full flow capapcity of 468 cfs into 90-inch storm drain
6103          KM   pipe at the intersection of McDowell Road and 59th Avenue
6104          DT  DP59MD      0.0   468.0
6105          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
6106          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

6107          KK  DWMD67  DIVERT
6108          KM   Divert remaining runoff hydrograph from combination point CPMD59 west to
6109          KM   combination point CMD67
6110          DT  DSIN59      0.0     0.0
6111          DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
6112          DQ     0.0    50.0   100.0   250.0   500.0  1000.0  2000.0  5000.0 10000.0 25000.0
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

6113          KK  RWMD67   ROUTE
6114          KM   Route diversion DWMD67 west to combination point CMD67
6115          RS      5     FLOW
6116          RC  0.035   0.015   0.035    5280  0.0015    0.00
6117          RX   0.00    0.00   67.00   67.00  332.00  332.00  399.00  399.00
6118          RY   3.00    1.17    0.50    0.00    0.00    0.50    1.17    3.00
              *

6119          KK  DRMD67RETRIEVE
6120          KM   Retrieve divert DRMD67 from combination point CPTM67 and divert south to
6121          KM   combination point CMD67
6122          DR  DSMD67
              *

6123          KK  RSMD67   ROUTE
6124          KM   Route diversion retrieval DRMD67 south to combination point CMD67
6125          RS      4     FLOW
6126          RC  0.035   0.015   0.035    5280  0.0035    0.00
6127          RX   0.00    0.00   48.00   48.00  251.00  251.00  299.00  299.00
6128          RY   3.00    0.98    0.50    0.00    0.00    0.50    0.98    3.00
              *

6129          KK   MD67   BASIN
6130          KM   Runoff hydrograph for square mile subbasin MD67 northeast of the intersection
6131          KM   of McDowell Road and 67th Avenue
6132          BA  0.978
6133          LG   0.22    0.15    8.40    0.07      30
6134          UC  1.500   1.015
6135          UA      0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
6136          UA    100
              *

6137          KK  ERMD67  DIVERT
6138          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
6139          KM   retention developed after 1990 in subbasin MD67
6140          DT   XMD67     12.5      0.0
6141          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
6142          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

6143          KK   CMD67 COMBINE
6144          KM   Combine route RWMD67, route RSMD67, and subbasin MD67
6145          HC       3    4.41
              *

6146          KK  PR67TMRETRIEVE
6147          KM   Retrieve full flow capacity of 273 cfs from 78-inch storm drain pipe at the
6148          KM   intersection of Thomas Road and 67th Avenue
6149          DR  DP67TM
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

6150          KK  RP67MD   ROUTE
6151          KM   Route full flow capacity of 273 cfs through 78-inch storm drain pipe in
6152          KM   67th Avenue to the intersection of McDowell Road and 67th Avenue
6153          RK    5218  0.0027   0.015            CIRC   6.500
              *

6154          KK  CPMD67 COMBINE
6155          KM   Combine pipe return PR67TM with the runoff hydrograph at combination point
6156          KM   CMD67 at the intersection of McDowell Road and 67th Avenue
6157          HC       2
              *

6158          KK   D67MD  DIVERT
6159          KM   Divert calculated full flow capapcity of 400 cfs into 90-inch storm drain
6160          KM   pipe at the intersection of McDowell Road and 67th Avenue
6161          DT  DP67MD      0.0   400.0
6162          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
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6163          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

6164          KK  DWMD75  DIVERT
6165          KM   Divert remaining runoff hydrograph from combination point CPMD67 west to
6166          KM   combination point CMD75
6167          DT  DSIN67      0.0     0.0
6168          DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
6169          DQ     0.0    15.0    30.0    75.0   150.0   300.0   600.0  1500.0  3000.0  7500.0
              *

6170          KK  RWMD75   ROUTE
6171          KM   Route diversion DWMD75 west to combination point CMD75
6172          RS      5     FLOW
6173          RC  0.035   0.015   0.035    5280  0.0015    0.00
6174          RX   0.00    0.00   95.50   95.50  453.50  453.50  549.00  549.00
6175          RY   3.00    1.46    0.50    0.00    0.00    0.50    1.46    3.00
              *

6176          KK  DRMD75RETRIEVE
6177          KM   Retrieve divert DRMD75 from combination point CPTM75 and divert south to
6178          KM   combination point CMD75
6179          DR  DSMD75
              *

6180          KK  RSMD75   ROUTE
6181          KM   Route diversion retrieval DRMD75 south to combination point CMD75
6182          RS      4     FLOW
6183          RC  0.035   0.015   0.035    5280  0.0027    0.00
6184          RX   0.00    0.00   67.00   67.00  332.00  332.00  399.00  399.00
6185          RY   3.00    1.17    0.50    0.00    0.00    0.50    1.17    3.00
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

6186          KK   MD75   BASIN
6187          KM   Runoff hydrograph for square mile subbasin MD75 northeast of the intersection
6188          KM   of McDowell Road and 75th Avenue
6189          BA  1.002
6190          LG   0.22    0.15    7.60    0.08      40
6191          UC  1.500   1.005
6192          UA      0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
6193          UA    100
              *

6194          KK  ERMD75  DIVERT
6195          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
6196          KM   retention developed after 1990 in subbasin MD75
6197          DT   XMD75      9.4      0.0
6198          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
6199          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

6200          KK   CMD75 COMBINE
6201          KM   Combine route RWMD75, route RSMD75, and subbasin MD75
6202          HC       3    6.14
              *

6203          KK  PR75TMRETRIEVE
6204          KM   Retrieve full flow capacity of 303 cfs from 84-inch storm drain pipe at the
6205          KM   intersection of Thomas Road and 75th Avenue
6206          DR  DP75TM
              *

6207          KK  RP75MD   ROUTE
6208          KM   Route full flow capacity of 303 cfs through 84-inch storm drain pipe in
6209          KM   75th Avenue to the intersection of McDowell Road and 75th Avenue
6210          RK    5222  0.0022   0.015            CIRC   7.000
              *

6211          KK  CPMD75 COMBINE
6212          KM   Combine pipe return PR75TM with the runoff hydrograph at combination point
6213          KM   CMD75 at the intersection of McDowell Road and 75th Avenue
6214          HC       2
              *

6215          KK   D75MD  DIVERT
6216          KM   Divert calculated full flow capapcity of 364 cfs into 90-inch storm drain
6217          KM   pipe at the intersection of McDowell Road and 75th Avenue
6218          DT  DP75MD      0.0   364.0
6219          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
6220          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

6221          KK  DWMD83  DIVERT
6222          KM   Divert remaining runoff hydrograph from combination point CPMD75 west to
6223          KM   combination point CMD83
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6224          DT  DSIN75      0.0      0.0
6225          DI      0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0  10000.0  20000.0  50000.0
6226          DQ      0.0     35.0     70.0    175.0    350.0    700.0   1400.0   3500.0   7000.0  17500.0
              *

6227          KK  RWMD83    ROUTE
6228          KM   Route diversion DWMD83 west to combination point CMD83
6229          RS       3     FLOW
6230          RC   0.035    0.015    0.035     5280   0.0026     0.00
6231          RX    0.00     0.00    57.50    57.50   291.50   291.50   349.00   349.00
6232          RY    3.00     1.08     0.50     0.00     0.00     0.50     1.08     3.00
              *

6233          KK  DRMD83RETRIEVE
6234          KM   Retrieve divert DRMD83 from combination point CPTM83 and divert south to
6235          KM   combination point CMD83
6236          DR  DSMD83
              *

6237          KK  RSMD83    ROUTE
6238          KM   Route diversion retrieval DRMD83 south to combination point CMD83
6239          RS       3     FLOW
6240          RC   0.035    0.015    0.035     5280   0.0028     0.00
6241          RX    0.00     0.00    29.00    29.00   170.00   170.00   199.00   199.00
6242          RY    3.00     0.79     0.50     0.00     0.00     0.50     0.79     3.00
              *

6243          KK    MD83    BASIN
6244          KM   Runoff hydrograph for square mile subbasin MD83 northeast of the intersection
6245          KM   of McDowell Road and 83rd Avenue
6246          BA   0.992
6247          LG    0.12     0.15     8.80     0.05       76
6248          UC   1.018    0.663
6249          UA       0      5.0     16.0     30.0     65.0     77.0     84.0     90.0     94.0     97.0
6250          UA     100
              *

6251          KK  ERMD83   DIVERT
6252          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
6253          KM   retention developed after 1990 in subbasin MD83
6254          DT   XMD83     55.2      0.0
6255          DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
6256          DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

6257          KK   CMD83 COMBINE
6258          KM   Combine route RWMD83, route RSMD83, and subbasin MD83
6259          HC       3     5.80
              *

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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9.....10

6260          KK  PR83TMRETRIEVE
6261          KM   Retrieve full flow capacity of 283 cfs from 84-inch storm drain pipe at the
6262          KM   intersection of Thomas Road and 83rd Avenue
6263          DR  DP83TM
              *

6264          KK  RP83MD    ROUTE
6265          KM   Route full flow capacity of 283 cfs through 84-inch storm drain pipe in
6266          KM   83rd Avenue to the intersection of McDowell Road and 83rd Avenue
6267          RK     5059  0.0019    0.015             CIRC    7.000
              *

6268          KK  CPMD83 COMBINE
6269          KM   Combine pipe return PR83TM with the runoff hydrograph at combination point
6270          KM   CMD83 at the intersection of McDowell Road and 83rd Avenue
6271          HC       2
              *

6272          KK   D83MD  DIVERT
6273          KM   Divert calculated full flow capapcity of 340 cfs into 90-inch storm drain
6274          KM   pipe at the intersection of McDowell Road and 83rd Avenue
6275          DT  DP83MD      0.0    340.0
6276          DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
6277          DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

6278          KK  RWMD91    ROUTE
6279          KM   Route remainder of diversion D83MD west to combination point CMD91
6280          RS       3     FLOW
6281          RC   0.035    0.015    0.035     5280   0.0021     0.00
6282          RX    0.00     0.00    57.50    57.50   291.50   291.50   349.00   349.00
6283          RY    3.00     1.08     0.50     0.00     0.00     0.50     1.08     3.00
              *

6284          KK  DRMD91RETRIEVE
6285          KM   Retrieve divert DRMD91 from combination point CPTM91 and divert south to
6286          KM   combination point CMD91
6287          DR  DSMD91
              *
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6288          KK  RSMD91    ROUTE
6289          KM   Route diversion retrieval DRMD91 south to combination point CMD91
6290          RS       4     FLOW
6291          RC   0.035    0.015    0.035     5280   0.0021     0.00
6292          RX    0.00     0.00    57.50    57.50   291.50   291.50   349.00   349.00
6293          RY    3.00     1.08     0.50     0.00     0.00     0.50     1.08     3.00
              *

6294          KK    MD91    BASIN
6295          KM   Runoff hydrograph for square mile subbasin MD91 northeast of the intersection
6296          KM   of McDowell Road and 91st Avenue
6297          BA   1.007
6298          LG    0.22     0.15     8.80     0.05       43
6299          UC   1.500    1.006

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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9.....10

6300          UA       0      5.0     16.0     30.0     65.0     77.0     84.0     90.0     94.0     97.0
6301          UA     100
              *

6302          KK  ERMD91   DIVERT
6303          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
6304          KM   retention developed after 1990 in subbasin MD91
6305          DT   XMD91     25.7      0.0
6306          DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
6307          DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

6308          KK   CMD91 COMBINE
6309          KM   Combine route RWMD91, route RSMD91, and subbasin MD91
6310          HC       3    10.61
              *

6311          KK  PR91TMRETRIEVE
6312          KM   Retrieve full flow capacity of 287 cfs from 84-inch storm drain pipe at the
6313          KM   intersection of Thomas Road and 91st Avenue
6314          DR  DP91TM
              *

6315          KK  RP91MD    ROUTE
6316          KM   Route full flow capacity of 287 cfs through 84-inch storm drain pipe in
6317          KM   91st Avenue to the intersection of McDowell Road and 91st Avenue
6318          RK     5271  0.0020    0.015             CIRC    7.000
              *

6319          KK  CPMD91 COMBINE
6320          KM   Combine pipe return PR91TM with the runoff hydrograph at combination point
6321          KM   CMD91 at the intersection of McDowell Road and 91st Avenue
6322          HC       2
              *

6323          KK   D91MD  DIVERT
6324          KM   Divert calculated full flow capapcity of 345 cfs into 90-inch storm drain
6325          KM   pipe at the intersection of McDowell Road and 83rd Avenue
6326          DT  DP91MD      0.0    345.0
6327          DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
6328          DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

6329          KK  DWMDLO  DIVERT
6330          KM   Divert remaining runoff hydrograph from combination point CPMD91 west to
6331          KM   combination point CMDLO
6332          DT  DSIN91      0.0      0.0
6333          DI      0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0  10000.0  20000.0  50000.0
6334          DQ      0.0     20.0     40.0    100.0    200.0    400.0    800.0   2000.0   4000.0  10000.0
              *

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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9.....10

6335          KK  RWMDLO    ROUTE
6336          KM   Route diversion DWMDLO west to combination point CMDLO
6337          RS       3     FLOW
6338          RC   0.035    0.015    0.035     4061   0.0010     0.00
6339          RX    0.00     0.00    45.00    45.00   229.00   229.00   274.00   274.00
6340          RY    3.00     0.95     0.50     0.00     0.00     0.50     0.95     3.00
              *

6341          KK    MDLO    BASIN
6342          KM   Runoff hydrograph for subbasin MDLO northeast of the intersection of McDowell
6343          KM   Road and SR Loop 101
6344          BA   0.671
6345          LG    0.20     0.15     9.70     0.04       48
6346          UC   1.184    0.565
6347          UA       0      5.0     16.0     30.0     65.0     77.0     84.0     90.0     94.0     97.0
6348          UA     100
              *

6349          KK  ERMDLO  DIVERT
```

```
6350          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
6351          KM   retention developed after 1990 in subbasin MDLO
6352          DT   XMDLO     60.9      0.0
6353          DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
6354          DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *
6355          KK   CMDLO COMBINE
6356          KM   Combine route RWMDLO, route RSMDLO, and subbasin MDLO
6357          HC        3    14.07
              *
6358          KK  RSINLO    ROUTE
6359          KM   Route hydrograph at combination point CMDLO south to combination point CINLO
6360          RS        1     FLOW
6361          RC   0.035    0.015    0.035     1374   0.0019     0.00
6362          RX    0.00     3.00     5.00    39.00    47.00    51.00    65.00    68.00
6363          RY   18.00    17.00    17.00     0.00     0.16    17.16    17.44    18.44
              *
6364          KK  DSINLO   DIVERT
6365          KM   Divert route RSINLO to detention basin northeast of L101 and I-10 Freeways.
6366          KM   Only the flow greater than the channel capacity is diverted to the basin.
6367          DT  DEIN95       0.0       0.0
6368          DI      0.0 10390.0 11211.0 12070.0 13910.0      0.0      0.0      0.0      0.0      0.0
6369          DQ      0.0      0.0    286.0    810.0   2291.0      0.0      0.0      0.0      0.0      0.0
              *
6370          KK    IN27    BASIN
6371          KM   Runoff hydrograph for subbasin IN27 northeast of the intersection of
6372          KM   Interstate 10 and 27th Avenue
6373          BA   0.105
6374          LG    0.14     0.25     5.60     0.18       80
6375          UC   0.559    0.484
6376          UA        0      5.0     16.0     30.0     65.0     77.0     84.0     90.0     94.0     97.0
1                                        HEC-1 INPUT                                                    PAGE166
LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10
6377          UA      100
              *
6378          KK  PR27MDRETRIEVE
6379          KM   Retrieve full flow capacity of 246 cfs from 72-inch diameter pipe at the
6380          KM   intersection of McDowell Road and 27th Avenue
6381          DR  DP27MD
              *
6382          KK  RP27IN    ROUTE
6383          KM   Route full flow capacity of 246 cfs through 72-inch storm drain pipe in
6384          KM   in 27th Avenue to the intersection of 27th Avenue and Interstate 10
6385          RK      959  0.0034    0.015              CIRC    6.000
              *
6386          KK  CPIN27 COMBINE
6387          KM   Combine pipe return PR27MD with the runoff hydrograph at combination point
6388          KM   CIN27 at the intersection of Interstate 10 and 27th Avenue
6389          HC        2
              *
6390          KK  DWIN35  DIVERT
6391          KM   Divert remaining runoff hydrograph from combination point CPIN27 west to
6392          KM   combination point CIN35
6393          DT  DSVB27       0.0       0.0
6394          DI      0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0 10000.0 20000.0 50000.0
6395          DQ      0.0     72.0    144.0    360.0    720.0   1440.0   2880.0   7200.0 14400.0 36000.0
              *
6396          KK  RWIN35    ROUTE
6397          KM   Route diversion DWIN35 west to combination point CIN35
6398          RS        7     FLOW
6399          RC   0.035    0.015    0.035     5280   0.0005     0.00
6400          RX    0.00     0.00     9.50     9.50    40.50    40.50    50.00    50.00
6401          RY    3.00     0.60     0.50     0.00     0.00     0.50     0.60     3.00
              *
6402          KK  DRIN35RETRIEVE
6403          KM   Retrieve divert DRIN35 from combination point CPMD35 and divert south to
6404          KM   combination point CIN35
6405          DR  DSIN35
              *
6406          KK  RSIN35    ROUTE
6407          KM   Route diversion retrieval DRIN35 south to combination point CIN35
6408          RS        1     FLOW
6409          RC   0.035    0.015    0.035     1116   0.0019     0.00
6410          RX    0.00     0.00    76.50    76.50   372.50   372.50   449.00   449.00
6411          RY    3.00     1.27     0.50     0.00     0.00     0.50     1.27     3.00
              *
1                                        HEC-1 INPUT                                                    PAGE167
LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10
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6412          KK    IN35    BASIN
6413          KM   Runoff hydrograph for subbasin IN35 northeast of the intersection of
6414          KM   Interstate 10 and 35th Avenue
6415          BA   0.242
6416          LG    0.17     0.13    10.10     0.03       64
6417          UC   0.425    0.089
6418          UA        0      5.0     16.0     30.0     65.0     77.0     84.0     90.0     94.0     97.0
6419          UA      100
              *
6420          KK   CIN35 COMBINE
6421          KM   Combine route RWIN35, route RSIN35, and subbasin IN35
6422          HC        3     6.11
              *
6423          KK  PR35MDRETRIEVE
6424          KM   Retrieve combined full flow capacity of 507 cfs from 93-inch equivalent
6425          KM   diameter pipe at the intersection of McDowell Road and 35th Avenue
6426          DR  DP35MD
              *
6427          KK  RP35IN    ROUTE
6428          KM   Route the combined full flow capacity of 507 cfs through an equivalent storm
6429          KM   drain pipe diameter of 93 inches in 35th Avenue to the intersection of
6430          KM   35th Avenue and Interstate 10
6431          RK      937  0.0037    0.015              CIRC    7.750
              *
6432          KK  CPIN35 COMBINE
6433          KM   Combine pipe return PR35MD with the runoff hydrograph at combination point
6434          KM   CIN35 at the intersection of Interstate 10 and 35th Avenue
6435          HC        2
              *
6436          KK  DWIN43  DIVERT
6437          KM   Divert remaining runoff hydrograph from combination point CPIN35 west to
6438          KM   combination point CIN43
6439          DT  DSVB35       0.0       0.0
6440          DI      0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0 10000.0 20000.0 50000.0
6441          DQ      0.0     87.0    174.0    435.0    870.0   1740.0   3480.0   8700.0 17400.0 43500.0
              *
6442          KK  RWIN43    ROUTE
6443          KM   Route diversion DWIN43 west to combination point CIN43
6444          RS        3     FLOW
6445          RC   0.035    0.015    0.035     5280   0.0008     0.00
6446          RX    0.00     0.00     9.50     9.50    40.50    40.50    50.00    50.00
6447          RY    3.00     0.60     0.50     0.00     0.00     0.50     0.60     3.00
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10
6448          KK  DRIN43RETRIEVE
6449          KM   Retrieve divert DRIN43 from combination point CPMD43 and divert south to
6450          KM   combination point CIN43
6451          DR  DSIN43
              *
6452          KK  RSIN43    ROUTE
6453          KM   Route diversion retrieval DRIN43 south to combination point CIN43
6454          RS        1     FLOW
6455          RC   0.035    0.015    0.035      900   0.0042     0.00
6456          RX    0.00     0.00    57.50    57.50   291.50   291.50   349.00   349.00
6457          RY    3.00     1.08     0.50     0.00     0.00     0.50     1.08     3.00
              *
6458          KK    IN43    BASIN
6459          KM   Runoff hydrograph for subbasin IN43 northeast of the intersection of
6460          KM   Interstate 10 and 43rd Avenue
6461          BA   0.256
6462          LG    0.20     0.15     9.70     0.04       49
6463          UC   0.667    0.180
6464          UA        0      5.0     16.0     30.0     65.0     77.0     84.0     90.0     94.0     97.0
6465          UA      100
              *
6466          KK   CIN43 COMBINE
6467          KM   Combine route RWIN43, route RSIN43, and subbasin IN43
6468          HC        3     7.99
              *
6469          KK  PR43MDRETRIEVE
6470          KM   Retrieve combined full flow capacity of 629 cfs from 102-inch equivalent
6471          KM   diameter pipe at the intersection of McDowell Road and 43rd Avenue
6472          DR  DP43MD
              *
6473          KK  RP43IN    ROUTE
6474          KM   Route the combined full flow capacity of 629 cfs through an equivalent storm
6475          KM   drain pipe diameter of 102 inches in 43rd Avenue to the intersection of
```

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6476          KM   35th Avenue and Interstate 10
6477          RK    1217  0.0035   0.015            CIRC   8.500
              *

6478          KK  CPIN43 COMBINE
6479          KM   Combine pipe return PR43MD with the runoff hydrograph at combination point
6480          KM   CIN43 at the intersection of Interstate 10 and 43rd Avenue
6481          HC       2
              *

6482          KK  DWIN51  DIVERT
6483          KM   Divert remaining runoff hydrograph from combination point CPIN43 west to
6484          KM   combination point CIN51
6485          DT  DSVB43      0.0      0.0
6486          DI     0.0   100.0    200.0    500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
6487          DQ     0.0    81.0    162.0    405.0   810.0  1620.0  3240.0  8100.0 16200.0 40500.0
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

6488          KK  RWIN51    ROUTE
6489          KM   Route diversion DWIN51 west to combination point CIN51
6490          RS       1     FLOW
6491          RC   0.035   0.015    0.035    5290  0.0027     0.00
6492          RX    0.00    0.10    18.00   36.00   66.00    84.00  102.00  102.10
6493          RY   18.00   17.05     9.00    0.00    0.00     9.00   17.05   18.00
              *

6494          KK  DRIN51RETRIEVE
6495          KM   Retrieve divert DRIN51 from combination point CPMD51 and divert south to
6496          KM   combination point CIN51
6497          DR  DSIN51
              *

6498          KK  RSIN51    ROUTE
6499          KM   Route diversion retrieval DRIN51 south to combination point CIN51
6500          RS       2     FLOW
6501          RC   0.035   0.015    0.035    1143  0.0007     0.00
6502          RX    0.00    0.00    54.50   54.50  269.50   269.50  324.00  324.00
6503          RY    3.00    1.04     0.50    0.00    0.00     0.50    1.04    3.00
              *

6504          KK    IN51    BASIN
6505          KM   Runoff hydrograph for subbasin IN51 northeast of the intersection of
6506          KM   Interstate 10 and 51st Avenue
6507          BA   0.232
6508          LG    0.12     0.15     9.70    0.04       80
6509          UC   0.703    0.675
6510          UA       0      5.0     16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
6511          UA     100
              *

6512          KK  ERIN51  DIVERT
6513          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
6514          KM   retention developed after 1990 and NOAA14 rainfall for future retention in
6515          KM   subbasin IN51
6516          DT   XIN51      1.5      0.0
6517          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
6518          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

6519          KK   CIN51 COMBINE
6520          KM   Combine route RWIN51, route RSIN51, and subbasin IN51
6521          HC       3     2.68
              *

6522          KK  PR51MDRETRIEVE
6523          KM   Retrieve full flow capacity of 368 cfs from 84-inch storm drain pipe at the
6524          KM   intersection of McDowell Road and 51st Avenue
6525          DR  DP51MD
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

6526          KK  RP51IN    ROUTE
6527          KM   Route full flow capacity of 368 cfs through 84-inch storm drain pipe in
6528          KM   51st Avenue to the intersection of Interstate 10 and 51st Avenue
6529          RK     731  0.0033   0.015            CIRC   7.000
              *

6530          KK  CPIN51 COMBINE
6531          KM   Combine pipe return PR51MD with the runoff hydrograph at combination point
6532          KM   CIN51 at the intersection of Interstate 10 and 51st Avenue
6533          HC       2
              *

6534          KK  DWIN59  DIVERT
6535          KM   Divert remaining runoff hydrograph from combination point CPIN51 west to
6536          KM   combination point CIN59
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6537          DT  DSVB51      0.0      0.0
6538          DI     0.0 26494.0 26494.1 50000.0      0.0      0.0      0.0      0.0      0.0      0.0
6539          DQ     0.0      0.0 26494.1 50000.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

6540          KK  RWIN59    ROUTE
6541          KM   Route diversion DWIN59 west to combination point CIN59
6542          RS       1     FLOW
6543          RC   0.035   0.015    0.035    5297  0.0017     0.00
6544          RX    0.00    0.10    18.00   36.00   66.00    84.00  102.00  102.10
6545          RY   18.00   17.05     9.00    0.00    0.00     9.00   17.05   18.00
              *

6546          KK  DRIN59RETRIEVE
6547          KM   Retrieve divert DRIN59 from combination point CPMD59 and divert south to
6548          KM   combination point CIN59
6549          DR  DSIN59
              *

6550          KK  RSIN59    ROUTE
6551          KM   Route diversion retrieval DRIN59 south to combination point CIN59
6552          RS       1     FLOW
6553          RC   0.035   0.015    0.035     730  0.0047     0.00
6554          RX    0.00    0.00    35.50   35.50  188.50   188.50  224.00  224.00
6555          RY    3.00    0.86     0.50    0.00    0.00     0.50    0.86    3.00
              *

6556          KK    IN59    BASIN
6557          KM   Runoff hydrograph for subbasin IN59 northeast of the intersection of
6558          KM   Interstate 10 and 59th Avenue
6559          BA   0.202
6560          LG    0.19     0.15     9.70    0.04       59
6561          UC   1.345    1.421
6562          UA       0      5.0     16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
6563          UA     100
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

6564          KK  ERIN59  DIVERT
6565          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
6566          KM   retention developed after 1990 and NOAA14 rainfall for future retention in
6567          KM   subbasin IN59
6568          DT   XIN59      1.9      0.0
6569          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
6570          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

6571          KK   CIN59 COMBINE
6572          KM   Combine route RWIN59, route RSIN59, and subbasin IN59
6573          HC       3     4.90
              *

6574          KK  PR59MDRETRIEVE
6575          KM   Retrieve full flow capacity of 468 cfs from 90-inch storm drain pipe at the
6576          KM   intersection of McDowell Road and 59th Avenue
6577          DR  DP59MD
              *

6578          KK  RP59IN    ROUTE
6579          KM   Route full flow capacity of 468 cfs through 90-inch storm drain pipe in
6580          KM   59th Avenue to the intersection of Interstate 10 and 59th Avenue
6581          RK     846  0.0037   0.015            CIRC   7.500
              *

6582          KK  CPIN59 COMBINE
6583          KM   Combine pipe return PR59MD with the runoff hydrograph at combination point
6584          KM   CIN59 at the intersection of Interstate 10 and 59th Avenue
6585          HC       2
              *

6586          KK  DWIN67  DIVERT
6587          KM   Divert remaining runoff hydrograph from combination point CPIN59 west to
6588          KM   combination point CIN67
6589          DT  DSVB59      0.0      0.0
6590          DI     0.0 21022.0 21022.1 50000.0      0.0      0.0      0.0      0.0      0.0      0.0
6591          DQ     0.0      0.0 21022.1 50000.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

6592          KK  RWIN67    ROUTE
6593          KM   Route diversion DWIN67 west to combination point CIN67
6594          RS       2     FLOW
6595          RC   0.035   0.015    0.035    5145  0.0012     0.00
6596          RX    0.00    0.10    18.00   36.00   66.00    84.00  102.00  102.10
6597          RY   18.00   17.05     9.00    0.00    0.00     9.00   17.05   18.00
              *

6598          KK  DRIN67RETRIEVE
6599          KM   Retrieve divert DRIN67 from combination point CPMD67 and divert south to
6600          KM   combination point CIN67
6601          DR  DSIN67
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                              *
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 LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


 6602          KK  RSIN67   ROUTE
 6603          KM   Route diversion retrieval DRIN67 south to combination point CIN67
 6604          RS       1     FLOW
 6605          RC   0.035   0.015   0.035     741  0.0027    0.00
 6606          RX    0.00    0.00   12.50   12.50   62.50   62.50   75.00   75.00
 6607          RY    3.00    0.62    0.50    0.00    0.00    0.50    0.62    3.00
               *

 6608          KK    IN67   BASIN
 6609          KM   Runoff hydrograph for subbasin IN67 northeast of the intersection of
 6610          KM   Interstate 10 and 67th Avenue
 6611          BA   0.197
 6612          LG    0.20    0.15    9.70    0.04      56
 6613          UC   1.500   1.604
 6614          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
 6615          UA     100
               *

 6616          KK  ERIN67  DIVERT
 6617          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
 6618          KM   retention developed after 1990 in subbasin IN67
 6619          DT   XIN67    10.0     0.0
 6620          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
 6621          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
               *

 6622          KK   CIN67 COMBINE
 6623          KM   Combine route RWIN67, route RSIN67, and subbasin IN67
 6624          HC       3    5.78
               *

 6625          KK  PR67MDRETRIEVE
 6626          KM   Retrieve full flow capacity of 400 cfs from 90-inch storm drain pipe at the
 6627          KM   intersection of McDowell Road and 67th Avenue
 6628          DR  DP67MD
               *

 6629          KK  RP67IN   ROUTE
 6630          KM   Route full flow capacity of 400 cfs through 90-inch storm drain pipe in
 6631          KM   67th Avenue to the intersection of Interstate 10 and 67th Avenue
 6632          RK     824  0.0027   0.015             CIRC   7.500
               *

 6633          KK  CPIN67 COMBINE
 6634          KM   Combine pipe return PR67MD with the runoff hydrograph at combination point
 6635          KM   CIN67 at the intersection of Interstate 10 and 67th Avenue
 6636          HC       2
               *
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 LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


 6637          KK  DWIN75  DIVERT
 6638          KM   Divert remaining runoff hydrograph from combination point CPIN67 west to
 6639          KM   combination point CIN75
 6640          DT  DSVB67     0.0     0.0
 6641          DI     0.0 17662.0 17662.1 50000.0     0.0     0.0     0.0     0.0     0.0     0.0
 6642          DQ     0.0     0.0 17662.1 50000.0     0.0     0.0     0.0     0.0     0.0     0.0
               *

 6643          KK  RWIN75   ROUTE
 6644          KM   Route diversion DWIN75 west to combination point CIN75
 6645          RS       1     FLOW
 6646          RC   0.035   0.015   0.035    5237  0.0020    0.00
 6647          RX    0.00    0.10   18.00   36.00   66.00   84.00  102.00  102.10
 6648          RY   18.00   17.05    9.00    0.00    0.00    9.00   17.05   18.00
               *

 6649          KK  DRIN75RETRIEVE
 6650          KM   Retrieve divert DRIN75 from combination point CPMD75 and divert south to
 6651          KM   combination point CIN75
 6652          DR  DSIN75
               *

 6653          KK  RSIN75   ROUTE
 6654          KM   Route diversion retrieval DRIN75 south to combination point CIN75
 6655          RS       1     FLOW
 6656          RC   0.035   0.015   0.035     731  0.0022    0.00
 6657          RX    0.00    0.00   29.00   29.00  170.00  170.00  199.00  199.00
 6658          RY    3.00    0.79    0.50    0.00    0.00    0.50    0.79    3.00
               *

 6659          KK    IN75   BASIN
 6660          KM   Runoff hydrograph for subbasin IN75 northeast of the intersection of
 6661          KM   Interstate 10 and 75th Avenue
 6662          BA   0.199
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 6663          LG    0.17    0.19    6.60    0.12      64
 6664          UC   1.305   1.377
 6665          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
 6666          UA     100
               *

 6667          KK  ERIN75  DIVERT
 6668          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
 6669          KM   retention developed after 1990 in subbasin IN75
 6670          DT   XIN75     4.7     0.0
 6671          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
 6672          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
               *

 6673          KK   CIN75 COMBINE
 6674          KM   Combine route RWIN75, route RSIN75, and subbasin IN75
 6675          HC       3    8.11
               *
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 LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


 6676          KK  PR75MDRETRIEVE
 6677          KM   Retrieve full flow capacity of 364 cfs from 90-inch storm drain pipe at the
 6678          KM   intersection of McDowell Road and 75th Avenue
 6679          DR  DP75MD
               *

 6680          KK  RP75IN   ROUTE
 6681          KM   Route full flow capacity of 364 cfs through 90-inch storm drain pipe in
 6682          KM   75th Avenue to the intersection of Interstate 10 and 75th Avenue
 6683          RK     811  0.0022   0.015             CIRC   7.500
               *

 6684          KK  CPIN75 COMBINE
 6685          KM   Combine pipe return PR75MD with the runoff hydrograph at combination point
 6686          KM   CIN75 at the intersection of Interstate 10 and 75th Avenue
 6687          HC       2
               *

 6688          KK  DWIN83  DIVERT
 6689          KM   Divert remaining runoff hydrograph from combination point CPIN75 west to
 6690          KM   combination point CIN83
 6691          DT  DSVB75     0.0     0.0
 6692          DI     0.0 22802.0 22802.1 50000.0     0.0     0.0     0.0     0.0     0.0     0.0
 6693          DQ     0.0     0.0 22802.1 50000.0     0.0     0.0     0.0     0.0     0.0     0.0
               *

 6694          KK  RWIN83   ROUTE
 6695          KM   Route diversion DWIN83 west to combination point CIN83
 6696          RS       1     FLOW
 6697          RC   0.035   0.015   0.035    5396  0.0016    0.00
 6698          RX    0.00    0.10   18.00   36.00   66.00   84.00  102.00  102.10
 6699          RY   18.00   17.05    9.00    0.00    0.00    9.00   17.05   18.00
               *

 6700          KK    IN83   BASIN
 6701          KM   Runoff hydrograph for subbasin IN83 northeast of the intersection of
 6702          KM   Interstate 10 and 83rd Avenue
 6703          BA   0.196
 6704          LG    0.18    0.15    7.00    0.10      64
 6705          UC   1.235   1.333
 6706          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
 6707          UA     100
               *

 6708          KK  ERIN83  DIVERT
 6709          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
 6710          KM   retention developed after 1990 in subbasin IN83
 6711          DT   XIN83    12.2     0.0
 6712          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
 6713          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
               *
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 LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


 6714          KK   CIN83 COMBINE
 6715          KM   Combine route RWIN83, route RSIN83, and subbasin IN83
 6716          HC       2    8.31
               *

 6717          KK  PR83MDRETRIEVE
 6718          KM   Retrieve full flow capacity of 340 cfs from 90-inch storm drain pipe at the
 6719          KM   intersection of McDowell Road and 83rd Avenue
 6720          DR  DP83MD
               *

 6721          KK  RP83IN   ROUTE
 6722          KM   Route full flow capacity of 340 cfs through 90-inch storm drain pipe in
 6723          KM   83rd Avenue to the intersection of Interstate 10 and 83rd Avenue
```

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6724          RK     824  0.0019   0.015            CIRC   7.500
              *

6725          KK  CPIN83 COMBINE
6726          KM   Combine pipe return PR83MD with the runoff hydrograph at combination point
6727          KM   CIN83 at the intersection of Interstate 10 and 83rd Avenue
6728          HC       2
              *

6729          KK  DWIN91  DIVERT
6730          KM   Divert remaining runoff hydrograph from combination point CPIN83 west to
6731          KM   combination point CIN91
6732          DT  DSVB83      0.0      0.0
6733          DI     0.0 20395.0 20395.1 50000.0      0.0      0.0      0.0      0.0      0.0      0.0
6734          DQ     0.0      0.0 20395.1 50000.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

6735          KK  RWIN91   ROUTE
6736          KM   Route diversion DWIN91 west to combination point CIN91
6737          RS       1    FLOW
6738          RC   0.035    0.015    0.035     5217  0.0016     0.00
6739          RX    0.00     0.10    18.00    36.00    66.00    84.00   102.00   102.10
6740          RY   18.00    17.05     9.00     0.00     0.00     9.00    17.05    18.00
              *

6741          KK  DRIN91RETRIEVE
6742          KM   Retrieve divert DRIN91 from combination point CPMD91 and divert south to
6743          KM   combination point CIN91
6744          DR  DSIN91
              *

6745          KK  RSIN91   ROUTE
6746          KM   Route diversion retrieval DRIN91 south to combination point CIN91
6747          RS       1    FLOW
6748          RC   0.035    0.015    0.035      535  0.0019     0.00
6749          RX    0.00     0.00     9.50     9.50    40.50    40.50    50.00    50.00
6750          RY    3.00     0.60     0.50     0.00     0.00     0.50     0.60     3.00
              *
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LINE          ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

6751          KK    IN91   BASIN
6752          KM   Runoff hydrograph for subbasin IN91 northeast of the intersection of
6753          KM   Interstate 10 and 91st Avenue
6754          BA   0.185
6755          LG    0.11     0.15     9.70     0.04       78
6756          UC   0.615    0.622
6757          UA       0      5.0     16.0     30.0     65.0     77.0     84.0     90.0     94.0     97.0
6758          UA     100
              *

6759          KK  ERIN91  DIVERT
6760          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
6761          KM   retention developed after 1990 and NOAA14 rainfall for future retention in
6762          KM   subbasin IN91
6763          DT  XIN91      3.2      0.0
6764          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
6765          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

6766          KK   CIN91 COMBINE
6767          KM   Combine route RWIN91, route RSIN91, and subbasin IN91
6768          HC       3   10.57
              *

6769          KK  PR91MDRETRIEVE
6770          KM   Retrieve full flow capacity of 345 cfs from 90-inch storm drain pipe at the
6771          KM   intersection of McDowell Road and 91st Avenue
6772          DR  DP91MD
              *

6773          KK  RP91IN   ROUTE
6774          KM   Route full flow capacity of 345 cfs through 90-inch storm drain pipe in
6775          KM   91st Avenue to the intersection of Interstate 10 and 91st Avenue
6776          RK     729  0.0020   0.015            CIRC   7.500
              *

6777          KK  CPIN91 COMBINE
6778          KM   Combine pipe return PR91MD with the runoff hydrograph at combination point
6779          KM   CIN91 at the intersection of Interstate 10 and 91st Avenue
6780          HC       2
              *

6781          KK  DWINLO  DIVERT
6782          KM   Divert remaining runoff hydrograph from combination point CPIN91 west to
6783          KM   combination point CINLO
6784          DT  DSVB91      0.0      0.0
6785          DI     0.0 11110.0 11110.1 50000.0      0.0      0.0      0.0      0.0      0.0      0.0
6786          DQ     0.0      0.0 11110.1 50000.0      0.0      0.0      0.0      0.0      0.0      0.0
              *
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LINE          ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

6787          KK  RWINLO   ROUTE
6788          KM   Route diversion DWINLO west to combination point CINLO
6789          RS       1    FLOW
6790          RC   0.035    0.015    0.035     4153  0.0008     0.00
6791          RX    0.00     0.10    18.00    36.00    66.00    84.00   102.00   102.10
6792          RY   18.00    17.05     9.00     0.00     0.00     9.00    17.05    18.00
              *

6793          KK  DWIN07  DIVERT
6794          KM   Divert route RWINLO to detention basin northeast of L101 and I-10 Freeways.
6795          KM   Only the flow greater than the channel capacity is diverted to the basin.
6796          DT  DNINLO      0.0      0.0
6797          DI     0.0  9505.0 10216.0 10958.0 12536.0      0.0      0.0      0.0      0.0      0.0
6798          DQ     0.0      0.0    620.0   1755.0   4964.0      0.0      0.0      0.0      0.0      0.0
              *

6799          KK    INLO   BASIN
6800          KM   Runoff hydrograph for subbasin INLO northeast of the intersection of
6801          KM   Interstate 10 and SR Loop 101
6802          BA   0.147
6803          LG    0.10     0.15     9.70     0.04       78
6804          UC   0.533    0.500
6805          UA       0      5.0     16.0     30.0     65.0     77.0     84.0     90.0     94.0     97.0
6806          UA     100
              *

6807          KK  ERINLO  DIVERT
6808          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
6809          KM   retention developed after 1990 in subbasin INLO
6810          DT  XINLO      6.8      0.0
6811          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
6812          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

6813          KK  DRINLORETRIEVE
6814          KM   Retrieve divert DRINLO from route RWINLO and route north to combination point
6815          KM   CIN95 to route thru the detention basin northeast of L101 and I-10 Freeways
6816          DR  DNINLO
              *

6817          KK  DRIN95RETRIEVE
6818          KM   Retrieve divert DRIN95 from route RSINLO and route east to combination point
6819          KM   CIN95 to route thru the detention basin northeast of L101 and I-10 Freeways
6820          DR  DEIN95
              *

6821          KK   CIN95 COMBINE
6822          KM   Combine retrieve DRINLO, retreive DRIN95, and subbasin INLO
6823          HC       3   24.79
              *
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LINE          ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

6824          KK  SRINLO STORAGE
6825          KM   Storage route runoff hydrograph from combination CIN95 through detention
6826          KM     basin northeast of L101 and I-10 freeways
6827          KM   Stage-storage-discharge data from Agua Fria Freeway (101L) RAM-600-0-526
6828          KM     As-built Records, ADOT, October 2001
6829          RS       1     STOR
6830          SV           15.50  206.50  210.50  220.50  251.20  293.90
6831          SQ           33.00  159.00  367.00 1534.00 8123.0022263.00
6832          SE  1002.3 1004.50 1015.80 1016.00 1016.50 1018.00 1020.00
              *

6833          KK   CINLO COMBINE
6834          KM   Combine route RSINLO, route RWINLO, and storage route SRINLO
6835          HC       3   24.79
              *

6836          KK  DWIN07  DIVERT
6837          KM   Divert remaining runoff hydrograph from combination point CINLO west to
6838          KM   combination point CIN07
6839          DT  DNINLO      0.0      0.0
6840          DI     0.0  9505.0 10216.0 10958.0 12536.0      0.0      0.0      0.0      0.0      0.0
6841          DQ     0.0      0.0    620.0   1755.0   4964.0      0.0      0.0      0.0      0.0      0.0
              *

6842          KK  RWIN07   ROUTE
6843          KM   Route diversion DWIN07 west to combination point CIN07
6844          RS       1    FLOW
6845          RC   0.035    0.015    0.035     6475  0.0017     0.00
6846          RX    0.00     0.10    18.00    36.00    66.00    84.00   102.00   102.10
6847          RY   18.00    17.05     9.00     0.00     0.00     9.00    17.05    18.00
              *

6848          KK  DITM07RETRIEVE
6849          KM   Retrieve divert DITM07 from combination point CRI07 and divert south to
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6850          KM   combination point CTM07
6851          DR   DTM07
                   *
6852          KK  SRRI03 STORAGE
6853          KM   Storage route runoff hydrograph from divert retrieval DITM07 through ponding
6854          KM     area at the Roosevelt Irrigation District Canal near the intersection of
6855          KM     canal and 103rd Avenue.
6856          KM   Stage-storage-discharge data from Maryvale ADMS, February 1997
6857          RS       1     STOR
6858          SV           16.40   50.70   71.40   77.20  109.70
6859          SQ            0.10    0.20    0.30   96.00 1160.00
6860          SE  1019.0 1020.00 1021.00 1021.40 1021.50 1022.00
                   *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

6861          KK  RWTM07    ROUTE
6862          KM   Route diversion retrieval DRRIAF west to combination point CTM07
6863          RS       10     FLOW
6864          RC   0.035   0.015   0.035    2719  0.0029     0.00
6865          RX    0.00    0.00   16.50   16.50  107.50  107.50  124.00  124.00
6866          RY    3.00    0.66    0.50    0.00    0.00    0.50    0.66    3.00
                   *
6867          KK  DRTM07RETRIEVE
6868          KM   Retrieve divert DRTM07 from combination point CRI07 and divert south to
6869          KM   combination point CTM07
6870          DR  DSTM07
                   *
6871          KK  RSTM07    ROUTE
6872          KM   Route diversion retrieval DRTM07 south to combination point CTM07
6873          RS       3     FLOW
6874          RC   0.035   0.015   0.035    2640  0.0019     0.00
6875          RX    0.00    0.00   16.50   16.50  107.50  107.50  124.00  124.00
6876          RY    3.00    0.66    0.50    0.00    0.00    0.50    0.66    3.00
                   *
6877          KK    TM07    BASIN
6878          KM   Runoff hydrograph for subbasin TM07 northeast of the intersection of Thomas
6879          KM   Road and 107th Avenue
6880          BA   0.265
6881          LG    0.29    0.15    9.70    0.05      15
6882          UC   1.500   1.207
6883          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
6884          UA     100
                   *
6885          KK   CTM07 COMBINE
6886          KM   Combine route RWTM07, route RSTM07, and subbasin TM07
6887          HC       3    1.61
                   *
6888          KK  DSMD07   DIVERT
6889          DT  DWTMAF      0.0      0.0
6890          DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
6891          DQ     0.0    65.0   130.0   325.0   650.0  1300.0  2600.0  6500.0 13000.0 32500.0
                   *
6892          KK  RSMD07    ROUTE
6893          KM   Route diversion DSMD07 south to combination point CMD07
6894          RS       9     FLOW
6895          RC   0.035   0.015   0.035    5280  0.0006     0.00
6896          RX    0.00    0.00   26.00   26.00  148.00  148.00  174.00  174.00
6897          RY    3.00    0.76    0.50    0.00    0.00    0.50    0.76    3.00
                   *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

6898          KK  DRMD99RETRIEVE
6899          KM   Retrieve divert DRMD99 from combination point CTM99 and divert south to
6900          KM   combination point CMD99
6901          DR  DSMD99
                   *
6902          KK  RSMD99    ROUTE
6903          KM   Route diversion retrieval DRMD99 south to combination point CMD99
6904          RS       8     FLOW
6905          RC   0.035   0.015   0.035    5508  0.0010     0.00
6906          RX    0.00    0.00   16.50   16.50  107.50  107.50  124.00  124.00
6907          RY    3.00    0.66    0.50    0.00    0.00    0.50    0.66    3.00
                   *
6908          KK    MD99    BASIN
6909          KM   Runoff hydrograph for subbasin MD99 northeast of the intersection of McDowell
6910          KM   Road and 99th Avenue
6911          BA   0.319
6912          LG    0.10    0.15    9.70    0.04      80
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6913          UC   0.989   0.959
6914          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
6915          UA     100
                   *
6916          KK   CMD99 COMBINE
6917          KM   Combine route RSMD99 and subbasin MD99
6918          HC       2    0.60
                   *
6919          KK  DWTMRI   DIVERT
6920          KM   Divert portion of runoff hydrograph from combination point CMD99 west to the
6921          KM   intersection of Thomas Road and the Roosevelt Irrigation Distric canal and
6922          KM   the remaining flow west to the intersection of McDowell Road and 107th
6923          KM   Avenue. The diversion is based on topography
6924          DT   DMD99      0.0      0.0
6925          DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
6926          DQ     0.0    56.0   112.0   280.0   560.0  1120.0  2240.0  5600.0 11200.0 28000.0
                   *
6927          KK  RWTMRI    ROUTE
6928          KM   Route diversion DWTMRI west to combination point CTMRI
6929          RS       2     FLOW
6930          RC   0.035   0.015   0.035    2601  0.0023     0.00
6931          RX    0.00    0.00    9.50    9.50   40.50   40.50   50.00   50.00
6932          RY    3.00    0.60    0.50    0.00    0.00    0.50    0.60    3.00
                   *
6933          KK    TMRI    BASIN
6934          KM   Runoff hydrograph for subbasin TMRI southeast of the intersection of Thomas
6935          KM   Road and the Roosevelt Irrigation District canal
6936          BA   0.240
6937          LG    0.10    0.15    9.70    0.05      40
6938          UC   0.474   0.206
6939          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

6940          UA     100
                   *
6941          KK  ERTMRI   DIVERT
6942          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
6943          KM   retention developed after 1990 and NOAA14 rainfall for future retention in
6944          KM   subbasin TMRI
6945          DT   XTMRI     11.3      0.0
6946          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
6947          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
                   *
6948          KK   CTMRI COMBINE
6949          KM   Combine route RWTMRI and subbasin TMRI
6950          HC       2    0.51
                   *
6951          KK  SRTMRI STORAGE
6952          KM   Storage route runoff hydrograph from combination point CTMRI through ponding
6953          KM     area at the Roosevelt Irrigation District canal near the intersection of th
6954          KM     canal and Thomas Road.
6955          KM   Stage-storage-discharge data from Maryvale ADMS, February 1997
6956          RS       1     STOR
6957          SV           15.73   25.07   35.38   85.58
6958          SQ            0.10 1069.00 3077.00111170.00
6959          SE  1020.0 1021.00 1021.50 1022.00 1023.00
                   *
6960          KK   RMD07    ROUTE
6961          KM   Route runoff hydrograph from combination point CTMRI south to combination
6962          KM   point CMD07
6963          RS       8     FLOW
6964          RC   0.035   0.015   0.035    6743  0.0013     0.00
6965          RX    0.00    0.00   12.50   12.50   62.50   62.50   75.00   75.00
6966          RY    3.00    0.62    0.50    0.00    0.00    0.50    0.62    3.00
                   *
6967          KK  DIMD99RETRIEVE
6968          KM   Retrieve subbasin flow diverted at the intersection of McDowell Road and 99th
6969          KM   Avenue
6970          DR   DMD99
                   *
6971          KK  DWMD07   DIVERT
6972          KM   Divert remaining runoff hydrograph from combination point CTMRI west to
6973          KM   combination point CMD07
6974          DT  DSIN99      0.0      0.0
6975          DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
6976          DQ     0.0    50.0   100.0   250.0   500.0  1000.0  2000.0  5000.0 10000.0 25000.0
                   *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10
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6977          KK  SRMD99 STORAGE
6978          KM   Storage route runoff hydrograph from divert DWMD07 through ponding area at
6979          KM     the Roosevelt Irrigation District canal near the intersection of the canal
6980          KM     and McDowell Road.
6981          KM   Stage-storage-discharge data from Maryvale ADMS, Feb 1997
6982          RS       1     STOR
6983          SV           11.90   27.50   38.50   54.00   98.80
6984          SQ                        1604.00 7290.0028409.00
6985          SE  1022.0 1023.00 1024.00 1024.50 1025.00 1026.00
              *
6986          KK  RWMD07    ROUTE
6987          KM   Route diversion retrieval DRMD07 west to combination point CMD07
6988          RS       1     FLOW
6989          RC  0.035   0.015   0.035    5792  0.0019    0.00
6990          RX   0.00    0.00   16.50   16.50  107.50  107.50  124.00  124.00
6991          RY   3.00    0.66    0.50    0.00    0.00    0.50    0.66    3.00
              *
6992          KK    MD07    BASIN
6993          KM   Runoff hydrograph for subbasin MD07 northeast of the intersection of McDowell
6994          KM   Road and 107th Avenue
6995          BA  0.783
6996          LG   0.22    0.15    8.80    0.05      41
6997          UC  1.500   0.947
6998          UA      0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
6999          UA    100
              *
7000          KK  ERMD07  DIVERT
7001          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
7002          KM   retention developed after 1990 in subbasin MD07
7003          DT  XMD07     53.7     0.0
7004          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
7005          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *
7006          KK   CMD07 COMBINE
7007          KM   Combine route RWMD07, route RSMD07, route RMD07 and subbasin MD07
7008          HC       4    2.50
              *
7009          KK  DSIN07  DIVERT
7010          KM   Divert runoff hydrograph from combination point CMD07 sout to combination
7011          KM   point CIN07
7012          DT  DWMDAV      0.0     0.0
7013          DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
7014          DQ     0.0    75.0   150.0   375.0   750.0  1500.0  3000.0  7500.0 15000.0 37500.0
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10
7015          KK  RSIN07   ROUTE
7016          KM   Route diversion DSIN07 south to combination point CIN07
7017          RS       2     FLOW
7018          RC  0.035   0.015   0.035     844  0.0008    0.00
7019          RX   0.00    0.00   16.50   16.50  107.50  107.50  124.00  124.00
7020          RY   3.00    0.66    0.50    0.00    0.00    0.50    0.66    3.00
              *
7021          KK  DRIN99RETRIEVE
7022          KM   Retrieve divert DRIN99 from combination point CTMRI and divert south to
7023          KM   combination point CIN07
7024          DR  DSIN99
              *
7025          KK  RSIN99   ROUTE
7026          KM   Route divert retrieveal DRIN99 south to combination point CIN07
7027          RS       6     FLOW
7028          RC  0.035   0.015   0.035    6080  0.0019    0.00
7029          RX   0.00    0.00   16.50   16.50  107.50  107.50  124.00  124.00
7030          RY   3.00    0.66    0.50    0.00    0.00    0.50    0.66    3.00
              *
7031          KK    IN07    BASIN
7032          KM   Runoff hydrograph for subbasin IN07 northeast of the intersection of
7033          KM   Interstate 10 and 107th Avenue
7034          BA  0.256
7035          LG   0.10    0.15    8.40    0.06      83
7036          UC  0.659   0.613
7037          UA      0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
7038          UA    100
              *
7039          KK  ERIN07  DIVERT
7040          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
7041          KM   retention developed after 1990 in subbasin IN07
7042          DT  XIN07     17.6     0.0
7043          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
7044          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
```



```
              *
7045          KK   CIN07 COMBINE
7046          KM   Combine route RWIN07, route RSIN99, route RSIN07, and subbasin IN07
7047          HC       4   27.09
              *
7048          KK  DWINAV  DIVERT
7049          KM   Divert remaining runoff hydrograph from combination point CIN07 west to
7050          KM   combination point CINAV
7051          DT  DSVB07      0.0     0.0
7052          DI     0.0 21022.0 21022.1 50000.0     0.0     0.0     0.0     0.0     0.0     0.0
7053          DQ     0.0     0.0 21022.1 50000.0     0.0     0.0     0.0     0.0     0.0     0.0
              *
1                                    HEC-1 INPUT                                        PAGE184
LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10
7054          KK  RWINAV   ROUTE
7055          KM   Route diversion DWINAV west to combination point CINAV
7056          RS       1     FLOW
7057          RC   0.035   0.015   0.035    5174  0.0019    0.00
7058          RX    0.00    0.10   18.00   36.00   66.00   84.00  102.00  102.10
7059          RY   18.00   17.05    9.00    0.00    0.00    9.00   17.05   18.00
              *
7060          KK  DRTMAFRETRIEVE
7061          KM   Retrieve divert DRTMAF from combination point CTM07 and divert south to
7062          KM   combination point CTMAF
7063          DR  DWTMAF
              *
7064          KK  RWTMAF   ROUTE
7065          KM   Route diversion retrieval DRTMAF west to combination point CTMAF
7066          RS       8     FLOW
7067          RC   0.035   0.015   0.035    8219  0.0020    0.00
7068          RX    0.00    0.00   26.00   26.00  148.00  148.00  174.00  174.00
7069          RY    3.00    0.76    0.50    0.00    0.00    0.50    0.76    3.00
              *
7070          KK    TMAF   BASIN
7071          KM   Runoff hydrograph for subbasin TMAF north of Thomas Road and east of the Agua
7072          KM   Fria River
7073          BA  0.762
7074          LG   0.22    0.16    6.80    0.11      38
7075          UC  1.500   1.208
7076          UA      0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
7077          UA    100
              *
7078          KK   CTMAF COMBINE
7079          KM   Combine route RWTMAF and subbasin TMAF
7080          HC       2    1.33
              *
7081          KK  DSMDAV  DIVERT
7082          KM   Divert portion of runoff hydrograph from combination point CTMAF south to the
7083          KM   intersection of McDowell Road and Avondale Boulevard and the remaining flow
7084          KM   west to the Agua Fria River. The diversion is based on topography
7085          DT  DWAF02      0.0     0.0
7086          DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
7087          DQ     0.0    89.0   178.0   445.0   890.0  1780.0  3560.0  8900.0 17800.0 44500.0
              *
7088          KK  RSMDAV   ROUTE
7089          KM   Route diversion DSMDAV south to combination point CMDAV
7090          RS       7     FLOW
7091          RC   0.035   0.015   0.035    5280  0.0017    0.00
7092          RX    0.00    0.00   38.50   38.50  210.50  210.50  249.00  249.00
7093          RY    3.00    0.88    0.50    0.00    0.00    0.50    0.88    3.00
              *
1                                    HEC-1 INPUT                                        PAGE185
LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10
7094          KK  DRMDAVRETRIEVE
7095          KM   Retrieve divert DRMDAV from combination point CMD07 and divert south to
7096          KM   combination point CMDAV
7097          DR  DWMDAV
              *
7098          KK  RWMDAV   ROUTE
7099          KM   Route diversion retrieval DRMDAV west to combination point CMDAV
7100          RS       5     FLOW
7101          RC   0.035   0.015   0.035    5280  0.0023    0.00
7102          RX    0.00    0.00   35.50   35.50  188.50  188.50  224.00  224.00
7103          RY    3.00    0.86    0.50    0.00    0.00    0.50    0.86    3.00
              *
7104          KK    MDAV   BASIN
7105          KM   Runoff hydrograph for square mile subbasin MDAV northeast of the intersection
```

```
7106          KM   McDowell Road and Avondale Boulevard
7107          BA   0.954
7108          LG    0.21    0.13    7.60    0.08      28
7109          UC   1.500   1.038
7110          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
7111          UA     100
              *

7112          KK  ERMDAV  DIVERT
7113          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
7114          KM   retention developed after 1990 in subbasin MDAV
7115          DT   XMDAV     80.8      0.0
7116          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
7117          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

7118          KK   CMDAV COMBINE
7119          KM   Combine route RWMDAV, route RSMDAV, and subbasin MDAV
7120          HC        3    1.72
              *

7121          KK  DSINAV  DIVERT
7122          KM   Divert remaining runoff hydrograph from combination point CMDAV south to
7123          KM   combination point CINAV
7124          DT  DWMDAF      0.0      0.0
7125          DI     0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0  10000.0  20000.0  50000.0
7126          DQ     0.0     73.0    146.0    365.0    730.0   1460.0   2920.0   7300.0  14600.0  36500.0
              *

7127          KK  RSINAV   ROUTE
7128          KM   Route diversion DSINAV south to combination point CINAV
7129          RS        1     FLOW
7130          RC    0.035   0.015   0.035    1317  0.0022     0.00
7131          RX     0.00    0.00   16.50   16.50  107.50  107.50  124.00  124.00
7132          RY     3.00    0.66    0.50    0.00    0.00    0.50    0.66    3.00
              *
```



```
LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

7133          KK    INAV   BASIN
7134          KM   Runoff hydrograph for subbasin INAV north of Interstate 10 and east of the
7135          KM   Agua Fria River
7136          BA   0.235
7137          LG    0.10    0.15    8.00    0.07      83
7138          UC   0.680   0.612
7139          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
7140          UA     100
              *

7141          KK  ERINAV  DIVERT
7142          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
7143          KM   retention developed after 1990 in subbasin INAV
7144          DT   XINAV     15.6      0.0
7145          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
7146          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

7147          KK   CINAV COMBINE
7148          KM   Combine route RWINAV, route RSINAV, and subbasin INAV
7149          HC        3   28.58
              *

7150          KK  DWINAF  DIVERT
7151          KM   Divert remaining runoff hydrograph from combination point CINAV west to
7152          KM   combination point CINAF
7153          DT  DSVBAF      0.0      0.0
7154          DI     0.0 22225.0 22225.1 50000.0      0.0      0.0      0.0      0.0      0.0      0.0
7155          DQ     0.0      0.0 22225.1 50000.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

7156          KK  RWINAF   ROUTE
7157          KM   Route diversion DWINAF west to combination point CINAF
7158          RS        1     FLOW
7159          RC    0.035   0.015   0.035    7360  0.0009     0.00
7160          RX     0.00    0.10   18.00   36.00   66.00   84.00  102.00  102.10
7161          RY    18.00   17.05    9.00    0.00    0.00    9.00   17.05   18.00
              * Need to re-evaluate divert, flow is greater than channel capacity
              *

7162          KK  DRMDAFRETRIEVE
7163          KM   Retrieve divert DRMDAF from combination point CMDAV and divert south to
7164          KM   combination point CMDAF
7165          DR  DWMDAF
              *

7166          KK  RWMDAF   ROUTE
7167          KM   Route diversion retrieval DRMDAF west to combination point CMDAF
7168          RS        6     FLOW
7169          RC    0.035   0.015   0.035    6890  0.0027     0.00
7170          RX     0.00    0.00   48.00   48.00  251.00  251.00  299.00  299.00
7171          RY     3.00    0.98    0.50    0.00    0.00    0.50    0.98    3.00
```



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              *
```



```
LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

7172          KK    MDAF   BASIN
7173          KM   Runoff hydrograph for subbasin MDAF north of McDowell Road and east of the
7174          KM   Interstate 10 and east of the Agua Fria River
7175          BA   0.834
7176          LG    0.21    0.26    5.20    0.22      36
7177          UC   1.500   1.253
7178          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
7179          UA     100
              *

7180          KK   CMDAF COMBINE
7181          KM   Combine route RWMDAF and subbasin MDAF
7182          HC        2    1.30
              *

7183          KK  DSINAF  DIVERT
7184          KM   Divert portion of runoff hydrograph from combination point CMDAF south to the
7185          KM   intersection of Interstate 10 and the Agua Fria River and the remaining flow
7186          KM   west to the Agua Fria River. The diversion is based on topography
7187          DT  DWAF03      0.0      0.0
7188          DI     0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0  10000.0  20000.0  50000.0
7189          DQ     0.0     76.0    152.0    380.0    760.0   1520.0   3040.0   7600.0  15200.0  38000.0
              *

7190          KK  RSINAF   ROUTE
7191          KM   Route diversion DSINAF south to combination point CINAF
7192          RS        1     FLOW
7193          RC    0.035   0.015   0.035    1317  0.0022     0.00
7194          RX     0.00    0.00   22.00   22.00  103.00  103.00  125.00  125.00
7195          RY     3.00    0.72    0.50    0.00    0.00    0.50    0.72    3.00
              *

7196          KK    INAF   BASIN
7197          KM   Runoff hydrograph for subbasin INAf north of Interstate 10 and east of the
7198          KM   Agua Fria River
7199          BA   0.472
7200          LG    0.15    0.23    6.20    0.18      42
7201          UC   1.194   1.032
7202          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
7203          UA     100
              *

7204          KK  ERINAF  DIVERT
7205          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
7206          KM   retention developed after 1990 and NOAA14 rainfall for future retention in
7207          KM   subbasin INAF
7208          DT   XINAF     21.1      0.0
7209          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
7210          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *
```



```
LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

7211          KK  ERINAF  DIVERT
7212          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
7213          KM   retention developed after 1990 in subbasin INAF
7214          DT   XINAF     21.1      0.0
7215          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
7216          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

7217          KK   CINAF COMBINE
7218          KM   Combine route RWINAF, route RSINAF, and subbasin INAF
7219          HC        3   29.36
              *

7220          ZZ
```

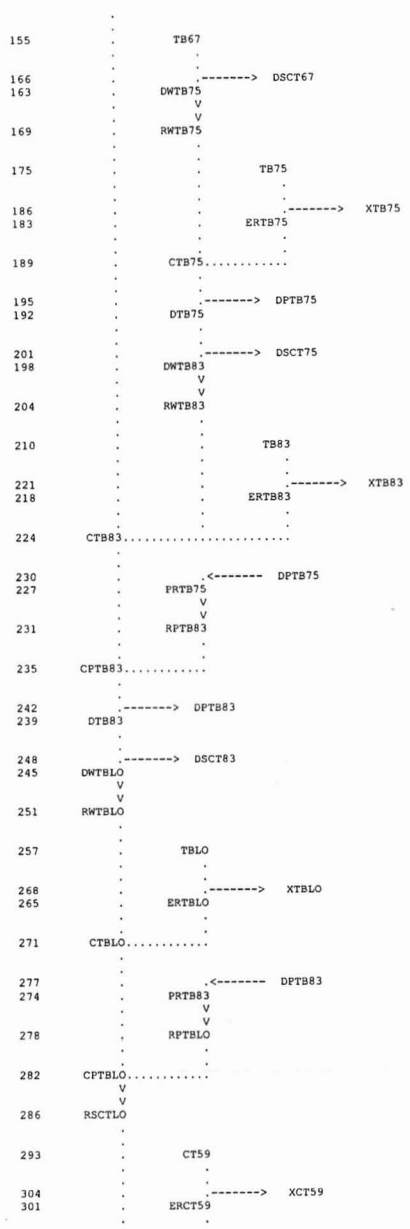
1

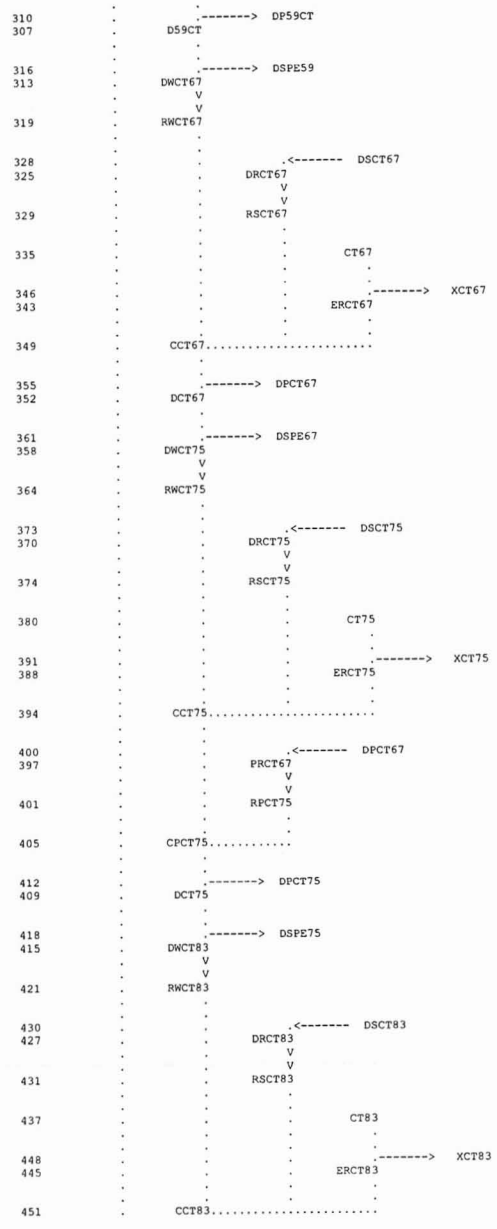
SCHEMATIC DIAGRAM OF STREAM NETWORK

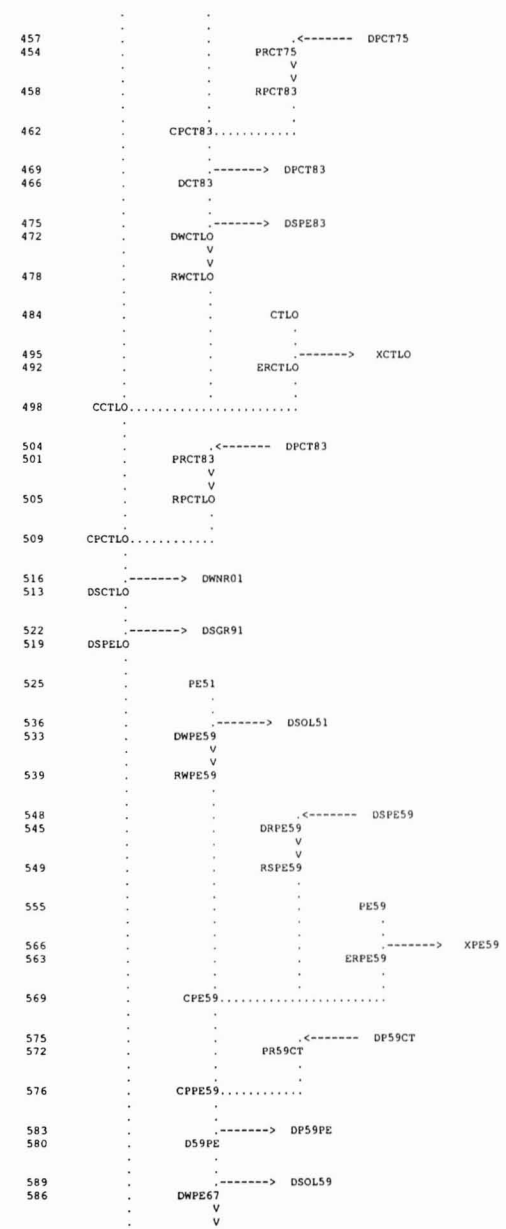
```
INPUT
 LINE      (V) ROUTING          (--->) DIVERSION OR PUMP FLOW

  NO.      (.) CONNECTOR        (<---) RETURN OF DIVERTED OR PUMPED FLOW

  128        GW83
               .
               .
  139          .--------> DPGW83
  136        DGW83
               .
               .
  146          .--------> DWSK01
  142        DSTB83
               V
               V
  149        RSTB83
```


155 TB67
166 .-------> DSCT67
163 DWTB75
169 RWTB75
175 TB75
186 .-------> XTB75
183 ERTB75
189 CTB75.....
195 .-------> DPTB75
192 DTB75
201 .-------> DSCT75
198 DWTB83
204 RWTB83
210 TB83
221 .-------> XTB83
218 ERTB83
224 CTB83.....
230 .<------- DPTB75
227 PRTB75
231 RPTB83
235 CPTB83.....
242 .-------> DPTB83
239 DTB83
248 .-------> DSCT83
245 DWTBLO
251 RWTBLO
257 TBLO
268 .-------> XTBLO
265 ERTBLO
271 CTBLO.....
277 .<------- DPTB83
274 PRTB83
278 RPTBLO
282 CPTBLO.....
286 RSCTLO
293 CT59
304 .-------> XCT59
301 ERCT59


