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NEW RIVER WATERSHED

Volume 1.2

Arizona Canal Diversion Channel
Area Drainage Master Study
ACDC/ADMS Phase I

HEC-1 TECHNICAL APPENDIX
EXISTING

May, 1995

New River
Above Conf. w/
Skunk Creek

Prepared For:

Flood Control District Of Maricopa County
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NEW RIVER WATERSHED

HEC-1 TECHNICAL APPENDIX

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SECTION I

HEC-1 Hydrology Results, 2-Year 6-Hour Storm (Existing Conditions)

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****************************************
*                                      *
*   FLOOD HYDROGRAPH PACKAGE  (HEC-1)  *
*             MAY   1991               *
*           VERSION 4.0.1E             *
*                                      *
*  RUN DATE  01/25/95  TIME  13:34:18  *
*                                      *
****************************************
```

```
****************************************
*                                      *
*   U.S. ARMY CORPS OF ENGINEERS       *
*   HYDROLOGIC ENGINEERING CENTER      *
*         609 SECOND STREET            *
*      DAVIS, CALIFORNIA 95616         *
*          (916) 551-1748              *
*                                      *
****************************************
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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

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

  1           ID    ACDC AREA DRAINAGE MASTER STUDY
  2           ID    FILENAME:  NR16.DAT          KHE JOB NO. 0146
  3           ID    WATERSHED CONTRIBUTING TO NEW RIVER UP TO ITS CONFLUENCE WITH
  4           ID    SKUNK CREEK
  5           ID
  6           ID    2-YEAR 6-HOUR DURATION STORM FOR EXISTING CONDITIONS
  7           ID
              *
              *        CREATED:  JANUARY 19, 1995
              *
              *
              *DIAGRAM
  8           IT       3                    500
  9           IO       5
              *    *    *    *    *    *    *    *    *    *    *    *    *
              *                                                             *
              *          SUBAREA GROUPING CONTRIBUTING TO 91ST AVENUE DRAIN *
              *           SUB-BASINS 500-503, 510-512, 520-522, & 530-535   *
              *              TOTAL CONTRIBUTING AREA = 10.18 SQ. MI.    .   *
              *                                                             *
              *    *    *    *    *    *    *    *    *    *    *    *    *

 10           KK    500S
 11           KM   RUNOFF GENERATED ON SUB-BASIN 500
 12           KM   THE FOLLOWING PARAMETERS WERE PROVIDED FOR THIS BASIN
 13           KM   L= 1.455 mi  S= 50 ft/mi  Kb= 0.078
 14           KM   CLARK UNIT HYDROGRAPH FOR NATURAL WATERSHEDS WAS USED FOR THIS BASIN
 15           KM   6-HOUR RAINFALL, PATTERN NO. 1.00 WAS USED TO FIND TC & R FOR THIS BASIN
 16           KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF .995
 17           BA    .410
 18           IN      15
 19           KM   RAINFALL DEPTH OF 1.20 WAS SPACIALLY REDUCED AS SHOWN BY THE PB RECORD
 20           KM   AN AREAL REDUCTION COEFFICIENT OF .939 WAS USED
 21           PB   1.127
 22           KM   THE FOLLOWING PC RECORD USED A 6-HOUR STORM WITH A PATTERN NO. OF 2.74
 23           PC    .000    .013    .019    .029    .044    .058    .070    .082    .095    .108
 24           PC    .123    .139    .161    .207    .291    .467    .676    .807    .876    .919
 25           PC    .947    .961    .974    .987   1.000
 26           LG    .282    .323   4.080    .419   5.530
 27           UC   1.523   1.324
 28           UA      0       3       5       8      12      20      43      75      90      96
 29           UA    100

 30           KK   RM500
 31           KM   NORMAL DEPTH STORAGE ROUTE FLOW FROM SUB-BASIN 500 THROUGH 501
 32           KM              1) Reach Length = 5446 ft
 33           RS     13    FLOW      -1
 34           RC    .040    .030    .040    5446   .0060
 35           RX      0      25      50      80     120     150     175     200
 36           RY    102     101     100     100     100     100     101     102
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

  37          KK   501S
  38          KM   RUNOFF GENERATED ON SUB-BASIN 501
  39          KM   THE FOLLOWING PARAMETERS WERE PROVIDED FOR THIS BASIN
  40          KM   L= 1.031 mi  S= 32 ft/mi  Kb= 0.087
  41          KM   CLARK UNIT HYDROGRAPH FOR NATURAL WATERSHEDS WAS USED FOR THIS BASIN
  42          KM   6-HOUR RAINFALL, PATTERN NO. 1.03 WAS USED TO FIND TC & R FOR THIS BASIN
  43          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF .993
  44          BA    .524
  45          LG    .350    .350   3.920    .384    .000
  46          UC   1.672    .970
  47          UA      0       3       5       8      12      20      43      75      90      96
  48          UA    100

  49          KK   HC501
  50          KM   COMBINE HYDROGRAPHS FROM SUB-BASIN 501 WITH ROUTED FLOW FROM 500
  51          HC      2

  52          KK   RM501
  53          KM   NORMAL DEPTH STORAGE ROUTE FROM SUB-BASIN 501 THROUGH 502
  54          KM           1) Reach Length = 7666 ft
  55          RS     17    FLOW      -1
  56          RC   .040    .030    .040    7666   .0044
  57          RX      0      25      50      80     120     150     175     200
  58          RY    102     101     100     100     100     100     101     102

  59          KK   502S
  60          KM   RUNOFF GENERATED ON SUB-BASIN 502
  61          KM   THE FOLLOWING PARAMETERS WERE PROVIDED FOR THIS BASIN
  62          KM   L= 1.452 mi  S= 23 ft/mi  Kb= 0.086
  63          KM   CLARK UNIT HYDROGRAPH FOR NATURAL WATERSHEDS WAS USED FOR THIS BASIN
  64          KM   6-HOUR RAINFALL, PATTERN NO. 1.06 WAS USED TO FIND TC & R FOR THIS BASIN
  65          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF .993
  66          BA    .553
  67          LG    .350    .350   3.820    .361    .000
  68          UC   2.536   1.963
  69          UA      0       3       5       8      12      20      43      75      90      96
  70          UA    100

  71          KK   510S
  72          KM   RUNOFF GENERATED ON SUB-BASIN 510
  73          KM   THE FOLLOWING PARAMETERS WERE PROVIDED FOR THIS BASIN
  74          KM   L= 1.577 mi  S= 93 ft/mi  Kb= 0.074
  75          KM   CLARK UNIT HYDROGRAPH FOR NATURAL WATERSHEDS WAS USED FOR THIS BASIN
  76          KM   6-HOUR RAINFALL, PATTERN NO. 1.13 WAS USED TO FIND TC & R FOR THIS BASIN
  77          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF .992
  78          BA    .625
  79          LG    .209    .322   3.980    .396   8.130
  80          UC   1.112    .784
  81          UA      0       3       5       8      12      20      43      75      90      96
  82          UA    100
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 83           KK   RM510
 84           KM   NORMAL DEPTH STORAGE ROUTE FLOW FROM SUB-BASIN 510 THROUGH 511
 85           KM            1) Reach Length = 5415 ft
 86           RS      10    FLOW      -1
 87           RC    .040    .030    .040    5415   .0065
 88           RX       0      25      50      80     120     150     175     200
 89           RY     102     101     100      99      99     100     101     102

 90           KK    511S
 91           KM   RUNOFF GENERATED ON SUB-BASIN 511
 92           KM   THE FOLLOWING PARAMETERS WERE PROVIDED FOR THIS BASIN
 93           KM   L= 1.025 mi  S= 34 ft/mi  Kb= 0.087
 94           KM   CLARK UNIT HYDROGRAPH FOR NATURAL WATERSHEDS WAS USED FOR THIS BASIN
 95           KM   6-HOUR RAINFALL, PATTERN NO. 1.00 WAS USED TO FIND TC & R FOR THIS BASIN
 96           KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF .994
 97           BA    .437
 98           LG    .336    .345   3.770    .350    .820
 99           UC   1.540    .977
100           UA       0       3       5       8      12      20      43      75      90      96
101           UA     100

102           KK   HC511
103           KM   COMBINE HYDROGRAPHS FROM SUB-BASIN 511 WITH ROUTED FLOW FROM 510
104           HC       2

105           KK   RM511
106           KM   NORMAL DEPTH STORAGE ROUTE FLOW FROM SUB-BASIN 511 THROUGH 512
107           KM            1) Reach Length = 5909 ft
108           RS      10    FLOW      -1
109           RC    .040    .030    .040    5909   .0054
110           RX       0      25      50      80     120     150     175     200
111           RY     102     101     100      99      99     100     101     102

112           KK    512S
113           KM   RUNOFF GENERATED ON SUB-BASIN 512
114           KM   THE FOLLOWING PARAMETERS WERE PROVIDED FOR THIS BASIN
115           KM   L= 1.210 mi  S= 26 ft/mi  Kb= 0.088
116           KM   CLARK UNIT HYDROGRAPH FOR NATURAL WATERSHEDS WAS USED FOR THIS BASIN
117           KM   6-HOUR RAINFALL, PATTERN NO. 1.00 WAS USED TO FIND TC & R FOR THIS BASIN
118           KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF .994
119           BA    .469
120           LG    .350    .350   3.610    .315    .000
121           UC   2.000   1.432
122           UA       0       3       5       8      12      20      43      75      90      96
123           UA     100

124           KK  HC512A
125           KM   COMBINE HYDROGRAPHS FROM SUB-BASIN 512 WITH ROUTED FLOW FROM 511
126           HC       2
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 127          KK   502RE
 128          KM   DIVERT 50% WESTERLY ALONG BEARDSLEY RD. TO WESTBROOK VILLAGE WEST INLET
 129          DT    533D
 130          DI       0    1000    2000    3000
 131          DQ       0     500    1000    1500

 132          KK   HC502
 133          KM   COMBINE HYDROGRAPHS FROM SUB-BASIN 502 WITH ROUTED FLOW FROM 501 AND
 134          KM   REMAINING FLOW FROM SUBBASIN NO. 512 AT INLET TO WESTBROOK VILLAGE WEST
 135          HC       3
              *
              *     INFLOW TO WESTBROOK VILLAGE WEST
              *
              *     This section of the model was developed by the FCDMC and was obtained
              *     from a Draft Copy of their June 20, 1994 report, "91st Avenue Drain
              *     Hydrology Update, Flood Control District of Maricopa County, Watershed
              *     Management Branch."
              *

 136          KK   RM502
 137          KM   NORMAL DEPTH STORAGE ROUTE FROM SUB-BASIN 502 THROUGH 503
 138          RS      10    FLOW      -1
 139          RC    .030    .020    .030    5280   .0050
 140          RX       0      30      60      90     190     300     330     360
 141          RY     104     103     101     100     100     101     103     104

 142          KK    503S
 143          KM   RUNOFF GENERATED ON SUB-BASIN 503 (FCDMC SUB-BASIN I.D. WBW)
 144          KM   TOTAL OF PARCELS 1 TO 27 IN WESTBROOK VILLAGE WEST (1983 PROJECT)
 145          KM   PLUS PARCELS 28 (GOLF COURSES) ABOUT 23% OF AREA
 146          KM   AREA REVISED FROM 1.00 SQ.MI. TO 0.952 SQ.MI. PARCEL IN SOUTHWEST CORNER OF
 147          KM   SUBDIVISION DOES NOT CONTRIBUTE;  FLOWS PROCEED WESTWARD ON UNION HILLS DR.
 148          BA    .952
 149          LG     .35     .25   3.500    .280      30
 150          UC   1.724   1.556
 151          UA       0       3       5       8      12      20      43      75      90      96
 152          UA     100

 153          KK   HC503
 154          KM   COMBINE HYDROGRAPHS FROM SUB-BASIN 503 WITH ROUTED FLOW FROM 502
 155          HC       2

 156          KK   503RR
 157          KM   PER 1983 UDC REPORT AVAILABLE STORAGE IS 472 AC-FT IN GOLF COURSES
 158          KM   A MAXIMUM OF 350 AC-FT IS ASSUMED AS PER ERIE'S QU ESTIMATE
 159          KM   PER MEETING ON MAY 9, 1994 25 CFS IS ASSUMED AS BLEED OFF THRU 2' DIA PIPE
 160          KM   CULVERT CROSSING UNION HILLS DRIVE AT ABOUT 93RD ALIGNMENT
 161          RS       1    STOR       0
 162          SV       0      50     100     150     200     300     350     400     500
 163          SE      26      27      28      29      30      32      34      36      38
 164          SQ       0      25      25      25      25      25      25     300     400
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

165           KK   RM503
166           KM   ROUTE ALONG UNION HILLS DR. EASTWARD TOWARDS 93RD AVE
167           RS      5    FLOW      -1
168           RC    .03     .02     .03    2080   .0019
169           RX      0      20      40      60      80     100     120     140
170           RY    102     101     100     100     100     100     101     102
              *
              *
              *     THIS CONCLUDES PORTION OF HEC-1 FILE OBTAINED FROM THE
              *      FCDMC HYDROLOGY
              *

171           KK    533R
172           KM    RETRIEVE FLOWS GOING SOUTH ALONG 91ST AVE.
173           DR    533D
              *
              *
              *   BEGIN PORTION OF HEC-1 FILE OBTAINED FROM THE FCDMC HYDROLOGY
              *

174           KK    533A
175           KM   WESTBROOK VILLAGE PARCEL B8
176           KM   THIS PARCEL DISCHARGES DIRECTLY INTO 91ST AVE
177           BA   .0085
178           LG    .25     .25     3.5     .28      30
179           UC   .293    .274
180           UA      0       5      16      30      65      77      84      90      94      96
181           UA    100

182           KK  HC512B
183           KM   COMBINE HYDROGRAPHS SOUTH OF BEARDSLEY ROAD ALONG 91ST AVENUE
184           HC      2

185           KK   RM512
186           KM   ROUTE FLOWS ON 91ST AVENUE, BEARDSLY RD. TO UNION HILLS DR.
187           KM   ROUTE THRU 91ST AVE. SOUTHWARD, X-SECTION GIVEN IN 1983 WB REPORT
188           RS      2    FLOW      -1
189           RC    .02    .015     .02    2380   .0045
190           RX      0      12      22      40      80     121     131     143
191           RY    103     100     100     102     102     100     100     103

192           KK    533B
193           KM    COMBINE PARCELS 8A, 10B, 7, 6, 5, G10, 2B, 3B
194           BA   .2814
195           LG    .25     .25     3.5     .28      45
196           UC   .500    .458
197           UA      0       5      16      30      65      77      84      90      94      96
198           UA    100
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 199          KK  533RR1
 200          KM   ROUTE FLOWS THROUGH RESERVOIR 10, WESTBROOK VILLAGE EAST
 201          KM   THE RESERVOIR BLEEDS INTO 91ST AVENUE
 202          RS       1    STOR      -1       0
 203          SV       0     .35    2.28     6.4   12.82    24.0
 204          SE    27.5    28.5    29.5    30.5    31.5    32.5
 205          SQ       0       2      12      19      22      44

 206          KK  HC533A
 207          KM   91ST AVENUE AT INTERSECTION WITH UNION HILL DR.
 208          HC       2
              *
              *   CONCLUDE PORTION OF HEC-1 FILE OBTAINED FROM THE FCDMC HYDROLOGY
              *

 209          KK    520S
 210          KM   RUNOFF GENERATED ON SUB-BASIN 520
 211          KM   THE FOLLOWING PARAMETERS WERE PROVIDED FOR THIS BASIN
 212          KM   L= 1.569 mi  S= 238 ft/mi  Kb= 0.071
 213          KM   CLARK UNIT HYDROGRAPH FOR NATURAL WATERSHEDS WAS USED FOR THIS BASIN
 214          KM   6-HOUR RAINFALL, PATTERN NO. 1.17 WAS USED TO FIND TC & R FOR THIS BASIN
 215          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF .991
 216          BA    .675
 217          LG    .202    .318   3.920    .384  11.030
 218          UC    .667    .423
 219          UA       0       3       5       8      12      20      43      75      90      96
 220          UA     100

 221          KK   520RE
 222          KM   DIVERT MAX. OF 136 CFS EAST ALONG CALLE LEJOS TO 83RD AVENUE AS
 223          KM   PER AM. ENGINEERING CO. REPORT DEC. 1993
 224          DT    530D
 225          DI       0      50     100     137     200     400    1000
 226          DQ       0      50     100     137     137     137     137

 227          KK   RM520
 228          KM   NORMAL DEPTH STORAGE ROUTE FLOW FROM SUB-BASIN 520 THROUGH 521
 229          KM            1) Reach Length = 5886 ft
 230          RS       9    FLOW      -1
 231          RC    .040    .030    .040    5886   .0056
 232          RX      40      80      90     100     140     150     160     200
 233          RY     103     102     101     100     100     101     102     103

 234          KK    521S
 235          KM   RUNOFF GENERATED ON SUB-BASIN 521
 236          KM   THE FOLLOWING PARAMETERS WERE PROVIDED FOR THIS BASIN
 237          KM   L= 1.176 mi  S= 30 ft/mi  Kb= 0.044
 238          KM   CLARK UNIT HYDROGRAPH FOR NATURAL WATERSHEDS WAS USED FOR THIS BASIN
 239          KM   6-HOUR RAINFALL, PATTERN NO. 1.12 WAS USED TO FIND TC & R FOR THIS BASIN
 240          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF .992
 241          BA    .617
 242          LG    .100    .250   6.290    .186  15.530
 243          UC    .808    .438
 244          UA       0       3       5       8      12      20      43      75      90      96
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 245          UA     100

 246          KK   HC521
 247          KM   COMBINE HYDROGRAPHS FROM SUB-BASIN 521 WITH ROUTED FLOW FROM 520
 248          HC       2

 249          KK   RM521
 250          KM   NORMAL DEPTH STORAGE ROUTE FLOW FROM SUB-BASIN 521 THROUGH 522
 251          KM            1) Reach Length = 6074 ft
 252          RS      10    FLOW      -1
 253          RC    .040    .030    .040    6074   .0049
 254          RX       0      50      75     105     145     175     200     250
 255          RY     103     101     100     100     100     100     101     103

 256          KK    522S
 257          KM   RUNOFF GENERATED ON SUB-BASIN 522
 258          KM   THE FOLLOWING PARAMETERS WERE PROVIDED FOR THIS BASIN
 259          KM   L= 1.186 mi  S= 24 ft/mi  Kb= 0.077
 260          KM   CLARK UNIT HYDROGRAPH FOR NATURAL WATERSHEDS WAS USED FOR THIS BASIN
 261          KM   6-HOUR RAINFALL, PATTERN NO. 1.01 WAS USED TO FIND TC & R FOR THIS BASIN
 262          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF .993
 263          BA    .508
 264          LG    .388    .290   6.780    .185    .000
 265          UC   1.765   1.172
 266          UA       0       3       5       8      12      20      43      75      90      96
 267          UA     100

 268          KK   HC522
 269          KM   COMBINE HYDROGRAPHS FROM SUB-BASIN 522 WITH ROUTED FLOW FROM 521
 270          KM   WEST INLET FOR WESTBROOK VILLAGE EAST
 271          HC       2
              *
              *   BEGIN PORTION OF HEC-1 FILE OBTAINED FROM THE FCDMC HYDROLOGY
              *
              *  ROUTING COMMAND REMOVED FROM MODEL.  REACH LENGTH IS TOO SHORT FOR PEAK
              *  DISCHARGE ATTENUATION.
              *
              * KKRM522A
              * KM ROUTE OFFSITE INFLOWS, W.B. EAST INLET TO FIRST DETENTION
              * RS      1    FLOW      -1
              * RC    .03     .02     .03     260  .00192
              * RX      0      12    17.5    22.5    33.5    37.5      43      55
              * RY     45      42      40      40      40      40      42      45

 272          KK    533C
 273          KM   COMBINE PARCELS 9, 10A, 11, 12, GC3
 274          KM   HIGHEST SCS LAG TIME USED BY CONSULTANT WAS CONVERTED TO TC: TLAG/0.60
 275          BA    .123
 276          LG     .35     .25     8.4     .06      35
 277          UC    .574    .457
 278          UA       0       3       5       8      12      20      43      75      90      96
 279          UA     100
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 280          KK  HC533B
 281          KM   COMBINE HYDROGRAPHS WITHIN EAST WESTBROOK VILLAGE
 282          HC       2

 283          KK  533RR2
 284          KM   ROUTE FLOW THROUGH WESTBROOK VILLAGE EAST RESERVOIR 3
 285          RS       1    STOR      -1       0
 286          SV       0     .19    1.23    3.71    7.87    12.1    24.0
 287          SE      32      33      34      35      36      37      38
 288          SQ       0       2      12      19     195     811    1200

 289          KK    533D
 290          KM   COMBINE PARCELS 19, 18B, GC4-5
 291          BA    .101
 292          LG     .35     .15     8.4     .06      45
 293          UC   1.172    .915
 294          UA       0       3       5       8      12      20      43      75      90      96
 295          UA     100

 296          KK  HC533C
 297          KM   COMBINE HYDROGRAPHS WITHIN EAST WESTBROOK VILLAGE
 298          HC       2

 299          KK  533RR3
 300          KM   ROUTE FLOW THROUGH WESTBROOK VILLAGE EAST RESERVOIR 4 & 5
 301          RS       1    STOR      -1       0
 302          SV       0    2.57    7.19   13.71    22.4      32      37      42      47      52
 303          SE      27      28      29      30      31      33      34      35      36      37
 304          SQ       0       2      12      19      21      21      21      21     386    1207

 305          KK    533E
 306          KM   GOLF COURSE AT DRIVING RANGE
 307          BA   .0126
 308          LG     .35     .25     3.5     .29      45
 309          UC    .305    .274
 310          UA       0       3       5       8      12      20      43      75      90      96
 311          UA     100