310 .-------> DP59CT
307 D59CT
316 .-------> DSPE59
313 DWCT67
319 RWCT67
328 .<------- DSCT67
325 DRCT67
329 RSCT67
335 CT67
346 .-------> XCT67
343 ERCT67
349 CCT67.....
355 .-------> DPCT67
352 DCT67
361 .-------> DSPE67
358 DWCT75
364 RWCT75
373 .<------- DSCT75
370 DRCT75
374 RSCT75
380 CT75
391 .-------> XCT75
388 ERCT75
394 CCT75.....
400 .<------- DPCT67
397 PRCT67
401 RPCT75
405 CPCT75.....
412 .-------> DPCT75
409 DCT75
418 .-------> DSPE75
415 DWCT83
421 RWCT83
430 .<------- DSCT83
427 DRCT83
431 RSCT83
437 CT83
448 .-------> XCT83
445 ERCT83
451 CCT83.....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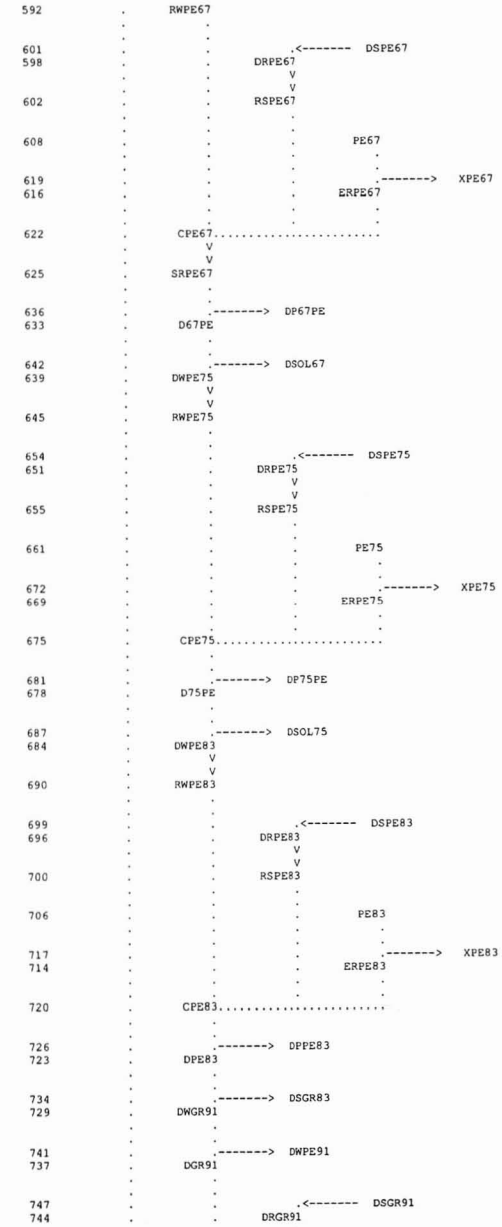
454 PRCT75
458 RPCT83
462 CPCT83
469 DPCT83
466 DCT83
475 DSPE83
472 DWCTLO
478 RWCTLO
484 CTLO
495 XCTLO
492 ERCTLO
498 CCTLO
504 DPCT83
501 PRCT83
505 RPCTLO
509 CPCTLO
516 DWNR01
513 DSCTLO
522 DSGR91
519 DSPELO
525 PE51
536 DSOL51
533 DWPE59
539 RWPE59
548 DSPE59
545 DRPE59
549 RSPE59
555 PE59
566 XPE59
563 ERPE59
569 CPE59
575 DP59CT
572 PR59CT
576 CPPE59
583 DP59PE
580 D59PE
589 DSOL59
586 DWPE67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616 ERPE67
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625 SRPE67
636 DP67PE
633 D67PE
642 DSOL67
639 DWPE75
645 RWPE75
654 DSPE75
651 DRPE75
655 RSPE75
661 PE75
672 XPE75
669 ERPE75
675 CPE75
681 DP75PE
678 D75PE
687 DSOL75
684 DWPE83
690 RWPE83
699 DSPE83
696 DRPE83
700 RSPE83
706 PE83
717 XPE83
714 ERPE83
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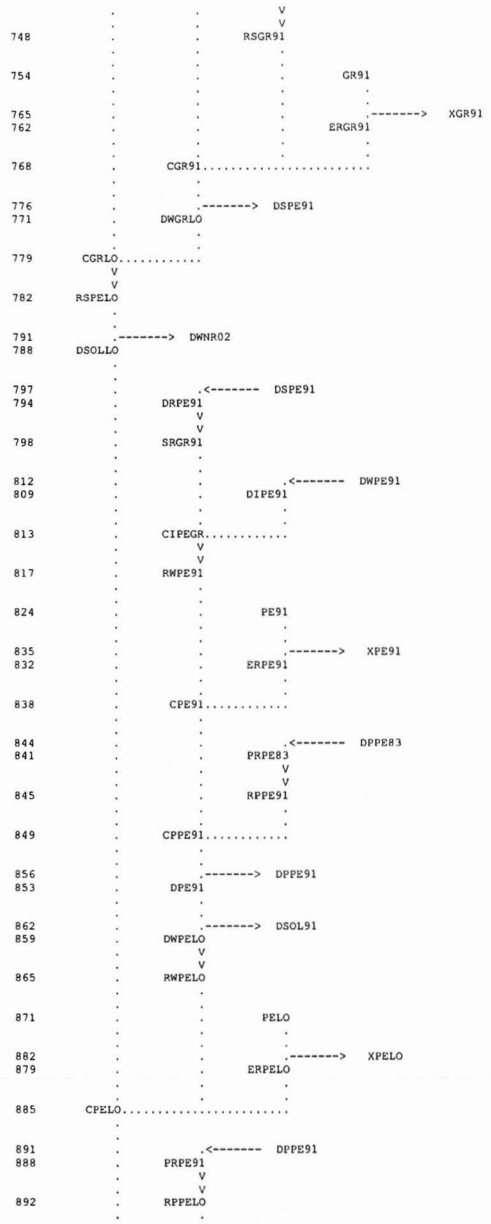
744 DRGR91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797 DSPE91
794 DRPE91
798 SRGR91
812 DWPE91
809 DIPE91
813 CIPEGR
817 RWPE91
824 PE91
835 XPE91
832 ERPE91
838 CPE91
844 DPPE83
841 PRPE83
845 RPPE91
849 CPPE91
856 DPPE91
853 DPE91
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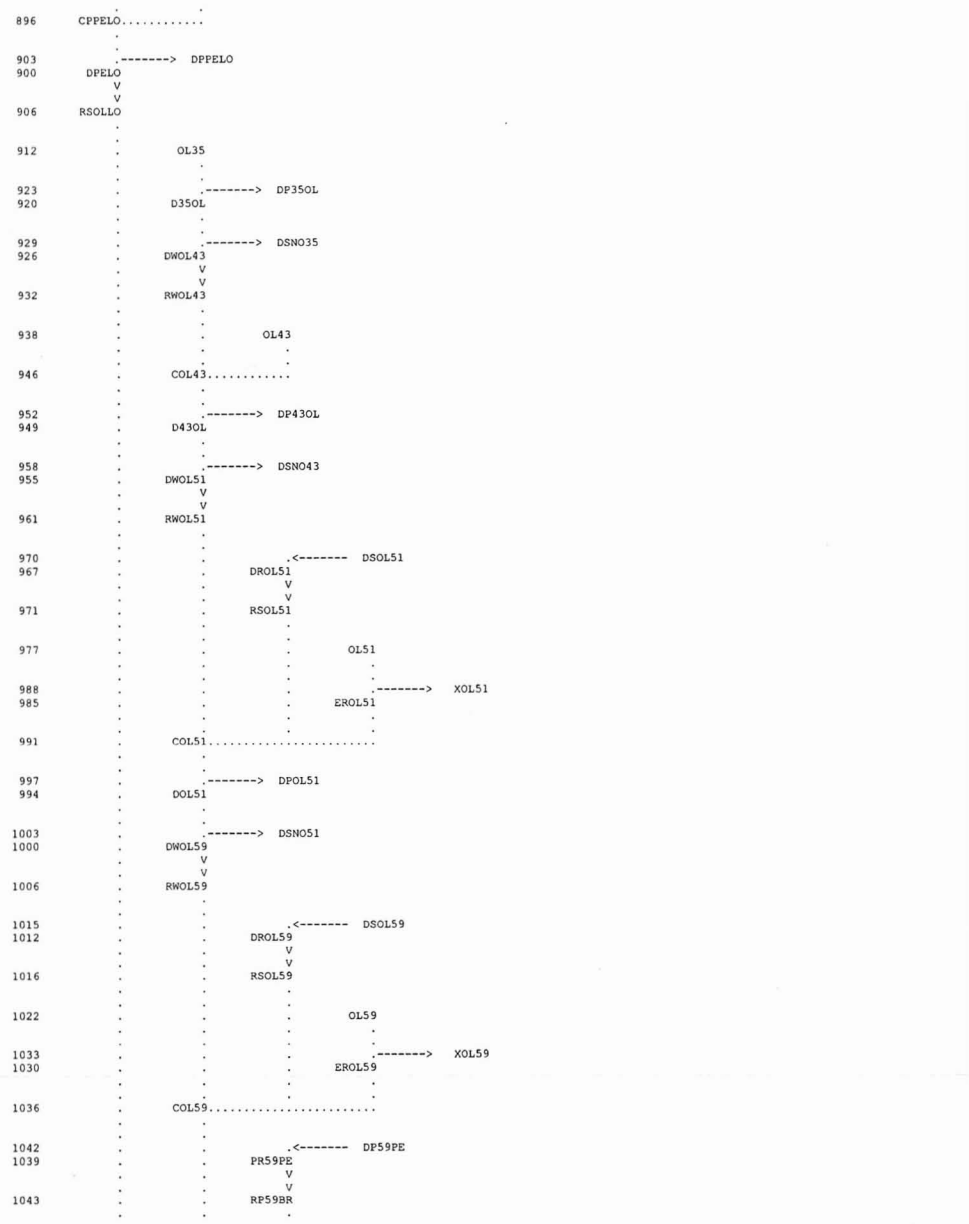
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906 RSOLLO
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923 DP35OL
920 D35OL
929 DSNO35
926 DWOL43
932 RWOL43
938 OL43
946 COL43
952 DP43OL
949 D43OL
958 DSNO43
955 DWOL51
961 RWOL51
970 DSOL51
967 DROL51
971 RSOL51
977 OL51
988 XOL51
985 EROL51
991 COL51
997 DPOL51
994 DOL51
1003 DSNO51
1000 DWOL59
1006 RWOL59
1015 DSOL59
1012 DROL59
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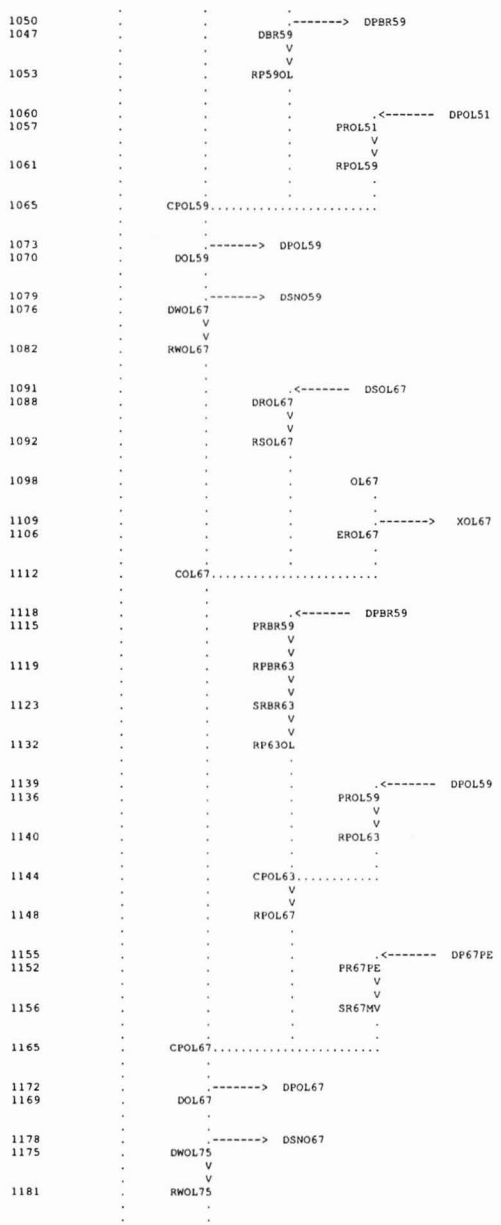
1039 PR59PE
1043 RP59BR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RSOL67
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OL67
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EROL67
XOL67
1112
COL67
1118
1115
PRBR59
DPBR59
1119
RPBR63
1123
SRBR63
1132
RP63OL
1139
1136
PROL59
DPOL59
1140
RPOL63
1144
CPOL63
1148
RPOL67
1155
1152
PR67PE
DP67PE
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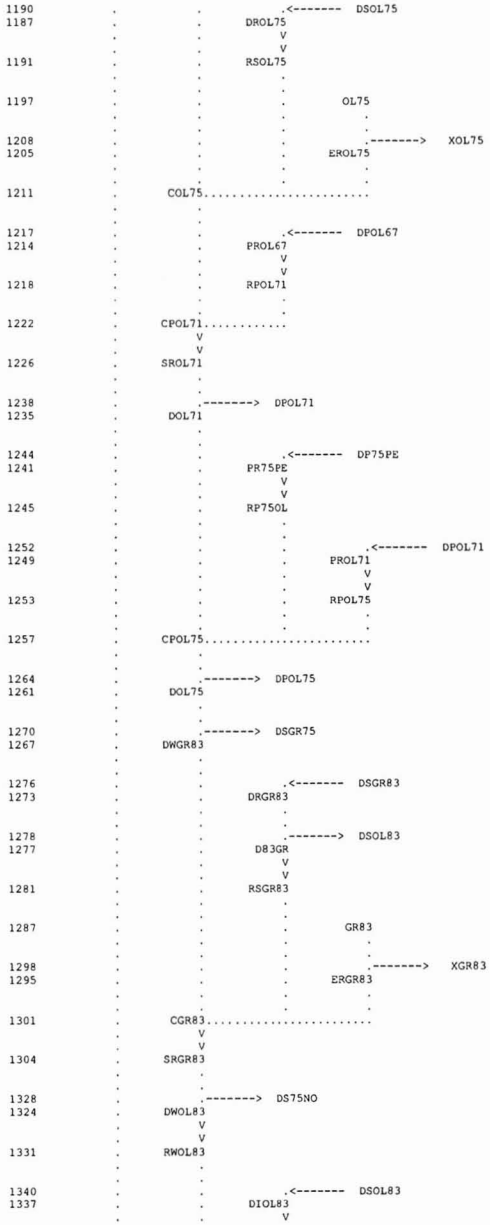
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PROL67
DPOL67
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DP75PE
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DPOL71
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RPOL75
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CPOL75
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1261
DOL75
DPOL75
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1267
DWGR83
DSGR75
1276
1273
DRGR83
DSGR83
1278
1277
D83GR
DSOL83
1281
RSGR83
1287
GR83
1298
1295
ERGR83
XGR83
1301
CGR83
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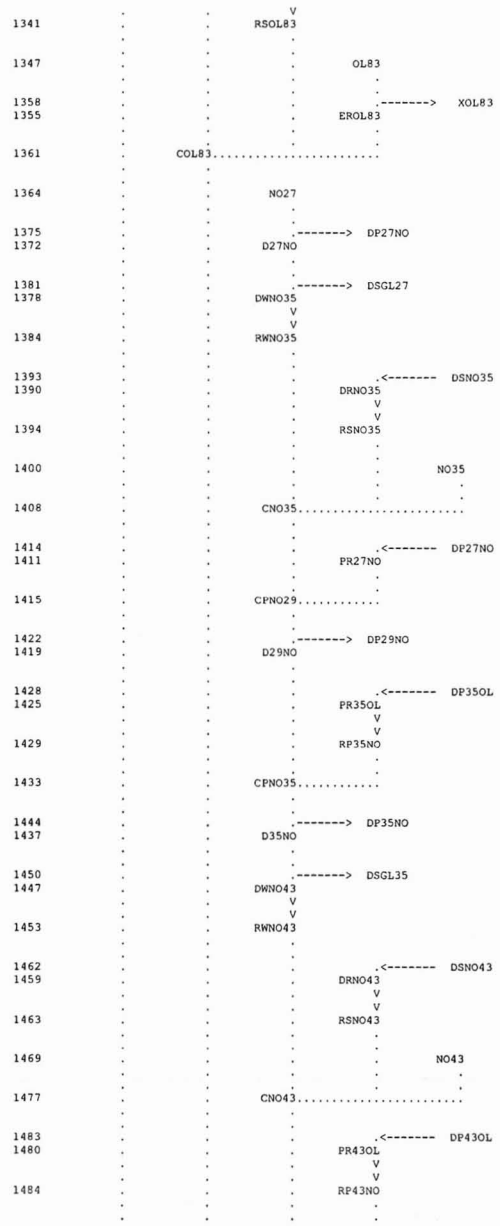
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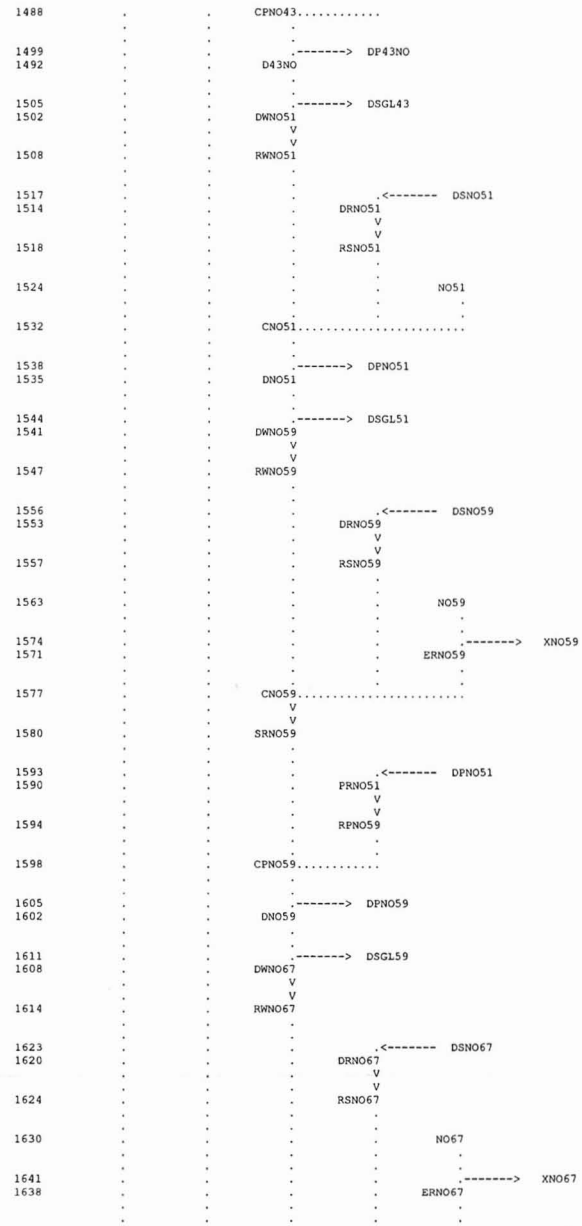
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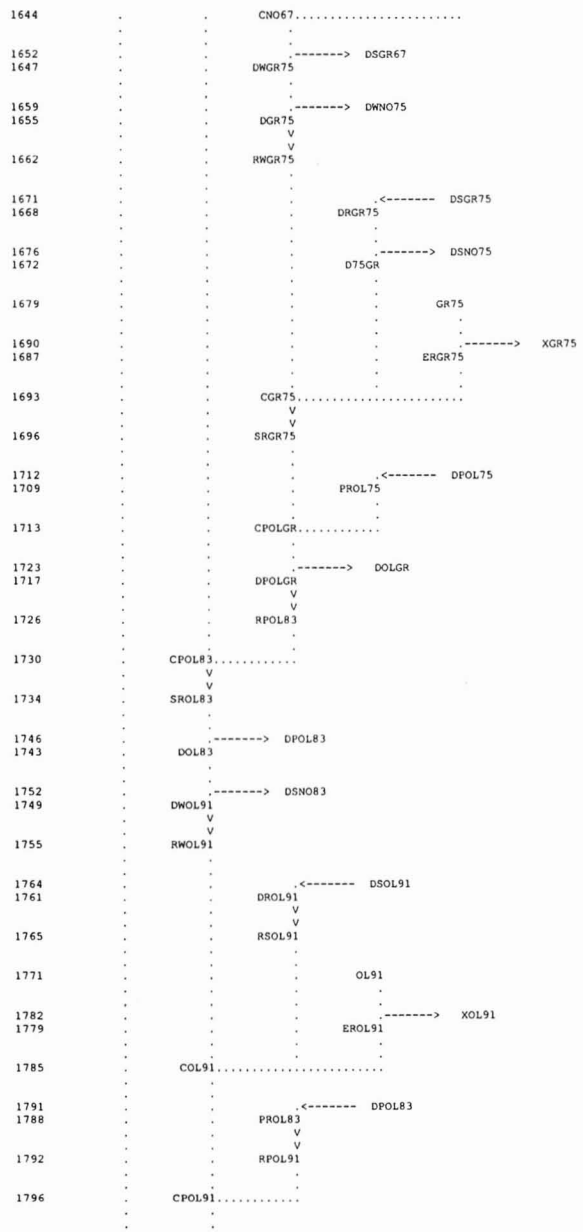
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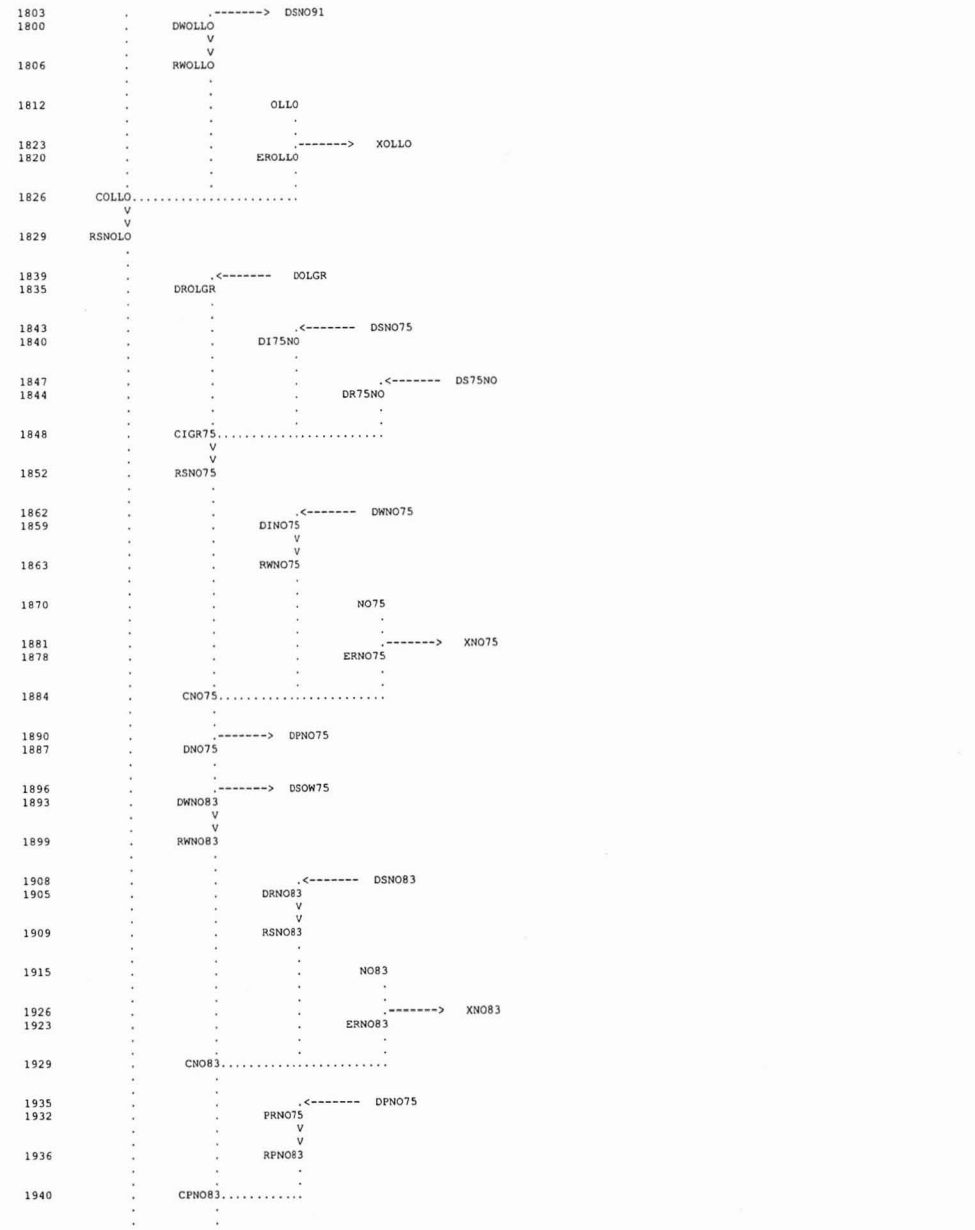
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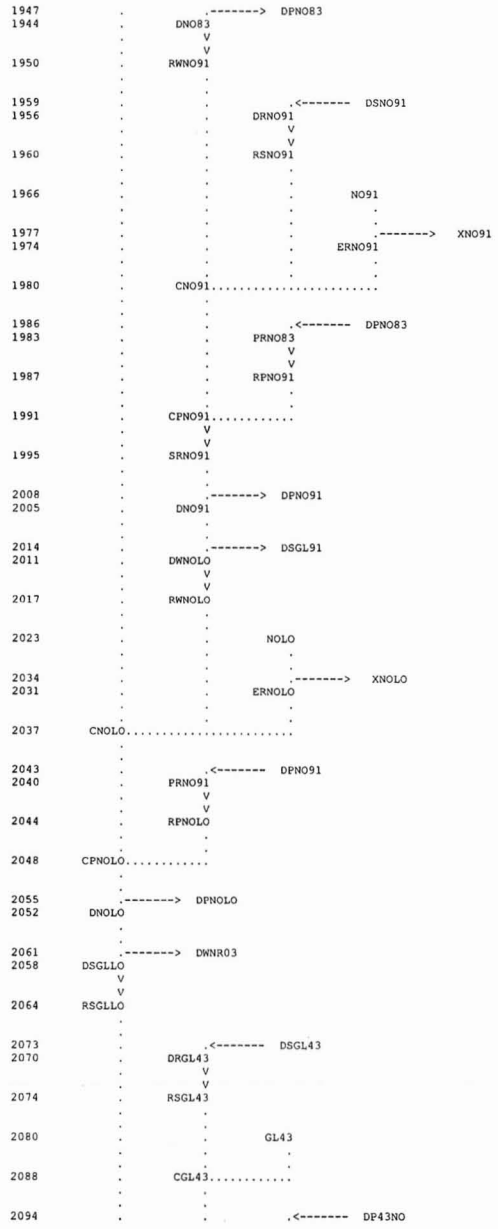
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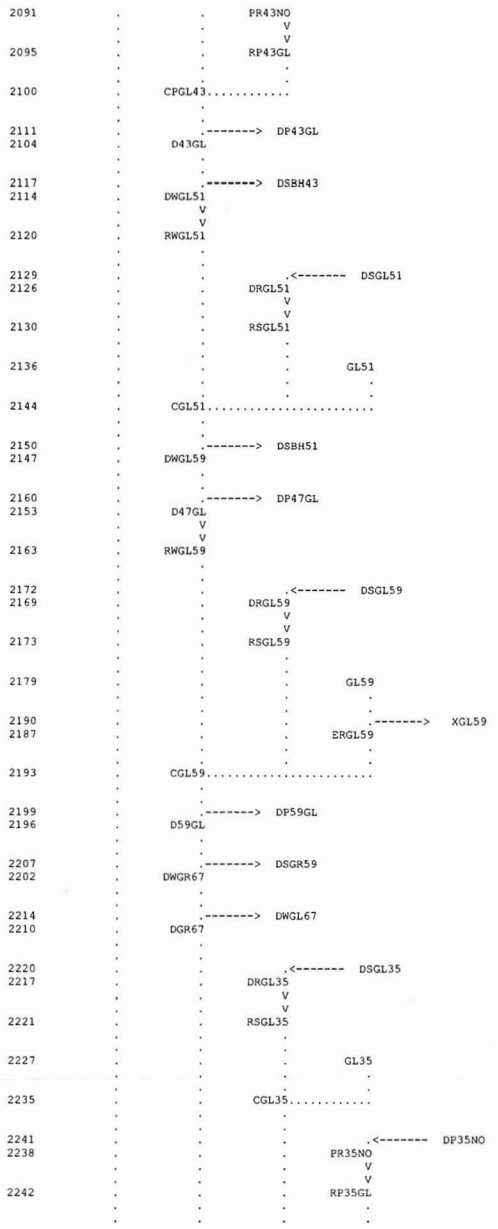
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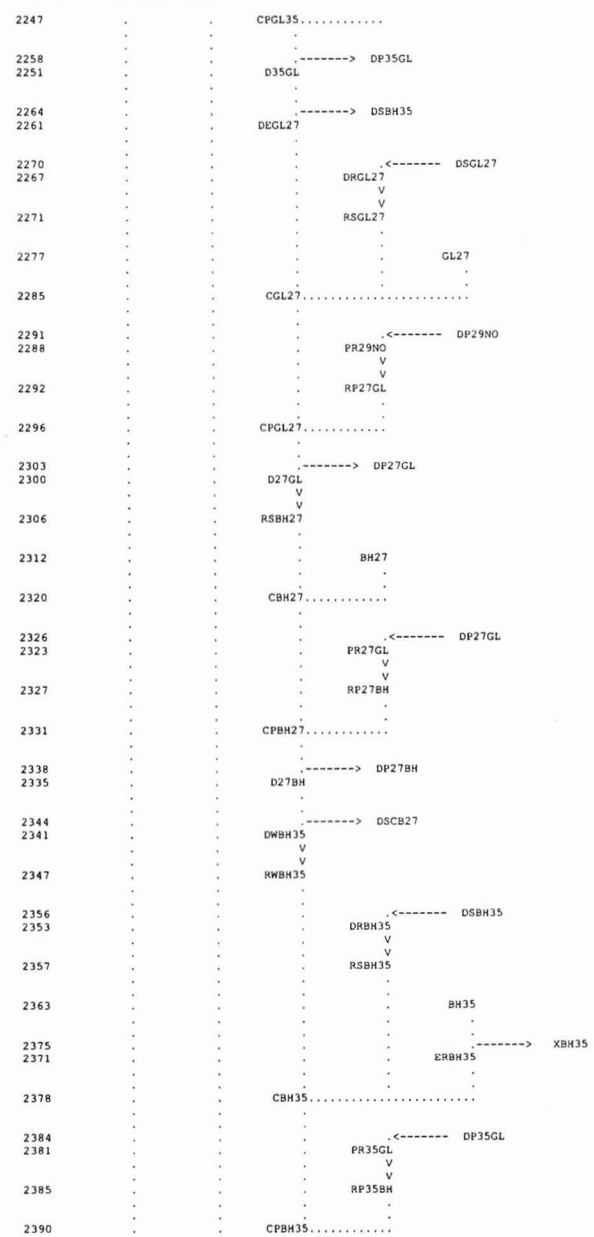
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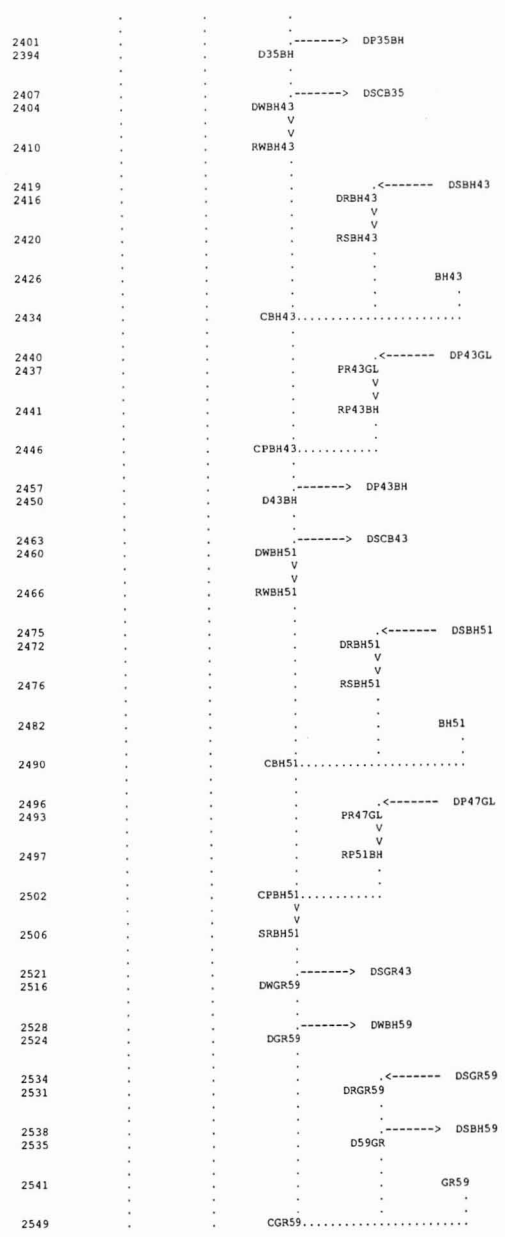
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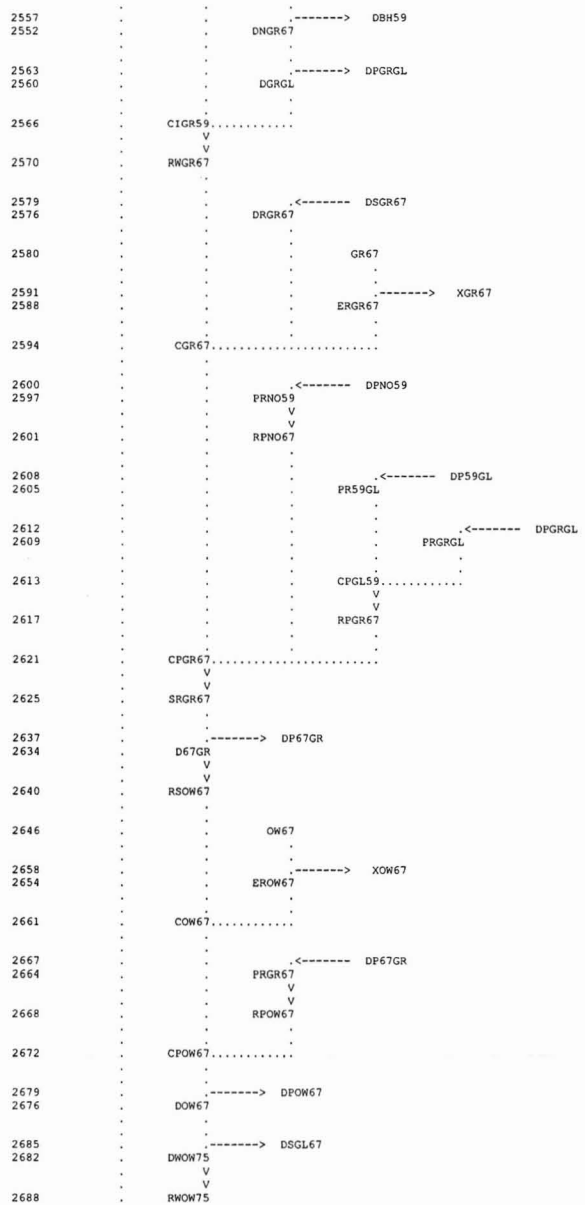
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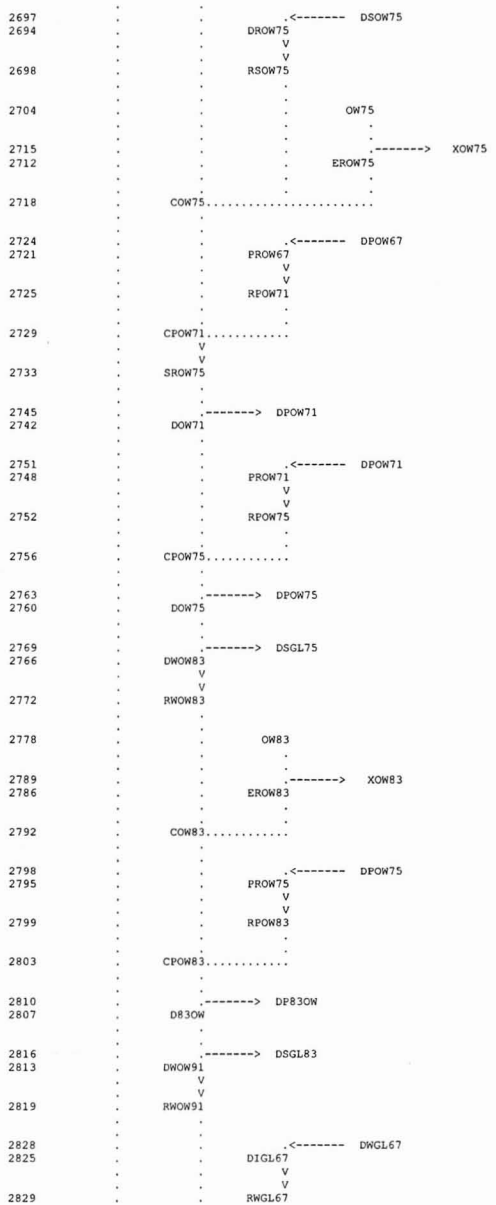
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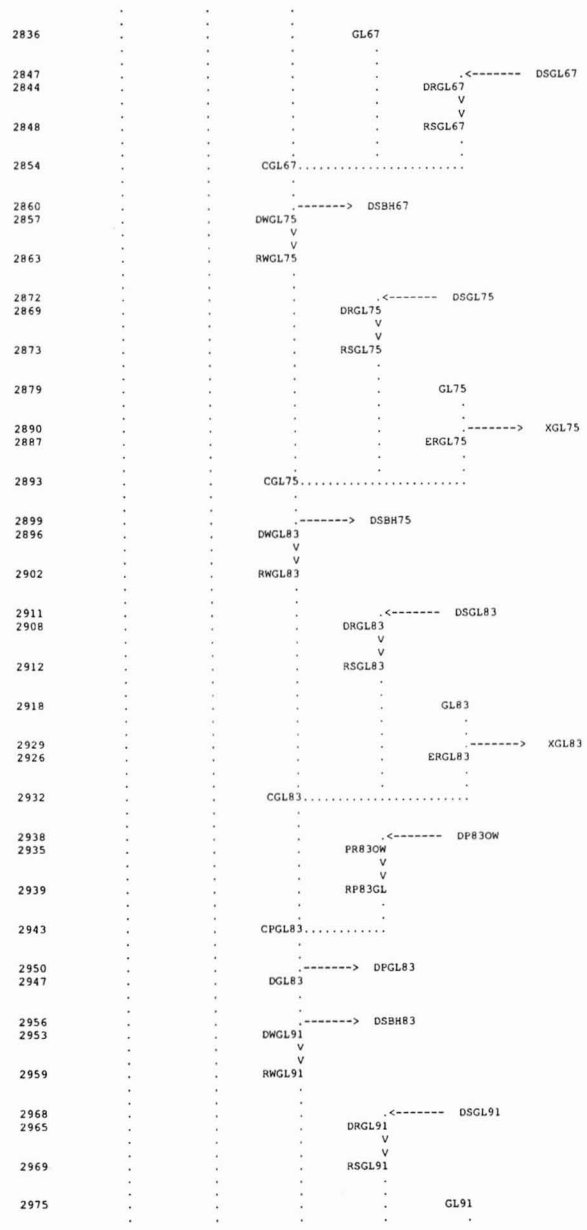
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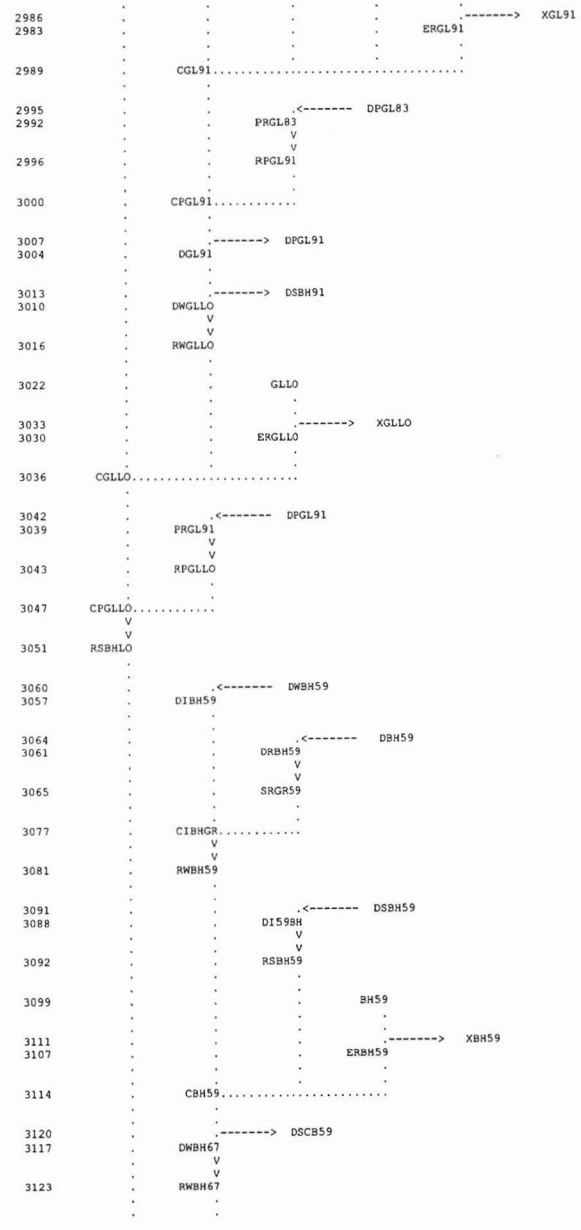
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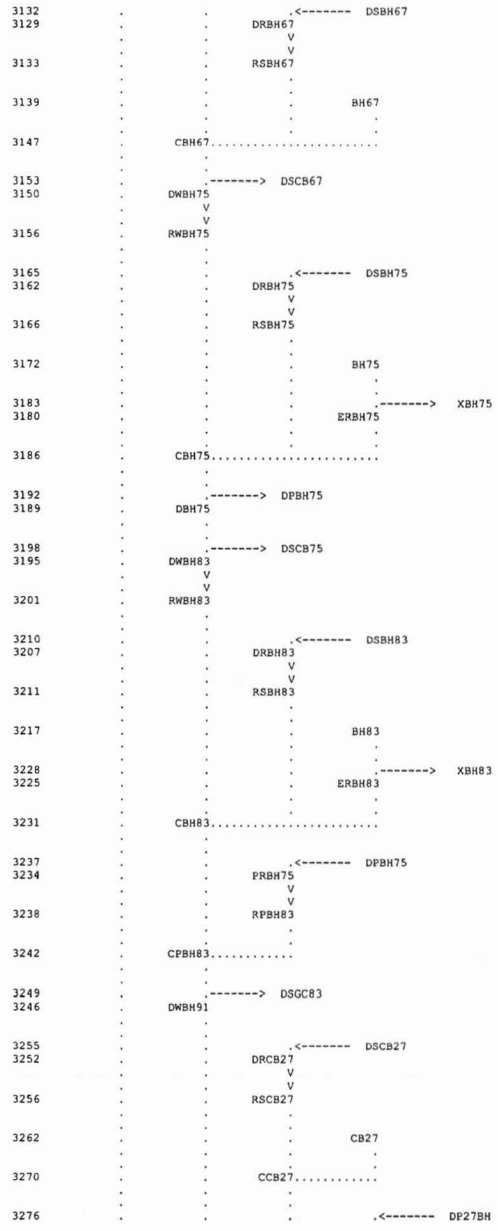
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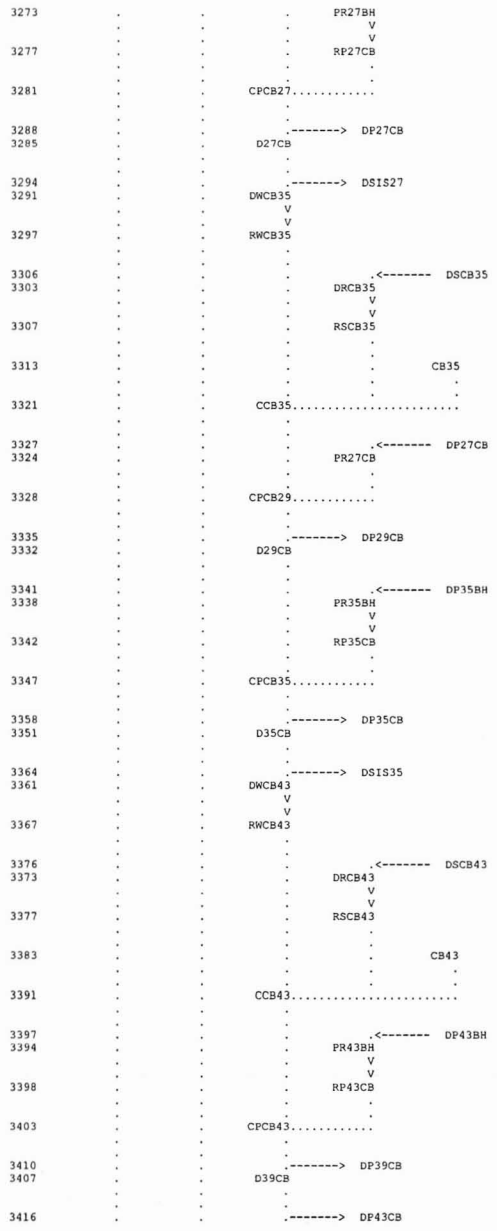
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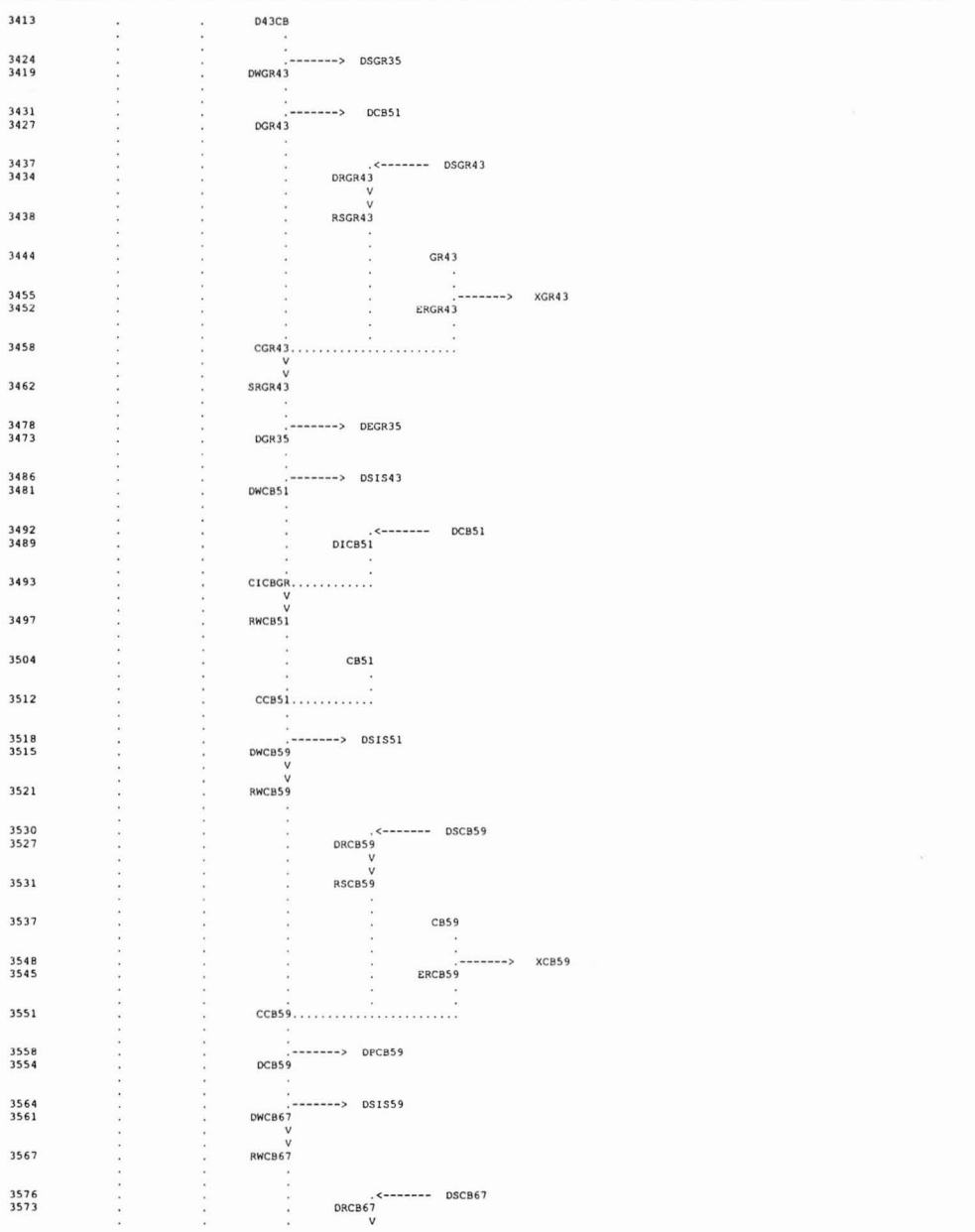
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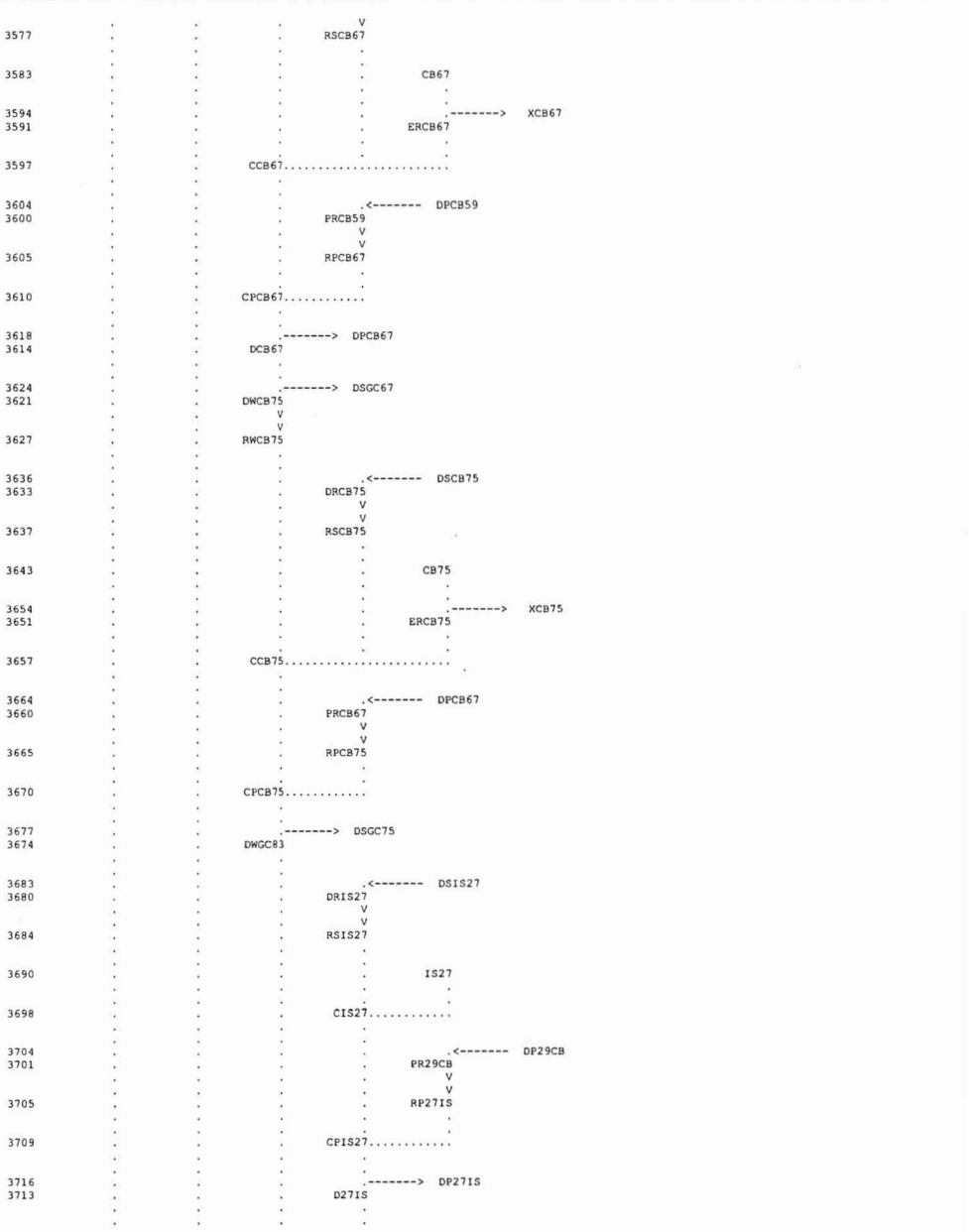
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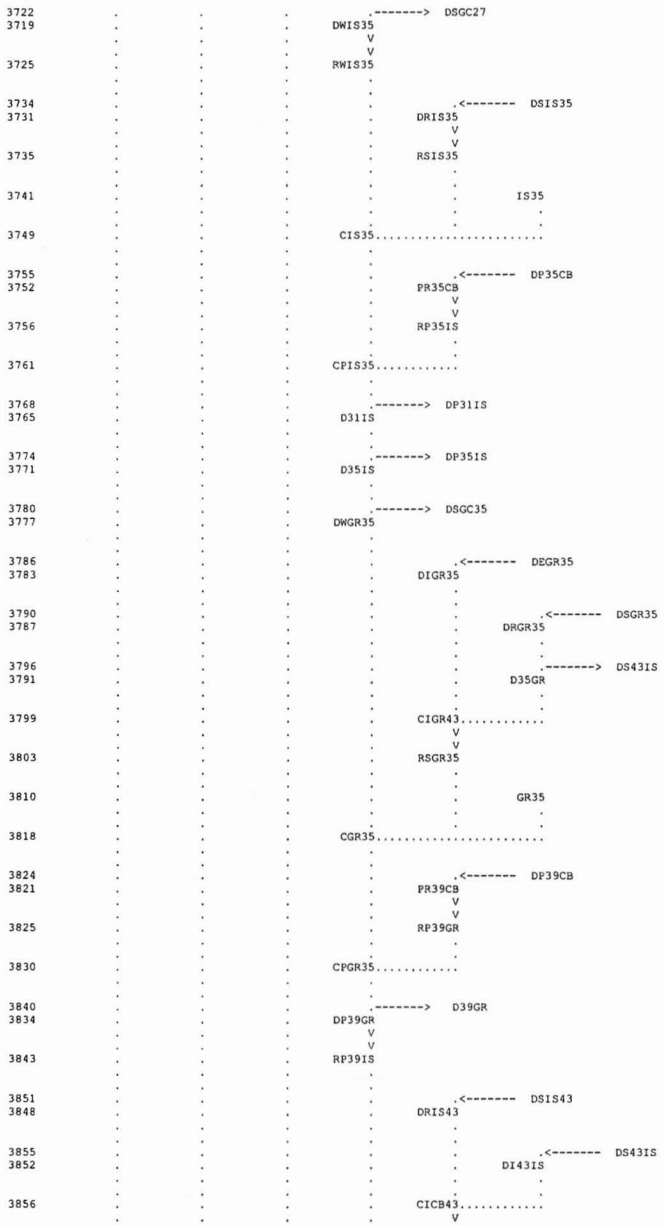
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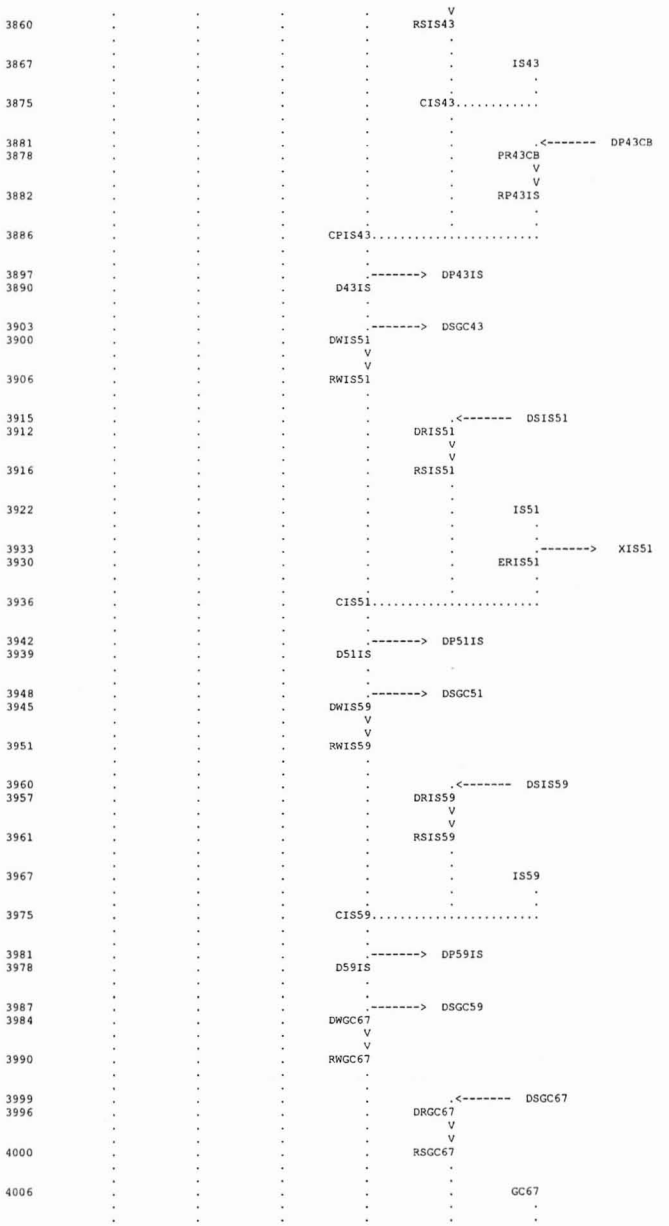
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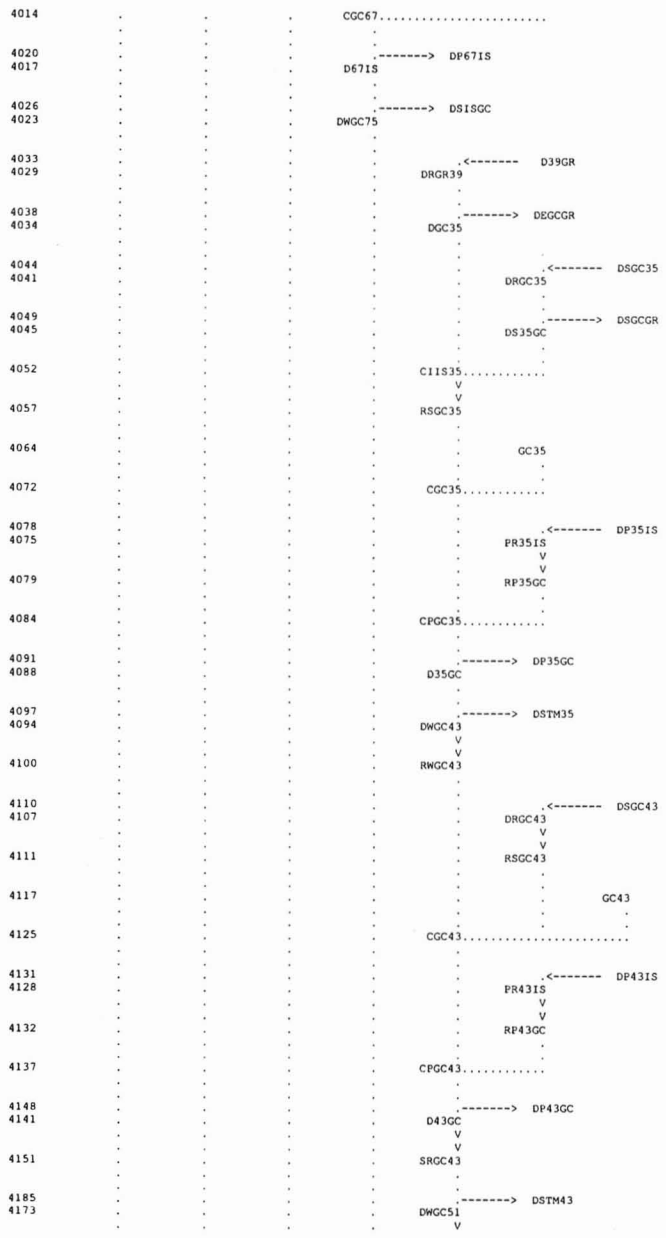
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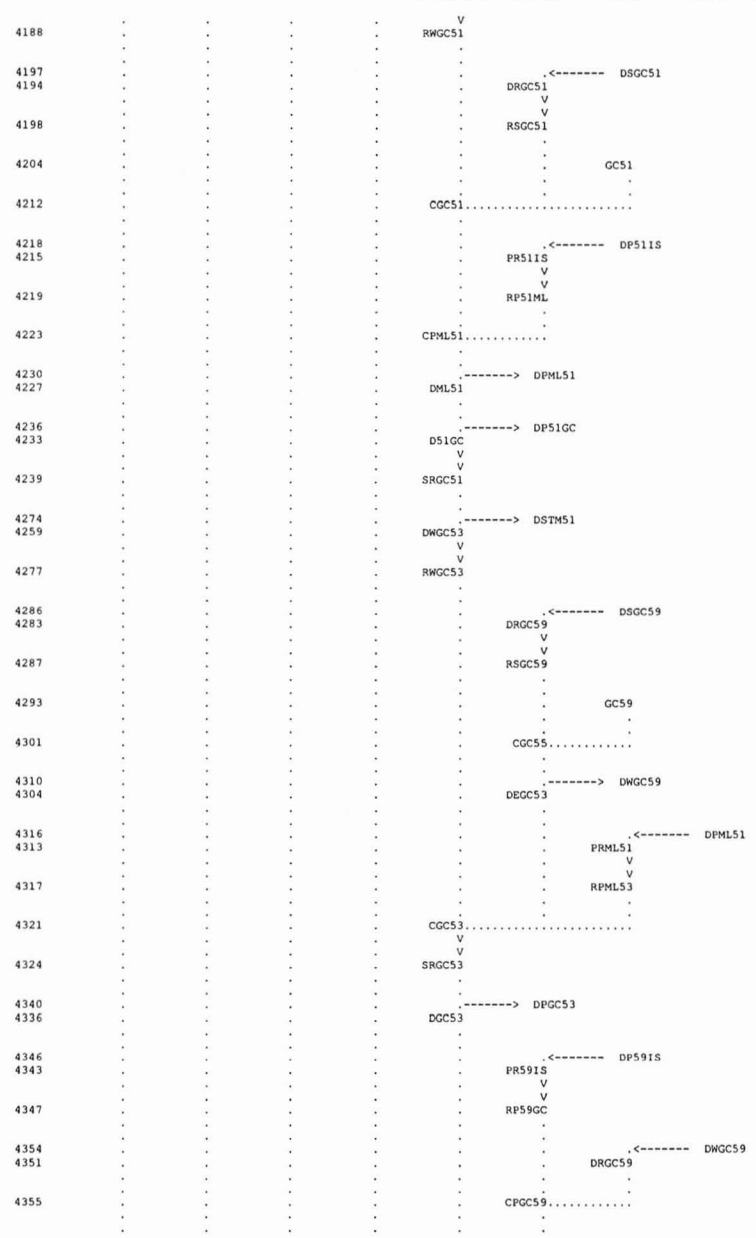
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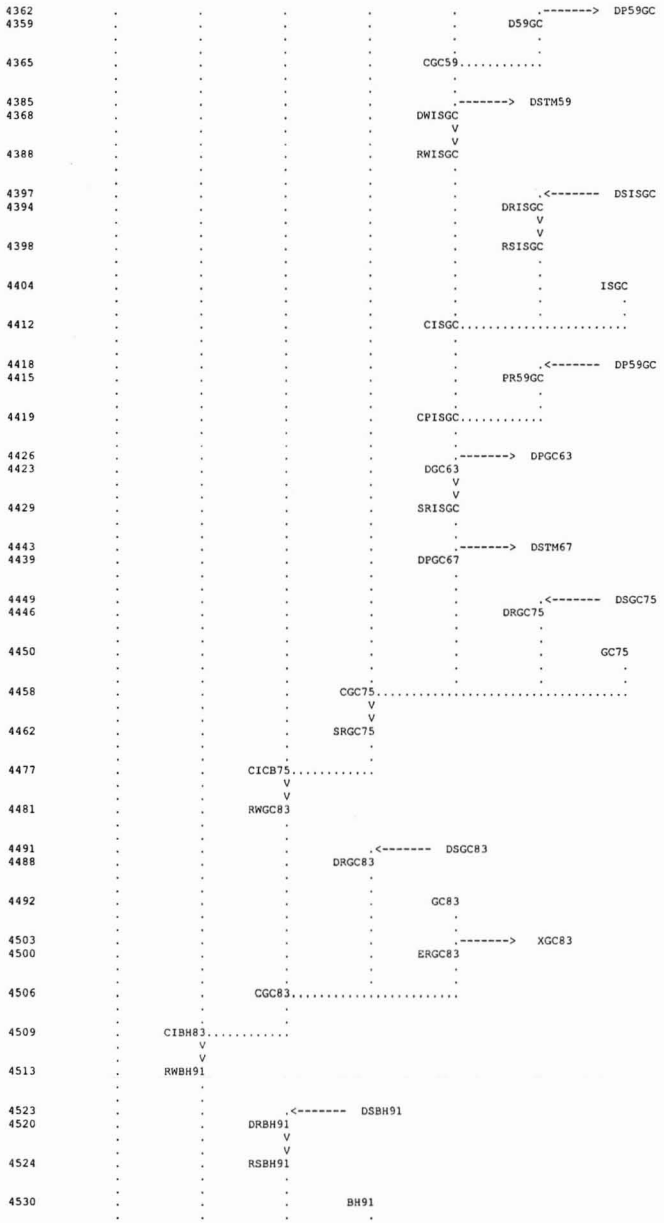
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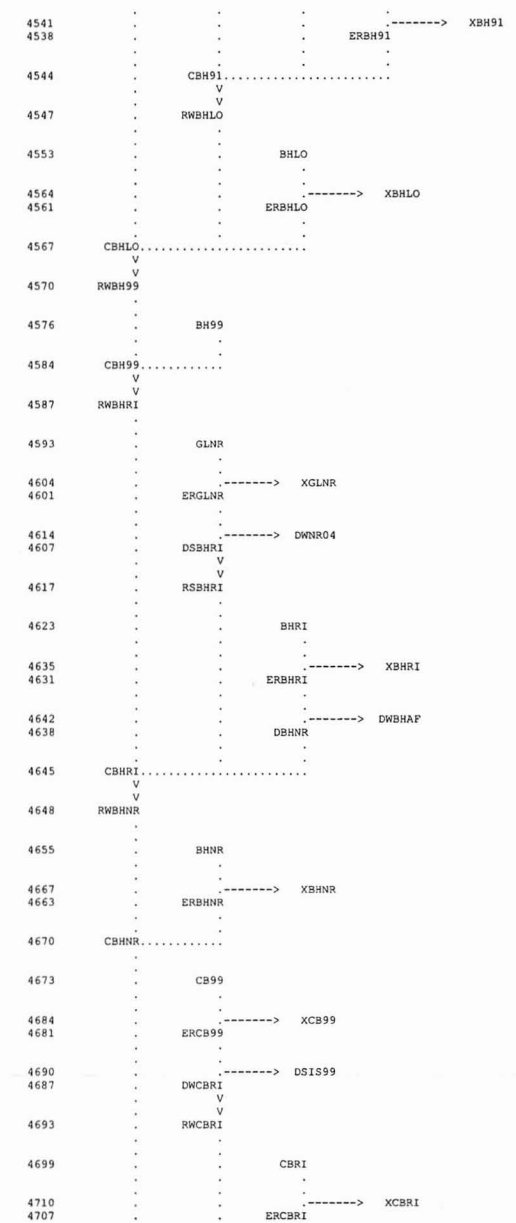
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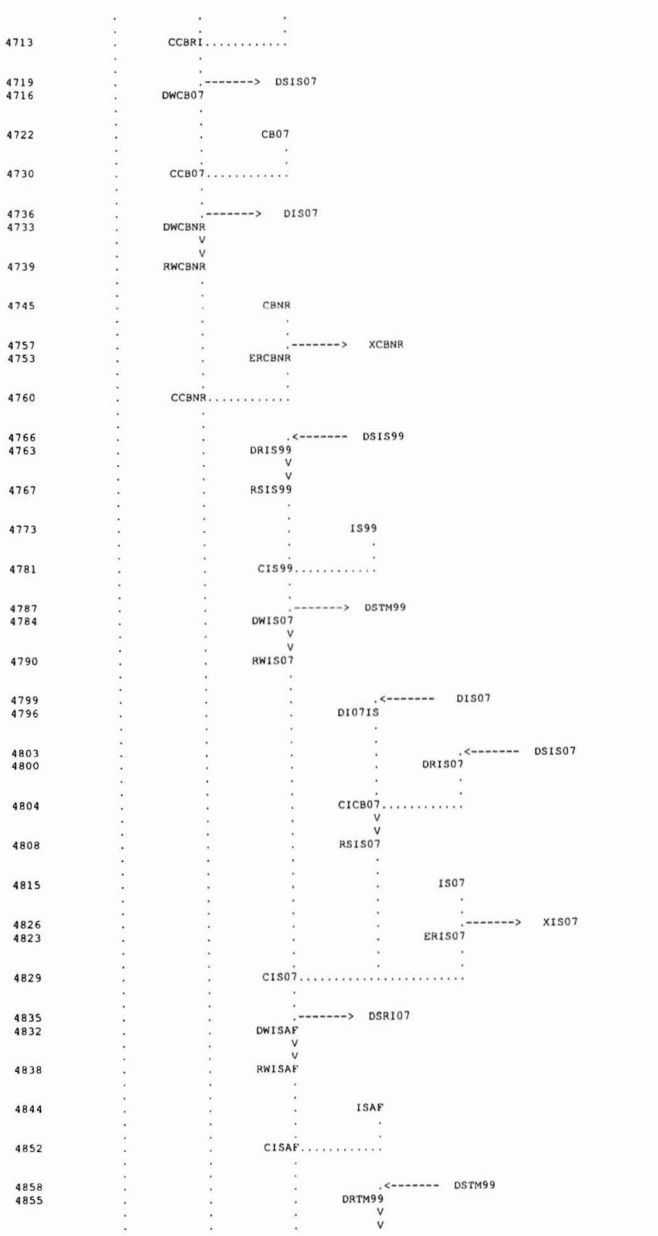
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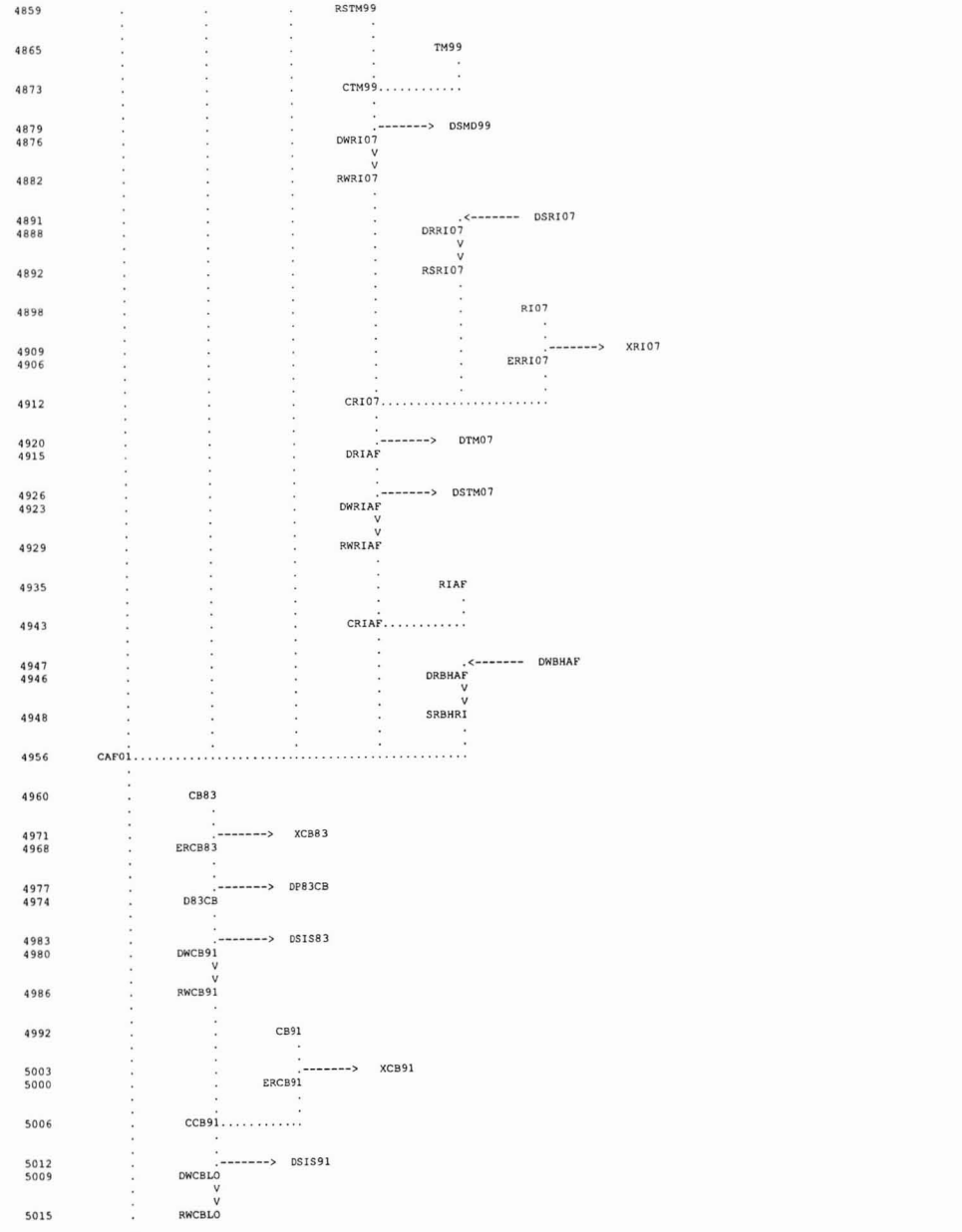
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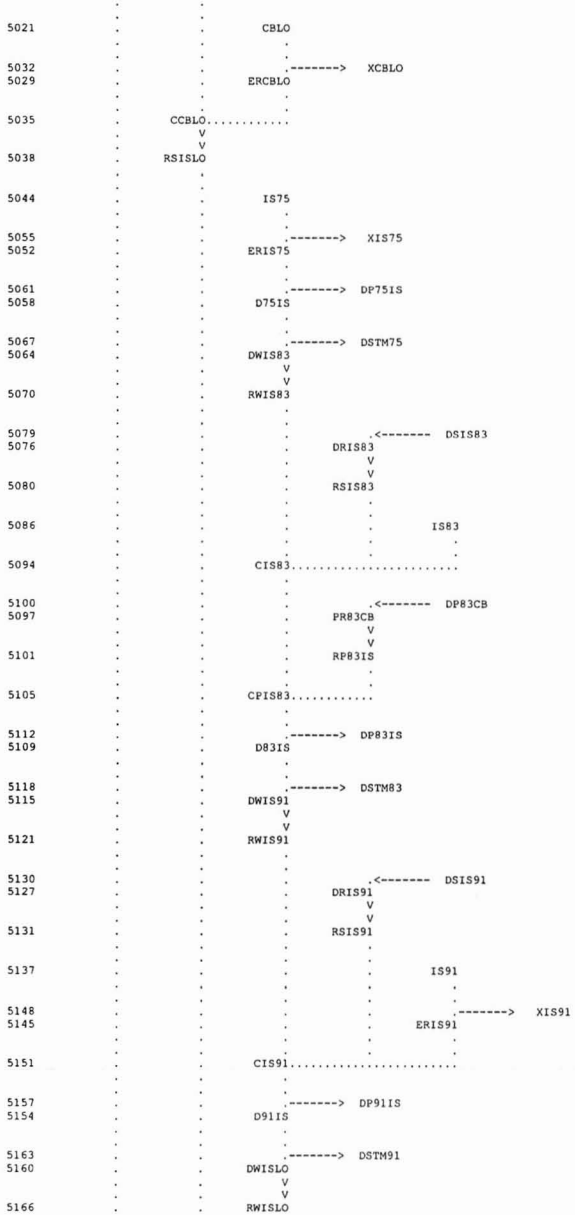
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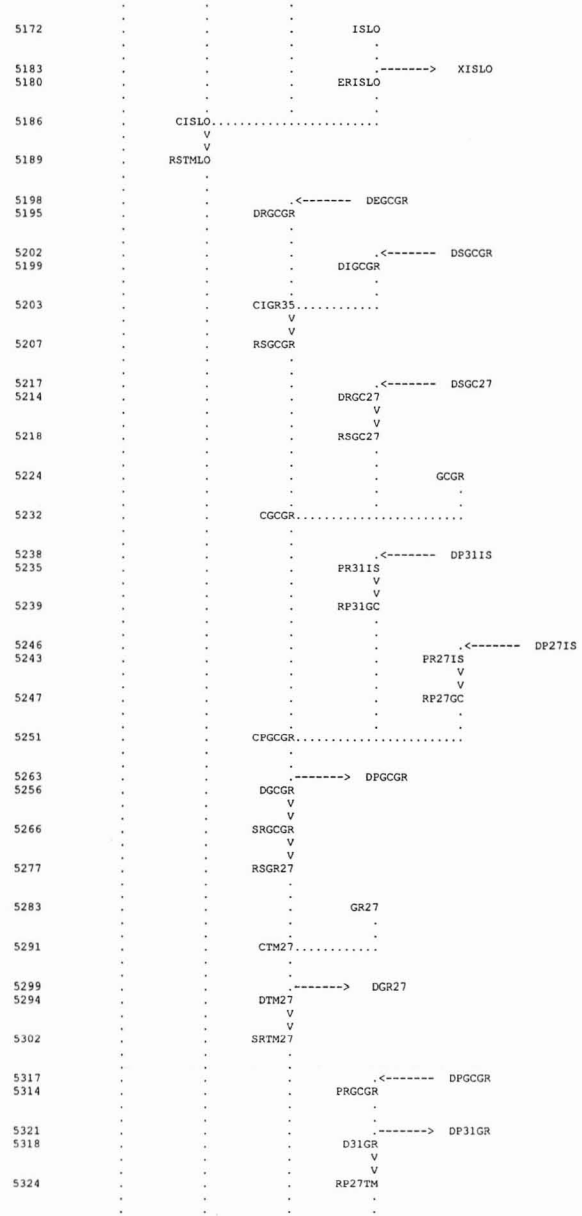
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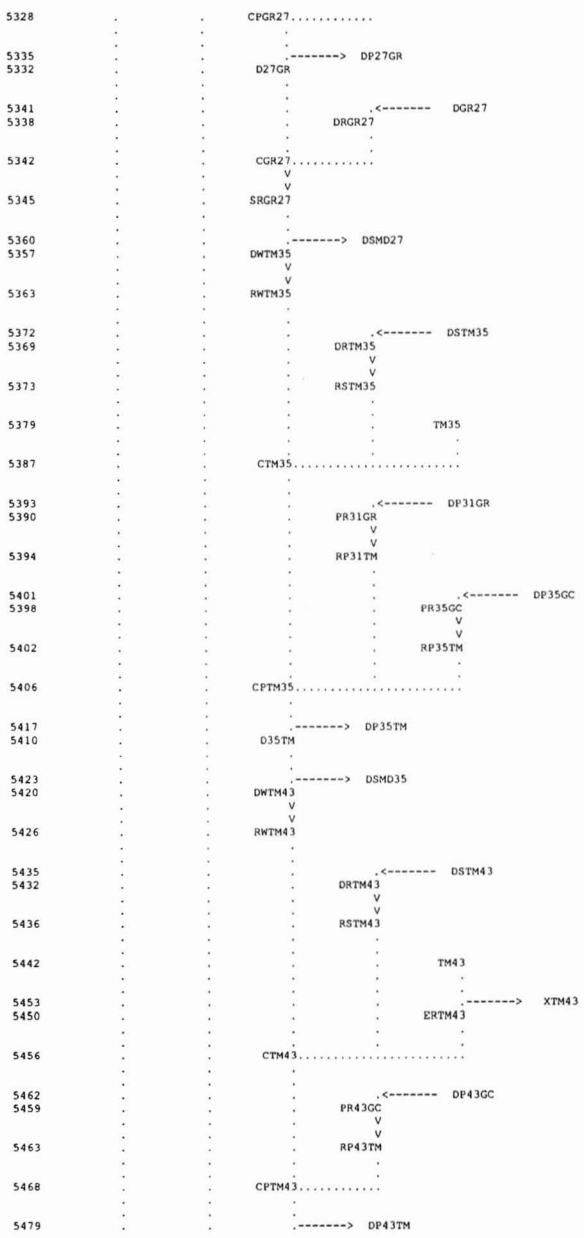
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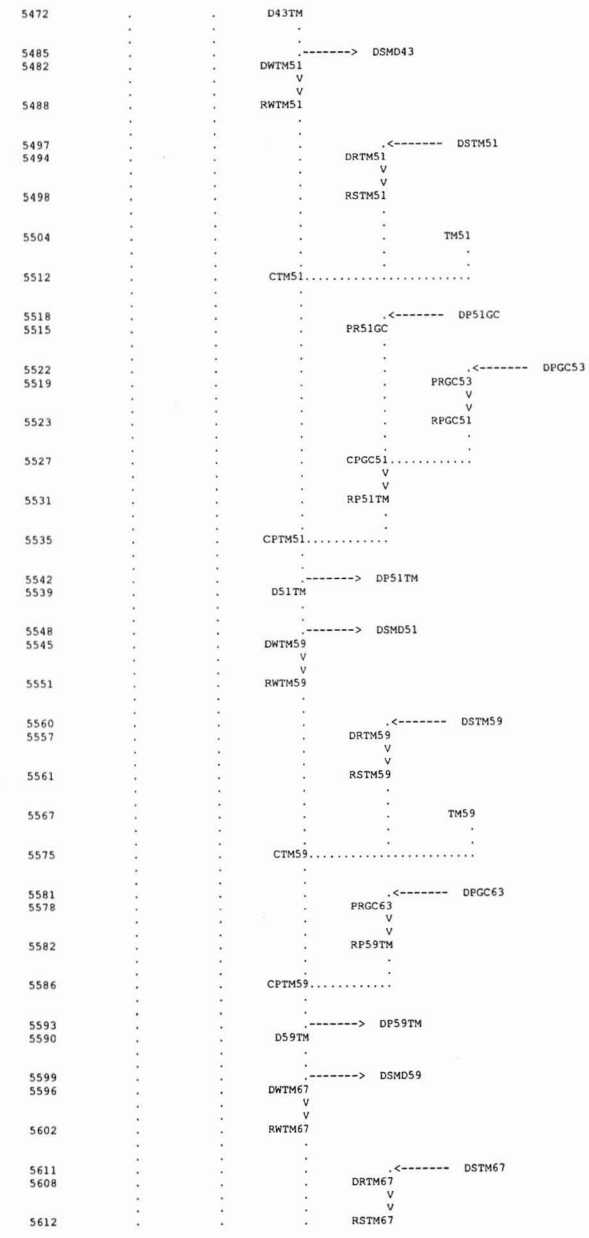
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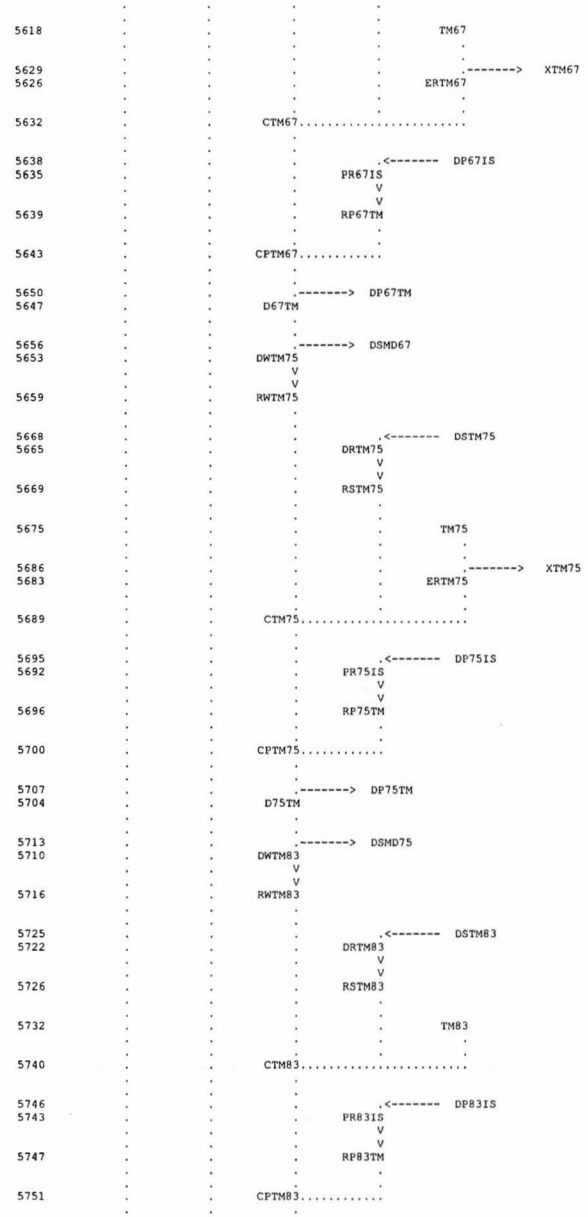
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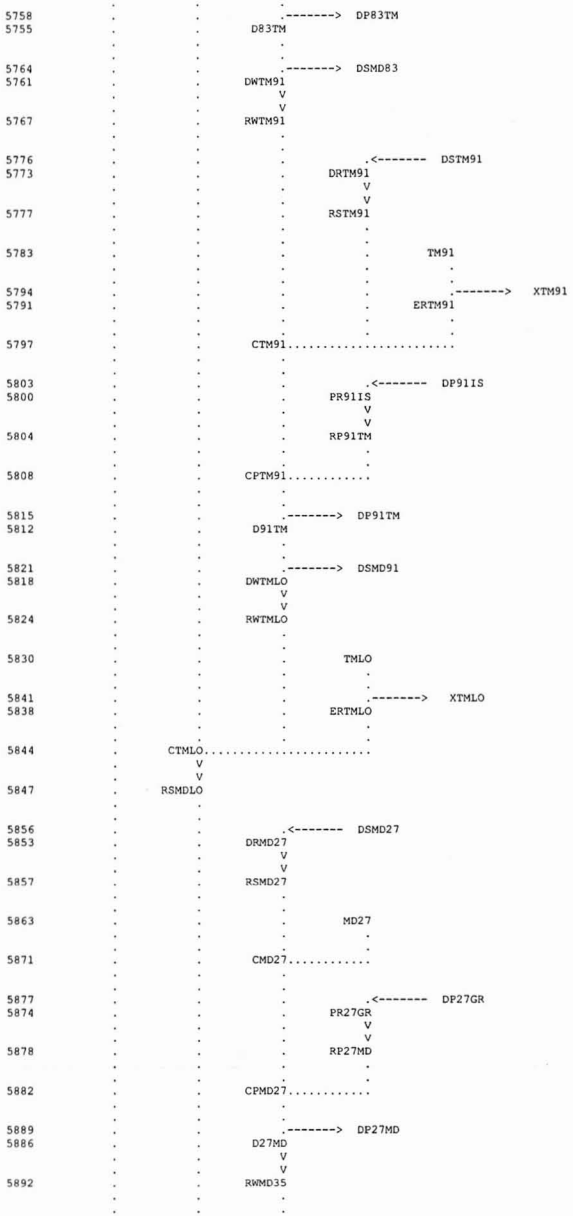
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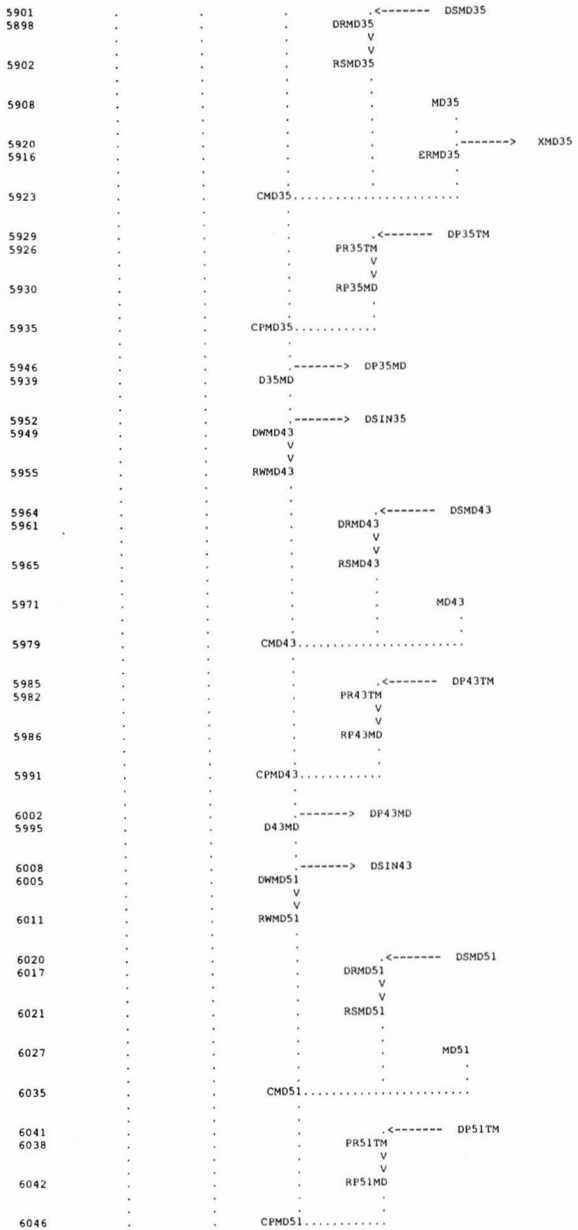
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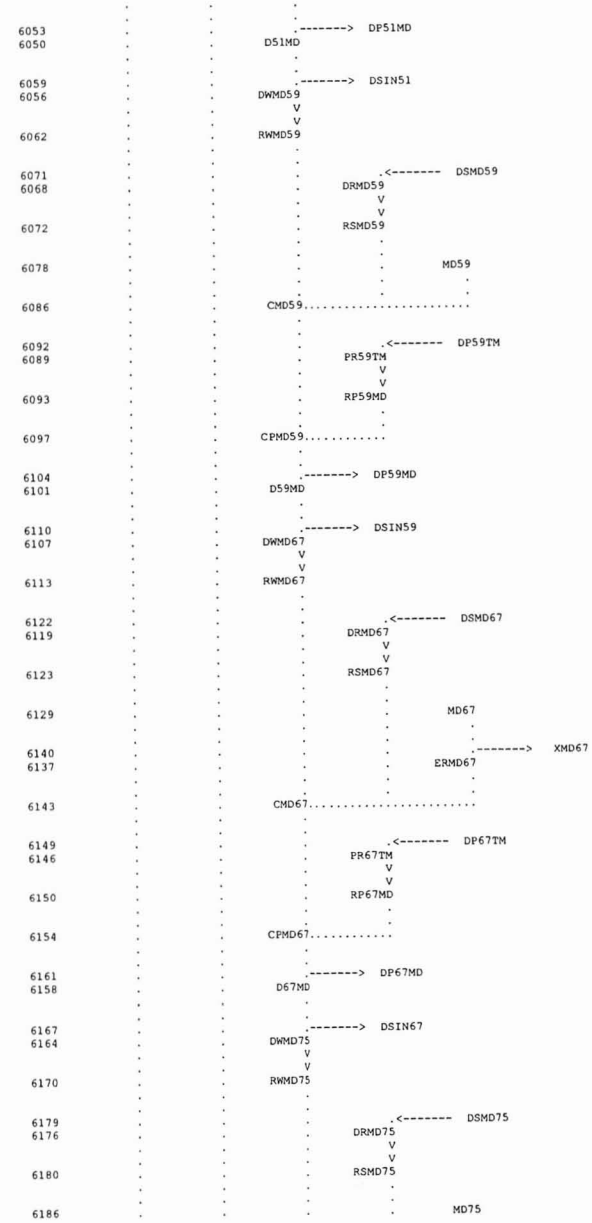
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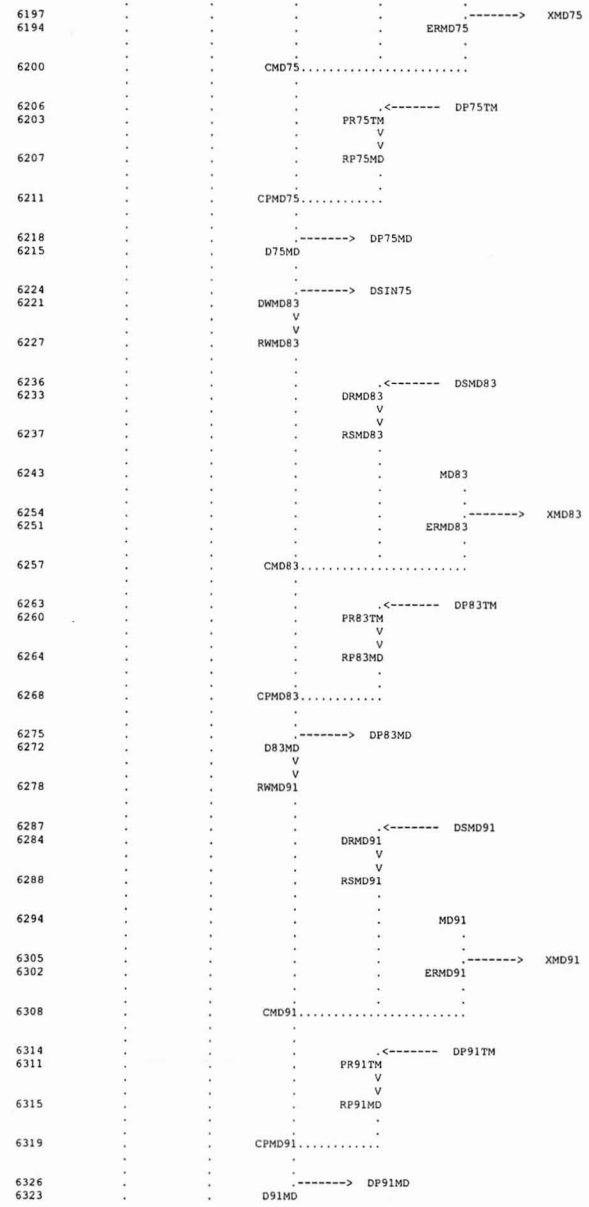
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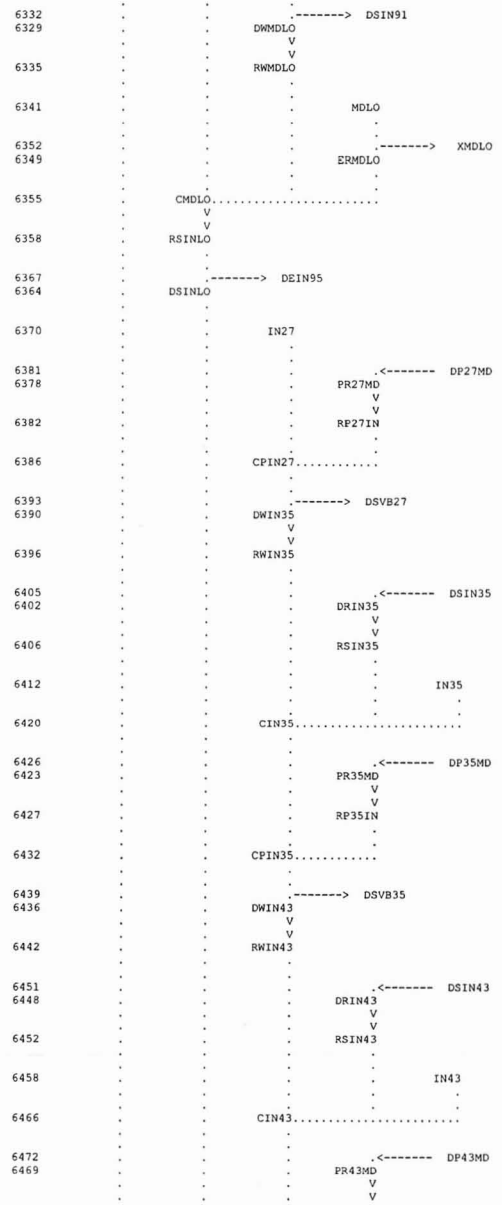
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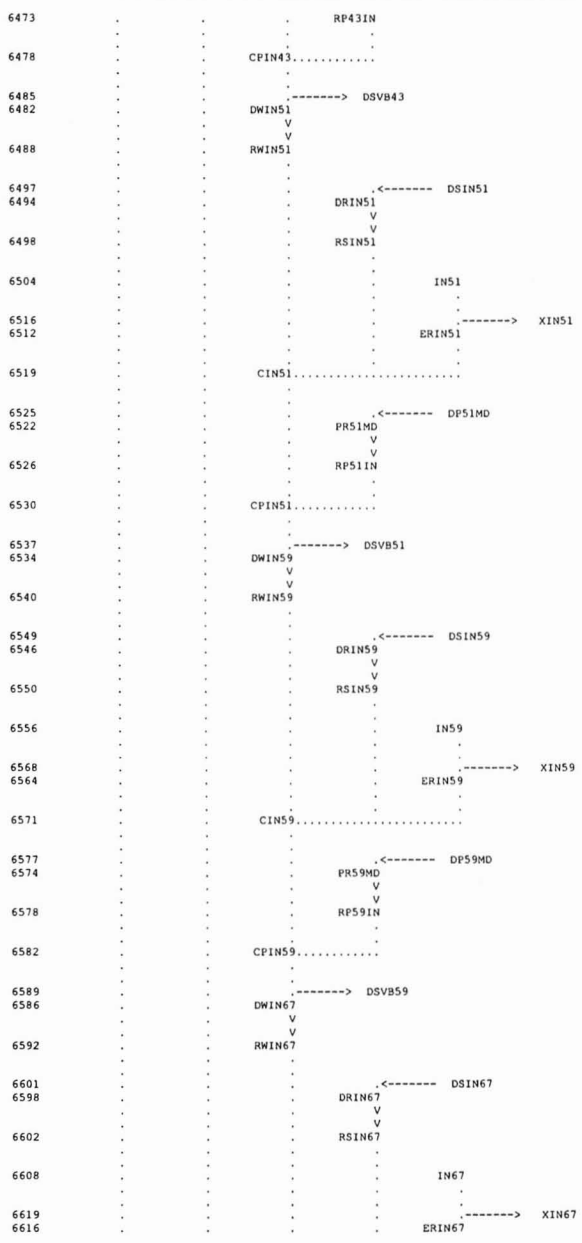
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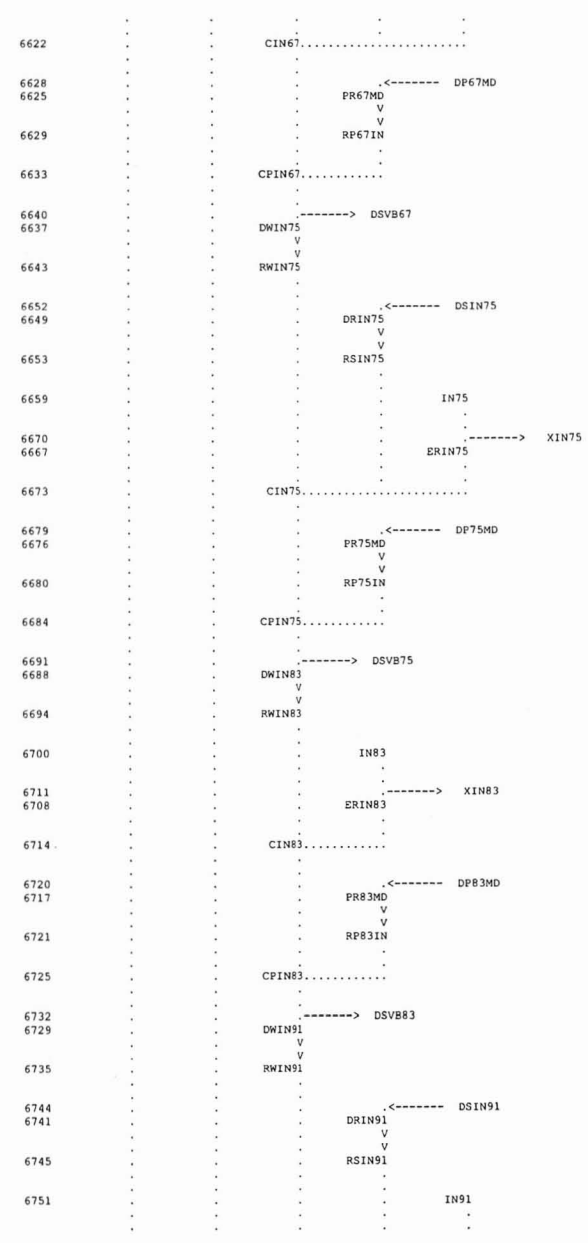
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DSIN91
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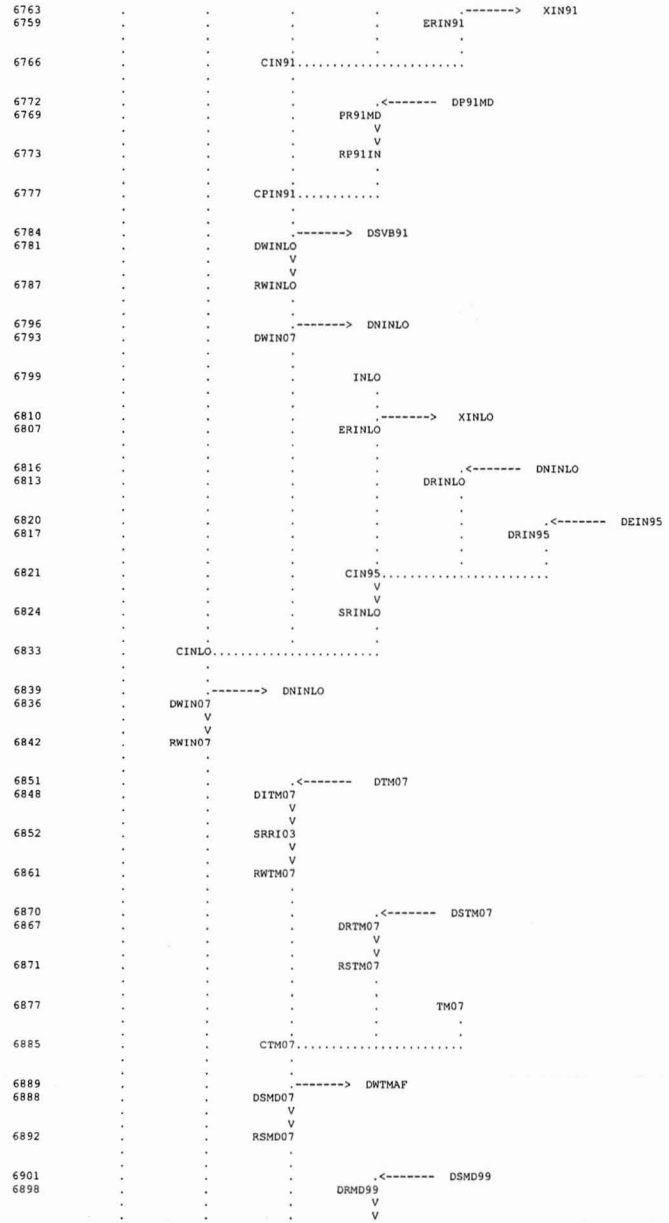
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PR91MD
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CPIN91
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RWINLO
DNINLO
DWIN07
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XINLO
ERINLO
DNINLO
DRINLO
DEIN95
DRIN95
CIN95
SRINLO
CINLO
DNINLO
DWIN07
RWIN07
DTM07
DITM07
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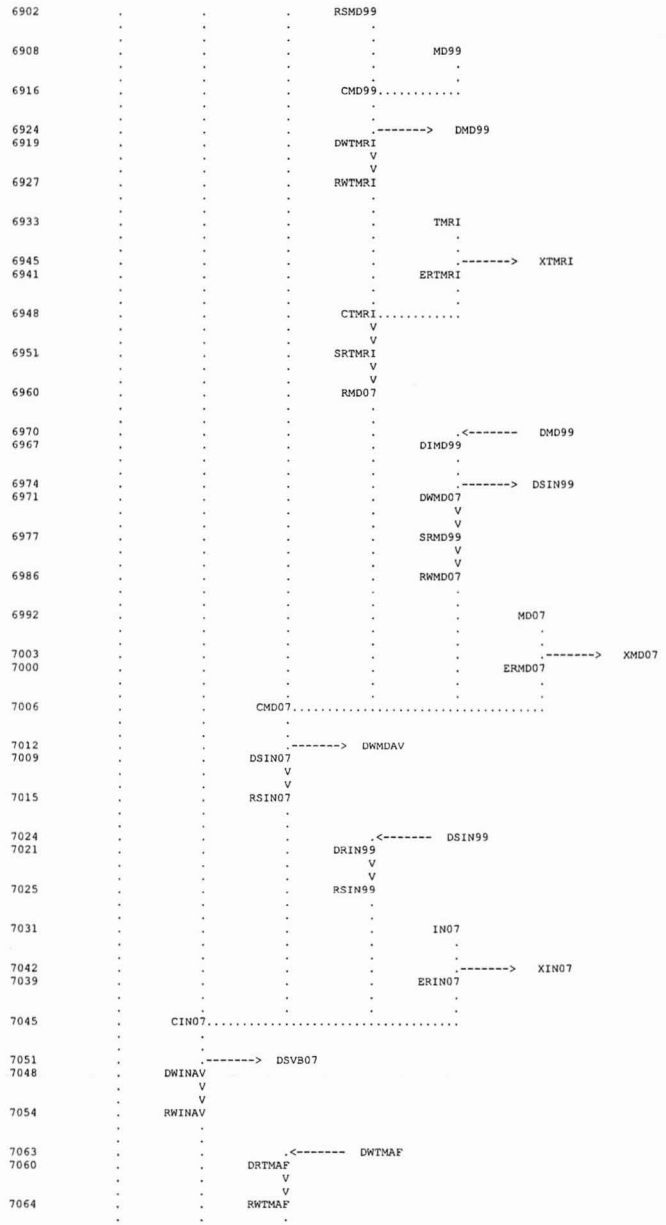
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DIMD99
DSIN99
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RWMD07
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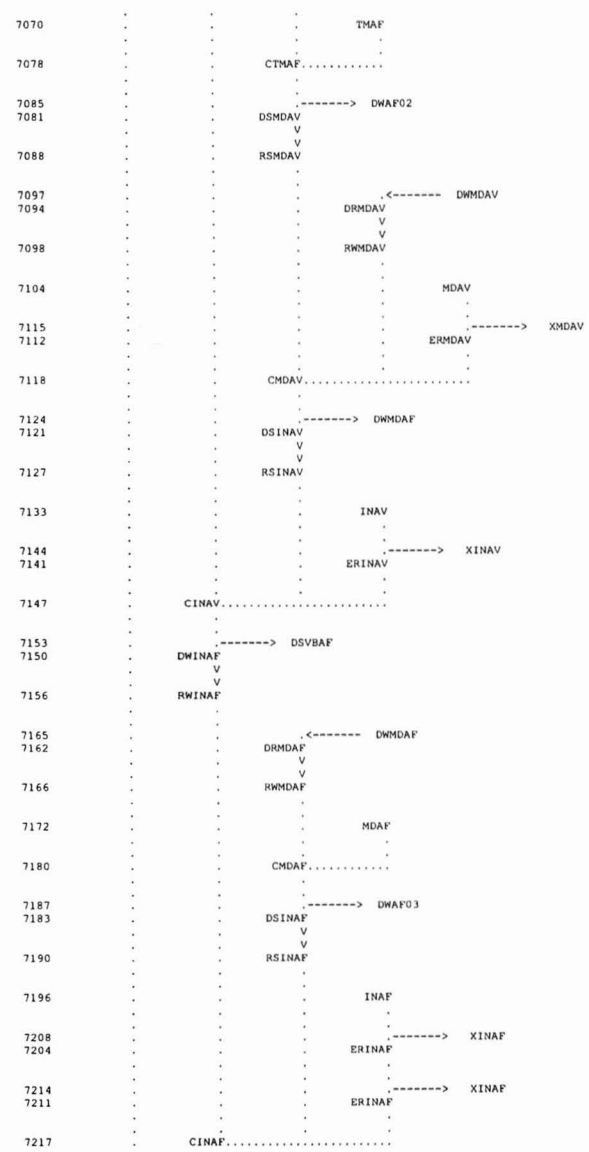

(***) RUNOFF ALSO COMPUTED AT THIS LOCATION

```
1*************************************
*                                   *
*   FLOOD HYDROGRAPH PACKAGE  (HEC-1)   *
*              JUN  1998            *
*                                   *
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*************************************
*                                   *
*   U.S. ARMY CORPS OF ENGINEERS    *
*   HYDROLOGIC ENGINEERING CENTER   *
*                                   *
*************************************
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*                                   *
*          VERSION 4.1              *
*                                   *
*  RUN DATE   01NOV10  TIME  11:13:24   *
*                                   *
*************************************
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*                                   *
*        609 SECOND STREET          *
*     DAVIS, CALIFORNIA 95616       *
*         (916) 756-1104            *
*                                   *
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```

GLENDALE STORMWATER MANAGEMENT PLAN
Model for Maryvale Watershed
Future Conditions

Prepared for the City of Glendale
In Association with the Flood Control District of Maricopa County
City Project Number 089017

Prepared by Kimley-Horn and Associates, Inc.
KHA Project Number 091910009
October 2010

MODELING PARAMETERS
- 10 Year 24 Hour Storm Event
- NOAA 14 Rainfall Data
- Clark Unit Hydrograph
- Green and Ampt Rainfall Loss Method

Topo data extracted from Flood Control District database July 24, 2009
Land use obtained from City of Glendale General Plan August 2009, City of Phoenix General Plan August 2009, and MAG General Plan Land Use 2007

Storage routing data obtained from As-built records where possible
When As-built data was not available data was obtained from HEC-1 models and checked for accuracy. HEC-1 models used include:
- Maryvale ADMS, February 1997
- Maryvale model modified by DMJM for improvements along the Bethany Home Outfall Channel, file BHGC00C6.dat, November 2004
- Update to ponding areas along Grand Canal in the City of Glendale for a CLOMR by PEC, February 2008

The source of data is identified on each individual storage routing card

****

MODELING NOMENCLATURE
SUBBASIN HYDROGRAPH:
Example: OL51 - the subbasin northeast of Olive and 51st Avenue

STORM DRAIN DIVERSION:
Example: DOL51 - flow from subbasin OL51 is diverted to a storm drain

SUBBASIN DIVERSION:
Example: DWOL59 - flow is diverted west towards Olive and 59th Avenue
Example: DSNO51 - flow is diverted south towards Northern and 51st Ave

ROUTE HYDROGRAPH:
Example: RWOL59 - flow is routed west towards Olive and 59th Avenue
Example: RSNO59 - flow is routed south towards Northern and 59th Ave

COMBINE HYDROGRAPH:
Example: COL59 - combine flow at Olive and 59th Avenue

NAME ABBREVIATIONS

Jomax Road	JM
Happy Valley Road	HV
Pinnacle Peak Road	PP
Deer Valley Road	DV
Loop 101	LO
Beardsley Road	BY
Union Hills Drive	UH
Bell Road	BL
Greenway Road	GW
Thunderbird Road	TB
Cactus Road	CT
Peoria Avenue	PE
Olive Avenue	OL
Northern Avenue	NO
Glendale Avenue	GL
Bethany Home Road	BH
Camelback Road	CB
Indian School Road	IS
Thomas Road	TM
McDowell Road	MD
Interstate 10	IN
Van Buren Street	VB
Avondale Boulevard	AV
Grand Avenue	GR
Grand Canal	GC
Brown Street	BR
Mountain View Road	MV
Orangewood Avenue	OW
Mitchell Drive	ML
Agua Fria River	AF