 312          KK  HC533D
 313          KM   COMBINE HYDROGRAPHS WITH IN EAST WESTBROOK VILLAGE
 314          HC       2

 315          KK  533RR4
 316          KM   ROUTE FLOW THROUGH WESTBROOK VILLAGE EAST RESERVOIR 6
 317          RS       1    STOR      -1       0
 318          SV       0       2       4       6       8
 319          SE      33      34      35      36      37
 320          SQ       0       0     227     811    1200
              *
              *   CONCLUDE PORTION OF HEC-1 FILE OBTAINED FROM THE FCDMC HYDROLOGY
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 321          KK   530S
 322          KM   RUNOFF GENERATED ON SUB-BASIN 530
 323          KM   THE FOLLOWING PARAMETERS WERE PROVIDED FOR THIS BASIN
 324          KM   L= 1.452 mi  S= 280 ft/mi  Kb= 0.053
 325          KM   CLARK UNIT HYDROGRAPH FOR NATURAL WATERSHEDS WAS USED FOR THIS BASIN
 326          KM   6-HOUR RAINFALL, PATTERN NO. 1.29 WAS USED TO FIND TC & R FOR THIS BASIN
 327          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF .989
 328          BA    .821
 329          LG    .139    .276   3.550    .303  13.320
 330          UC    .425    .216
 331          UA       0       3       5       8      12      20      43      75      90      96
 332          UA     100

 333          KK   R530
 334          KM   RETRIEVE DIVERTED FLOW FROM SUB-BASIN 520
 335          DR   530D

 336          KK   HC530
 337          KM   COMBINE HYDROGRAPHS FROM SUB-BASIN 530 WITH DIVERTED FLOW FROM 520
 338          HC       2

 339          KK   RM530
 340          KM   NORMAL DEPTH STORAGE ROUTE FLOW FROM SUB-BASIN 530 THROUGH 531
 341          KM            1) Reach Length = 5688 ft
 342          RS       8    FLOW      -1
 343          RC    .040    .030    .040    5688   .0053
 344          RX       0      25      50      80     120     150     175     200
 345          RY     102     101     100     100     100     100     101     102

 346          KK   531S
 347          KM   RUNOFF GENERATED ON SUB-BASIN 531
 348          KM   THE FOLLOWING PARAMETERS WERE PROVIDED FOR THIS BASIN
 349          KM   L= 1.193 mi  S= 25 ft/mi  Kb= 0.060
 350          KM   CLARK UNIT HYDROGRAPH FOR NATURAL WATERSHEDS WAS USED FOR THIS BASIN
 351          KM   6-HOUR RAINFALL, PATTERN NO. 1.16 WAS USED TO FIND TC & R FOR THIS BASIN
 352          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF .991
 353          BA    .654
 354          LG    .225    .170  10.100    .036   9.530
 355          UC    .983    .533
 356          UA       0       3       5       8      12      20      43      75      90      96
 357          UA     100

 358          KK   HC531
 359          KM   COMBINE HYDROGRAPHS FROM SUB-BASIN 531 WITH ROUTED FLOW FROM 530
 360          HC       2

 361          KK   RM531
 362          KM   NORMAL DEPTH STORAGE ROUTE FLOW FROM SUB-BASIN 531 THROUGH 532
 363          KM            1) Reach Length = 6723 ft
 364          RS       9    FLOW      -1
 365          RC    .040    .030    .040    6723   .0043
 366          RX       0      50      75     105     145     175     200     250
 367          RY     103     101     100     100     100     100     101     103
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

368           KK   532S
369           KM   RUNOFF GENERATED ON SUB-BASIN 532
370           KM   THE FOLLOWING PARAMETERS WERE PROVIDED FOR THIS BASIN
371           KM   L= 1.109 mi  S= 25 ft/mi  Kb= 0.062
372           KM   CLARK UNIT HYDROGRAPH FOR NATURAL WATERSHEDS WAS USED FOR THIS BASIN
373           KM   6-HOUR RAINFALL, PATTERN NO. 1.02 WAS USED TO FIND TC & R FOR THIS BASIN
374           KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF .993
375           BA    .521
376           LG    .438    .103  10.100    .046    .000
377           UC   1.021    .596
378           UA      0       3       5       8      12      20      43      75      90      96
379           UA    100

380           KK   HC532
381           KM   COMBINE HYDROGRAPHS FROM SUB-BASIN 532 WITH ROUTED FLOW FROM 531
382           HC      2
              *
              *   BEGIN PORTION OF HEC-1 FILE OBTAINED FROM THE FCDMC HYDROLOGY
              *

383           KK   532RE
384           KM   DIVERT 70% SOUTHWARD THRU 83RD AVENUE
385           DT   554D1
386           DI      0     200     400     800    1200    1500    2000    2500
387           DQ      0     140     280     560     840    1050    1400    1750

388           KK    533F
389           KM   COMBINE PARCELS 13, 14, G1
390           BA   .0644
391           LG     .35     .25     3.5     .29      45
392           UC    .416    .366
393           UA      0       3       5       8      12      20      43      75      90      96
394           UA    100

395           KK  HC533E
396           KM   COMBINE HYDROGRAPHS WITHIN EAST WESTBROOK VILLAGE
397           HC      2
              *    *    *    *    *    *    *    *    *    *    *    *
              *                                                       *
              *     RESERVOIR ROUTING OPTION WAS REMOVED FROM THE MODEL.      *
              *     ROUTED FLOWS WERE INCREASING AND/OR NO DIFFERENCE IN      *
              *     TIMING FROM THE INFLOW HYDROGRAPH WERE OBSERVED.          *
              *                                                               *
              *    *    *    *    *    *    *    *    *    *    *    *
              * KK533RR5
              * KM ROUTE FLOW THROUGH WESTBROOK VILLAGE EAST RESERVOIR 1
              * KM
              * RS     1    STOR      -1       0
              * SV     0     .11     .63    1.43     3.3     5.5    6.46    6.94     7.5    10
              * SE    36      37      38      39      40      41      42      43      44    45
              * SQ     0       2      12      19    21.8    23.1    24.1      25     750    13
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 398          KK    533G
 399          KM   COMBINE PARCELS 15, 16, 17, 18A, 23A, GC2
 400          BA    .079
 401          LG     .35     .25     3.5     .29      45
 402          UC    .491    .457
 403          UA       0       3       5       8      12      20      43      75      90      96
 404          UA     100

 405          KK  HC533F
 406          KM   COMBINE HYDROGRAPHS WITHIN EAST WESTBROOK VILLAGE
 407          HC       2

 408          KK  533RR6
 409          KM   ROUTE FLOW THROUGH WESTBROOK VILLAGE EAST RESERVOIR 2
 410          KM
 411          RS       1    STOR      -1       0
 412          SV       0    1.97    4.86    9.02   14.99      20      25      30      34      38
 413          SE      26      27      28      29      30      31      32      33      34      35
 414          SQ       0       2      12      19      21      21      21      21     930    1200

 415          KK  HC533G
 416          KM   COMBINE 533RR4 AND 533RR6
 417          HC       2

 418          KK  RM522B
 419          RS       3    FLOW      -1
 420          RC     .04     .03     .04    1420   .0018
 421          RX       0      30      60      90     120     150     180     210
 422          RY     104     102     100     100     100     100     102     104

 423          KK    533H
 424          KM   COMBINE PARCELS 23B, 21A, G7
 425          BA    .033
 426          LG     .35     .15     8.4     .06      60
 427          UC    .375    .274
 428          UA       0       3       5       8      12      20      43      75      90      96
 429          UA     100

 430          KK  HC533H
 431          HC       2
              *    *    *    *    *    *    *    *    *    *    *    *
              *                                                        *
              *     RESERVOIR ROUTING OPTION WAS REMOVED FROM THE MODEL.      *
              *     ROUTED FLOWS WERE INCREASING AND/OR NO DIFFERENCE IN      *
              *     TIMING FROM THE INFLOW HYDROGRAPH WERE OBSERVED.          *
              *                                                        *
              *    *    *    *    *    *    *    *    *    *    *    *
              * KK533RR7
              * KM ROUTE FLOWS THROUGH RESERVOIR 7, WESTBROOK VILLAGE EAST
              * RS     1    STOR      -1       0
              * SV     0     .15     .85    2.26    4.71     6.0     7.0     9.0
              * SE    27      28      29      30      31      32      33      34
              * SQ     0      11      23      35      46     526    1391    2500
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 432          KK   533I
 433          KM   COMBINE PARCELS 25, 24, GC8, 27A, 26A
 434          BA   .0839
 435          LG    .35     .15     8.4     .06      45
 436          UC   .747    .550
 437          UA      0       3       5       8      12      20      43      75      90      96
 438          UA    100

 439          KK  533RR8
 440          KM   ROUTE FLOWS THROUGH RESERVOIR 8, WESTBROOK VILLAGE EAST
 441          RS      1    STOR      -1       0
 442          SV      0     .36    2.13    5.54   10.63   15.29    16.0
 443          SE     27      28      29      30      31      32      33
 444          SQ      0       2      12      19      22      30     100

 445          KK  HC533I
 446          KM   COMBINE OUTFLOW FROM RESERVOIRS 7 AND 8
 447          HC      2

 448          KK  RM522C
 449          KM   ROUTE HYDROGRAPHS THRU MAIN SOUTH STREET WITHIN EAST WESTBROOK VILLAGE
 450          RS      1    FLOW      -1
 451          RC    .03     .02     .03    1120   .0032
 452          RX      0      15      30      60      80     105     120     135
 453          RY    104     102     100     100     100     100     102     104

 454          KK   533J
 455          KM   COMBINE R/C, 1B, 26B
 456          BA   .0342
 457          LG    .35     .15     8.4     .06      60
 458          UC   .288    .275
 459          UA      0       3       5       8      12      20      43      75      90      96
 460          UA    100

 461          KK  HC533J
 462          HC      2

 463          KK   533K
 464          KM   COMBINE PARCELS 1A, 20, 21B, G9A, G9B, 2A, 3A
 465          BA   .0572
 466          LG    .35     .25     5.0     .28      45
 467          UC   .469    .366
 468          UA      0       3       5       8      12      20      43      75      90      96
 469          UA    100

 470          KK  533RR9
 471          KM   ROUTE THROUGH RESERVOIR 9, WESTBROOK VILLAGE EAST
 472          RS      1    STOR      -1       0
 473          SV      0     .03    .376   1.698   4.517   9.114  12.000
 474          SE     25      26      27      28      29      30      31
 475          SQ      0       2      11      18      24     128     200
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

476           KK  HC533K
477           KM   OUTFLOW FROM WESTBROOK VILLAGE EAST INTO UNION HILLS DR. AT 86TH AVE.
478           KM   ALIGNMENT AT INTERSECTION OF OUTLET WITH UNION HILLS RD., MAIN ENTRANCE
479           HC       2

480           KK  533RE1
481           KM   DIVERT 100 CFS TO NEW RIVER:  50 CFS THRU 42" CMP AND 50 CFS OVERLAND
482           DT   554D2
483           DI       0      50     100     150     300     600     900    1500
484           DQ       0       0       0     100     100     100     100     100

485           KK  533RE2
486           KM   DIVERT TO COUNTRY CLUB ROAD AND EVENTUALLY TO NEW RIVER.  RATING CURVE
487           KM   AS PER ERIE'S REPORT, ASSUMES OVERFLOW PROPORTIONAL TO WEIR LENGTH
488           DT   555D1
489           DI       0      50      80     982    2670    7461   13454
490           DQ       0       0       0     214     607    1716    3152
              *
              *  ROUTING COMMAND REMOVED FROM MODEL.  REACH LENGTH IS TOO SHORT FOR PEAK
              *  DISCHARGE ATTENUATION.
              *
              * KKRM533A
              * KM ROUTE REMAINING TO INTERSECTION OF UNION HILLS DR. & 87TH AVENUE
              * RS     1    FLOW      -1
              * RC   .02    .015     .02     660   .0015
              * RX     0       1       5      35      40      70      74      75
              * RY   104     102     100     101     101     100     102     104

491           KK  533RE3
492           KM   DIVERT SOUTH THRU 87TH AVE., PORTION GOES TO 91ST AVE. AT UNION HILLS DR.
493           KM   USING RATING CURVE DEVELOPED BY ERIE & ASSOCIATES
494           KM   INFLOW IS ASSUMED SUM OF RATED Q AT ROAD INTERSECTION
495           KM   THIS APPLIES TO SUCCEDING DIVERSIONS USING ERIE'S DATA
496           DT   534D1
497           DI       0      50      80     762    2067    5745
498           DQ       0       0       0     221     625    1768
              *
              *  ROUTING COMMAND REMOVED FROM MODEL.  REACH LENGTH IS TOO SHORT FOR PEAK
              *  DISCHARGE ATTENUATION.
              *
              * KKRM533B
              * KM ROUTE REMAINING FLOW TO 89TH AVE. THRU NORTH SIDE OF UNION HILLS RD.
              * RS     1    FLOW      -1
              * RC  .015    .015    .015    1320   .0037
              * RX     0       1       5      35      40      70      74      75
              * RY   104     102     100     101     101     100     102     104

499           KK  533RE4
500           KM   ASSUME SPLIT OCCURS WHEN DEPTH IS 0.5 FT ABOVE 91ST AVE CROWN AT INTERSECTION
501           KM   PER ERIE'S RATING Q=145 CFS ABOVE WHICH FLOW WILL HAVE 50-50 SPLIT
502           KM   FLOW LESS THAN OR EQUAL TO 145 CFS WILL CONTINUE WESTWARD TO 91ST AVE.
503           DT   534D2
504           DI       0      80     145     300     500     800    1200
505           DQ       0       0       0     150     250     400     600
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 506          KK  RM533C
 507          RS       2    FLOW      -1
 508          RC     .02    .015     .02    1320   .0015
 509          RX       0       1       5      35      40      70      74      75
 510          RY     104     102     100     101     101     100     102     104

 511          KK  HC533L
 512          KM   UNION HILLS DR. AT 91ST AVENUE
 513          HC       3

 514          KK  RM533D
 515          KM   NORMAL DEPTH STORAGE ROUTE FLOW FROM SUB-BASIN 533 THROUGH 534
 516          KM            1) Reach Length = 5474 ft
 517          RS       6    FLOW      -1
 518          RC    .025    .020    .025    5474   .0044
 519          RX       0      12      22      40     100     121     131     143
 520          RY     103     100     100     101     101     100     100     103

 521          KK   534R1
 522          KM   RETRIEVE FLOWS GOING SOUTH OF 87TH AVE. SOUTH OF UNION HILLS DR.
 523          DR   534D1

 524          KK  RM533E
 525          KM   ROUTE SOUTHWARD THRU 87TH AVE
 526          RS       7    FLOW      -1
 527          RC     .02    .015     .02    5560   .0042
 528          RX       0       1       5      35      40      70      74      75
 529          RY     104     102     100     101     101     100     102     104

 530          KK  533RE6
 531          KM   DIVERT 50% UP TO MAXIMUM OF 150 CFS EASTWARD ALONG BELL RD. TO NEW RIVER
 532          DT   555D2
 533          DI       0      20      50     150     200     300
 534          DQ       0       6      50     150     150     150

 535          KK  533RE7
 536          KM   DIVERT SOUTHWARD ALONG 87TH AVE., SOUTH OF BELL RD. USING ERIE'S RATING
 537          KM   VALUES
 538          DT    535D
 539          DI       0     101     600    2410    4905
 540          DQ       0      80     310    1540    3050

 541          KK  RM533F
 542          KM   ROUTE WESTWARD ALONG BELL RD.
 543          RS       3    FLOW      -1
 544          RC     .02    .015     .02    1320   .0015
 545          RX       0       1       5      45      50      90      94      95
 546          RY     104     102     100     101     101     100     102     104
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

547           KK   534R2
548           KM   RETRIEVE FLOWS GOING SOUTH ON 89TH AVE. SOUTH OF UNION HILL DR.
549           DR   534D2

550           KK  RM533G
551           RS       6    FLOW      -1
552           RC     .02    .015     .02    5280   .0049
553           RX       0       1       5      35      40      70      74      75
554           RY     104     102     100     101     101     100     102     104
              *
              *  ROUTING COMMAND REMOVED FROM MODEL.  REACH LENGTH IS TOO SHORT FOR PEAK
              *  DISCHARGE ATTENUATION.
              *
              * KKRM533H
              * RS     1    FLOW      -1
              * RC   .02    .015     .02     680   .0015
              * RX     0       1       5      35      40      70      74      75
              * RY   104     102     100     101     101     100     102 .   104
              *
              *   CONCLUDE PORTION OF HEC-1 FILE OBTAINED FROM THE FCDMC HYDROLOGY
              *

555           KK    534S
556           KM   RUNOFF GENERATED ON SUB-BASIN 534
557           KM   THE FOLLOWING PARAMETERS WERE PROVIDED FOR THIS BASIN
558           KM   L= 1.571 mi  S= 18 ft/mi  Kb= 0.061
559           KM   CLARK UNIT HYDROGRAPH FOR URBAN WATERSHEDS WAS USED FOR THIS BASIN
560           KM   6-HOUR RAINFALL, PATTERN NO. 1.34 WAS USED TO FIND TC & R FOR THIS BASIN
561           KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF .988
562           BA    .896
563           LG    .264    .281   7.500    .116  18.180
564           UC   1.734   1.042
565           UA       0       5      16      30      65      77      84      90      94      97
566           UA     100

567           KK   HC534
568           KM   COMBINE HYDROGRAPHS FROM SUB-BASIN 534 WITH ROUTED FLOW FROM SUB-BASIN 533
569           HC       4

570           KK  RM534A
571           KM   NORMAL DEPTH STORAGE ROUTE FLOW FROM SUB-BASIN 534 THROUGH 535
572           KM            1) Reach Length = 5114 ft
573           RS       4    FLOW      -1
574           RC    .030    .020    .030    5114   .0041
575           RX       0       0       5      10      75      80      85      85
576           RY     108     104     102     100     100     102     104     108

577           KK    535R
578           DR    535D
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


579           KK   535RE
580           KM   DIVERT THROUGH PARADISE LANE WESTWARD USING ERIE'S RATING VALUES
581           DT    5560
582           DI       0     144     570    2530    5490
583           DQ       0      80     310    1540    3050

584           KK  RM534C
585           RS       1    FLOW      -1
586           RC     .02    .015     .02     720   .0038
587           RX       0       1       5      35      40      70      74      75
588           RY     104     102     100     101     101     100     102     104
              *
              *  ROUTING COMMAND REMOVED FROM MODEL.  REACH LENGTH IS TOO SHORT FOR PEAK
              *  DISCHARGE ATTENUATION.  INCLUDE REACH LENGTH IN HEC-1 COMMAND RM534E.
              *
              * KKRM534D
              * KM ROUTE TO EXISTING 91ST AVE. CHANNEL WESTWARD
              * RS     1    FLOW      -1
              * RC   .03     .02     .03     560   .0036
              * RX     0      10      20      35      45      60      70      80
              * RY   108     104     102     100     100     102     104     108

589           KK  RM534E
590           KM   ROUTE THRU EXISTING DRAIN
591           RS       4    FLOW      -1
592           RC    .030    .020    .030    1810   .0042
593           RX       0       6      12      24      36      48      60      72
594           RY     108     104     102     100     100     102     104     108

595           KK    535S
596           KM   RUNOFF GENERATED ON SUB-BASIN 535
597           KM   THE FOLLOWING PARAMETERS WERE PROVIDED FOR THIS BASIN
598           KM   L= 1.176 mi  S= 22 ft/mi  Kb= 0.040
599           KM   CLARK UNIT HYDROGRAPH FOR URBAN WATERSHEDS WAS USED FOR THIS BASIN
600           KM   6-HOUR RAINFALL, PATTERN NO. 1.14 WAS USED TO FIND TC & R FOR THIS BASIN
601           KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF .992
602           BA    .642
603           LG    .301    .164   6.290    .227  20.750
604           UC    .883    .473
605           UA       0       5      16      30      65      77      84      90      94      97
606           UA     100

607           KK   HC535
608           KM   COMBINE HYDROGRAPHS AT 91ST AVE. DRAIN AND ALIGNMENT OF GREENWAY RD.
609           HC       3

610           KK   535RE
611           KM   DIVERT THRU EXISTING 91ST AVE. CHANNEL SPILLWAY PER DESIGN DRAWINGS
612           KM   DESIGN CAPACITY OF TRIPLE BARREL CULVERT = 743 CFS PLUS FB CAPACITY
613           KM   FLOW SOUTHWARD ALONG 91ST AVE. TOWARDS DESERT HARBOR MPC
614           DT   DV91S
615           DI       0     100     743    1170    1900    3000    4700
616           DQ       0       0       0       0     520    1470    2700
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

617           KK   RM535
618           KM   ROUTE REMAINING FLOW THRU 91ST AVE. CHANNEL TO OUTLET
619           KM   EXISTING GUNITE CHANNEL WITH 2:1 SS AS PER FCD CONSULTANT DESIGN
620           RS       2    FLOW      -1
621           RC     .02    .015     .02    1720   .0008
622           RX       0       7      14      20      28      34      41      48
623           RY     107   103.5     100     100     100     100   103.5     107
              *    *    *    *    *    *    *    *    *    *    *    *
              *                                                        *
              *       SUBAREA GROUPING CONTRIBUTING TO NEW RIVER ABOVE  *
              *               CONFLUENCE WITH SKUNK CREEK.              *
              *       SUB-BASINS 540-542, 550-556, 560, 570-571 & 580-581 *
              *           TOTAL CONTRIBUTING AREA = 16.84 SQ. MI.      *
              *                                                        *
              *    *    *    *    *    *    *    *    *    *    *    *

624           KK    540S
625           KM   RUNOFF GENERATED ON SUB-BASIN 540
626           KM   THE FOLLOWING PARAMETERS WERE PROVIDED FOR THIS BASIN
627           KM   L= 2.367 mi  S= 28 ft/mi  Kb= 0.071
628           KM   CLARK UNIT HYDROGRAPH FOR NATURAL WATERSHEDS WAS USED FOR THIS BASIN
629           KM   6-HOUR RAINFALL, PATTERN NO. 1.87 WAS USED TO FIND TC & R FOR THIS BASIN
630           KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF .979
631           BA   2.244
632           IN      15
633           KM   RAINFALL DEPTH OF 1.20 WAS SPACIALLY REDUCED AS SHOWN BY THE PB RECORD
634           KM   AN AREAL REDUCTION COEFFICIENT OF .919 WAS USED
635           PB   1.103
636           KM   THE FOLLOWING PC RECORD USED A 6-HOUR STORM WITH A PATTERN No. OF 3.03
637           PC    .000    .015    .020    .031    .049    .064    .077    .091    .106    .120
638           PC    .136    .153    .177    .224    .306    .473    .670    .795    .867    .911
639           PC    .945    .960    .973    .987   1.000
640           LG    .250    .350   3.610    .315   5.020
641           UC   3.359   1.785
642           UA       0       3       5       8      12      20      43      75      90      96
643           UA     100

644           KK   RM540
645           KM   NORMAL DEPTH STORAGE ROUTE FLOW FROM SUB-BASIN 540 THROUGH 541
646           KM            1) Reach Length = 5708 ft
647           RS       7    FLOW      -1
648           RC    .040    .040    .040    5708   .0058
649           RX      40      80     180     200     225     245     260     300
650           RY      24      24      22      18      18      22      24      24

651           KK    541S
652           KM   RUNOFF GENERATED ON SUB-BASIN 541
653           KM   THE FOLLOWING PARAMETERS WERE PROVIDED FOR THIS BASIN
654           KM   L= 1.081 mi  S= 31 ft/mi  Kb= 0.088
655           KM   CLARK UNIT HYDROGRAPH FOR NATURAL WATERSHEDS WAS USED FOR THIS BASIN
656           KM   6-HOUR RAINFALL, PATTERN NO. 1.00 WAS USED TO FIND TC & R FOR THIS BASIN
657           KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF .994
658           BA    .467
659           LG    .250    .350   4.030    .408    .000
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 660          UC   1.740   1.124
 661          UA       0       3       5       8      12      20      43      75      90      96
 662          UA     100

 663          KK   HC541
 664          KM   COMBINE HYDROGRAPHS FROM SUB-BASIN 541 WITH ROUTED FLOW FROM 540
 665          HC       2

 666          KK   RM541
 667          KM   NORMAL DEPTH STORAGE ROUTE FLOW FROM SUB-BASIN 541 THROUGH 542
 668          KM            1) Reach Length = 5535 ft
 669          RS       7    FLOW      -1
 670          RC    .040    .040    .040    5535   .0054
 671          RX     140     170     200     210     240     265     285     300
 672          RY      94      92      90      86      86      90      92      94

 673          KK    542S
 674          KM   RUNOFF GENERATED ON SUB-BASIN 542
 675          KM   THE FOLLOWING PARAMETERS WERE PROVIDED FOR THIS BASIN -
 676          KM   L= 1.059 mi  S= 33 ft/mi  Kb= 0.073
 677          KM   CLARK UNIT HYDROGRAPH FOR NATURAL WATERSHEDS WAS USED FOR THIS BASIN
 678          KM   6-HOUR RAINFALL, PATTERN NO. 1.00 WAS USED TO FIND TC & R FOR THIS BASIN
 679          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF .994
 680          BA    .490
 681          LG    .383    .239   3.770    .405    .740
 682          UC   1.362    .820
 683          UA       0       3       5       8      12      20      43      75      90      96
 684          UA     100

 685          KK   HC542
 686          KM   COMBINE HYDROGRAPHS FROM SUB-BASIN 542 WITH ROUTED FLOW FROM 541
 687          HC       2

 688          KK   RM542
 689          KM   NORMAL DEPTH STORAGE ROUTE FLOW FROM SUB-BASIN 542 THROUGH 553
 690          KM            1) Reach Length = 5557 ft
 691          RS       6    FLOW      -1
 692          RC    .040    .040    .040    5557   .0061
 693          RX      40      60     100     130     160     190     210     230
 694          RY      72      71      70      64      64      70      71      72
              *    *    *    *    *    *    *    *    *    *    *    *    *
              *                                                            *
              *      BREAK SEQUENCE - JUMP TO SUB-BASIN 550                *
              *                                                            *
              *      SUB-BASIN 550 IS LOCATED DOWNSTREAM OF NEW RIVER DAM.  THE  *
              *      BF(BASE FLOW) RECORD OF HEC-1 WAS INCLUDED IN THIS SUB-BASIN  *
              *      TO MODEL THE NEW RIVER DAM LOW LEVEL OUTFLOW.         *
              *      ASSUMED NO OUTFLOW FOR THE 2-YEAR STORM.              *
              *      SOURCE:  F.I.S., MARICOPA COUNTY, ARIZONA AND INCORPORATED  *
              *               AREAS, FEMA.                                 *
              *                                                            *
              *    *    *    *    *    *    *    *    *    *    *    *    *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

695           KK   550S
696           KM   RUNOFF GENERATED ON SUB-BASIN 550
697           KM   THE FOLLOWING PARAMETERS WERE PROVIDED FOR THIS BASIN
698           KM   L= 1.701 mi  S= 63 ft/mi  Kb= 0.073
699           KM   CLARK UNIT HYDROGRAPH FOR NATURAL WATERSHEDS WAS USED FOR THIS BASIN
700           KM   6-HOUR RAINFALL, PATTERN NO. 1.79 WAS USED TO FIND TC & R FOR THIS BASIN
701           KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF .981
702           BA   1.946
703           LG    .250    .350   4.140    .431   3.600
704           UC   2.361   1.005
705           UA      0       3       5       8      12      20      43      75      90      96
706           UA    100

707           KK   RM550
708           KM   NORMAL DEPTH STORAGE ROUTE FLOW FROM SUB-BASIN 550 THROUGH 551
709           KM           1) Reach Length = 8432 ft
710           RS      8    FLOW      -1
711           RC   .040    .040    .040    8432   .0044
712           RX    210     400     420     445     500     525     590     670
713           RY     32      30      26      24      24      26      30      32

714           KK   560S
715           KM   RUNOFF GENERATED ON SUB-BASIN 560
716           KM   THE FOLLOWING PARAMETERS WERE PROVIDED FOR THIS BASIN
717           KM   L= 1.866 mi  S= 192 ft/mi  Kb= 0.079
718           KM   CLARK UNIT HYDROGRAPH FOR NATURAL WATERSHEDS WAS USED FOR THIS BASIN
719           KM   6-HOUR RAINFALL, PATTERN NO. 1.47 WAS USED TO FIND TC & R FOR THIS BASIN
720           KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF .986
721           BA   1.116
722           LG    .250    .360   4.120    .268   4.150
723           UC   1.004    .575
724           UA      0       3       5       8      12      20      43      75      90      96
725           UA    100

726           KK   RM560
727           KM   NORMAL DEPTH STORAGE ROUTE FLOW FROM SUB-BASIN 560 THROUGH 551
728           KM           1) Reach Length = 14187 ft
729           RS     17    FLOW      -1
730           RC   .030    .040    .030   14187   .0088
731           RX      0     215     250     280     300     320     460     560
732           RY     94      92      90      88      88      90      92      94

733           KK   551S
734           KM   RUNOFF GENERATED ON SUB-BASIN 551
735           KM   THE FOLLOWING PARAMETERS WERE PROVIDED FOR THIS BASIN
736           KM   L= 2.280 mi  S= 46 ft/mi  Kb= 0.075
737           KM   CLARK UNIT HYDROGRAPH FOR NATURAL WATERSHEDS WAS USED FOR THIS BASIN
738           KM   6-HOUR RAINFALL, PATTERN NO. 1.62 WAS USED TO FIND TC & R FOR THIS BASIN
739           KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF .984
740           BA   1.448
741           LG    .248    .349   4.190    .443    .680
742           UC   3.382   2.240
743           UA      0       3       5       8      12      20      43      75      90      96
744           UA    100
```

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

 745          KK   HC551
 746          KM   COMBINE HYDROGRAPHS FROM SUB-BASIN 551 WITH ROUTED FLOWS FROM 550 & 560
 747          HC       3

 748          KK   RM551
 749          KM   NORMAL DEPTH STORAGE ROUTE FLOW FROM SUB-BASIN 551 THROUGH 552
 750          KM            1) Reach Length = 5663 ft
 751          RS       6    FLOW      -1
 752          RC    .040    .040    .040    5663   .0056
 753          RX     100     100     145     250     420     450     510     520
 754          RY      92      88      78      76      76      82      84      92

 755          KK    552S
 756          KM   RUNOFF GENERATED ON SUB-BASIN 552
 757          KM   THE FOLLOWING PARAMETERS WERE PROVIDED FOR THIS BASIN
 758          KM   L= 3.216 mi  S= 46 ft/mi  Kb= 0.068
 759          KM   CLARK UNIT HYDROGRAPH FOR NATURAL WATERSHEDS WAS USED FOR THIS BASIN
 760          KM   6-HOUR RAINFALL, PATTERN NO. 1.91 WAS USED TO FIND TC & R FOR THIS BASIN
 761          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF .978
 762          BA   2.385
 763          LG    .244    .340   3.820    .363   7.320
 764          UC   3.531   2.328
 765          UA       0       3       5       8      12      20      43      75      90      96
 766          UA     100

 767          KK   HC552
 768          KM   COMBINE HYDROGRAPHS FROM SUB-BASIN 552 WITH ROUTED FLOW FROM 551
 769          HC       2

 770          KK   RM552
 771          KM   NORMAL DEPTH STORAGE ROUTE FLOW FROM SUB-BASIN 552 THROUGH 553
 772          KM            1) Reach Length = 5971 ft
 773          RS       6    FLOW      -1
 774          RC    .040    .040    .040    5971   .0055
 775          RX       0     100     130     190     310     390     450     500
 776          RY      56      54      50      48      48      50      52      56
              *
              *    ARROWHEAD RANCH DEVELOPMENT
              *
              *    This section of the model was developed by Dibble and Associates
              *    Consulting Engineers for the City of Glendale to address the Storm
              *    Drainage Plan for the Arrowhead Ranch Development.  The drainage
              *    report was titled, "Specific Area Plan, Storm Drainage Plan for the
              *    Arrowhead Ranch Development" and was prepared on April 20, 1992.
              *
              *    ARROWHEAD RANCH - SECTION 18/19 - SYSTEM II
              *

 777          KK     21S
 778          KM    SUB-BASIN 21
 779          BA    .035
 780          LS              82
 781          UD    .167
```

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

 782          KK    21RR
 783          KM    LAKE NO. 1
 784          RS       1    ELEV  1277.0
 785          SV     0.0     3.6     4.5     5.4     6.3     7.2
 786          SE  1277.0  1279.0  1279.5  1280.0  1280.5  1281.0
 787          SQ       0       0     5.4     8.5    10.4    12.0

 788          KK     22S
 789          KM    SUB-BASIN 22
 790          BA    .027
 791          LS              92
 792          UD    .167

 793          KK    HC22
 794          HC       2

 795          KK    22RR
 796          KM    LAKE NO. 2
 797          RS       1    ELEV  1276.5
 798          SV     0.0     0.3     0.7     1.2     1.6     2.2     2.7     3.3
 799          SE  1276.5  1277.0  1277.5  1278.0  1278.5  1279.0  1279.5  1280.0
 800          SQ       0     7.1    14.1    19.7    42.4    92.7   164.8   200.0

 801          KK     23S
 802          KM    SUB-BASIN 23
 803          BA    .009
 804          LS              86
 805          UD    .167

 806          KK    HC23
 807          HC       2

 808          KK    23RR
 809          KM    LAKE NO. 3
 810          RS       1    ELEV  1275.0
 811          SV     0.0      .3      .7     1.1     1.5    2.00     2.5
 812          SE  1275.0  1275.5  1276.0  1276.5  1277.0  1277.5  1278.0
 813          SQ       0     8.7    15.3    22.3    49.6   106.0   180.4

 814          KK     24S
 815          KM    SUB-BASIN 24
 816          BA    .006
 817          LS              87
 818          UD    .167

 819          KK    HC24
 820          HC       2

 821          KK    24RR
 822          KM    LAKE NO. 4
 823          RS       1    ELEV  1272.0
 824          SV       0      .3      .7     1.1     1.6     2.0     2.5
 825          SE  1272.0  1272.5  1273.0  1273.5  1274.0  1274.5  1275.0
 826          SQ       0     8.7    15.3    22.3    49.6   106.0   180.4
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 827          KK     25S
 828          KM    SUB-BASIN 25
 829          BA    .051
 830          LS              85
 831          UD    .167

 832          KK    HC25
 833          HC       2

 834          KK    25RR
 835          KM    LAKE NO. 5
 836          RS       1    ELEV  1268.0
 837          SV       0    1.75     3.5    5.31     7.2    9.15    11.2    13.3
 838          SE  1267.5  1268.0  1268.5  1269.0  1269.5  1270.0  1270.5  1271.0
 839          SQ       0     0.8     4.1    8.16     9.5    13.4    16.4    19.0

 840          KK     27S
 841          KM    SUB-BASIN 27
 842          BA    .123
 843          LS              82
 844          UD    .167

 845          KK    27RR
 846          KM    DETENTION BASIN NO. 7
 847          RS       1    ELEV  1278.0
 848          SV       0     1.9     3.9     5.9     7.9     9.9    12.1
 849          SE  1278.0  1278.5  1279.0  1279.5  1280.0  1280.5  1281.5
 850          SQ       0     5.4     7.6     9.2    10.6    12.0    13.2

 851          KK     29S
 852          KM    COMBINE SUB-BASIN 28 & 29
 853          BA    .063
 854          LS              77
 855          UD    .167

 856          KK    HC29
 857          HC       2

 858          KK     30S
 859          KM    SUB-BASIN 30
 860          BA    .056
 861          LS              84
 862          UD    .167

 863          KK    30RR
 864          KM    DETENTION BASIN 10
 865          RS       1    ELEV  1265.0
 866          SV       0     .78    1.58    2.40    3.25    4.13    5.03
 867          SE  1265.0  1265.5  1266.0  1266.5  1267.0  1267.5  1268.0
 868          SQ       0     5.4     8.5    10.4    12.0    13.5    14.7
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

869           KK    HC30
870           HC       2

871           KK     31S
872           KM    SUB-BASIN 31
873           BA    .053
874           LS              77
875           UD    .167

876           KK    HC31
877           HC       3

878           KK     32S
879           KM    COMBINE SUB-BASIN 26 & 32
880           BA    .053
881           LS              77
882           UD    .167

883           KK    HC32
884           HC       2

885           KK     34S
886           KM    COMBINE SUB-BASIN 33 & 34
887           BA    .076
888           LS              77
889           UD    .167

890           KK    HC34
891           KM    OUTFLOW FROM SYSTEM II
892           HC       2
              *
              *    ARROWHEAD RANCH - SECTION 18 - SYSTEM III
              *

893           KK     41S
894           KM    SUB-BASIN 41
895           BA    .023
896           LS              86
897           UD    .167

898           KK     42S
899           KM    SUB-BASIN 42
900           BA    .070
901           LS              80
902           UD    .167

903           KK    HC42
904           HC       2
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 905          KK    42RR
 906          KM    LAKE NO. 1
 907          RS       1    ELEV  1303.0
 908          SV       0    1.32    2.66    4.05    5.49
 909          SE  1303.0  1303.5  1304.0  1304.5  1305.0
 910          SQ       0    12.0    13.5    15.4    29.6

 911          KK     43S
 912          KM    SUB-BASIN 43
 913          BA    .007
 914          LS              68
 915          UD    .167

 916          KK    HC43
 917          HC       2

 918          KK     44S
 919          KM    SUB-BASIN 44
 920          BA    .034
 921          LS              81
 922          UD    .167

 923          KK    HC44
 924          HC       2

 925          KK     45S
 926          KM    SUB-BASIN 45
 927          BA    .017
 928          LS              92
 929          UD    .167

 930          KK     46S
 931          KM    SUB-BASIN 46
 932          BA    .057
 933          LS              85
 934          UD    .167

 935          KK    HC46
 936          HC       2

 937          KK    46RR
 938          KM    LAKE NO. 3
 939          RS       1    ELEV  1300.0
 940          SV       0    1.39    2.81    4.30    5.86    7.44    9.19   10.97   12.81
 941          SE  1300.0  1300.5  1301.0  1301.5  1302.0  1302.5  1303.0  1303.5  1304.0
 942          SQ       0   11.32   18.50   24.75   68.41  175.58  515.84  478.47  662.59

 943          KK     47S
 944          KM    SUB-BASIN 47
 945          BA    .034
 946          LS              84
 947          UD    .167
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 948          KK   HC47A
 949          HC      2

 950          KK   HC47B
 951          HC      2

 952          KK    47RR
 953          KM    LAKE NO. 2
 954          RS      1    ELEV  1289.0
 955          SV      0     1.2    2.42    3.67    4.95
 956          SE  1289.0  1289.5  1290.0  1290.5  1291.0
 957          SQ      0     6.5    17.2    51.0   118.5

 958          KK     48S
 959          KM    SUB-BASIN 48
 960          BA    .057
 961          LS             83
 962          UD    .167

 963          KK    HC48
 964          HC      2

 965          KK    48RR
 966          KM    LAKE NO. 4
 967          RS      1    ELEV  1287.0
 968          SV      0     .45     .90    1.37    1.85
 969          SE  1287.0  1287.5  1288.0  1288.5  1289.0
 970          SQ      0   34.65   79.50  127.20  170.70

 971          KK     49S
 972          KM    SUB-BASIN 49
 973          BA    .037
 974          LS             61
 975          UD    .167

 976          KK    HC49
 977          HC      2

 978          KK     50S
 979          KM    SUB-BASIN 50
 980          BA    .022
 981          LS             84
 982          UD    .167

 983          KK    HC50
 984          HC      2

 985          KK     52S
 986          KM    SUB-BASIN 52
 987          BA    .010
 988          LS             92
 989          UD    .167
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 990          KK     53S
 991          KM    SUB-BASIN 53
 992          BA    .030
 993          LS              87
 994          UD    .167

 995          KK    HC53
 996          HC       2

 997          KK    53RR
 998          KM    LAKE NO. 5
 999          RS       1    ELEV  1297.0
1000          SV       0     .44     .89    1.38    1.89    2.43    3.00    3.60    4.23
1001          SE  1297.0  1297.5  1298.0  1298.5  1299.0  1299.5  1300.0  1300.5  1301.0
1002          SQ       0    8.15   14.50   28.24   64.15  117.14  178.85  250.28  329.60

1003          KK     54S
1004          KM    SUB-BASIN 54
1005          BA    .027
1006          LS              92
1007          UD    .167

1008          KK     55S
1009          KM    SUB-BASIN 55
1010          BA    .020
1011          LS              88
1012          UD    .167

1013          KK   HC55A
1014          HC       2

1015          KK   HC55B
1016          HC       2

1017          KK    55RR
1018          KM    LAKE NO. 6
1019          RS       1    ELEV  1294.0
1020          SV       0     .62    1.25    1.90    2.60    3.33    4.99    5.70
1021          SE  1294.0  1294.5  1295.0  1295.5  1296.0  1296.5  1297.5  1298.0
1022          SQ       0    8.15   21.60   59.15  110.62  172.74  323.46  410.25

1023          KK     56S
1024          KM    SUB-BASIN 56
1025          BA    .040
1026          LS              83
1027          UD    .167

1028          KK     57S
1029          KM    SUB-BASIN 57
1030          BA    .104
1031          LS              82
1032          UD    .167
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


1033          KK   HC57A
1034          HC      2

1035          KK   HC57B
1036          HC      2

1037          KK    57RR
1038          KM    LAKE NO. 7
1039          RS      1    ELEV  1290.0
1040          SV      0     .42     .85    1.32    1.81    2.35
1041          SE  1290.0  1290.5  1291.0  1291.5  1292.0  1292.5
1042          SQ      0   55.37  139.73  246.52  361.01  489.63

1043          KK     58S
1044          KM    SUB-BASIN 58
1045          BA    .006
1046          LS             79
1047          UD    .167

1048          KK    HC58
1049          HC      2

1050          KK     51S
1051          KM    SUB-BASIN 51
1052          BA    .128
1053          LS             85
1054          UD    .167

1055          KK    HC51
1056          HC      3

1057          KK   51RR1
1058          KM    LAKE NO.8
1059          RS      1    ELEV  1277.0
1060          SV      0    3.63    7.31   11.10   14.99    19.0   27.29
1061          SE  1277.5  1278.0  1278.5  1279.0  1279.5  1280.0  1280.5
1062          SQ      0   47.73  149.77  274.47  422.96  590.56  776.30

1063          KK   51RR2
1064          KM    LAKE NO. 9
1065          RS      1    ELEV  1273.0
1066          SV      0     .79    1.58    2.41    3.26
1067          SE  1273.0  1273.5  1274.0  1274.5  1275.0
1068          SQ      0   72.24  202.66  372.95  558.36