```
                  New River              NR
                  Skunk Creek            SK
                  Roosevelt Irrigation   RI

               PREFIXES FOR MODELING OPERATIONS
                  RW    Routing flow in the west direction
                  RS    Routing flow in the south direction
                  RP    Routing storm drain pipe flow
                  C     Combination point
                  CI    Combination point at an intersection
                  CP    Combination point for storm drain pipe flow
                  SR    Storage for detention/retention basins
                  DW    Divert flow to the west
                  DE    Divert flow to the east
                  DS    Divert flow to the south
                  DN    Divert flow to the north
                  ER    Divert flow for existing 100-yr 2-hr retention
                  X     Existing retention divertion does not return to model
                  DR    Divert retrieval from surface flow
                  DI    Divert retrieval from intersection flow
                  D     Divert surface flow (remains after storm drain divert)
                  DP    Divert flow to a storm drain pipe
                  PR    Divert retrieval from a storm drain pipe

               *********************************************************************

111 IO         OUTPUT CONTROL VARIABLES
                    IPRNT           5  PRINT CONTROL
                    IPLOT           0  PLOT CONTROL
                    QSCAL          0.  HYDROGRAPH PLOT SCALE

    IT         HYDROGRAPH TIME DATA
                    NMIN            5  MINUTES IN COMPUTATION INTERVAL
                    IDATE      1    0  STARTING DATE
                    ITIME        0000  STARTING TIME
                       NQ        1000  NUMBER OF HYDROGRAPH ORDINATES
                   NDDATE      4    0  ENDING DATE
                   NDTIME        1115  ENDING TIME
                    ICENT          19  CENTURY MARK

                COMPUTATION INTERVAL      .08 HOURS
                     TOTAL TIME BASE    83.25 HOURS

         ENGLISH UNITS
              DRAINAGE AREA          SQUARE MILES
              PRECIPITATION DEPTH    INCHES
              LENGTH, ELEVATION      FEET
              FLOW                   CUBIC FEET PER SECOND
              STORAGE VOLUME         ACRE-FEET
              SURFACE AREA           ACRES
              TEMPERATURE            DEGREES FAHRENHEIT

112 JD         INDEX STORM NO. 1
                     STRM        2.22  PRECIPITATION DEPTH
                     TRDA         .00  TRANSPOSITION DRAINAGE AREA

113 PI          PRECIPITATION PATTERN
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.01	.01	.01	.01	.01	.01	.01	.01	.03	.03
.03	.09	.09	.09	.01	.01	.01	.01	.01	.01
.01	.01	.01	.01	.01	.01	.00	.00	.00	.00
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123 JD         INDEX STORM NO. 2
                     STRM        2.11  PRECIPITATION DEPTH
                     TRDA       10.00  TRANSPOSITION DRAINAGE AREA

  0 PI          PRECIPITATION PATTERN
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.00	.00	.00	.00	.00	.00	.00	.00	.00	.00

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.01	.01	.01	.01	.01	.01	.01	.01	.03	.03
.03	.09	.09	.09	.01	.01	.01	.01	.01	.01
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124 JD         INDEX STORM NO. 3
                     STRM        2.00  PRECIPITATION DEPTH
                     TRDA       30.00  TRANSPOSITION DRAINAGE AREA

  0 PI          PRECIPITATION PATTERN
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.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
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.01	.01	.01	.01	.01	.01	.01	.01	.03	.03
.03	.09	.09	.09	.01	.01	.01	.01	.01	.01
.01	.01	.01	.01	.01	.01	.00	.00	.00	.00
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.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
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125 JD         INDEX STORM NO. 4
                     STRM        1.93  PRECIPITATION DEPTH
                     TRDA       60.00  TRANSPOSITION DRAINAGE AREA

  0 PI          PRECIPITATION PATTERN
```

.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
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.01	.01	.01	.01	.01	.01	.01	.01	.03	.03
.03	.09	.09	.09	.01	.01	.01	.01	.01	.01
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              .00      .00      .00      .00      .00      .00      .00      .00

 126 JD        INDEX STORM NO.  5
                 STRM      1.89  PRECIPITATION DEPTH
                 TRDA     90.00  TRANSPOSITION DRAINAGE AREA

   0 PI         PRECIPITATION PATTERN
              .00      .00      .00      .00      .00      .00      .00      .00      .00      .00
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              .01      .01      .01      .01      .01      .01      .01      .01      .03      .03
              .03      .09      .09      .09      .01      .01      .01      .01      .01      .01
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 127 JD        INDEX STORM NO.  6
                 STRM      1.87  PRECIPITATION DEPTH
                 TRDA    120.00  TRANSPOSITION DRAINAGE AREA

   0 PI         PRECIPITATION PATTERN
              .00      .00      .00      .00      .00      .00      .00      .00      .00      .00
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              .03      .09      .09      .09      .01      .01      .01      .01      .01      .01
              .01      .01      .01      .01      .01      .01      .00      .00      .00      .00
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              .00      .00      .00      .00      .00      .00      .00      .00      .00      .00
              .00      .00      .00      .00      .00      .00      .00      .00      .00      .00
              .00      .00      .00      .00      .00      .00      .00      .00      .00      .00
              .00      .00      .00      .00      .00      .00      .00      .00      .00      .00
              .00      .00      .00      .00      .00      .00      .00      .00      .00      .00
              .00      .00      .00      .00      .00      .00      .00      .00      .00      .00
              .00      .00      .00      .00      .00      .00      .00      .00      .00      .00
              .00      .00      .00      .00      .00      .00      .00      .00      .00      .00
              .00      .00      .00      .00      .00      .00      .00      .00      .00      .00
              .00      .00      .00      .00      .00      .00      .00      .00      .00      .00
              .00      .00      .00      .00      .00      .00      .00      .00      .00      .00
              .00      .00      .00      .00      .00      .00      .00      .00

      *** FDKRUT - NEWTON RAPHSON FAILEDFIXED POINT ITERATION USED - ITERATION=  1
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*** The remainder of the continuity summary has been deleted for brevity, but the entire output is included on the CD ***

1

RUNOFF SUMMARY
FLOW IN CUBIC FEET PER SECOND
TIME IN HOURS, AREA IN SQUARE MILES

	OPERATION	STATION	PEAK FLOW	TIME OF PEAK	AVERAGE FLOW FOR MAXIMUM PERIOD 6-HOUR	24-HOUR	72-HOUR	BASIN AREA	MAXIMUM STAGE	TIME OF MAX STAGE
+	HYDROGRAPH AT	GW83	51.	12.83	22.	7.	2.	.29		
+	DIVERSION TO	DPGW83	45.	12.50	22.	7.	2.	.29		
+	HYDROGRAPH AT	DGW83	6.	12.83	1.	0.	0.	.29		
+	DIVERSION TO	DWSK01	4.	12.83	0.	0.	0.	.29		
+	HYDROGRAPH AT	DSTB83	3.	12.83	0.	0.	0.	.29		
+	ROUTED TO	RSTB83	2.	13.83	0.	0.	0.	.29		
+	HYDROGRAPH AT	TB67	138.	12.33	27.	8.	3.	.26		
+	DIVERSION TO	DSCT67	55.	12.33	11.	3.	1.	.26		
+	HYDROGRAPH AT	DWTB75	83.	12.33	16.	5.	2.	.26		
+	ROUTED TO	RWTB75	65.	13.00	16.	5.	2.	.26		
+	HYDROGRAPH AT	TB75	339.	12.58	102.	31.	10.	1.03		
+	DIVERSION TO	XTB75	77.	12.00	15.	5.	2.	1.03		
+	HYDROGRAPH AT	ERTB75	339.	12.58	97.	26.	9.	1.03		
+	2 COMBINED AT	CTB75	363.	12.92	113.	31.	10.	1.18		
+	DIVERSION TO	DPTB75	161.	12.25	78.	22.	7.	1.18		
+	HYDROGRAPH AT	DTB75	202.	12.92	36.	9.	3.	1.18		
+	DIVERSION TO	DSCT75	91.	12.92	16.	4.	1.	1.18		
+	HYDROGRAPH AT	DWTB83	111.	12.92	20.	5.	2.	1.18		
+	ROUTED TO	RWTB83	92.	13.42	20.	5.	2.	1.18		
+	HYDROGRAPH AT	TB83	250.	12.67	89.	27.	9.	.99		
+	DIVERSION TO	XTB83	250.	12.67	34.	10.	3.	.99		
+	HYDROGRAPH AT	ERTB83	240.	12.92	64.	18.	6.	.99		
+	3 COMBINED AT	CTB83	283.	13.33	84.	23.	8.	1.77		
+	HYDROGRAPH AT	PRTB75	161.	12.25	78.	22.	7.	1.18		
+	ROUTED TO	RPTB83	161.	12.42	77.	22.	7.	1.18		
+	2 COMBINED AT	CPTB83	444.	13.33	160.	45.	15.	1.77		
+	DIVERSION TO	DPTB83	247.	12.83	124.	36.	12.	1.77		
+	HYDROGRAPH AT	DTB83	197.	13.33	36.	9.	3.	1.77		
+	DIVERSION TO	DSCT83	140.	13.33	26.	6.	2.	1.77		
+	HYDROGRAPH AT	DWTBLO	57.	13.33	11.	3.	1.	1.77		
+	ROUTED TO	RWTBLO	56.	13.50	11.	3.	1.	1.77		
	HYDROGRAPH AT									

	TBLO	38.	12.50	14.	5.	2.	.10
DIVERSION TO	XTBLO	38.	12.50	14.	5.	2.	.10
HYDROGRAPH AT	ERTBLO	0.	.00	0.	0.	0.	.10
2 COMBINED AT	CTBLO	57.	13.42	11.	3.	1.	.62
HYDROGRAPH AT	PRTB83	247.	12.83	124.	36.	12.	1.77
ROUTED TO	RPTBLO	247.	12.92	124.	36.	12.	1.77
2 COMBINED AT	CPTBLO	304.	13.42	135.	38.	13.	.62
ROUTED TO	RSCTLO	300.	13.67	134.	38.	13.	.62
HYDROGRAPH AT	CT59	116.	12.50	31.	9.	3.	.30
DIVERSION TO	XCT59	116.	12.50	31.	9.	3.	.30
HYDROGRAPH AT	ERCT59	0.	.00	0.	0.	0.	.30
DIVERSION TO	DP59CT	0.	.00	0.	0.	0.	.30
HYDROGRAPH AT	D59CT	0.	.00	0.	0.	0.	.30
DIVERSION TO	DSPE59	0.	.00	0.	0.	0.	.30
HYDROGRAPH AT	DWCT67	0.	.00	0.	0.	0.	.30
ROUTED TO	RWCT67	0.	.00	0.	0.	0.	.30
HYDROGRAPH AT	DRCT67	55.	12.33	11.	3.	1.	.26
ROUTED TO	RSCT67	43.	13.00	11.	3.	1.	.26
HYDROGRAPH AT	CT67	285.	12.58	85.	26.	9.	.91
DIVERSION TO	XCT67	285.	12.58	49.	14.	5.	.91
HYDROGRAPH AT	ERCT67	219.	13.17	43.	12.	4.	.91
3 COMBINED AT	CCT67	257.	13.17	53.	15.	5.	1.11
DIVERSION TO	DPCT67	256.	13.17	53.	15.	5.	1.11
HYDROGRAPH AT	DCT67	4.	13.08	0.	0.	0.	1.11
DIVERSION TO	DSPE67	2.	13.08	0.	0.	0.	1.11
HYDROGRAPH AT	DWCT75	2.	13.08	0.	0.	0.	1.11
ROUTED TO	RWCT75	0.	13.92	0.	0.	0.	1.11
HYDROGRAPH AT	DRCT75	91.	12.92	16.	4.	1.	1.18
ROUTED TO	RSCT75	77.	13.42	16.	4.	1.	1.18
HYDROGRAPH AT	CT75	290.	12.67	100.	30.	10.	1.00
DIVERSION TO	XCT75	290.	12.67	54.	15.	5.	1.00
HYDROGRAPH AT							

	ERCT75	242.	13.25	55.	15.	5.	1.00
3 COMBINED AT	CCT75	306.	13.25	70.	19.	6.	2.17
HYDROGRAPH AT	PRCT67	256.	13.17	53.	15.	5.	1.11
ROUTED TO	RPCT75	242.	13.33	53.	15.	5.	1.11
2 COMBINED AT	CPCT75	545.	13.33	123.	34.	11.	2.17
DIVERSION TO	DPCT75	545.	13.33	123.	34.	11.	2.17
HYDROGRAPH AT	DCT75	0.	.00	0.	0.	0.	2.17
DIVERSION TO	DSPE75	0.	.00	0.	0.	0.	2.17
HYDROGRAPH AT	DWCT83	0.	.00	0.	0.	0.	2.17
ROUTED TO	RWCT83	0.	.00	0.	0.	0.	2.17
HYDROGRAPH AT	DRCT83	140.	13.33	26.	6.	2.	1.77
ROUTED TO	RSCT83	125.	13.75	26.	6.	2.	1.77
HYDROGRAPH AT	CT83	297.	12.75	104.	31.	10.	1.01
DIVERSION TO	XCT83	297.	12.75	53.	15.	5.	1.01
HYDROGRAPH AT	ERCT83	260.	13.17	61.	17.	6.	1.01
3 COMBINED AT	CCT83	304.	13.58	85.	23.	8.	3.34
HYDROGRAPH AT	PRCT75	545.	13.33	123.	34.	11.	2.17
ROUTED TO	RPCT83	539.	13.42	123.	34.	11.	2.17
2 COMBINED AT	CPCT83	815.	13.42	207.	57.	19.	3.34
DIVERSION TO	DPCT83	663.	13.33	197.	54.	18.	3.34
HYDROGRAPH AT	DCT83	152.	13.42	10.	2.	1.	3.34
DIVERSION TO	DSPE83	62.	13.42	4.	1.	0.	3.34
HYDROGRAPH AT	DWCTLO	90.	13.42	6.	1.	0.	3.34
ROUTED TO	RWCTLO	29.	14.17	6.	1.	0.	3.34
HYDROGRAPH AT	CTLO	239.	12.75	98.	32.	11.	.87
DIVERSION TO	XCTLO	239.	12.75	83.	23.	8.	.87
HYDROGRAPH AT	ERCTLO	84.	14.75	28.	9.	3.	.87
3 COMBINED AT	CCTLO	317.	13.92	162.	48.	16.	3.46
HYDROGRAPH AT	PRCT83	663.	13.33	197.	54.	18.	3.34
ROUTED TO	RPCTLO	663.	13.50	197.	54.	18.	3.34
2 COMBINED AT	CPCTLO	979.	13.92	357.	102.	34.	3.46
DIVERSION TO							

+		DWNR01	979.	13.92	357.	102.	34.	3.46
+	HYDROGRAPH AT	DSCTLO	0.	.00	0.	0.	0.	3.46
+	DIVERSION TO	DSGR91	0.	.00	0.	0.	0.	3.46
+	HYDROGRAPH AT	DSPELO	0.	.00	0.	0.	0.	3.46
+	HYDROGRAPH AT	PE51	175.	12.50	47.	14.	5.	.42
+	DIVERSION TO	DSOL51	70.	12.50	19.	6.	2.	.42
+	HYDROGRAPH AT	DWPE59	105.	12.50	28.	9.	3.	.42
+	ROUTED TO	RWPE59	88.	13.42	28.	9.	3.	.42
+	HYDROGRAPH AT	DRPE59	0.	.00	0.	0.	0.	.30
+	ROUTED TO	RSPE59	0.	.00	0.	0.	0.	.30
+	HYDROGRAPH AT	PE59	302.	12.75	105.	32.	11.	.99
+	DIVERSION TO	XPE59	78.	12.08	13.	4.	1.	.99
+	HYDROGRAPH AT	ERPE59	302.	12.75	102.	27.	9.	.99
+	3 COMBINED AT	CPE59	353.	13.00	129.	36.	12.	1.44
+	HYDROGRAPH AT	PR59CT	0.	.00	0.	0.	0.	.30
+	2 COMBINED AT	CPPE59	353.	13.00	129.	36.	12.	1.44
+	DIVERSION TO	DP59PE	235.	12.42	110.	31.	10.	1.44
+	HYDROGRAPH AT	D59PE	118.	13.00	19.	5.	2.	1.44
+	DIVERSION TO	DSOL59	67.	13.00	11.	3.	1.	1.44
+	HYDROGRAPH AT	DWPE67	51.	13.00	8.	2.	1.	1.44
+	ROUTED TO	RWPE67	37.	13.92	8.	2.	1.	1.44
+	HYDROGRAPH AT	DRPE67	2.	13.08	0.	0.	0.	1.11
+	ROUTED TO	RSPE67	0.	14.08	0.	0.	0.	1.11
+	HYDROGRAPH AT	PE67	279.	12.67	100.	31.	10.	.96
+	DIVERSION TO	XPE67	279.	12.67	99.	28.	9.	.96
+	HYDROGRAPH AT	ERPE67	16.	17.50	8.	3.	1.	.96
+	3 COMBINED AT	CPE67	37.	13.92	12.	5.	2.	2.06
+	ROUTED TO	SRPE67	1.	20.50	1.	0.	0.	2.06
+	DIVERSION TO	DP67PE	1.	20.50	1.	0.	0.	2.06
+	HYDROGRAPH AT	D67PE	0.	.00	0.	0.	0.	2.06
+	DIVERSION TO	DSOL67	0.	.00	0.	0.	0.	2.06
	HYDROGRAPH AT							

+		DWPE75	0.	.00	0.	0.	0.	2.06
+	ROUTED TO	RWPE75	0.	.00	0.	0.	0.	2.06
+	HYDROGRAPH AT	DRPE75	0.	.00	0.	0.	0.	2.17
+	ROUTED TO	RSPE75	0.	.00	0.	0.	0.	2.17
+	HYDROGRAPH AT	PE75	296.	12.67	105.	32.	11.	1.01
+	DIVERSION TO	XPE75	84.	12.08	14.	5.	2.	1.01
+	HYDROGRAPH AT	ERPE75	296.	12.67	101.	27.	9.	1.01
+	3 COMBINED AT	CPE75	294.	12.67	100.	27.	9.	3.36
+	DIVERSION TO	DP75PE	179.	12.33	83.	23.	8.	3.36
+	HYDROGRAPH AT	D75PE	115.	12.67	17.	4.	1.	3.36
+	DIVERSION TO	DSOL75	60.	12.67	9.	2.	1.	3.36
+	HYDROGRAPH AT	DWPE83	55.	12.67	8.	2.	1.	3.36
+	ROUTED TO	RWPE83	28.	13.58	8.	2.	1.	3.36
+	HYDROGRAPH AT	DRPE83	62.	13.42	4.	1.	0.	3.34
+	ROUTED TO	RSPE83	20.	14.33	4.	1.	0.	3.34
+	HYDROGRAPH AT	PE83	323.	12.75	118.	35.	12.	1.00
+	DIVERSION TO	XPE83	323.	12.75	68.	19.	6.	1.00
+	HYDROGRAPH AT	ERPE83	255.	13.42	61.	17.	6.	1.00
+	3 COMBINED AT	CPE83	280.	13.42	71.	20.	7.	3.97
+	DIVERSION TO	DPPE83	112.	13.33	51.	15.	5.	3.97
+	HYDROGRAPH AT	DPE83	168.	13.42	20.	5.	2.	3.97
+	DIVERSION TO	DSGR83	81.	13.42	10.	2.	1.	3.97
+	HYDROGRAPH AT	DWGR91	87.	13.42	10.	3.	1.	3.97
+	DIVERSION TO	DWPE91	31.	13.42	4.	1.	0.	3.97
+	HYDROGRAPH AT	DGR91	56.	13.42	7.	2.	1.	3.97
+	HYDROGRAPH AT	DRGR91	0.	.00	0.	0.	0.	3.46
+	ROUTED TO	RSGR91	0.	.00	0.	0.	0.	3.46
+	HYDROGRAPH AT	GR91	246.	12.50	63.	19.	6.	.51
+	DIVERSION TO	XGR91	246.	12.50	53.	14.	5.	.51
+	HYDROGRAPH AT	ERGR91	78.	13.67	16.	5.	2.	.51
+	3 COMBINED AT	CGR91	120.	13.67	22.	6.	2.	3.58
	DIVERSION TO							

+	DSPE91	80.	13.67	15.	4.	1.	3.58
+ HYDROGRAPH AT	DWGRLO	40.	13.67	7.	2.	1.	3.58
+ 2 COMBINED AT	CGRLO	40.	13.67	7.	2.	1.	2.91
+ ROUTED TO	RSPELO	31.	13.92	7.	2.	1.	2.91
+ DIVERSION TO	DWNR02	31.	13.92	7.	2.	1.	2.91
+ HYDROGRAPH AT	DSOLLO	0.	.00	0.	0.	0.	2.91
+ HYDROGRAPH AT	DRPE91	80.	13.67	15.	4.	1.	3.58
+ ROUTED TO	SRGR91	9.	15.33	4.	2.	1.	3.58
+ HYDROGRAPH AT	DIPE91	31.	13.42	4.	1.	0.	3.97
+ 2 COMBINED AT	CIPEGR	32.	13.42	7.	3.	1.	3.14
+ ROUTED TO	RWPE91	17.	14.50	7.	3.	1.	3.14
+ HYDROGRAPH AT	PE91	258.	12.42	64.	20.	7.	.51
+ DIVERSION TO	XPE91	220.	12.25	22.	7.	2.	.51
+ HYDROGRAPH AT	ERPE91	258.	12.42	49.	14.	5.	.51
+ 2 COMBINED AT	CPE91	256.	12.42	55.	16.	5.	3.65
+ HYDROGRAPH AT	PRPE83	112.	13.33	51.	15.	5.	3.97
+ ROUTED TO	RPPE91	112.	13.50	52.	15.	5.	3.97
+ 2 COMBINED AT	CPPE91	256.	12.42	105.	31.	10.	3.65
+ DIVERSION TO	DPPE91	147.	12.42	92.	27.	9.	3.65
+ HYDROGRAPH AT	DPE91	109.	12.42	14.	3.	1.	3.65
+ DIVERSION TO	DSOL91	60.	12.42	8.	2.	1.	3.65
+ HYDROGRAPH AT	DWPELO	49.	12.42	6.	2.	1.	3.65
+ ROUTED TO	RWPELO	29.	12.75	6.	2.	1.	3.65
+ HYDROGRAPH AT	PELO	88.	12.58	31.	10.	3.	.27
+ DIVERSION TO	XPELO	88.	12.58	16.	5.	2.	.27
+ HYDROGRAPH AT	ERPELO	76.	13.00	19.	6.	2.	.27
+ 3 COMBINED AT	CPELO	99.	13.00	24.	7.	2.	4.81
+ HYDROGRAPH AT	PRPE91	147.	12.42	92.	27.	9.	3.65
+ ROUTED TO	RPPELO	147.	12.75	91.	27.	9.	3.65
+ 2 COMBINED AT	CPPELO	246.	13.00	116.	34.	11.	4.81
+ DIVERSION TO	DPPELO	246.	13.00	115.	34.	11.	4.81
HYDROGRAPH AT							

+	DPELO	0.	12.92	0.	0.	0.	4.81
+ ROUTED TO	RSOLLO	0.	13.00	0.	0.	0.	4.81
+ HYDROGRAPH AT	OL35	77.	12.42	25.	8.	3.	.21
+ DIVERSION TO	DP35OL	61.	12.25	23.	8.	3.	.21
+ HYDROGRAPH AT	D35OL	16.	12.42	1.	0.	0.	.21
+ DIVERSION TO	DSNO35	11.	12.42	1.	0.	0.	.21
+ HYDROGRAPH AT	DWOL43	5.	12.42	0.	0.	0.	.21
+ ROUTED TO	RWOL43	2.	13.50	0.	0.	0.	.21
+ HYDROGRAPH AT	OL43	156.	12.67	54.	17.	6.	.63
+ 2 COMBINED AT	COL43	156.	12.67	55.	17.	6.	.70
+ DIVERSION TO	DP43OL	85.	12.33	43.	14.	5.	.70
+ HYDROGRAPH AT	D43OL	71.	12.67	11.	3.	1.	.70
+ DIVERSION TO	DSNO43	42.	12.67	7.	2.	1.	.70
+ HYDROGRAPH AT	DWOL51	29.	12.67	5.	1.	0.	.70
+ ROUTED TO	RWOL51	22.	13.67	5.	1.	0.	.70
+ HYDROGRAPH AT	DROL51	70.	12.50	19.	6.	2.	.42
+ ROUTED TO	RSOL51	57.	13.50	19.	6.	2.	.42
+ HYDROGRAPH AT	OL51	284.	12.67	102.	32.	11.	.99
+ DIVERSION TO	XOL51	14.	10.25	9.	3.	1.	.99
+ HYDROGRAPH AT	EROL51	284.	12.67	102.	29.	10.	.99
+ 3 COMBINED AT	COL51	309.	13.00	125.	35.	12.	1.45
+ DIVERSION TO	DPOL51	297.	12.75	124.	35.	12.	1.45
+ HYDROGRAPH AT	DOL51	12.	13.00	1.	0.	0.	1.45
+ DIVERSION TO	DSNO51	4.	13.00	0.	0.	0.	1.45
+ HYDROGRAPH AT	DWOL59	8.	13.00	1.	0.	0.	1.45
+ ROUTED TO	RWOL59	4.	13.75	1.	0.	0.	1.45
+ HYDROGRAPH AT	DROL59	67.	13.00	11.	3.	1.	1.44
+ ROUTED TO	RSOL59	47.	14.00	11.	3.	1.	1.44
+ HYDROGRAPH AT	OL59	302.	12.75	108.	33.	11.	.99
+ DIVERSION TO	XOL59	301.	12.67	39.	11.	4.	.99
+ HYDROGRAPH AT	EROL59	299.	12.83	80.	22.	7.	.99
3 COMBINED AT							

+		COL59	299.	12.83	90.	24.	8.	2.78
+	HYDROGRAPH AT	PR59PE	235.	12.42	110.	31.	10.	1.44
+	ROUTED TO	RP59BR	235.	12.50	110.	31.	10.	1.44
+	DIVERSION TO	DPBR59	161.	12.33	89.	26.	9.	1.44
+	HYDROGRAPH AT	DBR59	74.	12.50	21.	5.	2.	1.44
+	ROUTED TO	RP59OL	74.	12.58	21.	5.	2.	1.44
+	HYDROGRAPH AT	PROL51	297.	12.75	124.	35.	12.	1.45
+	ROUTED TO	RPOL59	297.	12.92	124.	35.	12.	1.45
+	3 COMBINED AT	CPOL59	669.	12.83	232.	65.	22.	4.22
+	DIVERSION TO	DPOL59	475.	12.83	205.	58.	19.	4.22
+	HYDROGRAPH AT	DOL59	194.	12.83	27.	7.	2.	4.22
+	DIVERSION TO	DSNO59	118.	12.83	16.	4.	1.	4.22
+	HYDROGRAPH AT	DWOL67	76.	12.83	10.	3.	1.	4.22
+	ROUTED TO	RWOL67	46.	13.92	10.	3.	1.	4.22
+	HYDROGRAPH AT	DROL67	0.	.00	0.	0.	0.	2.06
+	ROUTED TO	RSOL67	0.	.00	0.	0.	0.	2.06
+	HYDROGRAPH AT	OL67	300.	12.67	102.	31.	11.	.96
+	DIVERSION TO	XOL67	300.	12.67	73.	20.	7.	.96
+	HYDROGRAPH AT	EROL67	159.	13.75	39.	11.	4.	.96
+	3 COMBINED AT	COL67	202.	13.75	49.	14.	5.	2.84
+	HYDROGRAPH AT	PRBR59	161.	12.33	89.	26.	9.	1.44
+	ROUTED TO	RPBR63	161.	12.42	89.	26.	9.	1.44
+	ROUTED TO	SRBR63	163.	13.00	83.	26.	9.	1.44
+	ROUTED TO	RP63OL	162.	13.08	83.	26.	9.	1.44
+	HYDROGRAPH AT	PROL59	475.	12.83	205.	58.	19.	4.22
+	ROUTED TO	RPOL63	475.	12.92	205.	58.	19.	4.22
+	2 COMBINED AT	CPOL63	637.	13.08	286.	84.	28.	2.84
+	ROUTED TO	RPOL67	636.	13.17	286.	84.	28.	2.84
+	HYDROGRAPH AT	PR67PE	1.	20.50	1.	0.	0.	2.06
+	ROUTED TO	SR67MV	1.	24.25	1.	0.	0.	2.06
+	3 COMBINED AT	CPOL67	836.	13.75	332.	97.	32.	5.68
	DIVERSION TO							

+		DPOL67	662.	13.42	318.	94.	31.	5.68
+	HYDROGRAPH AT	DOL67	174.	13.75	14.	3.	1.	5.68
+	DIVERSION TO	DSNO67	77.	13.75	6.	2.	1.	5.68
+	HYDROGRAPH AT	DWOL75	98.	13.75	8.	2.	1.	5.68
+	ROUTED TO	RWOL75	42.	14.58	8.	2.	1.	5.68
+	HYDROGRAPH AT	DROL75	60.	12.67	9.	2.	1.	3.36
+	ROUTED TO	RSOL75	35.	13.67	9.	2.	1.	3.36
+	HYDROGRAPH AT	OL75	298.	12.75	105.	32.	11.	1.00
+	DIVERSION TO	XOL75	298.	12.75	76.	21.	7.	1.00
+	HYDROGRAPH AT	EROL75	162.	13.83	39.	11.	4.	1.00
+	3 COMBINED AT	COL75	196.	13.83	54.	15.	5.	4.34
+	HYDROGRAPH AT	PROL67	662.	13.42	318.	94.	31.	5.68
+	ROUTED TO	RPOL71	662.	13.50	318.	94.	31.	5.68
+	2 COMBINED AT	CPOL71	858.	13.83	371.	109.	36.	4.34
+	ROUTED TO	SROL71	604.	14.67	242.	109.	36.	4.34
+	DIVERSION TO	DPOL71	386.	14.58	228.	105.	35.	4.34
+	HYDROGRAPH AT	DOL71	218.	14.67	14.	3.	1.	4.34
+	HYDROGRAPH AT	PR75PE	179.	12.33	83.	23.	8.	3.36
+	ROUTED TO	RP75OL	179.	12.50	83.	23.	8.	3.36
+	HYDROGRAPH AT	PROL71	386.	14.58	228.	105.	35.	4.34
+	ROUTED TO	RPOL75	386.	14.67	228.	105.	35.	4.34
+	3 COMBINED AT	CPOL75	690.	14.67	303.	131.	44.	4.34
+	DIVERSION TO	DPOL75	239.	12.75	232.	113.	38.	4.34
+	HYDROGRAPH AT	DOL75	451.	14.67	72.	18.	6.	4.34
+	DIVERSION TO	DSGR75	230.	14.67	37.	9.	3.	4.34
+	HYDROGRAPH AT	DWGR83	221.	14.67	35.	9.	3.	4.34
+	HYDROGRAPH AT	DRGR83	81.	13.42	10.	2.	1.	3.97
+	DIVERSION TO	DSOL83	23.	13.42	3.	1.	0.	3.97
+	HYDROGRAPH AT	D83GR	58.	13.42	7.	2.	1.	3.97
+	ROUTED TO	RSGR83	13.	17.25	7.	2.	1.	3.97
+	HYDROGRAPH AT	GR83	230.	12.42	64.	20.	7.	.47
	DIVERSION TO							

+		XGR83	230.	12.42	59.	16.	5.	.47
+	HYDROGRAPH AT	ERGR83	40.	14.25	12.	4.	1.	.47
+	3 COMBINED AT	CGR83	249.	14.67	51.	14.	5.	3.99
+	ROUTED TO	SRGR83	0.	24.17	0.	0.	0.	3.99
+	DIVERSION TO	DS75NO	0.	24.17	0.	0.	0.	3.99
+	HYDROGRAPH AT	DWOL83	0.	.00	0.	0.	0.	3.99
+	ROUTED TO	RWOL83	0.	.00	0.	0.	0.	3.99
+	HYDROGRAPH AT	DIOL83	23.	13.42	3.	1.	0.	3.97
+	ROUTED TO	RSOL83	12.	14.58	3.	1.	0.	3.97
+	HYDROGRAPH AT	OL83	254.	12.50	71.	22.	8.	.54
+	DIVERSION TO	XOL83	254.	12.50	67.	19.	6.	.54
+	HYDROGRAPH AT	EROL83	35.	14.58	12.	4.	1.	.54
+	3 COMBINED AT	COL83	47.	14.58	14.	5.	2.	1.06
+	HYDROGRAPH AT	NO27	43.	12.50	17.	6.	2.	.13
+	DIVERSION TO	DP27NO	43.	12.50	17.	6.	2.	.13
+	HYDROGRAPH AT	D27NO	0.	.00	0.	0.	0.	.13
+	DIVERSION TO	DSGL27	0.	.00	0.	0.	0.	.13
+	HYDROGRAPH AT	DWNO35	0.	.00	0.	0.	0.	.13
+	ROUTED TO	RWNO35	0.	.00	0.	0.	0.	.13
+	HYDROGRAPH AT	DRNO35	11.	12.42	1.	0.	0.	.21
+	ROUTED TO	RSNO35	7.	13.33	1.	0.	0.	.21
+	HYDROGRAPH AT	NO35	264.	12.67	92.	29.	10.	.99
+	3 COMBINED AT	CNO35	265.	12.67	93.	30.	10.	1.14
+	HYDROGRAPH AT	PR27NO	43.	12.50	17.	6.	2.	.13
+	2 COMBINED AT	CPNO29	307.	12.67	109.	35.	12.	1.14
+	DIVERSION TO	DP29NO	114.	12.17	71.	26.	9.	1.14
+	HYDROGRAPH AT	D29NO	193.	12.67	38.	10.	3.	1.14
+	HYDROGRAPH AT	PR35OL	61.	12.25	23.	8.	3.	.21
+	ROUTED TO	RP35NO	61.	12.42	23.	8.	3.	.21
+	2 COMBINED AT	CPNO35	254.	12.67	61.	17.	6.	1.14
+	DIVERSION TO	DP35NO	113.	12.33	41.	12.	4.	1.14
	HYDROGRAPH AT							

+		D35NO	141.	12.67	20.	5.	2.	1.14
+	DIVERSION TO	DSGL35	65.	12.67	9.	2.	1.	1.14
+	HYDROGRAPH AT	DWNO43	76.	12.67	11.	3.	1.	1.14
+	ROUTED TO	RWNO43	53.	13.83	11.	3.	1.	1.14
+	HYDROGRAPH AT	DRNO43	42.	12.67	7.	2.	1.	.70
+	ROUTED TO	RSNO43	32.	13.67	7.	2.	1.	.70
+	HYDROGRAPH AT	NO43	256.	12.67	91.	28.	10.	1.00
+	3 COMBINED AT	CNO43	256.	12.75	108.	33.	11.	2.02
+	HYDROGRAPH AT	PR43OL	85.	12.33	43.	14.	5.	.70
+	ROUTED TO	RP43NO	85.	12.50	43.	14.	5.	.70
+	2 COMBINED AT	CPNO43	341.	12.75	151.	47.	16.	2.02
+	DIVERSION TO	DP43NO	241.	12.42	127.	41.	14.	2.02
+	HYDROGRAPH AT	D43NO	100.	12.75	24.	6.	2.	2.02
+	DIVERSION TO	DSGL43	51.	12.75	12.	3.	1.	2.02
+	HYDROGRAPH AT	DWNO51	49.	12.75	12.	3.	1.	2.02
+	ROUTED TO	RWNO51	40.	14.25	12.	3.	1.	2.02
+	HYDROGRAPH AT	DRNO51	4.	13.00	0.	0.	0.	1.45
+	ROUTED TO	RSNO51	2.	14.00	0.	0.	0.	1.45
+	HYDROGRAPH AT	NO51	251.	12.67	92.	29.	10.	.99
+	3 COMBINED AT	CNO51	250.	12.67	103.	32.	11.	2.47
+	DIVERSION TO	DPNO51	168.	12.42	90.	29.	10.	2.47
+	HYDROGRAPH AT	DNO51	82.	12.67	13.	3.	1.	2.47
+	DIVERSION TO	DSGL51	36.	12.67	6.	1.	0.	2.47
+	HYDROGRAPH AT	DWNO59	46.	12.67	7.	2.	1.	2.47
+	ROUTED TO	RWNO59	31.	13.58	7.	2.	1.	2.47
+	HYDROGRAPH AT	DRNO59	118.	12.83	16.	4.	1.	4.22
+	ROUTED TO	RSNO59	69.	14.08	16.	4.	1.	4.22
+	HYDROGRAPH AT	NO59	283.	12.67	100.	31.	10.	.99
+	DIVERSION TO	XNO59	283.	12.67	40.	11.	4.	.99
+	HYDROGRAPH AT	ERNO59	273.	12.92	71.	19.	6.	.99
+	3 COMBINED AT	CNO59	282.	12.92	93.	25.	8.	4.06
	ROUTED TO							

+		SRNO59	271.	13.33	78.	21.	7.	4.06
+	HYDROGRAPH AT	PRNO51	168.	12.42	90.	29.	10.	2.47
+	ROUTED TO	RPNO59	168.	12.58	90.	29.	10.	2.47
+	2 COMBINED AT	CPNO59	439.	13.33	165.	50.	17.	4.06
+	DIVERSION TO	DPNO59	134.	12.42	95.	32.	11.	4.06
+	HYDROGRAPH AT	DNO59	305.	13.33	70.	17.	6.	4.06
+	DIVERSION TO	DSGL59	101.	13.33	23.	6.	2.	4.06
+	HYDROGRAPH AT	DWNO67	205.	13.33	47.	12.	4.	4.06
+	ROUTED TO	RWNO67	176.	14.17	47.	12.	4.	4.06
+	HYDROGRAPH AT	DRNO67	77.	13.75	6.	2.	1.	5.68
+	ROUTED TO	RSNO67	29.	14.83	6.	2.	1.	5.68
+	HYDROGRAPH AT	NO67	302.	12.75	112.	35.	12.	.96
+	DIVERSION TO	XNO67	302.	12.75	99.	27.	9.	.96
+	HYDROGRAPH AT	ERNO67	86.	14.75	26.	8.	3.	.96
+	3 COMBINED AT	CNO67	242.	14.75	75.	21.	7.	4.93
+	DIVERSION TO	DSGR67	157.	14.75	49.	14.	5.	4.93
+	HYDROGRAPH AT	DWGR75	85.	14.75	26.	7.	2.	4.93
+	DIVERSION TO	DWNO75	28.	14.75	9.	2.	1.	4.93
+	HYDROGRAPH AT	DGR75	57.	14.75	18.	5.	2.	4.93
+	ROUTED TO	RWGR75	39.	16.17	17.	5.	2.	4.93
+	HYDROGRAPH AT	DRGR75	230.	14.67	37.	9.	3.	4.34
+	DIVERSION TO	DSNO75	83.	14.67	13.	3.	1.	4.34
+	HYDROGRAPH AT	D75GR	147.	14.67	23.	6.	2.	4.34
+	HYDROGRAPH AT	GR75	245.	12.42	63.	20.	7.	.50
+	DIVERSION TO	XGR75	245.	12.42	57.	16.	5.	.50
+	HYDROGRAPH AT	ERGR75	52.	13.92	14.	5.	2.	.50
+	3 COMBINED AT	CGR75	174.	14.67	52.	15.	5.	3.09
+	ROUTED TO	SRGR75	34.	17.33	33.	15.	5.	3.09
+	HYDROGRAPH AT	PROL75	239.	12.75	232.	113.	38.	4.34
+	2 COMBINED AT	CPOLGR	273.	16.33	258.	129.	43.	3.09
+	DIVERSION TO	DOLGR	34.	16.33	19.	5.	2.	3.09
	HYDROGRAPH AT							

+		DPOLGR	239.	12.75	239.	124.	42.	3.09
+	ROUTED TO	RPOL83	239.	12.92	239.	124.	42.	3.09
+	2 COMBINED AT	CPOL83	285.	14.58	251.	129.	43.	4.15
+	ROUTED TO	SROL83	281.	14.75	245.	128.	43.	4.15
+	DIVERSION TO	DPOL83	243.	14.58	238.	127.	42.	4.15
+	HYDROGRAPH AT	DOL83	38.	14.75	8.	2.	1.	4.15
+	DIVERSION TO	DSNO83	15.	14.75	3.	1.	0.	4.15
+	HYDROGRAPH AT	DWOL91	23.	14.75	5.	1.	0.	4.15
+	ROUTED TO	RWOL91	15.	16.00	5.	1.	0.	4.15
+	HYDROGRAPH AT	DROL91	60.	12.42	8.	2.	1.	3.65
+	ROUTED TO	RSOL91	20.	13.67	8.	2.	1.	3.65
+	HYDROGRAPH AT	OL91	326.	12.75	120.	38.	13.	1.02
+	DIVERSION TO	XOL91	326.	12.75	88.	24.	8.	1.02
+	HYDROGRAPH AT	EROL91	186.	13.83	47.	14.	5.	1.02
+	3 COMBINED AT	COL91	204.	13.83	56.	16.	5.	3.68
+	HYDROGRAPH AT	PROL83	243.	14.58	238.	127.	42.	4.15
+	ROUTED TO	RPOL91	243.	14.75	238.	127.	42.	4.15
+	2 COMBINED AT	CPOL91	351.	13.83	283.	143.	48.	3.68
+	DIVERSION TO	DSNO91	235.	13.83	189.	96.	32.	3.68
+	HYDROGRAPH AT	DWOLLO	116.	13.83	93.	47.	16.	3.68
+	ROUTED TO	RWOLLO	118.	13.92	93.	47.	16.	3.68
+	HYDROGRAPH AT	OLLO	72.	12.42	24.	8.	3.	.16
+	DIVERSION TO	XOLLO	72.	12.42	20.	6.	2.	.16
+	HYDROGRAPH AT	EROLLO	25.	13.92	8.	3.	1.	.16
+	3 COMBINED AT	COLLO	142.	13.92	100.	49.	17.	6.18
+	ROUTED TO	RSNOLO	120.	15.00	99.	49.	17.	6.18
+	HYDROGRAPH AT	DROLGR	34.	16.33	19.	5.	2.	3.09
+	HYDROGRAPH AT	DI75NO	83.	14.67	13.	3.	1.	4.34
+	HYDROGRAPH AT	DR75NO	0.	24.17	0.	0.	0.	3.99
+	3 COMBINED AT	CIGR75	107.	14.67	31.	8.	3.	7.85
+	ROUTED TO	RSNO75	74.	15.33	31.	8.	3.	7.85
	HYDROGRAPH AT							

+	DINO75	28.	14.75	9.	2.	1.	4.93
+ ROUTED TO	RWNO75	21.	15.50	9.	2.	1.	4.93
+ HYDROGRAPH AT	NO75	287.	12.42	74.	25.	8.	.51
+ DIVERSION TO	XNO75	260.	12.25	32.	10.	3.	.51
+ HYDROGRAPH AT	ERNO75	278.	12.50	54.	15.	5.	.51
+ 3 COMBINED AT	CNO75	274.	12.50	90.	25.	9.	8.93
+ DIVERSION TO	DPNO75	161.	12.42	83.	24.	8.	8.93
+ HYDROGRAPH AT	DNO75	113.	12.50	7.	2.	1.	8.93
+ DIVERSION TO	DSOW75	54.	12.50	3.	1.	0.	8.93
+ HYDROGRAPH AT	DWNO83	59.	12.50	4.	1.	0.	8.93
+ ROUTED TO	RWNO83	20.	13.08	4.	1.	0.	8.93
+ HYDROGRAPH AT	DRNO83	15.	14.75	3.	1.	0.	4.15
+ ROUTED TO	RSNO83	11.	15.75	3.	1.	0.	4.15
+ HYDROGRAPH AT	NO83	358.	12.75	145.	50.	17.	1.00
+ DIVERSION TO	XNO83	358.	12.75	131.	38.	13.	1.00
+ HYDROGRAPH AT	ERNO83	105.	14.92	39.	13.	4.	1.00
+ 3 COMBINED AT	CNO83	105.	14.92	41.	14.	5.	6.05
+ HYDROGRAPH AT	PRNO75	161.	12.42	83.	24.	8.	8.93
+ ROUTED TO	RPNO83	161.	12.58	82.	24.	8.	8.93
+ 2 COMBINED AT	CPNO83	197.	15.33	119.	38.	13.	6.05
+ DIVERSION TO	DPNO83	196.	15.33	119.	38.	13.	6.05
+ HYDROGRAPH AT	DNO83	1.	15.17	0.	0.	0.	6.05
+ ROUTED TO	RWNO91	0.	16.17	0.	0.	0.	6.05
+ HYDROGRAPH AT	DRNO91	235.	13.83	189.	96.	32.	3.68
+ ROUTED TO	RSNO91	220.	15.25	188.	96.	32.	3.68
+ HYDROGRAPH AT	NO91	291.	12.67	103.	31.	11.	.99
+ DIVERSION TO	XNO91	291.	12.67	99.	27.	9.	.99
+ HYDROGRAPH AT	ERNO91	35.	15.83	13.	4.	1.	.99
+ 3 COMBINED AT	CNO91	242.	15.83	198.	99.	33.	9.52
+ HYDROGRAPH AT	PRNO83	196.	15.33	119.	38.	13.	6.05
+ ROUTED TO	RPNO91	196.	15.50	119.	38.	13.	6.05
2 COMBINED AT							

+	CPNO91	423.	15.83	293.	137.	46.	9.52
+ ROUTED TO	SRNO91	414.	15.92	248.	114.	46.	9.52
+ DIVERSION TO	DPNO91	69.	15.83	69.	54.	26.	9.52
+ HYDROGRAPH AT	DNO91	345.	15.92	179.	60.	20.	9.52
+ DIVERSION TO	DSGL91	183.	15.92	95.	32.	11.	9.52
+ HYDROGRAPH AT	DWNOLO	162.	15.92	84.	28.	9.	9.52
+ ROUTED TO	RWNOLO	133.	16.67	81.	28.	9.	9.52
+ HYDROGRAPH AT	NOLO	112.	12.50	41.	14.	5.	.28
+ DIVERSION TO	XNOLO	112.	12.50	35.	10.	3.	.28
+ HYDROGRAPH AT	ERNOLO	40.	14.17	13.	4.	1.	.28
+ 3 COMBINED AT	CNOLO	234.	16.58	173.	81.	27.	10.91
+ HYDROGRAPH AT	PRNO91	69.	15.83	69.	54.	26.	9.52
+ ROUTED TO	RPNOLO	69.	16.00	69.	54.	26.	9.52
+ 2 COMBINED AT	CPNOLO	302.	16.67	240.	133.	53.	10.91
+ DIVERSION TO	DPNOLO	15.	13.17	15.	15.	10.	10.91
+ HYDROGRAPH AT	DNOLO	287.	16.67	225.	118.	42.	10.91
+ DIVERSION TO	DWNR03	287.	16.67	225.	118.	42.	10.91
+ HYDROGRAPH AT	DSGLLO	0.	.00	0.	0.	0.	10.91
+ ROUTED TO	RSGLLO	0.	.00	0.	0.	0.	10.91
+ HYDROGRAPH AT	DRGL43	51.	12.75	12.	3.	1.	2.02
+ ROUTED TO	RSGL43	45.	14.00	12.	3.	1.	2.02
+ HYDROGRAPH AT	GL43	290.	12.67	103.	32.	11.	1.00
+ 2 COMBINED AT	CGL43	292.	12.75	115.	35.	12.	2.03
+ HYDROGRAPH AT	PR43NO	241.	12.42	127.	41.	14.	2.02
+ ROUTED TO	RP43GL	241.	12.58	127.	41.	14.	2.02
+ 2 COMBINED AT	CPGL43	533.	12.75	243.	76.	25.	2.03
+ DIVERSION TO	DP43GL	385.	12.42	212.	68.	23.	2.03
+ HYDROGRAPH AT	D43GL	148.	12.75	31.	8.	3.	2.03
+ DIVERSION TO	DSBH43	87.	12.75	18.	5.	2.	2.03
+ HYDROGRAPH AT	DWGL51	61.	12.75	13.	3.	1.	2.03
+ ROUTED TO	RWGL51	39.	14.17	13.	3.	1.	2.03
HYDROGRAPH AT							

+		DRGL51	36.	12.67	6.	1.	0.	2.47
+	ROUTED TO	RSGL51	23.	13.83	6.	1.	0.	2.47
+	HYDROGRAPH AT	GL51	256.	12.67	95.	31.	10.	1.00
+	3 COMBINED AT	CGL51	255.	12.75	113.	35.	12.	2.91
+	DIVERSION TO	DSBH51	120.	12.75	53.	17.	6.	2.91
+	HYDROGRAPH AT	DWGL59	135.	12.75	60.	19.	6.	2.91
+	DIVERSION TO	DP47GL	135.	12.75	60.	19.	6.	2.91
+	HYDROGRAPH AT	D47GL	0.	.00	0.	0.	0.	2.91
+	ROUTED TO	RWGL59	0.	.00	0.	0.	0.	2.91
+	HYDROGRAPH AT	DRGL59	101.	13.33	23.	6.	2.	4.06
+	ROUTED TO	RSGL59	85.	14.33	23.	6.	2.	4.06
+	HYDROGRAPH AT	GL59	267.	12.67	102.	34.	11.	1.01
+	DIVERSION TO	XGL59	262.	12.58	37.	11.	4.	1.01
+	HYDROGRAPH AT	ERGL59	264.	12.83	79.	23.	8.	1.01
+	3 COMBINED AT	CGL59	262.	12.83	102.	28.	9.	3.91
+	DIVERSION TO	DP59GL	217.	12.75	99.	27.	9.	3.91
+	HYDROGRAPH AT	D59GL	45.	12.83	3.	1.	0.	3.91
+	DIVERSION TO	DSGR59	21.	12.83	1.	0.	0.	3.91
+	HYDROGRAPH AT	DWGR67	24.	12.83	2.	0.	0.	3.91
+	DIVERSION TO	DWGL67	6.	12.83	0.	0.	0.	3.91
+	HYDROGRAPH AT	DGR67	18.	12.83	1.	0.	0.	3.91
+	HYDROGRAPH AT	DRGL35	65.	12.67	9.	2.	1.	1.14
+	ROUTED TO	RSGL35	48.	13.67	9.	2.	1.	1.14
+	HYDROGRAPH AT	GL35	254.	12.67	91.	29.	10.	1.00
+	2 COMBINED AT	CGL35	255.	12.75	100.	31.	10.	1.53
+	HYDROGRAPH AT	PR35NO	113.	12.33	41.	12.	4.	1.14
+	ROUTED TO	RP35GL	113.	12.50	41.	12.	4.	1.14
+	2 COMBINED AT	CPGL35	368.	12.75	141.	43.	14.	1.53
+	DIVERSION TO	DP35GL	226.	12.33	111.	36.	12.	1.53
+	HYDROGRAPH AT	D35GL	142.	12.75	31.	8.	3.	1.53
+	DIVERSION TO	DSBH35	87.	12.75	19.	5.	2.	1.53
+	HYDROGRAPH AT							

+		DEGL27	55.	12.75	12.	3.	1.	1.53
+	HYDROGRAPH AT	DRGL27	0.	.00	0.	0.	0.	.13
+	ROUTED TO	RSGL27	0.	.00	0.	0.	0.	.13
+	HYDROGRAPH AT	GL27	86.	12.58	28.	9.	3.	.26
+	3 COMBINED AT	CGL27	140.	12.67	40.	12.	4.	.98
+	HYDROGRAPH AT	PR29NO	114.	12.17	71.	26.	9.	1.14
+	ROUTED TO	RP27GL	114.	12.33	71.	26.	9.	1.14
+	2 COMBINED AT	CPGL27	254.	12.67	111.	38.	13.	.98
+	DIVERSION TO	DP27GL	132.	12.17	85.	31.	10.	.98
+	HYDROGRAPH AT	D27GL	122.	12.67	26.	6.	2.	.98
+	ROUTED TO	RSBH27	94.	13.25	26.	6.	2.	.98
+	HYDROGRAPH AT	BH27	88.	12.50	28.	9.	3.	.26
+	2 COMBINED AT	CBH27	157.	13.00	54.	16.	5.	1.24
+	HYDROGRAPH AT	PR27GL	132.	12.17	85.	31.	10.	.98
+	ROUTED TO	RP27BH	132.	12.33	85.	31.	10.	.98
+	2 COMBINED AT	CPBH27	289.	13.00	139.	47.	16.	1.24
+	DIVERSION TO	DP27BH	132.	12.17	95.	36.	12.	1.24
+	HYDROGRAPH AT	D27BH	157.	13.00	44.	11.	4.	1.24
+	DIVERSION TO	DSCB27	157.	13.00	44.	11.	4.	1.24
+	HYDROGRAPH AT	DWBH35	0.	.00	0.	0.	0.	1.24
+	ROUTED TO	RWBH35	0.	.00	0.	0.	0.	1.24
+	HYDROGRAPH AT	DRBH35	87.	12.75	19.	5.	2.	1.53
+	ROUTED TO	RSBH35	76.	13.75	19.	5.	2.	1.53
+	HYDROGRAPH AT	BH35	404.	12.42	90.	29.	10.	1.00
+	DIVERSION TO	XBH35	8.	6.33	6.	2.	1.	1.00
+	HYDROGRAPH AT	ERBH35	404.	12.42	90.	27.	9.	1.00
+	3 COMBINED AT	CBH35	402.	12.42	108.	32.	11.	1.94
+	HYDROGRAPH AT	PR35GL	226.	12.33	111.	36.	12.	1.53
+	ROUTED TO	RP35BH	226.	12.50	111.	36.	12.	1.53
+	2 COMBINED AT	CPBH35	628.	12.50	218.	67.	22.	1.94
+	DIVERSION TO	DP35BH	226.	12.08	137.	47.	16.	1.94
+	HYDROGRAPH AT							

+	D35BH	402.	12.50	81.	20.	7.	1.94
+ DIVERSION TO	DSCB35	402.	12.50	81.	20.	7.	1.94
+ HYDROGRAPH AT	DWBH43	0.	.00	0.	0.	0.	1.94
+ ROUTED TO	RWBH43	0.	.00	0.	0.	0.	1.94
+ HYDROGRAPH AT	DRBH43	87.	12.75	18.	5.	2.	2.03
+ ROUTED TO	RSBH43	70.	13.58	18.	5.	2.	2.03
+ HYDROGRAPH AT	BH43	222.	12.67	81.	26.	9.	.99
+ 3 COMBINED AT	CBH43	233.	13.33	98.	30.	10.	2.19
+ HYDROGRAPH AT	PR43GL	385.	12.42	212.	68.	23.	2.03
+ ROUTED TO	RP43BH	385.	12.58	212.	68.	23.	2.03
+ 2 COMBINED AT	CPBH43	618.	13.33	310.	98.	33.	2.19
+ DIVERSION TO	DP43BH	385.	12.33	240.	81.	27.	2.19
+ HYDROGRAPH AT	D43BH	233.	13.33	71.	18.	6.	2.19
+ DIVERSION TO	DSCB43	119.	13.33	36.	9.	3.	2.19
+ HYDROGRAPH AT	DWBH51	114.	13.33	35.	9.	3.	2.19
+ ROUTED TO	RWBH51	109.	13.92	35.	9.	3.	2.19
+ HYDROGRAPH AT	DRBH51	120.	12.75	53.	17.	6.	2.91
+ ROUTED TO	RSBH51	115.	13.33	53.	17.	6.	2.91
+ HYDROGRAPH AT	BH51	267.	12.67	100.	32.	11.	1.00
+ 3 COMBINED AT	CBH51	391.	13.50	186.	57.	19.	3.42
+ HYDROGRAPH AT	PR47GL	135.	12.75	60.	19.	6.	2.91
+ ROUTED TO	RP51BH	135.	12.75	60.	19.	6.	2.91
+ 2 COMBINED AT	CPBH51	510.	13.50	246.	76.	25.	3.42
+ ROUTED TO	SRBH51	507.	13.58	240.	73.	25.	3.42
+ DIVERSION TO	DSGR43	162.	13.58	77.	23.	8.	3.42
+ HYDROGRAPH AT	DWGR59	345.	13.58	163.	50.	17.	3.42
+ DIVERSION TO	DWBH59	79.	13.58	38.	11.	4.	3.42
+ HYDROGRAPH AT	DGR59	266.	13.58	126.	38.	13.	3.42
+ HYDROGRAPH AT	DRGR59	21.	12.83	1.	0.	0.	3.91
+ DIVERSION TO	DSBH59	11.	12.83	1.	0.	0.	3.91
+ HYDROGRAPH AT	D59GR	10.	12.83	1.	0.	0.	3.91
HYDROGRAPH AT							

+	GR59	297.	12.33	62.	21.	7.	.52
+ 3 COMBINED AT	CGR59	426.	12.50	184.	58.	20.	3.18
+ DIVERSION TO	DBH59	213.	12.50	92.	29.	10.	3.18
+ HYDROGRAPH AT	DNGR67	213.	12.50	92.	29.	10.	3.18
+ DIVERSION TO	DPGRGL	213.	12.50	92.	29.	10.	3.18
+ HYDROGRAPH AT	DGRGL	0.	.00	0.	0.	0.	3.18
+ 2 COMBINED AT	CIGR59	18.	12.83	1.	0.	0.	3.15
+ ROUTED TO	RWGR67	3.	15.17	1.	0.	0.	3.15
+ HYDROGRAPH AT	DRGR67	157.	14.75	49.	14.	5.	4.93
+ HYDROGRAPH AT	GR67	251.	12.42	56.	18.	6.	.50
+ DIVERSION TO	XGR67	4.	4.67	2.	1.	0.	.50
+ HYDROGRAPH AT	ERGR67	251.	12.42	56.	17.	6.	.50
+ 3 COMBINED AT	CGR67	248.	12.42	101.	31.	10.	6.83
+ HYDROGRAPH AT	PRNO59	134.	12.42	95.	32.	11.	4.06
+ ROUTED TO	RPNO67	134.	12.58	95.	32.	11.	4.06
+ HYDROGRAPH AT	PR59GL	217.	12.75	99.	27.	9.	3.91
+ HYDROGRAPH AT	PRGRGL	213.	12.50	92.	29.	10.	3.18
+ 2 COMBINED AT	CPGL59	417.	12.75	189.	57.	19.	1.42
+ ROUTED TO	RPGR67	409.	12.92	189.	57.	19.	1.42
+ 3 COMBINED AT	CPGR67	704.	12.83	382.	119.	40.	8.25
+ ROUTED TO	SRGR67	181.	16.33	173.	115.	40.	8.25
+ DIVERSION TO	DP67GR	181.	16.33	173.	115.	40.	8.25
+ HYDROGRAPH AT	D67GR	0.	.00	0.	0.	0.	8.25
+ ROUTED TO	RSOW67	0.	.00	0.	0.	0.	8.25
+ HYDROGRAPH AT	OW67	96.	12.17	17.	6.	2.	.12
+ DIVERSION TO	XOW67	8.	11.17	4.	1.	0.	.12
+ HYDROGRAPH AT	EROW67	96.	12.17	17.	5.	2.	.12
+ 2 COMBINED AT	COW67	94.	12.17	16.	5.	2.	6.95
+ HYDROGRAPH AT	PRGR67	181.	16.33	173.	115.	40.	8.25
+ ROUTED TO	RPOW67	181.	16.33	173.	115.	40.	8.25
+ 2 COMBINED AT	CPOW67	185.	16.33	176.	119.	42.	6.95
DIVERSION TO							

+		DPOW67	181.	15.58	175.	119.	42.	6.95
+	HYDROGRAPH AT	DOW67	4.	16.33	1.	0.	0.	6.95
+	DIVERSION TO	DSGL67	2.	16.33	0.	0.	0.	6.95
+	HYDROGRAPH AT	DWOW75	2.	16.33	0.	0.	0.	6.95
+	ROUTED TO	RWOW75	1.	17.33	0.	0.	0.	6.95
+	HYDROGRAPH AT	DROW75	54.	12.50	3.	1.	0.	8.93
+	ROUTED TO	RSOW75	23.	12.83	3.	1.	0.	8.93
+	HYDROGRAPH AT	OW75	219.	12.42	65.	21.	7.	.50
+	DIVERSION TO	XOW75	219.	12.42	51.	14.	5.	.50
+	HYDROGRAPH AT	EROW75	91.	13.58	23.	7.	2.	.50
+	3 COMBINED AT	COW75	96.	13.58	24.	8.	3.	8.17
+	HYDROGRAPH AT	PROW67	181.	15.58	175.	119.	42.	6.95
+	ROUTED TO	RPOW71	181.	15.67	175.	119.	42.	6.95
+	2 COMBINED AT	CPOW71	242.	13.58	196.	127.	44.	8.17
+	ROUTED TO	SROW75	197.	15.75	188.	118.	41.	8.17
+	DIVERSION TO	DPOW71	44.	13.67	44.	42.	15.	8.17
+	HYDROGRAPH AT	DOW71	153.	15.75	144.	76.	25.	8.17
+	HYDROGRAPH AT	PROW71	44.	13.67	44.	42.	15.	8.17
+	ROUTED TO	RPOW75	44.	13.83	44.	42.	15.	8.17
+	2 COMBINED AT	CPOW75	197.	15.75	188.	118.	41.	8.17
+	DIVERSION TO	DPOW75	66.	13.75	66.	58.	21.	8.17
+	HYDROGRAPH AT	DOW75	131.	15.75	122.	60.	20.	8.17
+	DIVERSION TO	DSGL75	100.	15.75	93.	45.	15.	8.17
+	HYDROGRAPH AT	DWOW83	32.	15.75	29.	14.	5.	8.17
+	ROUTED TO	RWOW83	31.	16.25	29.	14.	5.	8.17
+	HYDROGRAPH AT	OW83	131.	12.75	51.	16.	5.	.50
+	DIVERSION TO	XOW83	131.	12.75	30.	8.	3.	.50
+	HYDROGRAPH AT	EROW83	95.	13.58	26.	7.	2.	.50
+	2 COMBINED AT	COW83	94.	13.58	49.	22.	7.	2.46
+	HYDROGRAPH AT	PROW75	66.	13.75	66.	58.	21.	8.17
+	ROUTED TO	RPOW83	66.	14.00	66.	58.	21.	8.17
+	2 COMBINED AT							

+		CPOW83	140.	13.92	113.	80.	28.	2.46
+	DIVERSION TO	DP83OW	140.	13.92	113.	80.	28.	2.46
+	HYDROGRAPH AT	D83OW	0.	.00	0.	0.	0.	2.46
+	DIVERSION TO	DSGL83	0.	.00	0.	0.	0.	2.46
+	HYDROGRAPH AT	DWOW91	0.	.00	0.	0.	0.	2.46
+	ROUTED TO	RWOW91	0.	.00	0.	0.	0.	2.46
+	HYDROGRAPH AT	DIGL67	6.	12.83	0.	0.	0.	3.91
+	ROUTED TO	RWGL67	2.	13.67	0.	0.	0.	3.91
+	HYDROGRAPH AT	GL67	184.	12.33	44.	15.	5.	.36
+	HYDROGRAPH AT	DRGL67	2.	16.33	0.	0.	0.	6.95
+	ROUTED TO	RSGL67	2.	16.67	0.	0.	0.	6.95
+	3 COMBINED AT	CGL67	184.	12.33	44.	15.	5.	4.47
+	DIVERSION TO	DSBH67	89.	12.33	21.	7.	2.	4.47
+	HYDROGRAPH AT	DWGL75	92.	12.33	22.	8.	3.	4.47
+	ROUTED TO	RWGL75	72.	13.00	22.	8.	3.	4.47
+	HYDROGRAPH AT	DRGL75	100.	15.75	93.	45.	15.	8.17
+	ROUTED TO	RSGL75	100.	16.00	92.	45.	15.	8.17
+	HYDROGRAPH AT	GL75	147.	12.75	59.	19.	6.	.50
+	DIVERSION TO	XGL75	147.	12.75	59.	19.	6.	.50
+	HYDROGRAPH AT	ERGL75	0.	.00	0.	0.	0.	.50
+	3 COMBINED AT	CGL75	107.	15.42	98.	52.	18.	8.97
+	DIVERSION TO	DSBH75	53.	15.42	49.	26.	9.	8.97
+	HYDROGRAPH AT	DWGL83	53.	15.42	49.	26.	9.	8.97
+	ROUTED TO	RWGL83	52.	16.83	48.	26.	9.	8.97
+	HYDROGRAPH AT	DRGL83	0.	.00	0.	0.	0.	2.46
+	ROUTED TO	RSGL83	0.	.00	0.	0.	0.	2.46
+	HYDROGRAPH AT	GL83	125.	12.75	48.	15.	5.	.50
+	DIVERSION TO	XGL83	125.	12.75	34.	9.	3.	.50
+	HYDROGRAPH AT	ERGL83	70.	13.92	19.	6.	2.	.50
+	3 COMBINED AT	CGL83	95.	13.92	63.	32.	11.	7.11
+	HYDROGRAPH AT	PR83OW	140.	13.92	113.	80.	28.	2.46
+	ROUTED TO							

+		RP83GL	139.	14.00	113.	80.	28.	2.46
+	2 COMBINED AT	CPGL83	229.	14.00	175.	111.	39.	7.11
+	DIVERSION TO	DPGL83	229.	14.00	175.	111.	39.	7.11
+	HYDROGRAPH AT	DGL83	0.	.00	0.	0.	0.	7.11
+	DIVERSION TO	DSBH83	0.	.00	0.	0.	0.	7.11
+	HYDROGRAPH AT	DWGL91	0.	.00	0.	0.	0.	7.11
+	ROUTED TO	RWGL91	0.	.00	0.	0.	0.	7.11
+	HYDROGRAPH AT	DRGL91	183.	15.92	95.	32.	11.	9.52
+	ROUTED TO	RSGL91	140.	16.92	90.	32.	11.	9.52
+	HYDROGRAPH AT	GL91	264.	12.67	95.	29.	10.	.98
+	DIVERSION TO	XGL91	264.	12.67	95.	29.	10.	.98
+	HYDROGRAPH AT	ERGL91	0.	.00	0.	0.	0.	.98
+	4 COMBINED AT	CGL91	140.	16.92	90.	32.	11.	9.02
+	HYDROGRAPH AT	PRGL83	229.	14.00	175.	111.	39.	7.11
+	ROUTED TO	RPGL91	228.	14.08	175.	111.	39.	7.11
+	2 COMBINED AT	CPGL91	313.	16.83	244.	143.	49.	9.02
+	DIVERSION TO	DPGL91	313.	16.83	244.	143.	49.	9.02
+	HYDROGRAPH AT	DGL91	0.	.00	0.	0.	0.	9.02
+	DIVERSION TO	DSBH91	0.	.00	0.	0.	0.	9.02
+	HYDROGRAPH AT	DWGLLO	0.	.00	0.	0.	0.	9.02
+	ROUTED TO	RWGLLO	0.	.00	0.	0.	0.	9.02
+	HYDROGRAPH AT	GLLO	291.	12.75	119.	41.	14.	.85
+	DIVERSION TO	XGLLO	291.	12.75	119.	38.	13.	.85
+	HYDROGRAPH AT	ERGLLO	17.	19.58	12.	4.	1.	.85
+	3 COMBINED AT	CGLLO	11.	23.67	8.	2.	1.	15.23
+	HYDROGRAPH AT	PRGL91	313.	16.83	244.	143.	49.	9.02
+	ROUTED TO	RPGLLO	313.	16.92	244.	143.	49.	9.02
+	2 COMBINED AT	CPGLLO	276.	17.42	234.	137.	47.	15.23
+	ROUTED TO	RSBHLO	273.	17.67	234.	137.	47.	15.23
+	HYDROGRAPH AT	DIBH59	79.	13.58	38.	11.	4.	3.42
+	HYDROGRAPH AT	DRBH59	213.	12.50	92.	29.	10.	3.18
	ROUTED TO							

+		SRGR59	11.	18.67	10.	5.	2.	3.18
+	2 COMBINED AT	CIBHGR	80.	13.58	40.	16.	6.	2.13
+	ROUTED TO	RWBH59	78.	14.00	39.	16.	6.	2.13
+	HYDROGRAPH AT	DI59BH	11.	12.83	1.	0.	0.	3.91
+	ROUTED TO	RSBH59	3.	13.75	1.	0.	0.	3.91
+	HYDROGRAPH AT	BH59	280.	12.33	64.	22.	7.	.49
+	DIVERSION TO	XBH59	8.	6.33	6.	2.	1.	.49
+	HYDROGRAPH AT	ERBH59	280.	12.33	64.	20.	7.	.49
+	3 COMBINED AT	CBH59	280.	12.33	98.	36.	12.	3.58
+	DIVERSION TO	DSCB59	118.	12.33	41.	15.	5.	3.58
+	HYDROGRAPH AT	DWBH67	162.	12.33	57.	21.	7.	3.58
+	ROUTED TO	RWBH67	122.	12.92	56.	21.	7.	3.58
+	HYDROGRAPH AT	DRBH67	89.	12.33	21.	7.	2.	4.47
+	ROUTED TO	RSBH67	59.	13.42	21.	7.	2.	4.47
+	HYDROGRAPH AT	BH67	244.	12.67	91.	29.	10.	.97
+	3 COMBINED AT	CBH67	381.	12.92	166.	56.	19.	5.24
+	DIVERSION TO	DSCB67	168.	12.92	73.	25.	8.	5.24
+	HYDROGRAPH AT	DWBH75	213.	12.92	93.	31.	11.	5.24
+	ROUTED TO	RWBH75	207.	13.42	93.	31.	11.	5.24
+	HYDROGRAPH AT	DRBH75	53.	15.42	49.	26.	9.	8.97
+	ROUTED TO	RSBH75	52.	17.17	48.	26.	9.	8.97
+	HYDROGRAPH AT	BH75	314.	12.75	114.	35.	12.	1.00
+	DIVERSION TO	XBH75	314.	12.75	114.	34.	12.	1.00
+	HYDROGRAPH AT	ERBH75	2.	20.33	1.	0.	0.	1.00
+	3 COMBINED AT	CBH75	218.	13.42	128.	57.	20.	8.42
+	DIVERSION TO	DPBH75	218.	13.42	128.	57.	20.	8.42
+	HYDROGRAPH AT	DBH75	0.	.00	0.	0.	0.	8.42
+	DIVERSION TO	DSCB75	0.	.00	0.	0.	0.	8.42
+	HYDROGRAPH AT	DWBH83	0.	.00	0.	0.	0.	8.42
+	ROUTED TO	RWBH83	0.	.00	0.	0.	0.	8.42
+	HYDROGRAPH AT	DRBH83	0.	.00	0.	0.	0.	7.11
	ROUTED TO							

+		RSBH83	0.	.00	0.	0.	0.	7.11
+	HYDROGRAPH AT	BH83	282.	12.67	99.	30.	10.	1.00
+	DIVERSION TO	XBH83	282.	12.67	99.	30.	10.	1.00
+	HYDROGRAPH AT	ERBH83	1.	24.17	0.	0.	0.	1.00
+	3 COMBINED AT	CBH83	0.	24.17	0.	0.	0.	9.47
+	HYDROGRAPH AT	PRBH75	218.	13.42	128.	57.	20.	8.42
+	ROUTED TO	RPBH83	218.	13.50	128.	57.	20.	8.42
+	2 COMBINED AT	CPBH83	218.	13.50	127.	57.	20.	9.47
+	DIVERSION TO	DSGC83	74.	13.50	43.	19.	7.	9.47
+	HYDROGRAPH AT	DWBH91	144.	13.50	84.	37.	13.	9.47
+	HYDROGRAPH AT	DRCB27	157.	13.00	44.	11.	4.	1.24
+	ROUTED TO	RSCB27	153.	13.33	44.	11.	4.	1.24
+	HYDROGRAPH AT	CB27	89.	12.50	29.	10.	3.	.26
+	2 COMBINED AT	CCB27	210.	13.17	73.	21.	7.	1.50
+	HYDROGRAPH AT	PR27BH	132.	12.17	95.	36.	12.	1.24
+	ROUTED TO	RP27CB	132.	12.33	95.	36.	12.	1.24
+	2 COMBINED AT	CPCB27	342.	13.17	167.	56.	19.	1.50
+	DIVERSION TO	DP27CB	132.	12.17	103.	40.	14.	1.50
+	HYDROGRAPH AT	D27CB	210.	13.17	64.	16.	5.	1.50
+	DIVERSION TO	DSIS27	210.	13.17	64.	16.	5.	1.50
+	HYDROGRAPH AT	DWCB35	0.	.00	0.	0.	0.	1.50
+	ROUTED TO	RWCB35	0.	.00	0.	0.	0.	1.50
+	HYDROGRAPH AT	DRCB35	402.	12.50	81.	20.	7.	1.94
+	ROUTED TO	RSCB35	336.	13.00	81.	20.	7.	1.94
+	HYDROGRAPH AT	CB35	239.	12.67	89.	29.	10.	1.00
+	3 COMBINED AT	CCB35	562.	12.92	169.	49.	16.	2.94
+	HYDROGRAPH AT	PR27CB	132.	12.17	103.	40.	14.	1.50
+	2 COMBINED AT	CPCB29	694.	12.92	272.	89.	30.	2.94
+	DIVERSION TO	DP29CB	132.	12.00	115.	50.	17.	2.94
+	HYDROGRAPH AT	D29CB	562.	12.92	157.	39.	13.	2.94
+	HYDROGRAPH AT	PR35BH	226.	12.08	137.	47.	16.	1.94
	ROUTED TO							

+		RP35CB	226.	12.25	137.	47.	16.	1.94
+	2 COMBINED AT	CPCB35	788.	12.92	294.	86.	29.	2.94
+	DIVERSION TO	DP35CB	253.	12.17	163.	53.	18.	2.94
+	HYDROGRAPH AT	D35CB	535.	12.92	131.	33.	11.	2.94
+	DIVERSION TO	DSIS35	535.	12.92	131.	33.	11.	2.94
+	HYDROGRAPH AT	DWCB43	0.	.00	0.	0.	0.	2.94
+	ROUTED TO	RWCB43	0.	.00	0.	0.	0.	2.94
+	HYDROGRAPH AT	DRCB43	119.	13.33	36.	9.	3.	2.19
+	ROUTED TO	RSCB43	115.	13.67	36.	9.	3.	2.19
+	HYDROGRAPH AT	CB43	369.	12.50	85.	27.	9.	1.00
+	3 COMBINED AT	CCB43	369.	12.50	120.	36.	12.	2.12
+	HYDROGRAPH AT	PR43BH	385.	12.33	240.	81.	27.	2.19
+	ROUTED TO	RP43CB	385.	12.42	240.	81.	27.	2.19
+	2 COMBINED AT	CPCB43	754.	12.50	359.	116.	39.	2.12
+	DIVERSION TO	DP39CB	268.	12.08	206.	78.	26.	2.12
+	HYDROGRAPH AT	D39CB	486.	12.50	153.	38.	13.	2.12
+	DIVERSION TO	DP43CB	155.	12.25	75.	19.	6.	2.12
+	HYDROGRAPH AT	D43CB	331.	12.50	78.	19.	6.	2.12
+	DIVERSION TO	DSGR35	188.	12.50	44.	11.	4.	2.12
+	HYDROGRAPH AT	DWGR43	142.	12.50	33.	8.	3.	2.12
+	DIVERSION TO	DCB51	36.	12.50	8.	2.	1.	2.12
+	HYDROGRAPH AT	DGR43	107.	12.50	25.	6.	2.	2.12
+	HYDROGRAPH AT	DRGR43	162.	13.58	77.	23.	8.	3.42
+	ROUTED TO	RSGR43	159.	14.08	75.	23.	8.	3.42
+	HYDROGRAPH AT	GR43	224.	12.42	54.	18.	6.	.51
+	DIVERSION TO	XGR43	22.	11.42	10.	3.	1.	.51
+	HYDROGRAPH AT	ERGR43	224.	12.42	52.	15.	5.	.51
+	3 COMBINED AT	CGR43	331.	12.42	149.	44.	15.	2.28
+	ROUTED TO	SRGR43	0.	.00	0.	0.	0.	2.28
+	DIVERSION TO	DEGR35	0.	.00	0.	0.	0.	2.28
+	HYDROGRAPH AT	DGR35	0.	.00	0.	0.	0.	2.28
	DIVERSION TO							

+		DSIS43	0.	.00	0.	0.	0.	2.28
+	HYDROGRAPH AT	DWCB51	0.	.00	0.	0.	0.	2.28
+	HYDROGRAPH AT	DICB51	36.	12.50	8.	2.	1.	2.12
+	2 COMBINED AT	CICBGR	36.	12.50	8.	2.	1.	.74
+	ROUTED TO	RWCB51	26.	13.58	8.	2.	1.	.74
+	HYDROGRAPH AT	CB51	379.	12.17	68.	23.	8.	.48
+	2 COMBINED AT	CCB51	378.	12.17	75.	25.	8.	1.23
+	DIVERSION TO	DSIS51	193.	12.17	38.	13.	4.	1.23
+	HYDROGRAPH AT	DWCB59	185.	12.17	37.	12.	4.	1.23
+	ROUTED TO	RWCB59	134.	12.67	37.	12.	4.	1.23
+	HYDROGRAPH AT	DRCB59	118.	12.33	41.	15.	5.	3.58
+	ROUTED TO	RSCB59	90.	12.92	41.	15.	5.	3.58
+	HYDROGRAPH AT	CB59	381.	12.58	131.	45.	15.	1.01
+	DIVERSION TO	XCB59	48.	11.33	24.	8.	3.	1.01
+	HYDROGRAPH AT	ERCB59	381.	12.58	128.	37.	12.	1.01
+	3 COMBINED AT	CCB59	581.	12.75	204.	63.	21.	3.11
+	DIVERSION TO	DPCB59	351.	12.33	177.	57.	19.	3.11
+	HYDROGRAPH AT	DCB59	230.	12.75	27.	7.	2.	3.11
+	DIVERSION TO	DSIS59	122.	12.75	14.	4.	1.	3.11
+	HYDROGRAPH AT	DWCB67	108.	12.75	13.	3.	1.	3.11
+	ROUTED TO	RWCB67	59.	13.50	13.	3.	1.	3.11
+	HYDROGRAPH AT	DRCB67	168.	12.92	73.	25.	8.	5.24
+	ROUTED TO	RSCB67	160.	13.50	73.	25.	8.	5.24
+	HYDROGRAPH AT	CB67	284.	12.67	102.	31.	11.	.97
+	DIVERSION TO	XCB67	8.	7.25	6.	2.	1.	.97
+	HYDROGRAPH AT	ERCB67	284.	12.67	102.	30.	10.	.97
+	3 COMBINED AT	CCB67	438.	13.25	185.	57.	19.	4.73
+	HYDROGRAPH AT	PRCB59	351.	12.33	177.	57.	19.	3.11
+	ROUTED TO	RPCB67	351.	12.42	177.	57.	19.	3.11
+	2 COMBINED AT	CPCB67	789.	13.25	361.	114.	39.	4.73
+	DIVERSION TO	DPCB67	504.	12.33	307.	100.	34.	4.73
	HYDROGRAPH AT							

+		DCB67	285.	13.25	55.	14.	5.	4.73
+	DIVERSION TO	DSGC67	123.	13.25	24.	6.	2.	4.73
+	HYDROGRAPH AT	DWCB75	162.	13.25	31.	8.	3.	4.73
+	ROUTED TO	RWCB75	145.	13.75	31.	8.	3.	4.73
+	HYDROGRAPH AT	DRCB75	0.	.00	0.	0.	0.	8.42
+	ROUTED TO	RSCB75	0.	.00	0.	0.	0.	8.42
+	HYDROGRAPH AT	CB75	281.	12.67	99.	30.	10.	1.00
+	DIVERSION TO	XCB75	281.	12.67	45.	13.	4.	1.00
+	HYDROGRAPH AT	ERCB75	254.	13.08	65.	18.	6.	1.00
+	3 COMBINED AT	CCB75	316.	13.58	94.	25.	8.	8.14
+	HYDROGRAPH AT	PRCB67	504.	12.33	307.	100.	34.	4.73
+	ROUTED TO	RPCB75	504.	12.50	306.	100.	34.	4.73
+	2 COMBINED AT	CPCB75	820.	13.58	398.	125.	42.	8.14
+	DIVERSION TO	DSGC75	361.	13.58	175.	55.	19.	8.14
+	HYDROGRAPH AT	DWGC83	459.	13.58	223.	70.	24.	8.14
+	HYDROGRAPH AT	DRIS27	210.	13.17	64.	16.	5.	1.50
+	ROUTED TO	RSIS27	203.	13.50	64.	16.	5.	1.50
+	HYDROGRAPH AT	IS27	77.	12.67	30.	10.	3.	.24
+	2 COMBINED AT	CIS27	257.	13.42	93.	26.	9.	1.74
+	HYDROGRAPH AT	PR29CB	132.	12.00	115.	50.	17.	2.94
+	ROUTED TO	RP27IS	132.	12.17	115.	50.	17.	2.94
+	2 COMBINED AT	CPIS27	389.	13.42	208.	76.	25.	1.74
+	DIVERSION TO	DP27IS	151.	12.08	132.	57.	19.	1.74
+	HYDROGRAPH AT	D27IS	238.	13.42	76.	19.	6.	1.74
+	DIVERSION TO	DSGC27	238.	13.42	76.	19.	6.	1.74
+	HYDROGRAPH AT	DWIS35	0.	.00	0.	0.	0.	1.74
+	ROUTED TO	RWIS35	0.	.00	0.	0.	0.	1.74
+	HYDROGRAPH AT	DRIS35	535.	12.92	131.	33.	11.	2.94
+	ROUTED TO	RSIS35	499.	13.33	131.	33.	11.	2.94
+	HYDROGRAPH AT	IS35	502.	12.42	99.	30.	10.	.99
+	3 COMBINED AT	CIS35	665.	13.17	228.	62.	21.	3.93
	HYDROGRAPH AT							

+	PR35CB	253.	12.17	163.	53.	18.	2.94
	ROUTED TO						
+	RP35IS	253.	12.25	163.	53.	18.	2.94
	2 COMBINED AT						
+	CPIS35	918.	13.17	391.	115.	39.	3.93
	DIVERSION TO						
+	DP31IS	268.	12.00	193.	66.	22.	3.93
	HYDROGRAPH AT						
+	D31IS	650.	13.17	198.	50.	17.	3.93
	DIVERSION TO						
+	DP35IS	40.	12.08	21.	5.	2.	3.93
	HYDROGRAPH AT						
+	D35IS	610.	13.17	177.	44.	15.	3.93
	DIVERSION TO						
+	DSGC35	610.	13.17	177.	44.	15.	3.93
	HYDROGRAPH AT						
+	DWGR35	0.	.00	0.	0.	0.	3.93
	HYDROGRAPH AT						
+	DIGR35	0.	.00	0.	0.	0.	2.28
	HYDROGRAPH AT						
+	DRGR35	188.	12.50	44.	11.	4.	2.12
	DIVERSION TO						
+	DS43IS	68.	12.50	16.	4.	1.	2.12
	HYDROGRAPH AT						
+	D35GR	121.	12.50	28.	7.	2.	2.12
	2 COMBINED AT						
+	CIGR43	121.	12.50	29.	7.	2.	1.58
	ROUTED TO						
+	RSGR35	89.	13.50	29.	7.	2.	1.58
	HYDROGRAPH AT						
+	GR35	221.	12.42	56.	18.	6.	.53
	3 COMBINED AT						
+	CGR35	219.	12.42	83.	25.	8.	2.11
	HYDROGRAPH AT						
+	PR39CB	268.	12.08	206.	78.	26.	2.12
	ROUTED TO						
+	RP39GR	268.	12.17	206.	78.	26.	2.12
	2 COMBINED AT						
+	CPGR35	487.	12.42	289.	103.	35.	2.11
	DIVERSION TO						
+	D39GR	236.	12.42	82.	20.	7.	2.11
	HYDROGRAPH AT						
+	DP39GR	251.	12.00	207.	83.	28.	2.11
	ROUTED TO						
+	RP39IS	251.	12.08	207.	83.	28.	2.11
	HYDROGRAPH AT						
+	DRIS43	0.	.00	0.	0.	0.	2.28
	HYDROGRAPH AT						
+	DI43IS	68.	12.50	16.	4.	1.	2.12
	2 COMBINED AT						
+	CICB43	68.	12.50	16.	4.	1.	1.40
	ROUTED TO						
+	RSIS43	54.	13.08	16.	4.	1.	1.40
	HYDROGRAPH AT						
+	IS43	365.	12.17	65.	23.	8.	.47
	2 COMBINED AT						
+	CIS43	363.	12.17	80.	26.	9.	1.87
	HYDROGRAPH AT						
+	PR43CB	155.	12.25	75.	19.	6.	2.12
	ROUTED TO						
+	RP43IS	155.	12.42	76.	19.	6.	2.12
	3 COMBINED AT						

+	CPIS43	716.	12.33	361.	128.	43.	3.98
	DIVERSION TO						
+	DP43IS	406.	12.00	306.	114.	38.	3.98
	HYDROGRAPH AT						
+	D43IS	310.	12.33	55.	14.	5.	3.98
	DIVERSION TO						
+	DSGC43	257.	12.33	46.	11.	4.	3.98
	HYDROGRAPH AT						
+	DWIS51	53.	12.33	9.	2.	1.	3.98
	ROUTED TO						
+	RWIS51	19.	14.42	9.	2.	1.	3.98
	HYDROGRAPH AT						
+	DRIS51	193.	12.17	38.	13.	4.	1.23
	ROUTED TO						
+	RSIS51	146.	12.58	38.	13.	4.	1.23
	HYDROGRAPH AT						
+	IS51	298.	12.67	113.	38.	13.	.99
	DIVERSION TO						
+	XIS51	298.	12.67	88.	25.	8.	.99
	HYDROGRAPH AT						
+	ERIS51	145.	14.00	43.	13.	4.	.99
	3 COMBINED AT						
+	CIS51	196.	14.00	84.	28.	9.	1.94
	DIVERSION TO						
+	DP51IS	196.	14.00	84.	28.	9.	1.94
	HYDROGRAPH AT						
+	D51IS	0.	.00	0.	0.	0.	1.94
	DIVERSION TO						
+	DSGC51	0.	.00	0.	0.	0.	1.94
	HYDROGRAPH AT						
+	DWIS59	0.	.00	0.	0.	0.	1.94
	ROUTED TO						
+	RWIS59	0.	.00	0.	0.	0.	1.94
	HYDROGRAPH AT						
+	DRIS59	122.	12.75	14.	4.	1.	3.11
	ROUTED TO						
+	RSIS59	74.	13.33	14.	4.	1.	3.11
	HYDROGRAPH AT						
+	IS59	260.	12.67	97.	32.	11.	1.01
	3 COMBINED AT						
+	CIS59	287.	13.25	111.	35.	12.	3.38
	DIVERSION TO						
+	DP59IS	287.	13.25	111.	35.	12.	3.38
	HYDROGRAPH AT						
+	D59IS	0.	.00	0.	0.	0.	3.38
	DIVERSION TO						
+	DSGC59	0.	.00	0.	0.	0.	3.38
	HYDROGRAPH AT						
+	DWGC67	0.	.00	0.	0.	0.	3.38
	ROUTED TO						
+	RWGC67	0.	.00	0.	0.	0.	3.38
	HYDROGRAPH AT						
+	DRGC67	123.	13.25	24.	6.	2.	4.73
	ROUTED TO						
+	RSGC67	106.	13.83	24.	6.	2.	4.73
	HYDROGRAPH AT						
+	GC67	267.	12.67	88.	27.	9.	.94
	3 COMBINED AT						
+	CGC67	265.	12.67	111.	32.	11.	4.34
	DIVERSION TO						
+	DP67IS	175.	12.33	92.	27.	9.	4.34
	HYDROGRAPH AT						

+		D67IS	90.	12.67	19.	5.	2.	4.34
+	DIVERSION TO	DSISGC	46.	12.67	10.	2.	1.	4.34
+	HYDROGRAPH AT	DWGC75	44.	12.67	9.	2.	1.	4.34
+	HYDROGRAPH AT	DRGR39	236.	12.42	82.	20.	7.	2.11
+	DIVERSION TO	DEGCGR	113.	12.42	39.	10.	3.	2.11
+	HYDROGRAPH AT	DGC35	123.	12.42	42.	11.	4.	2.11
+	HYDROGRAPH AT	DRGC35	610.	13.17	177.	44.	15.	3.93
+	DIVERSION TO	DSGCGR	152.	13.17	44.	11.	4.	3.93
+	HYDROGRAPH AT	DS35GC	457.	13.17	133.	33.	11.	3.93
+	2 COMBINED AT	CIIS35	555.	13.17	176.	44.	15.	2.06
+	ROUTED TO	RSGC35	550.	13.25	176.	44.	15.	2.06
+	HYDROGRAPH AT	GC35	64.	12.17	11.	4.	1.	.08
+	2 COMBINED AT	CGC35	557.	13.25	186.	48.	16.	2.14
+	HYDROGRAPH AT	PR35IS	40.	12.08	21.	5.	2.	3.93
+	ROUTED TO	RP35GC	40.	12.17	21.	5.	2.	3.93
+	2 COMBINED AT	CPGC35	597.	13.25	208.	53.	18.	2.14
+	DIVERSION TO	DP35GC	40.	12.00	27.	8.	3.	2.14
+	HYDROGRAPH AT	D35GC	557.	13.25	180.	45.	15.	2.14
+	DIVERSION TO	DSTM35	474.	13.25	153.	38.	13.	2.14
+	HYDROGRAPH AT	DWGC43	84.	13.25	27.	7.	2.	2.14
+	ROUTED TO	RWGC43	78.	13.83	27.	7.	2.	2.14
+	HYDROGRAPH AT	DRGC43	257.	12.33	46.	11.	4.	3.98
+	ROUTED TO	RSGC43	201.	12.50	46.	11.	4.	3.98
+	HYDROGRAPH AT	GC43	149.	12.50	52.	18.	6.	.37
+	3 COMBINED AT	CGC43	350.	12.50	124.	36.	12.	2.23
+	HYDROGRAPH AT	PR43IS	406.	12.00	306.	114.	38.	3.98
+	ROUTED TO	RP43GC	406.	12.08	306.	114.	38.	3.98
+	2 COMBINED AT	CPGC43	756.	12.50	430.	150.	50.	2.23
+	DIVERSION TO	DP43GC	406.	12.00	321.	123.	41.	2.23
+	HYDROGRAPH AT	D43GC	350.	12.50	109.	27.	9.	2.23
+	ROUTED TO	SRGC43	350.	12.50	109.	27.	9.	2.23
	DIVERSION TO							

+		DSTM43	150.	12.50	19.	5.	2.	2.23
+	HYDROGRAPH AT	DWGC51	200.	12.25	90.	23.	8.	2.23
+	ROUTED TO	RWGC51	200.	13.67	90.	23.	8.	2.23
+	HYDROGRAPH AT	DRGC51	0.	.00	0.	0.	0.	1.94
+	ROUTED TO	RSGC51	0.	.00	0.	0.	0.	1.94
+	HYDROGRAPH AT	GC51	94.	12.75	38.	12.	4.	.45
+	3 COMBINED AT	CGC51	284.	13.17	128.	35.	12.	2.04
+	HYDROGRAPH AT	PR51IS	196.	14.00	84.	28.	9.	1.94
+	ROUTED TO	RP51ML	191.	14.08	84.	28.	9.	1.94
+	2 COMBINED AT	CPML51	442.	14.08	211.	63.	21.	2.04
+	DIVERSION TO	DPML51	136.	12.42	109.	38.	13.	2.04
+	HYDROGRAPH AT	DML51	306.	14.08	102.	25.	8.	2.04
+	DIVERSION TO	DP51GC	113.	12.75	60.	15.	5.	2.04
+	HYDROGRAPH AT	D51GC	193.	14.08	42.	10.	3.	2.04
+	ROUTED TO	SRGC51	105.	14.67	39.	10.	3.	2.04
+	DIVERSION TO	DSTM51	0.	14.50	0.	0.	0.	2.04
+	HYDROGRAPH AT	DWGC53	105.	14.67	39.	10.	3.	2.04
+	ROUTED TO	RWGC53	105.	14.75	39.	10.	3.	2.04
+	HYDROGRAPH AT	DRGC59	0.	.00	0.	0.	0.	3.38
+	ROUTED TO	RSGC59	0.	.00	0.	0.	0.	3.38
+	HYDROGRAPH AT	GC59	120.	12.58	41.	13.	4.	.41
+	2 COMBINED AT	CGC55	119.	12.58	40.	13.	4.	2.42
+	DIVERSION TO	DWGC59	0.	.00	0.	0.	0.	2.42
+	HYDROGRAPH AT	DEGC53	119.	12.58	40.	13.	4.	2.42
+	HYDROGRAPH AT	PRML51	136.	12.42	109.	38.	13.	2.04
+	ROUTED TO	RPML53	136.	12.50	109.	38.	13.	2.04
+	3 COMBINED AT	CGC53	267.	14.67	185.	61.	20.	2.27
+	ROUTED TO	SRGC53	88.	17.00	86.	58.	20.	2.27
+	DIVERSION TO	DPGC53	20.	11.75	20.	19.	7.	2.27
+	HYDROGRAPH AT	DGC53	68.	17.00	66.	39.	13.	2.27
+	HYDROGRAPH AT	PR59IS	287.	13.25	111.	35.	12.	3.38
	ROUTED TO							

+		RP59GC	287.	13.25	111.	35.	12.	3.38
+	HYDROGRAPH AT	DRGC59	0.	.00	0.	0.	0.	2.42
+	2 COMBINED AT	CPGC59	291.	13.25	112.	35.	12.	1.24
+	DIVERSION TO	DP59GC	258.	12.67	109.	35.	12.	1.24
+	HYDROGRAPH AT	D59GC	33.	13.25	3.	1.	0.	1.24
+	2 COMBINED AT	CGC59	74.	13.25	66.	40.	13.	3.50
+	DIVERSION TO	DSTM59	24.	13.25	16.	6.	2.	3.50
+	HYDROGRAPH AT	DWISGC	50.	13.25	50.	34.	11.	3.50
+	ROUTED TO	RWISGC	50.	17.00	50.	34.	11.	3.50
+	HYDROGRAPH AT	DRISGC	46.	12.67	10.	2.	1.	4.34
+	ROUTED TO	RSISGC	42.	12.92	10.	2.	1.	4.34
+	HYDROGRAPH AT	ISGC	32.	12.83	15.	5.	2.	.16
+	3 COMBINED AT	CISGC	108.	13.75	69.	40.	14.	3.33
+	HYDROGRAPH AT	PR59GC	258.	12.67	109.	35.	12.	1.24
+	2 COMBINED AT	CPISGC	361.	13.50	172.	73.	25.	3.33
+	DIVERSION TO	DPGC63	258.	12.50	152.	68.	23.	3.33
+	HYDROGRAPH AT	DGC63	103.	13.50	20.	5.	2.	3.33
+	ROUTED TO	SRISGC	26.	13.92	14.	5.	2.	3.33
+	DIVERSION TO	DSTM67	0.	.00	0.	0.	0.	3.33
+	HYDROGRAPH AT	DPGC67	26.	13.92	14.	5.	2.	3.33
+	HYDROGRAPH AT	DRGC75	361.	13.58	175.	55.	19.	8.14
+	HYDROGRAPH AT	GC75	92.	12.83	41.	13.	4.	.41
+	4 COMBINED AT	CGC75	487.	13.58	237.	74.	25.	9.44
+	ROUTED TO	SRGC75	453.	13.92	237.	74.	25.	9.44
+	2 COMBINED AT	CICB75	879.	13.75	448.	140.	48.	14.03
+	ROUTED TO	RWGC83	874.	13.92	447.	140.	48.	14.03
+	HYDROGRAPH AT	DRGC83	74.	13.50	43.	19.	7.	9.47
+	HYDROGRAPH AT	GC83	89.	12.92	42.	13.	4.	.43
+	DIVERSION TO	XGC83	89.	12.92	42.	13.	4.	.43
+	HYDROGRAPH AT	ERGC83	0.	.00	0.	0.	0.	.43
+	3 COMBINED AT	CGC83	928.	13.83	479.	155.	53.	17.67
	2 COMBINED AT							

+		CIBH83	1038.	13.83	543.	185.	63.	23.92
+	ROUTED TO	RWBH91	1030.	14.08	540.	185.	63.	23.92
+	HYDROGRAPH AT	DRBH91	0.	.00	0.	0.	0.	9.02
+	ROUTED TO	RSBH91	0.	.00	0.	0.	0.	9.02
+	HYDROGRAPH AT	BH91	284.	12.67	99.	30.	10.	1.03
+	DIVERSION TO	XBH91	279.	12.58	30.	9.	3.	1.03
+	HYDROGRAPH AT	ERBH91	284.	12.75	78.	21.	7.	1.03
+	3 COMBINED AT	CBH91	1138.	13.92	599.	199.	68.	30.54
+	ROUTED TO	RWBHLO	1129.	14.08	596.	199.	68.	30.54
+	HYDROGRAPH AT	BHLO	412.	12.42	115.	39.	13.	.79
+	DIVERSION TO	XBHLO	412.	12.42	72.	21.	7.	.79
+	HYDROGRAPH AT	ERBHLO	314.	12.83	62.	18.	6.	.79
+	3 COMBINED AT	CBHLO	1209.	14.33	759.	319.	110.	46.47
+	ROUTED TO	RWBH99	1209.	14.33	758.	319.	110.	46.47
+	HYDROGRAPH AT	BH99	51.	12.83	25.	9.	3.	.18
+	2 COMBINED AT	CBH99	1235.	14.33	776.	325.	113.	46.65
+	ROUTED TO	RWBHRI	1234.	14.42	773.	325.	113.	46.65
+	HYDROGRAPH AT	GLNR	134.	12.83	64.	23.	8.	.48
+	DIVERSION TO	XGLNR	134.	12.83	55.	16.	5.	.48
+	HYDROGRAPH AT	ERGLNR	55.	15.00	22.	7.	2.	.48
+	DIVERSION TO	DWNR04	55.	15.00	22.	7.	2.	.48
+	HYDROGRAPH AT	DSBHRI	0.	.00	0.	0.	0.	.48
+	ROUTED TO	RSBHRI	0.	.00	0.	0.	0.	.48
+	HYDROGRAPH AT	BHRI	165.	12.75	70.	24.	8.	.51
+	DIVERSION TO	XBHRI	165.	12.75	70.	23.	8.	.51
+	HYDROGRAPH AT	ERBHRI	7.	22.33	4.	1.	0.	.51
+	DIVERSION TO	DWBHAF	5.	22.33	3.	1.	0.	.51
+	HYDROGRAPH AT	DBHNR	1.	22.33	1.	0.	0.	.51
+	3 COMBINED AT	CBHRI	1234.	14.42	773.	325.	113.	47.17
+	ROUTED TO	RWBHNR	1230.	14.50	768.	325.	113.	47.17
+	HYDROGRAPH AT	BHNR	99.	12.58	34.	12.	4.	.26
	DIVERSION TO							

+		XBHNR	99.	12.58	34.	11.	4.	.26
+	HYDROGRAPH AT	ERBHNR	4.	19.92	3.	1.	0.	.26
+	2 COMBINED AT	CBHNR	1230.	14.50	768.	325.	113.	47.42
+	HYDROGRAPH AT	CB99	66.	12.67	28.	10.	3.	.20
+	DIVERSION TO	XCB99	66.	12.67	26.	8.	3.	.20
+	HYDROGRAPH AT	ERCB99	17.	15.42	7.	2.	1.	.20
+	DIVERSION TO	DSIS99	8.	15.42	4.	1.	0.	.20
+	HYDROGRAPH AT	DWCBRI	9.	15.42	4.	1.	0.	.20
+	ROUTED TO	RWCBRI	7.	16.50	4.	1.	0.	.20
+	HYDROGRAPH AT	CBRI	176.	12.75	71.	22.	7.	.70
+	DIVERSION TO	XCBRI	176.	12.75	71.	22.	7.	.70
+	HYDROGRAPH AT	ERCBRI	0.	.00	0.	0.	0.	.70
+	2 COMBINED AT	CCBRI	7.	16.50	4.	1.	0.	.80
+	DIVERSION TO	DSIS07	5.	16.50	2.	1.	0.	.80
+	HYDROGRAPH AT	DWCB07	2.	16.50	1.	0.	0.	.80
+	HYDROGRAPH AT	CB07	49.	12.67	16.	4.	1.	.32
+	2 COMBINED AT	CCB07	48.	12.67	17.	5.	2.	.56
+	DIVERSION TO	DIS07	33.	12.67	11.	3.	1.	.56
+	HYDROGRAPH AT	DWCBNR	15.	12.67	5.	1.	0.	.56
+	ROUTED TO	RWCBNR	12.	14.08	5.	1.	0.	.56
+	HYDROGRAPH AT	CBNR	61.	12.75	23.	6.	2.	.47
+	DIVERSION TO	XCBNR	61.	12.75	7.	2.	1.	.47
+	HYDROGRAPH AT	ERCBNR	59.	13.00	17.	4.	1.	.47
+	2 COMBINED AT	CCBNR	61.	13.00	22.	6.	2.	.64
+	HYDROGRAPH AT	DRIS99	8.	15.42	4.	1.	0.	.20
+	ROUTED TO	RSIS99	6.	16.83	3.	1.	0.	.20
+	HYDROGRAPH AT	IS99	172.	12.33	48.	16.	5.	.32
+	2 COMBINED AT	CIS99	172.	12.33	48.	17.	6.	.42
+	DIVERSION TO	DSTM99	45.	12.33	13.	4.	2.	.42
+	HYDROGRAPH AT	DWIS07	127.	12.33	36.	13.	4.	.42
+	ROUTED TO	RWIS07	113.	12.83	36.	13.	4.	.42
	HYDROGRAPH AT							

+		DI07IS	33.	12.67	11.	3.	1.	.56
+	HYDROGRAPH AT	DRIS07	5.	16.50	2.	1.	0.	.80
+	2 COMBINED AT	CICB07	33.	12.67	13.	4.	1.	.94
+	ROUTED TO	RSIS07	28.	13.83	13.	4.	1.	.94
+	HYDROGRAPH AT	IS07	295.	12.67	104.	32.	11.	1.02
+	DIVERSION TO	XIS07	271.	12.50	30.	9.	3.	1.02
+	HYDROGRAPH AT	ERIS07	295.	12.67	84.	23.	8.	1.02
+	3 COMBINED AT	CIS07	406.	12.83	130.	39.	13.	2.28
+	DIVERSION TO	DSRI07	102.	12.83	33.	10.	3.	2.28
+	HYDROGRAPH AT	DWISAF	305.	12.83	98.	29.	10.	2.28
+	ROUTED TO	RWISAF	263.	13.75	95.	29.	10.	2.28
+	HYDROGRAPH AT	ISAF	239.	12.75	97.	32.	11.	.99
+	2 COMBINED AT	CISAF	428.	13.67	185.	61.	21.	2.69
+	HYDROGRAPH AT	DRTM99	45.	12.33	13.	4.	2.	.42
+	ROUTED TO	RSTM99	37.	13.25	12.	4.	2.	.42
+	HYDROGRAPH AT	TM99	236.	12.42	74.	25.	8.	.50
+	2 COMBINED AT	CTM99	240.	12.42	86.	30.	10.	.62
+	DIVERSION TO	DSMD99	110.	12.42	40.	14.	5.	.62
+	HYDROGRAPH AT	DWRI07	130.	12.42	46.	16.	5.	.62
+	ROUTED TO	RWRI07	124.	13.00	46.	16.	5.	.62
+	HYDROGRAPH AT	DRRI07	102.	12.83	33.	10.	3.	2.28
+	ROUTED TO	RSRI07	93.	13.33	32.	10.	3.	2.28
+	HYDROGRAPH AT	RI07	267.	12.67	98.	32.	11.	.76
+	DIVERSION TO	XRI07	267.	12.67	98.	32.	11.	.76
+	HYDROGRAPH AT	ERRI07	2.	24.08	0.	0.	0.	.76
+	3 COMBINED AT	CRI07	208.	13.25	78.	26.	9.	1.67
+	DIVERSION TO	DTM07	102.	13.25	38.	13.	4.	1.67
+	HYDROGRAPH AT	DRIAF	106.	13.25	40.	13.	4.	1.67
+	DIVERSION TO	DSTM07	66.	13.25	25.	8.	3.	1.67
+	HYDROGRAPH AT	DWRIAF	40.	13.25	15.	5.	2.	1.67
+	ROUTED TO	RWRIAF	28.	15.42	14.	5.	2.	1.67
	HYDROGRAPH AT							

+	RIAF	157.	12.75	67.	21.	7.	.66
	2 COMBINED AT						
+	CRIAF	158.	12.75	77.	26.	9.	.98
	HYDROGRAPH AT						
+	DRBHAF	5.	22.33	3.	1.	0.	.51
	ROUTED TO						
+	SRBHRI	0.	26.33	0.	0.	0.	.51
	5 COMBINED AT						
+	CAF01	1860.	14.08	1159.	477.	167.	4.31
	HYDROGRAPH AT						
+	CB83	211.	12.50	50.	14.	5.	.55
	DIVERSION TO						
+	XCB83	211.	12.50	34.	9.	3.	.55
	HYDROGRAPH AT						
+	ERCB83	125.	13.17	20.	5.	2.	.55
	DIVERSION TO						
+	DP83CB	10.	13.08	6.	2.	1.	.55
	HYDROGRAPH AT						
+	D83CB	115.	13.17	13.	3.	1.	.55
	DIVERSION TO						
+	DSIS83	51.	13.17	6.	1.	0.	.55
	HYDROGRAPH AT						
+	DWCB91	65.	13.17	7.	2.	1.	.55
	ROUTED TO						
+	RWCB91	35.	14.17	7.	2.	1.	.55
	HYDROGRAPH AT						
+	CB91	279.	12.67	97.	29.	10.	.96
	DIVERSION TO						
+	XCB91	279.	12.67	97.	29.	10.	.96
	HYDROGRAPH AT						
+	ERCB91	0.	.00	0.	0.	0.	.96
	2 COMBINED AT						
+	CCB91	35.	14.17	7.	2.	1.	1.32
	DIVERSION TO						
+	DSIS91	16.	14.17	3.	1.	0.	1.32
	HYDROGRAPH AT						
+	DWCBLO	18.	14.17	4.	1.	0.	1.32
	ROUTED TO						
+	RWCBLO	15.	15.00	4.	1.	0.	1.32
	HYDROGRAPH AT						
+	CBLO	282.	12.67	100.	32.	11.	.82
	DIVERSION TO						
+	XCBLO	282.	12.67	98.	28.	9.	.82
	HYDROGRAPH AT						
+	ERCBLO	30.	16.00	14.	5.	2.	.82
	2 COMBINED AT						
+	CCBLO	36.	16.00	16.	6.	2.	1.52
	ROUTED TO						
+	RSISLO	28.	16.67	16.	6.	2.	1.52
	HYDROGRAPH AT						
+	IS75	222.	12.58	68.	21.	7.	.62
	DIVERSION TO						
+	XIS75	4.	3.50	2.	0.	0.	.62
	HYDROGRAPH AT						
+	ERIS75	222.	12.58	68.	21.	7.	.62
	DIVERSION TO						
+	DP75IS	123.	12.25	55.	18.	6.	.62
	HYDROGRAPH AT						
+	D75IS	99.	12.58	13.	3.	1.	.62
	DIVERSION TO						
+	DSTM75	35.	12.58	4.	1.	0.	.62
	HYDROGRAPH AT						

+	DWIS83	64.	12.58	8.	2.	1.	.62
	ROUTED TO						
+	RWIS83	43.	13.58	8.	2.	1.	.62
	HYDROGRAPH AT						
+	DRIS83	51.	13.17	6.	1.	0.	.55
	ROUTED TO						
+	RSIS83	26.	14.42	6.	1.	0.	.55
	HYDROGRAPH AT						
+	IS83	270.	12.67	96.	30.	10.	.99
	3 COMBINED AT						
+	CIS83	272.	12.75	110.	33.	11.	1.64
	HYDROGRAPH AT						
+	PR83CB	10.	13.08	6.	2.	1.	.55
	ROUTED TO						
+	RP83IS	10.	13.50	6.	2.	1.	.55
	2 COMBINED AT						
+	CPIS83	272.	12.75	115.	35.	12.	1.64
	DIVERSION TO						
+	DP83IS	187.	12.42	99.	31.	11.	1.64
	HYDROGRAPH AT						
+	D83IS	85.	12.75	15.	4.	1.	1.64
	DIVERSION TO						
+	DSTM83	46.	12.75	9.	2.	1.	1.64
	HYDROGRAPH AT						
+	DWIS91	38.	12.75	7.	2.	1.	1.64
	ROUTED TO						
+	RWIS91	26.	13.83	7.	2.	1.	1.64
	HYDROGRAPH AT						
+	DRIS91	16.	14.17	3.	1.	0.	1.32
	ROUTED TO						
+	RSIS91	12.	15.50	3.	1.	0.	1.32
	HYDROGRAPH AT						
+	IS91	312.	12.75	113.	35.	12.	1.00
	DIVERSION TO						
+	XIS91	311.	12.67	44.	12.	4.	1.00
	HYDROGRAPH AT						
+	ERIS91	304.	12.92	81.	22.	7.	1.00
	3 COMBINED AT						
+	CIS91	310.	12.92	91.	25.	8.	2.36
	DIVERSION TO						
+	DP91IS	190.	12.92	78.	22.	7.	2.36
	HYDROGRAPH AT						
+	D91IS	120.	12.92	12.	3.	1.	2.36
	DIVERSION TO						
+	DSTM91	68.	12.92	7.	2.	1.	2.36
	HYDROGRAPH AT						
+	DWISLO	52.	12.92	5.	1.	0.	2.36
	ROUTED TO						
+	RWISLO	31.	13.42	5.	1.	0.	2.36
	HYDROGRAPH AT						
+	ISLO	277.	12.58	89.	29.	10.	.68
	DIVERSION TO						
+	XISLO	277.	12.58	89.	28.	10.	.68
	HYDROGRAPH AT						
+	ERISLO	2.	22.58	1.	0.	0.	.68
	3 COMBINED AT						
+	CISLO	31.	13.42	17.	7.	2.	3.22
	ROUTED TO						
+	RSTMLO	25.	13.92	16.	7.	2.	3.22
	HYDROGRAPH AT						
+	DRGCGR	113.	12.42	39.	10.	3.	2.11
	HYDROGRAPH AT						

+	DIGCGR	152.	13.17	44.	11.	4.	3.93
+ 2 COMBINED AT	CIGR35	240.	13.25	83.	21.	7.	3.97
+ ROUTED TO	RSGCGR	235.	13.42	83.	21.	7.	3.97
+ HYDROGRAPH AT	DRGC27	238.	13.42	76.	19.	6.	1.74
+ ROUTED TO	RSGC27	236.	13.50	76.	19.	6.	1.74
+ HYDROGRAPH AT	GCGR	457.	12.08	51.	18.	6.	.38
+ 3 COMBINED AT	CGCGR	487.	13.42	207.	57.	19.	6.09
+ HYDROGRAPH AT	PR31IS	268.	12.00	193.	66.	22.	3.93
+ ROUTED TO	RP31GC	268.	12.08	193.	66.	22.	3.93
+ HYDROGRAPH AT	PR27IS	151.	12.08	132.	57.	19.	1.74
+ ROUTED TO	RP27GC	151.	12.17	132.	56.	19.	1.74
+ 3 COMBINED AT	CPGCGR	906.	13.42	531.	179.	60.	6.09
+ DIVERSION TO	DPGCGR	422.	11.92	348.	133.	45.	6.09
+ HYDROGRAPH AT	DGCGR	484.	13.42	183.	46.	15.	6.09
+ ROUTED TO	SRGCGR	287.	14.42	184.	46.	15.	6.09
+ ROUTED TO	RSGR27	285.	14.67	181.	46.	15.	6.09
+ HYDROGRAPH AT	GR27	264.	12.25	55.	18.	6.	.41
+ 2 COMBINED AT	CTM27	326.	12.50	230.	64.	21.	6.50
+ DIVERSION TO	DGR27	163.	12.50	115.	32.	11.	6.50
+ HYDROGRAPH AT	DTM27	163.	12.50	115.	32.	11.	6.50
+ ROUTED TO	SRTM27	150.	14.67	78.	32.	11.	6.50
+ HYDROGRAPH AT	PRGCGR	422.	11.92	348.	133.	45.	6.09
+ DIVERSION TO	DP31GR	257.	11.67	237.	105.	36.	6.09
+ HYDROGRAPH AT	D31GR	165.	11.92	111.	28.	9.	6.09
+ ROUTED TO	RP27TM	165.	12.00	111.	28.	9.	6.09
+ 2 COMBINED AT	CPGR27	310.	14.83	182.	58.	20.	12.59
+ DIVERSION TO	DP27GR	195.	12.00	158.	52.	18.	12.59
+ HYDROGRAPH AT	D27GR	115.	14.83	24.	6.	2.	12.59
+ HYDROGRAPH AT	DRGR27	163.	12.50	115.	32.	11.	6.50
+ 2 COMBINED AT	CGR27	269.	14.67	141.	38.	13.	6.50
+ ROUTED TO	SRGR27	163.	15.75	44.	26.	13.	6.50
DIVERSION TO							

+	DSMD27	111.	15.75	30.	18.	9.	6.50
+ HYDROGRAPH AT	DWTM35	52.	15.75	14.	8.	4.	6.50
+ ROUTED TO	RWTM35	29.	17.08	14.	8.	4.	6.50
+ HYDROGRAPH AT	DRTM35	474.	13.25	153.	38.	13.	2.14
+ ROUTED TO	RSTM35	464.	13.33	153.	38.	13.	2.14
+ HYDROGRAPH AT	TM35	274.	12.25	57.	20.	7.	.39
+ 3 COMBINED AT	CTM35	558.	12.58	214.	62.	23.	4.31
+ HYDROGRAPH AT	PR31GR	257.	11.67	237.	105.	36.	6.09
+ ROUTED TO	RP31TM	257.	11.83	237.	105.	36.	6.09
+ HYDROGRAPH AT	PR35GC	40.	12.00	27.	8.	3.	2.14
+ ROUTED TO	RP35TM	40.	12.17	28.	8.	3.	2.14
+ 3 COMBINED AT	CPTM35	855.	12.58	478.	175.	61.	4.31
+ DIVERSION TO	DP35TM	300.	11.75	278.	125.	45.	4.31
+ HYDROGRAPH AT	D35TM	555.	12.58	200.	50.	17.	4.31
+ DIVERSION TO	DSMD35	466.	12.58	168.	42.	14.	4.31
+ HYDROGRAPH AT	DWTM43	89.	12.58	32.	8.	3.	4.31
+ ROUTED TO	RWTM43	78.	14.08	31.	8.	3.	4.31
+ HYDROGRAPH AT	DRTM43	150.	12.50	19.	5.	2.	2.23
+ ROUTED TO	RSTM43	113.	12.67	19.	5.	2.	2.23
+ HYDROGRAPH AT	TM43	189.	12.75	71.	22.	7.	.64
+ DIVERSION TO	XTM43	5.	6.33	3.	1.	0.	.64
+ HYDROGRAPH AT	ERTM43	189.	12.75	71.	21.	7.	.64
+ 3 COMBINED AT	CTM43	299.	12.67	119.	34.	11.	3.16
+ HYDROGRAPH AT	PR43GC	406.	12.00	321.	123.	41.	2.23
+ ROUTED TO	RP43TM	406.	12.08	321.	123.	41.	2.23
+ 2 COMBINED AT	CPTM43	705.	12.67	438.	156.	53.	3.16
+ DIVERSION TO	DP43TM	629.	12.50	431.	155.	52.	3.16
+ HYDROGRAPH AT	D43TM	76.	12.67	7.	2.	1.	3.16
+ DIVERSION TO	DSMD43	60.	12.67	5.	1.	0.	3.16
+ HYDROGRAPH AT	DWTM51	16.	12.67	1.	0.	0.	3.16
+ ROUTED TO	RWTM51	4.	15.17	1.	0.	0.	3.16
HYDROGRAPH AT							

+		DRTM51	0.	14.50	0.	0.	0.	2.04
+	ROUTED TO	RSTM51	0.	15.00	0.	0.	0.	2.04
+	HYDROGRAPH AT	TM51	132.	12.75	51.	16.	5.	.55
+	3 COMBINED AT	CTM51	131.	12.75	52.	16.	5.	2.15
+	HYDROGRAPH AT	PR51GC	113.	12.75	60.	15.	5.	2.04
+	HYDROGRAPH AT	PRGC53	20.	11.75	20.	19.	7.	2.27
+	ROUTED TO	RPGC51	20.	11.83	20.	19.	7.	2.27
+	2 COMBINED AT	CPGC51	133.	12.75	80.	34.	12.	2.15
+	ROUTED TO	RP51TM	133.	12.83	80.	34.	12.	2.15
+	2 COMBINED AT	CPTM51	262.	12.83	131.	49.	18.	4.30
+	DIVERSION TO	DP51TM	244.	12.67	130.	49.	18.	4.30
+	HYDROGRAPH AT	D51TM	18.	12.83	1.	0.	0.	4.30
+	DIVERSION TO	DSMD51	11.	12.83	1.	0.	0.	4.30
+	HYDROGRAPH AT	DWTM59	6.	12.83	0.	0.	0.	4.30
+	ROUTED TO	RWTM59	2.	14.08	0.	0.	0.	4.30
+	HYDROGRAPH AT	DRTM59	24.	13.25	16.	6.	2.	3.50
+	ROUTED TO	RSTM59	18.	17.42	16.	6.	2.	3.50
+	HYDROGRAPH AT	TM59	146.	12.67	54.	17.	6.	.60
+	3 COMBINED AT	CTM59	145.	12.75	64.	23.	8.	3.90
+	HYDROGRAPH AT	PRGC63	258.	12.50	152.	68.	23.	3.33
+	ROUTED TO	RP59TM	258.	12.67	152.	68.	23.	3.33
+	2 COMBINED AT	CPTM59	403.	12.75	215.	90.	31.	3.90
+	DIVERSION TO	DP59TM	389.	12.58	214.	90.	31.	3.90
+	HYDROGRAPH AT	D59TM	14.	12.75	1.	0.	0.	3.90
+	DIVERSION TO	DSMD59	6.	12.75	1.	0.	0.	3.90
+	HYDROGRAPH AT	DWTM67	8.	12.75	1.	0.	0.	3.90
+	ROUTED TO	RWTM67	3.	13.92	1.	0.	0.	3.90
+	HYDROGRAPH AT	DRTM67	0.	.00	0.	0.	0.	3.33
+	ROUTED TO	RSTM67	0.	.00	0.	0.	0.	3.33
+	HYDROGRAPH AT	TM67	243.	12.67	87.	27.	9.	.81
+	DIVERSION TO	XTM67	5.	4.17	2.	1.	0.	.81
+	HYDROGRAPH AT							

+		ERTM67	243.	12.67	87.	26.	9.	.81
+	3 COMBINED AT	CTM67	242.	12.67	87.	26.	9.	3.12
+	HYDROGRAPH AT	PR67IS	175.	12.33	92.	27.	9.	4.34
+	ROUTED TO	RP67TM	175.	12.50	92.	27.	9.	4.34
+	2 COMBINED AT	CPTM67	417.	12.67	179.	54.	18.	3.12
+	DIVERSION TO	DP67TM	273.	12.33	152.	47.	16.	3.12
+	HYDROGRAPH AT	D67TM	144.	12.67	27.	7.	2.	3.12
+	DIVERSION TO	DSMD67	65.	12.67	12.	3.	1.	3.12
+	HYDROGRAPH AT	DWTM75	79.	12.67	15.	4.	1.	3.12
+	ROUTED TO	RWTM75	55.	13.92	15.	4.	1.	3.12
+	HYDROGRAPH AT	DRTM75	35.	12.58	4.	1.	0.	.62
+	ROUTED TO	RSTM75	23.	13.67	4.	1.	0.	.62
+	HYDROGRAPH AT	TM75	317.	12.75	116.	36.	12.	1.00
+	DIVERSION TO	XTM75	8.	4.92	4.	1.	0.	1.00
+	HYDROGRAPH AT	ERTM75	317.	12.75	116.	35.	12.	1.00
+	3 COMBINED AT	CTM75	321.	12.92	135.	40.	13.	2.92
+	HYDROGRAPH AT	PR75IS	123.	12.25	55.	18.	6.	.62
+	ROUTED TO	RP75TM	123.	12.42	55.	18.	6.	.62
+	2 COMBINED AT	CPTM75	444.	12.92	189.	57.	19.	2.92
+	DIVERSION TO	DP75TM	303.	12.33	159.	50.	17.	2.92
+	HYDROGRAPH AT	D75TM	141.	12.92	30.	8.	3.	2.92
+	DIVERSION TO	DSMD75	67.	12.92	15.	4.	1.	2.92
+	HYDROGRAPH AT	DWTM83	73.	12.92	16.	4.	1.	2.92
+	ROUTED TO	RWTM83	58.	14.00	16.	4.	1.	2.92
+	HYDROGRAPH AT	DRTM83	46.	12.75	9.	2.	1.	1.64
+	ROUTED TO	RSTM83	32.	13.92	9.	2.	1.	1.64
+	HYDROGRAPH AT	TM83	281.	12.67	100.	31.	10.	.99
+	3 COMBINED AT	CTM83	283.	12.83	123.	36.	12.	3.41
+	HYDROGRAPH AT	PR83IS	187.	12.42	99.	31.	11.	1.64
+	ROUTED TO	RP83TM	187.	12.58	99.	31.	11.	1.64
+	2 COMBINED AT	CPTM83	470.	12.83	222.	68.	23.	3.41
+	DIVERSION TO							

+		DP83TM	283.	12.33	170.	55.	18.	3.41
+	HYDROGRAPH AT	D83TM	187.	12.83	52.	13.	4.	3.41
+	DIVERSION TO	DSMD83	43.	12.83	12.	3.	1.	3.41
+	HYDROGRAPH AT	DWTM91	144.	12.83	40.	10.	3.	3.41
+	ROUTED TO	RWTM91	128.	13.75	40.	10.	3.	3.41
+	HYDROGRAPH AT	DRTM91	68.	12.92	7.	2.	1.	2.36
+	ROUTED TO	RSTM91	30.	14.08	7.	2.	1.	2.36
+	HYDROGRAPH AT	TM91	291.	12.67	104.	32.	11.	1.00
+	DIVERSION TO	XTM91	215.	12.42	25.	7.	2.	1.00
+	HYDROGRAPH AT	ERTM91	291.	12.67	91.	25.	8.	1.00
+	3 COMBINED AT	CTM91	327.	13.58	136.	36.	12.	4.96
+	HYDROGRAPH AT	PR91IS	190.	12.92	78.	22.	7.	2.36
+	ROUTED TO	RP91TM	190.	13.08	78.	22.	7.	2.36
+	2 COMBINED AT	CPTM91	517.	13.58	213.	58.	19.	4.96
+	DIVERSION TO	DP91TM	287.	12.67	163.	45.	15.	4.96
+	HYDROGRAPH AT	D91TM	230.	13.58	50.	13.	4.	4.96
+	DIVERSION TO	DSMD91	177.	13.58	39.	10.	3.	4.96
+	HYDROGRAPH AT	DWTMLO	53.	13.58	12.	3.	1.	4.96
+	ROUTED TO	RWTMLO	50.	13.83	12.	3.	1.	4.96
+	HYDROGRAPH AT	TMLO	236.	12.42	71.	24.	8.	.50
+	DIVERSION TO	XTMLO	236.	12.42	69.	20.	7.	.50
+	HYDROGRAPH AT	ERTMLO	26.	15.17	12.	4.	1.	.50
+	3 COMBINED AT	CTMLO	75.	13.92	36.	14.	5.	4.87
+	ROUTED TO	RSMDLO	68.	14.25	35.	14.	5.	4.87
+	HYDROGRAPH AT	DRMD27	111.	15.75	30.	18.	9.	6.50
+	ROUTED TO	RSMD27	66.	16.50	30.	18.	9.	6.50
+	HYDROGRAPH AT	MD27	158.	12.25	35.	12.	4.	.24
+	2 COMBINED AT	CMD27	160.	12.25	58.	26.	13.	4.65
+	HYDROGRAPH AT	PR27GR	195.	12.00	158.	52.	18.	12.59
+	ROUTED TO	RP27MD	195.	12.92	158.	52.	18.	12.59
+	2 COMBINED AT	CPMD27	349.	12.25	218.	78.	30.	4.65
	DIVERSION TO							

+		DP27MD	246.	12.00	206.	75.	29.	4.65
+	HYDROGRAPH AT	D27MD	103.	12.25	12.	3.	1.	4.65
+	ROUTED TO	RWMD35	62.	13.25	12.	3.	1.	4.65
+	HYDROGRAPH AT	DRMD35	466.	12.58	168.	42.	14.	4.31
+	ROUTED TO	RSMD35	422.	13.50	167.	42.	14.	4.31
+	HYDROGRAPH AT	MD35	352.	12.75	134.	43.	15.	1.00
+	DIVERSION TO	XMD35	9.	3.25	3.	1.	0.	1.00
+	HYDROGRAPH AT	ERMD35	352.	12.75	134.	43.	14.	1.00
+	3 COMBINED AT	CMD35	776.	13.08	309.	87.	29.	9.29
+	HYDROGRAPH AT	PR35TM	300.	11.75	278.	125.	45.	4.31
+	ROUTED TO	RP35MD	300.	11.92	278.	125.	45.	4.31
+	2 COMBINED AT	CPMD35	1076.	13.08	587.	212.	74.	9.29
+	DIVERSION TO	DP35MD	507.	12.25	424.	171.	60.	9.29
+	HYDROGRAPH AT	D35MD	569.	13.08	163.	41.	14.	9.29
+	DIVERSION TO	DSIN35	359.	13.08	103.	26.	9.	9.29
+	HYDROGRAPH AT	DWMD43	211.	13.08	60.	15.	5.	9.29
+	ROUTED TO	RWMD43	187.	14.08	60.	15.	5.	9.29
+	HYDROGRAPH AT	DRMD43	60.	12.67	5.	1.	0.	3.16
+	ROUTED TO	RSMD43	27.	13.50	5.	1.	0.	3.16
+	HYDROGRAPH AT	MD43	552.	12.42	118.	36.	12.	1.00
+	3 COMBINED AT	CMD43	547.	12.42	177.	52.	17.	6.96
+	HYDROGRAPH AT	PR43TM	629.	12.50	431.	155.	52.	3.16
+	ROUTED TO	RP43MD	629.	12.67	431.	155.	52.	3.16
+	2 COMBINED AT	CPMD43	1133.	12.58	607.	206.	69.	6.96
+	DIVERSION TO	DP43MD	629.	12.08	487.	176.	59.	6.96
+	HYDROGRAPH AT	D43MD	504.	12.58	120.	30.	10.	6.96
+	DIVERSION TO	DSIN43	504.	12.58	120.	30.	10.	6.96
+	HYDROGRAPH AT	DWMD51	0.	.00	0.	0.	0.	6.96
+	ROUTED TO	RWMD51	0.	.00	0.	0.	0.	6.96
+	HYDROGRAPH AT	DRMD51	11.	12.83	1.	0.	0.	4.30
+	ROUTED TO	RSMD51	5.	13.58	1.	0.	0.	4.30
	HYDROGRAPH AT							

	MD51	296.	12.67	105.	32.	11.	1.00
3 COMBINED AT	CMD51	295.	12.67	106.	32.	11.	2.37
HYDROGRAPH AT	PR51TM	244.	12.67	130.	49.	18.	4.30
ROUTED TO	RP51MD	244.	12.83	130.	49.	18.	4.30
2 COMBINED AT	CPMD51	538.	12.75	236.	80.	29.	2.37
DIVERSION TO	DP51MD	368.	12.50	210.	73.	26.	2.37
HYDROGRAPH AT	D51MD	170.	12.75	25.	6.	2.	2.37
DIVERSION TO	DSIN51	66.	12.75	10.	2.	1.	2.37
HYDROGRAPH AT	DWMD59	104.	12.75	15.	4.	1.	2.37
ROUTED TO	RWMD59	76.	13.75	15.	4.	1.	2.37
HYDROGRAPH AT	DRMD59	6.	12.75	1.	0.	0.	3.90
ROUTED TO	RSMD59	2.	13.50	1.	0.	0.	3.90
HYDROGRAPH AT	MD59	291.	12.67	103.	31.	10.	1.00
3 COMBINED AT	CMD59	289.	12.67	118.	35.	12.	4.05
HYDROGRAPH AT	PR59TM	389.	12.58	214.	90.	31.	3.90
ROUTED TO	RP59MD	389.	12.75	214.	90.	31.	3.90
2 COMBINED AT	CPMD59	678.	12.67	329.	124.	43.	4.05
DIVERSION TO	DP59MD	468.	12.42	285.	113.	39.	4.05
HYDROGRAPH AT	D59MD	210.	12.67	45.	11.	4.	4.05
DIVERSION TO	DSIN59	105.	12.67	22.	6.	2.	4.05
HYDROGRAPH AT	DWMD67	105.	12.67	22.	6.	2.	4.05
ROUTED TO	RWMD67	85.	13.83	22.	6.	2.	4.05
HYDROGRAPH AT	DRMD67	65.	12.67	12.	3.	1.	3.12
ROUTED TO	RSMD67	47.	13.67	12.	3.	1.	3.12
HYDROGRAPH AT	MD67	283.	12.67	99.	30.	10.	.98
DIVERSION TO	XMD67	187.	12.33	21.	6.	2.	.98
HYDROGRAPH AT	ERMD67	283.	12.67	88.	24.	8.	.98
3 COMBINED AT	CMD67	305.	13.58	121.	32.	11.	4.41
HYDROGRAPH AT	PR67TM	273.	12.33	152.	47.	16.	3.12
ROUTED TO	RP67MD	273.	12.50	152.	47.	16.	3.12
2 COMBINED AT	CPMD67	578.	13.58	271.	79.	26.	4.41
DIVERSION TO							

	DP67MD	400.	12.50	223.	67.	22.	4.41
HYDROGRAPH AT	D67MD	178.	13.58	48.	12.	4.	4.41
DIVERSION TO	DSIN67	27.	13.58	7.	2.	1.	4.41
HYDROGRAPH AT	DWMD75	151.	13.58	41.	10.	3.	4.41
ROUTED TO	RWMD75	142.	14.08	41.	10.	3.	4.41
HYDROGRAPH AT	DRMD75	67.	12.92	15.	4.	1.	2.92
ROUTED TO	RSMD75	55.	13.92	15.	4.	1.	2.92
HYDROGRAPH AT	MD75	302.	12.67	109.	34.	11.	1.00
DIVERSION TO	XMD75	33.	11.83	14.	5.	2.	1.00
HYDROGRAPH AT	ERMD75	302.	12.67	107.	29.	10.	1.00
3 COMBINED AT	CMD75	357.	13.67	161.	43.	14.	6.14
HYDROGRAPH AT	PR75TM	303.	12.33	159.	50.	17.	2.92
ROUTED TO	RP75MD	303.	12.50	159.	50.	17.	2.92
2 COMBINED AT	CPMD75	660.	13.67	318.	92.	31.	6.14
DIVERSION TO	DP75MD	364.	12.33	228.	70.	23.	6.14
HYDROGRAPH AT	D75MD	296.	13.67	90.	22.	7.	6.14
DIVERSION TO	DSIN75	104.	13.67	31.	8.	3.	6.14
HYDROGRAPH AT	DWMD83	193.	13.67	58.	15.	5.	6.14
ROUTED TO	RWMD83	186.	14.08	58.	15.	5.	6.14
HYDROGRAPH AT	DRMD83	43.	12.83	12.	3.	1.	3.41
ROUTED TO	RSMD83	37.	13.92	12.	3.	1.	3.41
HYDROGRAPH AT	MD83	477.	12.42	142.	48.	16.	.99
DIVERSION TO	XMD83	477.	12.42	97.	28.	9.	.99
HYDROGRAPH AT	ERMD83	320.	13.08	68.	20.	7.	.99
3 COMBINED AT	CMD83	434.	13.08	135.	38.	13.	5.80
HYDROGRAPH AT	PR83TM	283.	12.33	170.	55.	18.	3.41
ROUTED TO	RP83MD	283.	12.50	170.	55.	18.	3.41
2 COMBINED AT	CPMD83	717.	13.08	302.	92.	31.	5.80
DIVERSION TO	DP83MD	340.	12.92	217.	71.	24.	5.80
HYDROGRAPH AT	D83MD	377.	13.08	85.	21.	7.	5.80
ROUTED TO	RWMD91	313.	13.92	85.	21.	7.	5.80
HYDROGRAPH AT							

+		DRMD91	177.	13.58	39.	10.	3.	4.96
+	ROUTED TO	RSMD91	165.	14.00	39.	10.	3.	4.96
+	HYDROGRAPH AT	MD91	319.	12.75	117.	37.	12.	1.01
+	DIVERSION TO	XMD91	318.	12.67	45.	13.	4.	1.01
+	HYDROGRAPH AT	ERMD91	310.	12.92	86.	24.	8.	1.01
+	3 COMBINED AT	CMD91	627.	13.92	204.	53.	18.	10.61
+	HYDROGRAPH AT	PR91TM	287.	12.67	163.	45.	15.	4.96
+	ROUTED TO	RP91MD	287.	12.83	162.	45.	15.	4.96
+	2 COMBINED AT	CPMD91	914.	13.92	365.	98.	33.	10.61
+	DIVERSION TO	DP91MD	345.	12.92	216.	61.	20.	10.61
+	HYDROGRAPH AT	D91MD	569.	13.92	148.	37.	12.	10.61
+	DIVERSION TO	DSIN91	114.	13.92	30.	7.	2.	10.61
+	HYDROGRAPH AT	DWMDLO	455.	13.92	118.	30.	10.	10.61
+	ROUTED TO	RWMDLO	434.	14.25	118.	30.	10.	10.61
+	HYDROGRAPH AT	MDLO	319.	12.50	83.	26.	9.	.67
+	DIVERSION TO	XMDLO	319.	12.50	83.	26.	9.	.67
+	HYDROGRAPH AT	ERMDLO	0.	.00	0.	0.	0.	.67
+	3 COMBINED AT	CMDLO	469.	14.25	137.	39.	13.	14.07
+	ROUTED TO	RSINLO	469.	14.33	137.	39.	13.	14.07
+	DIVERSION TO	DEIN95	0.	.00	0.	0.	0.	14.07
+	HYDROGRAPH AT	DSINLO	469.	14.33	137.	39.	13.	14.07
+	HYDROGRAPH AT	IN27	65.	12.25	15.	5.	2.	.10
+	HYDROGRAPH AT	PR27MD	246.	12.00	206.	75.	29.	4.65
+	ROUTED TO	RP27IN	246.	12.08	205.	75.	29.	4.65
+	2 COMBINED AT	CPIN27	311.	12.25	223.	81.	32.	.10
+	DIVERSION TO	DSVB27	224.	12.25	160.	58.	23.	.10
+	HYDROGRAPH AT	DWIN35	87.	12.25	62.	23.	9.	.10
+	ROUTED TO	RWIN35	82.	13.00	61.	23.	9.	.10
+	HYDROGRAPH AT	DRIN35	359.	13.08	103.	26.	9.	9.29
+	ROUTED TO	RSIN35	357.	13.17	103.	26.	9.	9.29
+	HYDROGRAPH AT	IN35	292.	12.08	34.	11.	4.	.24
	3 COMBINED AT							

+		CIN35	457.	13.17	191.	58.	21.	6.11
+	HYDROGRAPH AT	PR35MD	507.	12.25	424.	171.	60.	9.29
+	ROUTED TO	RP35IN	507.	12.33	424.	171.	60.	9.29
+	2 COMBINED AT	CPIN35	964.	13.17	614.	229.	81.	6.11
+	DIVERSION TO	DSVB35	839.	13.17	534.	199.	71.	6.11
+	HYDROGRAPH AT	DWIN43	125.	13.17	80.	30.	11.	6.11
+	ROUTED TO	RWIN43	123.	13.58	80.	30.	11.	6.11
+	HYDROGRAPH AT	DRIN43	504.	12.58	120.	30.	10.	6.96
+	ROUTED TO	RSIN43	504.	12.58	120.	30.	10.	6.96
+	HYDROGRAPH AT	IN43	225.	12.17	32.	10.	3.	.26
+	3 COMBINED AT	CIN43	689.	12.50	229.	69.	24.	7.99
+	HYDROGRAPH AT	PR43MD	629.	12.08	487.	176.	59.	6.96
+	ROUTED TO	RP43IN	629.	12.17	488.	176.	59.	6.96
+	2 COMBINED AT	CPIN43	1318.	12.50	716.	245.	83.	7.99
+	DIVERSION TO	DSVB43	1068.	12.50	580.	199.	67.	7.99
+	HYDROGRAPH AT	DWIN51	250.	12.50	136.	47.	16.	7.99
+	ROUTED TO	RWIN51	237.	12.67	136.	47.	16.	7.99
+	HYDROGRAPH AT	DRIN51	66.	12.75	10.	2.	1.	2.37
+	ROUTED TO	RSIN51	59.	13.08	10.	2.	1.	2.37
+	HYDROGRAPH AT	IN51	121.	12.33	34.	12.	4.	.23
+	DIVERSION TO	XIN51	4.	6.17	3.	1.	0.	.23
+	HYDROGRAPH AT	ERIN51	121.	12.33	34.	11.	4.	.23
+	3 COMBINED AT	CIN51	356.	12.92	179.	60.	20.	2.68
+	HYDROGRAPH AT	PR51MD	368.	12.50	210.	73.	26.	2.37
+	ROUTED TO	RP51IN	368.	12.58	210.	73.	26.	2.37
+	2 COMBINED AT	CPIN51	724.	12.92	389.	133.	47.	2.68
+	DIVERSION TO	DSVB51	0.	.00	0.	0.	0.	2.68
+	HYDROGRAPH AT	DWIN59	724.	12.92	389.	133.	47.	2.68
+	ROUTED TO	RWIN59	715.	13.00	388.	133.	47.	2.68
+	HYDROGRAPH AT	DRIN59	105.	12.67	22.	6.	2.	4.05
+	ROUTED TO	RSIN59	104.	12.75	22.	6.	2.	4.05
	HYDROGRAPH AT							

	IN59	58.	12.83	26.	9.	3.	.20
DIVERSION TO	XIN59	4.	10.25	3.	1.	0.	.20
HYDROGRAPH AT	ERIN59	58.	12.83	26.	8.	3.	.20
3 COMBINED AT	CIN59	868.	13.00	435.	146.	51.	4.90
HYDROGRAPH AT	PR59MD	468.	12.42	285.	113.	39.	4.05
ROUTED TO	RP59IN	468.	12.50	285.	113.	39.	4.05
2 COMBINED AT	CPIN59	1336.	13.00	719.	258.	90.	4.90
DIVERSION TO	DSVB59	0.	.00	0.	0.	0.	4.90
HYDROGRAPH AT	DWIN67	1336.	13.00	719.	258.	90.	4.90
ROUTED TO	RWIN67	1332.	13.08	719.	258.	90.	4.90
HYDROGRAPH AT	DRIN67	27.	13.58	7.	2.	1.	4.41
ROUTED TO	RSIN67	26.	13.58	7.	2.	1.	4.41
HYDROGRAPH AT	IN67	51.	12.92	25.	8.	3.	.20
DIVERSION TO	XIN67	51.	12.92	18.	5.	2.	.20
HYDROGRAPH AT	ERIN67	29.	14.42	11.	3.	1.	.20
3 COMBINED AT	CIN67	1355.	13.08	734.	263.	91.	5.78
HYDROGRAPH AT	PR67MD	400.	12.50	223.	67.	22.	4.41
ROUTED TO	RP67IN	400.	12.58	223.	67.	22.	4.41
2 COMBINED AT	CPIN67	1755.	13.08	956.	329.	114.	5.78
DIVERSION TO	DSVB67	0.	.00	0.	0.	0.	5.78
HYDROGRAPH AT	DWIN75	1755.	13.08	956.	329.	114.	5.78
ROUTED TO	RWIN75	1749.	13.25	955.	329.	114.	5.78
HYDROGRAPH AT	DRIN75	104.	13.67	31.	8.	3.	6.14
ROUTED TO	RSIN75	103.	13.75	31.	8.	3.	6.14
HYDROGRAPH AT	IN75	55.	12.75	25.	8.	3.	.20
DIVERSION TO	XIN75	48.	12.42	8.	2.	1.	.20
HYDROGRAPH AT	ERIN75	55.	12.75	21.	6.	2.	.20
3 COMBINED AT	CIN75	1883.	13.25	1006.	342.	118.	8.11
HYDROGRAPH AT	PR75MD	364.	12.33	228.	70.	23.	6.14
ROUTED TO	RP75IN	364.	12.42	229.	70.	23.	6.14
2 COMBINED AT	CPIN75	2247.	13.25	1232.	412.	141.	8.11
DIVERSION TO	DSVB75	0.	.00	0.	0.	0.	8.11
HYDROGRAPH AT	DWIN83	2247.	13.25	1232.	412.	141.	8.11
ROUTED TO	RWIN83	2239.	13.42	1230.	412.	141.	8.11
HYDROGRAPH AT	IN83	57.	12.75	25.	8.	3.	.20
DIVERSION TO	XIN83	57.	12.75	22.	6.	2.	.20
HYDROGRAPH AT	ERIN83	19.	15.00	7.	2.	1.	.20
2 COMBINED AT	CIN83	2239.	13.42	1235.	414.	142.	8.31
HYDROGRAPH AT	PR83MD	340.	12.92	217.	71.	24.	5.80
ROUTED TO	RP83IN	340.	13.00	217.	71.	24.	5.80
2 COMBINED AT	CPIN83	2579.	13.42	1451.	483.	166.	8.31
DIVERSION TO	DSVB83	0.	.00	0.	0.	0.	8.31
HYDROGRAPH AT	DWIN91	2579.	13.42	1451.	483.	166.	8.31
ROUTED TO	RWIN91	2574.	13.50	1449.	483.	166.	8.31
HYDROGRAPH AT	DRIN91	114.	13.92	30.	7.	2.	10.61
ROUTED TO	RSIN91	114.	13.92	30.	7.	2.	10.61
HYDROGRAPH AT	IN91	103.	12.25	27.	9.	3.	.19
DIVERSION TO	XIN91	9.	10.92	5.	2.	1.	.19
HYDROGRAPH AT	ERIN91	103.	12.25	27.	8.	3.	.19
3 COMBINED AT	CIN91	2687.	13.67	1496.	496.	170.	10.57
HYDROGRAPH AT	PR91MD	345.	12.92	216.	61.	20.	10.61
ROUTED TO	RP91IN	345.	13.00	216.	61.	20.	10.61
2 COMBINED AT	CPIN91	3032.	13.67	1710.	557.	191.	10.57
DIVERSION TO	DSVB91	0.	.00	0.	0.	0.	10.57
HYDROGRAPH AT	DWINLO	3032.	13.67	1710.	557.	191.	10.57
ROUTED TO	RWINLO	3027.	13.75	1708.	557.	191.	10.57
DIVERSION TO	DNINLO	0.	.00	0.	0.	0.	10.57
HYDROGRAPH AT	DWIN07	3027.	13.75	1708.	557.	191.	10.57
HYDROGRAPH AT	INLO	95.	12.25	22.	7.	2.	.15
DIVERSION TO	XINLO	95.	12.25	12.	3.	1.	.15
HYDROGRAPH AT	ERINLO	77.	12.50	13.	4.	1.	.15
HYDROGRAPH AT	DRINLO	0.	.00	0.	0.	0.	10.57
HYDROGRAPH AT							

+		DRIN95	0.	.00	0.	0.	0.	14.07
+	3 COMBINED AT	CIN95	80.	12.50	13.	4.	1.	24.79
+	ROUTED TO	SRINLO	8.	14.50	7.	3.	1.	24.79
+	3 COMBINED AT	CINLO	3275.	14.17	1747.	568.	193.	24.79
+	DIVERSION TO	DNINLO	0.	.00	0.	0.	0.	24.79
+	HYDROGRAPH AT	DWIN07	3275.	14.17	1747.	568.	193.	24.79
+	ROUTED TO	RWIN07	3263.	14.25	1745.	567.	193.	24.79
+	HYDROGRAPH AT	DITM07	102.	13.25	38.	13.	4.	1.67
+	ROUTED TO	SRRI03	0.	25.83	0.	0.	0.	1.67
+	ROUTED TO	RWTM07	0.	26.33	0.	0.	0.	1.67
+	HYDROGRAPH AT	DRTM07	66.	13.25	25.	8.	3.	1.67
+	ROUTED TO	RSTM07	64.	13.50	24.	8.	3.	1.67
+	HYDROGRAPH AT	TM07	66.	12.75	24.	7.	2.	.26
+	3 COMBINED AT	CTM07	116.	13.42	48.	15.	5.	1.61
+	DIVERSION TO	DWTMAF	75.	13.42	31.	10.	3.	1.61
+	HYDROGRAPH AT	DSMD07	41.	13.42	17.	5.	2.	1.61
+	ROUTED TO	RSMD07	36.	14.42	17.	5.	2.	1.61
+	HYDROGRAPH AT	DRMD99	110.	12.42	40.	14.	5.	.62
+	ROUTED TO	RSMD99	105.	13.08	39.	14.	5.	.62
+	HYDROGRAPH AT	MD99	129.	12.50	47.	16.	5.	.32
+	2 COMBINED AT	CMD99	214.	12.92	85.	29.	10.	.60
+	DIVERSION TO	DMD99	120.	12.92	48.	17.	6.	.60
+	HYDROGRAPH AT	DWTMRI	94.	12.92	38.	13.	4.	.60
+	ROUTED TO	RWTMRI	92.	13.08	38.	13.	4.	.60
+	HYDROGRAPH AT	TMRI	218.	12.17	28.	9.	3.	.24
+	DIVERSION TO	XTMRI	218.	12.17	21.	6.	2.	.24
+	HYDROGRAPH AT	ERTMRI	95.	12.50	10.	3.	1.	.24
+	2 COMBINED AT	CTMRI	152.	12.50	47.	16.	5.	.51
+	ROUTED TO	SRTMRI	74.	13.83	26.	8.	3.	.51
+	ROUTED TO	RMD07	63.	14.67	24.	8.	3.	.51
+	HYDROGRAPH AT	DIMD99	120.	12.92	48.	17.	6.	.60
	DIVERSION TO							

+		DSIN99	60.	12.92	24.	8.	3.	.60
+	HYDROGRAPH AT	DWMD07	60.	12.92	24.	8.	3.	.60
+	ROUTED TO	SRMD99	0.	.00	0.	0.	0.	.60
+	ROUTED TO	RWMD07	0.	.00	0.	0.	0.	.60
+	HYDROGRAPH AT	MD07	255.	12.67	90.	28.	9.	.78
+	DIVERSION TO	XMD07	255.	12.67	90.	27.	9.	.78
+	HYDROGRAPH AT	ERMD07	5.	22.75	3.	1.	0.	.78
+	4 COMBINED AT	CMD07	96.	14.67	40.	14.	5.	2.50
+	DIVERSION TO	DWMDAV	72.	14.67	30.	10.	4.	2.50
+	HYDROGRAPH AT	DSIN07	24.	14.67	10.	3.	1.	2.50
+	ROUTED TO	RSIN07	24.	14.83	10.	3.	1.	2.50
+	HYDROGRAPH AT	DRIN99	60.	12.92	24.	8.	3.	.60
+	ROUTED TO	RSIN99	55.	13.58	24.	8.	3.	.60
+	HYDROGRAPH AT	IN07	142.	12.33	38.	13.	4.	.26
+	DIVERSION TO	XIN07	142.	12.33	31.	9.	3.	.26
+	HYDROGRAPH AT	ERIN07	52.	13.33	13.	4.	1.	.26
+	4 COMBINED AT	CIN07	3311.	14.25	1772.	578.	197.	27.09
+	DIVERSION TO	DSVB07	0.	.00	0.	0.	0.	27.09
+	HYDROGRAPH AT	DWINAV	3311.	14.25	1772.	578.	197.	27.09
+	ROUTED TO	RWINAV	3305.	14.33	1770.	577.	197.	27.09
+	HYDROGRAPH AT	DRTMAF	75.	13.42	31.	10.	3.	1.61
+	ROUTED TO	RWTMAF	69.	14.25	31.	10.	3.	1.61
+	HYDROGRAPH AT	TMAF	196.	12.75	78.	25.	8.	.76
+	2 COMBINED AT	CTMAF	199.	12.75	106.	34.	12.	1.33
+	DIVERSION TO	DWAF02	177.	12.75	95.	30.	10.	1.33
+	HYDROGRAPH AT	DSMDAV	22.	12.75	12.	4.	1.	1.33
+	ROUTED TO	RSMDAV	20.	14.58	12.	4.	1.	1.33
+	HYDROGRAPH AT	DRMDAV	72.	14.67	30.	10.	4.	2.50
+	ROUTED TO	RWMDAV	63.	15.25	29.	10.	4.	2.50
+	HYDROGRAPH AT	MDAV	272.	12.75	96.	29.	10.	.95
+	DIVERSION TO	XMDAV	272.	12.75	96.	29.	10.	.95
	HYDROGRAPH AT							

+		ERMDAV	0.	.00	0.	0.	0.	.95
	3 COMBINED AT							
+		CMDAV	82.	15.25	39.	14.	5.	1.72
	DIVERSION TO							
+		DWMDAF	60.	15.25	28.	10.	4.	1.72
	HYDROGRAPH AT							
+		DSINAV	22.	15.25	10.	4.	1.	1.72
	ROUTED TO							
+		RSINAV	20.	15.58	10.	4.	1.	1.72
	HYDROGRAPH AT							
+		INAV	130.	12.33	35.	12.	4.	.23
	DIVERSION TO							
+		XINAV	130.	12.33	28.	8.	3.	.23
	HYDROGRAPH AT							
+		ERINAV	54.	13.25	13.	4.	1.	.23
	3 COMBINED AT							
+		CINAV	3316.	14.33	1781.	582.	198.	28.58
	DIVERSION TO							
+		DSVBAF	0.	.00	0.	0.	0.	28.58
	HYDROGRAPH AT							
+		DWINAF	3316.	14.33	1781.	582.	198.	28.58
	ROUTED TO							
+		RWINAF	3297.	14.50	1775.	581.	198.	28.58
	HYDROGRAPH AT							
+		DRMDAF	60.	15.25	28.	10.	4.	1.72
	ROUTED TO							
+		RWMDAF	46.	16.67	28.	10.	4.	1.72
	HYDROGRAPH AT							
+		MDAF	175.	12.75	72.	23.	8.	.83
	2 COMBINED AT							
+		CMDAF	176.	12.75	91.	33.	11.	1.30
	DIVERSION TO							
+		DWAF03	134.	12.75	69.	25.	9.	1.30
	HYDROGRAPH AT							
+		DSINAF	42.	12.75	22.	8.	3.	1.30
	ROUTED TO							
+		RSINAF	41.	12.92	22.	8.	3.	1.30
	HYDROGRAPH AT							
+		INAF	130.	12.58	46.	15.	5.	.47
	DIVERSION TO							
+		XINAF	130.	12.58	38.	11.	4.	.47
	HYDROGRAPH AT							
+		ERINAF	47.	14.25	14.	4.	1.	.47
	DIVERSION TO							
+		XINAF	47.	14.25	14.	4.	1.	.47
	HYDROGRAPH AT							
+		ERINAF	0.	.00	0.	0.	0.	.47
	3 COMBINED AT							
+		CINAF	3311.	14.50	1789.	587.	200.	29.36

1

SUMMARY OF KINEMATIC WAVE - MUSKINGUM-CUNGE ROUTING
(FLOW IS DIRECT RUNOFF WITHOUT BASE FLOW)

ISTAQ	ELEMENT	DT	PEAK	TIME TO PEAK	VOLUME	DT	INTERPOLATED TO COMPUTATION INTERVAL PEAK	TIME TO PEAK	VOLUME
		(MIN)	(CFS)	(MIN)	(IN)	(MIN)	(CFS)	(MIN)	(IN)
FOR STORM = 1	STORM AREA (SQ MI) =		.00						
RPTB83	MANE	2.35	161.00	840.50	.72	5.00	161.00	840.00	.72

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4533E+02 EXCESS= .0000E+00 OUTFLOW= .4531E+02 BASIN STORAGE= .3643E-09 PERCENT ERROR= .1

FOR STORM = 2	STORM AREA (SQ MI) =		10.00						
RPTB83	MANE	2.35	161.00	743.45	.69	5.00	161.00	745.00	.69

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4356E+02 EXCESS= .0000E+00 OUTFLOW= .4355E+02 BASIN STORAGE= .3062E-09 PERCENT ERROR= .0

FOR STORM = 3	STORM AREA (SQ MI) =		30.00						
RPTB83	MANE	1.64	161.00	743.27	.66	5.00	161.00	745.00	.66

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4169E+02 EXCESS= .0000E+00 OUTFLOW= .4172E+02 BASIN STORAGE= .2511E-09 PERCENT ERROR= -.1

FOR STORM = 4	STORM AREA (SQ MI) =		60.00						
RPTB83	MANE	1.72	161.00	744.28	.64	5.00	161.00	745.00	.64

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4054E+02 EXCESS= .0000E+00 OUTFLOW= .4058E+02 BASIN STORAGE= .3037E-09 PERCENT ERROR= -.1

FOR STORM = 5	STORM AREA (SQ MI) =		90.00						
RPTB83	MANE	1.61	161.00	744.07	.63	5.00	161.00	745.00	.63

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3983E+02 EXCESS= .0000E+00 OUTFLOW= .3989E+02 BASIN STORAGE= .2913E-09 PERCENT ERROR= -.2

FOR STORM = 6	STORM AREA (SQ MI) =		120.00						
RPTB83	MANE	1.65	161.00	748.80	.63	5.00	161.00	750.00	.63

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3943E+02 EXCESS= .0000E+00 OUTFLOW= .3955E+02 BASIN STORAGE= .3017E-09 PERCENT ERROR= -.3

FOR STORM = 1	STORM AREA (SQ MI) =		.00						
RPTBLO	MANE	.82	247.00	767.10	.78	5.00	247.00	770.00	.78

CONTINUITY SUMMARY (AC-FT) - INFLOW= .7347E+02 EXCESS= .0000E+00 OUTFLOW= .7348E+02 BASIN STORAGE= .2301E-09 PERCENT ERROR= .0

FOR STORM = 2	STORM AREA (SQ MI) =		10.00						
RPTBLO	MANE	.86	247.00	771.83	.75	5.00	247.00	775.00	.75

CONTINUITY SUMMARY (AC-FT) - INFLOW= .7035E+02 EXCESS= .0000E+00 OUTFLOW= .7035E+02 BASIN STORAGE= .2322E-09 PERCENT ERROR= .0

FOR STORM = 3	STORM AREA (SQ MI) =		30.00						
RPTBLO	MANE	.86	247.00	777.48	.71	5.00	247.00	780.00	.71

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6710E+02 EXCESS= .0000E+00 OUTFLOW= .6709E+02 BASIN STORAGE= .1574E-09 PERCENT ERROR= .0

FOR STORM = 4	STORM AREA (SQ MI) =		60.00						
RPTBLO	MANE	.74	247.00	782.09	.69	5.00	247.00	785.00	.69

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6507E+02 EXCESS= .0000E+00 OUTFLOW= .6507E+02 BASIN STORAGE= .1583E-09 PERCENT ERROR= .0

FOR STORM = 5	STORM AREA (SQ MI) =		90.00						
RPTBLO	MANE	.82	247.00	782.30	.67	5.00	247.00	785.00	.67

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6364E+02 EXCESS= .0000E+00 OUTFLOW= .6364E+02 BASIN STORAGE= .1568E-09 PERCENT ERROR= .0

FOR STORM = 6	STORM AREA (SQ MI) =		120.00						
RPTBLO	MANE	.72	247.00	781.76	.67	5.00	247.00	785.00	.67

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6300E+02 EXCESS= .0000E+00 OUTFLOW= .6300E+02 BASIN STORAGE= .1850E-09 PERCENT ERROR= .0

FOR STORM = 1	STORM AREA (SQ MI) =		.00						
RPCT75	MANE	2.72	268.00	792.64	.56	5.00	267.91	795.00	.56

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3325E+02 EXCESS= .0000E+00 OUTFLOW= .3325E+02 BASIN STORAGE= .2623E-09 PERCENT ERROR= .0

FOR STORM = 2	STORM AREA (SQ MI) =		10.00						
RPCT75	MANE	2.72	247.65	797.30	.50	5.00	239.49	800.00	.50

*** The remainder of the continuity summary has been deleted for brevity, but the entire output is included on the CD ***

*** NORMAL END OF HEC-1 ***

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1*************************************
 *                                   *
 *   FLOOD HYDROGRAPH PACKAGE  (HEC-1)   *
 *             JUN   1998            *
 *           VERSION 4.1             *
 *                                   *
 *  RUN DATE   01NOV10  TIME  14:02:03   *
 *                                   *
 *************************************
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*************************************
*                                   *
*    U.S. ARMY CORPS OF ENGINEERS     *
*    HYDROLOGIC ENGINEERING CENTER    *
*          609 SECOND STREET          *
*       DAVIS, CALIFORNIA 95616       *
*            (916) 756-1104           *
*                                   *
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X     X  XXXXXXX   XXXXX          X
X     X  X        X     X        XX
X     X  X        X              X
XXXXXXX  XXXX     X        XXXXX  X
X     X  X        X              X
X     X  X        X     X        X
X     X  XXXXXXX   XXXXX          XXX
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THIS PROGRAM REPLACES ALL PREVIOUS VERSIONS OF HEC-1 KNOWN AS HEC1 (JAN 73), HEC1GS, HEC1DB, AND HEC1KW.

THE DEFINITIONS OF VARIABLES -RTIMP- AND -RTIOR- HAVE CHANGED FROM THOSE USED WITH THE 1973-STYLE INPUT STRUCTURE.
THE DEFINITION OF -AMSKK- ON RM-CARD WAS CHANGED WITH REVISIONS DATED 28 SEP 81. THIS IS THE FORTRAN77 VERSION
NEW OPTIONS: DAMBREAK OUTFLOW SUBMERGENCE , SINGLE EVENT DAMAGE CALCULATION, DSS:WRITE STAGE FREQUENCY,
DSS:READ TIME SERIES AT DESIRED CALCULATION INTERVAL LOSS RATE:GREEN AND AMPT INFILTRATION
KINEMATIC WAVE: NEW FINITE DIFFERENCE ALGORITHM

1 HEC-1 INPUT PAGE 1

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LINE          ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10
    1         ID     GLENDALE STORMWATER MANAGEMENT PLAN
    2         ID     Model for Glendale/Peoria Watershed
    3         ID     Future Conditions
    4         ID
    5         ID     Prepared for the City of Glendale
    6         ID     In Association with the Flood Control District of Maricopa County
    7         ID     City Project Number 089017
    8         ID
    9         ID     Prepared by Kimley-Horn and Associates, Inc.
   10         ID     KHA Project Number 091910009
   11         ID     October 2010
   12         ID
   13         ID     MODELING PARAMETERS
   14         ID     - 10 Year  24 Hour Storm Event
   15         ID     - NOAA 14 Rainfall Data
   16         ID     - Clark Unit Hydrograph
   17         ID     - Green and Ampt Rainfall Loss Method
   18         ID
   19         ID     Topo data extracted from Flood Control District database July 24, 2009
   20         ID     Land use obtained from City of Glendale General Plan August 2009, City of
   21         ID          Phoenix General Plan August 2009, and MAG General Plan Land Use 2007
   22         ID
   23         ID     Storage routing data obtained from As-built Records or Final Drainage
   24         ID          Reports where possible
   25         ID     When As-built data/Drainage reports were not available data was obtained
   26         ID          from HEC-1 models and checked for accuracy.
   27         ID     Storage routing data obtained from the following HEC-1 models:
   28         ID          - Glendale/Peoria ADMPU, May 2001
   29         ID          - Glendale/Peoria ADMP Northwest Region Update, May 2007
   30         ID     The source of data is identified on each individual storage routing card
   31         ID
   32         ID   **********************************************************************
   33         ID
   34         ID     MODELING NOMENCLATURE
   35         ID     SUBBASIN HYDROGRAPH:
   36         ID        Example: JMRS   - the subbasin upstream of Jomax and Rock Springs Wash
   37         ID
   38         ID     STORM DRAIN DIVERSION:
   39         ID        Example: DBL59  - flow from subbasin BL59 is diverted to a storm drain
   40         ID
   41         ID     SUBBASIN DIVERSION:
   42         ID        Example: DWBL59 - flow is diverted west towards Bell and 59th Avenue
   43         ID        Example: DSGW51 - flow is diverted south towards Greenway and 51st Ave
   44         ID
   45         ID     ROUTE HYDROGRAPH:
   46         ID        Example: RWBL51 - flow is routed west towards Bell and 51st Avenue
   47         ID        Example: RSGW59 - flow is routed south towards Greenway and 59th Ave
   48         ID
   49         ID     COMBINE HYDROGRAPH:
   50         ID        Example: CJMRS  - combine flow at Jomax and Rock Springs Wash
   51         ID
   52         ID     STREET NAME ABBREVIATIONS
   53         ID        Jomax Road              JM
   54         ID        Happy Valley Road       HV
   55         ID        Pinnacle Peak Road      PP
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1 HEC-1 INPUT PAGE 2

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LINE          ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10
   56         ID        Deer Valley Road        DV
   57         ID        SR Loop 101             LO
   58         ID        Beardsley Road          BY
   59         ID        Union Hills Drive       UH
   60         ID        Bell Road               BL
   61         ID        Greenway Road           GW
   62         ID        Thunderbird Road        TB
   63         ID        Cactus Road             CT
   64         ID        Peoria Avenue           PE
   65         ID        Olive Avenue            OL
   66         ID        Northern Avenue         NO
   67         ID        Glendale Avenue         GL
   68         ID        Bethany Home Road       BH
   69         ID        Camelback Road          CB
   70         ID        Indian School Road      IS
   71         ID        Thomas Road             TM
   72         ID        McDowell Road           MD
   73         ID        Interstate 10           IN
   74         ID        Grand Avenue            GR
   75         ID        Mountain View Road      MV
   76         ID        Pinnacle Hill Road      PH
   77         ID        Greenbriar Drive        GB
   78         ID        Utopia Road             UT
   79         ID        Pyramid Peak Boulevard  PY
   80         ID        Bent Tree Drive         BT
   81         ID        Glen Harbor Boulevard   GH
   82         ID        Black Rock Boulevard    BR
   83         ID        Rose Garden Lane        RG
   84         ID        Calle Lejos             CL
   85         ID        Rock Springs Wash       RS
   86         ID        Williams Road           WL
   87         ID        Del Webb Boulevard      DW
   88         ID        Westwing Parkway        WW
   89         ID        Lake Pleasant Parkway   LP
   90         ID        Thunderbird Park Road   TP
   91         ID        Talisman Road           TL
   92         ID        Royal Oak Road          RO
   93         ID        Yearling Road           YL
   94         ID        Meade Drive             ME
   95         ID        Acoma Drive             AM
   96         ID        Athens Street           AT
   97         ID
   98         ID
   99         ID     PREFIXES FOR MODELING OPERATIONS
  100         ID        RW     Routing flow in the west direction
  101         ID        RS     Routing flow in the south direction
  102         ID        RP     Routing storm drain pipe flow
  103         ID        C      Combination point
  104         ID        CI     Combination point at an intersection
  105         ID        CP     Combination point for storm drain pipe flow
  106         ID        SR     Storage for detention/retention basins
  107         ID        DW     Divert flow to the west
  108         ID        DE     Divert flow to the east
  109         ID        DS     Divert flow to the south
  110         ID        DN     Divert flow to the north
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1 HEC-1 INPUT PAGE 3

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LINE          ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10
  111         ID        ER     Divert flow for existing 100-yr 2-hr retention
  112         ID        X      Existing retention diversion does not return to model
  113         ID        DR     Divert retrieval from surface flow
  114         ID        DI     Divert retrieval from intersection flow
  115         ID        D      Divert surface flow (remains after storm drain divert)
  116         ID        DP     Divert flow to a storm drain pipe
  117         ID        PR     Divert retrieval from a storm drain pipe
  118         ID
  119         ID   **********************************************************************
  120         IT      5       0       0    1000
  121         IN     15
  122         IO      5
              *DIAGRAM
              *
  123         JD  2.327  0.0001
  124         PC  0.000  0.002  0.005  0.008  0.011  0.014  0.017  0.020  0.023  0.026
  125         PC  0.029  0.032  0.035  0.038  0.041  0.044  0.048  0.052  0.056  0.060
  126         PC  0.064  0.068  0.072  0.076  0.080  0.085  0.090  0.095  0.100  0.105
  127         PC  0.110  0.115  0.120  0.126  0.133  0.140  0.147  0.155  0.163  0.172
  128         PC  0.181  0.191  0.203  0.218  0.236  0.257  0.283  0.387  0.663  0.707
  129         PC  0.735  0.758  0.776  0.791  0.804  0.815  0.825  0.834  0.842  0.849
  130         PC  0.856  0.863  0.869  0.875  0.881  0.887  0.893  0.898  0.903  0.908
  131         PC  0.913  0.918  0.922  0.926  0.930  0.934  0.938  0.942  0.946  0.950
  132         PC  0.953  0.956  0.959  0.962  0.965  0.968  0.971  0.974  0.977  0.980
  133         PC  0.983  0.986  0.989  0.992  0.995  0.998  1.000
  134         JD  2.211   10.0
  135         JD  2.094   30.0
  136         JD  2.024   60.0
  137         JD  1.983   90.0
  138         JD  1.957  120.0
```