1069          KK     61S
1070          KM    COMBINE SUB-BASINS 59, 60 & 61
1071          BA    .124
1072          LS             77
1073          UD    .167
```

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

1074          KK    HC61
1075          HC       2

1076          KK    61RR
1077          KM    LAKE NO. 10
1078          RS       1    ELEV  1265.0
1079          SV       0     4.1    9.60   12.50    15.5    21.6    24.7    28.0    31.2    34.6
1080          SE  1265.0  1265.5  1266.5  1267.0  1267.5  1268.0  1268.5  1269.0  1269.5  1270.0
1081          SQ       0       0    36.0    54.0    72.0   105.0   204.4   359.2   539.2   746.9

1082          KK   HC570
1083          KM    COMBINE OUTFLOW FROM SYSTEM III WITH SYSTEM II
1084          HC       2
              *
              *
              *   CONCLUDE PORTION OF HEC-1 MODEL INPUT OBTAINED FROM ARROWHEAD RANCH
              *   DEVELOPMENT REPORT BY DIBBLE & ASSOCIATES.
              *
              *

1085          KK   RM570
1086          KM   NORMAL DEPTH STORAGE ROUTE FLOW FROM SUB-BASIN 570 THROUGH 571
1087          KM            1) Reach Length = 5301 ft
1088          RS       7    FLOW      -1
1089          RC    .030    .020    .030    5301   .0009
1090          RX      28      68      88     100     112     124     144     154
1091          RY     108     107     106     100     100     106     107     108

1092          KK    571S
1093          KM   RUNOFF GENERATED ON SUB-BASIN 571
1094          KM   THE FOLLOWING PARAMETERS WERE PROVIDED FOR THIS BASIN
1095          KM   L= 2.272 mi  S= 26 ft/mi  Kb= 0.044
1096          KM   CLARK UNIT HYDROGRAPH FOR NATURAL WATERSHEDS WAS USED FOR THIS BASIN
1097          KM   6-HOUR RAINFALL, PATTERN NO. 1.57 WAS USED TO FIND TC & R FOR THIS BASIN
1098          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF .985
1099          BA   1.345
1100          LG    .409    .109   5.980    .266   9.130
1101          UC   1.714   1.096
1102          UA       0       3       5       8      12      20      43      75      90      96
1103          UA     100

1104          KK   HC571
1105          KM   COMBINE HYDROGRAPHS FROM SUB-BASIN 571 WITH ROUTED FLOW FROM 570
1106          HC       2

1107          KK   RM571
1108          KM   NORMAL DEPTH STORAGE ROUTE FLOW FROM SUB-BASIN 571 THROUGH 553
1109          KM            1) Reach Length = 3194 ft
1110          RS       3    FLOW      -1
1111          RC    .030    .020    .030    3194   .0009
1112          RX      28      68      88     100     112     124     144     154
1113          RY     108     107     106     100     100     106     107     108
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1114          KK   553S
1115          KM   RUNOFF GENERATED ON SUB-BASIN 553
1116          KM   THE FOLLOWING PARAMETERS WERE USED FOR THIS BASIN
1117          KM   L= 1.052 mi  S= 38 ft/mi  Kb= 0.056
1118          KM   CLARK UNIT HYDROGRAPH FOR NATURAL WATERSHEDS WAS USED FOR THIS BASIN
1119          KM   6-HOUR RAINFALL, PATTERN NO. 1.36 WAS USED TO FIND TC & R FOR THIS BASIN
1120          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF .988
1121          BA    .933
1122          LG    .419    .165   5.360    .284   2.760
1123          UC   1.021    .410
1124          UA      0       3       5       8      12      20      43      75      90      96
1125          UA    100

1126          KK   HC553
1127          KM   COMBINE HYDROGRAPHS FROM SUB-BASIN 553 WITH ROUTED FLOWS FROM 541, 552
1128          KM   AND 571
1129          HC      4

1130          KK   RM553
1131          KM   NORMAL DEPTH STORAGE ROUTE FLOW FROM SUB-BASIN 553 THROUGH 554
1132          KM            1) Reach Length = 5660 ft
1133          RS      5    FLOW      -1
1134          RC   .040    .040    .040    5660   .0041
1135          RX    100     150     210     240     300     350     370     400
1136          RY     36      34      28      22      22      24      30      36

1137          KK   554R1
1138          DR   554D1

1139          KK   554R2
1140          DR   554D2

1141          KK   554S
1142          KM   RUNOFF GENERATED ON SUB-BASIN 554
1143          KM   THE FOLLOWING PARAMETERS WERE PROVIDED FOR THIS BASIN
1144          KM   L= 1.531 mi  S= 25 ft/mi  Kb= 0.064
1145          KM   CLARK UNIT HYDROGRAPH FOR NATURAL WATERSHEDS WAS USED FOR THIS BASIN
1146          KM   6-HOUR RAINFALL, PATTERN NO. 1.04 WAS USED TO FIND TC & R FOR THIS BASIN
1147          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF .993
1148          BA    .540
1149          LG    .326    .248   3.610    .347  17.170
1150          UC   1.596   1.242
1151          UA      0       3       5       8      12      20      43      75      90      96
1152          UA    100

1153          KK   HC554
1154          KM   COMBINE HYDROGRAPHS FROM SUB-BASIN 554 WITH ROUTED FLOWS FROM 553
1155          KM   AND DIVERTED FLOWS FROM 532 & 533
1156          HC      4
```

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

1157          KK   RM554
1158          KM   NORMAL DEPTH STORAGE ROUTE FLOW FROM SUB-BASIN 554 THROUGH 555
1159          KM           1) Reach Length = 5771 ft
1160          RS      6    FLOW      -1
1161          RC    .040    .040    .040    5771   .0047
1162          RX      80     100     160     220     240     250     480     500
1163          RY     104     104      96      92      92      96      97     104

1164          KK   555R1
1165          DR   555D1

1166          KK   555R2
1167          DR   555D2

1168          KK    555S
1169          KM   RUNOFF GENERATED ON SUB-BASIN 555
1170          KM   THE FOLLOWING PARAMETERS WERE PROVIDED FOR THIS BASIN
1171          KM   L= 1.108 mi  S= 34 ft/mi  Kb= 0.068
1172          KM   CLARK UNIT HYDROGRAPH FOR NATURAL WATERSHEDS WAS USED FOR THIS BASIN
1173          KM   6-HOUR RAINFALL, PATTERN NO. 1.04 WAS USED TO FIND TC & R FOR THIS BASIN
1174          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF .993
1175          BA    .536
1176          LG    .326    .293   5.050    .252  11.750
1177          UC   1.163    .677
1178          UA      0       3       5       8      12      20      43      75      90      96
1179          UA    100

1180          KK  HC555A
1181          KM   COMBINE HYDROGRAPHS FROM SUB-BASIN 555 WITH ROUTED FLOW FROM 554
1182          KM   AND DIVERTED FLOWS FROM 533 & 534
1183          HC      4
              *
              *
              *   BEGIN PORTION OF HEC-1 MODEL INPUT OBTAINED FROM ARROWHEAD RANCH
              *   DEVELOPMENT REPORT BY DIBBLE & ASSOCIATES.
              *
              *
              *    ARROWHEAD RANCH - SECTION 25/26 - SYSTEM VI
              *

1184          KK     91S
1185          KM    SUB-BASIN 91
1186          BA    .069
1187          LS              77
1188          UD     .20

1189          KK     92S
1190          KM    SUB-BASIN 92
1191          BA    .033
1192          LS              84
1193          UD    .167
```

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


1194          KK    HC92
1195          HC       2

1196          KK    92RR
1197          KM    LAKE NO. 2
1198          RS       1    ELEV  1242.0
1199          SV     0.0     2.9     4.4     5.9     7.4     9.0    10.6    18.5    20.3    22.1
1200          SE  1242.0  1243.0  1243.5  1244.0  1244.5  1245.0  1245.5  1247.8  1248.3  1248.8
1201          SQ       0     .02     .03     .04     .05     .06     .07     .08    49.0   140.0

1202          KK    93S
1203          KM    SUB-BASIN 93
1204          BA    .061
1205          LS              71
1206          UD    .20

1207          KK    HC93
1208          HC       2

1209          KK    93RR
1210          KM    LAKE NO. 3
1211          RS       1    ELEV  1236.0
1212          SV     0.0     2.3     4.6     6.9     9.3    11.7    14.2
1213          SE  1236.0  1236.5  1237.0  1237.5  1238.0  1238.5  1239.0
1214          SQ       0     5.4     8.5    10.4    12.0    13.5    14.7

1215          KK    94S
1216          KM    SUB-BASIN 94
1217          BA    .077
1218          LS              76
1219          UD    .20

1220          KK    HC94
1221          HC       2

1222          KK    95S
1223          KM    SUB-BASIN 95
1224          BA    .068
1225          LS              75
1226          UD    .167

1227          KK    HC95
1228          HC       2

1229          KK    96S
1230          KM    SUB-BASIN 96
1231          BA    .086
1232          LS              84
1233          UD    .300
```

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

1234          KK    96RR
1235          KM    LAKE NO. 4
1236          RS       1    ELEV  1237.0
1237          SV     0.0     1.7     3.4     5.2     7.0     8.8    10.7
1238          SE  1237.0  1237.5  1238.0  1238.5  1239.0  1239.5  1240.0
1239          SQ     0.0     7.2    15.1    18.5    21.4    23.9    26.2

1240          KK     97S
1241          KM    SUB-BASIN 97
1242          BA    .071
1243          LS              71
1244          UD    .800

1245          KK    HC97
1246          HC       3

1247          KK    97RR
1248          KM    LAKE NO. 5
1249          RS       1    ELEV  1230.0
1250          SV     0.0     1.8     3.7     5.6     7.5     9.4    11.4    14.7    16.8    19.0
1251          SE  1230.0  1230.5  1231.0  1231.5  1232.0  1232.5  1233.0  1233.8  1234.3  1234.8
1252          SQ     0.0    0.01    0.02    0.03    0.04    0.05    0.06    0.08   124.0   350.0

1253          KK     98S
1254          KM    SUB-BASIN 98
1255          BA    .018
1256          LS              84
1257          UD    .167

1258          KK    98RR
1259          KM    LAKE NO. 6
1260          RS       1    ELEV  1230.0
1261          SV     0.0     0.5     1.1     1.7     2.3     2.9     3.5
1262          SE  1230.0  1230.5  1231.0  1231.5  1232.0  1232.5  1233.0
1263          SQ     0.0     7.2    15.1    18.5    21.4    23.9    26.2

1264          KK    HC98
1265          HC       2

1266          KK     99S
1267          KM    SUB-BASIN 99
1268          BA    .047
1269          LS              77
1270          UD    .167

1271          KK    HC99
1272          HC       2

1273          KK    99RR
1274          KM    LAKE NO.7
1275          RS       1    ELEV  1229.0
1276          SV     0.0     1.9     3.8     5.8     7.8     9.8    11.9
1277          SE  1229.0  1229.5  1230.0  1230.5  1231.0  1231.5  1232.0
1278          SQ     0.0     7.2    15.1    18.5    21.4    23.9    26.2
```

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

1279          KK     90S
1280          KM    SUB-BASIN 90
1281          BA    .077
1282          LS              77
1283          UD    .300

1284          KK   HC580
1285          KM    OUTFLOW FROM SYSTEM VI
1286          HC       2
              *
              *
              *   CONCLUDE PORTION OF HEC-1 MODEL INPUT OBTAINED FROM ARROWHEAD RANCH
              *   DEVELOPMENT REPORT BY DIBBLE & ASSOCIATES.
              *
              *

1287          KK   RM580
1288          KM   NORMAL DEPTH STORAGE ROUTE FLOW FROM SUB-BASIN 580 THROUGH 581
1289          KM            1) Reach Length = 5515 ft
1290          RS       8    FLOW      -1
1291          RC    .030    .020    .030    5515   .0047
1292          RX     148     168     188     200     208     220     260     300
1293          RY     110     107     106     100     100     106     108     109

1294          KK    581S
1295          KM   RUNOFF GENERATED ON SUB-BASIN 581
1296          KM   THE FOLLOWING PARAMETERS WERE PROVIDED FOR THIS BASIN
1297          KM   L= 1.836 mi  S= 15 ft/mi  Kb= 0.033
1298          KM   CLARK UNIT HYDROGRAPH FOR URBAN WATERSHEDS WAS USED FOR THIS BASIN
1299          KM   6-HOUR RAINFALL, PATTERN NO. 1.29 WAS USED TO FIND TC & R FOR THIS BASIN
1300          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF .989
1301          BA    .823
1302          LG    .206    .184   3.920    .429  54.370
1303          UC   1.154    .788
1304          UA       0       5      16      30      65      77      84      90      94      97
1305          UA     100

1306          KK   HC581
1307          KM   COMBINE HYDROGRAPHS FROM SUB-BASIN 581 WITH ROUTED FLOW FROM 580
1308          HC       2

1309          KK  HC555B
1310          KM   COMBINE HYDROGRAPHS FROM SUB-BASIN 555 WITH 581
1311          HC       2

1312          KK   RM555
1313          KM   NORMAL DEPTH STORAGE ROUTE FLOW FROM SUB-BASIN 555 & 581 THROUGH 556
1314          KM            1) Reach Length = 7336 ft
1315          RS       7    FLOW      -1
1316          RC    .040    .040    .040    7336   .0054
1317          RX       0      20      80     250     440     480     530     560
1318          RY      84      80      76      74      74      80      90      92
```

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

1319          KK    556R
1320          DR    556D

1321          KK    556S
1322          KM   RUNOFF GENERATED ON SUB-BASIN 556
1323          KM   THE FOLLOWING PARAMETERS WERE PROVIDED FOR THIS BASIN
1324          KM   L= 1.379 mi  S= 26 ft/mi  Kb= 0.053
1325          KM   CLARK UNIT HYDROGRAPH FOR URBAN WATERSHEDS WAS USED FOR THIS BASIN
1326          KM   6-HOUR RAINFALL, PATTERN NO. 1.06 WAS USED TO FIND TC & R FOR THIS BASIN
1327          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF .993
1328          BA    .558
1329          LG    .426    .110   3.920    .514   8.400
1330          UC   1.346    .928
1331          UA      0       5      16      30      65      77      84      90      94      97
1332          UA    100

1333          KK  HC556A
1334          KM   COMBINE HYDROGRAPHS FROM SUB-BASIN 556 WITH ROUTED FLOWS FROM 535,
1335          KM   556 & 581.  ALSO, TOTAL FLOW FROM NEW RIVER UPSTREAM OF ITS CONFLUENCE
1336          KM   WITH SKUNK CREEK.
1337          HC      4

1338          KK    408S
1339          KM   RUNOFF GENERATED ON SUB-BASIN 408
1340          KM   THE FOLLOWING PARAMETERS WERE PROVIDED FOR THIS BASIN
1341          KM   L= 1.935 mi  S= 22 ft/mi  Kb= 0.057
1342          KM   CLARK UNIT HYDROGRAPH FOR URBAN WATERSHEDS WAS USED FOR THIS BASIN
1343          KM   6-HOUR RAINFALL, PATTERN NO. 1.44 WAS USED TO FIND TC & R FOR THIS BASIN
1344          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF .986
1345          BA   1.076
1346          LG    .298    .275   3.870    .415  18.170
1347          UC   2.255   1.484
1348          UA      0       5      16      30      65      77      84      90      94      97
1349          UA    100
1350          ZZ
```

SCHEMATIC DIAGRAM OF STREAM NETWORK

```
INPUT
 'E     (V) ROUTING          (--->) DIVERSION OR PUMP FLOW

NO.     (.) CONNECTOR        (<---) RETURN OF DIVERTED OR PUMPED FLOW

 10      500S
            V
            V
 30     RM500
            .
            .
 37         .        501S
            .           .
            .           .
 49     HC501............
            V
            V
 52     RM501
            .
            .
 59         .        502S
            .           .
            .           .
 71         .           .       510S
            .           .          V
            .           .          V
 93         .           .      RM510
            .           .          .
            .           .          .
 90         .           .          .       511S
            .           .          .          .
            .           .          .          .
102         .           .      HC511............
            .           .          V
            .           .          V
105         .           .      RM511
            .           .          .
            .           .          .
112         .           .          .       512S
            .           .          .          .
            .           .          .          .
124         .           .     HC512A............
            .           .          .
            .           .          .
129         .           .          .-------->   533D
127         .           .      502RE
            .           .          .
            .           .          .
132     HC502........................
            V
            V
136     RM502
            .
            .
142         .        503S
            .           .
            .           .
153     HC503............
```

```
            V
            V
156      503RR
            V
            V
165      RM503
            .
            .
173         .          .<-------    533D
171         .       533R
            .          .
            .          .
174         .          .       533A
            .          .          .
            .          .          .
182         .     HC512B............
            .          V
            .          V
185         .      RM512
            .          .
            .          .
192         .          .       533B
            .          .          V
            .          .          V
199         .          .     533RR1
            .          .          .
            .          .          .
206         .     HC533A............
            .          .
            .          .
209         .          .       520S
            .          .          .
            .          .          .
224         .          .          .------->    530D
221         .          .      520RE
            .          .          V
            .          .          V
227         .          .      RM520
            .          .          .
            .          .          .
234         .          .          .       521S
            .          .          .          .
            .          .          .          .
246         .          .      HC521............
            .          .          V
            .          .          V
249         .          .      RM521
            .          .          .
            .          .          .
256         .          .          .       522S
            .          .          .          .
            .          .          .          .
268         .          .      HC522............
            .          .          .
            .          .          .
272         .          .          .       533C
            .          .          .          .
            .          .          .          .
280         .          .     HC533B............
            .          .          V
```

```
                .         .         V
283             .         .     533RR2
                .         .         .
                .         .         .
 9              .         .         .       533D
                .         .         .          .
                .         .         .          .
296             .         .     HC533C............
                .         .         V
                .         .         V
299             .         .     533RR3
                .         .         .
                .         .         .
305             .         .         .       533E
                .         .         .          .
                .         .         .          .
312             .         .     HC533D............
                .         .         V
                .         .         V
315             .         .     533RR4
                .         .         .
                .         .         .
321             .         .         .       530S
                .         .         .          .
                .         .         .          .
335             .         .         .          .          .<-------    530D
333             .         .         .          .       R530
                .         .         .          .          .
                .         .         .          .          .
 6              .         .         .      HC530............
                .         .         .          V
                .         .         .          V
339             .         .         .      RM530
                .         .         .          .
                .         .         .          .
346             .         .         .          .       531S
                .         .         .          .          .
                .         .         .          .          .
358             .         .         .      HC531............
                .         .         .          V
                .         .         .          V
361             .         .         .      RM531
                .         .         .          .
                .         .         .          .
368             .         .         .          .       532S
                .         .         .          .          .
                .         .         .          .          .
380             .         .         .      HC532............
                .         .         .          .
                .         .         .          .
385             .         .         .          .------->   554D1
383             .         .         .      532RE
                .         .         .          .
                .         .         .          .
 8              .         .         .          .       533F
                .         .         .          .          .
                .         .         .          .          .
395             .         .         .     HC533E............
                .         .         .          .
                .         .         .          .
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```
398          .          .          .          .       533G
             .          .          .          .          .
             .          .          .          .          .
             .          .          .     HC533F............
             .          .          .          V
             .          .          .          V
408          .          .          .     533RR6
             .          .          .          .
             .          .          .          .
415          .          .     HC533G............
             .          .          V
             .          .          V
418          .          .     RM522B
             .          .          .
             .          .          .
423          .          .          .       533H
             .          .          .          .
             .          .          .          .
430          .          .     HC533H............
             .          .          .
             .          .          .
432          .          .          .       533I
             .          .          .          V
             .          .          .          V
439          .          .          .     533RR8
             .          .          .          .
             .          .          .          .
445          .          .     HC533I............
             .          .          V
             .          .          V
448          .          .     RM522C
             .          .          .
             .          .          .
454          .          .          .       533J
             .          .          .          .
             .          .          .          .
461          .          .     HC533J............
             .          .          .
             .          .          .
463          .          .          .       533K
             .          .          .          V
             .          .          .          V
470          .          .          .     533RR9
             .          .          .          .
             .          .          .          .
476          .          .     HC533K............
             .          .          .
             .          .          .
482          .          .          .-------->   554D2
480          .          .     533RE1
             .          .          .
             .          .          .
488          .          .          .-------->   555D1
             .          .     533RE2
             .          .          .
             .          .          .
496          .          .          .-------->   534D1
491          .          .     533RE3
             .          .          .
             .          .          .
```

```
503          .          .          .-------> 534D2
499          .          .     533RE4
             .          .          V
             .          .          V
 6           .          .     RM533C
             .          .          .
             .          .          .
511     HC533L.......................
            V
            V
514     RM533D
            .
            .
523          .          .<-------  534D1
521          .      534R1
             .          V
             .          V
524          .     RM533E
             .          .
             .          .
532          .          .-------> 555D2
530          .     533RE6
             .          .
             .          .
538          .          .------->  535D
535          .     533RE7
             .          V
             .          V
 1           .     RM533F
             .          .
             .          .
549          .          .          .<-------  534D2
547          .          .      534R2
             .          .          V
             .          .          V
550          .          .     RM533G
             .          .          .
             .          .          .
555          .          .          .       534S
             .          .          .          .
             .          .          .          .
567      HC534...................................
            V
            V
570     RM534A
            .
            .
578          .          .<-------  535D
577          .       535R
             .          .
             .          .
581          .          .------->  556D
579          .      535RE
             .          V
             .          V
 4           .     RM534C
             .          V
             .          V
589          .     RM534E
             .          .
```

```
          .          .
595       .          .       535S
          .          .          .
          .          .          .
 7    HC535.......................
          .
          .
614       .-------> DV91S
610  535RE
         V
         V
617  RM535
          .
          .
624       .       540S
          .          V
          .          V
644       .      RM540
          .          .
          .          .
651       .          .       541S
          .          .          .
          .          .          .
663       .      HC541............
          .          V
          .          V
666       .      RM541
          .          .
          .          .
 3        .          .       542S
          .          .          .
          .          .          .
685       .      HC542............
          .          V
          .          V
688       .      RM542
          .          .
          .          .
695       .          .       550S
          .          .          V
          .          .          V
707       .          .      RM550
          .          .          .
          .          .          .
714       .          .          .      560S
          .          .          .         V
          .          .          .         V
726       .          .          .     RM560
          .          .          .          .
          .          .          .          .
733       .          .          .          .      551S
          .          .          .          .         .
          .          .          .          .         .
 45       .          .      HC551........................
          .          .          V
          .          .          V
748       .          .      RM551
          .          .          .
          .          .          .
755       .          .          .      552S
```

```
     .         .         .         .
     .         .         .         .
767  .         .      HC552.........
     .         .         V
     .         .         V
770  .         .      RM552
     .         .         .
     .         .         .
777  .         .         .      21S
     .         .         .        V
     .         .         .        V
782  .         .         .     21RR
     .         .         .        .
     .         .         .        .
788  .         .         .        .        22S
     .         .         .        .          .
     .         .         .        .          .
793  .         .         .     HC22.........
     .         .         .        V
     .         .         .        V
795  .         .         .     22RR
     .         .         .        .
     .         .         .        .
801  .         .         .        .        23S
     .         .         .        .          .
     .         .         .        .          .
806  .         .         .     HC23.........
     .         .         .        V
     .         .         .        V
8    .         .         .     23RR
     .         .         .        .
     .         .         .        .
814  .         .         .        .        24S
     .         .         .        .          .
     .         .         .        .          .
819  .         .         .     HC24.........
     .         .         .        V
     .         .         .        V
821  .         .         .     24RR
     .         .         .        .
     .         .         .        .
827  .         .         .        .        25S
     .         .         .        .          .
     .         .         .        .          .
832  .         .         .     HC25.........
     .         .         .        V
     .         .         .        V
834  .         .         .     25RR
     .         .         .        .
     .         .         .        .
840  .         .         .        .        27S
     .         .         .        .          V
     .         .         .        .          V
5    .         .         .        .       27RR
     .         .         .        .          .
     .         .         .        .          .
851  .         .         .        .          .        29S
     .         .         .        .          .          .
     .         .         .        .          .          .
856  .         .         .        .       HC29.........
```

```
858                                   30S
                                       V
                                       V
863                                  30RR
869                            HC30.........
871                                   31S
876                      HC31.................
878                            32S
883                      HC32.........
885                            34S
890                      HC34.........
 3                             41S
898                                   42S
903                            HC42.........
                                       V
                                       V
905                            42RR
911                                   43S
916                            HC43.........
918                                   44S
923                            HC44.........
 25                                   45S
930                                          46S
935                                   HC46.........
```

```
                .         .         .         .         .         V
                .         .         .         .         .         V
937             .         .         .         .         .       46RR
                .         .         .         .         .         .
                .         .         .         .         .         .
943             .         .         .         .         .         .         47S
                .         .         .         .         .         .           .
                .         .         .         .         .         .           .
948             .         .         .         .         .      HC47A............
                .         .         .         .         .         .
                .         .         .         .         .         .
950             .         .         .         .    HC47B............
                .         .         .         .       V
                .         .         .         .       V
952             .         .         .         .     47RR
                .         .         .         .       .
                .         .         .         .       .
958             .         .         .         .         .       48S
                .         .         .         .         .         .
                .         .         .         .         .         .
963             .         .         .         .    HC48............
                .         .         .         .       V
                .         .         .         .       V
965             .         .         .         .     48RR
                .         .         .         .       .
                .         .         .         .       .
971             .         .         .         .         .       49S
                .         .         .         .         .         .
                .         .         .         .         .         .
976             .         .         .         .    HC49............
                .         .         .         .       .
                .         .         .         .       .
978             .         .         .         .         .       50S
                .         .         .         .         .         .
                .         .         .         .         .         .
983             .         .         .         .    HC50............
                .         .         .         .       .
                .         .         .         .       .
985             .         .         .         .         .       52S
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                .         .         .         .         .         .
990             .         .         .         .         .         .         53S
                .         .         .         .         .         .           .
                .         .         .         .         .         .           .
995             .         .         .         .         .      HC53............
                .         .         .         .         .         V
                .         .         .         .         .         V
997             .         .         .         .         .      53RR
                .         .         .         .         .         .
                .         .         .         .         .         .
1003            .         .         .         .         .         .         54S
                .         .         .         .         .         .           .
                .         .         .         .         .         .           .
1008            .         .         .         .         .         .           .         55S
                .         .         .         .         .         .           .           .
                .         .         .         .         .         .           .           .
1013            .         .         .         .         .         .      HC55A............
                .         .         .         .         .         .           .
                .         .         .         .         .         .           .
1015            .         .         .         .         .      HC55B............
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                                                  V
                                                  V
1017                                          55RR
                                                  .
                                                  .
1023                                              .        56S
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1028                                              .          .        57S
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1033                                              .      HC57A............
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1035                                          HC57B............
                                                  V
                                                  V
1037                                          57RR
                                                  .
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1043                                              .        58S
                                                  .          .
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1048                                          HC58............
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                                                  .
1050                                              .        51S
                                                  .          .
                                                  .          .
5                                       HC51........................
                                           V
                                           V
1057                                    51RR1
                                           V
                                           V
1063                                    51RR2
                                           .
                                           .
1069                                          .        61S
                                              .          .
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1074                                    HC61............
                                           V
                                           V
1076                                    61RR
                                           .
                                           .
1082                                HC570............
                                       V
                                       V
1085                                RM570
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2                                       571S
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1104                                HC571............
                                       V
                                       V
1107                                RM571
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1114       .          .          .          553S
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1126       .      HC553.................................
.          .          V
.          .          V
1130       .      RM553
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1138       .          .          .<-------   554D1
1137       .          .      554R1
.          .          .
.          .          .
1140       .          .          .          .<-------   554D2
1139       .          .          .      554R2
.          .          .          .
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1141       .          .          .          .       554S
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1153       .      HC554.................................
.          .          V
.          .          V
1157       .      RM554
.          .          .
.          .          .
.          .          .          .<-------   555D1
.          .          .      555R1
.          .          .          .
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1167       .          .          .          .<-------   555D2
1166       .          .          .      555R2
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1168       .          .          .          .       555S
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1180       .     HC555A................................
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1184       .          .        91S
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1189       .          .          .        92S
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1194       .          .       HC92............
.          .          .          V
.          .          .          V
1196       .          .       92RR
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.          .          .          .        93S
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1207       .          .       HC93............
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1209    .       .       93RR
        .       .         .
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   5    .       .         .        94S
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1220    .       .       HC94............
        .       .         .
        .       .         .
1222    .       .         .        95S
        .       .         .          .
        .       .         .          .
1227    .       .       HC95............
        .       .         .
        .       .         .
1229    .       .         .        96S
        .       .         .          V
        .       .         .          V
1234    .       .         .       96RR
        .       .         .          .
        .       .         .          .
1240    .       .         .          .        97S
        .       .         .          .          .
        .       .         .          .          .
1245    .       .       HC97........................
        .       .         V
        .       .         V
1247    .       .       97RR
        .       .         .
        .       .         .
..53    .       .         .        98S
        .       .         .          V
        .       .         .          V
1258    .       .         .       98RR
        .       .         .          .
        .       .         .          .
1264    .       .       HC98............
        .       .         .
        .       .         .
1266    .       .         .        99S
        .       .         .          .
        .       .         .          .
1271    .       .       HC99............
        .       .         V
        .       .         V
1273    .       .       99RR
        .       .         .
        .       .         .
1279    .       .         .        90S
        .       .         .          .
        .       .         .          .
1284    .       .      HC580............
        .       .         V
        .       .         V
 ,7     .       .      RM580
        .       .         .
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1294    .       .         .       581S
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1306          .           .       HC581............
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              .           .           .
              .      HC555B............
              .           V
              .           V
1312          .       RM555
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              .           .
1320          .           .           .<-------    556D
1319          .           .       556R
              .           .           .
              .           .           .
1321          .           .           .       556S
              .           .           .           .
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1333      HC556A..................................
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1338          .        408S
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(***) RUNOFF ALSO COMPUTED AT THIS LOCATION

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****************************************
*                                      *
*   FLOOD HYDROGRAPH PACKAGE  (HEC-1)  *
              MAY   1991               *
           VERSION 4.0.1E              *
*                                      *
* RUN DATE  01/25/95  TIME  13:34:18   *
*                                      *
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****************************************
*                                      *
*    U.S. ARMY CORPS OF ENGINEERS      *
*    HYDROLOGIC ENGINEERING CENTER     *
*          609 SECOND STREET           *
*       DAVIS, CALIFORNIA 95616        *
*           (916) 551-1748             *
*                                      *
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ACDC AREA DRAINAGE MASTER STUDY
FILENAME: NR16.DAT KHE JOB NO. 0146
WATERSHED CONTRIBUTING TO NEW RIVER UP TO ITS CONFLUENCE WITH
SKUNK CREEK

2-YEAR 6-HOUR DURATION STORM FOR EXISTING CONDITIONS

```
9 IO        OUTPUT CONTROL VARIABLES
                 IPRNT          5  PRINT CONTROL
                 IPLOT          0  PLOT CONTROL
                 QSCAL         0.  HYDROGRAPH PLOT SCALE

  IT        HYDROGRAPH TIME DATA
                  NMIN          3  MINUTES IN COMPUTATION INTERVAL
                 IDATE      1   0  STARTING DATE
                 ITIME       0000  STARTING TIME
                    NQ        500  NUMBER OF HYDROGRAPH ORDINATES
                NDDATE      2   0  ENDING DATE
                NDTIME       0057  ENDING TIME
                 ICENT         19  CENTURY MARK

            COMPUTATION INTERVAL    0.05 HOURS
                 TOTAL TIME BASE   24.95 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
```

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	500S	6.	5.30	2.	1.	1.	0.41		
ROUTED TO	RM500	5.	7.20	2.	1.	1.	0.41	100.06	7.20
HYDROGRAPH AT	501S	0.	0.05	0.	0.	0.	0.52		
2 COMBINED AT	HC501	5.	7.20	2.	1.	1.	0.93		
ROUTED TO	RM501	4.	10.20	2.	1.	1.	0.93	100.05	10.25
HYDROGRAPH AT	502S	0.	0.05	0.	0.	0.	0.55		
HYDROGRAPH AT	510S	16.	4.90	6.	2.	1.	0.63		
ROUTED TO	RM510	15.	5.65	6.	2.	1.	0.63	99.22	5.65
HYDROGRAPH AT	511S	1.	5.25	0.	0.	0.	0.44		
2 COMBINED AT	HC511	16.	5.65	6.	2.	2.	1.06		
ROUTED TO	RM511	14.	6.65	6.	2.	2.	1.06	99.23	6.65
HYDROGRAPH AT	512S	0.	0.05	0.	0.	0.	0.47		
2 COMBINED AT	HC512A	14.	6.65	6.	2.	2.	1.53		
DIVERSION TO	533D	7.	6.65	3.	1.	1.	1.53		
HYDROGRAPH AT	502RE	7.	6.65	3.	1.	1.	1.53		
3 COMBINED AT	HC502	8.	6.70	5.	2.	1.	3.02		
ROUTED TO	RM502	7.	7.65	5.	2.	1.	3.02	100.04	7.65
HYDROGRAPH AT	503S	64.	5.50	31.	9.	8.	0.95		
2 COMBINED AT	HC503	64.	5.50	34.	10.	10.	3.97		
ROUTED TO	503RR	8.	11.10	8.	5.	5.	3.97	26.31	11.15
ROUTED TO	RM503	8.	11.45	8.	5.	5.	3.97	100.14	11.50
HYDROGRAPH AT	533R	7.	6.65	3.	1.	1.	0.00		
HYDROGRAPH AT	533A	1.	4.10	0.	0.	0.	0.01		
2 COMBINED AT	HC512B	7.	6.65	3.	1.	1.	0.01		
ROUTED TO	RM512	7.	7.05	3.	1.	1.	0.01	100.18	7.05
HYDROGRAPH AT	533B	54.	4.30	15.	4.	4.	0.28		

ROUTED TO	533RR1	16.	5.40	12.	4.	4.	0.28	30.03	5.45
2 COMBINED AT	HC533A	20.	7.00	15.	5.	5.	0.29		
HYDROGRAPH AT	520S	32.	4.45	9.	2.	2.	0.68		
DIVERSION TO	530D	32.	0.05	9.	2.	2.	0.68		
HYDROGRAPH AT	520RE	0.	0.05	0.	0.	0.	0.68		
ROUTED TO	RM520	0.	0.05	0.	0.	0.	0.68	100.00	0.00
HYDROGRAPH AT	521S	61.	4.55	14.	4.	3.	0.62		
2 COMBINED AT	HC521	61.	4.55	14.	4.	3.	1.29		
ROUTED TO	RM521	49.	5.45	14.	4.	3.	1.29	100.30	5.45
HYDROGRAPH AT	522S	0.	0.05	0.	0.	0.	0.51		
2 COMBINED AT	HC522	49.	5.45	14.	4.	3.	1.80		
HYDROGRAPH AT	533C	26.	4.50	6.	2.	2.	0.12		
2 COMBINED AT	HC533B	57.	5.40	20.	5.	5.	1.92		
ROUTED TO	533RR2	35.	6.00	18.	5.	5.	1.92	35.09	6.00
HYDROGRAPH AT	533D	19.	5.00	7.	2.	2.	0.10		
2 COMBINED AT	HC533C	45.	5.95	24.	7.	7.	2.02		
ROUTED TO	533RR3	13.	9.50	12.	6.	6.	2.02	29.14	9.55
HYDROGRAPH AT	533E	3.	4.20	1.	0.	0.	0.01		
2 COMBINED AT	HC533D	13.	9.50	12.	6.	6.	2.04		
ROUTED TO	533RR4	13.	9.60	12.	6.	6.	2.04	34.06	9.65
HYDROGRAPH AT	530S	72.	4.30	14.	4.	3.	0.82		
HYDROGRAPH AT	R530	32.	4.45	9.	2.	2.	0.00		
2 COMBINED AT	HC530	101.	4.30	23.	6.	6.	0.82		
ROUTED TO	RM530	85.	4.90	23.	6.	6.	0.82	100.41	4.90
HYDROGRAPH AT	531S	143.	4.80	31.	8.	7.	0.65		
2 COMBINED AT	HC531	226.	4.85	53.	14.	13.	1.47		
ROUTED TO	RM531	207.	5.40	53.	14.	13.	1.47	100.72	5.40
HYDROGRAPH AT	532S	69.	4.90	14.	3.	3.	0.52		
2 COMBINED AT	HC532	251.	5.35	66.	17.	16.	2.00		
DIVERSION TO	554D1	176.	5.35	46.	12.	11.	2.00		

HYDROGRAPH AT	532RE	75.	5.35	20.	5.	5.	2.00		
HYDROGRAPH AT	533F	13.	4.30	3.	1.	1.	0.06		
2 COMBINED AT	HC533E	79.	5.30	23.	6.	6.	2.06		
HYDROGRAPH AT	533G	15.	4.35	4.	1.	1.	0.08		
2 COMBINED AT	HC533F	85.	5.30	26.	7.	7.	2.14		
ROUTED TO	533RR6	19.	6.75	17.	6.	6.	2.14	29.04	6.75
2 COMBINED AT	HC533G	31.	7.40	28.	12.	12.	4.18		
ROUTED TO	RM522B	31.	7.70	28.	12.	12.	4.18	100.32	7.70
HYDROGRAPH AT	533H	12.	4.25	3.	1.	1.	0.03		
2 COMBINED AT	HC533H	31.	7.70	28.	13.	13.	4.21		
HYDROGRAPH AT	533I	21.	4.60	6.	1.	1.	0.08		
ROUTED TO	533RR8	8.	5.50	5.	1.	1.	0.08	28.63	5.50
2 COMBINED AT	HC533I	36.	7.25	31.	14.	14.	4.29		
ROUTED TO	RM522C	36.	7.35	31.	14.	14.	4.29	100.26	7.35
HYDROGRAPH AT	533J	13.	4.20	3.	1.	1.	0.03		
2 COMBINED AT	HC533J	36.	7.35	31.	15.	15.	4.33		
HYDROGRAPH AT	533K	12.	4.30	3.	1.	1.	0.06		
ROUTED TO	533RR9	9.	4.70	3.	1.	1.	0.06	26.78	4.70
2 COMBINED AT	HC533K	36.	7.15	33.	16.	15.	4.38		
DIVERSION TO	554D2	0.	7.15	0.	0.	0.	4.38		
HYDROGRAPH AT	533RE1	36.	7.15	33.	16.	15.	4.38		
DIVERSION TO	555D1	0.	7.15	0.	0.	0.	4.38		
HYDROGRAPH AT	533RE2	36.	7.15	33.	16.	15.	4.38		
DIVERSION TO	534D1	0.	7.15	0.	0.	0.	4.38		
HYDROGRAPH AT	533RE3	36.	7.15	33.	16.	15.	4.38		
DIVERSION TO	534D2	0.	7.15	0.	0.	0.	4.38		
HYDROGRAPH AT	533RE4	36.	7.15	33.	16.	15.	4.38		
ROUTED TO	RM533C	36.	7.25	33.	16.	15.	4.38	100.74	7.30
3 COMBINED AT	HC533L	62.	7.10	52.	26.	25.	8.64		
ROUTED TO	RM533D	61.	7.55	52.	26.	25.	8.64	100.66	7.55

HYDROGRAPH AT	534R1	0.	0.05	0.	0.	0.	0.00		
ROUTED TO	RM533E	0.	0.05	0.	0.	0.	0.00	100.00	0.00
DIVERSION TO	555D2	0.	0.05	0.	0.	0.	0.00		
HYDROGRAPH AT	533RE6	0.	0.05	0.	0.	0.	0.00		
DIVERSION TO	535D	0.	0.05	0.	0.	0.	0.00		
HYDROGRAPH AT	533RE7	0.	0.05	0.	0.	0.	0.00		
ROUTED TO	RM533F	0.	0.05	0.	0.	0.	0.00	100.00	0.00
HYDROGRAPH AT	534R2	0.	0.05	0.	0.	0.	0.00		
ROUTED TO	RM533G	0.	0.05	0.	0.	0.	0.00	100.00	0.00
HYDROGRAPH AT	534S	53.	4.95	22.	6.	6.	0.90		
4 COMBINED AT	HC534	102.	5.10	70.	31.	30.	9.54		
ROUTED TO	RM534A	100.	5.40	70.	31.	.30.	9.54	100.49	5.40
HYDROGRAPH AT	535R	0.	0.05	0.	0.	0.	0.00		
DIVERSION TO	556D	0.	0.05	0.	0.	0.	0.00		
HYDROGRAPH AT	535RE	0.	0.05	0.	0.	0.	0.00		
ROUTED TO	RM534C	0.	0.05	0.	0.	0.	0.00	100.00	0.00
ROUTED TO	RM534E	0.	0.05	0.	0.	0.	0.00	100.00	0.00
HYDROGRAPH AT	535S	58.	4.45	17.	4.	4.	0.64		
3 COMBINED AT	HC535	127.	5.25	79.	35.	34.	10.18		
DIVERSION TO	DV91S	0.	5.25	0.	0.	0.	10.18		
HYDROGRAPH AT	535RE	127.	5.25	79.	35.	34.	10.18		
ROUTED TO	RM535	126.	5.35	79.	35.	34.	10.18	101.56	5.35
HYDROGRAPH AT	540S	20.	6.70	11.	3.	3.	2.24		
ROUTED TO	RM540	20.	7.35	11.	3.	3.	2.24	18.44	7.35
HYDROGRAPH AT	541S	0.	0.05	0.	0.	0.	0.47		
2 COMBINED AT	HC541	20.	7.35	11.	3.	3.	2.71		
ROUTED TO	RM541	19.	8.50	11.	3.	3.	2.71	86.39	8.50
HYDROGRAPH AT	542S	1.	5.05	0.	0.	0.	0.49		
2 COMBINED AT	HC542	19.	8.50	11.	3.	3.	3.20		
ROUTED TO	RM542	18.	9.55	11.	3.	3.	3.20	64.35	9.55

HYDROGRAPH AT	550S	17.	5.80	8.	2.	2.	1.95		
ROUTED TO	RM550	14.	7.65	8.	2.	2.	1.95	24.18	7.65
HYDROGRAPH AT	560S	16.	4.75	5.	1.	1.	1.12		
ROUTED TO	RM560	11.	7.25	5.	1.	1.	1.12	88.31	7.25
HYDROGRAPH AT	551S	2.	6.75	1.	0.	0.	1.45		
3 COMBINED AT	HC551	26.	7.50	14.	4.	4.	4.51		
ROUTED TO	RM551	26.	8.15	14.	4.	4.	4.51	76.06	8.15
HYDROGRAPH AT	552S	27.	6.90	17.	5.	5.	2.38		
2 COMBINED AT	HC552	47.	7.80	30.	9.	9.	6.90		
ROUTED TO	RM552	45.	8.90	30.	9.	9.	6.90	48.23	8.90
HYDROGRAPH AT	21S	3.	4.30	1.	0.	0.	0.04		
ROUTED TO	21RR	0.	0.05	0.	0.	0.	0.04	1277.16	6.60
HYDROGRAPH AT	22S	8.	4.10	1.	0.	0.	0.03		
2 COMBINED AT	HC22	8.	4.10	1.	0.	0.	0.06		
ROUTED TO	22RR	5.	4.45	1.	0.	0.	0.06	1276.86	4.45
HYDROGRAPH AT	23S	1.	4.15	0.	0.	0.	0.01		
2 COMBINED AT	HC23	6.	4.40	2.	0.	0.	0.07		
ROUTED TO	23RR	5.	4.80	2.	0.	0.	0.07	1275.29	4.80
HYDROGRAPH AT	24S	1.	4.15	0.	0.	0.	0.01		
2 COMBINED AT	HC24	6.	4.75	2.	0.	0.	0.08		
ROUTED TO	24RR	5.	5.15	2.	0.	0.	0.08	1272.28	5.15
HYDROGRAPH AT	25S	7.	4.15	1.	0.	0.	0.05		
2 COMBINED AT	HC25	9.	4.35	3.	1.	1.	0.13		
ROUTED TO	25RR	2.	6.50	2.	1.	1.	0.13	1268.22	6.55
HYDROGRAPH AT	27S	11.	4.30	2.	1.	0.	0.12		
ROUTED TO	27RR	2.	5.45	1.	1.	0.	0.12	1278.19	5.45
HYDROGRAPH AT	29S	3.	4.35	0.	0.	0.	0.06		
2 COMBINED AT	HC29	4.	4.60	2.	1.	1.	0.19		
HYDROGRAPH AT	30S	7.	4.25	1.	0.	0.	0.06		
ROUTED TO	30RR	2.	5.10	1.	0.	0.	0.06	1265.21	5.10