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                *
          139   KK    UH35   BASIN
          140   KM   Runoff hydrograph for subbasin UH35 northeast of the intersection of Union
          141   KM   Hills Drive and 35th Avenue
          142   BA   1.136
          143   LG    0.20    0.13   10.10    0.03      51
          144   UC   1.233   0.786
          145   UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
          146   UA     100
                *
          147   KK  ERUH35  DIVERT
          148   KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
          149   KM   retention developed after 1990 in subbasin UH35
          150   DT   XUH35    47.3     0.0
          151   DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
          152   DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
                *
1                                      HEC-1 INPUT                                          PAGE  4
        LINE    ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10
          153   KK   DUH35  DIVERT
          154   KM   Divert calculated full flow capacity of 875 cfs into a 114-inch storm drain
          155   KM   pipe at the intersection of Union Hills Drive and 35th Avenue
          156   DT  DPUH35     0.0   875.0
          157   DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
          158   DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
                *
          159   KK  DSBL35  DIVERT
          160   KM   Divert remaining runoff hydrograph from subbasin UH35 south to combination
          161   KM   point CBL35
          162   DT  DWUH43     0.0     0.0
          163   DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
          164   DQ     0.0    51.0   102.0   255.0   510.0  1020.0  2040.0  5100.0 10200.0 25500.0
                *
          165   KK  RSBL35   ROUTE
          166   KM   Route diversion DSBL35 south to combination point CBL35
          167   RS       7    FLOW
          168   RC   0.035   0.015   0.035    5280  0.0030    0.00
          169   RX    0.00    0.00   76.50   76.50  372.50  372.50  449.00  449.00
          170   RY    3.00    1.27    0.50    0.00    0.00    0.50    1.27    3.00
                *
          171   KK    BL35   BASIN
          172   KM   Runoff hydrograph for subbasin BL35 northeast of the intersection of Bell
          173   KM   Road and 35th Avenue
          174   BA   1.139
          175   LG    0.22    0.15    7.30    0.09      42
          176   UC   1.475   0.954
          177   UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
          178   UA     100
                *
          179   KK  ERBL35  DIVERT
          180   KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
          181   KM   retention developed after 1990 in subbasin BL35
          182   DT   XBL35     8.0     0.0
          183   DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
          184   DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
                *
          185   KK   CBL35 COMBINE
          186   KM   Combine route RSBL35 and subbasin BL35
          187   HC       2    1.70
                *
          188   KK   D35BL  DIVERT
          189   KM   Divert calculated full flow capacity of 158 cfs into a 60-inch storm drain
          190   KM   pipe at the intersection of Bell Road and 35th Avenue
          191   DT  DP35BL     0.0   158.0
          192   DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
          193   DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
                *
1                                      HEC-1 INPUT                                          PAGE  5
        LINE    ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10
          194   KK  DSGW35  DIVERT
          195   KM   Divert remaining runoff hydrograph from combination point CBL35 south to
          196   KM   combination point CGW35
          197   DT  DWBL43     0.0     0.0
          198   DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
          199   DQ     0.0    66.0   132.0   330.0   660.0  1320.0  2640.0  6600.0 13200.0 33000.0
                *
          200   KK  RSGW35   ROUTE
          201   KM   Route diversion DSGW35 south to combination point CGW35
```



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          202   RS       3    FLOW
          203   RC   0.035   0.015   0.035    5280  0.0041    0.00
          204   RX    0.00    0.00   45.00   45.00  229.00  229.00  274.00  274.00
          205   RY    3.00    0.95    0.50    0.00    0.00    0.50    0.95    3.00
                *
          206   KK    GW35   BASIN
          207   KM   Runoff hydrograph for subbasin GW35 northeast of the intersection of Greenway
          208   KM   Road and 35th Avenue
          209   BA   1.008
          210   LG    0.21    0.17    6.80    0.12      45
          211   UC   1.500   0.998
          212   UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
          213   UA     100
                *
          214   KK   CGW35 COMBINE
          215   KM   Combine route RSGW35 and subbasin GW35
          216   HC       2    1.58
                *
          217   KK  PR35BLRETRIEVE
          218   KM   Retrieve full flow capacity of 158 cfs from 60-inch storm drain pipe at the
          219   KM   intersection of Bell Road and 35th Avenue
          220   DR  DP35BL
                *
          221   KK  RP35GW   ROUTE
          222   KM   Route full flow capacity of 158 cfs through 60-inch storm drain pipe in
          223   KM   35th Avenue to the intersection of Greenway Road and 35th Avenue
          224   RK    5260  0.0037   0.015             CIRC   5.000
                *
          225   KK  CPGW35 COMBINE
          226   KM   Combine pipe return PR35BL with the runoff hydrograph at combination point
          227   KM   CGW35 at the intersection of Greenway Road and 35th Avenue
          228   HC       2
                *
1                                      HEC-1 INPUT                                          PAGE  6
        LINE    ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10
          229   KK   D35GW  DIVERT
          230   KM   Divert calculated full flow capacity of 318 cfs into a 78-inch storm drain
          231   KM   pipe at the intersection of Greenway Road and 35th Avenue
          232   DT  DP35GW     0.0   318.0
          233   DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
          234   DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
                *
          235   KK  DSTB35  DIVERT
          236   KM   Divert remaining runoff hydrograph from combination point CGW35 south to
          237   KM   combination point CTB35
          238   DT  DWGW43     0.0     0.0
          239   DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
          240   DQ     0.0    58.0   116.0   290.0   580.0  1160.0  2320.0  5800.0 11600.0 29000.0
                *
          241   KK  RSTB35   ROUTE
          242   KM   Route diversion DSTB35 south to combination point CTB35
          243   RS       3    FLOW
          244   RC   0.035   0.015   0.035    5280  0.0035    0.00
          245   RX    0.00    0.00   54.50   54.50  269.50  269.50  324.00  324.00
          246   RY    3.00    1.04    0.50    0.00    0.00    0.50    1.04    3.00
                *
          247   KK    TB35   BASIN
          248   KM   Runoff hydrograph for subbasin TB35 northeast of the intersection of
          249   KM   Thunderbird Road and 35th Avenue
          250   BA   0.976
          251   LG    0.23    0.15    7.60    0.08      36
          252   UC   1.500   1.012
          253   UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
          254   UA     100
                *
          255   KK   CTB35 COMBINE
          256   KM   Combine route RSTB35 and subbasin TB35
          257   HC       2    1.65
                *
          258   KK  PR35GWRETRIEVE
          259   KM   Retrieve full flow capacity of 318 cfs from 78-inch storm drain pipe at the
          260   KM   intersection of Greenway Road and 35th Avenue
          261   DR  DP35GW
                *
          262   KK  RP35TB   ROUTE
          263   KM   Route full flow capacity of 318 cfs through 78-inch storm drain pipe in
          264   KM   35th Avenue to the intersection of Thunderbird Road and 35th Avenue
          265   RK    5252  0.0037   0.015             CIRC   6.500
                *
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1                                        HEC-1 INPUT                                        PAGE  7

        LINE      ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

         266      KK  CPTB35 COMBINE
         267      KM   Combine pipe return PR35GW with the runoff hydrograph at combination point
         268      KM   CTB35 at the intersection of Thundebird Road and 35th Avenue
         269      HC       2
                  *
         270      KK   D35TB  DIVERT
         271      KM   Divert calculated full flow capacity of 554 cfs into a 96-inch storm drain
         272      KM   pipe at the intersection of Thunderbird Road and 35th Avenue
         273      DT  DP35TB      0.0    554.0
         274      DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
         275      DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
                  *
         276      KK  DSCT35  DIVERT
         277      KM   Divert remaining runoff hydrograph from combination point CTB35 south to
         278      KM   combination point CCT35
         279      DT  DWTB43      0.0      0.0
         280      DI      0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0 10000.0 20000.0 50000.0
         281      DQ      0.0     52.0    104.0    260.0    520.0   1040.0   2080.0  5200.0 10400.0 26000.0
                  *
         282      KK  RSCT35   ROUTE
         283      KM   Route diversion DSCT35 south to combination point CCT35
         284      RS        4     FLOW
         285      RC   0.035    0.015    0.035     5280   0.0036     0.00
         286      RX    0.00     0.00    86.00    86.00   413.00   413.00   499.00   499.00
         287      RY    3.00     1.36     0.50     0.00     0.00     0.50     1.36     3.00
                  *
         288      KK   CT35   BASIN
         289      KM   Runoff hydrograph for subbasin CT35 northeast of the intersection of Cactus
         290      KM   Road and 35th Avenue
         291      BA   0.976
         292      LG    0.21     0.25     5.20     0.21       48
         293      UC   1.500    1.012
         294      UA       0      5.0     16.0     30.0     65.0     77.0     84.0     90.0     94.0     97.0
         295      UA     100
                  *
         296      KK   CCT35 COMBINE
         297      KM   Combine route RSCT35 and subbasin CT35
         298      HC       2     1.76
                  *
         299      KK  PR35TBRETRIEVE
         300      KM   Retrieve full flow capacity of 554 cfs from 96-inch storm drain pipe at the
         301      KM   intersection of Thunderbird Road and 35th Avenue
         302      DR  DP35TB
                  *
1                                        HEC-1 INPUT                                        PAGE  8

        LINE      ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

         303      KK  RP35CT   ROUTE
         304      KM   Route full flow capacity of 554 cfs through 96-inch storm drain pipe in
         305      KM   35th Avenue to the intersection of Cactus Road and 35th Avenue
         306      RK    5200  0.0037   0.015             CIRC   8.000
                  *
         307      KK  CPCT35 COMBINE
         308      KM   Combine pipe return PR35TB with the runoff hydrograph at combination point
         309      KM   CCT35 at the intersection of Cactus Road and 35th Avenue
         310      HC       2
                  *
         311      KK   D35CT  DIVERT
         312      KM   Divert calculated full flow capacity of 554 cfs into a 96-inch storm drain
         313      KM   pipe at the intersection of Cactus Road and 35th Avenue
         314      DT  DP35CT      0.0    554.0
         315      DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
         316      DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
                  *
         317      KK  DSPE35  DIVERT
         318      KM   Divert remaining runoff hydrograph from combination point CCT35 south to
         319      KM   combination point CPE35
         320      DT  DWCT43      0.0      0.0
         321      DI      0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0 10000.0 20000.0 50000.0
         322      DQ      0.0     58.0    116.0    290.0    580.0   1160.0   2320.0  5800.0 11600.0 29000.0
                  *
         323      KK  RSPE35   ROUTE
         324      KM   Route diversion DSPE35 south to combination point CPE35
         325      RS        4     FLOW
         326      RC   0.035    0.015    0.035     5280   0.0023     0.00
         327      RX    0.00     0.00    67.00    67.00   332.00   332.00   399.00   399.00
```



```
         328      RY    3.00     1.17     0.50     0.00     0.00     0.50     1.17     3.00
                  *
         329      KK    PE35   BASIN
         330      KM   Runoff hydrograph for subbasin PE35 northeast of the intersection of Peoria
         331      KM   Avenue and 35th Avenue
         332      BA   0.977
         333      LG    0.23     0.24     4.70     0.27       40
         334      UC   1.500    1.016
         335      UA       0      5.0     16.0     30.0     65.0     77.0     84.0     90.0     94.0     97.0
         336      UA     100
                  *
         337      KK   CPE35 COMBINE
         338      KM   Combine route RSPE35 and subbasin PE35
         339      HC       2     1.71
                  *
1                                        HEC-1 INPUT                                        PAGE  9

        LINE      ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

         340      KK  PR35CTRETRIEVE
         341      KM   Retrieve full flow capacity of 554 cfs from 96-inch storm drain pipe at the
         342      KM   intersection of Cactus Road and 35th Avenue
         343      DR  DP35CT
                  *
         344      KK  RP35PE   ROUTE
         345      KM   Route full flow capacity of 554 cfs through 96-inch storm drain pipe in
         346      KM   35th Avenue to the intersection of Peoria Avenue and 35th Avenue
         347      RK    5256  0.0037   0.015             CIRC   8.000
                  *
         348      KK  CPPE35 COMBINE
         349      KM   Combine pipe return PR35CT with the runoff hydrograph at combination point
         350      KM   CPE35 at the intersection of Peoria Avenue and 35th Avenue
         351      HC       2
                  *
         352      KK   D35PE  DIVERT
         353      KM   Divert calculated full flow capacity of 466 cfs into a 90-inch storm drain
         354      KM   pipe at the intersection of Peoria Avenue and 35th Avenue
         355      DT  DP35PE      0.0    466.0
         356      DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
         357      DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
                  *
         358      KK  DSAC35  DIVERT
         359      KM   Divert remaining runoff hydrograph from combination point CPE35 south to
         360      KM   combination pointCAC01
         361      DT  DWPE43      0.0      0.0
         362      DI      0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0 10000.0 20000.0 50000.0
         363      DQ      0.0     70.0    140.0    350.0    700.0   1400.0   2800.0  7000.0 14000.0 35000.0
                  *
         364      KK  RSAC35   ROUTE
         365      KM   Route diversion DSAC35 south to combination pointCAC01
         366      RS        2     FLOW
         367      RC   0.035    0.015    0.035     3447   0.0041     0.00
         368      RX    0.00     0.00    41.00    41.00   184.00   184.00   225.00   225.00
         369      RY    3.00     0.91     0.50     0.00     0.00     0.50     0.91     3.00
                  *
         370      KK    AC35   BASIN
         371      KM   Runoff hydrograph for subbasin AC35 northeast of the intersection of the ACDC
         372      KM   Canal and 35th Avenue
         373      BA   0.755
         374      LG    0.15     0.25     5.30     0.20       67
         375      UC   1.068    0.721
         376      UA       0      5.0     16.0     30.0     65.0     77.0     84.0     90.0     94.0     97.0
         377      UA     100
                  *
1                                        HEC-1 INPUT                                        PAGE 10

        LINE      ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

         378      KK   CAC01 COMBINE
         379      KM   Combine route RSAC35 and subbasin AC35
         380      HC       2     1.27
                  *
         381      KK  PR35PERETRIEVE
         382      KM   Retrieve full flow capacity of 446 cfs from 90-inch storm drain pipe at the
         383      KM   intersection of Peoria Avenue and 35th Avenue
         384      DR  DP35PE
                  *
         385      KK  RP35AC   ROUTE
         386      KM   Route full flow capacity of 446 cfs through 90-inch storm drain pipe in
         387      KM   35th Avenue to the intersection of ACDC and 35th Avenue
         388      RK    3523  0.0037   0.015             CIRC   7.500
```

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                *
          389   KK  CPAC01 COMBINE
          390   KM   Combine pipe return PR35PE with the runoff hydrograph at combination point
          391   KM   CAC01 at the intersection of ACDC and 35th Avenue
          392   HC       2
                *
          393   KK  DRUH43RETRIEVE
          394   KM   Retrieve divert DRUH43 from combination point CUH35 and divert west to
          395   KM   combination point CUH43
          396   DR  DWUH43
                *
          397   KK  RWUH43   ROUTE
          398   KM   Route diversion retrieval DRUH43 west to combination point CUH43
          399   RS       6    FLOW
          400   RC   0.035   0.015   0.035    5280  0.0041    0.00
          401   RX    0.00    0.00   67.00   67.00  332.00  332.00  399.00  399.00
          402   RY    3.00    1.17    0.50    0.00    0.00    0.50    1.17    3.00
                *
          403   KK   UH43   BASIN
          404   KM   Runoff hydrograph for subbasin UH43 northeast of the intersection of Unioin
          405   KM   Hills Drive and 43rd Avenue
          406   BA   1.025
          407   LG    0.26    0.17    7.30    0.11      18
          408   UC   1.500   0.996
          409   UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
          410   UA     100
                *
          411   KK  ERUH43  DIVERT
          412   KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
          413   KM   retention developed after 1990 in subbasin UH43
          414   DT   XUH43     26.8      0.0
          415   DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
          416   DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
                *
1                                        HEC-1 INPUT                                                PAGE 11
         LINE   ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10
          417   KK   CUH43 COMBINE
          418   KM   Combine route RSUH43 and subbasin UH43
          419   HC       2    1.60
                *
          420   KK  PRUH35RETRIEVE
          421   KM   Retrieve full flow capacity of 875 cfs from 114-inch storm drain pipe at the
          422   KM   intersection of Union Hills Drive and 35th Avenue
          423   DR  DPUH35
                *
          424   KK  RPUH43   ROUTE
          425   KM   Route full flow capacity of 875 cfs through 114-inch storm drain pipe in
          426   KM   Union Hills Drive to the intersection of Union Hills Drive and 43rd Avenue
          427   RK    5324  0.0037   0.015            CIRC   9.500
                *
          428   KK  CPUH43 COMBINE
          429   KM   Combine pipe return PRUH35 with the runoff hydrograph at combination point
          430   KM   CUH43 at the intersection of Union Hills Drive and 43rd Avenue
          431   HC       2
                *
          432   KK   DUH43  DIVERT
          433   KM   Divert calculated full flow capacity of 1268 cfs into a 132-inch storm drain
          434   KM   pipe at the intersection of Union Hills Drive and 43rd Avenue
          435   DT  DPUH43      0.0  1268.0
          436   DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
          437   DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
                *
          438   KK  DSBL43  DIVERT
          439   KM   Divert remaining runoff hydrograph from combination point CUH43 south to
          440   KM   combination point CBL43
          441   DT   DWUH51      0.0      0.0
          442   DI     0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0  10000.0  20000.0  50000.0
          443   DQ     0.0     42.0     84.0    210.0    420.0    840.0   1680.0   4200.0   8400.0  21000.0
                *
          444   KK  RSBL43   ROUTE
          445   KM   Route diversion DSBL43 south to combination point CBL43
          446   RS       5    FLOW
          447   RC   0.035   0.015   0.035    5280  0.0037    0.00
          448   RX    0.00    0.00   48.00   48.00  251.00  251.00  299.00  299.00
          449   RY    3.00    0.98    0.50    0.00    0.00    0.50    0.98    3.00
                *
          450   KK  DRBL43RETRIEVE
          451   KM   Retrieve divert DRBL43 from combination point CBL35 and divert west to
```



```
          452   KM   combination point CBL43
          453   DR  DWBL43
                *
1                                        HEC-1 INPUT                                                PAGE 12
         LINE   ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10
          454   KK  RWBL43   ROUTE
          455   KM   Route diversion retrieval DRBL43 west to combination point CBL43
          456   RS       3    FLOW
          457   RC   0.035   0.015   0.035    5280  0.0047    0.00
          458   RX    0.00    0.00   86.00   86.00  413.00  413.00  499.00  499.00
          459   RY    3.00    1.36    0.50    0.00    0.00    0.50    1.36    3.00
                *
          460   KK   BL43   BASIN
          461   KM   Runoff hydrograph for subbasin BL43 northeast of the intersection of Bell
          462   KM   Road and 43rd Avenue
          463   BA   1.049
          464   LG    0.24    0.15    8.00    0.07      33
          465   UC   1.500   0.999
          466   UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
          467   UA     100
                *
          468   KK   CBL43 COMBINE
          469   KM   Combine route RSBL43, route RWBL43, and subbasin BL43
          470   HC       3    3.10
                *
          471   KK   D43BL  DIVERT
          472   KM   Divert calculated full flow capacity of 117 cfs into a 54-inch storm drain
          473   KM   pipe at the intersection of Bell Road and 43rd Avenue
          474   DT  DP43BL      0.0    117.0
          475   DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
          476   DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
                *
          477   KK  DSGW43  DIVERT
          478   KM   Divert remaining runoff hydrograph from combination point CBL43 south to
          479   KM   combination point CGW43
          480   DT   DWBL51      0.0      0.0
          481   DI     0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0  10000.0  20000.0  50000.0
          482   DQ     0.0     46.0     92.0    230.0    460.0    920.0   1840.0   4600.0   9200.0  23000.0
                *
          483   KK  RSGW43   ROUTE
          484   KM   Route diversion DSGW43 south to combination point CGW43
          485   RS       3    FLOW
          486   RC   0.035   0.015   0.035    5280  0.0028    0.00
          487   RX    0.00    0.00   57.50   57.50  291.50  291.50  349.00  349.00
          488   RY    3.00    1.08    0.50    0.00    0.00    0.50    1.08    3.00
                *
          489   KK  DRGW43RETRIEVE
          490   KM   Retrieve divert DRGW43 from combination point CGW35 and divert west to
          491   KM   combination point CGW43
          492   DR  DWGW43
                *
1                                        HEC-1 INPUT                                                PAGE 13
         LINE   ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10
          493   KK  RWGW43   ROUTE
          494   KM   Route diversion retrieval DRGW43 west to combination point CGW43
          495   RS       3    FLOW
          496   RC   0.035   0.015   0.035    5280  0.0034    0.00
          497   RX    0.00    0.00   76.50   76.50  372.50  372.50  449.00  449.00
          498   RY    3.00    1.27    0.50    0.00    0.00    0.50    1.27    3.00
                *
          499   KK   GW43   BASIN
          500   KM   Runoff hydrograph for subbasin GW43 northeast of the intersection of Greenway
          501   KM   Road and 43rd Avenue
          502   BA   0.987
          503   LG    0.24    0.19    6.60    0.13      37
          504   UC   1.500   1.018
          505   UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
          506   UA     100
                *
          507   KK  ERGW43  DIVERT
          508   KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
          509   KM   retention developed after 1990 in subbasin GW43
          510   DT   XGW43     6.2      0.0
          511   DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
          512   DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
                *
          513   KK   CGW43 COMBINE
          514   KM   Combine route RSGW43, route RWGW43, and subbasin GW43
```

```
          HC       3    3.57
          *

          KK  PR43BLRETRIEVE
          KM   Retrieve full flow capacity of 117 cfs from 54-inch storm drain pipe at the
          KM   intersection of Bell Road and 43rd Avenue
          DR  DP43BL
          *

          KK  RP43GW   ROUTE
          KM   Route full flow capacity of 117 cfs through 54-inch storm drain pipe in
          KM   43rd Avenue to the intersection of Greenway Road and 43rd Avenue
          RK    5150  0.0035   0.015            CIRC   4.500
          *

          KK  CPGW43 COMBINE
          KM   Combine pipe return PR43BL with the runoff hydrograph at combination point
          KM   CGW43 at the intersection of Greenway Road and 43rd Avenue
          HC       2
          *
1                                        HEC-1 INPUT                                    PAGE 14

        LINE      ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

          KK   D43GW  DIVERT
          KM   Divert calculated full flow capacity of 155 cfs into a 60-inch storm drain
          KM   pipe at the intersection of Greenway Road and 43rd Avenue
          DT  DP43GW      0.0    155.0
          DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
          DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
          *

          KK  DSTB43  DIVERT
          KM   Divert remaining runoff hydrograph from combination point CGW43 south to
          KM   combination point CTB43
          DT  DWGW51      0.0      0.0
          DI      0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0 10000.0 20000.0 50000.0
          DQ      0.0     53.0    106.0    265.0    530.0   1060.0   2120.0  5300.0 10600.0 26500.0
          *

          KK  RSTB43   ROUTE
          KM   Route diversion DSTB43 south to combination point CTB43
          RS        2     FLOW
          RC   0.035   0.015   0.035    5280  0.0038     0.00
          RX    0.00    0.00   67.00   67.00  332.00  332.00  399.00  399.00
          RY    3.00    1.17    0.50    0.00    0.00    0.50    1.17    3.00
          *

          KK  DRTB43RETRIEVE
          KM   Retrieve divert DRTB43 from combination point CTB35 and divert west to
          KM   combination point CTB43
          DR  DWTB43
          *

          KK  RWTB43   ROUTE
          KM   Route diversion retrieval DRTB43 west to combination point CTB43
          RS        4     FLOW
          RC   0.035   0.015   0.035    5280  0.0037     0.00
          RX    0.00    0.00   95.50   95.50  453.50  453.50  549.00  549.00
          RY    3.00    1.46    0.50    0.00    0.00    0.50    1.46    3.00
          *

          KK    TB43   BASIN
          KM   Runoff hydrograph for subbasin TB43 northeast of the intersection of
          KM   Thunderbird Road and 43rd Avenue
          BA   0.995
          LG    0.26    0.15    7.30    0.10      25
          UC   1.500   1.013
          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
          UA     100
          *

          KK   CTB43 COMBINE
          KM   Combine route RSTB43, route RWTB43, and subbasin TB43
          HC       3    3.55
          *
1                                        HEC-1 INPUT                                    PAGE 15

        LINE      ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

          KK  PR43GWRETRIEVE
          KM   Retrieve full flow capacity of 155 cfs from 60-inch storm drain pipe at the
          KM   intersection of Greenway Road and 43rd Avenue
          DR  DP43GW
          *

          KK  RP43TB   ROUTE
          KM   Route full flow capacity of 155 cfs through 60-inch storm drain pipe in
          KM   43rd Avenue to the intersection of Thunderbird Road and 43rd Avenue
          RK    5245  0.0035   0.015            CIRC   5.000
          *
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          KK  CPTB43 COMBINE
          KM   Combine pipe return PR43GW with the runoff hydrograph at combination point
          KM   CTB43 at the intersection of Thunderbird Road and 43rd Avenue
          HC       2
          *

          KK   D43TB  DIVERT
          KM   Divert calculated full flow capacity of 312 cfs into a 78-inch storm drain
          KM   pipe at the intersection of Tunderbird Road and 43rd Avenue
          DT  DP43TB      0.0    312.0
          DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
          DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
          *

          KK  DSCT43  DIVERT
          KM   Divert remaining runoff hydrograph from combination point CTB43 south to
          KM   combination point CCT43
          DT  DWTB51      0.0      0.0
          DI      0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0 10000.0 20000.0 50000.0
          DQ      0.0     63.0    126.0    315.0    630.0   1260.0   2520.0  6300.0 12600.0 31500.0
          *

          KK  RSCT43   ROUTE
          KM   Route diversion DSCT43 south to combination point CCT43
          RS        3     FLOW
          RC   0.035   0.015   0.035    5280  0.0030     0.00
          RX    0.00    0.00   48.00   48.00  251.00  251.00  299.00  299.00
          RY    3.00    0.98    0.50    0.00    0.00    0.50    0.98    3.00
          *

          KK  DRCT43RETRIEVE
          KM   Retrieve divert DRCT43 from combination point CCT35 and divert west to
          KM   combination point CCT43
          DR  DWCT43
          *

          KK  RWCT43   ROUTE
          KM   Route diversion retrieval DRCT43 west to combination point CCT43
          RS        4     FLOW
          RC   0.035   0.015   0.035    5280  0.0029     0.00
          RX    0.00    0.00   86.00   86.00  413.00  413.00  499.00  499.00
          RY    3.00    1.36    0.50    0.00    0.00    0.50    1.36    3.00
          *
1                                        HEC-1 INPUT                                    PAGE 16

        LINE      ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

          KK    CT43   BASIN
          KM   Runoff hydrograph for subbasin CT43 northeast of the intersection of Cactus
          KM   Road and 43rd Avenue
          BA   0.996
          LG    0.23    0.15    8.00    0.07      37
          UC   1.500   1.013
          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
          UA     100
          *

          KK  ERCT43  DIVERT
          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
          KM   retention developed after 1990 in subbasin CT43
          DT  XCT43     41.4      0.0
          DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
          DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
          *

          KK   CCT43 COMBINE
          KM   Combine route RSCT43, route RWCT43, and subbasin CT43
          HC       3    3.35
          *

          KK  PR43TBRETRIEVE
          KM   Retrieve full flow capacity of 312 cfs from 78-inch storm drain pipe at the
          KM   intersection of Thunderbird Road and 43rd Avenue
          DR  DP43TB
          *

          KK  RP43CT   ROUTE
          KM   Route full flow capacity of 312 cfs through 78-inch storm drain pipe in
          KM   43rd Avenue to the intersection of Cactus Road and 43rd Avenue
          RK    5194  0.0035   0.015            CIRC   6.500
          *

          KK  CPCT43 COMBINE
          KM   Combine pipe return PR43TB with the runoff hydrograph at combination point
          KM   CCT43 at the intersection of Cactus Road and 43rd Avenue
          HC       2
          *

          KK   D43CT  DIVERT
          KM   Divert calculated full flow capacity of 380 cfs into an 84-inch storm drain
          KM   pipe at the intersection of Cactus Road and 43rd Avenue
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          DT  DP43CT      0.0   380.0
          DI      0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
          DQ      0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
          *
1                                        HEC-1 INPUT                                        PAGE 17
     LINE      ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

          KK  DSPE43  DIVERT
          KM   Divert remaining runoff hydrograph from combination point CCT43 south to
          KM   combination point CPE43
          DT  DWCT51      0.0     0.0
          DI      0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
          DQ      0.0    63.0   126.0   315.0   630.0  1260.0  2520.0  6300.0 12600.0 31500.0
          *

          KK  RSPE43   ROUTE
          KM   Route diversion DSPE43 south to combination point CPE43
          RS       3    FLOW
          RC   0.035   0.015   0.035    5280  0.0024     0.00
          RX    0.00    0.00   48.00   48.00  251.00  251.00  299.00  299.00
          RY    3.00    0.98    0.50    0.00    0.00    0.50    0.98    3.00
          *

          KK  DRPE43RETRIEVE
          KM   Retrieve divert DRPE43 from combination point CPE35 and divert west to
          KM   combination point CPE43
          DR  DWPE43
          *

          KK  RWPE43   ROUTE
          KM   Route diversion retrieval DRPE43 west to combination point CPE43
          RS       4    FLOW
          RC   0.035   0.015   0.035    5280  0.0030     0.00
          RX    0.00    0.00  105.00  105.00  494.00  494.00  599.00  599.00
          RY    3.00    1.55    0.50    0.00    0.00    0.50    1.55    3.00
          *

          KK   PE43   BASIN
          KM   Runoff hydrograph for subbasin PE43 northeast of the intersection of Peoria
          KM   Avenue and 43rd Avenue
          BA   0.997
          LG    0.24    0.25    5.70    0.19      32
          UC   1.500   1.012
          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
          UA     100
          *

          KK   CPE43 COMBINE
          KM   Combine route RSPE43, route RWPE43, and subbasin PE43
          HC       3    3.42
          *

          KK  PR43CTRETRIEVE
          KM   Retrieve full flow capacity of 380 cfs from 84-inch storm drain pipe at the
          KM   intersection of Cactus Road and 43rd Avenue
          DR  DP43CT
          *
1                                        HEC-1 INPUT                                        PAGE 18
     LINE      ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

          KK  RP43PE   ROUTE
          KM   Route full flow capacity of 380 cfs through 84-inch storm drain pipe in
          KM   43rd Avenue to the intersection of Peoria Avenue and 43rd Avenue
          RK    4928  0.0035   0.015            CIRC   7.000
          *

          KK  CPPE43 COMBINE
          KM   Combine pipe return PR43CT with the runoff hydrograph at combination point
          KM   CPE43 at the intersection of Peoria Avenue and 43rd Avenue
          HC       2
          *

          KK   D43PE  DIVERT
          KM   Capacity of storm drain in Peoria Avenue and 43rd Avenue diverted together.
          KM   Divert combined calculated full flow capacity of 456 cfs in the 90-inch storm
          KM   drain pipe in Peoria Avenue and 64 cfs in the 42-inch storm drain pipe in
          KM   43rd Avenue. The total calculated combined full flow capacity diverted at the
          KM   intersection of Peoria Avenue and 43rd Avenue is 520 cfs in an equivalent
          KM   diameter pipe of 96 inches
          DT  DP43PE      0.0   520.0
          DI      0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
          DQ      0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
          *

          KK  DSAC43  DIVERT
          KM   Divert remaining runoff hydrograph from combination point CPE43 south to
          KM   combination point CAC02
          DT  DWAC51      0.0     0.0
          DI      0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
```



```
          DQ      0.0    38.0    76.0   190.0   380.0   760.0  1520.0  3800.0  7600.0 19000.0
          *

          KK    AC43   BASIN
          KM   Runoff hydrograph for subbasin AC43 northeast of the intersection of the ACDC
          KM   Canal and 43rd Avenue
          BA   0.362
          LG    0.23    0.25    4.35    0.35      37
          UC   1.500   1.657
          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
          UA     100
          *

          KK   CAC02 COMBINE
          KM   Combine divert DSAC43, subbasin AC43, and combination point CPAC01
          HC       3    3.75
          *

          KK  PR43PERETRIEVE
          KM   Retrieve combined full flow capacity of 520 cfs from 96-inch equivalent
          KM   diameter pipe at the intersection of Peoria Avenue and 43rd Avenue
          DR  DP43PE
          *
1                                        HEC-1 INPUT                                        PAGE 19
     LINE      ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

          KK  CPAC02 COMBINE
          KM   Combine pipe return PR43PE with the runoff hydrograph at combination point
          KM   CAC02 at the intersection of ACDC and 43rd Avenue
          HC       2
          *

          KK  DRUH51RETRIEVE
          KM   Retrieve divert DRUH51 from combination point CUH43 and divert west to
          KM   combination point CUH51
          DR  DWUH51
          *

          KK  RWUH51   ROUTE
          KM   Route diversion retrieval DRUH51 west to combination point CUH51
          RS       6    FLOW
          RC   0.035   0.015   0.035    5280  0.0037     0.00
          RX    0.00    0.00   76.50   76.50  372.50  372.50  449.00  449.00
          RY    3.00    1.27    0.50    0.00    0.00    0.50    1.27    3.00
          *

          KK    UH51   BASIN
          KM   Runoff hydrograph for subbasin UH51 northeast of the intersection of Union
          KM   Hills Drive and 51st Avenue
          BA   0.990
          LG    0.23    0.26    4.60    0.29      37
          UC   1.500   1.008
          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
          UA     100
          *

          KK  ERUH51  DIVERT
          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
          KM   retention developed after 1990 in subbasin UH51
          DT   XUH51      48.6     0.0
          DI      0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
          DQ      0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
          *

          KK   CUH51 COMBINE
          KM   Combine route RWUH51 and subbasin UH51
          HC       2    1.66
          *

          KK  DSBL51  DIVERT
          KM   Divert remaining runoff hydrograph from combination point CUH51 south to
          KM   combination point CBL51
          DT  DWUHSK      0.0     0.0
          DI      0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
          DQ      0.0    61.0   122.0   305.0   610.0  1220.0  2440.0  6100.0 12200.0 30500.0
          *
1                                        HEC-1 INPUT                                        PAGE 20
     LINE      ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

          KK  PRUH43RETRIEVE
          KM   Retrieve full flow capacity of 1268 cfs from 132-inch storm drain pipe at the
          KM   intersection of Union Hills Drive and 43rd Avenue
          DR  DPUH43
          *

          KK  RPUH51   ROUTE
          KM   Route full flow capacity of 1268 cfs through 132-inch storm drain pipe in
          KM   Union Hills Drive to the intersection of Union Hills Drive and 51st Avenue
          RK    5152  0.0035   0.015             CIRC  11.000
```

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                *
          763   KK  CPUH51 COMBINE
          764   KM   Combine pipe return PRUH43 with diversion DSBL51 at the intersection of Union
          765   KM   Hills Drive and 51st Avenue
          766   HC       2
                *
          767   KK   DUH51  DIVERT
          768   KM   Divert calculated full flow capacity of 1548 cfs into a 144-inch storm drain
          769   KM   pipe at the intersection of Union Hills Drive and 51st Avenue.
          770   KM   Storm drain flow discharges to Skunk Creek and is not returned to the model.
          771   DT  DPUH51      0.0  1548.0
          772   DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
          773   DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
                *
          774   KK  RSBL51    ROUTE
          775   KM   Route diversion DSBL51 south to combination point CBL51
          776   RS        5     FLOW
          777   RC    0.035    0.015    0.035     5280   0.0040     0.00
          778   RX     0.00     0.00    48.00    48.00   251.00   251.00   299.00   299.00
          779   RY     3.00     0.98     0.50     0.00     0.00     0.50     0.98     3.00
                *
          780   KK  DRBL51RETRIEVE
          781   KM   Retrieve divert DRBL51 from combination point CBL43 and divert west to
          782   KM   combination point CBL51
          783   DR  DWBL51
                *
          784   KK  RWBL51    ROUTE
          785   KM   Route diversion retrieval DRBL51 west to combination point CBL51
          786   RS        3     FLOW
          787   RC    0.035    0.015    0.035     5280   0.0040     0.00
          788   RX     0.00     0.00    38.50    38.50   210.50   210.50   249.00   249.00
          789   RY     3.00     0.88     0.50     0.00     0.00     0.50     0.88     3.00
                *
1                                        HEC-1 INPUT                                        PAGE 21

      LINE        ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

          790   KK    BL51    BASIN
          791   KM   Runoff hydrograph for subbasin BL51 northeast of the intersection of Bell
          792   KM   Road and 51st Avenue
          793   BA   1.045
          794   LG    0.22     0.19     6.60     0.14       31
          795   UC   1.500    1.005
          796   UA       0      5.0     16.0     30.0     65.0     77.0     84.0     90.0     94.0     97.0
          797   UA     100
                *
          798   KK  ERBL51   DIVERT
          799   KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
          800   KM   retention developed after 1990 in subbasin BL51
          801   DT   XBL51     23.0      0.0
          802   DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
          803   DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
                *
          804   KK   CBL51 COMBINE
          805   KM   Combine route RSBL51, route RWBL51, and subbasin BL51
          806   HC       3    3.12
                *
          807   KK   D51BL  DIVERT
          808   KM   Divert calculated full flow capacity of 38 cfs into a 36-inch storm drain
          809   KM   pipe at the intersection of Bell Road and 51st Avenue
          810   DT  DP51BL      0.0      38.0
          811   DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
          812   DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
                *
          813   KK  DSGW51  DIVERT
          814   KM   Divert remaining runoff hydrograph from combination point CBL51 south to
          815   KM   combination point CGW51
          816   DT  DWBL59      0.0      0.0
          817   DI      0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0  10000.0  20000.0  50000.0
          818   DQ      0.0     52.0    104.0    260.0    520.0   1040.0   2080.0   5200.0  10400.0  26000.0
                *
          819   KK  RSGW51    ROUTE
          820   KM   Route diversion DSGW51 south to combination point CGW51
          821   RS        1     FLOW
          822   RC    0.035    0.015    0.035     5280   0.0035     0.00
          823   RX     0.00     0.00    48.00    48.00   251.00   251.00   299.00   299.00
          824   RY     3.00     0.98     0.50     0.00     0.00     0.50     0.98     3.00
                *
          825   KK  DRGW51RETRIEVE
          826   KM   Retrieve divert DRGW51 from combination point CGW43 and divert west to
          827   KM   combination point CGW51
```



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          828   DR  DWGW51
                *
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      LINE        ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

          829   KK  RWGW51    ROUTE
          830   KM   Route diversion retrieval DRGW51 west to combination point CGW51
          831   RS        2     FLOW
          832   RC    0.035    0.015    0.035     5280   0.0047     0.00
          833   RX     0.00     0.00    67.00    67.00   332.00   332.00   399.00   399.00
          834   RY     3.00     1.17     0.50     0.00     0.00     0.50     1.17     3.00
                *
          835   KK    GW51    BASIN
          836   KM   Runoff hydrograph for subbasin GW51 northeast of the intersection of Greenway
          837   KM   Road and 51st Avenue
          838   BA   0.962
          839   LG    0.26     0.21     6.40     0.17       21
          840   UC   1.500    1.021
          841   UA       0      5.0     16.0     30.0     65.0     77.0     84.0     90.0     94.0     97.0
          842   UA     100
                *
          843   KK  ERGW51   DIVERT
          844   KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
          845   KM   retention developed after 1990 in subbasin GW51
          846   DT   XGW51      1.3      0.0
          847   DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
          848   DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
                *
          849   KK   CGW51 COMBINE
          850   KM   Combine route RSGW51, route RWGW51, and subbasin GW51
          851   HC       3    4.34
                *
          852   KK  PR51BLRETRIEVE
          853   KM   Retrieve full flow capacity of 38 cfs from 36-inch storm drain pipe at the
          854   KM   intersection of Bell Road and 51st Avenue
          855   DR  DP51BL
                *
          856   KK  RP51GW   ROUTE
          857   KM   Route full flow capacity of 38 cfs through 36-inch storm drain pipe in
          858   KM   51st Avenue to the intersection of Greenway Road and 51st Avenue
          859   RK    4986  0.0033   0.015             CIRC   3.000
                *
          860   KK  CPGW51 COMBINE
          861   KM   Combine pipe return PR51BL with the runoff hydrograph at combination point
          862   KM   CGW51 at the intersection of Greenway Road and 51st Avenue
          863   HC       2
                *
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      LINE        ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

          864   KK   D51GW  DIVERT
          865   KM   Divert calculated full flow capacity of 150 cfs into a 60-inch storm drain
          866   KM   pipe at the intersection of Greenway Road and 51st Avenue
          867   DT  DP51GW      0.0    150.0
          868   DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
          869   DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
                *
          870   KK  DSTB51  DIVERT
          871   KM   Divert remaining runoff hydrograph from combination point CGW51 south to
          872   KM   combination point CTB51
          873   DT  DWGW59      0.0      0.0
          874   DI      0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0  10000.0  20000.0  50000.0
          875   DQ      0.0     65.0    130.0    325.0    650.0   1300.0   2600.0   6500.0  13000.0  32500.0
                *
          876   KK  RSTB51   ROUTE
          877   KM   Route diversion DSTB51 south to combination point CTB51
          878   RS        3     FLOW
          879   RC    0.035    0.015    0.035     5280   0.0027     0.00
          880   RX     0.00     0.00    38.50    38.50   210.50   210.50   249.00   249.00
          881   RY     3.00     0.88     0.50     0.00     0.00     0.50     0.88     3.00
                *
          882   KK  DRTB51RETRIEVE
          883   KM   Retrieve divert DRTB51 from combination point CTB43 and divert west to
          884   KM   combination point CTB51
          885   DR  DWTB51
                *
          886   KK  RWTB51   ROUTE
          887   KM   Route diversion retrieval DRTB51 west to combination point CTB51
          888   RS        3     FLOW
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 889          RC   0.035    0.015    0.035    5280  0.0037     0.00
 890          RX    0.00     0.00    76.50   76.50  372.50   372.50  449.00  449.00
 891          RY    3.00     1.27     0.50    0.00    0.00     0.50    1.27    3.00
              *
 892          KK     TB51    BASIN
 893          KM   Runoff hydrograph for subbasin TB51 northeast of the intersection of
 894          KM   Thunderbird Road and 51st Avenue
 895          BA   0.990
 896          LG    0.27     0.19     6.60    0.15      21
 897          UC   1.500    1.012
 898          UA       0      5.0     16.0    30.0    65.0     77.0    84.0    90.0    94.0    97.0
 899          UA     100
              *
 900          KK   CTB51 COMBINE
 901          KM   Combine route RSTB51, route RWTB51, and subbasin TB51
 902          HC       3     4.70
              *
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    LINE      ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 903          KK  PR51GWRETRIEVE
 904          KM   Retrieve full flow capacity of 150 cfs from 60-inch storm drain pipe at the
 905          KM    intersection of Greenway Road and 51st Avenue
 906          DR  DP51GW
              *
 907          KK  RP51TB    ROUTE
 908          KM   Route full flow capacity of 150 cfs through 60-inch storm drain pipe in
 909          KM    51st Avenue to the intersection of Thunderbird Road and 51st Avenue
 910          RK     5283  0.0033   0.015             CIRC    5.000
              *
 911          KK  CPTB51 COMBINE
 912          KM   Combine pipe return PR51GW with the runoff hydrograph at combination point
 913          KM   CTB51 at the intersection of Thunderbird Road and 51st Avenue
 914          HC       2
              *
 915          KK   D51TB  DIVERT
 916          KM   Divert calculated full flow capacity of 244 cfs into a 72-inch storm drain
 917          KM    pipe at the intersection of Thunderbird Road and 51st Avenue
 918          DT  DP51TB       0.0    244.0
 919          DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
 920          DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *
 921          KK  DSCT51   DIVERT
 922          KM   Divert remaining runoff hydrograph from combination point CTB51 south to
 923          KM   combination point CCT51
 924          DT  DWTB59       0.0      0.0
 925          DI      0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0  10000.0  20000.0  50000.0
 926          DQ      0.0     61.0    122.0    305.0    610.0   1220.0   2440.0   6100.0  12200.0  30500.0
              *
 927          KK  RSCT51    ROUTE
 928          KM   Route diversion DSCT51 south to combination point CCT51
 929          RS       3     FLOW
 930          RC   0.035    0.015    0.035    5280  0.0026     0.00
 931          RX    0.00     0.00    26.00   26.00  148.00   148.00  174.00  174.00
 932          RY    3.00     0.76     0.50    0.00    0.00     0.50    0.76    3.00
              *
 933          KK  DRCT51RETRIEVE
 934          KM   Retrieve divert DRCT51 from combination point CCT43 and divert west to
 935          KM   combination point CCT51
 936          DR  DWCT51
              *
 937          KK  RWCT51    ROUTE
 938          KM   Route diversion retrieval DRCT51 west to combination point CCT51
 939          RS       3     FLOW
 940          RC   0.035    0.015    0.035    5280  0.0032     0.00
 941          RX    0.00     0.00    76.50   76.50  372.50   372.50  449.00  449.00
 942          RY    3.00     1.27     0.50    0.00    0.00     0.50    1.27    3.00
              *
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    LINE      ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 943          KK     CT51    BASIN
 944          KM   Runoff hydrograph for subbasin CT51 northeast of the intersection of Cactus
 945          KM   Road and 51st Avenue
 946          BA   0.988
 947          LG    0.18     0.21     6.40    0.13      56
 948          UC   1.323    0.882
 949          UA       0      5.0     16.0    30.0    65.0     77.0    84.0    90.0    94.0    97.0
 950          UA     100
              *
```



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 951          KK  ERCT51  DIVERT
 952          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
 953          KM   retention developed after 1990 in subbasin CT51
 954          DT  XCT51      57.8      0.0
 955          DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
 956          DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *
 957          KK   CCT51 COMBINE
 958          KM   Combine route RSCT51, route RWCT51, and subbasin CT51
 959          HC       3     4.94
              *
 960          KK  PR51TBRETRIEVE
 961          KM   Retrieve full flow capacity of 244 cfs from 72-inch storm drain pipe at the
 962          KM   intersection of Thunderbird Road and 51st Avenue
 963          DR  DP51TB
              *
 964          KK  RP51CT    ROUTE
 965          KM   Route full flow capacity of 244 cfs through 72-inch storm drain pipe in
 966          KM   51st Avenue to the intersection of Cactus Road and 51st Avenue
 967          RK     5189  0.0033   0.015             CIRC    6.000
              *
 968          KK  CPCT51 COMBINE
 969          KM   Combine pipe return PR51TB with the runoff hydrograph at combination point
 970          KM   CCT51 at the intersection of Cactus Road and 51st Avenue
 971          HC       2
              *
 972          KK   D51CT  DIVERT
 973          KM   Divert calculated full flow capacity of 244 cfs into a 72-inch storm drain
 974          KM   pipe at the intersection of Cactus Road and 51st Avenue
 975          DT  DP51CT       0.0    244.0
 976          DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
 977          DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *
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    LINE      ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 978          KK  DSAC51  DIVERT
 979          KM   Divert remaining runoff hydrograph from combination point CCT51 south to
 980          KM   combination point CAC03
 981          DT  DWAC59       0.0      0.0
 982          DI      0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0  10000.0  20000.0  50000.0
 983          DQ      0.0     33.0     66.0    165.0    330.0    660.0   1320.0   3300.0   6600.0  16500.0
              *
 984          KK  DRAC51RETRIEVE
 985          KM   Retrieve divert DRAC51 from combination point CPE43 and divert west to
 986          KM   combination point CAC03
 987          DR  DWAC51
              *
 988          KK     AC51    BASIN
 989          KM   Runoff hydrograph for subbasin AC51 northeast of the intersection of the ACDC
 990          KM   Canal and 51st Avenue
 991          BA   0.576
 992          LG    0.24     0.15     8.00    0.07      35
 993          UC   1.500    1.622
 994          UA       0      5.0     16.0    30.0    65.0     77.0    84.0    90.0    94.0    97.0
 995          UA     100
              *
 996          KK  ERAC51  DIVERT
 997          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
 998          KM   retention developed after 1990 in subbasin AC51
 999          DT  XAC51        0.6      0.0
1000          DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
1001          DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *
1002          KK   CAC03 COMBINE
1003          KM   Combine divert DSAC51, subbasin AC51, divert retrieval DRAC51, and
1004          KM   combination point CPAC02
1005          HC       4     8.95
              *
1006          KK  PR51CTRETRIEVE
1007          KM   Retrieve full flow capacity of 244 cfs from 72-inch storm drain pipe at the
1008          KM   intersection of Cactus Road and 51st Avenue
1009          DR  DP51CT
              *
1010          KK  CPAC03 COMBINE
1011          KM   Combine pipe return PR51CT with the runoff hydrograph at combination point
1012          KM   CAC03 at the intersection of ACDC and 51st Avenue
1013          HC       2
              *
```

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LINE      ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

1014      KK  DRBL59RETRIEVE
1015      KM   Retrieve divert DRBL59 from combination point CBL51 and divert west to
1016      KM   combination point CBL59
1017      DR  DWBL59
          *
1018      KK  RWBL59   ROUTE
1019      KM   Route diversion retrieval DRBL59 west to combination point CBL59
1020      RS      2    FLOW
1021      RC  0.035  0.015  0.035   5280  0.0031    0.00
1022      RX   0.00   0.00  51.50  51.50  296.50  296.50  348.00  348.00
1023      RY   3.00   1.02   0.50   0.00    0.00    0.50    1.02    3.00
          *
1024      KK   BL59   BASIN
1025      KM   Runoff hydrograph for subbasin BL59 northeast of the intersection of Bell
1026      KM   Road and 59th Avenue
1027      BA  1.075
1028      LG   0.23   0.17   6.80   0.12      40
1029      UC  1.497  0.994
1030      UA      0    5.0   16.0   30.0    65.0    77.0    84.0    90.0    94.0    97.0
1031      UA    100
          *
1032      KK  ERBL59  DIVERT
1033      KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
1034      KM   retention developed after 1990 in subbasin BL59
1035      DT   XBL59    75.9     0.0
1036      DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
1037      DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
          *
1038      KK   CBL59 COMBINE
1039      KM   Combine route RWBL59 and subbasin BL59
1040      HC      2    2.71
          *
1041      KK   D59BL  DIVERT
1042      KM   Divert calculated full flow capacity of 108 cfs into 54-inch storm drain
1043      KM   pipe at the intersection of Bell Road and 59th Avenue
1044      DT   DP59BL     0.0   108.0
1045      DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
1046      DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
          *
1047      KK  DSGW59  DIVERT
1048      KM   Divert remaining runoff hydrograph from combination point CBL59 south to
1049      KM   combination point CGW59
1050      DT   DWBL67     0.0     0.0
1051      DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
1052      DQ     0.0    31.0    62.0   155.0   310.0   620.0  1240.0  3100.0  6200.0 15500.0
          *
```



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LINE      ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

1053      KK  RSGW59   ROUTE
1054      KM   Route diversion DSGW59 south to combination point CGW59
1055      RS      5    FLOW
1056      RC  0.035  0.015  0.035   5280  0.0038    0.00
1057      RX   0.00   0.00  38.50  38.50  241.50  241.50  280.00  280.00
1058      RY   3.00   0.88   0.50   0.00    0.00    0.50    0.88    3.00
          *
1059      KK  DRGW59RETRIEVE
1060      KM   Retrieve divert DRGW59 from combination point CGW51 and divert west to
1061      KM   combination point CGW59
1062      DR  DWGW59
          *
1063      KK  RWGW59   ROUTE
1064      KM   Route diversion retrieval DRGW59 west to combination point CGW59
1065      RS      2    FLOW
1066      RC  0.035  0.015  0.035   5280  0.0033    0.00
1067      RX   0.00   0.00  68.50  68.50  359.50  359.50  428.00  428.00
1068      RY   3.00   1.18   0.50   0.00    0.00    0.50    1.18    3.00
          *
1069      KK   GW59   BASIN
1070      KM   Runoff hydrograph for subbasin GW59 northeast of the intersection of Greenway
1071      KM   Road and 59th Avenue
1072      BA  0.944
1073      LG   0.21   0.15   7.30   0.10      43
1074      UC  1.500  1.027
1075      UA      0    5.0   16.0   30.0    65.0    77.0    84.0    90.0    94.0    97.0
1076      UA    100
          *
```



```
1077      KK  ERGW59  DIVERT
1078      KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
1079      KM   retention developed after 1990 in subbasin GW59
1080      DT   XGW59    35.9     0.0
1081      DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
1082      DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
          *
1083      KK   CGW59 COMBINE
1084      KM   Combine route RSGW59, route RWGW59, and subbasin GW59
1085      HC      3    5.64
          *
1086      KK  PR59BLRETRIEVE
1087      KM   Retrieve full flow capacity of 108 cfs from 54-inch storm drain pipe at the
1088      KM   intersection of Bell Road and 59th Avenue
1089      DR  DP59BL
          *
```



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LINE      ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

1090      KK  RP59GW   ROUTE
1091      KM   Route full flow capacity of 108 cfs through 54-inch storm drain pipe in
1092      KM   59th Avenue to the intersection of Greenway Road and 59th Avenue
1093      RK    4995  0.0030   0.015            CIRC   4.500
          *
1094      KK   CPGW59 COMBINE
1095      KM   Combine pipe return PR59BL with the runoff hydrograph at combination point
1096      KM   CGW59 at the intersection of Greenway Road and 59th Avenue
1097      HC      2
          *
1098      KK   D59GW  DIVERT
1099      KM   Divert calculated full flow capacity of 273 cfs into 78-inch storm drain
1100      KM   pipe at the intersection of Greenway Road and 59th Avenue
1101      DT   DP59GW     0.0   273.0
1102      DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
1103      DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
          *
1104      KK  DSTB59  DIVERT
1105      KM   Divert remaining runoff hydrograph from combination point CPGW59 south to
1106      KM   combination point CTB59
1107      DT   DWGW67     0.0     0.0
1108      DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
1109      DQ     0.0    45.0    90.0   225.0   450.0   900.0  1800.0  4500.0  9000.0 22500.0
          *
1110      KK  RSTB59   ROUTE
1111      KM   Route diversion DSTB59 south to combination point CTB59
1112      RS      3    FLOW
1113      RC  0.035  0.015  0.035   5280  0.0026    0.00
1114      RX   0.00   0.00  65.50  65.50  382.50  382.50  448.00  448.00
1115      RY   3.00   1.16   0.50   0.00    0.00    0.50    1.16    3.00
          *
1116      KK  DRTB59RETRIEVE
1117      KM   Retrieve divert DRTB59 from combination point CTB51 and divert west to
1118      KM   combination point CTB59
1119      DR  DWTB59
          *
1120      KK  RWTB59   ROUTE
1121      KM   Route diversion retrieval DRTB59 west to combination point CTB59
1122      RS      3    FLOW
1123      RC  0.035  0.015  0.035   5280  0.0032    0.00
1124      RX   0.00   0.00  37.50  37.50  210.50  210.50  248.00  248.00
1125      RY   3.00   0.88   0.50   0.00    0.00    0.50    0.88    3.00
          *
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LINE      ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

1126      KK   TB59   BASIN
1127      KM   Runoff hydrograph for subbasin TB59 northeast of the intersection of
1128      KM   Thunderbird Road and 59th Avenue
1129      BA  0.995
1130      LG   0.22   0.23   6.20   0.15      43
1131      UC  1.500  1.013
1132      UA      0    5.0   16.0   30.0    65.0    77.0    84.0    90.0    94.0    97.0
1133      UA    100
          *
1134      KK   CTB59 COMBINE
1135      KM   Combine route RSTB59, route RWTB59, and subbasin TB59
1136      HC      3    6.96
          *
```

```
1137          KK  PR59GWRETRIEVE
1138          KM   Retrieve full flow capacity of 273 cfs from 78-inch storm drain pipe at the
1139          KM   intersection of Greenway Road and 59th Avenue
1140          DR  DP59GW
              *

1141          KK  RP59AM   ROUTE
1142          KM   Route full flow capacity of 273 cfs through 78-inch storm drain pipe in
1143          KM   59th Avenue to the intersection of Acoma Drive and 59th Avenue
1144          RK    2519  0.0027   0.015            CIRC   6.500
              *

1145          KK  SRAM59 STORAGE
1146          KM   Storage route pipe flow PR59GW through the regional retention basin located
1147          KM     in subbasin TB59 near the intersection of Acoma Drive and 59th Avenue
1148          KM   Stage-storage data from 59th Avenue Detention Basin As-built records, 1990
1149          RS       1     STOR
1150          SV             0.20    2.80   10.90   11.80   12.70   14.90
1151          SQ             3.00  118.00  206.00  478.00  970.00 2354.00
1152          SE  1214.5 1215.00 1218.00 1224.00 1224.50 1225.00 1226.00
              *

1153          KK  RP59TB   ROUTE
1154          KM   Route full flow capacity of 135 cfs through 60-inch storm drain pipe in
1155          KM   59th Avenue to the intersection of Thunderbird Road and 59th Avenue
1156          RK    2759  0.0027   0.015            CIRC   5.000
              *

1157          KK  CPTB59 COMBINE
1158          KM   Combine pipe return PR59GW with the runoff hydrograph at combination point
1159          KM   CTB59 at the intersection of Thunderbird Road and 59th Avenue
1160          HC       2
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1161          KK   DTB59  DIVERT
1162          KM   Divert calculated full flow capacity of 578 cfs into 96-inch storm drain
1163          KM   pipe at the intersection of Olive Avenue and 43rd Avenue
1164          DT  DPTB59      0.0   578.0
1165          DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
1166          DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

1167          KK  DSAC59  DIVERT
1168          KM   Divert remaining runoff hydrograph from combination point CPTB59 south to
1169          KM   combination point CAC04
1170          DT  DWAC67      0.0      0.0
1171          DI      0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0  10000.0  20000.0  50000.0
1172          DQ      0.0     41.0     82.0    205.0    410.0    820.0   1640.0   4100.0   8200.0  20500.0
              *

1173          KK  DRAC59RETRIEVE
1174          KM   Retrieve divert DRAC59 from combination point CCT51 and divert west to
1175          KM   combination point CAC04
1176          DR  DWAC59
              *

1177          KK    AC59   BASIN
1178          KM   Runoff hydrograph for subbasin AC59 northeast of the intersection of the ACDC
1179          KM   Canal and 59th Avenue
1180          BA   0.742
1181          LG    0.18    0.15    8.00    0.08      39
1182          UC   1.500   1.459
1183          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
1184          UA     100
              *

1185          KK  ERAC59  DIVERT
1186          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
1187          KM   retention developed after 1990 in subbasin AC59
1188          DT  XAC59     56.9      0.0
1189          DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
1190          DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

1191          KK   CAC04 COMBINE
1192          KM   Combine divert DSAC59 and subbasin AC59
1193          HC       4   15.39
              *

1194          KK  PRTB59RETRIEVE
1195          KM   Retrieve full flow capacity of 578 cfs from 96-inch storm drain pipe at the
1196          KM   intersection of Thunderbird Road and 59th Avenue
1197          DR  DPTB59
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10
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1198          KK  CPAC04 COMBINE
1199          KM   Combine pipe return PRTB59 with the runoff hydrograph at combination point
1200          KM   CAC04 at the intersection of the ACDC canal and 59th Avenue
1201          HC       2
              *

1202          KK  DRBL67RETRIEVE
1203          KM   Retrieve divert DRBL67 from combination point CBL59 and divert west to
1204          KM   combination point CBL67
1205          DR  DWBL67
              *

1206          KK   DBL67  DIVERT
1207          KM   Divert portion of diversion retrieval DRBL67 west to subbasin SK67 and the
1208          KM   remaining flow follow to subbasin BL67 at combination point CBL67
1209          DT  DWSK67      0.0      0.0
1210          DI      0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0  10000.0  20000.0  50000.0
1211          DQ      0.0     74.0    148.0    370.0    740.0   1480.0   2960.0   7400.0  14800.0  37000.0
              *

1212          KK  RWBL67   ROUTE
1213          KM   Route diversion retrieval DRBL67 west to combination point CBL67
1214          RS       8     FLOW
1215          RC   0.035   0.015   0.035    5280  0.0037    0.00
1216          RX    0.00    0.00   17.50   17.50  112.50  112.50  130.00  130.00
1217          RY    3.00    0.68    0.50    0.00    0.00    0.50    0.68    3.00
              *

1218          KK    BL67   BASIN
1219          KM   Runoff hydrograph for subbasin BL67 northeast of the intersection of Bell
1220          KM   Road and 67th Avenue
1221          BA   0.233
1222          LG    0.18    0.23    6.20    0.16      52
1223          UC   1.107   1.100
1224          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
1225          UA     100
              *

1226          KK  ERBL67  DIVERT
1227          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
1228          KM   retention developed after 1990 in subbasin BL67
1229          DT  XBL67     15.7      0.0
1230          DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
1231          DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

1232          KK   CBL67 COMBINE
1233          KM   Combine route RWBL67 and subbasin BL67
1234          HC       2    0.46
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1235          KK   D67BL  DIVERT
1236          KM   Divert calculated full flow capacity of 32 cfs into 36-inch storm drain
1237          KM   pipe at the intersection of Bell Road and 67th Avenue
1238          DT  DP67BL      0.0     32.0
1239          DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
1240          DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

1241          KK  DSGW67  DIVERT
1242          KM   Divert remaining runoff hydrograph from combination point CBL67 south to
1243          KM   combination point CGW67
1244          DT  DWBL75      0.0      0.0
1245          DI      0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0  10000.0  20000.0  50000.0
1246          DQ      0.0     61.0    122.0    305.0    610.0   1220.0   2440.0   6100.0  12200.0  30500.0
              *

1247          KK  RSGW67   ROUTE
1248          KM   Route diversion DSGW67 south to combination point CGW67
1249          RS      10     FLOW
1250          RC   0.035   0.015   0.035    5280  0.0025    0.00
1251          RX    0.00    0.00   44.50   44.50  253.50  253.50  298.00  298.00
1252          RY    3.00    0.94    0.50    0.00    0.00    0.50    0.94    3.00
              *

1253          KK  DRGW67RETRIEVE
1254          KM   Retrieve divert DRGW67 from combination point CGW59 and divert west to
1255          KM   combination point CGW67
1256          DR  DWGW67
              *

1257          KK  RWGW67   ROUTE
1258          KM   Route diversion retrieval DRGW67 west to combination point CGW67
1259          RS       3     FLOW
1260          RC   0.035   0.015   0.035    5280  0.0025    0.00
1261          RX    0.00    0.00   61.50   61.50  316.50  316.50  378.00  378.00
1262          RY    3.00    1.12    0.50    0.00    0.00    0.50    1.12    3.00
              *
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1263          KK    GW67   BASIN
1264          KM   Runoff hydrograph for subbasin GW67 northeast of the intersection of Greenway
1265          KM   Road and 67th Avenue
1266          BA   0.892
1267          LG    0.23    0.15    8.40    0.06      39
1268          UC   1.490   1.027
1269          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
1270          UA     100
              *
1271          KK  ERGW67  DIVERT
1272          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
1273          KM   retention developed after 1990 in subbasin GW67
1274          DT   XGW67    50.2     0.0
1275          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
1276          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1277          KK   CGW67 COMBINE
1278          KM   Combine route RSGW67, route RWGW67, and subbasin GW67
1279          HC       3    3.64
              *
1280          KK  PR67BLRETRIEVE
1281          KM   Retrieve full flow capacity of 32 cfs from 36-inch storm drain pipe at the
1282          KM   intersection of Bell Road and 67th Avenue
1283          DR  DP67BL
              *
              * KKRP67GW   ROUTE
              * KM Route full flow capacity of 32 cfs through 36-inch storm drain pipe in
              * KM 67th Avenue to the intersection of Greenway Road and 67th Avenue
              * RK   5072  0.0023   0.015            CIRC   3.000
              *
1284          KK  CPGW67 COMBINE
1285          KM   Combine pipe return PR67BL with the runoff hydrograph at combination point
1286          KM   CGW67 at the intersection of Greenway Road and 67th Avenue
1287          HC       2
              *
1288          KK   D67GW  DIVERT
1289          KM   Divert calculated full flow capacity of 608 cfs into 84-inch storm drain
1290          KM   pipe at the intersection of Greenway Road and 67th Avenue
1291          DT  DP67GW      0.0    608.0
1292          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
1293          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *
1294          KK  DSAC67  DIVERT
1295          KM   Divert remaining runoff hydrograph from combination point CPGW67 south to
1296          KM   combination point CAC05
1297          DT  DWAC75      0.0     0.0
1298          DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
1299          DQ     0.0    84.0   168.0   420.0   840.0  1680.0  3360.0  8400.0 16800.0 42000.0
              *
1300          KK  RSAC67   ROUTE
1301          KM   Route diversion DSAC67 south to combination point CAC05
1302          RS       1    FLOW
1303          RC   0.035   0.015   0.035    1216  0.0020     0.00
1304          RX    0.00    0.00   34.00   34.00  184.00  184.00  218.00  218.00
1305          RY    3.00    0.84    0.50    0.00    0.00    0.50    0.84    3.00
              *
1306          KK  DRAC67RETRIEVE
1307          KM   Retrieve divert DRAC67 from combination point CPTB59 and divert west to
1308          KM   combination point CAC05
1309          DR  DWAC67
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1310          KK  RWAC67   ROUTE
1311          KM   Route diversion retrieval DRAC67 west to combination point CAC05
1312          RS       1    FLOW
1313          RC   0.035   0.015   0.035    1071  0.0029     0.00
1314          RX    0.00    0.00   28.00   28.00  172.00  172.00  200.00  200.00
1315          RY    3.00    0.78    0.50    0.00    0.00    0.50    0.78    3.00
              *
1316          KK    AC67   BASIN
1317          KM   Runoff hydrograph for subbasin AC67 northeast of the intersection of the ACDC
1318          KM   Canal and 67th Avenue
1319          BA   0.698
1320          LG    0.22    0.15    8.40    0.07      29
1321          UC   1.500   1.392
1322          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
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1323          UA     100
              *
1324          KK   CAC05 COMBINE
1325          KM   Combine route RSAC67, and subbasin AC67
1326          HC       4   19.62
              *
1327          KK  PR67GWRETRIEVE
1328          KM   Retrieve full flow capacity of 608 cfs from 84-inch storm drain pipe at the
1329          KM   intersection of Greenway Road and 67th Avenue
1330          DR  DP67GW
              *
1331          KK  RP67AC   ROUTE
1332          KM   Route full flow capacity of 608 cfs through 84-inch storm drain pipe in
1333          KM   67th Avenue to the intersection of the ACDC canal and 67th Avenue
1334          RK    1168  0.0090   0.015            CIRC   7.000
              *
1335          KK  CPAC05 COMBINE
1336          KM   Combine pipe return PR67GW with the runoff hydrograph at combination point
1337          KM   CAC05 at the intersection of the ACDC canal and 67th Avenue
1338          HC       2   19.55
              *
1339          KK  DRAC75RETRIEVE
1340          KM   Retrieve divert DRAC75 from combination point CPGW67 and divert west to
1341          KM   combination point CAC06
1342          DR  DWAC75
              *
1343          KK    AC75   BASIN
1344          KM   Runoff hydrograph for subbasin AC75 near the intersection of the ACDC Canal
1345          KM   75th Avenue
1346          BA   0.842
1347          LG    0.20    0.25    5.80    0.18      34
1348          UC   1.500   1.251
1349          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1350          UA     100
              *
1351          KK  ERAC75  DIVERT
1352          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
1353          KM   retention developed after 1990 in subbasin AC75
1354          DT   XAC75    17.3     0.0
1355          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
1356          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *
1357          KK   CAC06 COMBINE
1358          KM   Combine route RAC75 and subbasin AC75
1359          HC       3   23.44
              *
1360          KK    HV55   BASIN
1361          KM   Runoff hydrograph for subbasin HV55 near the intersection of Happy Valley
1362          KM   Road and 55th Avenue
1363          BA   2.054
1364          LG    0.21    0.28    4.40    0.35      34
1365          UC   1.494   0.828
1366          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
1367          UA     100
              *
1368          KK  ERHV55  DIVERT
1369          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
1370          KM   retention developed after 1990 in subbasin HV55
1371          DT   XHV55   110.2     0.0
1372          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
1373          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *
1374          KK   RCL57   ROUTE
1375          KM   Route runoff hydrograph at subbasin HV55 to combination point CCL57
1376          RS       3    FLOW
1377          RC   0.045   0.035   0.045    5676  0.0078     0.00
1378          RX    0.00    0.00   40.00   50.00   60.00   70.00  110.00  110.00
1379          RY    6.20    5.20    5.00    0.00    0.00    5.00    5.20    6.20
              *
1380          KK    CL57   BASIN
1381          KM   Runoff hydrograph for subbasin CL57 near the intersection of Pinnacle Hill
1382          KM   Road and 57th Avenue
1383          BA   0.746
1384          LG    0.23    0.27    4.55    0.33      31
1385          UC   1.127   0.612
1386          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
1387          UA     100
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         LINE      ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

         1388      KK  ERCL57  DIVERT
         1389      KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
         1390      KM   retention developed after 1990 in subbasin CL57
         1391      DT   XCL57    43.7     0.0
         1392      DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
         1393      DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
                   *
         1394      KK   CCL57 COMBINE
         1395      KM   Combine route RCL57 and subbasin CL57
         1396      HC       2    2.80
                   *
         1397      KK   RWL59   ROUTE
         1398      KM   Route runoff hydrograph at combination point CCL57 to combination point CWL59
         1399      RS       5    FLOW
         1400      RC   0.045   0.035   0.045    8099  0.0061    0.00
         1401      RX    0.00    0.00   40.00   50.00   60.00   70.00  110.00  110.00
         1402      RY    6.20    5.20    5.00    0.00    0.00    5.00    5.20    6.20
                   *
         1403      KK    WL59   BASIN
         1404      KM   Runoff hydrograph for subbasin WL59 near the intersection of Williams Road
         1405      KM   and 59th Avenue
         1406      BA   0.562
         1407      LG    0.17    0.32    4.70    0.29      22
         1408      UC   1.430   1.136
         1409      UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
         1410      UA     100
                   *
         1411      KK  ERWL59  DIVERT
         1412      KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
         1413      KM   retention developed after 1990 in subbasin WL59
         1414      DT   XWL59    11.1     0.0
         1415      DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
         1416      DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
                   *
         1417      KK   CWL59 COMBINE
         1418      KM   Combine route RWL59 and subbasin WL59
         1419      HC       2    3.36
                   *
         1420      KK    DV56   BASIN
         1421      KM   Runoff hydrograph for subbasin DV56 near the intersection of Deer Valley Road
         1422      KM   and 56th Avenue
         1423      BA   0.287
         1424      LG    0.10    0.33    4.65    0.27      38
         1425      UC   0.711   0.401
         1426      UA       0     3.0     5.0     8.0    12.0    20.0    43.0    75.0    90.0    96.0
         1427      UA     100
                   *
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         LINE      ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

         1428      KK   CDV56 COMBINE
         1429      KM   Combine route RDV56 and subbasin DV56
         1430      HC       2    3.65
                   *
         1431      KK  SRDV56 STORAGE
         1432      KM   Storage route runoff hydrograph from combination point CDV56 through
         1433      KM     regional detention basin located in subbasin DV56 (Arrowhead Lake 1)
         1434      KM   Stage-storage-discharge data from Glendale/Peoria ADMPU Arrowhead Lakes
         1435      KM     Hydrology Report (Volume AL), 2001
         1436      RS       1    STOR
         1437      SV            8.50   17.19   26.06   35.12   44.34   53.71   63.24   72.91
         1438      SQ          139.00  399.00  732.00 1146.00 1639.00 2202.00 2814.00 3516.00
         1439      SE            0.50    1.00    1.50    2.00    2.50    3.00    3.50    4.00
                   *
         1440      KK    LO51   BASIN
         1441      KM   Runoff hydrograph for subbasin LO51 near the intersection of SR Loop 101
         1442      KM   51st Avenue
         1443      BA   1.130
         1444      LG    0.16    0.23    4.25    0.35      47
         1445      UC   1.500   0.866
         1446      UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
         1447      UA     100
                   *
         1448      KK   CLO51 COMBINE
         1449      KM   Combine route RLO51 and subbasin LO51
         1450      HC       2    4.78
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                *
         1451      KK   D51LO  DIVERT
         1452      KM   Divert calculated full flow capacity of 38 cfs into a 36-inch storm drain
         1453      KM   pipe at the intersection of SR Loop 101 and 51st Avenue.
         1454      KM   Storm drain flow discharges to Skunk Creek and is not returned to the model.
         1455      DT   DP51LO     0.0    38.0
         1456      DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
         1457      DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
                   *
         1458      KK  SRLO51 STORAGE
         1459      KM   Storage route runoff hydrograph from combination point CLO51 through
         1460      KM     regional detention basin located in subbasin LO51 (Arrowhead Lakes 2-5)
         1461      KM   Stage-storage-discharge data from Glendale/Peoria ADMPU Arrowhead Lakes
         1462      KM     Hydrology Report (Volume AL), 2001
         1463      RS       1    STOR
         1464      SV           62.29  129.43  199.09  270.01  340.91  411.82  482.73  582.60
         1465      SQ          120.00  346.00  634.00  993.00 1421.00 1908.00 2439.00 3047.00
         1466      SE            0.50    1.00    1.50    2.00    2.50    3.00    3.50    4.00
                   *
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         LINE      ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

         1467      KK  RUHSKA   ROUTE
         1468      KM   Route runoff hydrograph at combination point CLO51 to combination point CSK01
         1469      RS       4    FLOW
         1470      RC   0.045   0.035   0.045    4440  0.0034    0.00
         1471      RX    0.00    0.00   55.00   75.00  100.00  120.00  175.00  175.00
         1472      RY   11.20   10.20   10.00    0.00    0.00   10.00   10.20   11.20
                   *
         1473      KK  DRUHSKRETRIEVE
         1474      KM   Retrieve divert DRUHSK from combination point CUH51 and divert west to
         1475      KM   combination point CUHSK
         1476      DR  DWUHSK
                   *
         1477      KK   D51SK  DIVERT
         1478      KM   Divert calculated full flow capacity of 24 cfs into a 30-inch storm drain
         1479      KM   pipe near the intersection of Skunk Creek and 51st Avenue
         1480      KM   Storm drain flow discharges to Skunk Creek and is not returned to the model.
         1481      DT   DP51SK     0.0    24.0
         1482      DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
         1483      DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
                   *
         1484      KK  RUHSKB   ROUTE
         1485      KM   Route diversion D51SK to combination point CSK01
         1486      RS       6    FLOW
         1487      RC   0.035   0.015   0.035    6960  0.0034    0.00
         1488      RX    0.00    0.00   17.50   17.50  112.50  112.50  130.00  130.00
         1489      RY    3.00    0.68    0.50    0.00    0.00    0.50    0.68    3.00
                   *
         1490      KK    UHSK   BASIN
         1491      KM   Runoff hydrograph for subbasin UHSK northeast of the intersection of Union
         1492      KM   Hills Drive and 59th Avenue
         1493      BA   0.933
         1494      LG    0.22    0.27    5.00    0.25      31
         1495      UC   1.382   0.917
         1496      UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
         1497      UA     100
                   *
         1498      KK  ERUHSK  DIVERT
         1499      KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
         1500      KM   retention developed after 1990 in subbasin UHSK
         1501      DT   XUHSK    19.7     0.0
         1502      DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
         1503      DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
                   *
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         LINE      ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

         1504      KK   CSK01 COMBINE
         1505      KM   Combine route RUHSKA, route RUHSKB, and subbasin UHSK
         1506      HC       3    6.73
                   *
         1507      KK   DUHSK  DIVERT
         1508      KM   Divert calculated full flow capacity of 10 cfs into 24-inch storm drain
         1509      KM   pipe at the intersection of Union Hills Drive and 59th Avenue
         1510      DT   DPUHSK     0.0    10.0
         1511      DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
         1512      DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
                   *
         1513      KK  DRSK67RETRIEVE
```

```
1514          KM   Retrieve divert DRSK67 from combination point CBL59 and divert west to
1515          KM   combination point CSK67
1516          DR  DWSK67
              *

1517          KK   RSK67   ROUTE
1518          KM   Route diversion retrieval DRSK67 to combination point CSK67
1519          RS       8    FLOW
1520          RC   0.035   0.015   0.035    5113  0.0037    0.00
1521          RX    0.00    0.00   68.50   68.50  359.50  359.50  428.00  428.00
1522          RY    3.00    1.18    0.50    0.00    0.00    0.50    1.18    3.00
              *

1523          KK    SK67   BASIN
1524          KM   Runoff hydrograph for subbasin SK67 northeast of the intersection of
1525          KM   Greenbriar Drive and 67th Avenue
1526          BA   0.942
1527          LG    0.25    0.26    5.20    0.24      30
1528          UC   1.423   0.783
1529          UA        0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
1530          UA      100
              *

1531          KK  ERSK67  DIVERT
1532          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
1533          KM   retention developed after 1990 in subbasin SK67
1534          DT   XSK67    28.3     0.0
1535          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
1536          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

1537          KK   CSK02 COMBINE
1538          KM   Combine route RSK67 and subbasin SK67
1539          HC       3    8.30
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1540          KK  PRUHSKRETRIEVE
1541          KM   Retrieve full flow capacity of 10 cfs from 24-inch storm drain pipe at the
1542          KM   intersection of Union Hills Drive and 59th Avenue
1543          DR  DPUHSK
              *

1544          KK  RPSK67   ROUTE
1545          KM   Route full flow capacity of 10 cfs through 24-inch storm drain pipe in
1546          KM   67th Avenue to the intersection of Greenbriar Drive and 67th Avenue
1547          RK    6044  0.0020   0.015            CIRC   2.000
              *

1548          KK  CPSK02 COMBINE
1549          KM   Combine pipe return PRUHSK with the runoff hydrograph at combination point
1550          KM   CSK67 at the intersection of Greenbriar Drive and 67th Avenue
1551          HC       2
              *

1552          KK    UH67   BASIN
1553          KM   Runoff hydrograph for subbasin UH67 near the intersection of Utopia Road
1554          KM   67th Avenue
1555          BA   0.784
1556          LG    0.23    0.25    5.80    0.17      44
1557          UC   1.291   0.927
1558          UA        0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
1559          UA      100
              *

1560          KK  ERUH67  DIVERT
1561          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
1562          KM   retention developed after 1990 in subbasin UH67
1563          DT   XUH67    66.8     0.0
1564          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
1565          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

1566          KK   RUH75   ROUTE
1567          KM   Route runoff hydrograph at subbasin UH67 to combination point CUH75
1568          RS       10    FLOW
1569          RC   0.045   0.035   0.045    7047  0.0021    0.00
1570          RX    0.00    0.00   19.00   25.00   30.00   36.00   55.00   55.00
1571          RY    4.10    3.10    3.00    0.00    0.00    3.00    3.10    4.10
              *

1572          KK    UH75   BASIN
1573          KM   Runoff hydrograph for subbasin UH75 near the intersection of Union Hills
1574          KM   Road and 75th Avenue
1575          BA   0.814
1576          LG    0.22    0.15    7.30    0.11      29
1577          UC   1.500   1.021
1578          UA        0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
1579          UA      100
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1580          KK  ERUH75  DIVERT
1581          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
1582          KM   retention developed after 1990 in subbasin UH75
1583          DT   XUH75    65.2     0.0
1584          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
1585          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

1586          KK   CUH75 COMBINE
1587          KM   Combine route RUH75 and subbasin UH75
1588          HC       2    1.60
              *

1589          KK  RBL75A   ROUTE
1590          KM   Route runoff hydrograph at combination point CUH75 to combination point CSK03
1591          RS       6    FLOW
1592          RC   0.045   0.035   0.045    4730  0.0037    0.00
1593          RX    0.00    0.00   19.00   25.00   30.00   36.00   55.00   55.00
1594          RY    4.10    3.10    3.00    0.00    0.00    3.00    3.10    4.10
              *

1595          KK  DRBL75RETRIEVE
1596          KM   Retrieve divert DRBL75 from combination point CBL67 and divert west to
1597          KM   combination point CSK03
1598          DR  DWBL75
              *

1599          KK  RBL75B   ROUTE
1600          KM   Route diversion retrieval DRBL75 to combination point CSK03
1601          RS       3    FLOW
1602          RC   0.035   0.015   0.035    2940  0.0048    0.00
1603          RX    0.00    0.00   17.50   17.50  112.50  112.50  130.00  130.00
1604          RY    3.00    0.68    0.50    0.00    0.00    0.50    0.68    3.00
              *

1605          KK    BL75   BASIN
1606          KM   Runoff hydrograph for subbasin BL75 near the intersection of Bell Road
1607          KM   75th Avenue
1608          BA   1.063
1609          LG    0.24    0.26    5.20    0.24      30
1610          UC   1.500   0.980
1611          UA        0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
1612          UA      100
              *

1613          KK  ERBL75  DIVERT
1614          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
1615          KM   retention developed after 1990 in subbasin BL75
1616          DT   XBL75    13.2     0.0
1617          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
1618          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1619          KK   CSK03 COMBINE
1620          KM   Combine route RBL75A, route RBL75B and subbasin BL75
1621          HC       4   11.22
              *

1622          KK    UHLO   BASIN
1623          KM   Runoff hydrograph for subbasin UHLO near the intersection of SR Loop 101 and
1624          KM   Union Hills Drive
1625          BA   0.822
1626          LG    0.21    0.25    5.80    0.19      31
1627          UC   1.246   0.619
1628          UA        0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
1629          UA      100
              *

1630          KK  ERUHLO  DIVERT
1631          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
1632          KM   retention developed after 1990 in subbasin UHLO
1633          DT   XUHLO    66.5     0.0
1634          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
1635          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

1636          KK   RBLLO   ROUTE
1637          KM   Route runoff hydrograph at subbasin UHLO to combination point CBLLO
1638          RS       10    FLOW
1639          RC   0.035   0.015   0.035    9255  0.0033    0.00
1640          RX    0.00    0.00   17.50   17.50  112.50  112.50  130.00  130.00
1641          RY    3.00    0.68    0.50    0.00    0.00    0.50    0.68    3.00
              *
```

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1642          KK    BLLO   BASIN
1643          KM    Runoff hydrograph for subbasin BLLO near the intersection of Bell Road and
1644          KM    SR Loop 101
1645          BA    0.765
1646          LG     0.18    0.25    4.35    0.34      55
1647          UC    1.327   0.923
1648          UA        0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
1649          UA      100
              *

1650          KK   ERBLLO  DIVERT
1651          KM    Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
1652          KM    retention developed after 1990 in subbasin BLLO
1653          DT    XBLLO    70.9     0.0
1654          DI      0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
1655          DQ      0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *
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          LINE        ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1656          KK    CBLLO COMBINE
1657          KM    Combine route RBLLO and subbasin BLLO
1658          HC         2    1.59
              *

1659          KK    DBLLO  DIVERT
1660          KM    Divert calculated full flow capacity of 169 cfs into 84-inch storm drain
1661          KM    pipe at the intersection of Bell Road and SR Loop 101
1662          DT   DPBLLO     0.0   169.0
1663          DI      0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
1664          DQ      0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

1665          KK    RGWLO   ROUTE
1666          KM    Route diversion DBLLO to combination point CSK04
1667          RS        9    FLOW
1668          RC    0.035   0.015   0.035    6833  0.0066    0.00
1669          RX     0.00    0.00   16.50   16.50  107.50  107.50  124.00  124.00
1670          RY     3.00    0.66    0.50    0.00    0.00    0.50    0.66    3.00
              *

1671          KK     GWLO   BASIN
1672          KM    Runoff hydrograph for subbasin GWLO near the intersection of Greenway Road
1673          KM    and SR Loop 101
1674          BA    0.814
1675          LG     0.10    0.25    4.20    0.43      60
1676          UC    0.751   0.470
1677          UA        0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
1678          UA      100
              *

1679          KK   ERGWLO  DIVERT
1680          KM    Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
1681          KM    retention developed after 1990 in subbasin GWLO
1682          DT    XGWLO    54.1     0.0
1683          DI      0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
1684          DQ      0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

1685          KK    CSK04 COMBINE
1686          KM    Combine route RGWLO and subbasin GWLO
1687          HC         4   37.07
              *

1688          KK   PRBLLORETRIEVE
1689          KM    Retrieve full flow capacity of 169 cfs from 84-inch storm drain pipe at the
1690          KM    intersection of Bell Road and SR Loop 101
1691          DR   DPBLLO
              *
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          LINE        ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1692          KK    RPGWLO   ROUTE
1693          KM    Route full flow capacity of 169 cfs through 84-inch storm drain pipe in
1694          KM    Greenway Road to the intersection of Greenway Road and SR Loop 101
1695          RK     2236  0.0007   0.015             CIRC    7.000
              *

1696          KK   CPSK04 COMBINE
1697          KM    Combine pipe return PRBLLO with the runoff hydrograph at combination point
1698          KM    CSK04 at the intersection of Greenway Road and SR Loop 101
1699          HC         2
              *

1700          KK     JM63   BASIN
1701          KM    Runoff hydrograph for subbasin JM63 near the intersection of Pyramid Peak
1702          KM    Boulevard and Bent Tree Drive
1703          BA    0.840
1704          LG     0.20    0.28    5.10    0.24      24
```



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1705          UC    1.083   0.578
1706          UA        0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
1707          UA      100
              *

1708          KK   ERJM63  DIVERT
1709          KM    Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
1710          KM    retention developed after 1990 in subbasin JM63
1711          DT    XJM63    50.3     0.0
1712          DI      0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
1713          DQ      0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

1714          KK    RJM67   ROUTE
1715          KM    Route runoff hydrograph at subbasin JM63 to combination point CJM67
1716          RS        2    FLOW
1717          RC    0.045   0.020   0.045    4129  0.0076    0.00
1718          RX     0.00    0.00   19.00   25.00   30.00   36.00   55.00   55.00
1719          RY     4.10    3.10    3.00    0.00    0.00    3.00    3.10    4.10
              *

1720          KK     JM67   BASIN
1721          KM    Runoff hydrograph for subbasin JM67 near the intersection of Pyramid Peak
1722          KM    Boulevard and and 67th Avenue
1723          BA    0.381
1724          LG     0.23    0.27    4.35    0.36      36
1725          UC    0.969   0.673
1726          UA        0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
1727          UA      100
              *

1728          KK   ERJM67  DIVERT
1729          KM    Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
1730          KM    retention developed after 1990 in subbasin JM67
1731          DT    XJM67    23.6     0.0
1732          DI      0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
1733          DQ      0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *
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          LINE        ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1734          KK    CJM67 COMBINE
1735          KM    Combine route RJM67 and subbasin JM67
1736          HC         2    1.22
              *

1737          KK    RHV75   ROUTE
1738          KM    Route runoff hydrograph at combination point CJM67 to combination point CHV75
1739          RS        2    FLOW
1740          RC    0.045   0.020   0.045    7197  0.0099    0.00
1741          RX     0.00    0.00   40.00   50.00   60.00   70.00  110.00  110.00
1742          RY     6.20    5.20    5.00    0.00    0.00    5.00    5.20    6.20
              *

1743          KK     HV75   BASIN
1744          KM    Runoff hydrograph for subbasin HV75 near the intersection of Happy Valley
1745          KM    Road and 75th Avenue
1746          BA    0.958
1747          LG     0.24    0.26    4.10    0.41      28
1748          UC    1.335   0.769
1749          UA        0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
1750          UA      100
              *

1751          KK   ERHV75  DIVERT
1752          KM    Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
1753          KM    retention developed after 1990 in subbasin HV75
1754          DT    XHV75    70.2     0.0
1755          DI      0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
1756          DQ      0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

1757          KK    CHV75 COMBINE
1758          KM    Combine route RHV75 and subbasin HV75
1759          HC         2    2.18
              *

1760          KK     JM80   BASIN
1761          KM    Runoff hydrograph for subbasin JM80 near the intersection of Jomax Road
1762          KM    and 80th Avenue
1763          BA    0.164
1764          LG     0.24    0.25    3.88    0.42      34
1765          UC    0.807   0.600
1766          UA        0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
1767          UA      100
              *

1768          KK     JM76   BASIN
1769          KM    Runoff hydrograph for subbasin JM76 near the intersection of Jomax Road
1770          KM    and 76th Avenue
1771          BA    0.169
```

```
1772          LG    0.21    0.28    3.92    0.41      22
1773          UC   1.057   0.925
1774          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
1775          UA     100
              *
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LINE          ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10


1776          KK  ERJM76  DIVERT
1777          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
1778          KM   retention developed after 1990 in subbasin JM76
1779          DT   XJM76      6.5      0.0
1780          DI     0.0 50000.0      0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
1781          DQ     0.0 50000.0      0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

1782          KK    JMNR    BASIN
1783          KM   Runoff hydrograph for subbasin JMNR near the intersection of Jomax Road
1784          KM   and New River
1785          BA   0.149
1786          LG    0.17    0.31    3.29    0.63      13
1787          UC   1.409   1.602
1788          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
1789          UA     100
              *

1790          KK   CNR01 COMBINE
1791          KM   Combine route subbasin JM76, and subbasin JMNR
1792          HC       3    0.48
              *

1793          KK    JM75    BASIN
1794          KM   Runoff hydrograph for subbasin JM75 near the intersection of Jomax Road
1795          KM   and 75th Avenue
1796          BA   1.112
1797          LG    0.18    0.30    4.30    0.34      26
1798          UC   0.910   0.417
1799          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
1800          UA     100
              *

1801          KK  ERJM75  DIVERT
1802          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
1803          KM   retention developed after 1990 in subbasin JM75
1804          DT   XJM75     43.3      0.0
1805          DI     0.0 50000.0      0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
1806          DQ     0.0 50000.0      0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

1807          KK    HVNR    BASIN
1808          KM   Runoff hydrograph for subbasin HVNR near the intersection of Happy Valley
1809          KM   Road and New River
1810          BA   0.202
1811          LG    0.10    0.35    3.48    0.55       0
1812          UC   1.500   1.615
1813          UA       0     3.0     5.0     8.0    12.0    20.0    43.0    75.0    90.0    96.0
1814          UA     100
              *
1                                        HEC-1 INPUT                                        PAGE 48

LINE          ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10


1815          KK   CNR02 COMBINE
1816          KM   Combine subbasin HVNR
1817          HC       4    3.98
              *

1818          KK    HV67    BASIN
1819          KM   Runoff hydrograph for subbasin HV67 near the intersection of Happy Valley
1820          KM   Road and 67th Avenue
1821          BA   0.544
1822          LG    0.22    0.27    4.20    0.41      59
1823          UC   0.726   0.436
1824          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
1825          UA     100
              *

1826          KK  ERHV67  DIVERT
1827          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
1828          KM   retention developed after 1990 in subbasin HV67
1829          DT   XHV67     31.6      0.0
1830          DI     0.0 50000.0      0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
1831          DQ     0.0 50000.0      0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

1832          KK   RCL67   ROUTE
1833          KM   Route runoff hydrograph at subbasin HV67 to combination point CCL67
1834          RS       2    FLOW
1835          RC   0.045   0.035   0.045    3990  0.0076    0.00
1836          RX    0.00    0.00   40.00   50.00   60.00   70.00  110.00  110.00
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1837          RY   6.20    5.20    5.00    0.00    0.00    5.00    5.20    6.20
              *

1838          KK    CL67    BASIN
1839          KM   Runoff hydrograph for subbasin CL67 near the intersection of Calle Lejos Road
1840          KM   67th Avenue
1841          BA   0.275
1842          LG    0.22    0.27    4.40    0.38      24
1843          UC   1.181   1.139
1844          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
1845          UA     100
              *

1846          KK  ERCL67  DIVERT
1847          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
1848          KM   retention developed after 1990 in subbasin CL67
1849          DT   XCL67     16.7      0.0
1850          DI     0.0 50000.0      0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
1851          DQ     0.0 50000.0      0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *
1                                        HEC-1 INPUT                                        PAGE 49

LINE          ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10


1852          KK   CCL67 COMBINE
1853          KM   Combine route RCL67 and subbasin CL67
1854          HC       2    0.82
              *

1855          KK  RPP73A    ROUTE
1856          KM   Route runoff hydrograph at combination point CCL67 to combination point CPP73
1857          RS       4    FLOW
1858          RC   0.045   0.035   0.045    5599  0.0045    0.00
1859          RX    0.00    0.00   40.00   50.00   60.00   70.00  110.00  110.00
1860          RY    6.20    5.20    5.00    0.00    0.00    5.00    5.20    6.20
              *

1861          KK    PP67    BASIN
1862          KM   Runoff hydrograph for subbasin PP67 near the intersection of Pinnacle Peak
1863          KM   Road and 67th Avenue
1864          BA   0.096
1865          LG    0.30    0.25    4.55    0.41       6
1866          UC   1.212   1.354
1867          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
1868          UA     100
              *

1869          KK  ERPP67  DIVERT
1870          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
1871          KM   retention developed after 1990 in subbasin PP67
1872          DT   XPP67      5.8      0.0
1873          DI     0.0 50000.0      0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
1874          DQ     0.0 50000.0      0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

1875          KK  DWPP73  DIVERT
1876          KM   Divert remaining runoff hydrograph at subbasin PP67 west to combination point
1877          KM   CPP73
1878          DT  DSWL67      0.0      0.0
1879          DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
1880          DQ     0.0    32.0    64.0   160.0   320.0   640.0  1280.0  3200.0  6400.0 16000.0
              *

1881          KK  RPP73B    ROUTE
1882          KM   Route diversion DWPP73 west to combination point CPP73
1883          RS       1    FLOW
1884          RC   0.035   0.015   0.035    3886  0.0064    0.00
1885          RX    0.00    0.00   16.50   16.50  107.50  107.50  124.00  124.00
1886          RY    3.00    0.66    0.50    0.00    0.00    0.50    0.66    3.00
              *

1887          KK    PP73    BASIN
1888          KM   Runoff hydrograph for subbasin PP73 near the intersection of Pinnacle Peak
1889          KM   Road and 73rd Avenue
1890          BA   0.545
1891          LG    0.29    0.25    4.70    0.31      18
1892          UC   1.251   0.806
1893          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
1                                        HEC-1 INPUT                                        PAGE 50

LINE          ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10


1894          UA     100
              *

1895          KK  ERPP73  DIVERT
1896          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
1897          KM   retention developed after 1990 in subbasin PP73
1898          DT   XPP73     10.3      0.0
1899          DI     0.0 50000.0      0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
1900          DQ     0.0 50000.0      0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *
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1901          KK  CPP73 COMBINE
1902          KM  Combine route RPP73A, route RPP73B, and subbasin PP73
1903          HC       3    1.43
              *

1904          KK  DWPP75  DIVERT
1905          KM  Divert remaining runoff hydrograph at combination point CPP73 west to
1906          KM  combination point CPP75
1907          DT  DSWL75      0.0      0.0
1908          DI     0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0  10000.0  20000.0  50000.0
1909          DQ     0.0     41.0     82.0    205.0    410.0    820.0   1640.0   4100.0   8200.0  20500.0
              *

1910          KK  RPPNR   ROUTE
1911          KM  Route diversion DWPP75 west to combination point CNR03
1912          RS       1    FLOW
1913          RC  0.045   0.020   0.045    1225  0.0052    0.00
1914          RX   0.00    0.00   40.00   50.00   60.00   70.00  110.00  110.00
1915          RY   6.20    5.20    5.00    0.00    0.00    5.00    5.20    6.20
              *

1916          KK   PP75   BASIN
1917          KM  Runoff hydrograph for subbasin PP75 near the intersection of Pinnacle Peak
1918          KM  Road and 75th Avenue
1919          BA  0.420
1920          LG   0.26    0.26    4.25    0.42      30
1921          UC  1.017   0.720
1922          UA      0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
1923          UA    100
              *

1924          KK  ERPP75  DIVERT
1925          KM  Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
1926          KM  retention developed after 1990 in subbasin PP75
1927          DT  XPP75     20.3      0.0
1928          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
1929          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
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LINE          ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

1930          KK   PPNR   BASIN
1931          KM  Runoff hydrograph for subbasin PPNR near the intersection of Pinnacle Peak
1932          KM  Road and New River
1933          BA  0.237
1934          LG   0.18    0.31    3.53    0.53       6
1935          UC  1.500   1.444
1936          UA      0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
1937          UA    100
              *

1938          KK  ERPPNR  DIVERT
1939          KM  Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
1940          KM  retention developed after 1990 in subbasin PPNR
1941          DT  XPPNR     5.1      0.0
1942          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
1943          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

1944          KK  CNR03 COMBINE
1945          KM  Combine route RPPNR and subbasin PPNR
1946          HC       4    5.47
              *

1947          KK  DRWL75RETRIEVE
1948          KM  Retrieve divert DRWL75 from combination point CPP73 and divert to
1949          KM  combination point CWL75
1950          DR  DSWL75
              *

1951          KK  RWL75B   ROUTE
1952          KM  Route diversion retrieval DRWL75 to combination point CWL75
1953          RS       1    FLOW
1954          RC   0.035   0.015   0.035    2577  0.0049    0.00
1955          RX    0.00    0.00    7.00    7.00   43.00   43.00   50.00   50.00
1956          RY    3.00    0.57    0.50    0.00    0.00    0.50    0.57    3.00
              *

1957          KK  DRWL67RETRIEVE
1958          KM  Retrieve divert DRWL67 from subbasin PP67 and divert to combination point
1959          KM  CTB67
1960          DR  DSWL67
              *

1961          KK  RWL67   ROUTE
1962          KM  Route diversion retrieval DRWL67 to combination point CWL67
1963          RS       1    FLOW
1964          RC   0.035   0.015   0.035    1195  0.0014    0.00
1965          RX    0.00    0.00   20.50   20.50   89.50   89.50  110.00  110.00
1966          RY    3.00    0.70    0.50    0.00    0.00    0.50    0.70    3.00
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LINE          ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

1967          KK   WL67   BASIN
1968          KM  Runoff hydrograph for subbasin WL67 near the intersection of Thunderbird Park
1969          KM  Road and 67th Avenue
1970          BA  0.103
1971          LG   0.24    0.28    4.70    0.34       6
1972          UC  1.246   1.371
1973          UA      0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
1974          UA    100
              *

1975          KK  ERWL67  DIVERT
1976          KM  Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
1977          KM  retention developed after 1990 in subbasin WL67
1978          DT  XWL67      4.3      0.0
1979          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
1980          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

1981          KK  CWL67 COMBINE
1982          KM  Combine route RWL67 and subbasin WL67
1983          HC       2    0.13
              *

1984          KK  RWL75A   ROUTE
1985          KM  Route runoff hydrograph at combination point CWL67 to combination point CWL75
1986          RS       9    FLOW
1987          RC   0.035   0.015   0.035    5062  0.0072    0.00
1988          RX    0.00    0.00    7.00    7.00   43.00   43.00   50.00   50.00
1989          RY    3.00    0.57    0.50    0.00    0.00    0.50    0.57    3.00
              *

1990          KK   WL75   BASIN
1991          KM  Runoff hydrograph for subbasin WL75 near the intersection of Williams Road
1992          KM  Road and 75th Avenue
1993          BA  0.475
1994          LG   0.29    0.25    4.70    0.31      25
1995          UC  1.152   0.755
1996          UA      0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
1997          UA    100
              *

1998          KK  ERWL75  DIVERT
1999          KM  Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
2000          KM  retention developed after 1990 in subbasin WL75
2001          DT  XWL75     18.0      0.0
2002          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
2003          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
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LINE          ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

2004          KK   CWL75 COMBINE
2005          KM  Combine route RWL75A, route RWL75B, and subbasin WL75
2006          HC       3    1.20
              *

2007          KK   WWBR   BASIN
2008          KM  Runoff hydrograph for subbasin WWBR near the intersection of Westwing Parkway
2009          KM  and Black Rock Boulevard
2010          BA  0.184
2011          LG   0.22    0.19    7.00    0.10      26
2012          UC  0.469   0.293
2013          UA      0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
2014          UA    100
              *

2015          KK  ERWWBR  DIVERT
2016          KM  Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
2017          KM  retention developed after 1990 in subbasin WWBR
2018          DT  XWWBR     12.2      0.0
2019          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
2020          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

2021          KK   RWWRS   ROUTE
2022          KM  Route runoff hydrograph at subbasin WWBR to combination point CWWRS
2023          RS       2    FLOW
2024          RC   0.045   0.035   0.045    2599  0.0063    0.00
2025          RX    0.00    0.00   19.00   25.00   30.00   36.00   55.00   55.00
2026          RY    4.10    3.10    3.00    0.00    0.00    3.00    3.10    4.10
              *

2027          KK   WWRS   BASIN
2028          KM  Runoff hydrograph for subbasin WWRS near the intersection of Westwing Parkway
2029          KM  and Rock Springs wash
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2030          BA   0.144
2031          LG    0.20    0.26    4.30    0.44      32
2032          UC   0.707   0.610
2033          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
2034          UA     100
              *

2035          KK  ERWWRS  DIVERT
2036          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
2037          KM   retention developed after 1990 in subbasin WWRS
2038          DT   XWWRS      7.1      0.0
2039          DI     0.0 50000.0      0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
2040          DQ     0.0 50000.0      0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *
1                                        HEC-1 INPUT                                        PAGE 54

LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

2041          KK   CWWRS COMBINE
2042          KM   Combine route RWWRS and subbasin WWRS
2043          HC       2    0.33
              *

2044          KK   RJMRS   ROUTE
2045          KM   Route runoff hydrograph at combination point CWWRS to combination point CJMRS
2046          RS       3    FLOW
2047          RC   0.045   0.035   0.045    4005  0.0060    0.00
2048          RX    0.00    0.00   40.00   50.00   60.00   70.00  110.00  110.00
2049          RY    6.20    5.20    5.00    0.00    0.00    5.00    5.20    6.20
              *

2050          KK    JMRS   BASIN
2051          KM   Runoff hydrograph for subbasin JMRS near the intersection of Jomax Road and
2052          KM   Rock Springs wash
2053          BA   0.567
2054          LG    0.23    0.27    5.30    0.21      29
2055          UC   1.052   0.708
2056          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
2057          UA     100
              *

2058          KK  ERJMRS  DIVERT
2059          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
2060          KM   retention developed after 1990 in subbasin JMRS
2061          DT   XJMRS     37.8      0.0
2062          DI     0.0 50000.0      0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
2063          DQ     0.0 50000.0      0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

2064          KK   CJMRS COMBINE
2065          KM   Combine route RJMRS and subbasin JMRS
2066          HC       2    0.90
              *

2067          KK  RHVRSB   ROUTE
2068          KM   Route runoff hydrograph at combination point CJMRS to combination point CHVRS
2069          RS       6    FLOW
2070          RC   0.045   0.035   0.045    5791  0.0051    0.00
2071          RX    0.00    0.00   19.00   25.00   30.00   36.00   55.00   55.00
2072          RY    4.10    3.10    3.00    0.00    0.00    3.00    3.10    4.10
              *

2073          KK    83RS   BASIN
2074          KM   Runoff hydrograph for subbasin 83RS near the intersection of 83rd Avenue and
2075          KM   Rock Springs wash
2076          BA   0.638
2077          LG    0.22    0.27    4.50    0.31      47
2078          UC   0.635   0.268
2079          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
2080          UA     100
              *
1                                        HEC-1 INPUT                                        PAGE 55

LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

2081          KK  ER83RS  DIVERT
2082          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
2083          KM   retention developed after 1990 in subbasin 83RS
2084          DT   X83RS     41.0      0.0
2085          DI     0.0 50000.0      0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
2086          DQ     0.0 50000.0      0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

2087          KK  RHVRSA   ROUTE
2088          KM   Route runoff hydrograph at subbasin 83RS to combination point CHVRS
2089          RS       4    FLOW
2090          RC   0.045   0.035   0.045    6390  0.0071    0.00
2091          RX    0.00    0.00   40.00   50.00   60.00   70.00  110.00  110.00
2092          RY    6.20    5.20    5.00    0.00    0.00    5.00    5.20    6.20
              *
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2093          KK    HVRS   BASIN
2094          KM   Runoff hydrograph for subbasin HVRS near the intersection of Happy Valley
2095          KM   Road and Rock Springs wash
2096          BA   0.630
2097          LG    0.23    0.27    4.10    0.40      25
2098          UC   1.362   0.914
2099          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
2100          UA     100
              *

2101          KK  ERHVRS  DIVERT
2102          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
2103          KM   retention developed after 1990 in subbasin HVRS
2104          DT   XHVRS     38.8      0.0
2105          DI     0.0 50000.0      0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
2106          DQ     0.0 50000.0      0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

2107          KK   CHVRS COMBINE
2108          KM   Combine route RHVRSA, route RHVRSB, and subbasin HVRS
2109          HC       3    2.16
              *

2110          KK  RCL77B   ROUTE
2111          KM   Route runoff hydrograph at combination point CHVRS to combination point CCL77
2112          RS       2    FLOW
2113          RC   0.045   0.035   0.045    2864  0.0057    0.00
2114          RX    0.00  480.00  500.00  518.00  544.00  609.00  900.00 1121.00
2115          RY   11.00   10.00    0.00    0.20   10.00   11.00   12.00   13.00
              *

2116          KK    HV83   BASIN
2117          KM   Runoff hydrograph for subbasin HV83 near the intersection of Happy Valley
2118          KM   Road and 83rd Avenue
2119          BA   0.035
2120          LG    0.27    0.25    4.15    0.41      42
2121          UC   0.400   0.418
2122          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
1                                        HEC-1 INPUT                                        PAGE 56

LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

2123          UA     100
              *

2124          KK  ERHV83  DIVERT
2125          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
2126          KM   retention developed after 1990 in subbasin HV83
2127          DT   XHV83      2.3      0.0
2128          DI     0.0 50000.0      0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
2129          DQ     0.0 50000.0      0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

2130          KK  RCL77A   ROUTE
2131          KM   Route runoff hydrograph at subbasin HV83 to combination point CCL77
2132          RS       2    FLOW
2133          RC   0.045   0.035   0.045    3884  0.0111    0.00
2134          RX    0.00    0.00   19.00   25.00   30.00   36.00   55.00   55.00
2135          RY    4.10    3.10    3.00    0.00    0.00    3.00    3.10    4.10
              *

2136          KK    CL77   BASIN
2137          KM   Runoff hydrograph for subbasin CL77 near the intersection of Calle Lejos Road
2138          KM   and 77th Avenue
2139          BA   0.316
2140          LG    0.28    0.26    4.40    0.38      14
2141          UC   0.906   0.582
2142          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
2143          UA     100
              *

2144          KK  ERCL77  DIVERT
2145          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
2146          KM   retention developed after 1990 in subbasin CL77
2147          DT   XCL77     19.1      0.0
2148          DI     0.0 50000.0      0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
2149          DQ     0.0 50000.0      0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

2150          KK   CCL77 COMBINE
2151          KM   Combine route RCL77A, route RCL77B, and subbasin CL77
2152          HC       3    2.51
              *

2153          KK   RPP77   ROUTE
2154          KM   Route runoff hydrograph at combination point CCL77 to combination point CPP77
2155          RS      10    FLOW
2156          RC   0.045   0.035   0.045    2947  0.0041    0.00
2157          RX    0.00  480.00  500.00  518.00  544.00  609.00  900.00 1121.00
2158          RY   11.00   10.00    0.00    0.20   10.00   11.00   12.00   13.00
              *
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LINE        ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

2159        KK    PP77    BASIN
2160        KM    Runoff hydrograph for subbasin PP77 near the intersection of Pinnacle Peak
2161        KM    Road and 77th Avenue
2162        BA    0.270
2163        LG     0.30    0.25    4.20    0.45      14
2164        UC    1.460   1.346
2165        UA        0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
2166        UA      100
            *

2167        KK   ERPP77   DIVERT
2168        KM    Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
2169        KM    retention developed after 1990 in subbasin PP77
2170        DT    XPP77      8.9     0.0
2171        DI      0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
2172        DQ      0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
            *

2173        KK    CPP77 COMBINE
2174        KM    Combine route RPP77 and subbasin PP77
2175        HC        2    2.78
            *

2176        KK    RWLNR    ROUTE
2177        KM    Route runoff hydrograph at combination point CPP77 to combination point CNR04
2178        RS        2     FLOW
2179        RC    0.045   0.035   0.045    3822  0.0048    0.00
2180        RX     0.00  256.00  372.00  397.00  407.00  419.00  464.00  800.00
2181        RY    12.00   10.00    8.00    0.00    0.00    6.00    8.00   12.00
            *