2 COMBINED AT	HC30	6.	4.65	3.	1.	1.	0.24		
HYDROGRAPH AT	31S	2.	4.35	0.	0.	0.	0.05		
3 COMBINED AT	HC31	9.	4.60	5.	2.	2.	0.42		
HYDROGRAPH AT	32S	2.	4.35	0.	0.	0.	0.05		
2 COMBINED AT	HC32	11.	4.60	6.	2.	2.	0.48		
HYDROGRAPH AT	34S	3.	4.35	1.	0.	0.	0.08		
2 COMBINED AT	HC34	14.	4.55	6.	2.	2.	0.55		
HYDROGRAPH AT	41S	3.	4.15	1.	0.	0.	0.02		
HYDROGRAPH AT	42S	5.	4.35	1.	0.	0.	0.07		
2 COMBINED AT	HC42	8.	4.30	2.	0.	0.	0.09		
ROUTED TO	42RR	3.	5.05	1.	0.	0.	0.09	1303.14	5.05
HYDROGRAPH AT	43S	0.	5.05	0.	0.	0.	0.01		
2 COMBINED AT	HC43	3.	5.05	1.	0.	0.	0.10		
HYDROGRAPH AT	44S	3.	4.30	0.	0.	0.	0.03		
2 COMBINED AT	HC44	5.	4.60	2.	1.	0.	0.13		
HYDROGRAPH AT	45S	5.	4.10	1.	0.	0.	0.02		
HYDROGRAPH AT	46S	8.	4.15	1.	0.	0.	0.06		
2 COMBINED AT	HC46	12.	4.15	2.	1.	1.	0.07		
ROUTED TO	46RR	5.	4.90	2.	1.	1.	0.07	1300.21	4.90
HYDROGRAPH AT	47S	4.	4.25	1.	0.	0.	0.03		
2 COMBINED AT	HC47A	7.	4.40	3.	1.	1.	0.11		
2 COMBINED AT	HC47B	12.	4.40	5.	1.	1.	0.24		
ROUTED TO	47RR	6.	6.20	4.	1.	1.	0.24	1289.45	6.20
HYDROGRAPH AT	48S	6.	4.30	1.	0.	0.	0.06		
2 COMBINED AT	HC48	8.	4.35	5.	2.	1.	0.30		
ROUTED TO	48RR	7.	4.60	5.	2.	1.	0.30	1287.10	4.60
HYDROGRAPH AT	49S	0.	0.05	0.	0.	0.	0.04		
2 COMBINED AT	HC49	7.	4.60	5.	2.	1.	0.34		
HYDROGRAPH AT	50S	3.	4.25	0.	0.	0.	0.02		
2 COMBINED AT	HC50	9.	4.45	5.	2.	2.	0.36		

HYDROGRAPH AT	52S	3.	4.10	1.	0.	0.	0.01		
HYDROGRAPH AT	53S	5.	4.15	1.	0.	0.	0.03		
2 COMBINED AT	HC53	8.	4.10	1.	0.	0.	0.04		
ROUTED TO	53RR	5.	4.60	1.	0.	0.	0.04	1297.29	4.60
HYDROGRAPH AT	54S	8.	4.10	1.	0.	0.	0.03		
HYDROGRAPH AT	55S	4.	4.10	1.	0.	0.	0.02		
2 COMBINED AT	HC55A	12.	4.10	2.	1.	0.	0.05		
2 COMBINED AT	HC55B	15.	4.15	3.	1.	1.	0.09		
ROUTED TO	55RR	8.	4.90	3.	1.	1.	0.09	1294.51	4.90
HYDROGRAPH AT	56S	4.	4.30	1.	0.	0.	0.04		
HYDROGRAPH AT	57S	10.	4.30	2.	0.	0.	0.10		
2 COMBINED AT	HC57A	14.	4.30	2.	1.	1.	0.14		
2 COMBINED AT	HC57B	20.	4.35	6.	1.	1.	0.23		
ROUTED TO	57RR	19.	4.45	6.	1.	1.	0.23	1290.17	4.45
HYDROGRAPH AT	58S	0.	4.35	0.	0.	0.	0.01		
2 COMBINED AT	HC58	20.	4.45	6.	2.	1.	0.24		
HYDROGRAPH AT	51S	17.	4.15	3.	1.	1.	0.13		
3 COMBINED AT	HC51	45.	4.35	15.	4.	4.	0.72		
ROUTED TO	51RR1	26.	5.15	14.	4.	4.	0.72	1277.77	5.15
ROUTED TO	51RR2	26.	5.30	14.	4.	4.	0.72	1273.18	5.30
HYDROGRAPH AT	61S	5.	4.35	1.	0.	0.	0.12		
2 COMBINED AT	HC61	28.	5.10	15.	4.	4.	0.85		
ROUTED TO	61RR	9.	8.25	7.	2.	2.	0.85	1265.74	8.25
2 COMBINED AT	HC570	14.	4.55	11.	4.	4.	1.40		
ROUTED TO	RM570	13.	8.55	11.	4.	4.	1.40	100.60	8.55
HYDROGRAPH AT	571S	32.	5.40	14.	4.	4.	1.35		
2 COMBINED AT	HC571	44.	5.40	22.	8.	8.	2.74		
ROUTED TO	RM571	43.	5.70	22.	8.	8.	2.74	101.27	5.70
HYDROGRAPH AT	553S	10.	4.70	3.	1.	1.	0.93		
4 COMBINED AT	HC553	77.	9.05	61.	21.	20.	13.77		

ROUTED TO	RM553	75.	9.90	60.	21.	20.	13.77	22.60	9.90
HYDROGRAPH AT	554R1	176.	5.35	46.	12.	11.	0.00		
HYDROGRAPH AT	554R2	0.	0.05	0.	0.	0.	0.00		
HYDROGRAPH AT	554S	22.	5.35	10.	3.	3.	0.54		
4 COMBINED AT	HC554	219.	5.35	106.	36.	34.	14.31		
ROUTED TO	RM554	206.	5.85	105.	36.	34.	14.31	93.87	5.85
HYDROGRAPH AT	555R1	0.	0.05	0.	0.	0.	0.00		
HYDROGRAPH AT	555R2	0.	0.05	0.	0.	0.	0.00		
HYDROGRAPH AT	555S	20.	4.90	7.	2.	2.	0.54		
4 COMBINED AT	HC555A	218.	5.80	108.	38.	36.	14.85		
HYDROGRAPH AT	91S	3.	4.45	1.	0.	0.	0.07		
HYDROGRAPH AT	92S	4.	4.25	1.	0.	0.	0.03		
2 COMBINED AT	HC92	7.	4.35	1.	0.	0.	0.10		
ROUTED TO	92RR	0.	6.15	0.	0.	0.	0.10	1242.21	6.60
HYDROGRAPH AT	93S	1.	4.85	0.	0.	0.	0.06		
2 COMBINED AT	HC93	1.	4.85	0.	0.	0.	0.16		
ROUTED TO	93RR	0.	6.25	0.	0.	0.	0.16	1236.01	6.20
HYDROGRAPH AT	94S	3.	4.50	1.	0.	0.	0.08		
2 COMBINED AT	HC94	3.	4.50	1.	0.	0.	0.24		
HYDROGRAPH AT	95S	2.	4.55	0.	0.	0.	0.07		
2 COMBINED AT	HC95	4.	4.50	1.	0.	0.	0.31		
HYDROGRAPH AT	96S	9.	4.40	2.	0.	0.	0.09		
ROUTED TO	96RR	2.	5.45	2.	0.	0.	0.09	1237.17	5.45
HYDROGRAPH AT	97S	0.	5.55	0.	0.	0.	0.07		
3 COMBINED AT	HC97	6.	4.60	3.	1.	1.	0.47		
ROUTED TO	97RR	0.	10.30	0.	0.	0.	0.47	1230.41	24.15
HYDROGRAPH AT	98S	2.	4.25	0.	0.	0.	0.02		
ROUTED TO	98RR	1.	4.75	0.	0.	0.	0.02	1230.08	4.75
2 COMBINED AT	HC98	1.	4.75	0.	0.	0.	0.48		
HYDROGRAPH AT	99S	2.	4.35	0.	0.	0.	0.05		

2 COMBINED AT	HC99	3.	4.45	1.	0.	0.	0.53		
ROUTED TO	99RR	1.	6.10	1.	0.	0.	0.53	1229.06	6.15
HYDROGRAPH AT	90S	3.	4.60	1.	0.	0.	0.08		
2 COMBINED AT	HC580	3.	4.65	1.	0.	0.	0.61		
ROUTED TO	RM580	3.	5.20	1.	0.	0.	0.61	100.11	5.20
HYDROGRAPH AT	581S	132.	4.70	50.	13.	13.	0.82		
2 COMBINED AT	HC581	133.	4.70	51.	14.	13.	1.43		
2 COMBINED AT	HC555B	289.	5.70	143.	51.	49.	16.28		
ROUTED TO	RM555	261.	6.60	142.	51.	49.	16.28	74.47	6.60
HYDROGRAPH AT	556R	0.	0.05	0.	0.	0.	0.00		
HYDROGRAPH AT	556S	13.	4.80	5.	1.	1.	0.56		
4 COMBINED AT	HC556A	347.	6.55	223.	88.	.85.	27.02		
HYDROGRAPH AT	408S	39.	5.30	21.	6.	6.	1.08		

NORMAL END OF HEC-1 ***

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****************************************
*                                      *
*   FLOOD HYDROGRAPH PACKAGE  (HEC-1)  *
*             MAY   1991               *
*           VERSION 4.0.1E             *
*                                      *
*  RUN DATE  01/25/95  TIME  13:34:18  *
*                                      *
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****************************************
*                                      *
*   U.S. ARMY CORPS OF ENGINEERS       *
*   HYDROLOGIC ENGINEERING CENTER      *
*         609 SECOND STREET            *
*      DAVIS, CALIFORNIA 95616         *
*          (916) 551-1748              *
*                                      *
****************************************
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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

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

  1           ID    ACDC AREA DRAINAGE MASTER STUDY
  2           ID    FILENAME:  NR16.DAT          KHE JOB NO. 0146
  3           ID    WATERSHED CONTRIBUTING TO NEW RIVER UP TO ITS CONFLUENCE WITH
  4           ID    SKUNK CREEK
  5           ID
  6           ID    2-YEAR 6-HOUR DURATION STORM FOR EXISTING CONDITIONS
  7           ID
              *
              *        CREATED:  JANUARY 19, 1995
              *
              *
              *DIAGRAM
  8           IT       3                    500
  9           IO       5
              *    *    *    *    *    *    *    *    *    *    *    *    *
              *                                                             *
              *          SUBAREA GROUPING CONTRIBUTING TO 91ST AVENUE DRAIN *
              *           SUB-BASINS 500-503, 510-512, 520-522, & 530-535   *
              *              TOTAL CONTRIBUTING AREA = 10.18 SQ. MI.    .   *
              *                                                             *
              *    *    *    *    *    *    *    *    *    *    *    *    *

 10           KK    500S
 11           KM   RUNOFF GENERATED ON SUB-BASIN 500
 12           KM   THE FOLLOWING PARAMETERS WERE PROVIDED FOR THIS BASIN
 13           KM   L= 1.455 mi  S= 50 ft/mi  Kb= 0.078
 14           KM   CLARK UNIT HYDROGRAPH FOR NATURAL WATERSHEDS WAS USED FOR THIS BASIN
 15           KM   6-HOUR RAINFALL, PATTERN NO. 1.00 WAS USED TO FIND TC & R FOR THIS BASIN
 16           KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF .995
 17           BA    .410
 18           IN      15
 19           KM   RAINFALL DEPTH OF 1.20 WAS SPACIALLY REDUCED AS SHOWN BY THE PB RECORD
 20           KM   AN AREAL REDUCTION COEFFICIENT OF .939 WAS USED
 21           PB   1.127
 22           KM   THE FOLLOWING PC RECORD USED A 6-HOUR STORM WITH A PATTERN NO. OF 2.74
 23           PC    .000    .013    .019    .029    .044    .058    .070    .082    .095    .108
 24           PC    .123    .139    .161    .207    .291    .467    .676    .807    .876    .919
 25           PC    .947    .961    .974    .987   1.000
 26           LG    .282    .323   4.080    .419   5.530
 27           UC   1.523   1.324
 28           UA      0       3       5       8      12      20      43      75      90      96
 29           UA    100

 30           KK   RM500
 31           KM   NORMAL DEPTH STORAGE ROUTE FLOW FROM SUB-BASIN 500 THROUGH 501
 32           KM              1) Reach Length = 5446 ft
 33           RS     13    FLOW      -1
 34           RC    .040    .030    .040    5446   .0060
 35           RX      0      25      50      80     120     150     175     200
 36           RY    102     101     100     100     100     100     101     102
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

  37          KK   501S
  38          KM   RUNOFF GENERATED ON SUB-BASIN 501
  39          KM   THE FOLLOWING PARAMETERS WERE PROVIDED FOR THIS BASIN
  40          KM   L= 1.031 mi  S= 32 ft/mi  Kb= 0.087
  41          KM   CLARK UNIT HYDROGRAPH FOR NATURAL WATERSHEDS WAS USED FOR THIS BASIN
  42          KM   6-HOUR RAINFALL, PATTERN NO. 1.03 WAS USED TO FIND TC & R FOR THIS BASIN
  43          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF .993
  44          BA    .524
  45          LG    .350    .350   3.920    .384    .000
  46          UC   1.672    .970
  47          UA      0       3       5       8      12      20      43      75      90      96
  48          UA    100

  49          KK   HC501
  50          KM   COMBINE HYDROGRAPHS FROM SUB-BASIN 501 WITH ROUTED FLOW FROM 500
  51          HC      2

  52          KK   RM501
  53          KM   NORMAL DEPTH STORAGE ROUTE FROM SUB-BASIN 501 THROUGH 502
  54          KM           1) Reach Length = 7666 ft
  55          RS     17    FLOW      -1
  56          RC   .040    .030    .040    7666   .0044
  57          RX      0      25      50      80     120     150     175     200
  58          RY    102     101     100     100     100     100     101     102

  59          KK   502S
  60          KM   RUNOFF GENERATED ON SUB-BASIN 502
  61          KM   THE FOLLOWING PARAMETERS WERE PROVIDED FOR THIS BASIN
  62          KM   L= 1.452 mi  S= 23 ft/mi  Kb= 0.086
  63          KM   CLARK UNIT HYDROGRAPH FOR NATURAL WATERSHEDS WAS USED FOR THIS BASIN
  64          KM   6-HOUR RAINFALL, PATTERN NO. 1.06 WAS USED TO FIND TC & R FOR THIS BASIN
  65          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF .993
  66          BA    .553
  67          LG    .350    .350   3.820    .361    .000
  68          UC   2.536   1.963
  69          UA      0       3       5       8      12      20      43      75      90      96
  70          UA    100

  71          KK   510S
  72          KM   RUNOFF GENERATED ON SUB-BASIN 510
  73          KM   THE FOLLOWING PARAMETERS WERE PROVIDED FOR THIS BASIN
  74          KM   L= 1.577 mi  S= 93 ft/mi  Kb= 0.074
  75          KM   CLARK UNIT HYDROGRAPH FOR NATURAL WATERSHEDS WAS USED FOR THIS BASIN
  76          KM   6-HOUR RAINFALL, PATTERN NO. 1.13 WAS USED TO FIND TC & R FOR THIS BASIN
  77          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF .992
  78          BA    .625
  79          LG    .209    .322   3.980    .396   8.130
  80          UC   1.112    .784
  81          UA      0       3       5       8      12      20      43      75      90      96
  82          UA    100
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 83           KK   RM510
 84           KM   NORMAL DEPTH STORAGE ROUTE FLOW FROM SUB-BASIN 510 THROUGH 511
 85           KM            1) Reach Length = 5415 ft
 86           RS      10    FLOW      -1
 87           RC    .040    .030    .040    5415   .0065
 88           RX       0      25      50      80     120     150     175     200
 89           RY     102     101     100      99      99     100     101     102

 90           KK    511S
 91           KM   RUNOFF GENERATED ON SUB-BASIN 511
 92           KM   THE FOLLOWING PARAMETERS WERE PROVIDED FOR THIS BASIN
 93           KM   L= 1.025 mi  S= 34 ft/mi  Kb= 0.087
 94           KM   CLARK UNIT HYDROGRAPH FOR NATURAL WATERSHEDS WAS USED FOR THIS BASIN
 95           KM   6-HOUR RAINFALL, PATTERN NO. 1.00 WAS USED TO FIND TC & R FOR THIS BASIN
 96           KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF .994
 97           BA    .437
 98           LG    .336    .345   3.770    .350    .820
 99           UC   1.540    .977
100           UA       0       3       5       8      12      20      43      75      90      96
101           UA     100

102           KK   HC511
103           KM   COMBINE HYDROGRAPHS FROM SUB-BASIN 511 WITH ROUTED FLOW FROM 510
104           HC       2

105           KK   RM511
106           KM   NORMAL DEPTH STORAGE ROUTE FLOW FROM SUB-BASIN 511 THROUGH 512
107           KM            1) Reach Length = 5909 ft
108           RS      10    FLOW      -1
109           RC    .040    .030    .040    5909   .0054
110           RX       0      25      50      80     120     150     175     200
111           RY     102     101     100      99      99     100     101     102

112           KK    512S
113           KM   RUNOFF GENERATED ON SUB-BASIN 512
114           KM   THE FOLLOWING PARAMETERS WERE PROVIDED FOR THIS BASIN
115           KM   L= 1.210 mi  S= 26 ft/mi  Kb= 0.088
116           KM   CLARK UNIT HYDROGRAPH FOR NATURAL WATERSHEDS WAS USED FOR THIS BASIN
117           KM   6-HOUR RAINFALL, PATTERN NO. 1.00 WAS USED TO FIND TC & R FOR THIS BASIN
118           KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF .994
119           BA    .469
120           LG    .350    .350   3.610    .315    .000
121           UC   2.000   1.432
122           UA       0       3       5       8      12      20      43      75      90      96
123           UA     100

124           KK  HC512A
125           KM   COMBINE HYDROGRAPHS FROM SUB-BASIN 512 WITH ROUTED FLOW FROM 511
126           HC       2
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 127          KK   502RE
 128          KM   DIVERT 50% WESTERLY ALONG BEARDSLEY RD. TO WESTBROOK VILLAGE WEST INLET
 129          DT    533D
 130          DI       0    1000    2000    3000
 131          DQ       0     500    1000    1500

 132          KK   HC502
 133          KM   COMBINE HYDROGRAPHS FROM SUB-BASIN 502 WITH ROUTED FLOW FROM 501 AND
 134          KM   REMAINING FLOW FROM SUBBASIN NO. 512 AT INLET TO WESTBROOK VILLAGE WEST
 135          HC       3
              *
              *     INFLOW TO WESTBROOK VILLAGE WEST
              *
              *     This section of the model was developed by the FCDMC and was obtained
              *     from a Draft Copy of their June 20, 1994 report, "91st Avenue Drain
              *     Hydrology Update, Flood Control District of Maricopa County, Watershed
              *     Management Branch."
              *

 136          KK   RM502
 137          KM   NORMAL DEPTH STORAGE ROUTE FROM SUB-BASIN 502 THROUGH 503
 138          RS      10    FLOW      -1
 139          RC    .030    .020    .030    5280   .0050
 140          RX       0      30      60      90     190     300     330     360
 141          RY     104     103     101     100     100     101     103     104

 142          KK    503S
 143          KM   RUNOFF GENERATED ON SUB-BASIN 503 (FCDMC SUB-BASIN I.D. WBW)
 144          KM   TOTAL OF PARCELS 1 TO 27 IN WESTBROOK VILLAGE WEST (1983 PROJECT)
 145          KM   PLUS PARCELS 28 (GOLF COURSES) ABOUT 23% OF AREA
 146          KM   AREA REVISED FROM 1.00 SQ.MI. TO 0.952 SQ.MI. PARCEL IN SOUTHWEST CORNER OF
 147          KM   SUBDIVISION DOES NOT CONTRIBUTE;  FLOWS PROCEED WESTWARD ON UNION HILLS DR.
 148          BA    .952
 149          LG     .35     .25   3.500    .280      30
 150          UC   1.724   1.556
 151          UA       0       3       5       8      12      20      43      75      90      96
 152          UA     100

 153          KK   HC503
 154          KM   COMBINE HYDROGRAPHS FROM SUB-BASIN 503 WITH ROUTED FLOW FROM 502
 155          HC       2

 156          KK   503RR
 157          KM   PER 1983 UDC REPORT AVAILABLE STORAGE IS 472 AC-FT IN GOLF COURSES
 158          KM   A MAXIMUM OF 350 AC-FT IS ASSUMED AS PER ERIE'S QU ESTIMATE
 159          KM   PER MEETING ON MAY 9, 1994 25 CFS IS ASSUMED AS BLEED OFF THRU 2' DIA PIPE
 160          KM   CULVERT CROSSING UNION HILLS DRIVE AT ABOUT 93RD ALIGNMENT
 161          RS       1    STOR       0
 162          SV       0      50     100     150     200     300     350     400     500
 163          SE      26      27      28      29      30      32      34      36      38
 164          SQ       0      25      25      25      25      25      25     300     400
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

165           KK   RM503
166           KM   ROUTE ALONG UNION HILLS DR. EASTWARD TOWARDS 93RD AVE
167           RS      5    FLOW      -1
168           RC    .03     .02     .03    2080   .0019
169           RX      0      20      40      60      80     100     120     140
170           RY    102     101     100     100     100     100     101     102
              *
              *
              *     THIS CONCLUDES PORTION OF HEC-1 FILE OBTAINED FROM THE
              *      FCDMC HYDROLOGY
              *

171           KK    533R
172           KM    RETRIEVE FLOWS GOING SOUTH ALONG 91ST AVE.
173           DR    533D
              *
              *
              *   BEGIN PORTION OF HEC-1 FILE OBTAINED FROM THE FCDMC HYDROLOGY
              *

174           KK    533A
175           KM   WESTBROOK VILLAGE PARCEL B8
176           KM   THIS PARCEL DISCHARGES DIRECTLY INTO 91ST AVE
177           BA   .0085
178           LG    .25     .25     3.5     .28      30
179           UC   .293    .274
180           UA      0       5      16      30      65      77      84      90      94      96
181           UA    100

182           KK  HC512B
183           KM   COMBINE HYDROGRAPHS SOUTH OF BEARDSLEY ROAD ALONG 91ST AVENUE
184           HC      2

185           KK   RM512
186           KM   ROUTE FLOWS ON 91ST AVENUE, BEARDSLY RD. TO UNION HILLS DR.
187           KM   ROUTE THRU 91ST AVE. SOUTHWARD, X-SECTION GIVEN IN 1983 WB REPORT
188           RS      2    FLOW      -1
189           RC    .02    .015     .02    2380   .0045
190           RX      0      12      22      40      80     121     131     143
191           RY    103     100     100     102     102     100     100     103

192           KK    533B
193           KM    COMBINE PARCELS 8A, 10B, 7, 6, 5, G10, 2B, 3B
194           BA   .2814
195           LG    .25     .25     3.5     .28      45
196           UC   .500    .458
197           UA      0       5      16      30      65      77      84      90      94      96
198           UA    100
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 199          KK  533RR1
 200          KM   ROUTE FLOWS THROUGH RESERVOIR 10, WESTBROOK VILLAGE EAST
 201          KM   THE RESERVOIR BLEEDS INTO 91ST AVENUE
 202          RS       1    STOR      -1       0
 203          SV       0     .35    2.28     6.4   12.82    24.0
 204          SE    27.5    28.5    29.5    30.5    31.5    32.5
 205          SQ       0       2      12      19      22      44

 206          KK  HC533A
 207          KM   91ST AVENUE AT INTERSECTION WITH UNION HILL DR.
 208          HC       2
              *
              *   CONCLUDE PORTION OF HEC-1 FILE OBTAINED FROM THE FCDMC HYDROLOGY
              *

 209          KK    520S
 210          KM   RUNOFF GENERATED ON SUB-BASIN 520
 211          KM   THE FOLLOWING PARAMETERS WERE PROVIDED FOR THIS BASIN
 212          KM   L= 1.569 mi  S= 238 ft/mi  Kb= 0.071
 213          KM   CLARK UNIT HYDROGRAPH FOR NATURAL WATERSHEDS WAS USED FOR THIS BASIN
 214          KM   6-HOUR RAINFALL, PATTERN NO. 1.17 WAS USED TO FIND TC & R FOR THIS BASIN
 215          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF .991
 216          BA    .675
 217          LG    .202    .318   3.920    .384  11.030
 218          UC    .667    .423
 219          UA       0       3       5       8      12      20      43      75      90      96
 220          UA     100

 221          KK   520RE
 222          KM   DIVERT MAX. OF 136 CFS EAST ALONG CALLE LEJOS TO 83RD AVENUE AS
 223          KM   PER AM. ENGINEERING CO. REPORT DEC. 1993
 224          DT    530D
 225          DI       0      50     100     137     200     400    1000
 226          DQ       0      50     100     137     137     137     137

 227          KK   RM520
 228          KM   NORMAL DEPTH STORAGE ROUTE FLOW FROM SUB-BASIN 520 THROUGH 521
 229          KM            1) Reach Length = 5886 ft
 230          RS       9    FLOW      -1
 231          RC    .040    .030    .040    5886   .0056
 232          RX      40      80      90     100     140     150     160     200
 233          RY     103     102     101     100     100     101     102     103

 234          KK    521S
 235          KM   RUNOFF GENERATED ON SUB-BASIN 521
 236          KM   THE FOLLOWING PARAMETERS WERE PROVIDED FOR THIS BASIN
 237          KM   L= 1.176 mi  S= 30 ft/mi  Kb= 0.044
 238          KM   CLARK UNIT HYDROGRAPH FOR NATURAL WATERSHEDS WAS USED FOR THIS BASIN
 239          KM   6-HOUR RAINFALL, PATTERN NO. 1.12 WAS USED TO FIND TC & R FOR THIS BASIN
 240          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF .992
 241          BA    .617
 242          LG    .100    .250   6.290    .186  15.530
 243          UC    .808    .438
 244          UA       0       3       5       8      12      20      43      75      90      96
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 245          UA     100

 246          KK   HC521
 247          KM   COMBINE HYDROGRAPHS FROM SUB-BASIN 521 WITH ROUTED FLOW FROM 520
 248          HC       2

 249          KK   RM521
 250          KM   NORMAL DEPTH STORAGE ROUTE FLOW FROM SUB-BASIN 521 THROUGH 522
 251          KM            1) Reach Length = 6074 ft
 252          RS      10    FLOW      -1
 253          RC    .040    .030    .040    6074   .0049
 254          RX       0      50      75     105     145     175     200     250
 255          RY     103     101     100     100     100     100     101     103

 256          KK    522S
 257          KM   RUNOFF GENERATED ON SUB-BASIN 522
 258          KM   THE FOLLOWING PARAMETERS WERE PROVIDED FOR THIS BASIN
 259          KM   L= 1.186 mi  S= 24 ft/mi  Kb= 0.077
 260          KM   CLARK UNIT HYDROGRAPH FOR NATURAL WATERSHEDS WAS USED FOR THIS BASIN
 261          KM   6-HOUR RAINFALL, PATTERN NO. 1.01 WAS USED TO FIND TC & R FOR THIS BASIN
 262          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF .993
 263          BA    .508
 264          LG    .388    .290   6.780    .185    .000
 265          UC   1.765   1.172
 266          UA       0       3       5       8      12      20      43      75      90      96
 267          UA     100

 268          KK   HC522
 269          KM   COMBINE HYDROGRAPHS FROM SUB-BASIN 522 WITH ROUTED FLOW FROM 521
 270          KM   WEST INLET FOR WESTBROOK VILLAGE EAST
 271          HC       2
              *
              *   BEGIN PORTION OF HEC-1 FILE OBTAINED FROM THE FCDMC HYDROLOGY
              *
              *  ROUTING COMMAND REMOVED FROM MODEL.  REACH LENGTH IS TOO SHORT FOR PEAK
              *  DISCHARGE ATTENUATION.
              *
              * KKRM522A
              * KM ROUTE OFFSITE INFLOWS, W.B. EAST INLET TO FIRST DETENTION
              * RS      1    FLOW      -1
              * RC    .03     .02     .03     260  .00192
              * RX      0      12    17.5    22.5    33.5    37.5      43      55
              * RY     45      42      40      40      40      40      42      45

 272          KK    533C
 273          KM   COMBINE PARCELS 9, 10A, 11, 12, GC3
 274          KM   HIGHEST SCS LAG TIME USED BY CONSULTANT WAS CONVERTED TO TC: TLAG/0.60
 275          BA    .123
 276          LG     .35     .25     8.4     .06      35
 277          UC    .574    .457
 278          UA       0       3       5       8      12      20      43      75      90      96
 279          UA     100
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 280          KK  HC533B
 281          KM   COMBINE HYDROGRAPHS WITHIN EAST WESTBROOK VILLAGE
 282          HC       2

 283          KK  533RR2
 284          KM   ROUTE FLOW THROUGH WESTBROOK VILLAGE EAST RESERVOIR 3
 285          RS       1    STOR      -1       0
 286          SV       0     .19    1.23    3.71    7.87    12.1    24.0
 287          SE      32      33      34      35      36      37      38
 288          SQ       0       2      12      19     195     811    1200

 289          KK    533D
 290          KM   COMBINE PARCELS 19, 18B, GC4-5
 291          BA    .101
 292          LG     .35     .15     8.4     .06      45
 293          UC   1.172    .915
 294          UA       0       3       5       8      12      20      43      75      90      96
 295          UA     100

 296          KK  HC533C
 297          KM   COMBINE HYDROGRAPHS WITHIN EAST WESTBROOK VILLAGE
 298          HC       2

 299          KK  533RR3
 300          KM   ROUTE FLOW THROUGH WESTBROOK VILLAGE EAST RESERVOIR 4 & 5
 301          RS       1    STOR      -1       0
 302          SV       0    2.57    7.19   13.71    22.4      32      37      42      47      52
 303          SE      27      28      29      30      31      33      34      35      36      37
 304          SQ       0       2      12      19      21      21      21      21     386    1207

 305          KK    533E
 306          KM   GOLF COURSE AT DRIVING RANGE
 307          BA   .0126
 308          LG     .35     .25     3.5     .29      45
 309          UC    .305    .274
 310          UA       0       3       5       8      12      20      43      75      90      96
 311          UA     100

 312          KK  HC533D
 313          KM   COMBINE HYDROGRAPHS WITH IN EAST WESTBROOK VILLAGE
 314          HC       2

 315          KK  533RR4
 316          KM   ROUTE FLOW THROUGH WESTBROOK VILLAGE EAST RESERVOIR 6
 317          RS       1    STOR      -1       0
 318          SV       0       2       4       6       8
 319          SE      33      34      35      36      37
 320          SQ       0       0     227     811    1200
              *
              *   CONCLUDE PORTION OF HEC-1 FILE OBTAINED FROM THE FCDMC HYDROLOGY
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 321          KK   530S
 322          KM   RUNOFF GENERATED ON SUB-BASIN 530
 323          KM   THE FOLLOWING PARAMETERS WERE PROVIDED FOR THIS BASIN
 324          KM   L= 1.452 mi  S= 280 ft/mi  Kb= 0.053
 325          KM   CLARK UNIT HYDROGRAPH FOR NATURAL WATERSHEDS WAS USED FOR THIS BASIN
 326          KM   6-HOUR RAINFALL, PATTERN NO. 1.29 WAS USED TO FIND TC & R FOR THIS BASIN
 327          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF .989
 328          BA    .821
 329          LG    .139    .276   3.550    .303  13.320
 330          UC    .425    .216
 331          UA       0       3       5       8      12      20      43      75      90      96
 332          UA     100

 333          KK   R530
 334          KM   RETRIEVE DIVERTED FLOW FROM SUB-BASIN 520
 335          DR   530D

 336          KK   HC530
 337          KM   COMBINE HYDROGRAPHS FROM SUB-BASIN 530 WITH DIVERTED FLOW FROM 520
 338          HC       2

 339          KK   RM530
 340          KM   NORMAL DEPTH STORAGE ROUTE FLOW FROM SUB-BASIN 530 THROUGH 531
 341          KM            1) Reach Length = 5688 ft
 342          RS       8    FLOW      -1
 343          RC    .040    .030    .040    5688   .0053
 344          RX       0      25      50      80     120     150     175     200
 345          RY     102     101     100     100     100     100     101     102

 346          KK   531S
 347          KM   RUNOFF GENERATED ON SUB-BASIN 531
 348          KM   THE FOLLOWING PARAMETERS WERE PROVIDED FOR THIS BASIN
 349          KM   L= 1.193 mi  S= 25 ft/mi  Kb= 0.060
 350          KM   CLARK UNIT HYDROGRAPH FOR NATURAL WATERSHEDS WAS USED FOR THIS BASIN
 351          KM   6-HOUR RAINFALL, PATTERN NO. 1.16 WAS USED TO FIND TC & R FOR THIS BASIN
 352          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF .991
 353          BA    .654
 354          LG    .225    .170  10.100    .036   9.530
 355          UC    .983    .533
 356          UA       0       3       5       8      12      20      43      75      90      96
 357          UA     100

 358          KK   HC531
 359          KM   COMBINE HYDROGRAPHS FROM SUB-BASIN 531 WITH ROUTED FLOW FROM 530
 360          HC       2

 361          KK   RM531
 362          KM   NORMAL DEPTH STORAGE ROUTE FLOW FROM SUB-BASIN 531 THROUGH 532
 363          KM            1) Reach Length = 6723 ft
 364          RS       9    FLOW      -1
 365          RC    .040    .030    .040    6723   .0043
 366          RX       0      50      75     105     145     175     200     250
 367          RY     103     101     100     100     100     100     101     103
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

368           KK   532S
369           KM   RUNOFF GENERATED ON SUB-BASIN 532
370           KM   THE FOLLOWING PARAMETERS WERE PROVIDED FOR THIS BASIN
371           KM   L= 1.109 mi  S= 25 ft/mi  Kb= 0.062
372           KM   CLARK UNIT HYDROGRAPH FOR NATURAL WATERSHEDS WAS USED FOR THIS BASIN
373           KM   6-HOUR RAINFALL, PATTERN NO. 1.02 WAS USED TO FIND TC & R FOR THIS BASIN
374           KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF .993
375           BA    .521
376           LG    .438    .103  10.100    .046    .000
377           UC   1.021    .596
378           UA      0       3       5       8      12      20      43      75      90      96
379           UA    100

380           KK   HC532
381           KM   COMBINE HYDROGRAPHS FROM SUB-BASIN 532 WITH ROUTED FLOW FROM 531
382           HC      2
              *
              *   BEGIN PORTION OF HEC-1 FILE OBTAINED FROM THE FCDMC HYDROLOGY
              *

383           KK   532RE
384           KM   DIVERT 70% SOUTHWARD THRU 83RD AVENUE
385           DT   554D1
386           DI      0     200     400     800    1200    1500    2000    2500
387           DQ      0     140     280     560     840    1050    1400    1750

388           KK    533F
389           KM   COMBINE PARCELS 13, 14, G1
390           BA   .0644
391           LG     .35     .25     3.5     .29      45
392           UC    .416    .366
393           UA      0       3       5       8      12      20      43      75      90      96
394           UA    100

395           KK  HC533E
396           KM   COMBINE HYDROGRAPHS WITHIN EAST WESTBROOK VILLAGE
397           HC      2
              *    *    *    *    *    *    *    *    *    *    *    *
              *                                                       *
              *     RESERVOIR ROUTING OPTION WAS REMOVED FROM THE MODEL.      *
              *     ROUTED FLOWS WERE INCREASING AND/OR NO DIFFERENCE IN      *
              *     TIMING FROM THE INFLOW HYDROGRAPH WERE OBSERVED.          *
              *                                                               *
              *    *    *    *    *    *    *    *    *    *    *    *
              * KK533RR5
              * KM ROUTE FLOW THROUGH WESTBROOK VILLAGE EAST RESERVOIR 1
              * KM
              * RS     1    STOR      -1       0
              * SV     0     .11     .63    1.43     3.3     5.5    6.46    6.94     7.5    10
              * SE    36      37      38      39      40      41      42      43      44    45
              * SQ     0       2      12      19    21.8    23.1    24.1      25     750    13
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 398          KK    533G
 399          KM   COMBINE PARCELS 15, 16, 17, 18A, 23A, GC2
 400          BA    .079
 401          LG     .35     .25     3.5     .29      45
 402          UC    .491    .457
 403          UA       0       3       5       8      12      20      43      75      90      96
 404          UA     100

 405          KK  HC533F
 406          KM   COMBINE HYDROGRAPHS WITHIN EAST WESTBROOK VILLAGE
 407          HC       2

 408          KK  533RR6
 409          KM   ROUTE FLOW THROUGH WESTBROOK VILLAGE EAST RESERVOIR 2
 410          KM
 411          RS       1    STOR      -1       0
 412          SV       0    1.97    4.86    9.02   14.99      20      25      30      34      38
 413          SE      26      27      28      29      30      31      32      33      34      35
 414          SQ       0       2      12      19      21      21      21      21     930    1200

 415          KK  HC533G
 416          KM   COMBINE 533RR4 AND 533RR6
 417          HC       2

 418          KK  RM522B
 419          RS       3    FLOW      -1
 420          RC     .04     .03     .04    1420   .0018
 421          RX       0      30      60      90     120     150     180     210
 422          RY     104     102     100     100     100     100     102     104

 423          KK    533H
 424          KM   COMBINE PARCELS 23B, 21A, G7
 425          BA    .033
 426          LG     .35     .15     8.4     .06      60
 427          UC    .375    .274
 428          UA       0       3       5       8      12      20      43      75      90      96
 429          UA     100

 430          KK  HC533H
 431          HC       2
              *    *    *    *    *    *    *    *    *    *    *    *
              *                                                        *
              *     RESERVOIR ROUTING OPTION WAS REMOVED FROM THE MODEL.      *
              *     ROUTED FLOWS WERE INCREASING AND/OR NO DIFFERENCE IN      *
              *     TIMING FROM THE INFLOW HYDROGRAPH WERE OBSERVED.          *
              *                                                        *
              *    *    *    *    *    *    *    *    *    *    *    *
              * KK533RR7
              * KM ROUTE FLOWS THROUGH RESERVOIR 7, WESTBROOK VILLAGE EAST
              * RS     1    STOR      -1       0
              * SV     0     .15     .85    2.26    4.71     6.0     7.0     9.0
              * SE    27      28      29      30      31      32      33      34
              * SQ     0      11      23      35      46     526    1391    2500
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 432          KK   533I
 433          KM   COMBINE PARCELS 25, 24, GC8, 27A, 26A
 434          BA   .0839
 435          LG    .35     .15     8.4     .06      45
 436          UC   .747    .550
 437          UA      0       3       5       8      12      20      43      75      90      96
 438          UA    100

 439          KK  533RR8
 440          KM   ROUTE FLOWS THROUGH RESERVOIR 8, WESTBROOK VILLAGE EAST
 441          RS      1    STOR      -1       0
 442          SV      0     .36    2.13    5.54   10.63   15.29    16.0
 443          SE     27      28      29      30      31      32      33
 444          SQ      0       2      12      19      22      30     100

 445          KK  HC533I
 446          KM   COMBINE OUTFLOW FROM RESERVOIRS 7 AND 8
 447          HC      2

 448          KK  RM522C
 449          KM   ROUTE HYDROGRAPHS THRU MAIN SOUTH STREET WITHIN EAST WESTBROOK VILLAGE
 450          RS      1    FLOW      -1
 451          RC    .03     .02     .03    1120   .0032
 452          RX      0      15      30      60      80     105     120     135
 453          RY    104     102     100     100     100     100     102     104

 454          KK   533J
 455          KM   COMBINE R/C, 1B, 26B
 456          BA   .0342
 457          LG    .35     .15     8.4     .06      60
 458          UC   .288    .275
 459          UA      0       3       5       8      12      20      43      75      90      96
 460          UA    100

 461          KK  HC533J
 462          HC      2

 463          KK   533K
 464          KM   COMBINE PARCELS 1A, 20, 21B, G9A, G9B, 2A, 3A
 465          BA   .0572
 466          LG    .35     .25     5.0     .28      45
 467          UC   .469    .366
 468          UA      0       3       5       8      12      20      43      75      90      96
 469          UA    100

 470          KK  533RR9
 471          KM   ROUTE THROUGH RESERVOIR 9, WESTBROOK VILLAGE EAST
 472          RS      1    STOR      -1       0
 473          SV      0     .03    .376   1.698   4.517   9.114  12.000
 474          SE     25      26      27      28      29      30      31
 475          SQ      0       2      11      18      24     128     200
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

476           KK  HC533K
477           KM   OUTFLOW FROM WESTBROOK VILLAGE EAST INTO UNION HILLS DR. AT 86TH AVE.
478           KM   ALIGNMENT AT INTERSECTION OF OUTLET WITH UNION HILLS RD., MAIN ENTRANCE
479           HC       2

480           KK  533RE1
481           KM   DIVERT 100 CFS TO NEW RIVER:  50 CFS THRU 42" CMP AND 50 CFS OVERLAND
482           DT   554D2
483           DI       0      50     100     150     300     600     900    1500
484           DQ       0       0       0     100     100     100     100     100

485           KK  533RE2
486           KM   DIVERT TO COUNTRY CLUB ROAD AND EVENTUALLY TO NEW RIVER.  RATING CURVE
487           KM   AS PER ERIE'S REPORT, ASSUMES OVERFLOW PROPORTIONAL TO WEIR LENGTH
488           DT   555D1
489           DI       0      50      80     982    2670    7461   13454
490           DQ       0       0       0     214     607    1716    3152
              *
              *  ROUTING COMMAND REMOVED FROM MODEL.  REACH LENGTH IS TOO SHORT FOR PEAK
              *  DISCHARGE ATTENUATION.
              *
              * KKRM533A
              * KM ROUTE REMAINING TO INTERSECTION OF UNION HILLS DR. & 87TH AVENUE
              * RS     1    FLOW      -1
              * RC   .02    .015     .02     660   .0015
              * RX     0       1       5      35      40      70      74      75
              * RY   104     102     100     101     101     100     102     104

491           KK  533RE3
492           KM   DIVERT SOUTH THRU 87TH AVE., PORTION GOES TO 91ST AVE. AT UNION HILLS DR.
493           KM   USING RATING CURVE DEVELOPED BY ERIE & ASSOCIATES
494           KM   INFLOW IS ASSUMED SUM OF RATED Q AT ROAD INTERSECTION
495           KM   THIS APPLIES TO SUCCEDING DIVERSIONS USING ERIE'S DATA
496           DT   534D1
497           DI       0      50      80     762    2067    5745
498           DQ       0       0       0     221     625    1768
              *
              *  ROUTING COMMAND REMOVED FROM MODEL.  REACH LENGTH IS TOO SHORT FOR PEAK
              *  DISCHARGE ATTENUATION.
              *
              * KKRM533B
              * KM ROUTE REMAINING FLOW TO 89TH AVE. THRU NORTH SIDE OF UNION HILLS RD.
              * RS     1    FLOW      -1
              * RC  .015    .015    .015    1320   .0037
              * RX     0       1       5      35      40      70      74      75
              * RY   104     102     100     101     101     100     102     104