2182        KK     WLNR    BASIN
2183        KM    Runoff hydrograph for subbasin WLNR near the intersection of Williams Road
2184        KM    New River
2185        BA    0.390
2186        LG     0.24    0.26    4.70    0.29      33
2187        UC    1.131   0.743
2188        UA        0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
2189        UA      100
            *

2190        KK    CNR04 COMBINE
2191        KM    Combine route RWLNR and subbasin WLNR
2192        HC        4    9.84
            *

2193        KK     DV75    BASIN
2194        KM    Runoff hydrograph for subbasin DV75 near the intersection of Deer Valley Road
2195        KM    and 75th Avenue
2196        BA    0.501
2197        LG     0.24    0.25    4.90    0.26      34
2198        UC    1.354   1.051
2199        UA        0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
2200        UA      100
            *
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LINE        ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

2201        KK   ERDV75   DIVERT
2202        KM    Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
2203        KM    retention developed after 1990 in subbasin DV75
2204        DT    XDV75     22.6      0.0
2205        DI      0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
2206        DQ      0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
            *

2207        KK   DWDVNR   DIVERT
2208        KM    Divert remaining runoff hydrograph at subbasin DV75 west to combination point
2209        KM    CNR05
2210        DT    DSLO75      0.0     0.0
2211        DI       0.0     1.0    92.0   274.0   365.0   456.0   546.0   700.0   800.0  1000.0
2212        DQ       0.0     0.0    26.0    70.0    87.0   109.0   131.0   167.0   191.0   239.0
            *

2213        KK    RDVNR    ROUTE
2214        KM    Route diversion DWDVNR west to combination point CNR05
2215        RS        2     FLOW
2216        RC    0.045   0.015   0.045    2707  0.0015    0.00
2217        RX     0.00    0.00   19.00   25.00   30.00   36.00   55.00   55.00
2218        RY     4.10    3.10    3.00    0.00    0.00    3.00    3.10    4.10
            *

2219        KK     DVNR    BASIN
2220        KM    Runoff hydrograph for subbasin DVNR near the intersection of Deer Valley Road
2221        KM    and New River
2222        BA    0.401
2223        LG     0.23    0.26    4.35    0.34      33
2224        UC    1.376   0.965
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2225        UA        0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
2226        UA      100
            *

2227        KK    CNR05 COMBINE
2228        KM    Combine route RDVNR and subbasin DVNR
2229        HC        3   10.50
            *

2230        KK     DV67    BASIN
2231        KM    Runoff hydrograph for subbasin DV67 near the intersection of Deer Valley Road
2232        KM    and 67th Avenue
2233        BA    0.503
2234        LG     0.18    0.29    4.55    0.32      38
2235        UC    0.518   0.205
2236        UA        0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
2237        UA      100
            *
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LINE        ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

2238        KK   SRDV67 STORAGE
2239        KM    Storage route runoff hydrograph from combination point CDV67 thru regional
2240        KM      detention basin located in subbasin DV67 (Arrowhead Lakes 6, 7, and 11-13)
2241        KM    Stage-storage-discharge data from Glendale/Peoria ADMPU Arrowhead Lakes
2242        KM      Hydrology Report (Volume AL), 2001
2243        RS        1     STOR
2244        SV             4.49    9.21   14.15   19.27   24.51   29.86   35.24   40.67
2245        SQ            91.00  285.00  566.00  886.00 1243.00 1638.00 2064.00 2523.00
2246        SE             0.50    1.00    1.50    2.00    2.50    3.00    3.50    4.00
            *

2247        KK     LO67    BASIN
2248        KM    Runoff hydrograph for subbasin LO67 near the intersection of SR Loop 101 and
2249        KM    67th Avenue
2250        BA    1.217
2251        LG     0.20    0.25    5.70    0.20      33
2252        UC    1.345   0.643
2253        UA        0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
2254        UA      100
            *

2255        KK    CLO67 COMBINE
2256        KM    Combine route RLO67 and subbasin LO67
2257        HC        2    1.72
            *

2258        KK   SRLO67 STORAGE
2259        KM    Storage route runoff hydrograph from combination point CLO67 thru regional
2260        KM      detention basin located in subbasin LO67 (Arrowhead Lakes 8-10 and 14-20)
2261        KM    Stage-storage-discharge data from Glendale/Peoria ADMPU Arrowhead Lakes
2262        KM      Hydrology Report (Volume AL), 2001
2263        RS        1     STOR
2264        SV            12.86   26.19   39.86   53.86   69.64   84.08  100.17  114.88  149.69
2265        SV   188.50
2266        SQ        9      41     100     175     245     326     396     502     657     703
2267        SQ      749
2268        SE     0.00    0.50    1.00    1.50    2.00    2.50    3.00    3.50    4.00    4.50
2269        SE     5.00
            *

2270        KK     LO75    BASIN
2271        KM    Runoff hydrograph for subbasin LO75 near the intersection of SR Loop 101 and
2272        KM    75th Avenue
2273        BA    0.970
2274        LG     0.24    0.25    6.00    0.16      34
2275        UC    1.342   0.691
2276        UA        0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
2277        UA      100
            *
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LINE        ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

2278        KK   ERLO75   DIVERT
2279        KM    Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
2280        KM    retention developed after 1990 in subbasin LO75
2281        DT    XLO75     34.3      0.0
2282        DI      0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
2283        DQ      0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
            *

2284        KK    CLO75 COMBINE
2285        KM    Combine storage route SRLO67 and subbasin LO75
2286        HC        2    2.69
            *

2287        KK   SRLO75 STORAGE
2288        KM    Storage route runoff hydrograph from combination point CLO75 thru regional
2289        KM      detention basin located in subbasin LO75 (Arrowhead Lakes L21AP1 to L21AP5)
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2290          KM   Stage-storage-discharge data from Glendale/Peoria ADMPU Arrowhead Lakes
2291          KM     Hydrology Report (Volume AL), 2001
2292          RS       1    STOR
2293          SV            12.58   31.24   52.02
2294          SQ            46.00  418.00  768.00
2295          SE             0.50    1.00    1.50
              *

2296          KK  DRLO75RETRIEVE
2297          KM   Retrieve divert DROL75 from subbasin DV75 and divert to combination point
2298          KM   CLO75
2299          DR  DSLO75
              *

2300          KK   RLO75   ROUTE
2301          KM   Route diversion DRLO75 to combination point CLO75
2302          RS       8    FLOW
2303          RC   0.035   0.015   0.035    7499  0.0047    0.00
2304          RX    0.00    0.00   13.00   13.00   55.00   55.00   68.00   68.00
2305          RY    3.00    0.63    0.50    0.00    0.00    0.50    0.63    3.00
              *

2306          KK  CILO75 COMBINE
2307          KM   Combine route RLO75A and storage route SRLO75
2308          HC       2    2.94
              *

2309          KK  RBYNRB   ROUTE
2310          KM   Route runoff hydrograph at combination point CLO75 to combination point CBYNR
2311          RS       1    FLOW
2312          RC   0.045   0.015   0.045    3176  0.0058    0.00
2313          RX    0.00    3.00    5.00   29.00   41.00   65.00   67.00   70.00
2314          RY   13.00   12.00   12.00    0.00    0.00   12.00   12.00   13.00
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9.....10
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2315          KK    PP81   BASIN
2316          KM   Runoff hydrograph for subbasin PP81 near the intersection of Pinnacle Peak
2317          KM   Road and 81st Avenue
2318          BA   0.197
2319          LG    0.30    0.25    6.00    0.18      15
2320          UC   0.890   0.523
2321          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
2322          UA     100
              *

2323          KK  ERPP81  DIVERT
2324          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
2325          KM   retention developed after 1990 in subbasin PP81
2326          DT   XPP81     12.8      0.0
2327          DI       0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
2328          DQ       0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

2329          KK   RWL83   ROUTE
2330          KM   Route runoff hydrograph at subbasin PP81 to combination point CWL83
2331          RS       4    FLOW
2332          RC   0.045   0.035   0.045    3222  0.0050    0.00
2333          RX    0.00    0.00   19.00   25.00   30.00   36.00   55.00   55.00
2334          RY    4.10    3.10    3.00    0.00    0.00    3.00    3.10    4.10
              *

2335          KK    WL83   BASIN
2336          KM   Runoff hydrograph for subbasin WL83 near the intersection of Williams Road
2337          KM   and 83rd Avenue
2338          BA   0.125
2339          LG    0.30    0.10   11.20    0.02      15
2340          UC   1.029   0.982
2341          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
2342          UA     100
              *

2343          KK  ERWL83  DIVERT
2344          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
2345          KM   retention developed after 1990 in subbasin WL83
2346          DT   XWL83     4.3      0.0
2347          DI       0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
2348          DQ       0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

2349          KK   CWL83 COMBINE
2350          KM   Combine route RW183 and subbasin WL83
2351          HC       2    0.32
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9.....10
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2352          KK    HV87   BASIN
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2353          KM   Runoff hydrograph for subbasin HV87 near the intersection of Happy Valley
2354          KM   Road and 87th Avenue
2355          BA   0.285
2356          LG    0.13    0.34    4.00    0.39      37
2357          UC   0.421   0.172
2358          UA       0     3.0     5.0     8.0    12.0    20.0    43.0    75.0    90.0    96.0
2359          UA     100
              *

2360          KK   RPP87   ROUTE
2361          KM   Route runoff hydrograph at subbasin HV87 to combination point CPP87
2362          RS       1    FLOW
2363          RC   0.045   0.020   0.045    5446  0.0172    0.00
2364          RX    0.00    0.00   40.00   50.00   60.00   70.00  110.00  110.00
2365          RY    6.20    5.20    5.00    0.00    0.00    5.00    5.20    6.20
              *

2366          KK    PP87   BASIN
2367          KM   Runoff hydrograph for subbasin PP87 near the intersection of Pinnacle Peak
2368          KM   Road and 87th Avenue
2369          BA   0.981
2370          LG    0.30    0.25    4.45    0.38      15
2371          UC   0.947   0.361
2372          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
2373          UA     100
              *

2374          KK  ERPP87  DIVERT
2375          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
2376          KM   retention developed after 1990 in subbasin PP87
2377          DT   XPP87     42.5      0.0
2378          DI       0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
2379          DQ       0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

2380          KK   CPP87 COMBINE
2381          KM   Combine route RPP87 and subbasin PP87
2382          HC       2    1.27
              *

2383          KK  SRPP87 STORAGE
2384          KM   Storage route runoff hydrograph from combination point CPP87 through the
2385          KM     regional detention basin located near the intersection of Pinnacle Peak Rd
2386          KM     and 87th Avenue
2387          KM   Stage-storage-discharge data from 83rd Avenue/Pinnacle Peak Road Drainage
2388          KM     Improvements Final Drainage Report, 2006
2389          RS       1    STOR
2390          SV            0.81    3.43    7.18   11.20   15.45   19.87   24.47   29.24   32.60
2391          SV   34.10   36.28   38.47
2392          SQ                   34.13   53.39   68.62   81.63   93.17  103.66  113.33  120.0
2393          SQ   208.0   499.0   814.0
2394          SE  1313.0 1314.00 1315.00 1316.00 1317.00 1318.00 1319.00 1320.00 1321.00  1321.7
2395          SE  1322.0  1322.5  1322.9
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9.....10
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2396          KK   DPP87  DIVERT
2397          KM   Divert calculated full flow capacity of 128 cfs into 48-inch storm drain
2398          KM   pipe at the intersection of Pinnacle Peak Road and 87th Avenue
2399          DT  DPPP87      0.0   128.0
2400          DI       0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
2401          DQ       0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

2402          KK  PRPP87RETRIEVE
2403          KM   Retrieve full flow capacity of 128 cfs from 48-inch storm drain pipe at the
2404          KM   intersection of Pinnacle Peak Road and 87th Avenue
2405          DR  DPPP87
              *

2406          KK  RP87PP   ROUTE
2407          KM   Route full flow capacity of 128 cfs through 48-inch storm drain pipe in
2408          KM   87th Avenue to the intersection of Pinnacle Peak Road and 87th Avenue
2409          RK    1251  0.0079   0.015            CIRC   4.000
              *

2410          KK    PP91   BASIN
2411          KM   Runoff hydrograph for subbasin PP91 near the intersection of Pinnacle Peak
2412          KM   Road and 91st Avenue
2413          BA   0.161
2414          LG    0.30    0.25    4.20    0.44      15
2415          UC   1.224   1.042
2416          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
2417          UA     100
              *

2418          KK  ERPP91  DIVERT
2419          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
2420          KM   retention developed after 1990 in subbasin PP91
2421          DT   XPP91     7.7      0.0
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2422          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
2423          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *
2424          KK  DPPP91  DIVERT
2425          KM   Divert calculated full flow capacity of 88 cfs into 54-inch storm drain
2426          KM   pipe at the intersection of Pinnacle Peak Road and 91st Avenue
2427          DT   DPP91      0.0      0.0
2428          DI     0.0     88.0     88.1 50000.0     0.0     0.0     0.0     0.0     0.0     0.0
2429          DQ     0.0      0.0      0.1 49912.0     0.0     0.0     0.0     0.0     0.0     0.0
              *
              * KKRPPP87   ROUTE
              * KM Route full flow capacity of 88 cfs through 54-inch storm drain pipe in
              * KM Pinnacle Peak Road to the intersection of Pinnacle Peak Road and 87th Avenu
              * RK  2635  0.0020   0.015            CIRC   4.500
              *
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2430          KK  CPPP87 COMBINE
2431          KM   Combine pipe flow DPPP91 with pipe return flow PRPP87 at the intersection of
2432          KM   Pinnacle Peak Road and 87th Avenue
2433          HC       2
              *
2434          KK  RPPP83   ROUTE
2435          KM   Route full flow capacity of 127 cfs through 72-inch storm drain pipe in
2436          KM   Pinnacle Peak Road to the intersection of Pinnacle Peak Road and 83rd Avenue
2437          RK   1891  0.0009   0.015            CIRC   6.000
              *
2438          KK  CPPP83 COMBINE
2439          KM   Combine pipe flow from combination point CPPP87 with the runoff hydrograph at
2440          KM   combination point CPP87 at the intersection of Pinnacle Peak Road and 83rd
2441          KM   Avenue
2442          HC       2
              *
2443          KK  SRPP83 STORAGE
2444          KM   Storage route runoff hydrograph from combination point CPPP83 through the
2445          KM     regional detention basin located near the intersection of Pinnacle Peak Rd
2446          KM     and 83rd Avenue
2447          KM   Stage-storage-discharge data from 83rd Avenue/Pinnacle Peak Road Drainage
2448          KM     Improvements Final Drainage Report, 2006
2449          RS       1     STOR
2450          SV    0.41    1.96    4.32    6.86    9.60   12.51   15.62   18.93   22.43   26.13
2451          SV   30.04   34.15   38.47   43.00   47.74   52.69
2452          SQ                                     1.03    2.10   11.31   13.59   15.65   17.54
2453          SQ   19.29   20.95   22.51   24.00   25.43   26.79
2454          SE 1298.0  1299.0  1300.0  1301.0  1302.0  1303.0  1304.0  1305.0  1306.0  1307.0
2455          SE 1308.0  1309.0  1310.0  1311.0  1312.0  1313.0
              *
2456          KK  DP83PP  DIVERT
2457          KM   Divert calculated full flow capacity of 31 cfs into 36-inch storm drain
2458          KM   pipe at the intersection of Pinnacle Peak Road and 83rd Avenue
2459          DT   D83PP      0.0      0.0
2460          DI     0.0     31.0     31.1 50000.0     0.0     0.0     0.0     0.0     0.0     0.0
2461          DQ     0.0      0.0      0.1 49969.0     0.0     0.0     0.0     0.0     0.0     0.0
              *
2462          KK  RP83WL   ROUTE
2463          KM   Route full flow capacity of 31 cfs through 36-inch storm drain pipe in
2464          KM   83rd Avenue to the intersection of Williams Road and 83rd Avenue
2465          RK   2980  0.0022   0.015            CIRC   3.000
              *
2466          KK  CPWL83 COMBINE
2467          KM   Combine pipe flow DP83PP with the runoff hydrograph at combination point
2468          KM   CWL83 at the intersection of Williams Road and 83rd Avenue
2469          HC       2
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

2470          KK   RDV83   ROUTE
2471          KM   Route runoff hydrograph at combination point CPWL83 to combination point
2472          KM   CDV83
2473          RS       2     FLOW
2474          RC   0.045   0.015   0.045    2933  0.0051    0.00
2475          RX    0.00    0.00   40.00   50.00   60.00   70.00  110.00  110.00
2476          RY    6.20    5.20    5.00    0.00    0.00    5.00    5.20    6.20
              *
2477          KK    DV83   BASIN
2478          KM   Runoff hydrograph for subbasin DV83 near the intersection of Deer Valley
2479          KM   Road and 83rd Avenue
2480          BA   0.107
2481          LG    0.25    0.10   11.20    0.02      30
```



```
2482          UC   1.142   1.282
2483          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
2484          UA     100
              *
2485          KK  ERDV83  DIVERT
2486          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
2487          KM   retention developed after 1990 in subbasin DV83
2488          DT   XDV83      1.7      0.0
2489          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
2490          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *
2491          KK   CDV83 COMBINE
2492          KM   Combine route RDV83 and subbasin DV83
2493          HC       2     0.43
              *
2494          KK  RBYNRA   ROUTE
2495          KM   Route runoff hydrograph at combination point CDV83 to combination point CBYNR
2496          RS       5     FLOW
2497          RC   0.045   0.035   0.045    6713  0.0060    0.00
2498          RX    0.00    0.00   19.00   25.00   30.00   36.00   55.00   55.00
2499          RY    4.10    3.10    3.00    0.00    0.00    3.00    3.10    4.10
              *
2500          KK    BYNR   BASIN
2501          KM   Runoff hydrograph for subbasin BYNR near the intersection of Beardsley Road
2502          KM   Road and New River
2503          BA   1.034
2504          LG    0.22    0.26    5.80    0.17      31
2505          UC   1.407   0.765
2506          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
2507          UA     100
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

2508          KK  ERBYNR  DIVERT
2509          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
2510          KM   retention developed after 1990 in subbasin BYNR
2511          DT   XBYNR      9.3      0.0
2512          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
2513          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *
2514          KK   CNR06 COMBINE
2515          KM   Combine route RBYNRA, route RBYNRB, and subbasin BYNR
2516          HC       4    14.90
              *
2517          KK  DR83PPRETRIEVE
2518          KM   Retrieve divert DR83PP from combination point CPPP83 and divert to
2519          KM   combination point CDV87
2520          DR   D83PP
              *
2521          KK   RDV87   ROUTE
2522          KM   Route diversion retrieval DR83PP to combination point CDV87
2523          RS       2     FLOW
2524          RC   0.035   0.015   0.035    5316  0.0063    0.00
2525          RX    0.00    0.00   12.50   12.50   62.50   62.50   75.00   75.00
2526          RY    3.00    0.62    0.50    0.00    0.00    0.50    0.62    3.00
              *
2527          KK    DV87   BASIN
2528          KM   Runoff hydrograph for subbasin DV87 near the intersection of Deer Valley Road
2529          KM   and 87th Avenue
2530          BA   1.004
2531          LG    0.30    0.17    6.80    0.13      15
2532          UC   1.083   0.406
2533          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
2534          UA     100
              *
2535          KK  ERDV87  DIVERT
2536          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
2537          KM   retention developed after 1990 in subbasin DV87
2538          DT   XDV87      5.3      0.0
2539          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
2540          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *
2541          KK   CDV87 COMBINE
2542          KM   Combine route RDV87 and subbasin DV87
2543          HC       2    2.27
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10
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KK   RBY87   ROUTE
KM   Route runoff hydrograph at combination point CDV87 to combination point CBY87
RS      3    FLOW
RC  0.045   0.035   0.045    6699  0.0045    0.00
RX   0.00    0.00   55.00   75.00  100.00  120.00  175.00  175.00
RY  11.20   10.20   10.00    0.00    0.00   10.00   10.20   11.20
*

KK    BY87   BASIN
KM   Runoff hydrograph for subbasin BY87 near the intersection of Beardsley Road
KM   and 87th Avenue
BA  0.959
LG   0.24    0.15    8.00    0.08      33
UC  1.241   0.627
UA      0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
UA    100
*

KK  ERBY87  DIVERT
KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
KM   retention developed after 1990 in subbasin BY87
DT   XBY87     76.7      0.0
DI      0.0 50000.0      0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
DQ      0.0 50000.0      0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
*

KK   CBY87 COMBINE
KM   Combine route RBY87 and subbasin BY87
HC       2    3.23
*

KK   RUH87   ROUTE
KM   Route runoff hydrograph at combination point CBY87 to combination point CUH87
RS       5    FLOW
RC  0.045   0.035   0.045    6701  0.0037    0.00
RX   0.00    0.00   40.00   50.00   60.00   70.00  110.00  110.00
RY   6.20    5.20    5.00    0.00    0.00    5.00    5.20    6.20
*

KK    UH87   BASIN
KM   Runoff hydrograph for subbasin UH87 near the intersection of Union Hills
KM   Drive and 87th Avenue
BA  0.998
LG   0.21    0.15    7.60    0.10      26
UC  1.143   0.549
UA      0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
UA    100
*
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LINE  ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

KK  ERUH87  DIVERT
KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
KM   retention developed after 1990 in subbasin UH87
DT   XUH87     71.9      0.0
DI      0.0 50000.0      0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
DQ      0.0 50000.0      0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
*

KK   CUH87 COMBINE
KM   Combine route RUH87 and subbasin UH87
HC       2    4.23
*

KK  DSBLNR  DIVERT
KM   Divert remaining runoff hydrograph from combination point CUH87 south to
KM   combination point CBLNR
DT   DSBL91      0.0      0.0
DI      0.0   100.0    200.0    500.0   1000.0   2000.0   4000.0 10000.0 20000.0 50000.0
DQ      0.0    59.0    118.0    295.0    590.0   1180.0   2360.0  5900.0 11800.0 29500.0
*

KK  DPUHNR  DIVERT
KM   Divert calculated full flow capacity of 50 cfs into 42-inch storm drain
KM   pipe at the intersection of Union Hills Drive and 87th Avenue
DT   DUHNR       0.0      0.0
DI      0.0     50.0     50.1 50000.0      0.0      0.0      0.0      0.0      0.0      0.0
DQ      0.0      0.0      0.1 49950.0      0.0      0.0      0.0      0.0      0.0      0.0
*

KK  RPUHNR   ROUTE
KM   Route full flow capacity of 50 cfs through 42-inch storm drain pipe in
KM   Union Hills Drive to the intersection of Union Hills Drive and New River
RK    1703  0.0025   0.015             CIRC   3.500
*

KK    UHNR   BASIN
KM   Runoff hydrograph for subbasin UHNR near the intersection of Union Hills
KM   Drive and New River
BA  0.386
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LG   0.16    0.28    4.60    0.28      42
UC  1.161   0.887
UA      0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
UA    100
*

KK  ERUHNR  DIVERT
KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
KM   retention developed after 1990 in subbasin UHNR
DT   XUHNR      2.9      0.0
DI      0.0 50000.0      0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
DQ      0.0 50000.0      0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
*
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LINE  ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

KK   CNR07 COMBINE
KM   Combine route RPUHNR, and subbasin UHNR
HC       3   15.29
*

KK  DRUHNRRETRIEVE
KM   Retrieve divert DRUHNR from combination point CUH87 and divert to
KM   combination point CNR08
DR   DUHNR
*

KK   RBLNR   ROUTE
KM   Route diversion retrieval DRUHNR to combination point CNR08
RS       1    FLOW
RC  0.035   0.015   0.035    2700  0.0028    0.00
RX   0.00    0.00    7.00    7.00   43.00   43.00   50.00   50.00
RY   3.00    0.57    0.50    0.00    0.00    0.50    0.57    3.00
*

KK    BLNR   BASIN
KM   Runoff hydrograph for subbasin BLNR near the intersection of Bell Road and
KM   New River
BA  0.603
LG   0.18    0.26    5.20    0.21      50
UC  1.143   0.771
UA      0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
UA    100
*

KK  ERBLNR  DIVERT
KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
KM   retention developed after 1990 in subbasin BLNR
DT   XBLNR      9.3      0.0
DI      0.0 50000.0      0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
DQ      0.0 50000.0      0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
*

KK   CNR08 COMBINE
KM   Combine route RBLNR and subbasin BLNR
HC       3   17.63
*

KK    RG93   BASIN
KM   Runoff hydrograph for subbasin RG93 near the intersection of Rose Garden Lane
KM   93rd Avenue
BA  0.248
LG   0.25    0.25    4.60    0.30      30
UC  1.258   0.911
UA      0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
UA    100
*
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LINE  ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

KK  ERRG93  DIVERT
KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
KM   retention developed after 1990 in subbasin RG93
DT   XRG93      20.3      0.0
DI      0.0 50000.0      0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
DQ      0.0 50000.0      0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
*

KK  DSBY91  DIVERT
KM   Divert remaining runoff hydrograph from combination point CRG93 south to
KM   combination point CBY91
DT   DWRGLP      0.0      0.0
DI      0.0      5.0      9.0     50.0     84.0    113.0    140.0    205.0      0.0      0.0
DQ      0.0      0.0      0.0     35.0     66.0     93.0    118.0    182.0      0.0      0.0
*

KK   RBY91   ROUTE
KM   Route diversion DSBY91 south to combination point CBY91
RS       7    FLOW
```

```
RC   0.045   0.035   0.045    2901  0.0041    0.00
RX    0.00    0.00   19.00   25.00   30.00   36.00   55.00   55.00
RY    4.10    3.10    3.00    0.00    0.00    3.00    3.10    4.10
*

KK    BY91   BASIN
KM   Runoff hydrograph for subbasin BY91 near the intersection of Beardsley Road
KM   91st Avenue
BA   0.501
LG    0.23    0.25    4.50    0.34      27
UC   0.947   0.436
UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
UA     100
*

KK  ERBY91  DIVERT
KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
KM   retention developed after 1990 in subbasin BY91
DT   XBY91     38.6      0.0
DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
*

KK   CBY91 COMBINE
KM   Combine route RBY91 and subbasin BY91
HC       2    0.63
*

KK   RUH91   ROUTE
KM   Route runoff hydrograph at combination point CBY91 to combination point CUH91
RS       10     FLOW
RC   0.045   0.035   0.045    9978  0.0027    0.00
RX    0.00    0.00   19.00   25.00   30.00   36.00   55.00   55.00
RY    4.10    3.10    3.00    0.00    0.00    3.00    3.10    4.10
*
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LINE      ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

KK    UH91   BASIN
KM   Runoff hydrograph for subbasin UH91 near the intersection of Union Hills
KM   Drive and 91st Avenue
BA   0.929
LG    0.21    0.25    4.80    0.31      27
UC   1.500   1.066
UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
UA     100
*

KK  ERUH91  DIVERT
KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
KM   retention developed after 1990 in subbasin UH91
DT   XUH91      4.0      0.0
DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
*

KK   CUH91 COMBINE
KM   Combine route RUH91 and subbasin UH91
HC       2    1.55
*

KK  DRBL91RETRIEVE
KM   Retrieve divert DRBL91 from combination point CBL59 and divert to
KM   combination point CIUH91
DR  DSBL91
*

KK   DUH91  DIVERT
KM   Capacity of storm drain in 89th Avenue and 91st Avenue diverted together.
KM   Divert combined calculated full flow capacity of 454 cfs in the 78-inch storm
KM   drain pipe in 89th Avenue and 129 cfs in the 54-inch storm drain pipe in
KM   91st Avenue. The total calculated combined full flow capacity diverted at the
KM   intersection of 91st Avenue and Union Hills Drive is 583 cfs in an equivalent
KM   diameter pipe of 96 inches
DT  DPUH91      0.0    583.0
DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
*

KK  CIUH91 COMBINE
KM   Combine diversion DUH91 with runoff hydrograph at combination point CUH91
KM   at the intersection of 91st Avenue and Union Hills Drive
HC       2    4.04
*

KK   RBL91   ROUTE
KM   Route runoff hydrograph at combination point CIUH91 to combination point CBL9
RS        2     FLOW
RC   0.035   0.015   0.035    5280  0.0045    0.00
RX    0.00    0.00   38.50   38.50  210.50  210.50  249.00  249.00
RY    3.00    0.88    0.50    0.00    0.00    0.50    0.88    3.00
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LINE      ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

KK    BL91   BASIN
KM   Runoff hydrograph for subbasin BL91 near the intersection of Bell Road and
KM   91st Avenue
BA   0.901
LG    0.19    0.15    7.00    0.10      54
UC   1.166   0.602
UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
UA     100
*

KK  ERBL91  DIVERT
KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
KM   retention developed after 1990 in subbasin BL91
DT   XBL91      79.1      0.0
DI      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
DQ      0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
*

KK   CBL91 COMBINE
KM   Combine route RBL91 and subbasin BL91
HC       2    4.94
*

KK  PRUH91RETRIEVE
KM   Retrieve combined full flow capacity of 583 cfs from 96-inch equivalent
KM   diameter pipe at the intersection of Union Hills Drive and 91st Avenue
DR  DPUH91
*

KK  RP91AT   ROUTE
KM   Route the combined full flow capacity of 583 cfs through an equivalent storm
KM   drain pipe diameter of 96 inches in 91st Avenue to the intersection of
KM   91st Avenue and Athens Street
RK    1467  0.0043   0.015            CIRC   8.000
*

KK  SRAT91 STORAGE
KM   Storage route pipe flow PRUH91 through the regional detention basin located
KM     in subbasin BL91 near the intersection of Athens Street and 91st Avenue
KM   Storage routing ID S-DET in Glendale/Peoria ADMPU, May 2001
KM   Comments from ADMPU:
KM   * PROPOSED DESERT AMETHYST DETENTION BASIN
KM   * **** LTM: Use design-level storage volume/elevation data provided by Wood
KM   *       Patel. Basin size reduced to accommodate potential landscaping req'mts
RS        1     STOR
SV              0.00     0.04     0.38     1.53     3.87     7.06    10.53    14.03    17.61
SV    21.25   24.973   28.766   32.634   36.576   40.594   44.688   44.689     44.8     44.9
SQ        0       60       68       80       96      117      148      188      237      288
SQ      329      333      337      341      345      348      357      500     1000     1500
SE   1201.6   1203.0   1203.5   1204.0   1204.5   1205.0   1205.5   1206.0   1206.5   1207.0
SE   1207.5   1208.0   1208.5   1209.0   1209.5   1210.0   1210.5   1210.6   1211.0   1211.3
*
```



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LINE      ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

KK  RP91BL   ROUTE
KM   Route full flow capacity of 311 cfs through 78-inch storm drain pipe in
KM   91st Avenue to the intersection of Bell Road and 91st Avenue
RK    3333  0.0035   0.015            CIRC   6.500
*

KK  CPBL91 COMBINE
KM   Combine pipe return PRUH91 with the runoff hydrograph at combination point
KM   CBL91 at the intersection of Bell Road and 87th Avenue
HC       2
*

KK  DSGWNR  DIVERT
KM   Divert remaining runoff hydrograph from combination point CPBL91 south to
KM   combination point CNR09
DT  DSGW91      0.0      0.0
DI      0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0  10000.0  20000.0  50000.0
DQ      0.0     58.0    116.0    290.0    580.0   1160.0   2320.0   5800.0  11600.0  29000.0
*

KK  DPBLNR  DIVERT
KM   Divert calculated full flow capacity of 159 cfs into 72-inch storm drain
KM   pipe at the intersection of Bell Road and 87th Avenue
DT   DBLNR      0.0      0.0
DI      0.0    159.0    159.1 50000.0      0.0      0.0      0.0      0.0      0.0      0.0
DQ      0.0      0.0      0.1 49841.0      0.0      0.0      0.0      0.0      0.0      0.0
*

KK  RPBLNR   ROUTE
KM   Route full flow capacity of 159 cfs through 72-inch storm drain pipe in
```

```
2803          KM   Bell Road to the intersection of Bell Road and New River
2804          RK    1896  0.0014   0.015            CIRC   6.000
              *

2805          KK  CPNR08 COMBINE
2806          KM   Combine pipe flow DPBLNR with the runoff hydrograph at combination point
2807          KM   CNR08 at the intersection of Bell Road and New River
2808          HC       2   17.63
              *

2809          KK  DRBLNRRETRIEVE
2810          KM   Retrieve divert DRBLNR from combination point CPBL91 and divert to
2811          KM   combination point CNR09
2812          DR   DBLNR
              *

2813          KK  RGWNRB   ROUTE
2814          KM   Route diversion retrieval DRBLNR to combination point CNR09
2815          RS       5    FLOW
2816          RC   0.035   0.015   0.035    9106  0.0029    0.00
2817          RX    0.00    0.00   12.50   12.50   62.50   62.50   75.00   75.00
2818          RY    3.00    0.62    0.50    0.00    0.00    0.50    0.62    3.00
              *

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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

2819          KK  DRGW91RETRIEVE
2820          KM   Retrieve divert DRGW91 from combination point CPBL91 and divert to
2821          KM   combination point CGW91
2822          DR  DSGW91
              *

2823          KK   RGW91   ROUTE
2824          KM   Route diversion retrieval DRGW91 to combination point CGW91
2825          RS       3    FLOW
2826          RC   0.035   0.015   0.035    5450  0.0039    0.00
2827          RX    0.00    0.00   16.50   16.50  107.50  107.50  124.00  124.00
2828          RY    3.00    0.66    0.50    0.00    0.00    0.50    0.66    3.00
              *

2829          KK    GW91   BASIN
2830          KM   Runoff hydrograph for subbasin GW91 near the intersection of Greenway Road
2831          KM   91st Avenue
2832          BA   0.477
2833          LG    0.20    0.25    5.60    0.19      43
2834          UC   1.073   0.625
2835          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
2836          UA     100
              *

2837          KK  ERGW91  DIVERT
2838          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
2839          KM   retention developed after 1990 in subbasin GW91
2840          DT   XGW91    22.0     0.0
2841          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
2842          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

2843          KK   CGW91 COMBINE
2844          KM   Combine route RGW91 and subbasin GW91
2845          HC       2    3.35
              *

2846          KK  DEGWNR  DIVERT
2847          KM   Divert remaining runoff hydrograph at combination point CGW91 east to
2848          KM   combination point CNR09
2849          DT  DSTBNR      0.0     0.0
2850          DI     0.0  1350.0  1350.1 50000.0     0.0     0.0     0.0     0.0     0.0     0.0
2851          DQ     0.0     0.0  1350.1 50000.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

2852          KK  RGWNRA   ROUTE
2853          KM   Route diversion DEGWNR east to combination point CNR09
2854          RS       6    FLOW
2855          RC   0.045   0.015   0.045    6001  0.0010    0.00
2856          RX    0.00    0.00   40.00   50.00   60.00   70.00  110.00  110.00
2857          RY    6.20    5.20    5.00    0.00    0.00    5.00    5.20    6.20
              *

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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

2858          KK    GWNR   BASIN
2859          KM   Runoff hydrograph for subbasin GWNR near the intersection of Greenway Road
2860          KM   and New River
2861          BA   0.696
2862          LG    0.18    0.27    4.65    0.29      36
2863          UC   1.343   0.928
2864          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
2865          UA     100
```



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              *

2866          KK  ERGWNR  DIVERT
2867          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
2868          KM   retention developed after 1990 in subbasin GWNR
2869          DT   XGWNR     26.6     0.0
2870          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
2871          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

2872          KK   CNR09 COMBINE
2873          KM   Combine route RGWNRA, route RGWNRB and subbasin
2874          KM   DV87
2875          HC       5   59.13
              *

2876          KK  DRTBNRRETRIEVE
2877          KM   Retrieve divert DRTBNR from combination point CGW91 and divert to
2878          KM   combination point CNR10
2879          DR  DSTBNR
              *

2880          KK   RTBNR   ROUTE
2881          KM   Route diversion retrieval DRTBNR to combination point CNR10
2882          RS       1    FLOW
2883          RC   0.035   0.015   0.035    6342  0.0031    0.00
2884          RX    0.00    0.00   16.50   16.50  107.50  107.50  124.00  124.00
2885          RY    3.00    0.66    0.50    0.00    0.00    0.50    0.66    3.00
              *

2886          KK    TBNR   BASIN
2887          KM   Runoff hydrograph for subbasin TBNR near the intersection of Thunderbird Road
2888          KM   and New River
2889          BA   1.123
2890          LG    0.19    0.24    4.65    0.30      31
2891          UC   1.500   0.707
2892          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
2893          UA     100
              *

2894          KK  ERTBNR  DIVERT
2895          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
2896          KM   retention developed after 1990 in subbasin TBNR
2897          DT   XTBNR     15.5     0.0
2898          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
2899          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

2900          KK   CNR10 COMBINE
2901          KM   Combine route RTBNR and subbasin TBNR
2902          HC       3   61.93
              *

2903          KK    HV93   BASIN
2904          KM   Runoff hydrograph for subbasin HV93 near the intersection of Happy Valley
2905          KM   Road and 93rd Avenue
2906          BA   0.172
2907          LG    0.25    0.28    4.15    0.43      30
2908          UC   0.547   0.375
2909          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
2910          UA     100
              *

2911          KK  DSPPLP  DIVERT
2912          KM   Divert remaining runoff hydrograph from subbasin HV93 south to combination
2913          KM   point CPPLP
2914          DT  DWHVLP      0.0     0.0
2915          DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
2916          DQ     0.0    42.0    84.0   210.0   420.0   840.0  1680.0  4200.0  8400.0 21000.0
              *

2917          KK  RPPLPA   ROUTE
2918          KM   Route diversion DSPPLP south to combination point CPPLP
2919          RS       4    FLOW
2920          RC   0.035   0.015   0.035    8751  0.0066    0.00
2921          RX    0.00    0.00    9.50    9.50   40.50   40.50   50.00   50.00
2922          RY    3.00    0.60    0.50    0.00    0.00    0.50    0.60    3.00
              *

2923          KK  DRPP91RETRIEVE
2924          KM   Retrieve divert DRPP91 from subbasin PP91 and divert to combination point
2925          KM   CPPLP
2926          DR   DPP91
              *

2927          KK  RPPLPB   ROUTE
2928          KM   Route diversion retrieval DRPP91 to combination point CPPLP
2929          RS       1    FLOW
2930          RC   0.040   0.040   0.040    5844  0.0020    0.00
```

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2931          RX    0.00  100.00  140.00  160.00  200.00  300.00  400.00  500.00
2932          RY   10.00    9.00    0.00    0.00    9.00   10.00   11.00   12.00
              *
2933          KK    PPLP   BASIN
2934          KM   Runoff hydrograph for subbasin PPLP near the intersection of Pinnacle Peak
2935          KM   Road and Lake Pleasant Parkway
2936          BA   0.885
2937          LG    0.23    0.25    4.35    0.38      37
2938          UC   1.242   0.879
2939          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
2940          UA     100
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

2941          KK  ERPPLP  DIVERT
2942          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
2943          KM   retention developed after 1990 in subbasin PPLP
2944          DT   XPPLP    45.6     0.0
2945          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
2946          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *
2947          KK   CPPLP COMBINE
2948          KM   Combine route RPPLP and subbasin PPLP
2949          HC       3    1.15
              *
2950          KK  DSDV99  DIVERT
2951          KM   Divert remaining runoff hydrograph from combination point CPPLP south to
2952          KM   combination point CDV99
2953          DT  DWPP03      0.0      0.0
2954          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
2955          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *
2956          KK   DDV99  DIVERT
2957          KM   Divert portion of diversion DSDV99 south to subbasin DVLP and the
2958          KM   remaining flow follow to subbasin DV99 at combination point CDV99
2959          DT  DSDVLP      0.0      0.0
2960          DI     0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0  10000.0  20000.0  50000.0
2961          DQ     0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *
2962          KK    DV99   BASIN
2963          KM   Runoff hydrograph for subbasin DV99 near the intersection of Deer Valley
2964          KM   Road and 99th Avenue
2965          BA   1.217
2966          LG    0.28    0.25    4.40    0.38      22
2967          UC   1.234   0.451
2968          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
2969          UA     100
              *
2970          KK  ERDV99  DIVERT
2971          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
2972          KM   retention developed after 1990 in subbasin DV99
2973          DT   XDV99    81.4     0.0
2974          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
2975          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *
2976          KK   CDV99 COMBINE
2977          KM   Combine divert DDV99 and subbasin DV99
2978          HC       2    1.22
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

2979          KK  RRGLPA   ROUTE
2980          KM   Route runoff hydrograph at combination point CDV99 to combination point CRGLP
2981          RS       2    FLOW
2982          RC   0.045   0.020   0.045    2633  0.0048    0.00
2983          RX    0.00    0.00   40.00   50.00   60.00   70.00  110.00  110.00
2984          RY    6.20    5.20    5.00    0.00    0.00    5.00    5.20    6.20
              *
2985          KK  DRRGLPRETRIEVE
2986          KM   Retrieve divert DRRGLP from combination point CRG93 and divert to
2987          KM   combination point CRGLP
2988          DR  DWRGLP
              *
2989          KK  RRGLPB   ROUTE
2990          KM   Route diversion retrieval DRRGLP to combination point CRGLP
2991          RS      10    FLOW
2992          RC   0.045   0.020   0.045    3160  0.0003    0.00
2993          RX    0.00    0.00   19.00   25.00   30.00   36.00   55.00   55.00
```



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2994          RY    4.10    3.10    3.00    0.00    0.00    3.00    3.10    4.10
              *
2995          KK    RGLP   BASIN
2996          KM   Runoff hydrograph for subbasin RGLP near the intersection of Rose Garden Lane
2997          KM   and Lake Pleasant Parkway
2998          BA   0.410
2999          LG    0.22    0.25    4.35    0.34      42
3000          UC   1.297   0.880
3001          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
3002          UA     100
              *
3003          KK  ERRGLP  DIVERT
3004          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
3005          KM   retention developed after 1990 in subbasin RGLP
3006          DT   XRGLP    38.4     0.0
3007          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
3008          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *
3009          KK   CRGLP COMBINE
3010          KM   Combine route RRGLPA, route RRGLPB, and subbasin RGLP
3011          HC       3    1.75
              *
3012          KK  DSBY07  DIVERT
3013          KM   Divert remaining runoff hydrograph from combination point CRGLP south to
3014          KM   combination point CBY07
3015          DT  DWRG07      0.0      0.0
3016          DI     0.0     50.0    100.0    300.0    750.0   1200.0   2000.0      0.0      0.0      0.0
3017          DQ     0.0     40.0     80.0    240.0    600.0   1050.0   1850.0      0.0      0.0      0.0
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

3018          KK   RBY99   ROUTE
3019          KM   Route diversion DSBY07 south to combination point CBY99
3020          RS       7    FLOW
3021          RC   0.045   0.035   0.045    3939  0.0041    0.00
3022          RX    0.00    1.00   16.00   36.00   51.00  123.00  148.00  648.00
3023          RY   16.00    8.00    0.00    0.00    8.00    8.00    9.00   11.00
              *
3024          KK    BY07   BASIN
3025          KM   Runoff hydrograph for subbasin BY07 near the intersection of Beardsley Road
3026          KM   and 87th Avenue
3027          BA   0.513
3028          LG    0.23    0.25    5.10    0.23      38
3029          UC   1.070   0.546
3030          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
3031          UA     100
              *
3032          KK  ERBY07  DIVERT
3033          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
3034          KM   retention developed after 1990 in subbasin BY07
3035          DT   XBY07    38.7     0.0
3036          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
3037          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *
3038          KK   CBY07 COMBINE
3039          KM   Combine route RBY99 and subbasin BY07
3040          HC       2    1.39
              *
3041          KK  DSUH99  DIVERT
3042          KM   Divert remaining runoff hydrograph from combination point CBY07 south to
3043          KM   combination point CUH99
3044          DT  DWBYAF      0.0      0.0
3045          DI     0.0     10.0     30.0     50.0    100.0    500.0    700.0   1000.0      0.0      0.0
3046          DQ     0.0     10.0     30.0     50.0    100.0    420.0    450.0    500.0      0.0      0.0
              *
3047          KK   RUH99   ROUTE
3048          KM   Route diversion DSUH99 south to combination point CUH99
3049          RS       5    FLOW
3050          RC   0.045   0.015   0.045    5347  0.0042    0.00
3051          RX    0.00    0.00   19.00   25.00   30.00   36.00   55.00   55.00
3052          RY    4.10    3.10    3.00    0.00    0.00    3.00    3.10    4.10
              *
3053          KK    UH99   BASIN
3054          KM   Runoff hydrograph for subbasin UH99 near the intersection of Union Hills
3055          KM   Drive and 99th Avenue
3056          BA   0.563
3057          LG    0.25    0.15    7.00    0.10      35
3058          UC   1.500   1.114
3059          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
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LINE          ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

3060          UA     100
              *

3061          KK   CUH99 COMBINE
3062          KM   Combine route RUH99 and subbasin UH99
3063          HC       2    1.26
              *

3064          KK  RDW99A   ROUTE
3065          KM   Route runoff hydrograph at combination point CUH99 to combination point CDW99
3066          RS       1    FLOW
3067          RC  0.045   0.015   0.045    2292  0.0029    0.00
3068          RX   0.00    0.00   40.00   50.00   60.00   70.00  110.00  110.00
3069          RY   6.20    5.20    5.00    0.00    0.00    5.00    5.20    6.20
              *

3070          KK    UH97   BASIN
3071          KM   Runoff hydrograph for subbasin UH97 near the intersection of Happy Valley
3072          KM   Road and Palo Verde Drive
3073          BA   0.272
3074          LG    0.21    0.25    5.60    0.22      28
3075          UC   1.277   1.187
3076          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
3077          UA     100
              *

3078          KK  RDW99B   ROUTE
3079          KM   Route runoff hydrograph at subbasin UH97 to combination point CDW99
3080          RS       4    FLOW
3081          RC  0.045   0.035   0.045    2848  0.0034    0.00
3082          RX   0.00    0.00   19.00   25.00   30.00   36.00   55.00   55.00
3083          RY   4.10    3.10    3.00    0.00    0.00    3.00    3.10    4.10
              *

3084          KK    DW99   BASIN
3085          KM   Runoff hydrograph for subbasin DW99 near the intersection of Del Webb
3086          KM   Boulevard and 99th Avenue
3087          BA   0.155
3088          LG    0.18    0.16    7.00    0.12      35
3089          UC   0.974   0.913
3090          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
3091          UA     100
              *

3092          KK   CDW99 COMBINE
3093          KM   Combine route RDW99 and subbasin DW99
3094          HC       3    1.68
              *

3095          KK  DSBL99   DIVERT
3096          KM   Divert remaining runoff hydrograph from combination point CDW99 south to
3097          KM   combination point CBL99
3098          DT  DWDW07      0.0    550.0
3099          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
3100          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *
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LINE          ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

3101          KK   RBL99   ROUTE
3102          KM   Route diversion DSBL99 south to combination point CBL99
3103          RS       5    FLOW
3104          RC   0.035   0.015   0.035    3206  0.0041    0.00
3105          RX    0.00    0.00   16.50   16.50  107.50  107.50  124.00  124.00
3106          RY    3.00    0.66    0.50    0.00    0.00    0.50    0.66    3.00
              *

3107          KK    BL99   BASIN
3108          KM   Runoff hydrograph for subbasin BL99 near the intersection of Bell Road and
3109          KM   99th Avenue
3110          BA   1.133
3111          LG    0.22    0.21    6.40    0.14      36
3112          UC   1.441   0.753
3113          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
3114          UA     100
              *

3115          KK   CBL99 COMBINE
3116          KM   Combine route RBL99 and subbasin BL99
3117          HC       2    1.98
              *

3118          KK   RBN99   ROUTE
3119          KM   Route runoff hydrograph at combination point CBL99 to combination point CBN99
3120          RS       1    FLOW
3121          RC   0.045   0.015   0.045    3854  0.0052    0.00
3122          RX    0.00    0.00   40.00   50.00   60.00   70.00  110.00  110.00
3123          RY    6.20    5.20    5.00    0.00    0.00    5.00    5.20    6.20
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              *

3124          KK    BN99   BASIN
3125          KM   Runoff hydrograph for subbasin BN99 near the intersection of Burns Road and
3126          KM   99th Avenue
3127          BA   1.037
3128          LG    0.21    0.25    6.00    0.17      34
3129          UC   1.418   0.695
3130          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
3131          UA     100
              *

3132          KK   CBN99 COMBINE
3133          KM   Combine route RBN99 and subbasin BN99
3134          HC       2    3.01
              *

3135          KK   RTB99   ROUTE
3136          KM   Route runoff hydrograph at combination point CBN99 to combination point CTB99
3137          RS       3    FLOW
3138          RC   0.045   0.015   0.045    6842  0.0039    0.00
3139          RX    0.00    0.00   40.00   50.00   60.00   70.00  110.00  110.00
3140          RY    6.20    5.20    5.00    0.00    0.00    5.00    5.20    6.20
              *
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LINE          ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

3141          KK    TB99   BASIN
3142          KM   Runoff hydrograph for subbasin TB99 near the intersection of Thunderbird Road
3143          KM   and 99th Avenue
3144          BA   0.976
3145          LG    0.23    0.25    5.80    0.18      30
3146          UC   1.500   0.883
3147          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
3148          UA     100
              *

3149          KK   CTB99 COMBINE
3150          KM   Combine route RTB99 and subbasin TB99
3151          HC       2    3.99
              *

3152          KK  RGRNRA   ROUTE
3153          KM   Route runoff hydrograph at combination point CTB99 to combination point CNR11
3154          RS       1    FLOW
3155          RC   0.045   0.015   0.045    6205  0.0045    0.00
3156          RX    0.00    0.00   55.00   75.00  100.00  120.00  175.00  175.00
3157          RY   11.20   10.20   10.00    0.00    0.00   10.00   10.20   11.20
              *

3158          KK  DRDW07RETRIEVE
3159          KM   Retrieve divert DRDW07 from combination point CDW99 and divert to
3160          KM   combination point CDW07
3161          DR  DWDW07
              *

3162          KK   RDW07   ROUTE
3163          KM   Route diversion retrieval DRDW07 to combination point CDW07
3164          RS       3    FLOW
3165          RC   0.045   0.015   0.045    4743  0.0007    0.00
3166          RX    0.00    0.00   40.00   50.00   60.00   70.00  110.00  110.00
3167          RY    6.20    5.20    5.00    0.00    0.00    5.00    5.20    6.20
              *

3168          KK    DW07   BASIN
3169          KM   Runoff hydrograph for subbasin DW07 near the intersection of Del Webb
3170          KM   Boulevard and 107th Avenue
3171          BA   0.484
3172          LG    0.19    0.19    6.60    0.16      28
3173          UC   1.500   1.076
3174          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
3175          UA     100
              *

3176          KK   CDW07 COMBINE
3177          KM   Combine route RDW07 and subbasin DW07
3178          HC       2    1.33
              *
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LINE          ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

3179          KK  DSTL07   DIVERT
3180          KM   Divert remaining runoff hydrograph from combination point CDW07 south to
3181          KM   combination point CTL07
3182          DT  DWBL15      0.0    550.0
3183          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
3184          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *
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3185          KK   RTL07   ROUTE
3186          KM   Route diversion DSTL07 south to combination point CTL07
3187          RS      5    FLOW
3188          RC  0.035   0.015   0.035    8131  0.0048    0.00
3189          RX   0.00    0.00   16.50   16.50  107.50  107.50  124.00  124.00
3190          RY   3.00    0.66    0.50    0.00    0.00    0.50    0.66    3.00
              *

3191          KK    TL07   BASIN
3192          KM   Runoff hydrograph for subbasin TL07 near the intersection of Talisman Road
3193          KM   and 107th Avenue
3194          BA   0.580
3195          LG    0.21    0.25    5.00    0.29      27
3196          UC   1.374   1.035
3197          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
3198          UA     100
              *

3199          KK   CTL07 COMBINE
3200          KM   Combine route RTL07 and subbasin TL07
3201          HC       2    1.24
              *

3202          KK  RGR99A   ROUTE
3203          KM   Route runoff hydrograph at combination point CTL07 to combination point CGR99
3204          RS       5    FLOW
3205          RC  0.045   0.020   0.045   12358  0.0025    0.00
3206          RX   0.00    0.00   40.00   50.00   60.00   70.00  110.00  110.00
3207          RY   6.20    5.20    5.00    0.00    0.00    5.00    5.20    6.20
              *

3208          KK    RO99   BASIN
3209          KM   Runoff hydrograph for subbasin RO99 near the intersection of Royal Oak Road
3210          KM   and 99th Avenue
3211          BA   0.414
3212          LG    0.20    0.22    4.70    0.26      38
3213          UC   1.500   1.341
3214          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
3215          UA     100
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

3216          KK  RGR99B   ROUTE
3217          KM   Route runoff hydrograph at subbasin RO99 to combination point CGR99
3218          RS       1    FLOW
3219          RC  0.045   0.015   0.045    1046  0.0060    0.00
3220          RX   0.00    0.00   19.00   25.00   30.00   36.00   55.00   55.00
3221          RY   4.10    3.10    3.00    0.00    0.00    3.00    3.10    4.10
              *

3222          KK    GR99   BASIN
3223          KM   Runoff hydrograph for subbasin GR99 near the intersection of Grand Avenue
3224          KM   and 99th Avenue
3225          BA   1.309
3226          LG    0.20    0.17    6.80    0.12      41
3227          UC   1.500   1.089
3228          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
3229          UA     100
              *

3230          KK   CGR99 COMBINE
3231          KM   Combine route RGR99A, route RGR99B, and subbasin GR99
3232          HC       3    2.97
              *

3233          KK  RGRNRB   ROUTE
3234          KM   Route runoff hydrograph at combination point CGR99 to combination point CNR11
3235          RS       1    FLOW
3236          RC  0.045   0.015   0.045    3071  0.0051    0.00
3237          RX   0.00    0.00   55.00   75.00  100.00  120.00  175.00  175.00
3238          RY  11.20   10.20   10.00    0.00    0.00   10.00   10.20   11.20
              *

3239          KK    GRNR   BASIN
3240          KM   Runoff hydrograph for subbasin GRNR near the intersection of Grand Avenue
3241          KM   and New River
3242          BA   0.947
3243          LG    0.17    0.26    5.00    0.23      48
3244          UC   1.091   0.538
3245          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
3246          UA     100
              *

3247          KK  ERGRNR  DIVERT
3248          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
3249          KM   retention developed after 1990 in subbasin GRNR
3250          DT   XGRNR    18.5     0.0
3251          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
3252          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *
```



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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

3253          KK   CNR11 COMBINE
3254          KM   Combine route RGRNRA, route RGRNRB and subbasin GRNR
3255          HC       4    69.83
              *

3256          KK    PE99   BASIN
3257          KM   Runoff hydrograph for subbasin PE99 near the intersection of Peoria Avenue
3258          KM   and 99th Avenue
3259          BA   0.294
3260          LG    0.21    0.25    4.90    0.28      33
3261          UC   1.500   1.849
3262          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
3263          UA     100
              *

3264          KK  DEPE97  DIVERT
3265          KM   Divert remaining runoff hydrograph at subbasin PE99 east to combination point
3266          KM   CNR12
3267          DT  DSOL99      0.0     0.0
3268          DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
3269          DQ     0.0    30.0    60.0   150.0   300.0   600.0  1200.0  3000.0  6000.0 15000.0
              *

3270          KK   RPE97   ROUTE
3271          KM   Route diversion DEPE97 east to combination point CNR12
3272          RS       2    FLOW
3273          RC  0.035   0.015   0.035    1508  0.0023    0.00
3274          RX   0.00    0.00   64.00   64.00  310.00  310.00  374.00  374.00
3275          RY   3.00    1.14    0.50    0.00    0.00    0.50    1.14    3.00
              *

3276          KK    PENR   BASIN
3277          KM   Runoff hydrograph for subbasin PENR near the intersection of Peoria Avenue
3278          KM   and New River
3279          BA   0.197
3280          LG    0.10    0.25    4.70    0.28      70
3281          UC   1.143   0.833
3282          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
3283          UA     100
              *

3284          KK  ERPENR  DIVERT
3285          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
3286          KM   retention developed after 1990 in subbasin PENR
3287          DT   XPENR      6.9     0.0
3288          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
3289          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

3290          KK  DWPE99  DIVERT
3291          KM   Divert remaining runoff hydrograph at subbasin PENR west to combination point
3292          KM   CNR12
3293          DT  DSOLNR      0.0     0.0
3294          DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
3295          DQ     0.0    44.0    88.0   220.0   440.0   880.0  1760.0  4400.0  8800.0 22000.0
              *

3296          KK    PE97   BASIN
3297          KM   Runoff hydrograph for subbasin PE97 near the intersection of Peoria Avenue
3298          KM   Road and 97th Avenue
3299          BA   0.560
3300          LG    0.18    0.26    4.65    0.31      30
3301          UC   1.296   1.005
3302          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
3303          UA     100
              *

3304          KK  ERPE97  DIVERT
3305          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
3306          KM   retention developed after 1990 in subbasin PE97
3307          DT   XPE97      0.8     0.0
3308          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
3309          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

3310          KK   CNR12 COMBINE
3311          KM   Combine route RPE97, divert DWPE99, and subbasin PE97
3312          HC       4    70.71
              *

3313          KK  DROL99RETRIEVE
3314          KM   Retrieve divert DROL99 from subbasin PE99 and divert to combination point
3315          KM   CNR13
3316          DR  DSOL99
```

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                *
3317            KK  ROL99A   ROUTE
3318            KM   Route diversion retrieval DROL99 to combination point CNR13
3319            RS       8    FLOW
3320            RC   0.035   0.015   0.035    5677  0.0038    0.00
3321            RX    0.00    0.00   16.50   16.50  107.50  107.50  124.00  124.00
3322            RY    3.00    0.66    0.50    0.00    0.00    0.50    0.66    3.00
                *
3323            KK    PE11   BASIN
3324            KM   Runoff hydrograph for subbasin PE11 near the intersection of Peoria Avenue
3325            KM   and 111th Avenue
3326            BA   0.924
3327            LG    0.20    0.25    6.00    0.18      30
3328            UC   1.500   1.103
3329            UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
3330            UA     100
                *
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LINE            ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

3331            KK  ROL03A   ROUTE
3332            KM   Route runoff hydrograph at subbasin PE11 to combination point COL03
3333            RS       2    FLOW
3334            RC   0.045   0.015   0.045    7132  0.0024    0.00
3335            RX    0.00    0.00   40.00   50.00   60.00   70.00  110.00  110.00
3336            RY    6.20    5.20    5.00    0.00    0.00    5.00    5.20    6.20
                *
3337            KK    PE07   BASIN
3338            KM   Runoff hydrograph for subbasin PE07 near the intersection of Peoria Avenue
3339            KM   and 107th Avenue
3340            BA   0.575
3341            LG    0.18    0.25    5.30    0.27      23
3342            UC   1.500   1.250
3343            UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
3344            UA     100
                *
3345            KK  ROL03B   ROUTE
3346            KM   Route runoff hydrograph at subbasin PE07 to combination point COL03
3347            RS       4    FLOW
3348            RC   0.035   0.015   0.035    6517  0.0026    0.00
3349            RX    0.00    0.00    9.50    9.50   40.50   40.50   50.00   50.00
3350            RY    3.00    0.60    0.50    0.00    0.00    0.50    0.60    3.00
                *
3351            KK    PE03   BASIN
3352            KM   Runoff hydrograph for subbasin PE03 near the intersection of Peoria Avenue
3353            KM   and 103rd Avenue
3354            BA   0.409
3355            LG    0.20    0.25    4.80    0.32      29
3356            UC   1.402   1.219
3357            UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
3358            UA     100
                *
3359            KK  ROL03C   ROUTE
3360            KM   Route runoff hydrograph at subbasin PE03 to combination point COL03
3361            RS       5    FLOW
3362            RC   0.035   0.015   0.035    5865  0.0030    0.00
3363            RX    0.00    0.00   12.50   12.50   62.50   62.50   75.00   75.00
3364            RY    3.00    0.62    0.50    0.00    0.00    0.50    0.62    3.00
                *
3365            KK    OL03   BASIN
3366            KM   Runoff hydrograph for subbasin OL03 near the intersection of Olive Avenue and
3367            KM   103rd Avenue
3368            BA   1.099
3369            LG    0.22    0.25    5.20    0.24      33
3370            UC   1.500   0.864
3371            UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
3372            UA     100
                *
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LINE            ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

3373            KK   COL03 COMBINE
3374            KM   Combine route ROL03A, route ROL03B, route ROL03C, and subbasin OL03
3375            HC       4    3.01
                *
3376            KK  ROL99B   ROUTE
3377            KM   Route runoff hydrograph at combination point COL03 to combination point CNR13
3378            RS       1    FLOW
3379            RC   0.045   0.015   0.045    1627  0.0124    0.00
3380            RX    0.00    0.00   40.00   50.00   60.00   70.00  110.00  110.00
3381            RY    6.20    5.20    5.00    0.00    0.00    5.00    5.20    6.20
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                *
3382            KK  DROLNRRETRIEVE
3383            KM   Retrieve divert DROLNR from subbasin PENR and divert to combination point
3384            KM   COLNR
3385            DR  DSOLNR
                *
3386            KK   ROLNR   ROUTE
3387            KM   Route diversion retreival DROLNR to combination point COLNR
3388            RS       8    FLOW
3389            RC   0.035   0.015   0.035    8150  0.0031    0.00
3390            RX    0.00    0.00   12.50   12.50   62.50   62.50   75.00   75.00
3391            RY    3.00    0.62    0.50    0.00    0.00    0.50    0.62    3.00
                *
3392            KK    OLNR   BASIN
3393            KM   Runoff hydrograph for subbasin OLNR near the intersection of Olive Avenue
3394            KM   and New River
3395            BA   0.696
3396            LG    0.23    0.17    6.80    0.11      38
3397            UC   1.500   1.147
3398            UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
3399            UA     100
                *
3400            KK  EROLNR  DIVERT
3401            KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
3402            KM   retention developed after 1990 in subbasin OLNR
3403            DT   XOLNR     31.6      0.0
3404            DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
3405            DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
                *
3406            KK   COLNR COMBINE
3407            KM   Combine route ROLNR and subbasin OLNR
3408            HC       2    0.78
                *
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LINE            ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

3409            KK  DWOL99  DIVERT
3410            KM   Divert runoff hydrograph at combination point COLNR west to combination point
3411            KM   CNR13
3412            DT  DSNONR      0.0      0.0
3413            DI      0.0    100.0    200.0    500.0   1000.0   2000.0   4000.0  10000.0  20000.0  50000.0
3414            DQ      0.0     33.0     66.0    165.0    330.0    660.0   1320.0   3300.0   6600.0  16500.0
                *
3415            KK    OL99   BASIN
3416            KM   Runoff hydrograph for subbasin OL99 near the intersection of Olive Avenue
3417            KM   and 99th Avenue
3418            BA   0.436
3419            LG    0.19    0.27    4.25    0.38      28
3420            UC   1.352   1.130
3421            UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
3422            UA     100
                *
3423            KK   CNR13 COMBINE
3424            KM   Combine route ROL99A, route ROL99B and subbasin OL99
3425            HC       5   74.76
                *
3426            KK  DRNONRRETRIEVE
3427            KM   Retrieve divert DRNONR from subbasin OLNR and divert to combination point
3428            KM   CNONR
3429            DR  DSNONR
                *
3430            KK   RNONR   ROUTE
3431            KM   Route diversion retrieval DRNONR to combination point CNONR
3432            RS       9    FLOW
3433            RC   0.035   0.015   0.035    8560  0.0031    0.00
3434            RX    0.00    0.00   12.50   12.50   62.50   62.50   75.00   75.00
3435            RY    3.00    0.62    0.50    0.00    0.00    0.50    0.62    3.00
                *
3436            KK    NONR   BASIN
3437            KM   Runoff hydrograph for subbasin NONR near the intersection of Northern Avenue
3438            KM   and New River
3439            BA   0.830
3440            LG    0.22    0.15    7.60    0.08      41
3441            UC   1.500   1.128
3442            UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
3443            UA     100
                *
3444            KK  ERNONR  DIVERT
3445            KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
3446            KM   retention developed after 1990 in subbasin NONR
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3447          DT   XNONR     48.0      0.0
3448          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
3449          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9.....10


3450          KK   CNONR COMBINE
3451          KM   Combine route RNONR and subbasin NONR
3452          HC        2    1.09
              *

3453          KK    NO99   BASIN
3454          KM   Runoff hydrograph for subbasin NO99 near the intersection of Northern Avenue
3455          KM   and 99th Avenue
3456          BA   0.858
3457          LG    0.21    0.26    4.25    0.38      28
3458          UC   1.500   0.932
3459          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
3460          UA     100
              *

3461          KK  ERNO99  DIVERT
3462          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
3463          KM   retention developed after 1990 in subbasin NO99
3464          DT   XNO99     26.3      0.0
3465          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
3466          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

3467          KK   CNR14 COMBINE
3468          KM   Combine combination point CNONR, and subbasin NO99
3469          HC        3   76.71
              *

3470          KK    GL03   BASIN
3471          KM   Runoff hydrograph for subbasin GL03 near the intersection of Glendale Avenue
3472          KM   and 103rd Avenue
3473          BA   0.649
3474          LG    0.10    0.27    4.10    0.38      69
3475          UC   1.185   0.761
3476          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
3477          UA     100
              *

3478          KK  ERGL03  DIVERT
3479          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
3480          KM   retention developed after 1990 in subbasin GL03
3481          DT   XGL03     49.8      0.0
3482          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
3483          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

3484          KK   CNR15 COMBINE
3485          KM   Combine subbasin GL03
3486          HC        2   77.36
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9.....10


3487          KK    GLGH   BASIN
3488          KM   Runoff hydrograph for subbasin GLGH near the intersection of Glendale Avenue
3489          KM   and Glen Harbor Boulevard
3490          BA   0.079
3491          LG    0.10    0.25    4.40    0.32      95
3492          UC   0.669   0.568
3493          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
3494          UA     100
              *

3495          KK   RGHNR   ROUTE
3496          KM   Route runoff hydrograph at subbasin GLGH to combination point CNR16
3497          RS        6    FLOW
3498          RC   0.045   0.035   0.045    7516  0.0045    0.00
3499          RX    0.00    0.00   19.00   25.00   30.00   36.00   55.00   55.00
3500          RY    4.10    3.10    3.00    0.00    0.00    3.00    3.10    4.10
              *

3501          KK    GHNR   BASIN
3502          KM   Runoff hydrograph for subbasin GHNR near the intersection of Glen Harbor
3503          KM   Boulevard and New River
3504          BA   0.841
3505          LG    0.14    0.28    3.71    0.47      47
3506          UC   1.320   0.890
3507          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
3508          UA     100
              *

3509          KK  ERGHNR  DIVERT
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3510          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
3511          KM   retention developed after 1990 in subbasin GHNR
3512          DT   XGHNR     14.8      0.0
3513          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
3514          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

3515          KK   CNR16 COMBINE
3516          KM   Combine route RGHNR and subbasin GHNR
3517          HC        3   78.28
              *

3518          KK    AF11   BASIN
3519          KM   Runoff hydrograph for subbasin AF11 near the intersection of the Agua Fria
3520          KM   River and 111th Avenue
3521          BA   0.375
3522          LG    0.15    0.28    3.07    0.74      80
3523          UC   0.571   0.300
3524          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
3525          UA     100
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9.....10


3526          KK    GHAF   BASIN
3527          KM   Runoff hydrograph for subbasin GHAF near the intersection of Glen Harbor
3528          KM   Boulevard and the Agua Fria River
3529          BA   0.563
3530          LG    0.15    0.28    3.03    0.76      79
3531          UC   0.764   0.504
3532          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
3533          UA     100
              *

3534          KK  ERGHAF  DIVERT
3535          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
3536          KM   retention developed after 1990 in subbasin GHAF
3537          DT   XGHAF     48.5      0.0
3538          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
3539          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

3540          KK   CAF06 COMBINE
3541          KM   Combine combination point CNR16, subbasin AF11, and subbasin GHAF
3542          HC        3   79.22
              *

3543          KK    JMAF   BASIN
3544          KM   Runoff hydrograph for subbasin JMAF near the intersection of Jomax Road and
3545          KM   the Agua Fria River
3546          BA   0.147
3547          LG    0.19    0.29    4.90    0.24      24
3548          UC   0.650   0.595
3549          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
3550          UA     100
              *

3551          KK  ERJMAF  DIVERT
3552          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
3553          KM   retention developed after 1990 in subbasin JMAF
3554          DT   XJMAF      5.8      0.0
3555          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
3556          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

3557          KK    HV07   BASIN
3558          KM   Runoff hydrograph for subbasin HV07 near the intersection of Happy Valley
3559          KM   Road and 107th Avenue
3560          BA   0.304
3561          LG    0.25    0.25    3.92    0.41      31
3562          UC   0.587   0.276
3563          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
3564          UA     100
              *
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3565          KK  ERHV07  DIVERT
3566          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
3567          KM   retention developed after 1990 in subbasin HV07
3568          DT   XHV07     13.1      0.0
3569          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
3570          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

3571          KK   RHVAF   ROUTE
3572          KM   Route runoff hydrograph at subbasin HV07 to combination point CHVAF
3573          RS        3    FLOW
3574          RC   0.045   0.020   0.045    2397  0.0013    0.00
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3575          RX   0.00    0.00   19.00   25.00   30.00   36.00   55.00   55.00
3576          RY   4.10    3.10    3.00    0.00    0.00    3.00    3.10    4.10
              *
3577          KK    HVAF   BASIN
3578          KM   Runoff hydrograph for subbasin HVAF near the intersection of Happy Valley
3579          KM   Road and the Agua Fria River
3580          BA   0.215
3581          LG    0.25    0.25    3.92    0.41      32
3582          UC   0.692   0.312
3583          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
3584          UA     100
              *
3585          KK  ERHVAF  DIVERT
3586          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
3587          KM   retention developed after 1990 in subbasin HVAF
3588          DT   XHVAF    12.4     0.0
3589          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
3590          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *
3591          KK    JM99   BASIN
3592          KM   Runoff hydrograph for subbasin HV07 near the intersection of Jomax Road and
3593          KM   99th Avenue
3594          BA   0.568
3595          LG    0.24    0.13   10.10    0.03      33
3596          UC   0.910   0.496
3597          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
3598          UA     100
              *
3599          KK  ERJM99  DIVERT
3600          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
3601          KM   retention developed after 1990 in subbasin JM99
3602          DT   XJM99    42.7     0.0
3603          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
3604          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *
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LINE          ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

3605          KK    WWLP   BASIN
3606          KM   Runoff hydrograph for subbasin WWLP near the intersection of Westwing Parkway
3607          KM   and Lake Pleasant Parkway
3608          BA   0.136
3609          LG    0.20    0.17    7.00    0.10      44
3610          UC   0.312   0.146
3611          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
3612          UA     100
              *
3613          KK  ERWWLP  DIVERT
3614          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
3615          KM   retention developed after 1990 in subbasin WWLP
3616          DT   XWWLP    10.1     0.0
3617          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
3618          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *
3619          KK   RJMLP   ROUTE
3620          KM   Route runoff hydrograph at subbasin WWLP to combination point CJMLP
3621          RS       5    FLOW
3622          RC   0.045   0.035   0.045    5973  0.0084    0.00
3623          RX    0.00    0.00   40.00   50.00   60.00   70.00  110.00  110.00
3624          RY    6.20    5.20    5.00    0.00    0.00    5.00    5.20    6.20
              *
3625          KK    JMLP   BASIN
3626          KM   Runoff hydrograph for subbasin JMLP near the intersection of Jomax Road and
3627          KM   Lake Pleasant Parkway
3628          BA   0.705
3629          LG    0.24    0.25    6.00    0.16      36
3630          UC   0.949   0.513
3631          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
3632          UA     100
              *
3633          KK  ERJMLP  DIVERT
3634          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
3635          KM   retention developed after 1990 in subbasin JMLP
3636          DT   XJMLP    50.3     0.0
3637          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
3638          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *
3639          KK   CJMLP COMBINE
3640          KM   Combine route RJMLP, subbasin JM99, and subbasin JMLP
3641          HC       3    1.41
              *
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LINE          ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

3642          KK  RHV01A   ROUTE
3643          KM   Route runoff hydrograph at combination point CJMLP to combination point CHV01
3644          RS       3    FLOW
3645          RC   0.045   0.035   0.045    5774  0.0093    0.00
3646          RX    0.00    0.00   55.00   75.00  100.00  120.00  175.00  175.00
3647          RY   11.20   10.20   10.00    0.00    0.00   10.00   10.20   11.20
              *
3648          KK    YLLP   BASIN
3649          KM   Runoff hydrograph for subbasin YLLP near the intersection of Yearling Road
3650          KM   and Lake Pleasant Parkway
3651          BA   0.595
3652          LG    0.25    0.26    4.35    0.38      34
3653          UC   0.905   0.626
3654          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
3655          UA     100
              *
3656          KK  ERYLLP  DIVERT
3657          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
3658          KM   retention developed after 1990 in subbasin YLLP
3659          DT   XYLLP    13.8     0.0
3660          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
3661          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *
3662          KK  RHV01B   ROUTE
3663          KM   Route runoff hydrograph at subbasin YLLP to combination point CHV01
3664          RS       1    FLOW
3665          RC   0.045   0.035   0.045    2017  0.0107    0.00
3666          RX    0.00    0.00   40.00   50.00   60.00   70.00  110.00  110.00
3667          RY    6.20    5.20    5.00    0.00    0.00    5.00    5.20    6.20
              *
3668          KK  DRHVLPRETRIEVE
3669          KM   Retrieve divert DRHVLP from subbasin HV93 and divert to combination point
3670          KM   CHVLP
3671          DR   DWHVLP
              *
3672          KK   RHVLP   ROUTE
3673          KM   Route diversion retrieval DRHVLP to combination point CHVLP
3674          RS       2    FLOW
3675          RC   0.045   0.020   0.045    4021  0.0052    0.00
3676          RX    0.00    0.00   19.00   25.00   30.00   36.00   55.00   55.00
3677          RY    4.10    3.10    3.00    0.00    0.00    3.00    3.10    4.10
              *
3678          KK    HVLP   BASIN
3679          KM   Runoff hydrograph for subbasin HVLP near the intersection of Happy Valley
3680          KM   Road and Lake Pleasant Parkway
3681          BA   0.198
3682          LG    0.20    0.25    4.30    0.37      48
3683          UC   0.771   0.726
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LINE          ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

3684          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
3685          UA     100
              *
3686          KK  ERHVLP  DIVERT
3687          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
3688          KM   retention developed after 1990 in subbasin HVLP
3689          DT   XHVLP    9.2      0.0
3690          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
3691          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *
3692          KK   CHVLP COMBINE
3693          KM   Combine route RHVLP and subbasin HVLP
3694          HC       2    0.27
              *
3695          KK  RHV01C   ROUTE
3696          KM   Route runoff hydrograph at combination point CHVLP to combination point CHV01
3697          RS       1    FLOW
3698          RC   0.045   0.020   0.045    1200  0.0174    0.00
3699          RX    0.00    0.00   40.00   50.00   60.00   70.00  110.00  110.00
3700          RY    6.20    5.20    5.00    0.00    0.00    5.00    5.20    6.20
              *
3701          KK    HV01   BASIN
3702          KM   Runoff hydrograph for subbasin HV01 near the intersection of Happy Valley
3703          KM   Road and 101st Avenue
3704          BA   0.444
3705          LG    0.19    0.25    5.30    0.20      52
3706          UC   0.828   0.511
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3707          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
3708          UA     100
              *

3709          KK  ERHV01   DIVERT
3710          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
3711          KM   retention developed after 1990 in subbasin HV01
3712          DT   XHV01     29.2      0.0
3713          DI     0.0 50000.0      0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
3714          DQ     0.0 50000.0      0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

3715          KK   CHV01 COMBINE
3716          KM   Combine route RHV01A, route RHV01B, route RHV01C, and subbasin HV01
3717          HC       4    2.72
              *

3718          KK   RCL07    ROUTE
3719          KM   Route runoff hydrograph at combination point CHV01 to combination point CCL07
3720          RS       1     FLOW
3721          RC   0.045   0.035   0.045    5019  0.0120    0.00
3722          RX    0.00    0.00   55.00   75.00  100.00  120.00  175.00  175.00
3723          RY   11.20   10.20   10.00    0.00    0.00   10.00   10.20   11.20
              *

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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

3724          KK  RCLAFA    ROUTE
3725          KM   Route runoff hydrograph from route RCL07 to combination point CCLAF
3726          RS       1     FLOW
3727          RC   0.045   0.020   0.045    2211  0.0045    0.00
3728          RX    0.00    0.00   40.00   50.00   60.00   70.00  110.00  110.00
3729          RY    6.20    5.20    5.00    0.00    0.00    5.00    5.20    6.20
              *

3730          KK    CL07    BASIN
3731          KM   Runoff hydrograph for subbasin CL07 near the intersection of Calle Lejos Road
3732          KM   and 107th Avenue
3733          BA   0.524
3734          LG    0.21    0.27    4.55    0.30      26
3735          UC   1.098   0.785
3736          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
3737          UA     100
              *

3738          KK  ERCL07   DIVERT
3739          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
3740          KM   retention developed after 1990 in subbasin CL07
3741          DT   XCL07     31.0      0.0
3742          DI     0.0 50000.0      0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
3743          DQ     0.0 50000.0      0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

3744          KK  DWCLAF   DIVERT
3745          KM   Divert remaining runoff hydrograph at subbasin CL07 west to combination point
3746          KM   CCLAF
3747          DT   DSPP03      0.0      0.0
3748          DI     0.0   100.0   200.0   500.0  1000.0  2000.0  4000.0 10000.0 20000.0 50000.0
3749          DQ     0.0    12.0    24.0    60.0   120.0   240.0   480.0  1200.0  2400.0  6000.0
              *

3750          KK  RCLAFB    ROUTE
3751          KM   Route diversion DWCLAF west to combination point CCLAF
3752          RS       3     FLOW
3753          RC   0.045   0.035   0.045    2215  0.0045    0.00
3754          RX    0.00    0.00   19.00   25.00   30.00   36.00   55.00   55.00
3755          RY    4.10    3.10    3.00    0.00    0.00    3.00    3.10    4.10
              *

3756          KK    CLAF    BASIN
3757          KM   Runoff hydrograph for subbasin CLAF near the intersection of Calle Lejos Road
3758          KM   and the Agua Fria River
3759          BA   0.289
3760          LG    0.16    0.29    3.95    0.40      25
3761          UC   0.958   0.664
3762          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
3763          UA     100
              *

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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

3764          KK  ERCLAF   DIVERT
3765          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
3766          KM   retention developed after 1990 in subbasin CLAF
3767          DT   XCLAF     10.4      0.0
3768          DI     0.0 50000.0      0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
3769          DQ     0.0 50000.0      0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *
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3770          KK   CCLAF COMBINE
3771          KM   Combine route RCLAFA, route RCLAFB, and subbasin CLAF
3772          HC       3    3.47
              *

3773          KK   CAF01 COMBINE
3774          KM   Combine route RHVAF, subbasin JMAF, subbasin HVAF, and combination point
3775          KM   CCLAF
3776          HC       4    4.13
              *

3777          KK  DR03PPRETRIEVE
3778          KM   Retrieve divert DR03PP from combination point CPPLP and divert to
3779          KM   combination point CPP03
3780          DR  DWPP03
              *

3781          KK  RPP03B    ROUTE
3782          KM   Route diversion retrieval DR03PP to combination point CPP03
3783          RS       1     FLOW
3784          RC   0.040   0.040   0.040    1960  0.0072    0.00
3785          RX    0.00  100.00  140.00  160.00  200.00  300.00  400.00  500.00
3786          RY   10.00    9.00    0.00    0.00    9.00   10.00   11.00   12.00
              *

3787          KK  DRPP03RETRIEVE
3788          KM   Retrieve divert DRPP03 from subbasin CL07 and divert to combination point
3789          KM   CPP03
3790          DR  DSPP03
              *

3791          KK  RPP03A    ROUTE
3792          KM   Route diversion retrieval DRPP03 to combination point CPP03
3793          RS       5     FLOW
3794          RC   0.045   0.035   0.045    2970  0.0057    0.00
3795          RX    0.00    0.00   19.00   25.00   30.00   36.00   55.00   55.00
3796          RY    4.10    3.10    3.00    0.00    0.00    3.00    3.10    4.10
              *

3797          KK    PP03    BASIN
3798          KM   Runoff hydrograph for subbasin PP03 near the intersection of Pinnacle Peak
3799          KM   Road and 103rd Avenue
3800          BA   0.325
3801          LG    0.30    0.25    4.45    0.38      15
3802          UC   1.500   1.214
3803          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

3804          UA     100
              *

3805          KK  ERPP03   DIVERT
3806          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
3807          KM   retention developed after 1990 in subbasin PP03
3808          DT   XPP03      3.4      0.0
3809          DI     0.0 50000.0      0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
3810          DQ     0.0 50000.0      0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

3811          KK   CPP03 COMBINE
3812          KM   Combine route RPP03A, route RPP03B, and subbasin PP03
3813          HC       3    1.53
              *

3814          KK  DWPP07   DIVERT
3815          KM   Divert remaining runoff hydrograph at combination point CPP03 west to
3816          KM   combination point CPP07
3817          DT   DSDV07      0.0      0.0
3818          DI     0.0 50000.0      0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
3819          DQ     0.0     0.0      0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *

3820          KK   RPP07    ROUTE
3821          KM   Route diversion DWPP07 west to combination point CPP07
3822          RS       2     FLOW
3823          RC   0.050   0.050   0.050    2468  0.0158    0.00
3824          RX    0.00  100.00  140.00  160.00  200.00  300.00  400.00  500.00
3825          RY   10.00    9.00    0.00    0.00    9.00   10.00   11.00   12.00
              *

3826          KK    PP07    BASIN
3827          KM   Runoff hydrograph for subbasin PP07 near the intersection of Pinnacle Peak
3828          KM   Road and 107th Avenue
3829          BA   0.195
3830          LG    0.27    0.27    5.30    0.24      13
3831          UC   0.883   0.664
3832          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
3833          UA     100
              *

3834          KK  ERPP07   DIVERT
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```
3835          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
3836          KM   retention developed after 1990 in subbasin PP07
3837          DT   XPP07      3.9      0.0
3838          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
3839          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


3840          KK   CPP07 COMBINE
3841          KM   Combine route RPP07 and subbasin PP07
3842          HC        2     1.73
              *

3843          KK   RPPAF    ROUTE
3844          KM   Route runoff hydrograph at combination point CPP07 to combination point CDVAF
3845          RS        1      FLOW
3846          RC    0.050    0.050    0.050     1553   0.0300     0.00
3847          RX     0.00   100.00   140.00   170.00   210.00   310.00   410.00   510.00
3848          RY    10.00     9.00     0.00     0.00     9.00    10.00    11.00    12.00
              *

3849          KK    PPAF    BASIN
3850          KM   Runoff hydrograph for subbasin PPAF near the intersection of Pinnacle Peak
3851          KM   Road and the Agua Fria River
3852          BA    0.270
3853          LG     0.15     0.25     4.20     0.36       80
3854          UC    0.387    0.264
3855          UA        0      5.0     16.0     30.0     65.0     77.0     84.0     90.0     94.0     97.0
3856          UA      100
              *

3857          KK   CPFAF COMBINE
3858          KM   Combine route RDVAF and subbasin DVAF
3859          HC        2     2.00
              *

3860          KK    DVAF    BASIN
3861          KM   Runoff hydrograph for subbasin DVAF near the intersection of Deer Valley Road
3862          KM   and the Agua Fria River
3863          BA    0.412
3864          LG     0.15     0.33     5.60     0.18       10
3865          UC    1.012    0.607
3866          UA        0      5.0     16.0     30.0     65.0     77.0     84.0     90.0     94.0     97.0
3867          UA      100
              *

3868          KK  ERDVAF  DIVERT
3869          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
3870          KM   retention developed after 1990 in subbasin DVAF
3871          DT   XDVAF     11.3      0.0
3872          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
3873          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

3874          KK   CAF02 COMBINE
3875          KM   Combine combination point CDVAF and subbasin PPAF
3876          HC        2     2.41
              *

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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


3877          KK  DRDV07RETRIEVE
3878          KM   Retrieve divert DRDV07 from combination point CPP03 and divert to
3879          KM   combination point CDV07
3880          DR  DSDV07
              *

3881          KK   RDV07    ROUTE
3882          KM   Route diversion retrieval DRDV07 to combination point CDV07
3883          RS        1      FLOW
3884          RC    0.045    0.035    0.045     6455   0.0071     0.00
3885          RX     0.00     0.00    40.00    50.00    60.00    70.00   110.00   110.00
3886          RY     6.20     5.20     5.00     0.00     0.00     5.00     5.20     6.20
              *

3887          KK    DV07    BASIN
3888          KM   Runoff hydrograph for subbasin DV07 near the intersection of Deer Valley Road
3889          KM   and 107th Avenue
3890          BA    0.645
3891          LG     0.26     0.25     4.65     0.29       27
3892          UC    1.230    0.760
3893          UA        0      5.0     16.0     30.0     65.0     77.0     84.0     90.0     94.0     97.0
3894          UA      100
              *

3895          KK  ERDV07  DIVERT
3896          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
3897          KM   retention developed after 1990 in subbasin DV07
```



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3898          DT   XDV07     45.8      0.0
3899          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
3900          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

3901          KK   CDV07 COMBINE
3902          KM   Combine route RDV07 and subbasin DV07
3903          HC        2     0.65
              *

3904          KK  RRG07A    ROUTE
3905          KM   Route runoff hydrograph at combination point CDV07 to combination point CRG07
3906          RS        2      FLOW
3907          RC    0.045    0.015    0.045     2573   0.0027     0.00
3908          RX     0.00     0.00    19.00    25.00    30.00    36.00    55.00    55.00
3909          RY     4.10     3.10     3.00     0.00     0.00     3.00     3.10     4.10
              *

3910          KK  DRRG07RETRIEVE
3911          KM   Retrieve divert DRRG07 from combination point CRGLP and divert to
3912          KM   combination point CRG07
3913          DR  DWRG07
              *

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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


3914          KK  RRG07C    ROUTE
3915          KM   Route diversion retrieval DRRG07 to combination point CRG07
3916          RS        4      FLOW
3917          RC    0.045    0.020    0.045     4816   0.0056     0.00
3918          RX     0.00     0.00    40.00    50.00    60.00    70.00   110.00   110.00
3919          RY     6.20     5.20     5.00     0.00     0.00     5.00     5.20     6.20
              *

3920          KK  DRDVLPRETRIEVE
3921          KM   Retrieve divert DRDVLP from combination point CPPLP and divert to
3922          KM   combination point CDVLP
3923          DR  DSDVLP
              *

3924          KK   RDVLP    ROUTE
3925          KM   Route diversion retrieval DRDVLP to combination point CDVLP
3926          RS        1      FLOW
3927          RC    0.045    0.035    0.045     5616   0.0059     0.00
3928          RX     0.00     0.00    19.00    25.00    30.00    36.00    55.00    55.00
3929          RY     4.10     3.10     3.00     0.00     0.00     3.00     3.10     4.10
              *

3930          KK    DVLP    BASIN
3931          KM   Runoff hydrograph for subbasin DVLP near the intersection of Deer Valley Road
3932          KM   and Lake Pleasant Parkway
3933          BA    0.136
3934          LG     0.23     0.25     4.45     0.33       38
3935          UC    1.137    1.383
3936          UA        0      5.0     16.0     30.0     65.0     77.0     84.0     90.0     94.0     97.0
3937          UA      100
              *

3938          KK  ERDVLP  DIVERT
3939          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
3940          KM   retention developed after 1990 in subbasin DVLP
3941          DT   XDVLP     8.7      0.0
3942          DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
3943          DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
              *

3944          KK   CDVLP COMBINE
3945          KM   Combine route RDVLP and subbasin DVLP
3946          HC        2     0.14
              *

3947          KK  RRG07B    ROUTE
3948          KM   Route runoff hydrograph at combination point CDVLP to combination point CRG07
3949          RS        6      FLOW
3950          RC    0.045    0.020    0.045     5903   0.0059     0.00
3951          RX     0.00     0.00    40.00    50.00    60.00    70.00   110.00   110.00
3952          RY     6.20     5.20     5.00     0.00     0.00     5.00     5.20     6.20
              *

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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


3953          KK    RG07    BASIN
3954          KM   Runoff hydrograph for subbasin RG07 near the intersection of Rose Garden Lane
3955          KM   and 107th Avenue
3956          BA    0.350
3957          LG     0.23     0.25     4.55     0.31       35
3958          UC    1.380    1.031
3959          UA        0      5.0     16.0     30.0     65.0     77.0     84.0     90.0     94.0     97.0
3960          UA      100
```

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                *
3961            KK  ERRG07  DIVERT
3962            KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
3963            KM   retention developed after 1990 in subbasin RG07
3964            DT   XRG07     41.1      0.0
3965            DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
3966            DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
                *

3967            KK   CRG07 COMBINE
3968            KM   Combine route RRG07A, route RRG07B, route RRG07C, and subbasin RG07
3969            HC        4    2.01
                *

3970            KK   RRGAF   ROUTE
3971            KM   Route runoff hydrograph at combination point CRG07 to combination point CRGAF
3972            RS        1    FLOW
3973            RC    0.045    0.020    0.045     4328   0.0083     0.00
3974            RX     0.00     0.00    40.00    50.00    60.00    70.00   110.00   110.00
3975            RY     6.20     5.20     5.00     0.00     0.00     5.00     5.20     6.20
                *

3976            KK    RGAF   BASIN
3977            KM   Runoff hydrograph for subbasin RGAF near the intersection of Rose Garden Lane
3978            KM   and the Agua Fria River
3979            BA    0.332
3980            LG     0.16     0.33     6.20     0.14       12
3981            UC    1.351    1.195
3982            UA        0      5.0     16.0     30.0     65.0     77.0     84.0     90.0     94.0     97.0
3983            UA      100
                *

3984            KK  ERRGAF  DIVERT
3985            KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
3986            KM   retention developed after 1990 in subbasin RGAF
3987            DT   XRGAF     10.4      0.0
3988            DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
3989            DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
                *
1                                          HEC-1 INPUT                                                    PAGE104
LINE            ID.......1.......2.......3.......4.......5.......6.......7.......8.......9.....10

3990            KK   CRGAF COMBINE
3991            KM   Combine route RRGAF and subbasin RGAF
3992            HC        2    2.34
                *

3993            KK  DRBYAFRETRIEVE
3994            KM   Retrieve divert DRBYAF from combination point CBY07 and divert to
3995            KM   combination point CBYAF
3996            DR  DWBYAF
                *

3997            KK   RBY07   ROUTE
3998            KM   Route diversion retrieval DRBYAF to route RBYAF
3999            RS        4    FLOW
4000            RC    0.045    0.020    0.045     3085   0.0019     0.00
4001            RX     0.00     1.00    16.00    36.00    51.00   123.00   148.00   648.00
4002            RY    16.00     8.00     0.00     0.00     8.00     8.00     9.00    11.00
                *

4003            KK   RBYAF   ROUTE
4004            KM   Route runoff hydrograph at route RBY07 to combination point CBYAF
4005            RS        6    FLOW
4006            RC    0.045    0.035    0.045     8144   0.0065     0.00
4007            RX     0.00     0.00    19.00    25.00    30.00    36.00    55.00    55.00
4008            RY     4.10     3.10     3.00     0.00     0.00     3.00     3.10     4.10
                *

4009            KK    BYAF   BASIN
4010            KM   Runoff hydrograph for subbasin BYAF near the intersection of Beardsley Road
4011            KM   and the Agua Fria River
4012            BA    0.609
4013            LG     0.17     0.27     4.70     0.26       30
4014            UC    1.184    0.960
4015            UA        0      5.0     16.0     30.0     65.0     77.0     84.0     90.0     94.0     97.0
4016            UA      100
                *

4017            KK  ERBYAF  DIVERT
4018            KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
4019            KM   retention developed after 1990 in subbasin BYAF
4020            DT   XBYAF     26.1      0.0
4021            DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
4022            DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
                *

4023            KK   CBYAF COMBINE
4024            KM   Combine route RBYAF and subbasin BYAF
4025            HC        2    1.30
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                *
1                                          HEC-1 INPUT                                                    PAGE105
LINE            ID.......1.......2.......3.......4.......5.......6.......7.......8.......9.....10

4026            KK    UHAF   BASIN
4027            KM   Runoff hydrograph for subbasin UHAF near the intersection of Union Hills
4028            KM   Drive and the Agua Fria River
4029            BA    0.489
4030            LG     0.15     0.30     3.50     0.54       12
4031            UC    1.500    1.290
4032            UA        0      5.0     16.0     30.0     65.0     77.0     84.0     90.0     94.0     97.0
4033            UA      100
                *

4034            KK  ERUHAF  DIVERT
4035            KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
4036            KM   retention developed after 1990 in subbasin UHAF
4037            DT   XUHAF     19.8      0.0
4038            DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
4039            DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
                *

4040            KK   CAF03 COMBINE
4041            KM   Combine combination point CRGAF, combination point CBYAF, and subbasin UHAF
4042            HC        3    4.13
                *

4043            KK    UH07   BASIN
4044            KM   Runoff hydrograph for subbasin UH07 near the intersection of Union Hills
4045            KM   Drive and 107th Avenue
4046            BA    0.252
4047            LG     0.20     0.25     4.80     0.34       22
4048            UC    1.500    1.580
4049            UA        0      5.0     16.0     30.0     65.0     77.0     84.0     90.0     94.0     97.0
4050            UA      100
                *

4051            KK   RUH11   ROUTE
4052            KM   Route runoff hydrograph at subbasin UH07 to route RUH15
4053            RS        1    FLOW
4054            RC    0.045    0.020    0.045     2740   0.0090     0.00
4055            RX     0.00     1.00    13.00    23.00    53.00    83.00   108.00   109.00
4056            RY    14.00     6.00     0.00     0.00     6.00     6.00     7.00    15.00
                *

4057            KK   RUH15   ROUTE
4058            KM   Route runoff hydrograph at route RUH11 to combination point CUH15
4059            RS        2    FLOW
4060            RC    0.045    0.035    0.045     2598   0.0120     0.00
4061            RX     0.00     50.00    62.00    72.00    84.00   104.00   139.00   640.00
4062            RY     9.00     6.00     0.00     0.00     6.00     7.00     7.00     9.00
                *
1                                          HEC-1 INPUT                                                    PAGE106
LINE            ID.......1.......2.......3.......4.......5.......6.......7.......8.......9.....10

4063            KK    UH15   BASIN
4064            KM   Runoff hydrograph for subbasin UH15 near the intersection of Union Hills
4065            KM   Drive and 115th Avenue
4066            BA    1.019
4067            LG     0.20     0.25     5.80     0.16       47
4068            UC    1.177    0.616
4069            UA        0      5.0     16.0     30.0     65.0     77.0     84.0     90.0     94.0     97.0
4070            UA      100
                *

4071            KK  ERUH15  DIVERT
4072            KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
4073            KM   retention developed after 1990 in subbasin UH15
4074            DT   XUH15     63.8      0.0
4075            DI     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
4076            DQ     0.0 50000.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
                *

4077            KK   CUH15 COMBINE
4078            KM   Combine route RUH15 and subbasin UH15
4079            HC        2    1.27
                *

4080            KK  RBL15B   ROUTE
4081            KM   Route runoff hydrograph at combination point CUH15 to combination point CBL15
4082            RS        4    FLOW
4083            RC    0.045    0.035    0.045     4894   0.0020     0.00
4084            RX     0.00   100.00   112.00   147.00   159.00   179.00   214.00   580.00
4085            RY     8.00     6.00     0.00     0.00     6.00     7.00     7.00     9.00
                *

4086            KK  DRBL15RETRIEVE
4087            KM   Retrieve divert DRBL15 from combination point CDW07 and divert to
4088            KM   combination point CBL15
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4089          DR  DWBL15
              *
4090          KK  RBL15A    ROUTE
4091          KM   Route diversion retrieval DRBL15 to combination point CBL15
4092          RS      2     FLOW
4093          RC   0.045    0.015    0.045     6041  0.0082     0.00
4094          RX    0.00     0.00    40.00    50.00   60.00    70.00  110.00  110.00
4095          RY    6.20     5.20     5.00     0.00    0.00     5.00    5.20    6.20
              *
4096          KK    BL15    BASIN
4097          KM   Runoff hydrograph for subbasin Bl15 near the intersection of Bell Road and
4098          KM   115th Avenue
4099          BA   0.962
4100          LG    0.22     0.25    4.60     0.32      28
4101          UC   1.361    0.705
4102          UA       0      5.0    16.0     30.0    65.0     77.0    84.0    90.0    94.0    97.0
4103          UA     100
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

4104          KK  ERBL15  DIVERT
4105          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
4106          KM   retention developed after 1990 in subbasin BL15
4107          DT   XBL15     37.0      0.0
4108          DI       0.0 50000.0      0.0      0.0      0.0      0.0      0.0     0.0     0.0     0.0
4109          DQ       0.0 50000.0      0.0      0.0      0.0      0.0      0.0     0.0     0.0     0.0
              *
4110          KK   CBL15 COMBINE
4111          KM   Combine route RBL15A, route RBL15B, and subbasin BL15
4112          HC       3     2.90
              *
4113          KK   RMEAF    ROUTE
4114          KM   Route runoff hydrograph at combination point CBL15 to combination point CMEAF
4115          RS      2     FLOW
4116          RC   0.045    0.020    0.045     5783  0.0053     0.00
4117          RX    0.00     0.00    40.00    50.00   60.00    70.00  110.00  110.00
4118          RY    6.20     5.20     5.00     0.00    0.00     5.00    5.20    6.20
              *
4119          KK    MEAF    BASIN
4120          KM   Runoff hydrograph for subbasin MEAF near the intersection of Meade Drive and
4121          KM   the Agua Fria River
4122          BA   1.369
4123          LG    0.19     0.26    4.65     0.31      35
4124          UC   1.195    0.619
4125          UA       0      5.0    16.0     30.0    65.0     77.0    84.0    90.0    94.0    97.0
4126          UA     100
              *
4127          KK  ERMEAF  DIVERT
4128          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
4129          KM   retention developed after 1990 in subbasin MEAF
4130          DT   XMEAF     39.2      0.0
4131          DI       0.0 50000.0      0.0      0.0      0.0      0.0      0.0     0.0     0.0     0.0
4132          DQ       0.0 50000.0      0.0      0.0      0.0      0.0      0.0     0.0     0.0     0.0
              *
4133          KK   CMEAF COMBINE
4134          KM   Combine route RMEAF and subbasin MEAF
4135          HC       2     4.27
              *
4136          KK    BLAF    BASIN
4137          KM   Runoff hydrograph for subbasin BLAF near the intersection of Bell Road and
4138          KM   the Agua Fria River
4139          BA   0.283
4140          LG    0.20     0.28    3.55     0.52      20
4141          UC   1.500    1.613
4142          UA       0      5.0    16.0     30.0    65.0     77.0    84.0    90.0    94.0    97.0
4143          UA     100
              *
1                                          HEC-1 INPUT                                        PAGE108

LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

4144          KK  ERBLAF  DIVERT
4145          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
4146          KM   retention developed after 1990 in subbasin BLAF
4147          DT   XBLAF     15.4      0.0
4148          DI       0.0 50000.0      0.0      0.0      0.0      0.0      0.0     0.0     0.0     0.0
4149          DQ       0.0 50000.0      0.0      0.0      0.0      0.0      0.0     0.0     0.0     0.0
              *
4150          KK    GRAF    BASIN
4151          KM   Runoff hydrograph for subbasin GRAF near the intersection of Grand Avenue and
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4152          KM   the Agua Fria River
4153          BA   0.859
4154          LG    0.23     0.15    7.00     0.11      37
4155          UC   1.461    1.134
4156          UA       0      5.0    16.0     30.0    65.0     77.0    84.0    90.0    94.0    97.0
4157          UA     100
              *
4158          KK  ERGRAF  DIVERT
4159          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
4160          KM   retention developed after 1990 in subbasin GRAF
4161          DT   XGRAF      7.0      0.0
4162          DI       0.0 50000.0      0.0      0.0      0.0      0.0      0.0     0.0     0.0     0.0
4163          DQ       0.0 50000.0      0.0      0.0      0.0      0.0      0.0     0.0     0.0     0.0
              *
4164          KK    PEAF    BASIN
4165          KM   Runoff hydrograph for subbasin PEAF near the intersection of Kansas Avenue
4166          KM   and the Agua Fria River
4167          BA   0.531
4168          LG    0.19     0.25    4.20     0.36      48
4169          UC   0.875    0.425
4170          UA       0      5.0    16.0     30.0    65.0     77.0    84.0    90.0    94.0    97.0
4171          UA     100
              *
4172          KK   CAF04 COMBINE
4173          KM   Combine combination point CMEAF, subbasin BLAF, subbasin GRAF, and subbasin
4174          KM   PEAF
4175          HC       4     5.94
              *
4176          KK    OL11    BASIN
4177          KM   Runoff hydrograph for subbasin OL11 near the intersection of Olive Avenue and
4178          KM   111th Avenue
4179          BA   0.339
4180          LG    0.26     0.25    4.25     0.43      22
4181          UC   1.138    0.675
4182          UA       0      5.0    16.0     30.0    65.0     77.0    84.0    90.0    94.0    97.0
4183          UA     100
              *
1                                          HEC-1 INPUT                                        PAGE109

LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

4184          KK  EROL11  DIVERT
4185          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
4186          KM   retention developed after 1990 in subbasin OL11
4187          DT   XOL11      2.9      0.0
4188          DI       0.0 50000.0      0.0      0.0      0.0      0.0      0.0     0.0     0.0     0.0
4189          DQ       0.0 50000.0      0.0      0.0      0.0      0.0      0.0     0.0     0.0     0.0
              *
4190          KK   RNO11    ROUTE
4191          KM   Route runoff hydrograph at subbasin OL11 to combination point CNO11
4192          RS       3     FLOW
4193          RC   0.045    0.020    0.045     6339  0.0057     0.00
4194          RX    0.00     0.00    19.00    25.00   30.00    36.00   55.00   55.00
4195          RY    4.10     3.10     3.00     0.00    0.00     3.00    3.10    4.10
              *
4196          KK    NO11    BASIN
4197          KM   Runoff hydrograph for subbasin NO11 near the intersection of Northern Avenue
4198          KM   and 111th Avenue
4199          BA   0.860
4200          LG    0.20     0.25    3.95     0.40      52
4201          UC   0.916    0.449
4202          UA       0      5.0    16.0     30.0    65.0     77.0    84.0    90.0    94.0    97.0
4203          UA     100
              *
4204          KK  ERNO11  DIVERT
4205          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
4206          KM   retention developed after 1990 in subbasin NO11
4207          DT   XNO11     23.2      0.0
4208          DI       0.0 50000.0      0.0      0.0      0.0      0.0      0.0     0.0     0.0     0.0
4209          DQ       0.0 50000.0      0.0      0.0      0.0      0.0      0.0     0.0     0.0     0.0
              *
4210          KK   CNO11 COMBINE
4211          KM   Combine route RNO11 and subbasin NO11
4212          HC       2     1.20
              *
4213          KK   RGL14A   ROUTE
4214          KM   Route runoff hydrograph at combination point CNO11 to combination point CGL14
4215          RS       7     FLOW
4216          RC   0.045    0.035    0.045     7959  0.0008     0.00
4217          RX    0.00     0.00    55.00    75.00  100.00   120.00  175.00  175.00
4218          RY   11.20    10.20    10.00     0.00    0.00    10.00   10.20   11.20
              *
```

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4219          KK    NO07   BASIN
4220          KM   Runoff hydrograph for subbasin NO07 near the intersection of Northern Avenue
4221          KM   and 107th Avenue
4222          BA   0.340
4223          LG    0.21    0.25    4.55    0.36      29
4224          UC   1.253   0.886
4225          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
1                                        HEC-1 INPUT                                        PAGE110
              LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10
4226          UA     100
              *
4227          KK  ERNO07  DIVERT
4228          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
4229          KM   retention developed after 1990 in subbasin NO07
4230          DT   XNO07    10.9     0.0
4231          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
4232          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *
4233          KK   RGL11   ROUTE
4234          KM   Route runoff hydrograph at subbasin NO07 to combination point CGL11
4235          RS       5    FLOW
4236          RC   0.035   0.015   0.035    5370  0.0041    0.00
4237          RX    0.00    0.00   13.00   13.00   55.00   55.00   68.00   68.00
4238          RY    3.00    0.63    0.50    0.00    0.00    0.50    0.63    3.00
              *
4239          KK    GL11   BASIN
4240          KM   Runoff hydrograph for subbasin GL11 near the intersection of Glendale Avenue
4241          KM   and 111th Avenue
4242          BA   0.426
4243          LG    0.19    0.25    4.35    0.33      60
4244          UC   1.157   0.713
4245          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
4246          UA     100
              *
4247          KK  ERGL11  DIVERT
4248          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
4249          KM   retention developed after 1990 in subbasin GL11
4250          DT   XGL11    38.8     0.0
4251          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
4252          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *
4253          KK   CGL11 COMBINE
4254          KM   Combine route RG111 and subbasin GL11
4255          HC       2    0.77
              *
4256          KK  RGL14B   ROUTE
4257          KM   Route runoff hydrograph at combination point CGL11 to combination point CGL14
4258          RS       4    FLOW
4259          RC   0.045   0.035   0.045    4950  0.0021    0.00
4260          RX    0.00    0.00   40.00   50.00   60.00   70.00  110.00  110.00
4261          RY    6.20    5.20    5.00    0.00    0.00    5.00    5.20    6.20
              *
1                                        HEC-1 INPUT                                        PAGE111
              LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10
4262          KK    GL14   BASIN
4263          KM   Runoff hydrograph for subbasin GL14 near the intersection of Glendale Avenue
4264          KM   and 114th Avenue
4265          BA   0.481
4266          LG    0.15    0.25    3.81    0.44      80
4267          UC   0.802   0.578
4268          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
4269          UA     100
              *
4270          KK   CGL14 COMBINE
4271          KM   Combine route RGL14A, RGL14B, and subbasin GL14
4272          HC       3    2.45
              *
4273          KK   RGLAF   ROUTE
4274          KM   Route runoff hydrograph at combination point CGL14 to combination point CGLAF
4275          RS       2    FLOW
4276          RC   0.045   0.035   0.045    3487  0.0023    0.00
4277          RX    0.00    0.00   55.00   75.00  100.00  120.00  175.00  175.00
4278          RY   11.20   10.20   10.00    0.00    0.00   10.00   10.20   11.20
              *
4279          KK    GLAF   BASIN
4280          KM   Runoff hydrograph for subbasin GLAF near the intersection of Glendale Avenue
4281          KM   and the Agua Fria River
4282          BA   0.388
4283          LG    0.15    0.28    3.07    0.74      80
```



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4284          UC   0.911   0.846
4285          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
4286          UA     100
              *
4287          KK  ERGLAF  DIVERT
4288          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
4289          KM   retention developed after 1990 in subbasin GLAF
4290          DT   XGLAF     7.3     0.0
4291          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
4292          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *
4293          KK   CGLAF COMBINE
4294          KM   Combine route RGLAF and subbasin GLAF
4295          HC       2    2.83
              *
4296          KK    OLAF   BASIN
4297          KM   Runoff hydrograph for subbasin OLAF near the intersection of Olive Avenue and
4298          KM   the Agua Fria River
4299          BA   1.026
4300          LG    0.20    0.28    3.60    0.50      26
4301          UC   1.500   0.988
4302          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
4303          UA     100
              *
1                                        HEC-1 INPUT                                        PAGE112
              LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10
4304          KK  EROLAF  DIVERT
4305          KM   Divert 80% of 100-yr, 2-hr volume based on NOAA2 rainfall for existing
4306          KM   retention developed after 1990 in subbasin OLAF
4307          DT   XOLAF    38.2     0.0
4308          DI     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
4309          DQ     0.0 50000.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0
              *
4310          KK    NOAF   BASIN
4311          KM   Runoff hydrograph for subbasin NOAF near the intersection of Northern Avenue
4312          KM   and the Agua Fria River
4313          BA   0.285
4314          LG    0.11    0.30    2.92    0.82      26
4315          UC   0.969   0.823
4316          UA       0     3.0     5.0     8.0    12.0    20.0    43.0    75.0    90.0    96.0
4317          UA     100
              *
4318          KK   CAF05 COMBINE
4319          KM   Combine combination point CGLAF, subbasin OLAF, and subbasin NOAF
4320          HC       3    4.15
              *
4321          ZZ
1
                  SCHEMATIC DIAGRAM OF STREAM NETWORK
 INPUT
  LINE      (V) ROUTING           (--->) DIVERSION OR PUMP FLOW
   NO.      (.) CONNECTOR         (<---) RETURN OF DIVERTED OR PUMPED FLOW
   139        UH35
                .
                .
   150          .-------->   XUH35
   147      ERUH35
                .
                .
   156          .-------->  DPUH35
   153       DUH35
                .
                .
   162          .-------->  DWUH43
   159      DSBL35
              V
              V
   165      RSBL35
                .
                .
   171          .        BL35
                .          .
                .          .
   182          .          .-------->   XBL35
   179          .      ERBL35
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   185       CBL35.............
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                .
   191          .-------->  DP35BL
   188       D35BL
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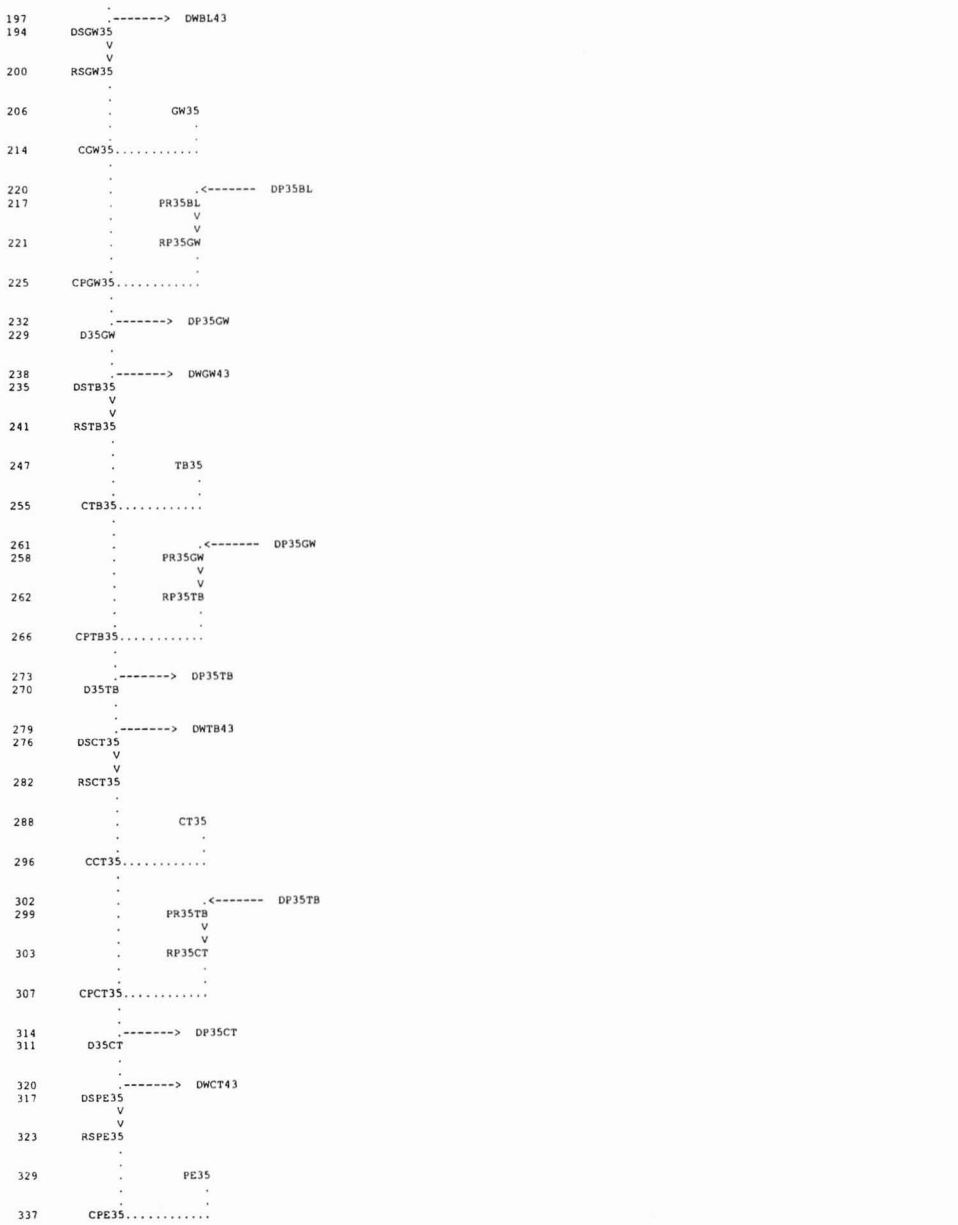
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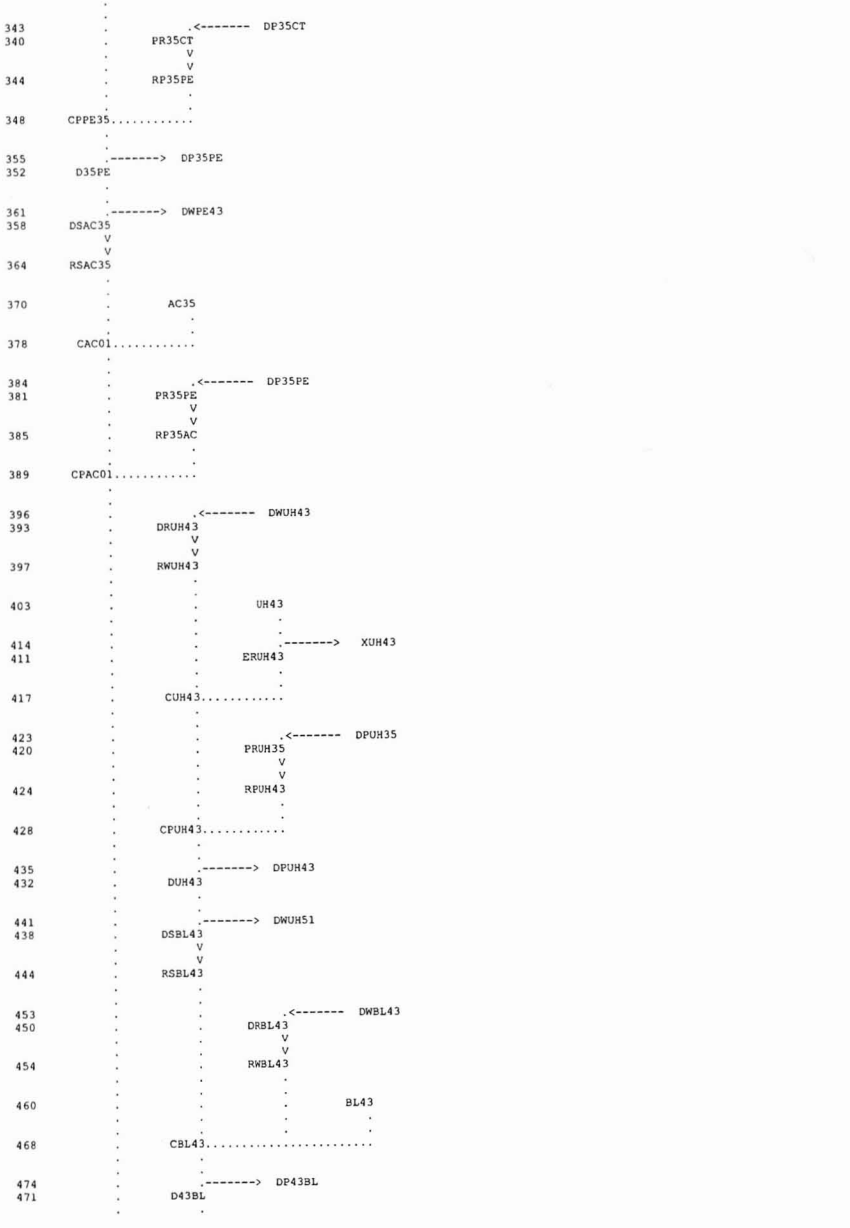
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RP35AC
CPAC01
DWUH43
DRUH43
RWUH43
UH43
XUH43
ERUH43
CUH43
DPUH35
PRUH35
RPUH43
CPUH43
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BL43
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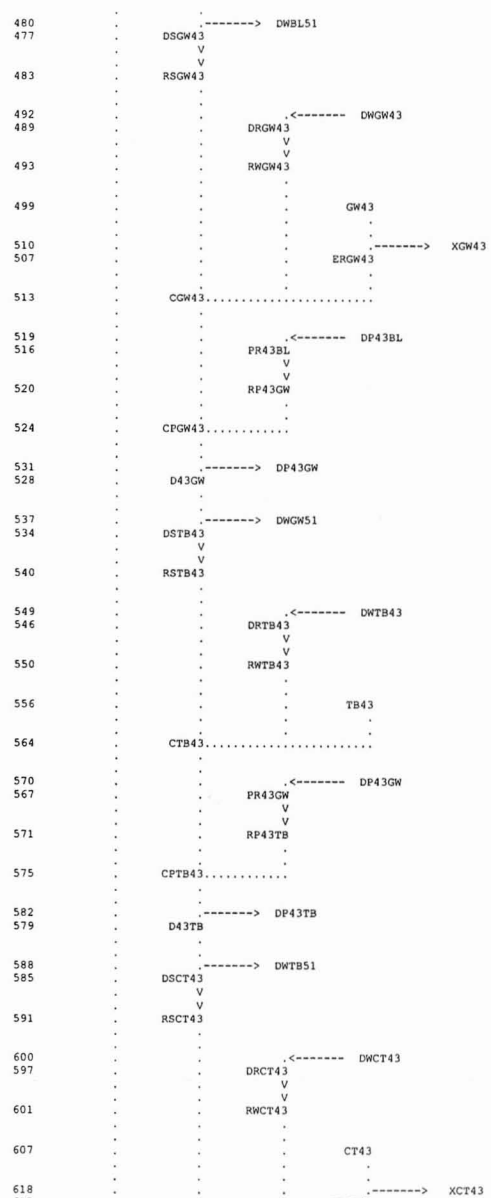
D43BL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499 GW43
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520 RP43GW
524 CPGW43
531
528 D43GW
537
534 DSTB43
540 RSTB43
549
546 DRTB43
550 RWTB43
556 TB43
564 CTB43
570
567 PR43GW
571 RP43TB
575 CPTB43
582
579 D43TB
588
585 DSCT43
591 RSCT43
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597 DRCT43
601 RWCT43
607 CT43
618
615 ERCT43
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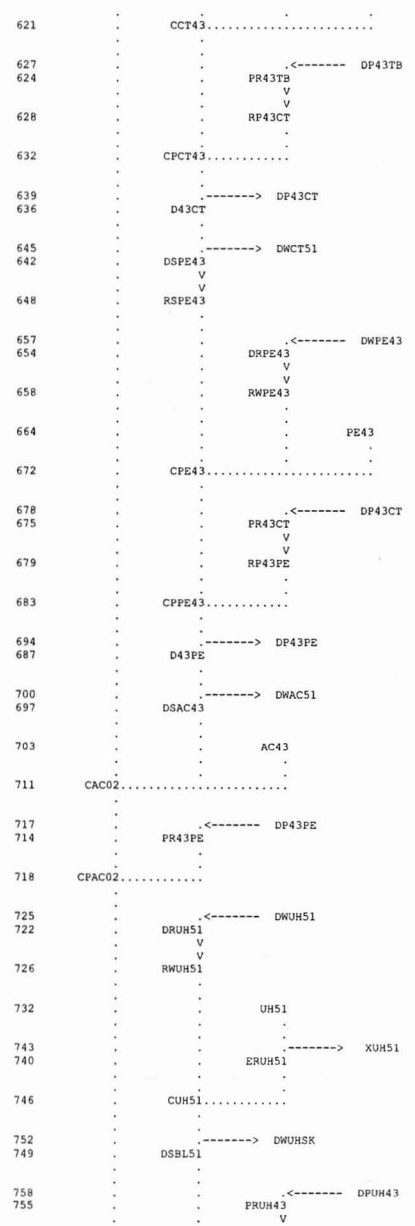
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658 RWPE43
664 PE43
672 CPE43
678
675 PR43CT
679 RP43PE
683 CPPE43
694
687 D43PE
700
697 DSAC43
703 AC43
711 CAC02
717
714 PR43PE
718 CPAC02
725
722 DRUH51
726 RWUH51
732 UH51
743
740 ERUH51
746 CUH51
752
749 DSBL51
758
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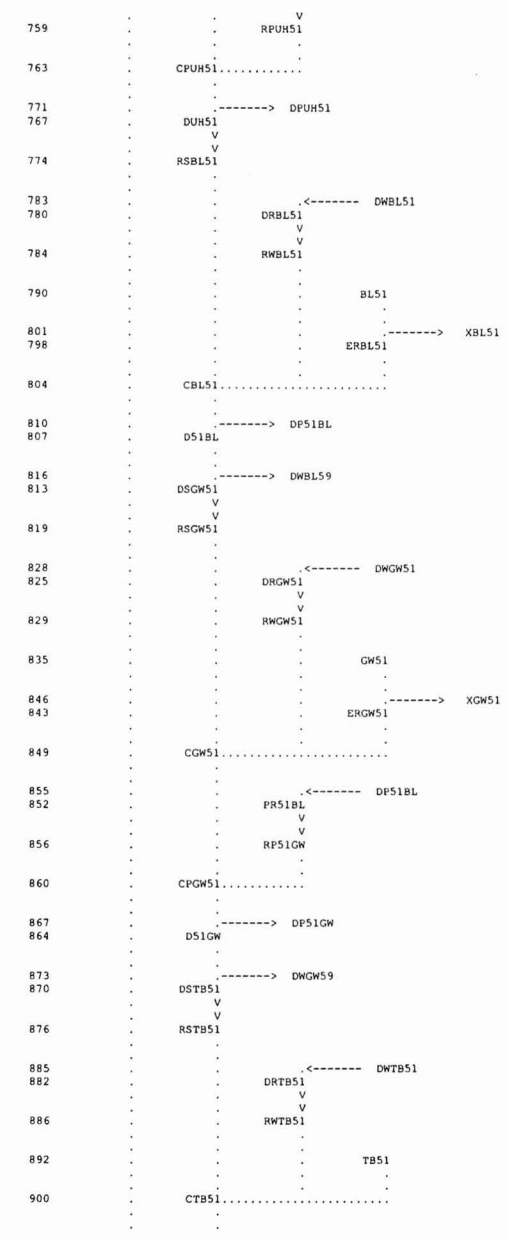
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784 RWBL51
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798 ERBL51
804 CBL51
810 DP51BL
807 D51BL
816 DWBL59
813 DSGW51
819 RSGW51
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825 DRGW51
829 RWGW51
835 GW51
846 XGW51
843 ERGW51
849 CGW51
855 DP51BL
852 PR51BL
856 RP51GW
860 CPGW51
867 DP51GW
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882 DRTB51
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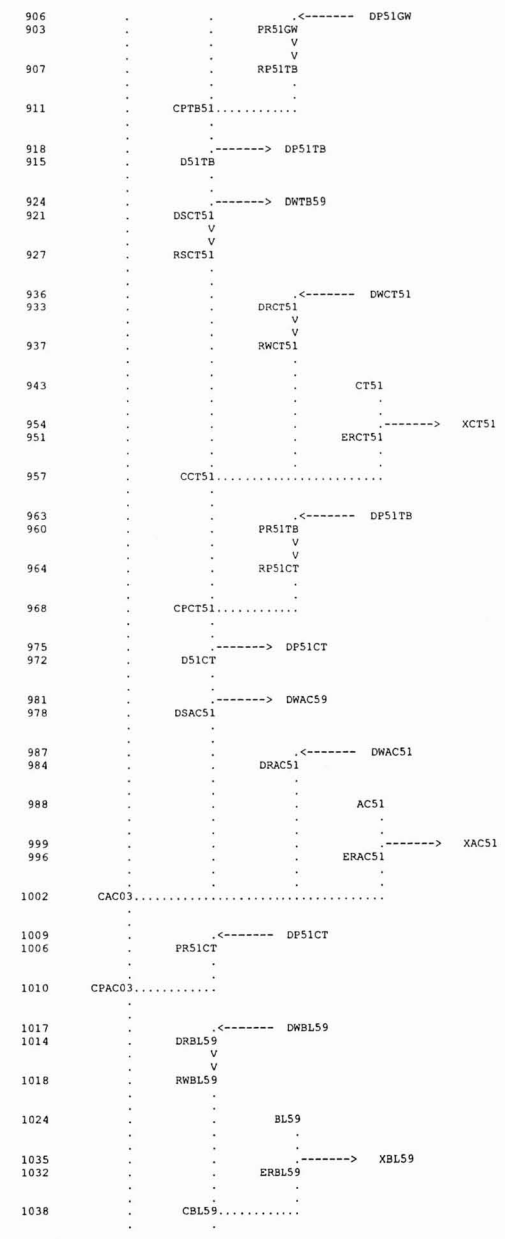
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937 RWCT51
943 CT51
954 XCT51
951 ERCT51
957 CCT51
963 DP51TB
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964 RP51CT
968 CPCT51
975 DP51CT
972 D51CT
981 DWAC59
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987 DWAC51
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988 AC51
999 XAC51
996 ERAC51
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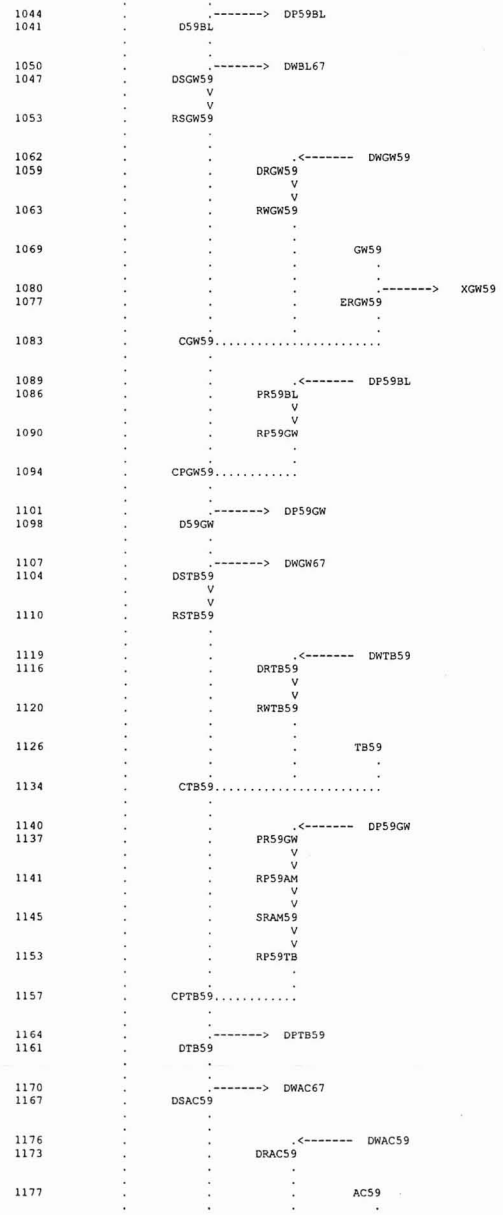
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XGW59
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CGW59
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DRTB59
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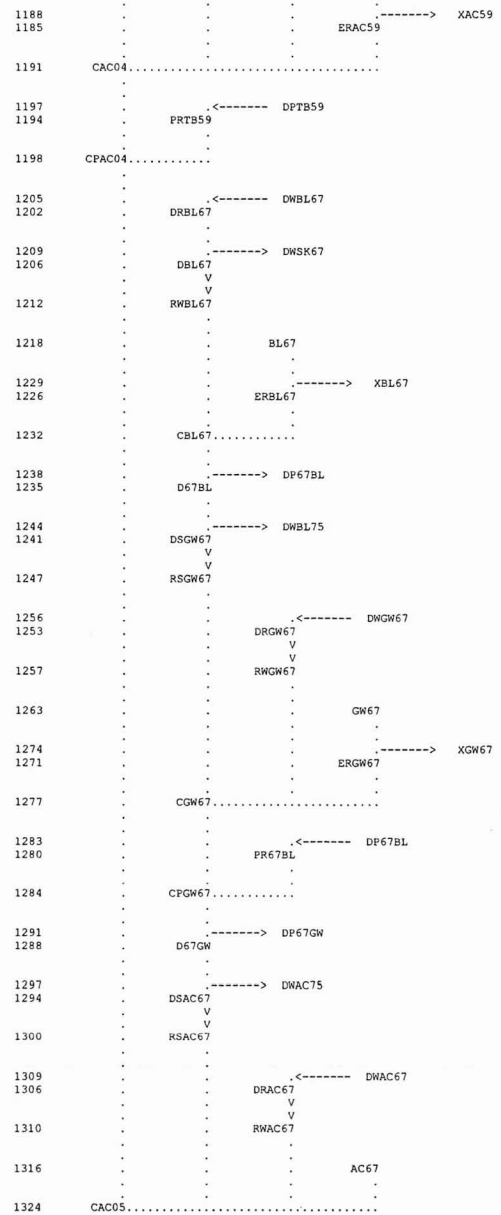
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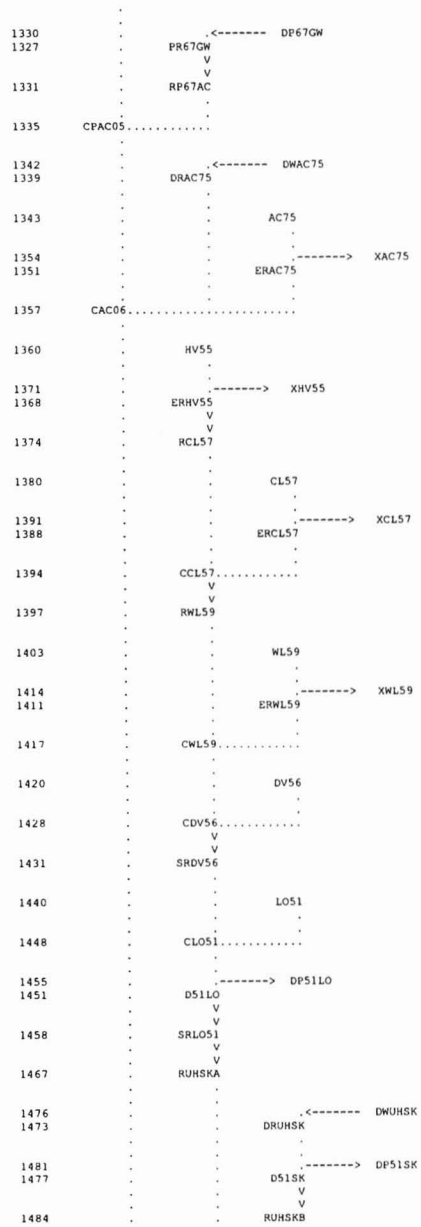
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1371 XHV55
1368 ERHV55
1374 RCL57
1380 CL57
1391 XCL57
1388 ERCL57
1394 CCL57
1397 RWL59
1403 WL59
1414 XWL59
1411 ERWL59
1417 CWL59
1420 DV56
1428 CDV56
1431 SRDV56
1440 LO51
1448 CLO51
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1476
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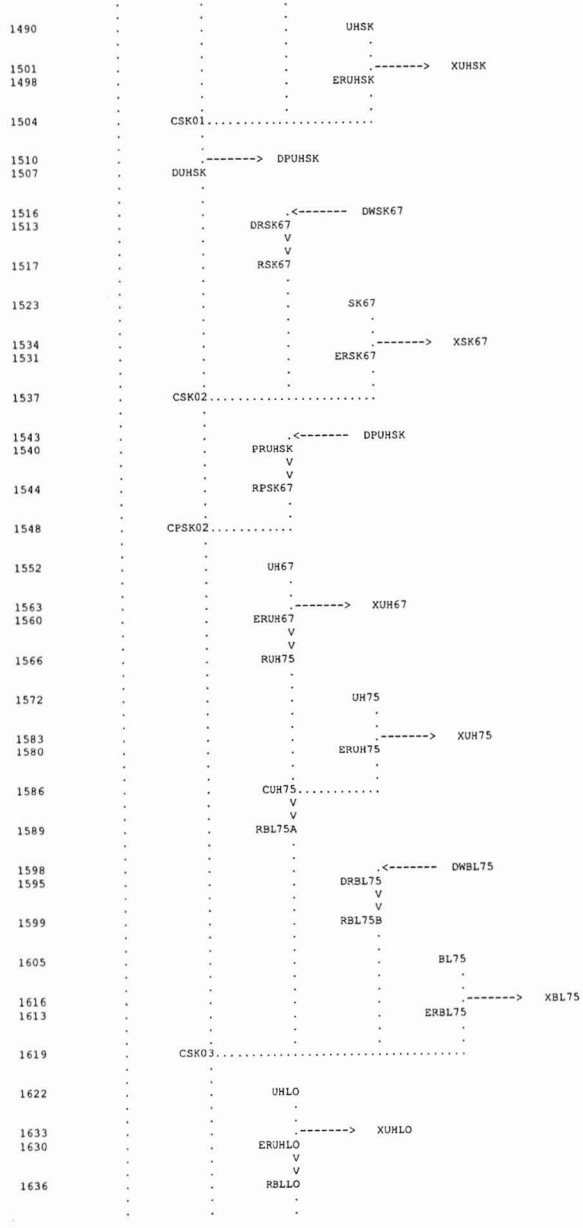
1477 D51SK
1484 RUHSKB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1534 XSK67
1531 ERSK67
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1540 PRUHSK
1544 RPSK67
1548 CPSK02
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1566 RUH75
1572 UH75
1583 XUH75
1580 ERUH75
1586 CUH75
1589 RBL75A
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1595 DRBL75
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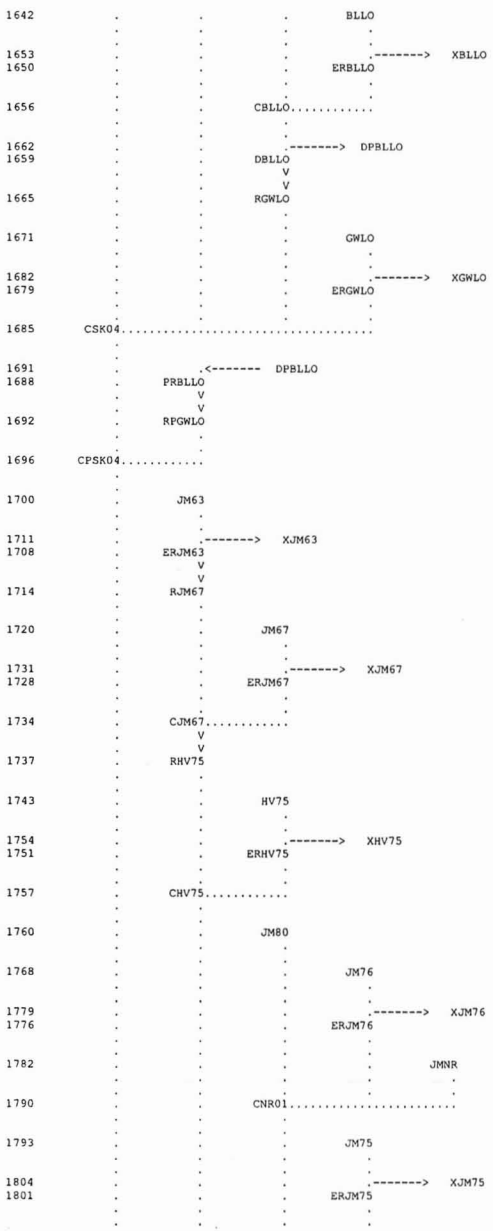
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1665 RGWLO
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1679 ERGWLO
1685 CSK04
1691 DPBLLO
1688 PRBLLO
1692 RPGWLO
1696 CPSK04
1700 JM63
1711 XJM63
1708 ERJM63
1714 RJM67
1720 JM67
1731 XJM67
1728 ERJM67
1734 CJM67
1737 RHV75
1743 HV75
1754 XHV75
1751 ERHV75
1757 CHV75
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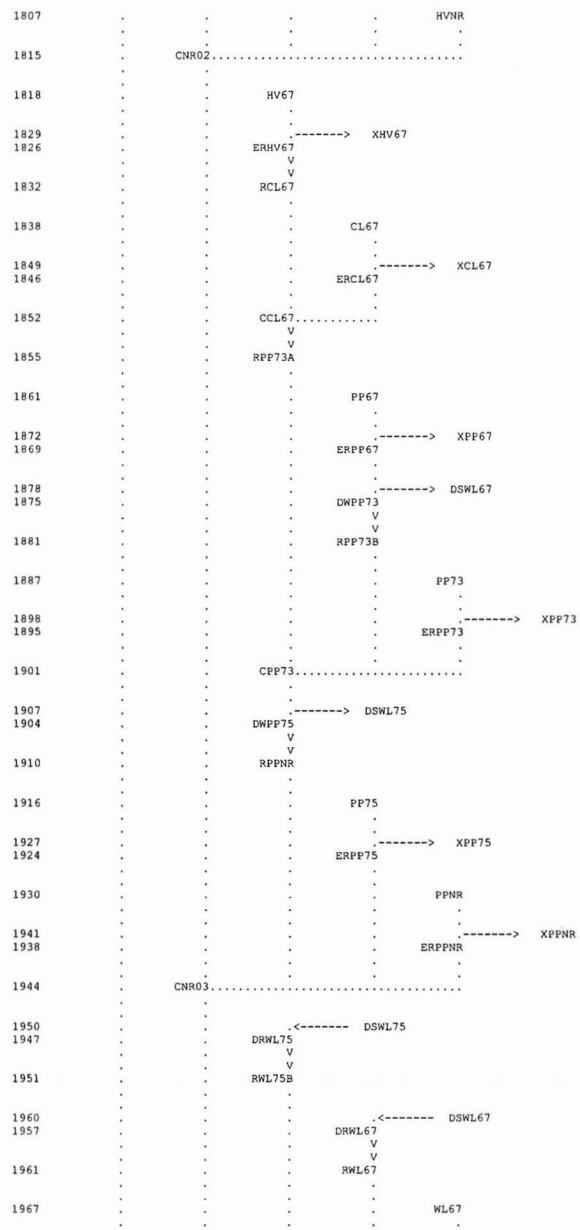
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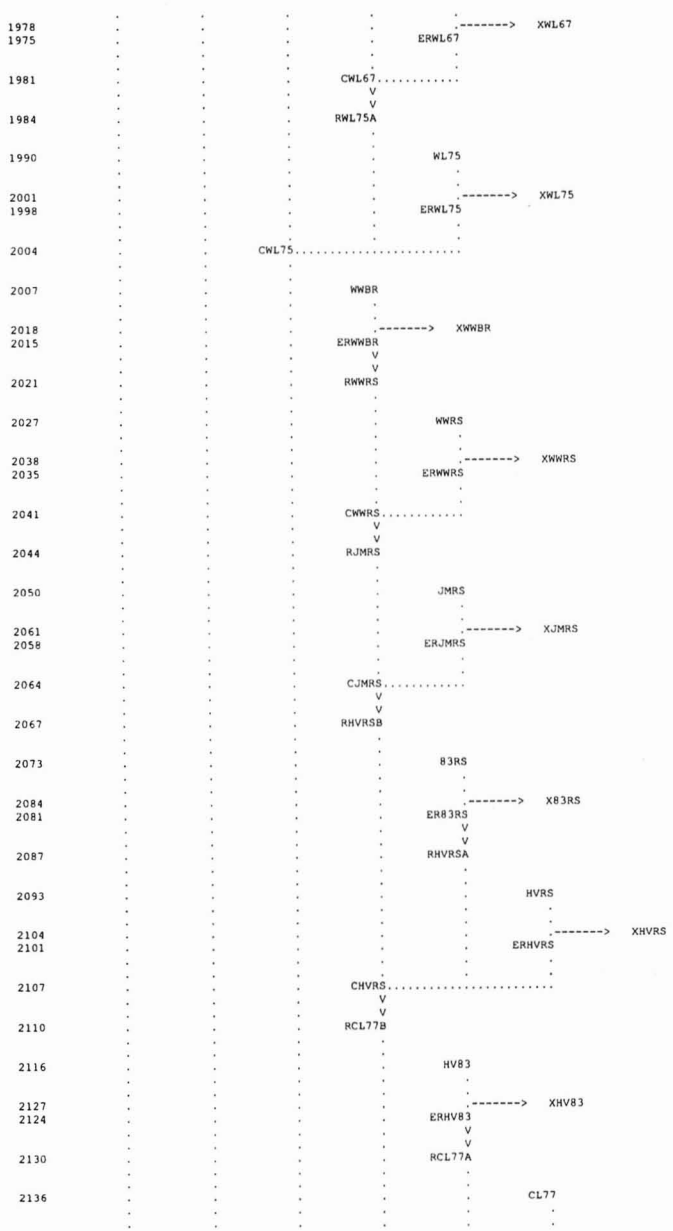
1818 HV67
1829 XHV67
1826 ERHV67
1832 RCL67
1838 CL67
1849 XCL67
1846 ERCL67
1852 CCL67
1855 RPP73A
1861 PP67
1872 XPP67
1869 ERPP67
1878 DSWL67
1875 DWPP73
1881 RPP73B
1887 PP73
1898 XPP73
1895 ERPP73
1901 CPP73
1907 DSWL75
1904 DWPP75
1910 RPPNR
1916 PP75
1927 XPP75
1924 ERPP75
1930 PPNR
1941 XPPNR
1938 ERPPNR
1944 CNR03
1950 DSWL75
1947 DRWL75
1951 RWL75B
1960 DSWL67
1957 DRWL67
1961 RWL67
1967 WL67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1981 CWL67
1984 RWL75A
1990 WL75
2001
1998 ERWL75 .-------> XWL75
2004 CWL75
2007 WWBR
2018
2015 ERWWBR .-------> XWWBR
2021 RWWRS
2027 WWRS
2038
2035 ERWWRS .-------> XWWRS
2041 CWWRS
2044 RJMRS
2050 JMRS
2061
2058 ERJMRS .-------> XJMRS
2064 CJMRS
2067 RHVRSB
2073 83RS
2084
2081 ER83RS .-------> X83RS
2087 RHVRSA
2093 HVRS
2104
2101 ERHVRS .-------> XHVRS
2107 CHVRS
2110 RCL77B
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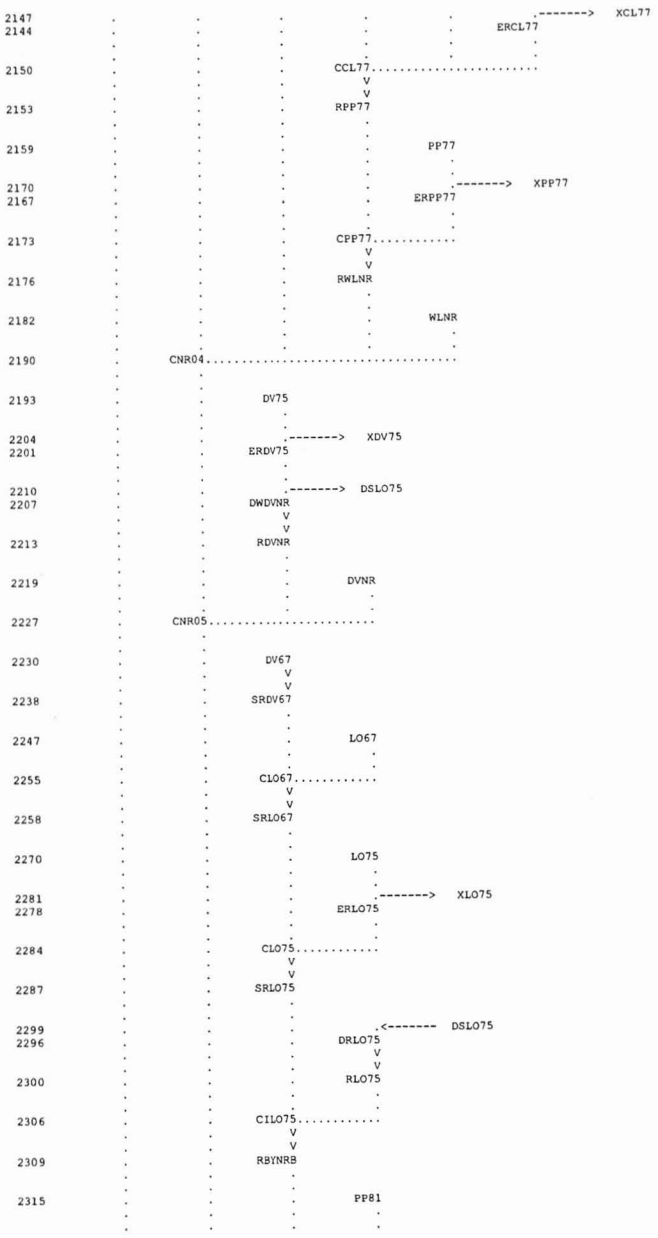
2130 RCL77A
2136 CL77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2190 CNR04
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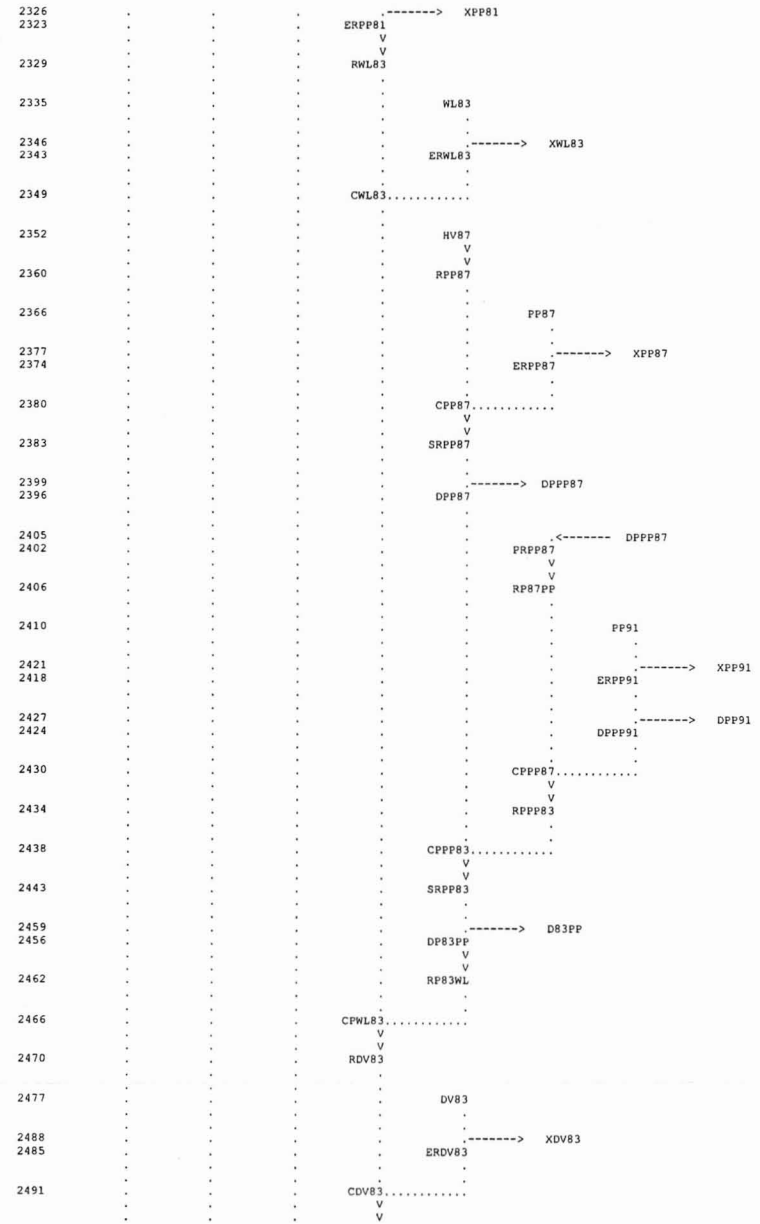
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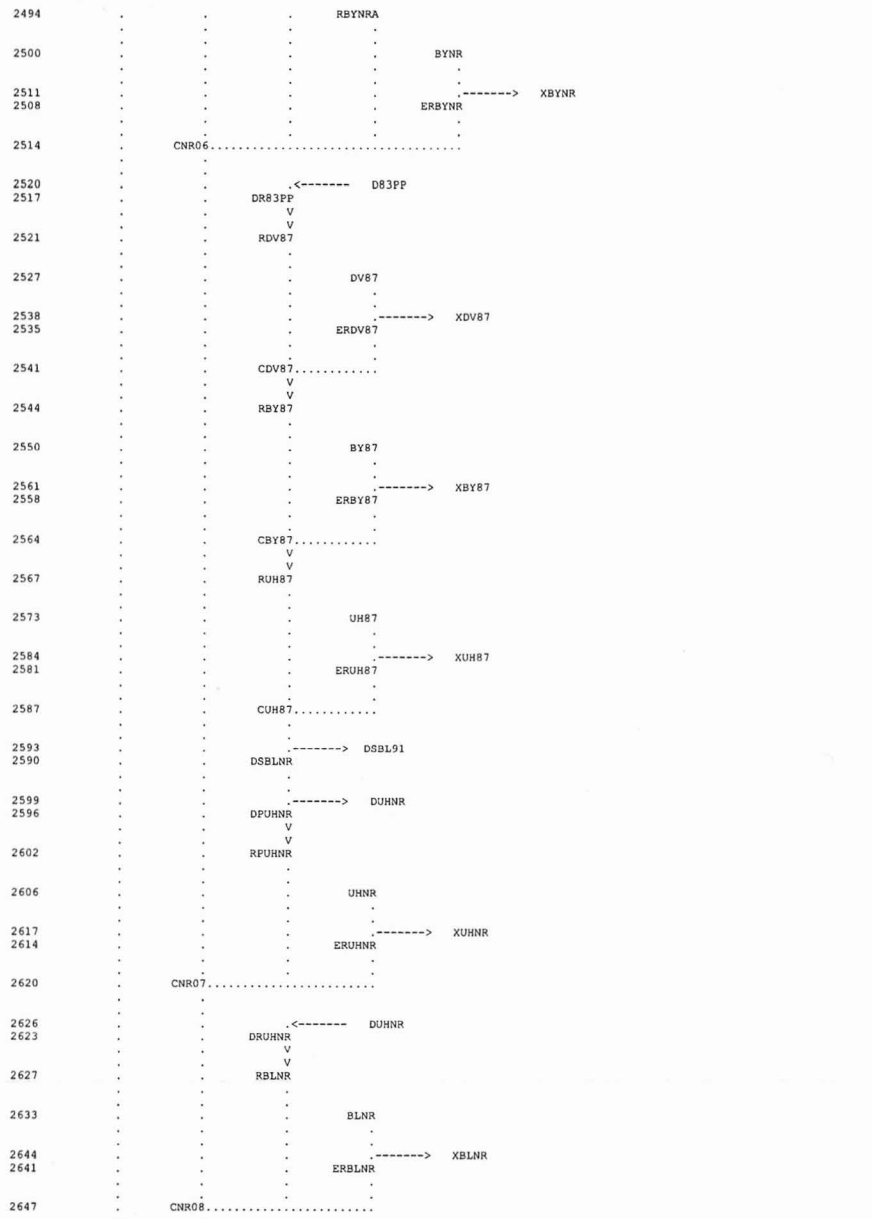
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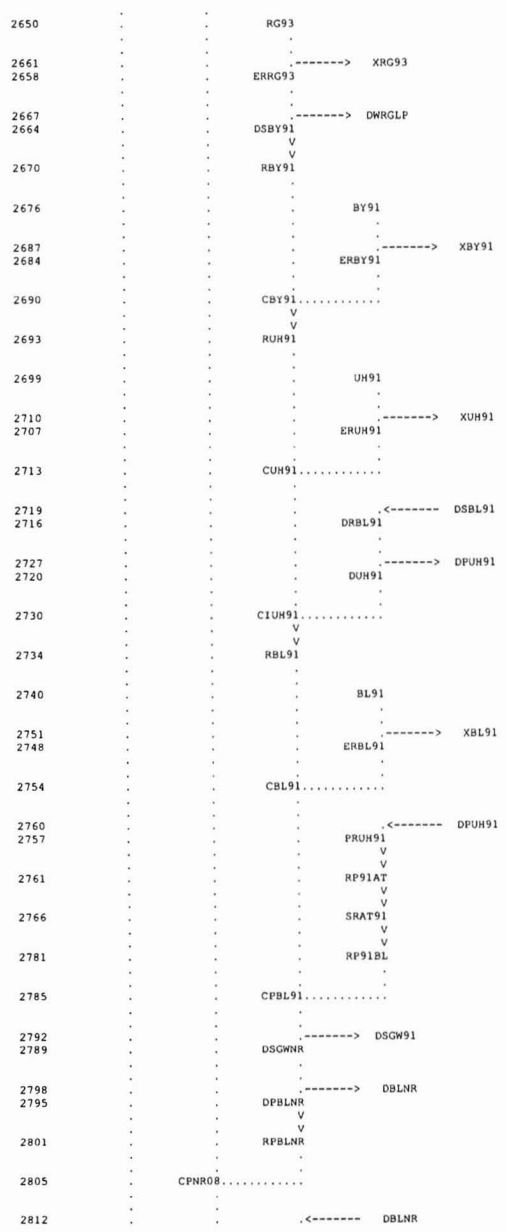
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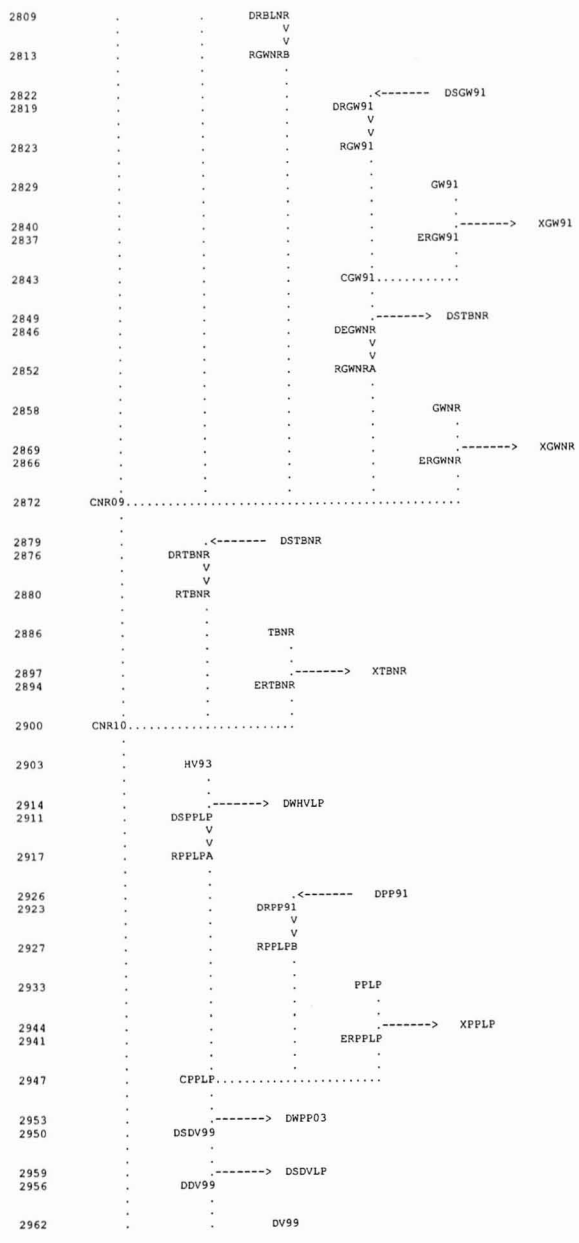
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2927 RPPLPB
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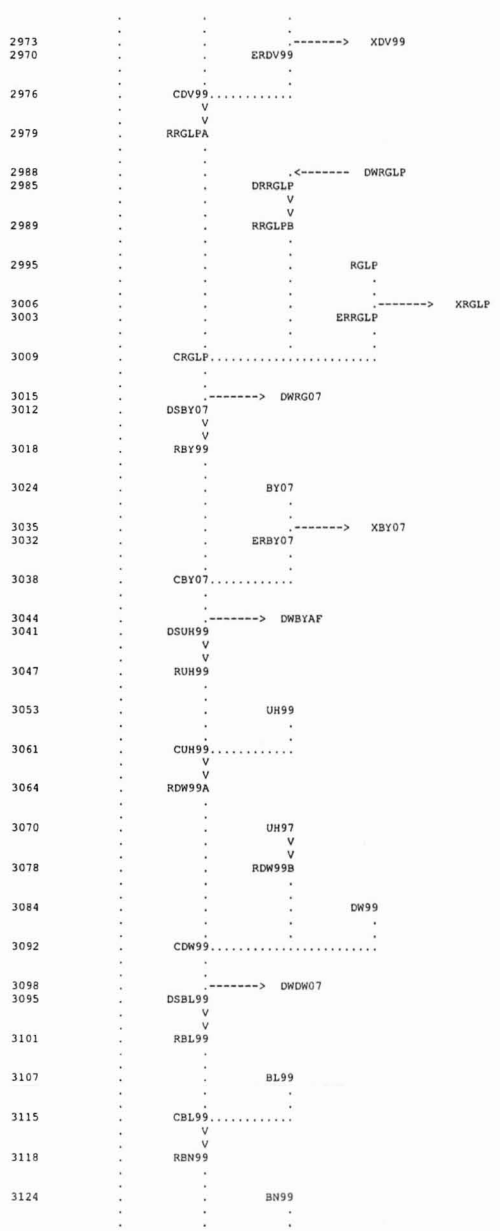
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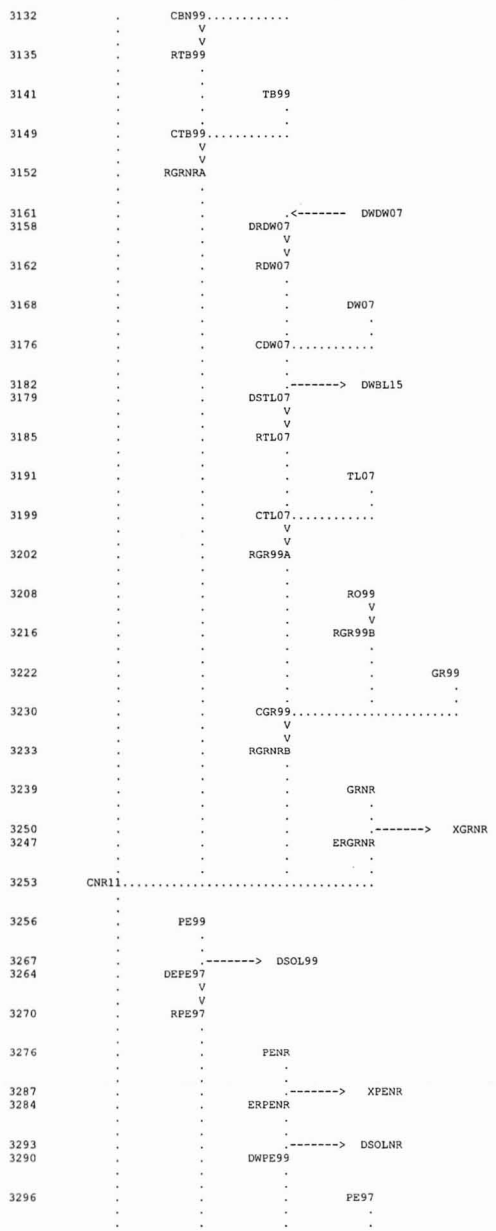
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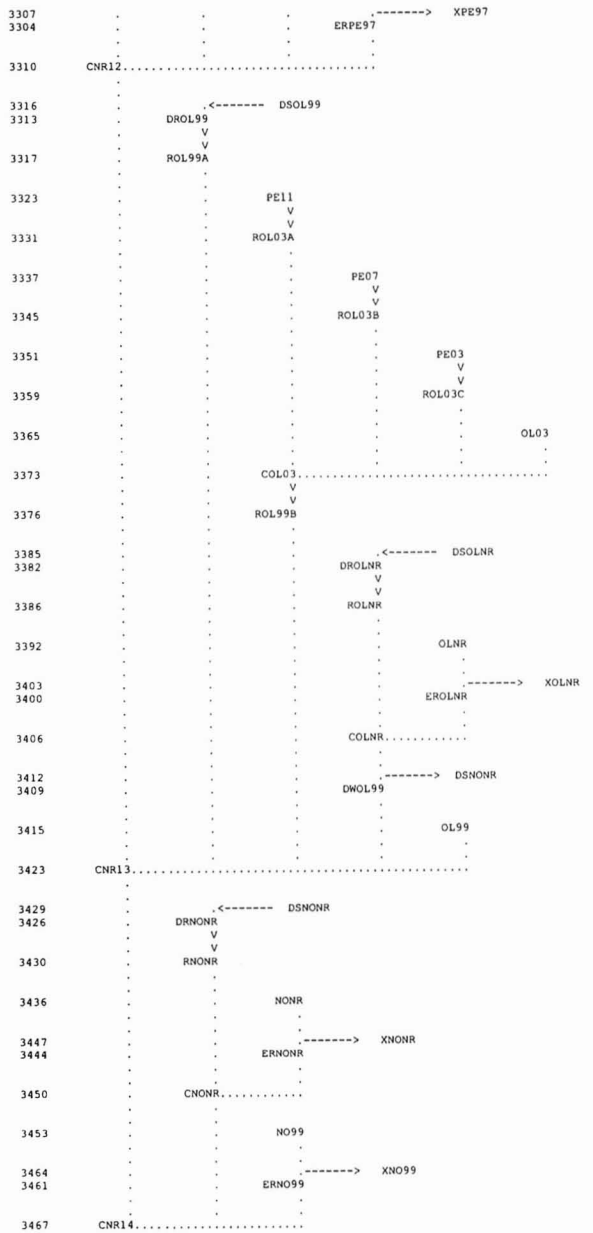
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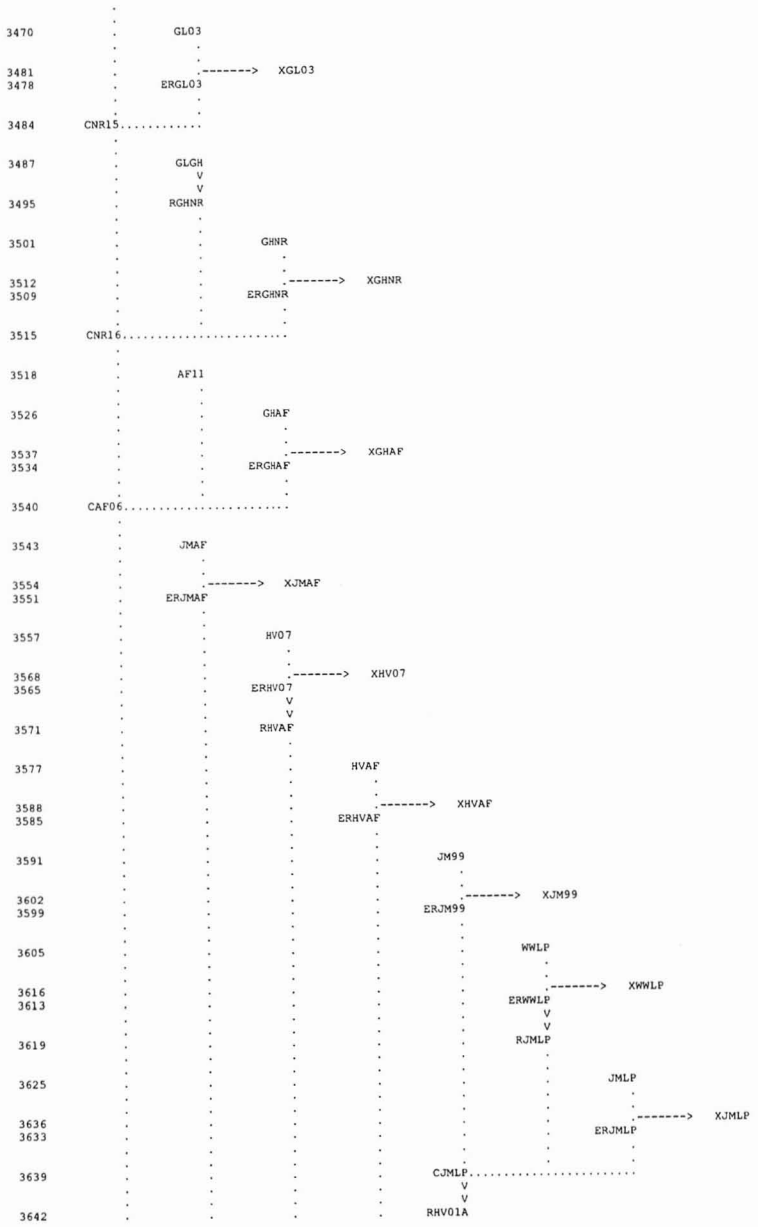
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XJM99
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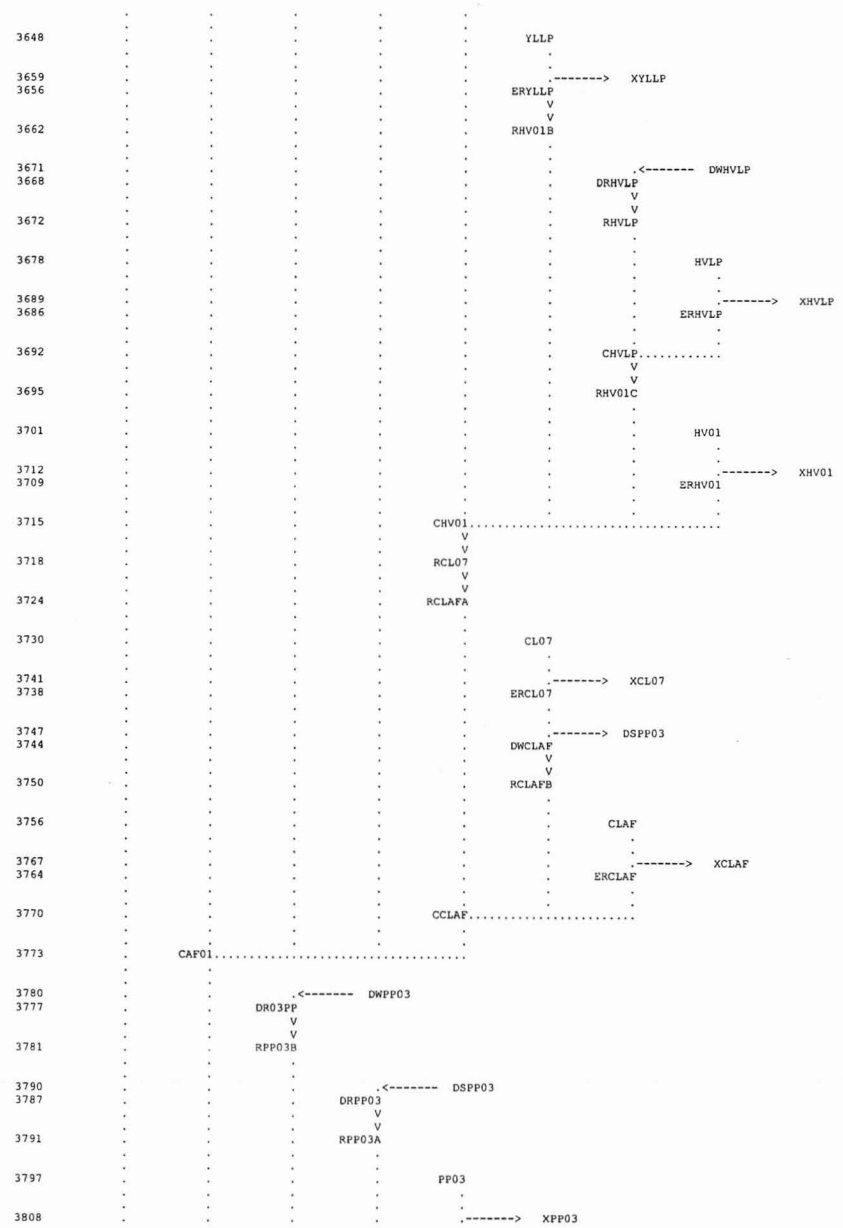
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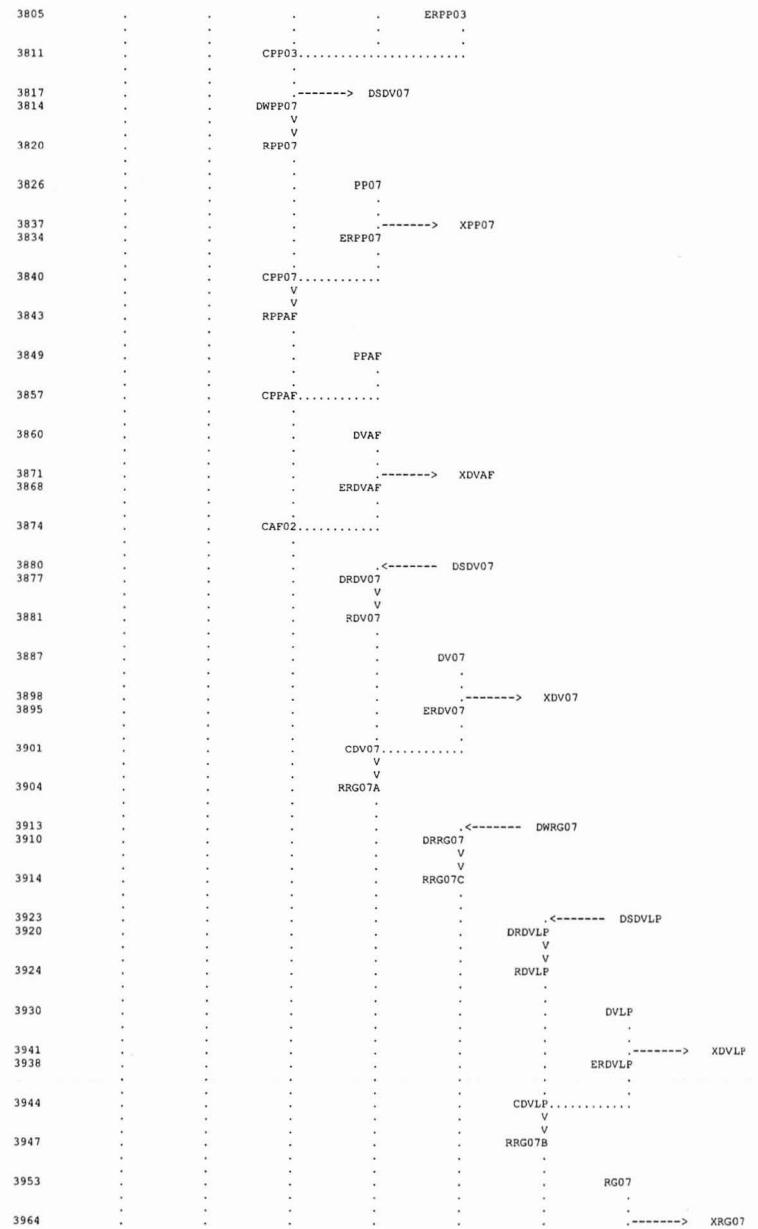
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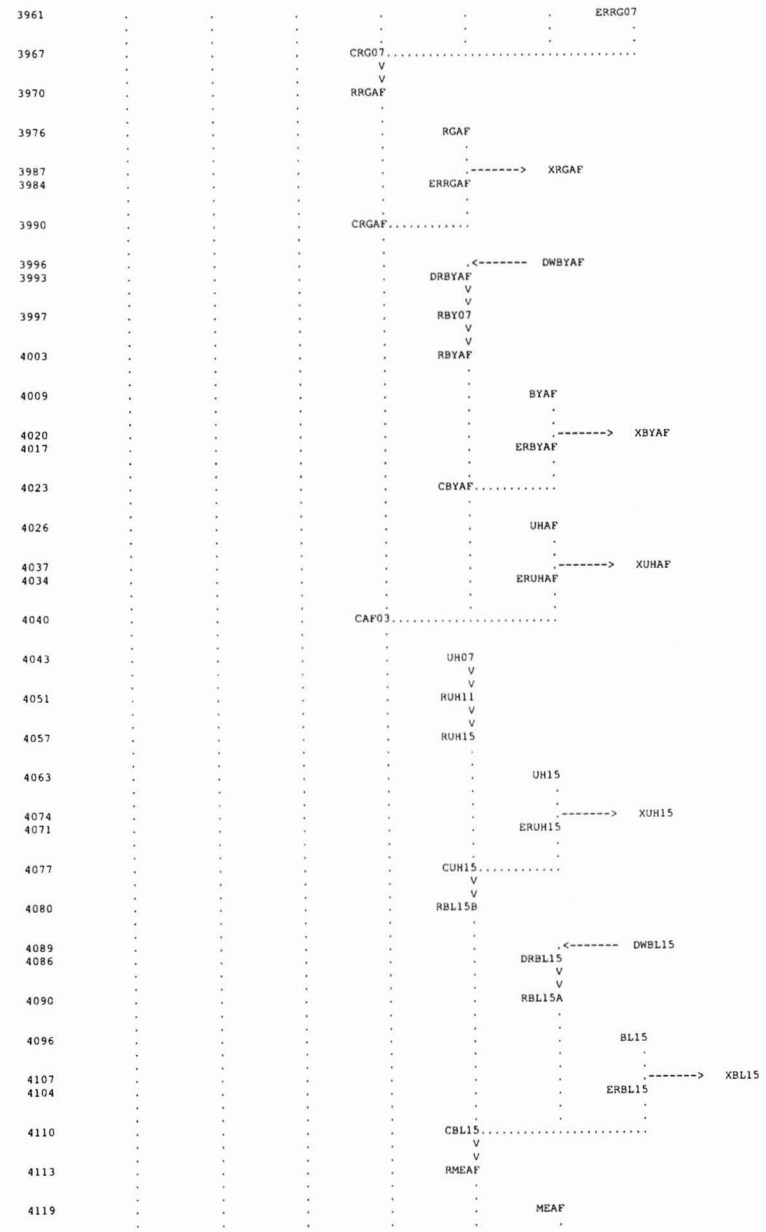
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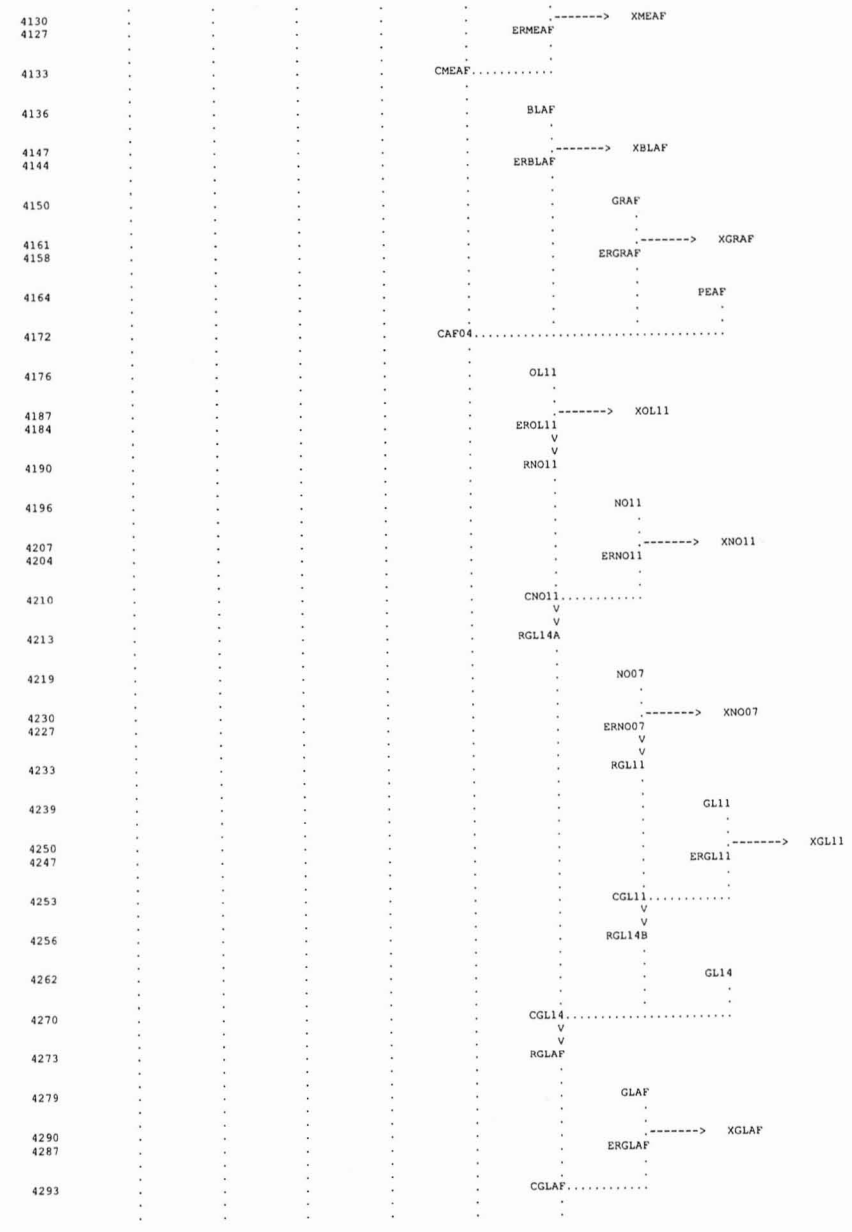
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 4318          .          .          .          .          .     CAF05.....................

(***) RUNOFF ALSO COMPUTED AT THIS LOCATION
1****************************************                    ****************************************
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*   FLOOD HYDROGRAPH PACKAGE  (HEC-1)  *                    *    U.S. ARMY CORPS OF ENGINEERS      *
*              JUN  1998               *                    *    HYDROLOGIC ENGINEERING CENTER     *
*            VERSION 4.1               *                    *         609 SECOND STREET            *
*                                      *                    *       DAVIS, CALIFORNIA 95616        *
*  RUN DATE   01NOV10  TIME  14:02:03  *                    *           (916) 756-1104             *
*                                      *                    *                                      *
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```

GLENDALE STORMWATER MANAGEMENT PLAN
Model for Glendale/Peoria Watershed
Future Conditions

Prepared for the City of Glendale
In Association with the Flood Control District of Maricopa County
City Project Number 089017

Prepared by Kimley-Horn and Associates, Inc.
KHA Project Number 091910009
October 2010

MODELING PARAMETERS
- 10 Year 24 Hour Storm Event
- NOAA 14 Rainfall Data
- Clark Unit Hydrograph
- Green and Ampt Rainfall Loss Method

Topo data extracted from Flood Control District database July 24, 2009
Land use obtained from City of Glendale General Plan August 2009, City of Phoenix General Plan August 2009, and MAG General Plan Land Use 2007

Storage routing data obtained from As-built Records or Final Drainage Reports where possible
When As-built data/Drainage reports were not available data was obtained from HEC-1 models and checked for accuracy.
Storage routing data obtained from the following HEC-1 models:
- Glendale/Peoria ADMPU, May 2001
- Glendale/Peoria ADMP Northwest Region Update, May 2007
The source of data is identified on each individual storage routing card

****

MODELING NOMENCLATURE
SUBBASIN HYDROGRAPH:
Example: JMRS - the subbasin upstream of Jomax and Rock Springs Wash

STORM DRAIN DIVERSION:
Example: DBL59 - flow from subbasin BL59 is diverted to a storm drain

SUBBASIN DIVERSION:
Example: DWBL59 - flow is diverted west towards Bell and 59th Avenue
Example: DSGW51 - flow is diverted south towards Greenway and 51st Ave

ROUTE HYDROGRAPH:
Example: RWBL51 - flow is routed west towards Bell and 51st Avenue
Example: RSGW59 - flow is routed south towards Greenway and 59th Ave

COMBINE HYDROGRAPH:
Example: CJMRS - combine flow at Jomax and Rock Springs Wash

STREET NAME ABBREVIATIONS

Jomax Road	JM
Happy Valley Road	HV
Pinnacle Peak Road	PP
Deer Valley Road	DV
SR Loop 101	LO
Beardsley Road	BY
Union Hills Drive	UH
Bell Road	BL
Greenway Road	GW
Thunderbird Road	TB
Cactus Road	CT
Peoria Avenue	PE
Olive Avenue	OL
Northern Avenue	NO

Glendale Avenue	GL
Bethany Home Road	BH
Camelback Road	CB
Indian School Road	IS
Thomas Road	TM
McDowell Road	MD
Interstate 10	IN
Grand Avenue	GR
Mountain View Road	MV
Pinnacle Hill Road	PH
Greenbriar Drive	GB
Utopia Road	UT
Pyramid Peak Boulevard	PY
Bent Tree Drive	BT
Glen Harbor Boulevard	GH
Black Rock Boulevard	BR
Rose Garden Lane	RG
Calle Lejos	CL
Rock Springs Wash	RS
Williams Road	WL
Del Webb Boulevard	DW
Westwing Parkway	WW
Lake Pleasant Parkway	LP
Thunderbird Park Road	TP
Talisman Road	TL
Royal Oak Road	RO
Yearling Road	YL
Meade Drive	ME
Acoma Drive	AM
Athens Street	AT

PREFIXES FOR MODELING OPERATIONS

RW	Routing flow in the west direction
RS	Routing flow in the south direction
RP	Routing storm drain pipe flow
C	Combination point
CI	Combination point at an intersection
CP	Combination point for storm drain pipe flow
SR	Storage for detention/retention basins
DW	Divert flow to the west
DE	Divert flow to the east
DS	Divert flow to the south
DN	Divert flow to the north
ER	Divert flow for existing 100-yr 2-hr retention
X	Existing retention diversion does not return to model
DR	Divert retrieval from surface flow
DI	Divert retrieval from intersection flow
D	Divert surface flow (remains after storm drain divert)
DP	Divert flow to a storm drain pipe
PR	Divert retrieval from a storm drain pipe

****

```
122 IO          OUTPUT CONTROL VARIABLES
                     IPRNT          5  PRINT CONTROL
                     IPLOT          0  PLOT CONTROL
                     QSCAL          0.  HYDROGRAPH PLOT SCALE

    IT          HYDROGRAPH TIME DATA
                      NMIN           5  MINUTES IN COMPUTATION INTERVAL
                     IDATE      1    0  STARTING DATE
                     ITIME         0000  STARTING TIME
                        NQ         1000  NUMBER OF HYDROGRAPH ORDINATES
                    NDDATE      4    0  ENDING DATE
                    NDTIME         1115  ENDING TIME
                     ICENT           19  CENTURY MARK

                  COMPUTATION INTERVAL      .08 HOURS
                      TOTAL TIME BASE   83.25 HOURS

          ENGLISH UNITS
               DRAINAGE AREA         SQUARE MILES
               PRECIPITATION DEPTH   INCHES
               LENGTH, ELEVATION     FEET
               FLOW                  CUBIC FEET PER SECOND
               STORAGE VOLUME        ACRE-FEET
               SURFACE AREA          ACRES
               TEMPERATURE           DEGREES FAHRENHEIT

123 JD          INDEX STORM NO. 1
                     STRM        2.33  PRECIPITATION DEPTH
                     TRDA         .00  TRANSPOSITION DRAINAGE AREA

124 PI           PRECIPITATION PATTERN
                    .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                    .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
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.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
.00	.00	.00	.00	.00	.00	.00	.00		

134 JD INDEX STORM NO. 2
STRM 2.21 PRECIPITATION DEPTH
TRDA 10.00 TRANSPOSITION DRAINAGE AREA

0 PI PRECIPITATION PATTERN

.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
.00	.00	.00	.00	.00	.00	.00	.01	.00	.01
.01	.01	.01	.01	.01	.01	.01	.01	.03	.03
.03	.09	.09	.09	.01	.01	.01	.01	.01	.01
.01	.01	.01	.01	.01	.01	.00	.00	.00	.00
.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
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.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
.00	.00	.00	.00	.00	.00	.00	.00		

135 JD INDEX STORM NO. 3
STRM 2.09 PRECIPITATION DEPTH
TRDA 30.00 TRANSPOSITION DRAINAGE AREA

0 PI PRECIPITATION PATTERN

.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
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.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
.00	.00	.00	.00	.00	.00	.00	.01	.00	.01
.01	.01	.01	.01	.01	.01	.01	.01	.03	.03
.03	.09	.09	.09	.01	.01	.01	.01	.01	.01
.01	.01	.01	.01	.01	.01	.00	.00	.00	.00
.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
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.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
.00	.00	.00	.00	.00	.00	.00	.00		

136 JD INDEX STORM NO. 4

STRM 2.02 PRECIPITATION DEPTH
TRDA 60.00 TRANSPOSITION DRAINAGE AREA

0 PI PRECIPITATION PATTERN

.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
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.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
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.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
.00	.00	.00	.00	.00	.00	.00	.01	.00	.01
.01	.01	.01	.01	.01	.01	.01	.01	.03	.03
.03	.09	.09	.09	.01	.01	.01	.01	.01	.01
.01	.01	.01	.01	.01	.01	.00	.00	.00	.00
.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
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.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
.00	.00	.00	.00	.00	.00	.00	.00		

137 JD INDEX STORM NO. 5
STRM 1.98 PRECIPITATION DEPTH
TRDA 90.00 TRANSPOSITION DRAINAGE AREA

0 PI PRECIPITATION PATTERN

.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
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.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
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.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
.00	.00	.00	.00	.00	.00	.00	.01	.00	.01
.01	.01	.01	.01	.01	.01	.01	.01	.03	.03
.03	.09	.09	.09	.01	.01	.01	.01	.01	.01
.01	.01	.01	.01	.01	.01	.00	.00	.00	.00
.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
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.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
.00	.00	.00	.00	.00	.00	.00	.00		

138 JD INDEX STORM NO. 6
STRM 1.96 PRECIPITATION DEPTH
TRDA 120.00 TRANSPOSITION DRAINAGE AREA

0 PI PRECIPITATION PATTERN

.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
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.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
.00	.00	.00	.00	.00	.00	.00	.01	.00	.01
.01	.01	.01	.01	.01	.01	.01	.01	.03	.03
.03	.09	.09	.09	.01	.01	.01	.01	.01	.01
.01	.01	.01	.01	.01	.01	.00	.00	.00	.00
.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
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.00	.00	.00	.00	.00	.00	.00	.00		

*** FDKRUT WARNING TIME STEP CALCULATION FAILED TO CONVERGE. STABILITY PROBLEMS MAY RESULT

*** Multiple FDKRUT Warnings deleted from model for brevity and in consideration of the environment when printing ***

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RUNOFF SUMMARY
FLOW IN CUBIC FEET PER SECOND
TIME IN HOURS, AREA IN SQUARE MILES

	OPERATION	STATION	PEAK FLOW	TIME OF PEAK	AVERAGE FLOW FOR MAXIMUM PERIOD 6-HOUR	24-HOUR	72-HOUR	BASIN AREA	MAXIMUM STAGE	TIME OF MAX STAGE
	HYDROGRAPH AT									
+		UH35	486.	12.58	156.	49.	16.	1.14		
	DIVERSION TO									
+		XUH35	486.	12.58	85.	24.	8.	1.14		
	HYDROGRAPH AT									
+		ERUH35	417.	13.00	90.	25.	8.	1.14		
	DIVERSION TO									
+		DPUH35	417.	13.00	90.	25.	8.	1.14		
	HYDROGRAPH AT									
+		DUH35	0.	.00	0.	0.	0.	1.14		
	DIVERSION TO									
+		DWUH43	0.	.00	0.	0.	0.	1.14		
	HYDROGRAPH AT									
+		DSBL35	0.	.00	0.	0.	0.	1.14		
	ROUTED TO									
+		RSBL35	0.	.00	0.	0.	0.	1.14		
	HYDROGRAPH AT									
+		BL35	375.	12.67	132.	41.	14.	1.14		
	DIVERSION TO									
+		XBL35	18.	9.92	12.	4.	1.	1.14		
	HYDROGRAPH AT									
+		ERBL35	375.	12.67	132.	38.	13.	1.14		
	2 COMBINED AT									
+		CBL35	374.	12.67	131.	38.	13.	1.70		
	DIVERSION TO									
+		DP35BL	158.	12.17	92.	28.	9.	1.70		
	HYDROGRAPH AT									
+		D35BL	216.	12.67	40.	10.	3.	1.70		
	DIVERSION TO									
+		DWBL43	142.	12.67	26.	7.	2.	1.70		
	HYDROGRAPH AT									
+		DSGW35	73.	12.67	13.	3.	1.	1.70		
	ROUTED TO									
+		RSGW35	53.	13.50	13.	3.	1.	1.70		
	HYDROGRAPH AT									
+		GW35	314.	12.67	115.	37.	12.	1.01		
	2 COMBINED AT									
+		CGW35	329.	12.92	128.	40.	13.	1.58		
	HYDROGRAPH AT									
+		PR35BL	158.	12.17	92.	28.	9.	1.70		
	ROUTED TO									
+		RP35GW	158.	12.33	92.	28.	9.	1.70		
	2 COMBINED AT									
+		CPGW35	487.	12.92	220.	68.	23.	1.58		
	DIVERSION TO									

+	DP35GW	318.	12.25	184.	59.	20.	1.58
	HYDROGRAPH AT						
+	D35GW	169.	12.92	36.	9.	3.	1.58
	DIVERSION TO						
+	DWGW43	98.	12.92	21.	5.	2.	1.58
	HYDROGRAPH AT						
+	DSTB35	71.	12.92	15.	4.	1.	1.58
	ROUTED TO						
+	RSTB35	55.	13.67	15.	4.	1.	1.58
	HYDROGRAPH AT						
+	TB35	304.	12.67	109.	33.	11.	.98
	2 COMBINED AT						
+	CTB35	314.	12.83	123.	37.	12.	1.65
	HYDROGRAPH AT						
+	PR35GW	318.	12.25	184.	59.	20.	1.58
	ROUTED TO						
+	RP35TB	318.	12.42	185.	59.	20.	1.58
	2 COMBINED AT						
+	CPTB35	632.	12.83	308.	96.	32.	1.65
	DIVERSION TO						
+	DP35TB	554.	12.42	296.	93.	31.	1.65
	HYDROGRAPH AT						
+	D35TB	78.	12.83	12.	3.	1.	1.65
	DIVERSION TO						
+	DWTB43	40.	12.83	6.	2.	1.	1.65
	HYDROGRAPH AT						
+	DSCT35	37.	12.83	6.	1.	0.	1.65
	ROUTED TO						
+	RSCT35	26.	13.75	6.	1.	0.	1.65
	HYDROGRAPH AT						
+	CT35	278.	12.67	106.	35.	12.	.98
	2 COMBINED AT						
+	CCT35	278.	12.75	111.	36.	12.	1.76
	HYDROGRAPH AT						
+	PR35TB	554.	12.42	296.	93.	31.	1.65
	ROUTED TO						
+	RP35CT	554.	12.58	296.	93.	31.	1.65
	2 COMBINED AT						
+	CPCT35	832.	12.75	407.	129.	43.	1.76
	DIVERSION TO						
+	DP35CT	554.	12.33	337.	111.	37.	1.76
	HYDROGRAPH AT						
+	D35CT	278.	12.75	70.	18.	6.	1.76
	DIVERSION TO						
+	DWCT43	161.	12.75	41.	10.	3.	1.76
	HYDROGRAPH AT						
+	DSPE35	117.	12.75	30.	7.	2.	1.76
	ROUTED TO						
+	RSPE35	105.	13.58	30.	7.	2.	1.76
	HYDROGRAPH AT						
+	PE35	250.	12.67	94.	30.	10.	.98
	2 COMBINED AT						
+	CPE35	294.	13.33	123.	38.	13.	1.71
	HYDROGRAPH AT						
+	PR35CT	554.	12.33	337.	111.	37.	1.76
	ROUTED TO						
+	RP35PE	554.	12.50	337.	111.	37.	1.76
	2 COMBINED AT						
+	CPPE35	848.	13.33	459.	149.	50.	1.71
	DIVERSION TO						
+	DP35PE	466.	12.25	330.	117.	39.	1.71
	HYDROGRAPH AT						

+		D35PE	382.	13.33	129.	32.	11.	1.71
+	DIVERSION TO	DWPE43	268.	13.33	90.	23.	8.	1.71
+	HYDROGRAPH AT	DSAC35	115.	13.33	39.	10.	3.	1.71
+	ROUTED TO	RSAC35	112.	13.58	39.	10.	3.	1.71
+	HYDROGRAPH AT	AC35	322.	12.50	100.	34.	11.	.75
+	2 COMBINED AT	CAC01	364.	12.83	138.	43.	14.	1.27
+	HYDROGRAPH AT	PR35PE	466.	12.25	330.	117.	39.	1.71
+	ROUTED TO	RP35AC	466.	12.33	330.	117.	39.	1.71
+	2 COMBINED AT	CPAC01	830.	12.83	468.	160.	54.	1.27
+	HYDROGRAPH AT	DRUH43	0.	.00	0.	0.	0.	1.14
+	ROUTED TO	RWUH43	0.	.00	0.	0.	0.	1.14
+	HYDROGRAPH AT	UH43	275.	12.67	90.	26.	9.	1.02
+	DIVERSION TO	XUH43	275.	12.67	51.	14.	5.	1.02
+	HYDROGRAPH AT	ERUH43	212.	13.33	46.	12.	4.	1.02
+	2 COMBINED AT	CUH43	211.	13.33	46.	12.	4.	1.60
+	HYDROGRAPH AT	PRUH35	417.	13.00	90.	25.	8.	1.14
+	ROUTED TO	RPUH43	396.	13.08	90.	25.	8.	1.14
+	2 COMBINED AT	CPUH43	556.	13.33	135.	38.	13.	1.60
+	DIVERSION TO	DPUH43	556.	13.33	135.	38.	13.	1.60
+	HYDROGRAPH AT	DUH43	0.	.00	0.	0.	0.	1.60
+	DIVERSION TO	DWUH51	0.	.00	0.	0.	0.	1.60
+	HYDROGRAPH AT	DSBL43	0.	.00	0.	0.	0.	1.60
+	ROUTED TO	RSBL43	0.	.00	0.	0.	0.	1.60
+	HYDROGRAPH AT	DRBL43	142.	12.67	26.	7.	2.	1.70
+	ROUTED TO	RWBL43	107.	13.42	26.	7.	2.	1.70
+	HYDROGRAPH AT	BL43	329.	12.67	116.	35.	12.	1.05
+	3 COMBINED AT	CBL43	381.	13.08	141.	41.	14.	3.10
+	DIVERSION TO	DP43BL	117.	12.17	75.	25.	8.	3.10
+	HYDROGRAPH AT	D43BL	264.	13.08	66.	17.	6.	3.10
+	DIVERSION TO	DWBL51	122.	13.08	30.	8.	3.	3.10
+	HYDROGRAPH AT	DSGW43	143.	13.08	36.	9.	3.	3.10
+	ROUTED TO							

+		RSGW43	132.	13.58	36.	9.	3.	3.10
+	HYDROGRAPH AT	DRGW43	98.	12.92	21.	5.	2.	1.58
+	ROUTED TO	RWGW43	75.	13.67	21.	5.	2.	1.58
+	HYDROGRAPH AT	GW43	282.	12.67	102.	32.	11.	.99
+	DIVERSION TO	XGW43	14.	10.08	10.	3.	1.	.99
+	HYDROGRAPH AT	ERGW43	282.	12.67	102.	29.	10.	.99
+	3 COMBINED AT	CGW43	406.	13.42	158.	43.	14.	3.57
+	HYDROGRAPH AT	PR43BL	117.	12.17	75.	25.	8.	3.10
+	ROUTED TO	RP43GW	117.	12.33	75.	25.	8.	3.10
+	2 COMBINED AT	CPGW43	523.	13.42	232.	68.	23.	3.57
+	DIVERSION TO	DP43GW	155.	12.17	116.	39.	13.	3.57
+	HYDROGRAPH AT	D43GW	368.	13.42	116.	29.	10.	3.57
+	DIVERSION TO	DWGW51	195.	13.42	62.	15.	5.	3.57
+	HYDROGRAPH AT	DSTB43	173.	13.42	55.	14.	5.	3.57
+	ROUTED TO	RSTB43	162.	13.75	55.	14.	5.	3.57
+	HYDROGRAPH AT	DRTB43	40.	12.83	6.	2.	1.	1.65
+	ROUTED TO	RWTB43	29.	13.67	6.	2.	1.	1.65
+	HYDROGRAPH AT	TB43	285.	12.67	97.	29.	10.	1.00
+	3 COMBINED AT	CTB43	377.	13.42	157.	44.	15.	3.55
+	HYDROGRAPH AT	PR43GW	155.	12.17	116.	39.	13.	3.57
+	ROUTED TO	RP43TB	155.	12.33	116.	39.	13.	3.57
+	2 COMBINED AT	CPTB43	532.	13.42	273.	82.	28.	3.55
+	DIVERSION TO	DP43TB	312.	12.33	215.	68.	23.	3.55
+	HYDROGRAPH AT	D43TB	220.	13.42	58.	15.	5.	3.55
+	DIVERSION TO	DWTB51	139.	13.42	37.	9.	3.	3.55
+	HYDROGRAPH AT	DSCT43	81.	13.42	22.	5.	2.	3.55
+	ROUTED TO	RSCT43	74.	13.92	22.	5.	2.	3.55
+	HYDROGRAPH AT	DRCT43	161.	12.75	41.	10.	3.	1.76
+	ROUTED TO	RWCT43	148.	13.50	41.	10.	3.	1.76
+	HYDROGRAPH AT	CT43	316.	12.75	113.	35.	12.	1.00
+	DIVERSION TO	XCT43	316.	12.75	76.	21.	7.	1.00
+	HYDROGRAPH AT							

+		ERCT43	199.	13.67	50.	14.	5.	1.00
+	3 COMBINED AT	CCT43	408.	13.67	109.	30.	10.	3.35
+	HYDROGRAPH AT	PR43TB	312.	12.33	215.	68.	23.	3.55
+	ROUTED TO	RP43CT	312.	12.50	215.	68.	23.	3.55
+	2 COMBINED AT	CPCT43	720.	13.67	322.	97.	33.	3.35
+	DIVERSION TO	DP43CT	380.	13.00	260.	82.	27.	3.35
+	HYDROGRAPH AT	D43CT	340.	13.67	62.	16.	5.	3.35
+	DIVERSION TO	DWCT51	214.	13.67	39.	10.	3.	3.35
+	HYDROGRAPH AT	DSPE43	126.	13.67	23.	6.	2.	3.35
+	ROUTED TO	RSPE43	90.	14.42	23.	6.	2.	3.35
+	HYDROGRAPH AT	DRPE43	268.	13.33	90.	23.	8.	1.71
+	ROUTED TO	RWPE43	259.	13.75	90.	23.	8.	1.71
+	HYDROGRAPH AT	PE43	251.	12.67	90.	28.	9.	1.00
+	3 COMBINED AT	CPE43	436.	13.33	202.	56.	19.	3.42
+	HYDROGRAPH AT	PR43CT	380.	13.00	260.	82.	27.	3.35
+	ROUTED TO	RP43PE	380.	13.17	260.	82.	27.	3.35
+	2 COMBINED AT	CPPE43	816.	13.33	461.	138.	46.	3.42
+	DIVERSION TO	DP43PE	520.	12.50	366.	114.	38.	3.42
+	HYDROGRAPH AT	D43PE	296.	13.33	95.	24.	8.	3.42
+	DIVERSION TO	DWAC51	112.	13.33	36.	9.	3.	3.42
+	HYDROGRAPH AT	DSAC43	184.	13.33	59.	15.	5.	3.42
+	HYDROGRAPH AT	AC43	64.	12.92	31.	10.	4.	.36
+	3 COMBINED AT	CAC02	1022.	13.08	555.	184.	62.	3.75
+	HYDROGRAPH AT	PR43PE	520.	12.50	366.	114.	38.	3.42
+	2 COMBINED AT	CPAC02	1542.	13.08	920.	298.	100.	3.75
+	HYDROGRAPH AT	DRUH51	0.	.00	0.	0.	0.	1.60
+	ROUTED TO	RWUH51	0.	.00	0.	0.	0.	1.60
+	HYDROGRAPH AT	UH51	242.	12.67	89.	29.	10.	.99
+	DIVERSION TO	XUH51	242.	12.67	86.	25.	8.	.99
+	HYDROGRAPH AT	ERUH51	30.	16.00	13.	5.	2.	.99
+	2 COMBINED AT	CUH51	30.	16.00	13.	4.	1.	1.66
	DIVERSION TO							

+		DWUHSK	19.	16.00	8.	3.	1.	1.66
+	HYDROGRAPH AT	DSBL51	12.	16.00	5.	2.	1.	1.66
+	HYDROGRAPH AT	PRUH43	556.	13.33	135.	38.	13.	1.60
+	ROUTED TO	RPUH51	545.	13.42	135.	38.	13.	1.60
+	2 COMBINED AT	CPUH51	545.	13.42	138.	39.	13.	1.66
+	DIVERSION TO	DPUH51	545.	13.42	138.	39.	13.	1.66
+	HYDROGRAPH AT	DUH51	0.	.00	0.	0.	0.	1.66
+	ROUTED TO	RSBL51	0.	.00	0.	0.	0.	1.66
+	HYDROGRAPH AT	DRBL51	122.	13.08	30.	8.	3.	3.10
+	ROUTED TO	RWBL51	116.	13.50	30.	8.	3.	3.10
+	HYDROGRAPH AT	BL51	288.	12.67	101.	31.	10.	1.04
+	DIVERSION TO	XBL51	288.	12.67	41.	12.	4.	1.04
+	HYDROGRAPH AT	ERBL51	276.	12.92	71.	20.	7.	1.04
+	3 COMBINED AT	CBL51	347.	13.17	100.	27.	9.	3.12
+	DIVERSION TO	DP51BL	38.	12.83	28.	9.	3.	3.12
+	HYDROGRAPH AT	D51BL	309.	13.17	72.	18.	6.	3.12
+	DIVERSION TO	DWBL59	161.	13.17	37.	9.	3.	3.12
+	HYDROGRAPH AT	DSGW51	148.	13.17	35.	9.	3.	3.12
+	ROUTED TO	RSGW51	107.	13.83	34.	9.	3.	3.12
+	HYDROGRAPH AT	DRGW51	195.	13.42	62.	15.	5.	3.57
+	ROUTED TO	RWGW51	185.	13.75	61.	15.	5.	3.57
+	HYDROGRAPH AT	GW51	228.	12.67	78.	23.	8.	.96
+	DIVERSION TO	XGW51	4.	5.67	3.	1.	0.	.96
+	HYDROGRAPH AT	ERGW51	228.	12.67	78.	22.	7.	.96
+	3 COMBINED AT	CGW51	428.	13.58	172.	46.	15.	4.34
+	HYDROGRAPH AT	PR51BL	38.	12.83	28.	9.	3.	3.12
+	ROUTED TO	RP51GW	38.	13.08	28.	9.	3.	3.12
+	2 COMBINED AT	CPGW51	466.	13.58	198.	55.	18.	4.34
+	DIVERSION TO	DP51GW	150.	12.42	110.	33.	11.	4.34
+	HYDROGRAPH AT	D51GW	316.	13.58	89.	22.	7.	4.34
+	DIVERSION TO	DWGW59	206.	13.58	58.	14.	5.	4.34
	HYDROGRAPH AT							

+		DSTB51	111.	13.58	31.	8.	3.	4.34
+	ROUTED TO	RSTB51	103.	14.08	31.	8.	3.	4.34
+	HYDROGRAPH AT	DRTB51	139.	13.42	37.	9.	3.	3.55
+	ROUTED TO	RWTB51	130.	13.83	37.	9.	3.	3.55
+	HYDROGRAPH AT	TB51	246.	12.67	83.	25.	8.	.99
+	3 COMBINED AT	CTB51	355.	13.75	150.	41.	14.	4.70
+	HYDROGRAPH AT	PR51GW	150.	12.42	110.	33.	11.	4.34
+	ROUTED TO	RP51TB	150.	12.58	110.	33.	11.	4.34
+	2 COMBINED AT	CPTB51	505.	13.75	259.	74.	25.	4.70
+	DIVERSION TO	DP51TB	244.	12.33	178.	54.	18.	4.70
+	HYDROGRAPH AT	D51TB	261.	13.75	81.	20.	7.	4.70
+	DIVERSION TO	DWTB59	159.	13.75	49.	12.	4.	4.70
+	HYDROGRAPH AT	DSCT51	102.	13.75	32.	8.	3.	4.70
+	ROUTED TO	RSCT51	96.	14.17	32.	8.	3.	4.70
+	HYDROGRAPH AT	DRCT51	214.	13.67	39.	10.	3.	3.35
+	ROUTED TO	RWCT51	162.	14.33	39.	10.	3.	3.35
+	HYDROGRAPH AT	CT51	352.	12.58	122.	40.	13.	.99
+	DIVERSION TO	XCT51	352.	12.58	104.	29.	10.	.99
+	HYDROGRAPH AT	ERCT51	118.	14.25	36.	11.	4.	.99
+	3 COMBINED AT	CCT51	369.	14.25	102.	29.	10.	4.94
+	HYDROGRAPH AT	PR51TB	244.	12.33	178.	54.	18.	4.70
+	ROUTED TO	RP51CT	244.	12.50	178.	54.	18.	4.70
+	2 COMBINED AT	CPCT51	613.	14.25	278.	82.	28.	4.94
+	DIVERSION TO	DP51CT	244.	12.50	192.	61.	20.	4.94
+	HYDROGRAPH AT	D51CT	369.	14.25	86.	21.	7.	4.94
+	DIVERSION TO	DWAC59	122.	14.25	28.	7.	2.	4.94
+	HYDROGRAPH AT	DSAC51	247.	14.25	57.	14.	5.	4.94
+	HYDROGRAPH AT	DRAC51	112.	13.33	36.	9.	3.	3.42
+	HYDROGRAPH AT	AC51	136.	12.92	63.	20.	7.	.58
+	DIVERSION TO	XAC51	3.	4.00	1.	0.	0.	.58
+	HYDROGRAPH AT	ERAC51	136.	12.92	63.	20.	7.	.58
	4 COMBINED AT							

+		CAC03	1795.	13.17	1070.	339.	114.	8.95
+	HYDROGRAPH AT	PR51CT	244.	12.50	192.	61.	20.	4.94
+	2 COMBINED AT	CPAC03	2039.	13.17	1260.	400.	134.	8.95
+	HYDROGRAPH AT	DRBL59	161.	13.17	37.	9.	3.	3.12
+	ROUTED TO	RWBL59	127.	13.83	37.	9.	3.	3.12
+	HYDROGRAPH AT	BL59	326.	12.67	117.	37.	12.	1.08
+	DIVERSION TO	XBL59	326.	12.67	117.	37.	12.	1.08
+	HYDROGRAPH AT	ERBL59	2.	23.08	1.	0.	0.	1.08
+	2 COMBINED AT	CBL59	127.	13.83	38.	9.	3.	2.71
+	DIVERSION TO	DP59BL	108.	13.67	36.	9.	3.	2.71
+	HYDROGRAPH AT	D59BL	19.	13.83	1.	0.	0.	2.71
+	DIVERSION TO	DWBL67	6.	13.83	0.	0.	0.	2.71
+	HYDROGRAPH AT	DSGW59	13.	13.83	1.	0.	0.	2.71
+	ROUTED TO	RSGW59	6.	14.58	1.	0.	0.	2.71
+	HYDROGRAPH AT	DRGW59	206.	13.58	58.	14.	5.	4.34
+	ROUTED TO	RWGW59	187.	14.00	58.	14.	5.	4.34
+	HYDROGRAPH AT	GW59	294.	12.67	109.	34.	12.	.94
+	DIVERSION TO	XGW59	294.	12.67	65.	18.	6.	.94
+	HYDROGRAPH AT	ERGW59	227.	13.42	58.	17.	6.	.94
+	3 COMBINED AT	CGW59	345.	13.75	114.	31.	10.	5.64
+	HYDROGRAPH AT	PR59BL	108.	13.67	36.	9.	3.	2.71
+	ROUTED TO	RP59GW	108.	13.83	36.	9.	3.	2.71
+	2 COMBINED AT	CPGW59	452.	13.75	150.	40.	13.	5.64
+	DIVERSION TO	DP59GW	273.	13.42	121.	33.	11.	5.64
+	HYDROGRAPH AT	D59GW	179.	13.75	29.	7.	2.	5.64
+	DIVERSION TO	DWGW67	81.	13.75	13.	3.	1.	5.64
+	HYDROGRAPH AT	DSTB59	99.	13.75	16.	4.	1.	5.64
+	ROUTED TO	RSTB59	62.	14.75	16.	4.	1.	5.64
+	HYDROGRAPH AT	DRTB59	159.	13.75	49.	12.	4.	4.70
+	ROUTED TO	RWTB59	151.	14.08	49.	12.	4.	4.70
+	HYDROGRAPH AT	TB59	286.	12.67	106.	34.	11.	1.00
	3 COMBINED AT							

+		CTB59	324.	13.25	169.	50.	17.	6.96
+	HYDROGRAPH AT	PR59GW	273.	13.42	121.	33.	11.	5.64
+	ROUTED TO	RP59AM	273.	13.50	121.	33.	11.	5.64
+	ROUTED TO	SRAM59	274.	14.50	120.	33.	11.	5.64
+	ROUTED TO	RP59TB	274.	14.58	120.	33.	11.	5.64
+	2 COMBINED AT	CPTB59	547.	14.58	285.	82.	28.	6.96
+	DIVERSION TO	DPTB59	546.	14.58	284.	82.	28.	6.96
+	HYDROGRAPH AT	DTB59	2.	14.50	0.	0.	0.	6.96
+	DIVERSION TO	DWAC67	1.	14.50	0.	0.	0.	6.96
+	HYDROGRAPH AT	DSAC59	1.	14.50	0.	0.	0.	6.96
+	HYDROGRAPH AT	DRAC59	122.	14.25	28.	7.	2.	4.94
+	HYDROGRAPH AT	AC59	189.	12.83	83.	26.	9.	.74
+	DIVERSION TO	XAC59	189.	12.83	83.	26.	9.	.74
+	HYDROGRAPH AT	ERAC59	0.	.00	0.	0.	0.	.74
+	4 COMBINED AT	CAC04	2071.	14.17	1265.	400.	134.	15.39
+	HYDROGRAPH AT	PRTB59	546.	14.58	284.	82.	28.	6.96
+	2 COMBINED AT	CPAC04	2490.	14.17	1522.	475.	159.	15.39
+	HYDROGRAPH AT	DRBL67	6.	13.83	0.	0.	0.	2.71
+	DIVERSION TO	DWSK67	4.	13.83	0.	0.	0.	2.71
+	HYDROGRAPH AT	DBL67	2.	13.83	0.	0.	0.	2.71
+	ROUTED TO	RWBL67	1.	14.67	0.	0.	0.	2.71
+	HYDROGRAPH AT	BL67	73.	12.58	27.	9.	3.	.23
+	DIVERSION TO	XBL67	73.	12.58	27.	8.	3.	.23
+	HYDROGRAPH AT	ERBL67	6.	17.33	3.	1.	0.	.23
+	2 COMBINED AT	CBL67	6.	17.33	3.	1.	0.	.46
+	DIVERSION TO	DP67BL	6.	17.33	3.	1.	0.	.46
+	HYDROGRAPH AT	D67BL	0.	.00	0.	0.	0.	.46
+	DIVERSION TO	DWBL75	0.	.00	0.	0.	0.	.46
+	HYDROGRAPH AT	DSGW67	0.	.00	0.	0.	0.	.46
+	ROUTED TO	RSGW67	0.	.00	0.	0.	0.	.46
+	HYDROGRAPH AT	DRGW67	81.	13.75	13.	3.	1.	5.64
	ROUTED TO							

+		RWGW67	50.	14.75	13.	3.	1.	5.64
+	HYDROGRAPH AT	GW67	287.	12.75	105.	32.	11.	.89
+	DIVERSION TO	XGW67	287.	12.75	93.	25.	8.	.89
+	HYDROGRAPH AT	ERGW67	79.	14.75	23.	7.	2.	.89
+	3 COMBINED AT	CGW67	129.	14.75	35.	10.	3.	3.64
+	HYDROGRAPH AT	PR67BL	6.	17.33	3.	1.	0.	.46
+	2 COMBINED AT	CPGW67	130.	14.75	37.	11.	4.	3.64
+	DIVERSION TO	DP67GW	130.	14.75	37.	11.	4.	3.64
+	HYDROGRAPH AT	D67GW	0.	.00	0.	0.	0.	3.64
+	DIVERSION TO	DWAC75	0.	.00	0.	0.	0.	3.64
+	HYDROGRAPH AT	DSAC67	0.	.00	0.	0.	0.	3.64
+	ROUTED TO	RSAC67	0.	.00	0.	0.	0.	3.64
+	HYDROGRAPH AT	DRAC67	1.	14.50	0.	0.	0.	6.96
+	ROUTED TO	RWAC67	0.	14.58	0.	0.	0.	6.96
+	HYDROGRAPH AT	AC67	176.	12.83	73.	22.	7.	.70
+	4 COMBINED AT	CAC05	2497.	14.17	1564.	488.	164.	19.62
+	HYDROGRAPH AT	PR67GW	130.	14.75	37.	11.	4.	3.64
+	ROUTED TO	RP67AC	125.	14.83	37.	11.	4.	3.64
+	2 COMBINED AT	CPAC05	2516.	14.17	1585.	496.	166.	19.55
+	HYDROGRAPH AT	DRAC75	0.	.00	0.	0.	0.	3.64
+	HYDROGRAPH AT	AC75	193.	12.75	79.	25.	8.	.84
+	DIVERSION TO	XAC75	193.	12.75	30.	9.	3.	.84
+	HYDROGRAPH AT	ERAC75	187.	13.00	59.	16.	5.	.84
+	3 COMBINED AT	CAC06	2603.	13.25	1612.	504.	169.	23.44
+	HYDROGRAPH AT	HV55	522.	12.67	173.	55.	19.	2.05
+	DIVERSION TO	XHV55	522.	12.67	173.	55.	18.	2.05
+	HYDROGRAPH AT	ERHV55	2.	19.83	2.	0.	0.	2.05
+	ROUTED TO	RCL57	2.	20.92	2.	0.	0.	2.05
+	HYDROGRAPH AT	CL57	239.	12.50	61.	19.	6.	.75
+	DIVERSION TO	XCL57	239.	12.50	61.	19.	6.	.75
+	HYDROGRAPH AT	ERCL57	0.	.00	0.	0.	0.	.75
	2 COMBINED AT							

+		CCL57	2.	20.92	2.	0.	0.	2.80
+	ROUTED TO	RWL59	2.	22.00	1.	0.	0.	2.80
+	HYDROGRAPH AT	WL59	107.	12.75	40.	12.	4.	.56
+	DIVERSION TO	XWL59	107.	12.75	20.	6.	2.	.56
+	HYDROGRAPH AT	ERWL59	92.	13.25	24.	7.	2.	.56
+	2 COMBINED AT	CWL59	91.	13.25	23.	7.	2.	3.36
+	HYDROGRAPH AT	DV56	154.	12.50	27.	9.	3.	.29
+	2 COMBINED AT	CDV56	151.	12.50	48.	15.	5.	3.65
+	ROUTED TO	SRDV56	90.	13.67	47.	15.	5.	3.65
+	HYDROGRAPH AT	LO51	330.	12.67	116.	38.	13.	1.13
+	2 COMBINED AT	CLO51	400.	12.75	161.	53.	18.	4.78
+	DIVERSION TO	DP51LO	38.	11.25	38.	22.	8.	4.78
+	HYDROGRAPH AT	D51LO	362.	12.75	123.	31.	10.	4.78
+	ROUTED TO	SRLO51	82.	15.00	68.	30.	10.	4.78
+	ROUTED TO	RUHSKA	82.	15.33	68.	30.	10.	4.78
+	HYDROGRAPH AT	DRUHSK	19.	16.00	8.	3.	1.	1.66
+	DIVERSION TO	DP51SK	19.	16.00	8.	3.	1.	1.66
+	HYDROGRAPH AT	D51SK	2.	15.08	0.	0.	0.	1.66
+	ROUTED TO	RUHSKB	0.	16.25	0.	0.	0.	1.66
+	HYDROGRAPH AT	UHSK	237.	12.67	79.	25.	8.	.93
+	DIVERSION TO	XUHSK	237.	12.67	35.	10.	3.	.93
+	HYDROGRAPH AT	ERUHSK	222.	12.92	54.	15.	5.	.93
+	3 COMBINED AT	CSK01	227.	12.92	117.	45.	15.	6.73
+	DIVERSION TO	DPUHSK	10.	12.83	10.	9.	3.	6.73
+	HYDROGRAPH AT	DUHSK	217.	12.92	107.	36.	12.	6.73
+	HYDROGRAPH AT	DRSK67	4.	13.83	0.	0.	0.	2.71
+	ROUTED TO	RSK67	2.	14.67	0.	0.	0.	2.71
+	HYDROGRAPH AT	SK67	259.	12.58	79.	25.	8.	.94
+	DIVERSION TO	XSK67	259.	12.58	52.	14.	5.	.94
+	HYDROGRAPH AT	ERSK67	179.	13.33	37.	11.	4.	.94
+	3 COMBINED AT	CSK02	368.	13.33	142.	46.	15.	8.30
	HYDROGRAPH AT							

+		PRUHSK	10.	12.83	10.	9.	3.	6.73
+	ROUTED TO	RPSK67	10.	13.25	10.	9.	3.	6.73
+	2 COMBINED AT	CPSK02	378.	13.33	152.	55.	19.	8.30
+	HYDROGRAPH AT	UH67	242.	12.58	83.	27.	9.	.78
+	DIVERSION TO	XUH67	242.	12.58	83.	27.	9.	.78
+	HYDROGRAPH AT	ERUH67	0.	.00	0.	0.	0.	.78
+	ROUTED TO	RUH75	0.	.00	0.	0.	0.	.78
+	HYDROGRAPH AT	UH75	235.	12.67	82.	25.	8.	.81
+	DIVERSION TO	XUH75	235.	12.67	82.	25.	8.	.81
+	HYDROGRAPH AT	ERUH75	0.	.00	0.	0.	0.	.81
+	2 COMBINED AT	CUH75	0.	.00	0.	0.	0.	1.60
+	ROUTED TO	RBL75A	0.	.00	0.	0.	0.	1.60
+	HYDROGRAPH AT	DRBL75	0.	.00	0.	0.	0.	.46
+	ROUTED TO	RBL75B	0.	.00	0.	0.	0.	.46
+	HYDROGRAPH AT	BL75	253.	12.67	89.	28.	9.	1.06
+	DIVERSION TO	XBL75	186.	12.42	22.	7.	2.	1.06
+	HYDROGRAPH AT	ERBL75	253.	12.67	78.	21.	7.	1.06
+	4 COMBINED AT	CSK03	554.	13.33	221.	75.	25.	11.22
+	HYDROGRAPH AT	UHLO	290.	12.50	75.	23.	8.	.82
+	DIVERSION TO	XUHLO	290.	12.50	75.	23.	8.	.82
+	HYDROGRAPH AT	ERUHLO	0.	.00	0.	0.	0.	.82
+	ROUTED TO	RBLLO	0.	.00	0.	0.	0.	.82
+	HYDROGRAPH AT	BLLO	236.	12.67	86.	29.	10.	.76
+	DIVERSION TO	XBLLO	236.	12.67	86.	29.	10.	.76
+	HYDROGRAPH AT	ERBLLO	0.	.00	0.	0.	0.	.76
+	2 COMBINED AT	CBLLO	0.	.00	0.	0.	0.	1.59
+	DIVERSION TO	DPBLLO	0.	.00	0.	0.	0.	1.59
+	HYDROGRAPH AT	DBLLO	0.	.00	0.	0.	0.	1.59
+	ROUTED TO	RGWLO	0.	.00	0.	0.	0.	1.59
+	HYDROGRAPH AT	GWLO	419.	12.33	96.	32.	11.	.81
+	DIVERSION TO	XGWLO	419.	12.33	94.	27.	9.	.81
	HYDROGRAPH AT							

+		ERGWLO	24.	15.08	14.	5.	2.	.81
+	4 COMBINED AT	CSK04	2933.	13.58	1737.	551.	186.	37.07
+	HYDROGRAPH AT	PRBLLO	0.	.00	0.	0.	0.	1.59
+	ROUTED TO	RPGWLO	0.	.00	0.	0.	0.	1.59
+	2 COMBINED AT	CPSK04	2933.	13.58	1737.	551.	186.	37.07
+	HYDROGRAPH AT	JM63	282.	12.42	65.	20.	7.	.84
+	DIVERSION TO	XJM63	282.	12.42	65.	20.	7.	.84
+	HYDROGRAPH AT	ERJM63	0.	.00	0.	0.	0.	.84
+	ROUTED TO	RJM67	0.	.00	0.	0.	0.	.84
+	HYDROGRAPH AT	JM67	125.	12.42	33.	11.	4.	.38
+	DIVERSION TO	XJM67	125.	12.42	33.	11.	4.	.38
+	HYDROGRAPH AT	ERJM67	0.	.00	0.	0.	0.	.38
+	2 COMBINED AT	CJM67	0.	.00	0.	0.	0.	1.22
+	ROUTED TO	RHV75	0.	.00	0.	0.	0.	1.22
+	HYDROGRAPH AT	HV75	240.	12.58	72.	23.	8.	.96
+	DIVERSION TO	XHV75	240.	12.58	72.	23.	8.	.96
+	HYDROGRAPH AT	ERHV75	0.	.00	0.	0.	0.	.96
+	2 COMBINED AT	CHV75	0.	.00	0.	0.	0.	2.18
+	HYDROGRAPH AT	JM80	59.	12.33	14.	4.	1.	.16
+	HYDROGRAPH AT	JM76	38.	12.50	12.	4.	1.	.17
+	DIVERSION TO	XJM76	38.	12.50	11.	3.	1.	.17
+	HYDROGRAPH AT	ERJM76	1.	15.67	1.	0.	0.	.17
+	HYDROGRAPH AT	JMNR	16.	12.83	7.	2.	1.	.15
+	3 COMBINED AT	CNR01	69.	12.42	21.	7.	2.	.48
+	HYDROGRAPH AT	JM75	436.	12.33	84.	26.	9.	1.11
+	DIVERSION TO	XJM75	436.	12.33	80.	22.	7.	1.11
+	HYDROGRAPH AT	ERJM75	34.	14.08	12.	4.	1.	1.11
+	HYDROGRAPH AT	HVNR	18.	13.17	6.	2.	1.	.20
+	4 COMBINED AT	CNR02	71.	12.50	35.	12.	4.	3.98
+	HYDROGRAPH AT	HV67	287.	12.33	63.	21.	7.	.54
+	DIVERSION TO	XHV67	287.	12.33	56.	16.	5.	.54
+	HYDROGRAPH AT							

+		ERHV67	59.	13.50	16.	5.	2.	.54
+	ROUTED TO	RCL67	42.	13.92	16.	5.	2.	.54
+	HYDROGRAPH AT	CL67	54.	12.58	19.	6.	2.	.28
+	DIVERSION TO	XCL67	54.	12.58	19.	6.	2.	.28
+	HYDROGRAPH AT	ERCL67	0.	.00	0.	0.	0.	.28
+	2 COMBINED AT	CCL67	42.	13.92	16.	5.	2.	.82
+	ROUTED TO	RPP73A	34.	14.50	15.	5.	2.	.82
+	HYDROGRAPH AT	PP67	12.	12.67	4.	1.	0.	.10
+	DIVERSION TO	XPP67	12.	12.67	4.	1.	0.	.10
+	HYDROGRAPH AT	ERPP67	0.	.00	0.	0.	0.	.10
+	DIVERSION TO	DSWL67	0.	.00	0.	0.	0.	.10
+	HYDROGRAPH AT	DWPP73	0.	.00	0.	0.	0.	.10
+	ROUTED TO	RPP73B	0.	.00	0.	0.	0.	.10
+	HYDROGRAPH AT	PP73	126.	12.58	36.	11.	4.	.55
+	DIVERSION TO	XPP73	126.	12.58	19.	5.	2.	.55
+	HYDROGRAPH AT	ERPP73	105.	13.00	20.	6.	2.	.55
+	3 COMBINED AT	CPP73	105.	13.00	34.	11.	4.	1.43
+	DIVERSION TO	DSWL75	43.	13.00	14.	4.	1.	1.43
+	HYDROGRAPH AT	DWPP75	62.	13.00	20.	6.	2.	1.43
+	ROUTED TO	RPPNR	56.	13.17	20.	6.	2.	1.43
+	HYDROGRAPH AT	PP75	118.	12.42	33.	10.	3.	.42
+	DIVERSION TO	XPP75	118.	12.42	33.	10.	3.	.42
+	HYDROGRAPH AT	ERPP75	1.	19.00	1.	0.	0.	.42
+	HYDROGRAPH AT	PPNR	24.	12.75	10.	3.	1.	.24
+	DIVERSION TO	XPPNR	24.	12.75	9.	3.	1.	.24
+	HYDROGRAPH AT	ERPPNR	1.	16.17	0.	0.	0.	.24
+	4 COMBINED AT	CNR03	113.	13.08	53.	18.	6.	5.47
+	HYDROGRAPH AT	DRWL75	43.	13.00	14.	4.	1.	1.43
+	ROUTED TO	RWL75B	31.	13.33	14.	4.	1.	1.43
+	HYDROGRAPH AT	DRWL67	0.	.00	0.	0.	0.	.10
+	ROUTED TO	RWL67	0.	.00	0.	0.	0.	.10
+	HYDROGRAPH AT							

+		WL67	14.	12.67	5.	1.	0.	.10
+	DIVERSION TO	XWL67	14.	12.67	5.	1.	0.	.10
+	HYDROGRAPH AT	ERWL67	0.	.00	0.	0.	0.	.10
+	2 COMBINED AT	CWL67	0.	.00	0.	0.	0.	.13
+	ROUTED TO	RWL75A	0.	.00	0.	0.	0.	.13
+	HYDROGRAPH AT	WL75	128.	12.50	36.	11.	4.	.47
+	DIVERSION TO	XWL75	128.	12.50	33.	9.	3.	.47
+	HYDROGRAPH AT	ERWL75	17.	14.75	6.	2.	1.	.47
+	3 COMBINED AT	CWL75	39.	14.75	19.	6.	2.	1.20
+	HYDROGRAPH AT	WWBR	138.	12.17	18.	5.	2.	.18
+	DIVERSION TO	XWWBR	138.	12.17	18.	5.	2.	.18
+	HYDROGRAPH AT	ERWWBR	0.	.00	0.	0.	0.	.18
+	ROUTED TO	RWWRS	0.	.00	0.	0.	0.	.18
+	HYDROGRAPH AT	WWRS	50.	12.33	12.	4.	1.	.14
+	DIVERSION TO	XWWRS	50.	12.33	12.	4.	1.	.14
+	HYDROGRAPH AT	ERWWRS	1.	23.42	0.	0.	0.	.14
+	2 COMBINED AT	CWWRS	1.	23.42	0.	0.	0.	.33
+	ROUTED TO	RJMRS	1.	24.50	0.	0.	0.	.33
+	HYDROGRAPH AT	JMRS	184.	12.42	49.	15.	5.	.57
+	DIVERSION TO	XJMRS	184.	12.42	49.	15.	5.	.57
+	HYDROGRAPH AT	ERJMRS	0.	.00	0.	0.	0.	.57
+	2 COMBINED AT	CJMRS	1.	24.50	0.	0.	0.	.90
+	ROUTED TO	RHVRSB	1.	26.00	0.	0.	0.	.90
+	HYDROGRAPH AT	83RS	412.	12.25	66.	22.	7.	.64
+	DIVERSION TO	X83RS	412.	12.25	66.	21.	7.	.64
+	HYDROGRAPH AT	ER83RS	5.	21.00	4.	1.	0.	.64
+	ROUTED TO	RHVRSA	5.	24.08	3.	1.	0.	.64
+	HYDROGRAPH AT	HVRS	137.	12.58	45.	14.	5.	.63
+	DIVERSION TO	XHVRS	137.	12.58	45.	14.	5.	.63
+	HYDROGRAPH AT	ERHVRS	0.	.00	0.	0.	0.	.63
+	3 COMBINED AT	CHVRS	5.	24.08	4.	1.	0.	2.16
	ROUTED TO							

+		RCL77B	5.	24.42	3.	1.	0.	2.16
+	HYDROGRAPH AT	HV83	19.	12.17	3.	1.	0.	.04
+	DIVERSION TO	XHV83	19.	12.17	3.	1.	0.	.04
+	HYDROGRAPH AT	ERHV83	0.	.00	0.	0.	0.	.04
+	ROUTED TO	RCL77A	0.	.00	0.	0.	0.	.04
+	HYDROGRAPH AT	CL77	87.	12.42	18.	5.	2.	.32
+	DIVERSION TO	XCL77	87.	12.42	18.	5.	2.	.32
+	HYDROGRAPH AT	ERCL77	0.	.00	0.	0.	0.	.32
+	3 COMBINED AT	CCL77	5.	24.42	3.	1.	0.	2.51
+	ROUTED TO	RPP77	5.	24.83	3.	1.	0.	2.51
+	HYDROGRAPH AT	PP77	36.	12.75	15.	4.	1.	.27
+	DIVERSION TO	XPP77	36.	12.75	15.	4.	1.	.27
+	HYDROGRAPH AT	ERPP77	0.	20.75	0.	0.	0.	.27
+	2 COMBINED AT	CPP77	5.	24.75	3.	1.	0.	2.78
+	ROUTED TO	RWLNR	5.	25.25	3.	1.	0.	2.78
+	HYDROGRAPH AT	WLNR	118.	12.50	34.	11.	4.	.39
+	4 COMBINED AT	CNR04	212.	13.17	100.	35.	12.	9.84
+	HYDROGRAPH AT	DV75	122.	12.67	44.	14.	5.	.50
+	DIVERSION TO	XDV75	122.	12.67	41.	11.	4.	.50
+	HYDROGRAPH AT	ERDV75	24.	15.25	9.	3.	1.	.50
+	DIVERSION TO	DSLO75	6.	15.25	2.	1.	0.	.50
+	HYDROGRAPH AT	DWDVNR	17.	15.25	7.	2.	1.	.50
+	ROUTED TO	RDVNR	14.	15.58	6.	2.	1.	.50
+	HYDROGRAPH AT	DVNR	96.	12.67	34.	11.	4.	.40
+	3 COMBINED AT	CNR05	290.	13.17	135.	47.	16.	10.50
+	HYDROGRAPH AT	DV67	357.	12.17	46.	15.	5.	.50
+	ROUTED TO	SRDV67	224.	12.42	46.	15.	5.	.50
+	HYDROGRAPH AT	LO67	412.	12.58	112.	35.	12.	1.22
+	2 COMBINED AT	CLO67	621.	12.50	157.	50.	17.	1.72
+	ROUTED TO	SRLO67	200.	13.67	128.	48.	22.	1.72
+	HYDROGRAPH AT	LO75	329.	12.58	93.	29.	10.	.97
	DIVERSION TO							

+		XLO75	329.	12.58	63.	17.	6.	.97
+	HYDROGRAPH AT	ERLO75	217.	13.25	41.	12.	4.	.97
+	2 COMBINED AT	CLO75	404.	13.25	167.	60.	26.	2.69
+	ROUTED TO	SRLO75	260.	14.25	154.	59.	26.	2.69
+	HYDROGRAPH AT	DRLO75	6.	15.25	2.	1.	0.	.50
+	ROUTED TO	RLO75	5.	16.58	2.	1.	0.	.50
+	2 COMBINED AT	CILO75	259.	14.25	155.	60.	26.	2.94
+	ROUTED TO	RBYNRB	259.	14.33	155.	60.	26.	2.94
+	HYDROGRAPH AT	PP81	73.	12.33	14.	4.	1.	.20
+	DIVERSION TO	XPP81	73.	12.33	14.	4.	1.	.20
+	HYDROGRAPH AT	ERPP81	0.	.00	0.	0.	0.	.20
+	ROUTED TO	RWL83	0.	.00	0.	0.	0.	.20
+	HYDROGRAPH AT	WL83	48.	12.58	15.	4.	1.	.13
+	DIVERSION TO	XWL83	48.	12.58	8.	2.	1.	.13
+	HYDROGRAPH AT	ERWL83	36.	13.17	8.	2.	1.	.13
+	2 COMBINED AT	CWL83	36.	13.17	8.	2.	1.	.32
+	HYDROGRAPH AT	HV87	224.	12.25	25.	8.	3.	.28
+	ROUTED TO	RPP87	195.	12.33	25.	8.	3.	.28
+	HYDROGRAPH AT	PP87	348.	12.33	58.	17.	6.	.98
+	DIVERSION TO	XPP87	348.	12.33	58.	17.	6.	.98
+	HYDROGRAPH AT	ERPP87	0.	.00	0.	0.	0.	.98
+	2 COMBINED AT	CPP87	195.	12.33	25.	8.	3.	1.27
+	ROUTED TO	SRPP87	53.	12.83	24.	8.	3.	1.27
+	DIVERSION TO	DPPP87	53.	12.83	24.	8.	3.	1.27
+	HYDROGRAPH AT	DPP87	0.	.00	0.	0.	0.	1.27
+	HYDROGRAPH AT	PRPP87	53.	12.83	24.	8.	3.	1.27
+	ROUTED TO	RP87PP	53.	12.83	24.	8.	3.	1.27
+	HYDROGRAPH AT	PP91	28.	12.58	9.	3.	1.	.16
+	DIVERSION TO	XPP91	28.	12.58	9.	3.	1.	.16
+	HYDROGRAPH AT	ERPP91	0.	.00	0.	0.	0.	.16
+	DIVERSION TO	DPP91	0.	.00	0.	0.	0.	.16
+	HYDROGRAPH AT	DPPP91	0.	.00	0.	0.	0.	.16
+	2 COMBINED AT	CPPP87	53.	12.83	25.	8.	3.	.16
+	ROUTED TO	RPPP83	53.	12.92	25.	8.	3.	.16
+	2 COMBINED AT	CPPP83	53.	12.92	24.	8.	3.	1.43
+	ROUTED TO	SRPP83	3.	18.83	3.	2.	1.	1.43
+	DIVERSION TO	D83PP	0.	.00	0.	0.	0.	1.43
+	HYDROGRAPH AT	DP83PP	3.	18.83	3.	2.	1.	1.43
+	ROUTED TO	RP83WL	3.	18.92	3.	2.	1.	1.43
+	2 COMBINED AT	CPWL83	35.	13.17	9.	4.	2.	1.75
+	ROUTED TO	RDV83	30.	13.42	9.	4.	2.	1.75
+	HYDROGRAPH AT	DV83	35.	12.67	14.	4.	1.	.11
+	DIVERSION TO	XDV83	29.	12.33	3.	1.	0.	.11
+	HYDROGRAPH AT	ERDV83	35.	12.67	12.	3.	1.	.11
+	2 COMBINED AT	CDV83	57.	13.42	21.	7.	3.	.43
+	ROUTED TO	RBYNRA	52.	13.83	21.	7.	3.	.43
+	HYDROGRAPH AT	BYNR	318.	12.58	95.	29.	10.	1.03
+	DIVERSION TO	XBYNR	63.	12.00	14.	5.	2.	1.03
+	HYDROGRAPH AT	ERBYNR	318.	12.58	91.	25.	8.	1.03
+	4 COMBINED AT	CNR06	591.	12.58	366.	130.	51.	14.90
+	HYDROGRAPH AT	DR83PP	0.	.00	0.	0.	0.	1.43
+	ROUTED TO	RDV87	0.	.00	0.	0.	0.	1.43
+	HYDROGRAPH AT	DV87	465.	12.42	82.	23.	8.	1.00
+	DIVERSION TO	XDV87	74.	11.92	8.	3.	1.	1.00
+	HYDROGRAPH AT	ERDV87	465.	12.42	78.	20.	7.	1.00
+	2 COMBINED AT	CDV87	462.	12.42	78.	20.	7.	2.27
+	ROUTED TO	RBY87	402.	12.75	77.	20.	7.	2.27
+	HYDROGRAPH AT	BY87	407.	12.50	105.	32.	11.	.96
+	DIVERSION TO	XBY87	407.	12.50	105.	32.	11.	.96
+	HYDROGRAPH AT	ERBY87	0.	.00	0.	0.	0.	.96
+	2 COMBINED AT	CBY87	402.	12.75	77.	20.	7.	3.23
+	ROUTED TO	RUH87	373.	13.08	76.	20.	7.	3.23
	HYDROGRAPH AT							

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+	UH87	442.	12.50	100.	30.	10.	1.00
	DIVERSION TO						
+	XUH87	442.	12.50	100.	30.	10.	1.00
	HYDROGRAPH AT						
+	ERUH87	0.	.00	0.	0.	0.	1.00
	2 COMBINED AT						
+	CUH87	373.	13.08	76.	20.	7.	4.23
	DIVERSION TO						
+	DSBL91	220.	13.08	45.	12.	4.	4.23
	HYDROGRAPH AT						
+	DSBLNR	153.	13.08	31.	8.	3.	4.23
	DIVERSION TO						
+	DUHNR	103.	13.08	12.	3.	1.	4.23
	HYDROGRAPH AT						
+	DPUHNR	50.	12.75	19.	5.	2.	4.23
	ROUTED TO						
+	RPUHNR	50.	12.83	19.	5.	2.	4.23
	HYDROGRAPH AT						
+	UHNR	115.	12.58	38.	12.	4.	.39
	DIVERSION TO						
+	XUHNR	7.	10.08	4.	1.	0.	.39
	HYDROGRAPH AT						
+	ERUHNR	115.	12.58	38.	11.	4.	.39
	3 COMBINED AT						
+	CNR07	708.	12.83	418.	146.	56.	15.29
	HYDROGRAPH AT						
+	DRUHNR	103.	13.08	12.	3.	1.	4.23
	ROUTED TO						
+	RBLNR	86.	13.25	12.	3.	1.	4.23
	HYDROGRAPH AT						
+	BLNR	218.	12.50	67.	22.	7.	.60
	DIVERSION TO						
+	XBLNR	69.	12.00	14.	5.	2.	.60
	HYDROGRAPH AT						
+	ERBLNR	218.	12.50	63.	18.	6.	.60
	3 COMBINED AT						
+	CNR08	904.	13.17	479.	162.	61.	17.63
	HYDROGRAPH AT						
+	RG93	63.	12.58	20.	6.	2.	.25
	DIVERSION TO						
+	XRG93	63.	12.58	20.	6.	2.	.25
	HYDROGRAPH AT						
+	ERRG93	0.	.00	0.	0.	0.	.25
	DIVERSION TO						
+	DWRGLP	0.	.00	0.	0.	0.	.25
	HYDROGRAPH AT						
+	DSBY91	0.	.00	0.	0.	0.	.25
	ROUTED TO						
+	RBY91	0.	.00	0.	0.	0.	.25
	HYDROGRAPH AT						
+	BY91	195.	12.42	39.	12.	4.	.50
	DIVERSION TO						
+	XBY91	195.	12.42	39.	12.	4.	.50
	HYDROGRAPH AT						
+	ERBY91	0.	.00	0.	0.	0.	.50
	2 COMBINED AT						
+	CBY91	0.	.00	0.	0.	0.	.63
	ROUTED TO						
+	RUH91	0.	.00	0.	0.	0.	.63
	HYDROGRAPH AT						
+	UH91	195.	12.75	72.	22.	8.	.93
	DIVERSION TO						

+	XUH91	9.	9.83	6.	2.	1.	.93
	HYDROGRAPH AT						
+	ERUH91	195.	12.75	72.	21.	7.	.93
	2 COMBINED AT						
+	CUH91	194.	12.75	71.	20.	7.	1.55
	HYDROGRAPH AT						
+	DRBL91	220.	13.08	45.	12.	4.	4.23
	DIVERSION TO						
+	DPUH91	220.	13.08	45.	12.	4.	4.23
	HYDROGRAPH AT						
+	DUH91	0.	.00	0.	0.	0.	4.23
	2 COMBINED AT						
+	CIUH91	194.	12.75	71.	20.	7.	4.04
	ROUTED TO						
+	RBL91	180.	13.17	71.	20.	7.	4.04
	HYDROGRAPH AT						
+	BL91	424.	12.50	115.	37.	12.	.90
	DIVERSION TO						
+	XBL91	424.	12.50	115.	37.	12.	.90
	HYDROGRAPH AT						
+	ERBL91	0.	.00	0.	0.	0.	.90
	2 COMBINED AT						
+	CBL91	180.	13.17	71.	20.	7.	4.94
	HYDROGRAPH AT						
+	PRUH91	220.	13.08	45.	12.	4.	4.23
	ROUTED TO						
+	RP91AT	218.	13.08	45.	12.	4.	4.23
	ROUTED TO						
+	SRAT91	128.	13.67	45.	12.	4.	4.23
	ROUTED TO						
+	RP91BL	128.	13.75	45.	12.	4.	4.23
	2 COMBINED AT						
+	CPBL91	291.	13.42	115.	32.	11.	4.94
	DIVERSION TO						
+	DSGW91	169.	13.42	67.	19.	6.	4.94
	HYDROGRAPH AT						
+	DSGWNR	122.	13.42	48.	14.	5.	4.94
	DIVERSION TO						
+	DBLNR	0.	.00	0.	0.	0.	4.94
	HYDROGRAPH AT						
+	DPBLNR	122.	13.42	48.	14.	5.	4.94
	ROUTED TO						
+	RPBLNR	122.	13.42	48.	14.	5.	4.94
	2 COMBINED AT						
+	CPNR08	1016.	13.17	526.	175.	66.	17.63
	HYDROGRAPH AT						
+	DRBLNR	0.	.00	0.	0.	0.	4.94
	ROUTED TO						
+	RGWNRB	0.	.00	0.	0.	0.	4.94
	HYDROGRAPH AT						
+	DRGW91	169.	13.42	67.	19.	6.	4.94
	ROUTED TO						
+	RGW91	167.	13.67	66.	19.	6.	4.94
	HYDROGRAPH AT						
+	GW91	190.	12.42	50.	16.	5.	.48
	DIVERSION TO						
+	XGW91	190.	12.42	40.	11.	4.	.48
	HYDROGRAPH AT						
+	ERGW91	73.	13.50	17.	5.	2.	.48
	2 COMBINED AT						
+	CGW91	235.	13.50	82.	24.	8.	3.35
	DIVERSION TO						

+		DSTBNR	0.	.00	0.	0.	0.	3.35
+	HYDROGRAPH AT	DEGWNR	235.	13.50	82.	24.	8.	3.35
+	ROUTED TO	RGWNRA	227.	13.83	82.	24.	8.	3.35
+	HYDROGRAPH AT	GWNR	183.	12.58	63.	20.	7.	.70
+	DIVERSION TO	XGWNR	183.	12.58	48.	13.	4.	.70
+	HYDROGRAPH AT	ERGWNR	82.	13.92	22.	7.	2.	.70
+	5 COMBINED AT	CNR09	3739.	13.25	2193.	705.	245.	59.13
+	HYDROGRAPH AT	DRTBNR	0.	.00	0.	0.	0.	3.35
+	ROUTED TO	RTBNR	0.	.00	0.	0.	0.	3.35
+	HYDROGRAPH AT	TBNR	321.	12.58	95.	30.	10.	1.12
+	DIVERSION TO	XTBNR	215.	12.42	26.	8.	3.	1.12
+	HYDROGRAPH AT	ERTBNR	321.	12.58	81.	22.	7.	1.12
+	3 COMBINED AT	CNR10	3936.	13.17	2250.	721.	250.	61.93
+	HYDROGRAPH AT	HV93	80.	12.25	13.	4.	1.	.17
+	DIVERSION TO	DWHVLP	34.	12.25	6.	2.	1.	.17
+	HYDROGRAPH AT	DSPPLP	46.	12.25	8.	2.	1.	.17
+	ROUTED TO	RPPLPA	33.	12.75	8.	2.	1.	.17
+	HYDROGRAPH AT	DRPP91	0.	.00	0.	0.	0.	.16
+	ROUTED TO	RPPLPB	0.	.00	0.	0.	0.	.16
+	HYDROGRAPH AT	PPLP	234.	12.58	78.	25.	8.	.88
+	DIVERSION TO	XPPLP	234.	12.58	77.	23.	8.	.88
+	HYDROGRAPH AT	ERPPLP	10.	18.17	7.	2.	1.	.88
+	3 COMBINED AT	CPPLP	33.	12.75	10.	5.	2.	1.15
+	DIVERSION TO	DWPP03	32.	12.75	9.	5.	2.	1.15
+	HYDROGRAPH AT	DSDV99	0.	.00	0.	0.	0.	1.15
+	DIVERSION TO	DSDVLP	0.	.00	0.	0.	0.	1.15
+	HYDROGRAPH AT	DDV99	0.	.00	0.	0.	0.	1.15
+	HYDROGRAPH AT	DV99	390.	12.50	83.	25.	8.	1.22
+	DIVERSION TO	XDV99	390.	12.50	83.	25.	8.	1.22
+	HYDROGRAPH AT	ERDV99	0.	.00	0.	0.	0.	1.22
+	2 COMBINED AT	CDV99	0.	.00	0.	0.	0.	1.22
	ROUTED TO							

+		RRGLPA	0.	.00	0.	0.	0.	1.22
+	HYDROGRAPH AT	DRRGLP	0.	.00	0.	0.	0.	.25
+	ROUTED TO	RRGLPB	0.	.00	0.	0.	0.	.25
+	HYDROGRAPH AT	RGLP	116.	12.58	39.	13.	4.	.41
+	DIVERSION TO	XRGLP	116.	12.58	39.	13.	4.	.41
+	HYDROGRAPH AT	ERRGLP	0.	.00	0.	0.	0.	.41
+	3 COMBINED AT	CRGLP	0.	.00	0.	0.	0.	1.75
+	DIVERSION TO	DWRG07	0.	.00	0.	0.	0.	1.75
+	HYDROGRAPH AT	DSBY07	0.	.00	0.	0.	0.	1.75
+	ROUTED TO	RBY99	0.	.00	0.	0.	0.	1.75
+	HYDROGRAPH AT	BY07	206.	12.42	50.	16.	5.	.51
+	DIVERSION TO	XBY07	206.	12.42	50.	16.	5.	.51
+	HYDROGRAPH AT	ERBY07	0.	.00	0.	0.	0.	.51
+	2 COMBINED AT	CBY07	0.	.00	0.	0.	0.	1.39
+	DIVERSION TO	DWBYAF	0.	.00	0.	0.	0.	1.39
+	HYDROGRAPH AT	DSUH99	0.	.00	0.	0.	0.	1.39
+	ROUTED TO	RUH99	0.	.00	0.	0.	0.	1.39
+	HYDROGRAPH AT	UH99	161.	12.75	61.	19.	6.	.56
+	2 COMBINED AT	CUH99	161.	12.75	60.	19.	6.	1.26
+	ROUTED TO	RDW99A	160.	12.83	60.	19.	6.	1.26
+	HYDROGRAPH AT	UH97	61.	12.67	23.	7.	2.	.27
+	ROUTED TO	RDW99B	60.	12.92	23.	7.	2.	.27
+	HYDROGRAPH AT	DW99	55.	12.50	17.	5.	2.	.16
+	3 COMBINED AT	CDW99	267.	12.75	99.	31.	10.	1.68
+	DIVERSION TO	DWDW07	267.	12.75	99.	31.	10.	1.68
+	HYDROGRAPH AT	DSBL99	0.	.00	0.	0.	0.	1.68
+	ROUTED TO	RBL99	0.	.00	0.	0.	0.	1.68
+	HYDROGRAPH AT	BL99	382.	12.58	115.	36.	12.	1.13
+	2 COMBINED AT	CBL99	380.	12.58	115.	36.	12.	1.98
+	ROUTED TO	RBN99	374.	12.67	115.	36.	12.	1.98
+	HYDROGRAPH AT	BN99	345.	12.58	99.	31.	10.	1.04
	2 COMBINED AT							

+		CBN99	709.	12.67	213.	66.	22.	3.01
+	ROUTED TO	RTB99	701.	12.83	213.	66.	22.	3.01
+	HYDROGRAPH AT	TB99	266.	12.67	87.	27.	9.	.98
+	2 COMBINED AT	CTB99	958.	12.75	299.	93.	31.	3.99
+	ROUTED TO	RGRNRA	935.	12.92	299.	93.	31.	3.99
+	HYDROGRAPH AT	DRDW07	267.	12.75	99.	31.	10.	1.68
+	ROUTED TO	RDW07	261.	13.00	99.	31.	10.	1.68
+	HYDROGRAPH AT	DW07	123.	12.67	45.	14.	5.	.48
+	2 COMBINED AT	CDW07	376.	13.00	143.	44.	15.	1.33
+	DIVERSION TO	DWBL15	376.	13.00	143.	44.	15.	1.33
+	HYDROGRAPH AT	DSTL07	0.	.00	0.	0.	0.	1.33
+	ROUTED TO	RTL07	0.	.00	0.	0.	0.	1.33
+	HYDROGRAPH AT	TL07	129.	12.67	45.	14.	5.	.58
+	2 COMBINED AT	CTL07	128.	12.67	45.	14.	5.	1.24
+	ROUTED TO	RGR99A	118.	13.33	45.	14.	5.	1.24
+	HYDROGRAPH AT	RO99	91.	12.75	39.	13.	4.	.41
+	ROUTED TO	RGR99B	91.	12.83	39.	13.	4.	.41
+	HYDROGRAPH AT	GR99	379.	12.75	144.	46.	15.	1.31
+	3 COMBINED AT	CGR99	542.	13.00	226.	72.	24.	2.97
+	ROUTED TO	RGRNRB	541.	13.08	226.	72.	24.	2.97
+	HYDROGRAPH AT	GRNR	410.	12.42	103.	34.	11.	.95
+	DIVERSION TO	XGRNR	252.	12.17	30.	9.	3.	.95
+	HYDROGRAPH AT	ERGRNR	410.	12.42	88.	24.	8.	.95
+	4 COMBINED AT	CNR11	5328.	13.08	2750.	877.	303.	69.83
+	HYDROGRAPH AT	PE99	48.	12.92	24.	8.	3.	.29
+	DIVERSION TO	DSOL99	14.	12.92	7.	2.	1.	.29
+	HYDROGRAPH AT	DEPE97	34.	12.92	17.	6.	2.	.29
+	ROUTED TO	RPE97	33.	13.33	17.	6.	2.	.29
+	HYDROGRAPH AT	PENR	77.	12.50	26.	9.	3.	.20
+	DIVERSION TO	XPENR	77.	12.50	12.	3.	1.	.20
+	HYDROGRAPH AT	ERPENR	74.	12.75	19.	6.	2.	.20
	DIVERSION TO							

+		DSOLNR	32.	12.75	8.	2.	1.	.20
+	HYDROGRAPH AT	DWPE99	41.	12.75	11.	3.	1.	.20
+	HYDROGRAPH AT	PE97	132.	12.67	46.	14.	5.	.56
+	DIVERSION TO	XPE97	3.	4.67	2.	0.	0.	.56
+	HYDROGRAPH AT	ERPE97	132.	12.67	46.	14.	5.	.56
+	4 COMBINED AT	CNR12	5477.	13.08	2809.	896.	309.	70.71
+	HYDROGRAPH AT	DROL99	14.	12.92	7.	2.	1.	.29
+	ROUTED TO	ROL99A	14.	13.92	7.	2.	1.	.29
+	HYDROGRAPH AT	PE11	221.	12.75	82.	26.	9.	.92
+	ROUTED TO	ROL03A	214.	13.00	82.	26.	9.	.92
+	HYDROGRAPH AT	PE07	108.	12.75	43.	13.	4.	.57
+	ROUTED TO	ROL03B	104.	13.25	42.	13.	4.	.57
+	HYDROGRAPH AT	PE03	82.	12.75	32.	10.	3.	.41
+	ROUTED TO	ROL03C	80.	13.17	32.	10.	3.	.41
+	HYDROGRAPH AT	OL03	294.	12.67	98.	31.	10.	1.10
+	4 COMBINED AT	COL03	649.	13.00	251.	79.	27.	3.01
+	ROUTED TO	ROL99B	649.	13.00	251.	79.	27.	3.01
+	HYDROGRAPH AT	DROLNR	32.	12.75	8.	2.	1.	.20
+	ROUTED TO	ROLNR	23.	13.83	8.	2.	1.	.20
+	HYDROGRAPH AT	OLNR	195.	12.75	75.	24.	8.	.70
+	DIVERSION TO	XOLNR	195.	12.75	58.	16.	5.	.70
+	HYDROGRAPH AT	EROLNR	92.	14.17	26.	8.	3.	.70
+	2 COMBINED AT	COLNR	111.	14.17	34.	10.	3.	.78
+	DIVERSION TO	DSNONR	37.	14.17	11.	3.	1.	.78
+	HYDROGRAPH AT	DWOL99	74.	14.17	23.	7.	2.	.78
+	HYDROGRAPH AT	OL99	88.	12.67	33.	11.	4.	.44
+	5 COMBINED AT	CNR13	6071.	13.08	3056.	976.	336.	74.76
+	HYDROGRAPH AT	DRNONR	37.	14.17	11.	3.	1.	.78
+	ROUTED TO	RNONR	26.	15.25	11.	3.	1.	.78
+	HYDROGRAPH AT	NONR	249.	12.75	96.	30.	10.	.83
+	DIVERSION TO	XNONR	249.	12.75	88.	24.	8.	.83
	HYDROGRAPH AT							

+		ERNONR	56.	15.25	19.	6.	2.	.83
+	2 COMBINED AT	CNONR	82.	15.25	30.	9.	3.	1.09
+	HYDROGRAPH AT	NO99	190.	12.67	66.	21.	7.	.86
+	DIVERSION TO	XNO99	190.	12.67	48.	13.	4.	.86
+	HYDROGRAPH AT	ERNO99	99.	13.83	25.	7.	2.	.86
+	3 COMBINED AT	CNR14	6066.	13.08	3072.	984.	339.	76.71
+	HYDROGRAPH AT	GL03	253.	12.50	84.	29.	10.	.65
+	DIVERSION TO	XGL03	253.	12.50	83.	25.	8.	.65
+	HYDROGRAPH AT	ERGL03	17.	16.83	11.	4.	1.	.65
+	2 COMBINED AT	CNR15	6066.	13.08	3072.	985.	339.	77.36
+	HYDROGRAPH AT	GLGH	48.	12.33	13.	5.	2.	.08
+	ROUTED TO	RGHNR	42.	12.92	13.	5.	2.	.08
+	HYDROGRAPH AT	GHNR	236.	12.58	83.	28.	9.	.84
+	DIVERSION TO	XGHNR	168.	12.33	24.	7.	2.	.84
+	HYDROGRAPH AT	ERGHNR	236.	12.58	72.	20.	7.	.84
+	3 COMBINED AT	CNR16	6254.	13.08	3131.	1002.	345.	78.28
+	HYDROGRAPH AT	AF11	277.	12.25	53.	19.	6.	.38
+	HYDROGRAPH AT	GHAF	309.	12.33	79.	27.	9.	.56
+	DIVERSION TO	XGHAF	309.	12.33	79.	24.	8.	.56
+	HYDROGRAPH AT	ERGHAF	13.	17.75	9.	3.	1.	.56
+	3 COMBINED AT	CAF06	6301.	13.08	3169.	1017.	350.	79.22
+	HYDROGRAPH AT	JMAF	56.	12.33	12.	4.	1.	.15
+	DIVERSION TO	XJMAF	56.	12.33	11.	3.	1.	.15
+	HYDROGRAPH AT	ERJMAF	6.	14.17	2.	1.	0.	.15
+	HYDROGRAPH AT	HV07	169.	12.25	25.	8.	3.	.30
+	DIVERSION TO	XHV07	169.	12.25	24.	7.	2.	.30
+	HYDROGRAPH AT	ERHV07	6.	14.33	3.	1.	0.	.30
+	ROUTED TO	RHVAF	5.	14.92	3.	1.	0.	.30
+	HYDROGRAPH AT	HVAF	110.	12.25	18.	6.	2.	.22
+	DIVERSION TO	XHVAF	110.	12.25	18.	6.	2.	.22
+	HYDROGRAPH AT	ERHVAF	0.	.00	0.	0.	0.	.22
	HYDROGRAPH AT							

+		JM99	322.	12.42	71.	21.	7.	.57
+	DIVERSION TO	XJM99	322.	12.42	71.	21.	7.	.57
+	HYDROGRAPH AT	ERJM99	1.	20.25	1.	0.	0.	.57
+	HYDROGRAPH AT	WWLP	152.	12.08	16.	5.	2.	.14
+	DIVERSION TO	XWWLP	152.	12.08	16.	5.	2.	.14
+	HYDROGRAPH AT	ERWWLP	0.	20.33	0.	0.	0.	.14
+	ROUTED TO	RJMLP	0.	22.92	0.	0.	0.	.14
+	HYDROGRAPH AT	JMLP	313.	12.42	69.	22.	7.	.70
+	DIVERSION TO	XJMLP	313.	12.42	69.	22.	7.	.70
+	HYDROGRAPH AT	ERJMLP	0.	.00	0.	0.	0.	.70
+	3 COMBINED AT	CJMLP	1.	22.67	1.	0.	0.	1.41
+	ROUTED TO	RHV01A	1.	23.33	1.	0.	0.	1.41
+	HYDROGRAPH AT	YLLP	200.	12.42	50.	16.	5.	.60
+	DIVERSION TO	XYLLP	200.	12.42	24.	7.	2.	.60
+	HYDROGRAPH AT	ERYLLP	176.	12.67	32.	9.	3.	.60
+	ROUTED TO	RHV01B	156.	12.83	32.	9.	3.	.60
+	HYDROGRAPH AT	DRHVLP	34.	12.25	6.	2.	1.	.17
+	ROUTED TO	RHVLP	29.	12.42	6.	2.	1.	.17
+	HYDROGRAPH AT	HVLP	74.	12.33	21.	7.	2.	.20
+	DIVERSION TO	XHVLP	74.	12.33	16.	5.	2.	.20
+	HYDROGRAPH AT	ERHVLP	28.	13.50	7.	2.	1.	.20
+	2 COMBINED AT	CHVLP	34.	13.50	12.	4.	1.	.27
+	ROUTED TO	RHV01C	33.	13.58	12.	4.	1.	.27
+	HYDROGRAPH AT	HV01	224.	12.33	51.	17.	6.	.44
+	DIVERSION TO	XHV01	224.	12.33	51.	15.	5.	.44
+	HYDROGRAPH AT	ERHV01	9.	16.17	6.	2.	1.	.44
+	4 COMBINED AT	CHV01	174.	12.83	46.	15.	5.	2.72
+	ROUTED TO	RCL07	133.	13.08	45.	15.	5.	2.72
+	ROUTED TO	RCLAFA	130.	13.17	45.	15.	5.	2.72
+	HYDROGRAPH AT	CL07	144.	12.50	41.	13.	4.	.52
+	DIVERSION TO	XCL07	144.	12.50	41.	13.	4.	.52
	HYDROGRAPH AT							

+		ERCL07	0.	.00	0.	0.	0.	.52
+	DIVERSION TO	DSPP03	0.	.00	0.	0.	0.	.52
+	HYDROGRAPH AT	DWCLAF	0.	.00	0.	0.	0.	.52
+	ROUTED TO	RCLAFB	0.	.00	0.	0.	0.	.52
+	HYDROGRAPH AT	CLAF	85.	12.42	21.	7.	2.	.29
+	DIVERSION TO	XCLAF	85.	12.42	19.	5.	2.	.29
+	HYDROGRAPH AT	ERCLAF	14.	14.17	4.	1.	0.	.29
+	3 COMBINED AT	CCLAF	130.	13.17	48.	16.	5.	3.47
+	4 COMBINED AT	CAF01	129.	13.17	52.	18.	6.	4.13
+	HYDROGRAPH AT	DR03PP	32.	12.75	9.	5.	2.	1.15
+	ROUTED TO	RPP03B	27.	13.00	9.	5.	2.	1.15
+	HYDROGRAPH AT	DRPP03	0.	.00	0.	0.	0.	.52
+	ROUTED TO	RPP03A	0.	.00	0.	0.	0.	.52
+	HYDROGRAPH AT	PP03	50.	12.75	19.	6.	2.	.32
+	DIVERSION TO	XPP03	50.	12.67	6.	2.	1.	.32
+	HYDROGRAPH AT	ERPP03	49.	12.92	15.	4.	1.	.32
+	3 COMBINED AT	CPP03	75.	12.92	23.	9.	3.	1.53
+	DIVERSION TO	DSDV07	0.	.00	0.	0.	0.	1.53
+	HYDROGRAPH AT	DWPP07	75.	12.92	23.	9.	3.	1.53
+	ROUTED TO	RPP07	72.	13.25	23.	9.	3.	1.53
+	HYDROGRAPH AT	PP07	56.	12.42	12.	4.	1.	.19
+	DIVERSION TO	XPP07	56.	12.42	7.	2.	1.	.19
+	HYDROGRAPH AT	ERPP07	37.	12.92	6.	2.	1.	.19
+	2 COMBINED AT	CPP07	97.	13.17	28.	10.	3.	1.73
+	ROUTED TO	RPPAF	95.	13.25	28.	10.	3.	1.73
+	HYDROGRAPH AT	PPAF	235.	12.17	39.	14.	5.	.27
+	2 COMBINED AT	CPPAF	235.	12.17	64.	23.	8.	2.00
+	HYDROGRAPH AT	DVAF	131.	12.42	27.	7.	3.	.41
+	DIVERSION TO	XDVAF	131.	12.42	22.	6.	2.	.41
+	HYDROGRAPH AT	ERDVAF	41.	13.42	6.	2.	1.	.41
+	2 COMBINED AT	CAF02	235.	12.17	70.	25.	8.	2.41
	HYDROGRAPH AT							

+		DRDV07	0.	.00	0.	0.	0.	1.53
+	ROUTED TO	RDV07	0.	.00	0.	0.	0.	1.53
+	HYDROGRAPH AT	DV07	177.	12.50	51.	16.	5.	.64
+	DIVERSION TO	XDV07	177.	12.50	51.	16.	5.	.64
+	HYDROGRAPH AT	ERDV07	0.	.00	0.	0.	0.	.64
+	2 COMBINED AT	CDV07	0.	.00	0.	0.	0.	.65
+	ROUTED TO	RRG07A	0.	.00	0.	0.	0.	.65
+	HYDROGRAPH AT	DRRG07	0.	.00	0.	0.	0.	1.75
+	ROUTED TO	RRG07C	0.	.00	0.	0.	0.	1.75
+	HYDROGRAPH AT	DRDVLP	0.	.00	0.	0.	0.	1.15
+	ROUTED TO	RDVLP	0.	.00	0.	0.	0.	1.15
+	HYDROGRAPH AT	DVLP	29.	12.67	12.	4.	1.	.14
+	DIVERSION TO	XDVLP	29.	12.67	12.	4.	1.	.14
+	HYDROGRAPH AT	ERDVLP	0.	.00	0.	0.	0.	.14
+	2 COMBINED AT	CDVLP	0.	.00	0.	0.	0.	.14
+	ROUTED TO	RRG07B	0.	.00	0.	0.	0.	.14
+	HYDROGRAPH AT	RG07	84.	12.67	31.	10.	3.	.35
+	DIVERSION TO	XRG07	84.	12.67	31.	10.	3.	.35
+	HYDROGRAPH AT	ERRG07	0.	.00	0.	0.	0.	.35
+	4 COMBINED AT	CRG07	0.	.00	0.	0.	0.	2.01
+	ROUTED TO	RRGAF	0.	.00	0.	0.	0.	2.01
+	HYDROGRAPH AT	RGAF	68.	12.67	24.	7.	2.	.33
+	DIVERSION TO	XRGAF	68.	12.67	20.	5.	2.	.33
+	HYDROGRAPH AT	ERRGAF	18.	14.75	5.	1.	0.	.33
+	2 COMBINED AT	CRGAF	18.	14.75	5.	1.	0.	2.34
+	HYDROGRAPH AT	DRBYAF	0.	.00	0.	0.	0.	1.39
+	ROUTED TO	RBY07	0.	.00	0.	0.	0.	1.39
+	ROUTED TO	RBYAF	0.	.00	0.	0.	0.	1.39
+	HYDROGRAPH AT	BYAF	158.	12.58	52.	16.	5.	.61
+	DIVERSION TO	XBYAF	158.	12.58	48.	13.	4.	.61
+	HYDROGRAPH AT	ERBYAF	28.	15.00	10.	3.	1.	.61
	2 COMBINED AT							

+	CBYAF	28.	15.00	9.	3.	1.	1.30
+ HYDROGRAPH AT	UHAF	62.	12.75	24.	7.	2.	.49
+ DIVERSION TO	XUHAF	62.	12.75	24.	7.	2.	.49
+ HYDROGRAPH AT	ERUHAF	0.	.00	0.	0.	0.	.49
+ 3 COMBINED AT	CAF03	42.	15.00	14.	4.	1.	4.13
+ HYDROGRAPH AT	UH07	38.	12.83	17.	5.	2.	.25
+ ROUTED TO	RUH11	38.	13.08	17.	5.	2.	.25
+ ROUTED TO	RUH15	37.	13.17	17.	5.	2.	.25
+ HYDROGRAPH AT	UH15	420.	12.50	114.	37.	12.	1.02
+ DIVERSION TO	XUH15	420.	12.50	112.	32.	11.	1.02
+ HYDROGRAPH AT	ERUH15	20.	16.08	13.	5.	2.	1.02
+ 2 COMBINED AT	CUH15	37.	13.17	25.	10.	3.	1.27
+ ROUTED TO	RBL15B	34.	14.00	24.	10.	3.	1.27
+ HYDROGRAPH AT	DRBL15	376.	13.00	143.	44.	15.	1.33
+ ROUTED TO	RBL15A	374.	13.08	143.	44.	15.	1.33
+ HYDROGRAPH AT	BL15	268.	12.58	76.	24.	8.	.96
+ DIVERSION TO	XBL15	268.	12.58	68.	19.	6.	.96
+ HYDROGRAPH AT	ERBL15	61.	14.25	16.	5.	2.	.96
+ 3 COMBINED AT	CBL15	379.	13.08	176.	59.	20.	2.90
+ ROUTED TO	RMEAF	376.	13.25	175.	59.	20.	2.90
+ HYDROGRAPH AT	MEAF	456.	12.50	121.	38.	13.	1.37
+ DIVERSION TO	XMEAF	456.	12.50	70.	20.	7.	1.37
+ HYDROGRAPH AT	ERMEAF	364.	12.92	66.	19.	6.	1.37
+ 2 COMBINED AT	CMEAF	673.	13.00	238.	77.	26.	4.27
+ HYDROGRAPH AT	BLAF	37.	12.83	17.	5.	2.	.28
+ DIVERSION TO	XBLAF	37.	12.83	17.	5.	2.	.28
+ HYDROGRAPH AT	ERBLAF	0.	.00	0.	0.	0.	.28
+ HYDROGRAPH AT	GRAF	244.	12.75	93.	29.	10.	.86
+ DIVERSION TO	XGRAF	19.	11.33	10.	4.	1.	.86
+ HYDROGRAPH AT	ERGRAF	244.	12.75	92.	26.	9.	.86
+ HYDROGRAPH AT	PEAF	258.	12.33	55.	18.	6.	.53
4 COMBINED AT							

+	CAF04	1034.	12.92	377.	120.	40.	5.94
+ HYDROGRAPH AT	OL11	88.	12.50	23.	7.	2.	.34
+ DIVERSION TO	XOL11	43.	12.17	5.	1.	0.	.34
+ HYDROGRAPH AT	EROL11	88.	12.50	20.	6.	2.	.34
+ ROUTED TO	RNO11	82.	12.83	20.	6.	2.	.34
+ HYDROGRAPH AT	NO11	405.	12.33	93.	31.	10.	.86
+ DIVERSION TO	XNO11	370.	12.25	39.	12.	4.	.86
+ HYDROGRAPH AT	ERNO11	404.	12.42	68.	19.	6.	.86
+ 2 COMBINED AT	CNO11	415.	12.50	88.	25.	8.	1.20
+ ROUTED TO	RGL14A	309.	13.42	83.	25.	8.	1.20
+ HYDROGRAPH AT	NO07	83.	12.58	27.	8.	3.	.34
+ DIVERSION TO	XNO07	83.	12.58	20.	5.	2.	.34
+ HYDROGRAPH AT	ERNO07	42.	13.67	10.	3.	1.	.34
+ ROUTED TO	RGL11	30.	14.33	10.	3.	1.	.34
+ HYDROGRAPH AT	GL11	164.	12.50	51.	17.	6.	.43
+ DIVERSION TO	XGL11	164.	12.50	51.	17.	6.	.43
+ HYDROGRAPH AT	ERGL11	0.	.00	0.	0.	0.	.43
+ 2 COMBINED AT	CGL11	30.	14.33	10.	3.	1.	.77
+ ROUTED TO	RGL14B	23.	15.08	9.	3.	1.	.77
+ HYDROGRAPH AT	GL14	255.	12.33	69.	24.	8.	.48
+ 3 COMBINED AT	CGL14	400.	13.33	151.	51.	17.	2.45
+ ROUTED TO	RGLAF	381.	13.58	151.	50.	17.	2.45
+ HYDROGRAPH AT	GLAF	158.	12.50	54.	19.	6.	.39
+ DIVERSION TO	XGLAF	21.	11.25	11.	4.	1.	.39
+ HYDROGRAPH AT	ERGLAF	158.	12.50	53.	15.	5.	.39
+ 2 COMBINED AT	CGLAF	457.	13.58	203.	66.	22.	2.83
+ HYDROGRAPH AT	OLAF	200.	12.67	71.	23.	8.	1.03
+ DIVERSION TO	XOLAF	200.	12.67	69.	19.	6.	1.03
+ HYDROGRAPH AT	EROLAF	25.	15.83	10.	3.	1.	1.03
+ HYDROGRAPH AT	NOAF	63.	12.75	18.	6.	2.	.28
+ 3 COMBINED AT	CAF05	487.	13.50	225.	74.	25.	4.15

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SUMMARY OF KINEMATIC WAVE - MUSKINGUM-CUNGE ROUTING

(FLOW IS DIRECT RUNOFF WITHOUT BASE FLOW)

ISTAQ	ELEMENT	DT	PEAK	TIME TO PEAK	VOLUME	DT	INTERPOLATED TO COMPUTATION INTERVAL PEAK	TIME TO PEAK	VOLUME
		(MIN)	(CFS)	(MIN)	(IN)	(MIN)	(CFS)	(MIN)	(IN)
FOR STORM = 1 STORM AREA (SQ MI) =				.00					
RP35GW	MANE	2.66	158.00	847.13	.62	5.00	158.00	740.00	.62

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5658E+02 EXCESS= .0000E+00 OUTFLOW= .5660E+02 BASIN STORAGE= .2916E-09 PERCENT ERROR= .0

FOR STORM = 2 STORM AREA (SQ MI) =				10.00					
RP35GW	MANE	2.73	158.00	735.52	.60	5.00	158.00	740.00	.60

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5447E+02 EXCESS= .0000E+00 OUTFLOW= .5450E+02 BASIN STORAGE= .2527E-09 PERCENT ERROR= .0

FOR STORM = 3 STORM AREA (SQ MI) =				30.00					
RP35GW	MANE	2.76	158.00	741.26	.58	5.00	158.00	745.00	.58

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5226E+02 EXCESS= .0000E+00 OUTFLOW= .5229E+02 BASIN STORAGE= .2953E-09 PERCENT ERROR= .0

FOR STORM = 4 STORM AREA (SQ MI) =				60.00					
RP35GW	MANE	2.73	158.00	742.79	.56	5.00	158.00	745.00	.56

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5089E+02 EXCESS= .0000E+00 OUTFLOW= .5090E+02 BASIN STORAGE= .3181E-09 PERCENT ERROR= .0

FOR STORM = 5 STORM AREA (SQ MI) =				90.00					
RP35GW	MANE	2.73	158.00	740.74	.55	5.00	158.00	745.00	.55

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5008E+02 EXCESS= .0000E+00 OUTFLOW= .5011E+02 BASIN STORAGE= .3169E-09 PERCENT ERROR= -.1

FOR STORM = 6 STORM AREA (SQ MI) =				120.00					
RP35GW	MANE	2.73	158.00	741.15	.55	5.00	158.00	745.00	.55

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4955E+02 EXCESS= .0000E+00 OUTFLOW= .4956E+02 BASIN STORAGE= .2642E-09 PERCENT ERROR= .0

FOR STORM = 1 STORM AREA (SQ MI) =				.00					
RP35TB	MANE	2.37	318.00	741.56	1.43	5.00	318.00	745.00	1.43

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1207E+03 EXCESS= .0000E+00 OUTFLOW= .1207E+03 BASIN STORAGE= .1140E-08 PERCENT ERROR= .0

FOR STORM = 2 STORM AREA (SQ MI) =				10.00					
RP35TB	MANE	2.39	318.00	739.88	1.38	5.00	318.00	740.00	1.38

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1164E+03 EXCESS= .0000E+00 OUTFLOW= .1165E+03 BASIN STORAGE= .1186E-08 PERCENT ERROR= .0

FOR STORM = 3 STORM AREA (SQ MI) =				30.00					
RP35TB	MANE	2.25	318.00	744.54	1.33	5.00	318.00	745.00	1.33

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1119E+03 EXCESS= .0000E+00 OUTFLOW= .1119E+03 BASIN STORAGE= .9573E-09 PERCENT ERROR= .0

FOR STORM = 4 STORM AREA (SQ MI) =				60.00					
RP35TB	MANE	2.33	318.00	746.33	1.29	5.00	318.00	750.00	1.29

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1091E+03 EXCESS= .0000E+00 OUTFLOW= .1091E+03 BASIN STORAGE= .1369E-08 PERCENT ERROR= .0

FOR STORM = 5 STORM AREA (SQ MI) =				90.00					
RP35TB	MANE	2.30	318.00	745.61	1.27	5.00	318.00	750.00	1.27

*** The remainder of the continuity summary has been deleted for brevity, but the entire output is included on the CD ***

*** NORMAL END OF HEC-1 ***