499           KK  533RE4
500           KM   ASSUME SPLIT OCCURS WHEN DEPTH IS 0.5 FT ABOVE 91ST AVE CROWN AT INTERSECTION
501           KM   PER ERIE'S RATING Q=145 CFS ABOVE WHICH FLOW WILL HAVE 50-50 SPLIT
502           KM   FLOW LESS THAN OR EQUAL TO 145 CFS WILL CONTINUE WESTWARD TO 91ST AVE.
503           DT   534D2
504           DI       0      80     145     300     500     800    1200
505           DQ       0       0       0     150     250     400     600
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 506          KK  RM533C
 507          RS       2    FLOW      -1
 508          RC     .02    .015     .02    1320   .0015
 509          RX       0       1       5      35      40      70      74      75
 510          RY     104     102     100     101     101     100     102     104

 511          KK  HC533L
 512          KM   UNION HILLS DR. AT 91ST AVENUE
 513          HC       3

 514          KK  RM533D
 515          KM   NORMAL DEPTH STORAGE ROUTE FLOW FROM SUB-BASIN 533 THROUGH 534
 516          KM            1) Reach Length = 5474 ft
 517          RS       6    FLOW      -1
 518          RC    .025    .020    .025    5474   .0044
 519          RX       0      12      22      40     100     121     131     143
 520          RY     103     100     100     101     101     100     100     103

 521          KK   534R1
 522          KM   RETRIEVE FLOWS GOING SOUTH OF 87TH AVE. SOUTH OF UNION HILLS DR.
 523          DR   534D1

 524          KK  RM533E
 525          KM   ROUTE SOUTHWARD THRU 87TH AVE
 526          RS       7    FLOW      -1
 527          RC     .02    .015     .02    5560   .0042
 528          RX       0       1       5      35      40      70      74      75
 529          RY     104     102     100     101     101     100     102     104

 530          KK  533RE6
 531          KM   DIVERT 50% UP TO MAXIMUM OF 150 CFS EASTWARD ALONG BELL RD. TO NEW RIVER
 532          DT   555D2
 533          DI       0      20      50     150     200     300
 534          DQ       0       6      50     150     150     150

 535          KK  533RE7
 536          KM   DIVERT SOUTHWARD ALONG 87TH AVE., SOUTH OF BELL RD. USING ERIE'S RATING
 537          KM   VALUES
 538          DT    535D
 539          DI       0     101     600    2410    4905
 540          DQ       0      80     310    1540    3050

 541          KK  RM533F
 542          KM   ROUTE WESTWARD ALONG BELL RD.
 543          RS       3    FLOW      -1
 544          RC     .02    .015     .02    1320   .0015
 545          RX       0       1       5      45      50      90      94      95
 546          RY     104     102     100     101     101     100     102     104
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

547           KK   534R2
548           KM   RETRIEVE FLOWS GOING SOUTH ON 89TH AVE. SOUTH OF UNION HILL DR.
549           DR   534D2

550           KK  RM533G
551           RS       6    FLOW      -1
552           RC     .02    .015     .02    5280   .0049
553           RX       0       1       5      35      40      70      74      75
554           RY     104     102     100     101     101     100     102     104
              *
              *  ROUTING COMMAND REMOVED FROM MODEL.  REACH LENGTH IS TOO SHORT FOR PEAK
              *  DISCHARGE ATTENUATION.
              *
              * KKRM533H
              * RS     1    FLOW      -1
              * RC   .02    .015     .02     680   .0015
              * RX     0       1       5      35      40      70      74      75
              * RY   104     102     100     101     101     100     102 .   104
              *
              *   CONCLUDE PORTION OF HEC-1 FILE OBTAINED FROM THE FCDMC HYDROLOGY
              *

555           KK    534S
556           KM   RUNOFF GENERATED ON SUB-BASIN 534
557           KM   THE FOLLOWING PARAMETERS WERE PROVIDED FOR THIS BASIN
558           KM   L= 1.571 mi  S= 18 ft/mi  Kb= 0.061
559           KM   CLARK UNIT HYDROGRAPH FOR URBAN WATERSHEDS WAS USED FOR THIS BASIN
560           KM   6-HOUR RAINFALL, PATTERN NO. 1.34 WAS USED TO FIND TC & R FOR THIS BASIN
561           KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF .988
562           BA    .896
563           LG    .264    .281   7.500    .116  18.180
564           UC   1.734   1.042
565           UA       0       5      16      30      65      77      84      90      94      97
566           UA     100

567           KK   HC534
568           KM   COMBINE HYDROGRAPHS FROM SUB-BASIN 534 WITH ROUTED FLOW FROM SUB-BASIN 533
569           HC       4

570           KK  RM534A
571           KM   NORMAL DEPTH STORAGE ROUTE FLOW FROM SUB-BASIN 534 THROUGH 535
572           KM            1) Reach Length = 5114 ft
573           RS       4    FLOW      -1
574           RC    .030    .020    .030    5114   .0041
575           RX       0       0       5      10      75      80      85      85
576           RY     108     104     102     100     100     102     104     108

577           KK    535R
578           DR    535D
```

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


579           KK   535RE
580           KM   DIVERT THROUGH PARADISE LANE WESTWARD USING ERIE'S RATING VALUES
581           DT    5560
582           DI       0     144     570    2530    5490
583           DQ       0      80     310    1540    3050

584           KK  RM534C
585           RS       1    FLOW      -1
586           RC     .02    .015     .02     720   .0038
587           RX       0       1       5      35      40      70      74      75
588           RY     104     102     100     101     101     100     102     104
              *
              *  ROUTING COMMAND REMOVED FROM MODEL.  REACH LENGTH IS TOO SHORT FOR PEAK
              *  DISCHARGE ATTENUATION.  INCLUDE REACH LENGTH IN HEC-1 COMMAND RM534E.
              *
              * KKRM534D
              * KM ROUTE TO EXISTING 91ST AVE. CHANNEL WESTWARD
              * RS     1    FLOW      -1
              * RC   .03     .02     .03     560   .0036
              * RX     0      10      20      35      45      60      70      80
              * RY   108     104     102     100     100     102     104     108

589           KK  RM534E
590           KM   ROUTE THRU EXISTING DRAIN
591           RS       4    FLOW      -1
592           RC    .030    .020    .030    1810   .0042
593           RX       0       6      12      24      36      48      60      72
594           RY     108     104     102     100     100     102     104     108

595           KK    535S
596           KM   RUNOFF GENERATED ON SUB-BASIN 535
597           KM   THE FOLLOWING PARAMETERS WERE PROVIDED FOR THIS BASIN
598           KM   L= 1.176 mi  S= 22 ft/mi  Kb= 0.040
599           KM   CLARK UNIT HYDROGRAPH FOR URBAN WATERSHEDS WAS USED FOR THIS BASIN
600           KM   6-HOUR RAINFALL, PATTERN NO. 1.14 WAS USED TO FIND TC & R FOR THIS BASIN
601           KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF .992
602           BA    .642
603           LG    .301    .164   6.290    .227  20.750
604           UC    .883    .473
605           UA       0       5      16      30      65      77      84      90      94      97
606           UA     100

607           KK   HC535
608           KM   COMBINE HYDROGRAPHS AT 91ST AVE. DRAIN AND ALIGNMENT OF GREENWAY RD.
609           HC       3

610           KK   535RE
611           KM   DIVERT THRU EXISTING 91ST AVE. CHANNEL SPILLWAY PER DESIGN DRAWINGS
612           KM   DESIGN CAPACITY OF TRIPLE BARREL CULVERT = 743 CFS PLUS FB CAPACITY
613           KM   FLOW SOUTHWARD ALONG 91ST AVE. TOWARDS DESERT HARBOR MPC
614           DT   DV91S
615           DI       0     100     743    1170    1900    3000    4700
616           DQ       0       0       0       0     520    1470    2700
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

617           KK   RM535
618           KM   ROUTE REMAINING FLOW THRU 91ST AVE. CHANNEL TO OUTLET
619           KM   EXISTING GUNITE CHANNEL WITH 2:1 SS AS PER FCD CONSULTANT DESIGN
620           RS       2    FLOW      -1
621           RC     .02    .015     .02    1720   .0008
622           RX       0       7      14      20      28      34      41      48
623           RY     107   103.5     100     100     100     100   103.5     107
              *    *    *    *    *    *    *    *    *    *    *    *
              *                                                        *
              *       SUBAREA GROUPING CONTRIBUTING TO NEW RIVER ABOVE  *
              *               CONFLUENCE WITH SKUNK CREEK.              *
              *       SUB-BASINS 540-542, 550-556, 560, 570-571 & 580-581 *
              *           TOTAL CONTRIBUTING AREA = 16.84 SQ. MI.      *
              *                                                        *
              *    *    *    *    *    *    *    *    *    *    *    *

624           KK    540S
625           KM   RUNOFF GENERATED ON SUB-BASIN 540
626           KM   THE FOLLOWING PARAMETERS WERE PROVIDED FOR THIS BASIN
627           KM   L= 2.367 mi  S= 28 ft/mi  Kb= 0.071
628           KM   CLARK UNIT HYDROGRAPH FOR NATURAL WATERSHEDS WAS USED FOR THIS BASIN
629           KM   6-HOUR RAINFALL, PATTERN NO. 1.87 WAS USED TO FIND TC & R FOR THIS BASIN
630           KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF .979
631           BA   2.244
632           IN      15
633           KM   RAINFALL DEPTH OF 1.20 WAS SPACIALLY REDUCED AS SHOWN BY THE PB RECORD
634           KM   AN AREAL REDUCTION COEFFICIENT OF .919 WAS USED
635           PB   1.103
636           KM   THE FOLLOWING PC RECORD USED A 6-HOUR STORM WITH A PATTERN No. OF 3.03
637           PC    .000    .015    .020    .031    .049    .064    .077    .091    .106    .120
638           PC    .136    .153    .177    .224    .306    .473    .670    .795    .867    .911
639           PC    .945    .960    .973    .987   1.000
640           LG    .250    .350   3.610    .315   5.020
641           UC   3.359   1.785
642           UA       0       3       5       8      12      20      43      75      90      96
643           UA     100

644           KK   RM540
645           KM   NORMAL DEPTH STORAGE ROUTE FLOW FROM SUB-BASIN 540 THROUGH 541
646           KM            1) Reach Length = 5708 ft
647           RS       7    FLOW      -1
648           RC    .040    .040    .040    5708   .0058
649           RX      40      80     180     200     225     245     260     300
650           RY      24      24      22      18      18      22      24      24

651           KK    541S
652           KM   RUNOFF GENERATED ON SUB-BASIN 541
653           KM   THE FOLLOWING PARAMETERS WERE PROVIDED FOR THIS BASIN
654           KM   L= 1.081 mi  S= 31 ft/mi  Kb= 0.088
655           KM   CLARK UNIT HYDROGRAPH FOR NATURAL WATERSHEDS WAS USED FOR THIS BASIN
656           KM   6-HOUR RAINFALL, PATTERN NO. 1.00 WAS USED TO FIND TC & R FOR THIS BASIN
657           KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF .994
658           BA    .467
659           LG    .250    .350   4.030    .408    .000
```

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

 660          UC   1.740   1.124
 661          UA       0       3       5       8      12      20      43      75      90      96
 662          UA     100

 663          KK   HC541
 664          KM   COMBINE HYDROGRAPHS FROM SUB-BASIN 541 WITH ROUTED FLOW FROM 540
 665          HC       2

 666          KK   RM541
 667          KM   NORMAL DEPTH STORAGE ROUTE FLOW FROM SUB-BASIN 541 THROUGH 542
 668          KM            1) Reach Length = 5535 ft
 669          RS       7    FLOW      -1
 670          RC    .040    .040    .040    5535   .0054
 671          RX     140     170     200     210     240     265     285     300
 672          RY      94      92      90      86      86      90      92      94

 673          KK    542S
 674          KM   RUNOFF GENERATED ON SUB-BASIN 542
 675          KM   THE FOLLOWING PARAMETERS WERE PROVIDED FOR THIS BASIN -
 676          KM   L= 1.059 mi  S= 33 ft/mi  Kb= 0.073
 677          KM   CLARK UNIT HYDROGRAPH FOR NATURAL WATERSHEDS WAS USED FOR THIS BASIN
 678          KM   6-HOUR RAINFALL, PATTERN NO. 1.00 WAS USED TO FIND TC & R FOR THIS BASIN
 679          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF .994
 680          BA    .490
 681          LG    .383    .239   3.770    .405    .740
 682          UC   1.362    .820
 683          UA       0       3       5       8      12      20      43      75      90      96
 684          UA     100

 685          KK   HC542
 686          KM   COMBINE HYDROGRAPHS FROM SUB-BASIN 542 WITH ROUTED FLOW FROM 541
 687          HC       2

 688          KK   RM542
 689          KM   NORMAL DEPTH STORAGE ROUTE FLOW FROM SUB-BASIN 542 THROUGH 553
 690          KM            1) Reach Length = 5557 ft
 691          RS       6    FLOW      -1
 692          RC    .040    .040    .040    5557   .0061
 693          RX      40      60     100     130     160     190     210     230
 694          RY      72      71      70      64      64      70      71      72
              *    *    *    *    *    *    *    *    *    *    *    *    *
              *                                                            *
              *      BREAK SEQUENCE - JUMP TO SUB-BASIN 550                *
              *                                                            *
              *      SUB-BASIN 550 IS LOCATED DOWNSTREAM OF NEW RIVER DAM.  THE  *
              *      BF(BASE FLOW) RECORD OF HEC-1 WAS INCLUDED IN THIS SUB-BASIN  *
              *      TO MODEL THE NEW RIVER DAM LOW LEVEL OUTFLOW.         *
              *      ASSUMED NO OUTFLOW FOR THE 2-YEAR STORM.              *
              *      SOURCE:  F.I.S., MARICOPA COUNTY, ARIZONA AND INCORPORATED  *
              *               AREAS, FEMA.                                 *
              *                                                            *
              *    *    *    *    *    *    *    *    *    *    *    *    *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

695           KK   550S
696           KM   RUNOFF GENERATED ON SUB-BASIN 550
697           KM   THE FOLLOWING PARAMETERS WERE PROVIDED FOR THIS BASIN
698           KM   L= 1.701 mi  S= 63 ft/mi  Kb= 0.073
699           KM   CLARK UNIT HYDROGRAPH FOR NATURAL WATERSHEDS WAS USED FOR THIS BASIN
700           KM   6-HOUR RAINFALL, PATTERN NO. 1.79 WAS USED TO FIND TC & R FOR THIS BASIN
701           KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF .981
702           BA   1.946
703           LG    .250    .350   4.140    .431   3.600
704           UC   2.361   1.005
705           UA      0       3       5       8      12      20      43      75      90      96
706           UA    100

707           KK   RM550
708           KM   NORMAL DEPTH STORAGE ROUTE FLOW FROM SUB-BASIN 550 THROUGH 551
709           KM           1) Reach Length = 8432 ft
710           RS      8    FLOW      -1
711           RC   .040    .040    .040    8432   .0044
712           RX    210     400     420     445     500     525     590     670
713           RY     32      30      26      24      24      26      30      32

714           KK   560S
715           KM   RUNOFF GENERATED ON SUB-BASIN 560
716           KM   THE FOLLOWING PARAMETERS WERE PROVIDED FOR THIS BASIN
717           KM   L= 1.866 mi  S= 192 ft/mi  Kb= 0.079
718           KM   CLARK UNIT HYDROGRAPH FOR NATURAL WATERSHEDS WAS USED FOR THIS BASIN
719           KM   6-HOUR RAINFALL, PATTERN NO. 1.47 WAS USED TO FIND TC & R FOR THIS BASIN
720           KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF .986
721           BA   1.116
722           LG    .250    .360   4.120    .268   4.150
723           UC   1.004    .575
724           UA      0       3       5       8      12      20      43      75      90      96
725           UA    100

726           KK   RM560
727           KM   NORMAL DEPTH STORAGE ROUTE FLOW FROM SUB-BASIN 560 THROUGH 551
728           KM           1) Reach Length = 14187 ft
729           RS     17    FLOW      -1
730           RC   .030    .040    .030   14187   .0088
731           RX      0     215     250     280     300     320     460     560
732           RY     94      92      90      88      88      90      92      94

733           KK   551S
734           KM   RUNOFF GENERATED ON SUB-BASIN 551
735           KM   THE FOLLOWING PARAMETERS WERE PROVIDED FOR THIS BASIN
736           KM   L= 2.280 mi  S= 46 ft/mi  Kb= 0.075
737           KM   CLARK UNIT HYDROGRAPH FOR NATURAL WATERSHEDS WAS USED FOR THIS BASIN
738           KM   6-HOUR RAINFALL, PATTERN NO. 1.62 WAS USED TO FIND TC & R FOR THIS BASIN
739           KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF .984
740           BA   1.448
741           LG    .248    .349   4.190    .443    .680
742           UC   3.382   2.240
743           UA      0       3       5       8      12      20      43      75      90      96
744           UA    100
```

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

 745          KK   HC551
 746          KM   COMBINE HYDROGRAPHS FROM SUB-BASIN 551 WITH ROUTED FLOWS FROM 550 & 560
 747          HC       3

 748          KK   RM551
 749          KM   NORMAL DEPTH STORAGE ROUTE FLOW FROM SUB-BASIN 551 THROUGH 552
 750          KM            1) Reach Length = 5663 ft
 751          RS       6    FLOW      -1
 752          RC    .040    .040    .040    5663   .0056
 753          RX     100     100     145     250     420     450     510     520
 754          RY      92      88      78      76      76      82      84      92

 755          KK    552S
 756          KM   RUNOFF GENERATED ON SUB-BASIN 552
 757          KM   THE FOLLOWING PARAMETERS WERE PROVIDED FOR THIS BASIN
 758          KM   L= 3.216 mi  S= 46 ft/mi  Kb= 0.068
 759          KM   CLARK UNIT HYDROGRAPH FOR NATURAL WATERSHEDS WAS USED FOR THIS BASIN
 760          KM   6-HOUR RAINFALL, PATTERN NO. 1.91 WAS USED TO FIND TC & R FOR THIS BASIN
 761          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF .978
 762          BA   2.385
 763          LG    .244    .340   3.820    .363   7.320
 764          UC   3.531   2.328
 765          UA       0       3       5       8      12      20      43      75      90      96
 766          UA     100

 767          KK   HC552
 768          KM   COMBINE HYDROGRAPHS FROM SUB-BASIN 552 WITH ROUTED FLOW FROM 551
 769          HC       2

 770          KK   RM552
 771          KM   NORMAL DEPTH STORAGE ROUTE FLOW FROM SUB-BASIN 552 THROUGH 553
 772          KM            1) Reach Length = 5971 ft
 773          RS       6    FLOW      -1
 774          RC    .040    .040    .040    5971   .0055
 775          RX       0     100     130     190     310     390     450     500
 776          RY      56      54      50      48      48      50      52      56
              *
              *    ARROWHEAD RANCH DEVELOPMENT
              *
              *    This section of the model was developed by Dibble and Associates
              *    Consulting Engineers for the City of Glendale to address the Storm
              *    Drainage Plan for the Arrowhead Ranch Development.  The drainage
              *    report was titled, "Specific Area Plan, Storm Drainage Plan for the
              *    Arrowhead Ranch Development" and was prepared on April 20, 1992.
              *
              *    ARROWHEAD RANCH - SECTION 18/19 - SYSTEM II
              *

 777          KK     21S
 778          KM    SUB-BASIN 21
 779          BA    .035
 780          LS              82
 781          UD    .167
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 782          KK    21RR
 783          KM    LAKE NO. 1
 784          RS       1    ELEV  1277.0
 785          SV     0.0     3.6     4.5     5.4     6.3     7.2
 786          SE  1277.0  1279.0  1279.5  1280.0  1280.5  1281.0
 787          SQ       0       0     5.4     8.5    10.4    12.0

 788          KK     22S
 789          KM    SUB-BASIN 22
 790          BA    .027
 791          LS              92
 792          UD    .167

 793          KK    HC22
 794          HC       2

 795          KK    22RR
 796          KM    LAKE NO. 2
 797          RS       1    ELEV  1276.5
 798          SV     0.0     0.3     0.7     1.2     1.6     2.2     2.7     3.3
 799          SE  1276.5  1277.0  1277.5  1278.0  1278.5  1279.0  1279.5  1280.0
 800          SQ       0     7.1    14.1    19.7    42.4    92.7   164.8   200.0

 801          KK     23S
 802          KM    SUB-BASIN 23
 803          BA    .009
 804          LS              86
 805          UD    .167

 806          KK    HC23
 807          HC       2

 808          KK    23RR
 809          KM    LAKE NO. 3
 810          RS       1    ELEV  1275.0
 811          SV     0.0      .3      .7     1.1     1.5    2.00     2.5
 812          SE  1275.0  1275.5  1276.0  1276.5  1277.0  1277.5  1278.0
 813          SQ       0     8.7    15.3    22.3    49.6   106.0   180.4

 814          KK     24S
 815          KM    SUB-BASIN 24
 816          BA    .006
 817          LS              87
 818          UD    .167

 819          KK    HC24
 820          HC       2

 821          KK    24RR
 822          KM    LAKE NO. 4
 823          RS       1    ELEV  1272.0
 824          SV       0      .3      .7     1.1     1.6     2.0     2.5
 825          SE  1272.0  1272.5  1273.0  1273.5  1274.0  1274.5  1275.0
 826          SQ       0     8.7    15.3    22.3    49.6   106.0   180.4
```

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

 827          KK     25S
 828          KM    SUB-BASIN 25
 829          BA    .051
 830          LS              85
 831          UD    .167

 832          KK    HC25
 833          HC       2

 834          KK    25RR
 835          KM    LAKE NO. 5
 836          RS       1    ELEV  1268.0
 837          SV       0    1.75     3.5    5.31     7.2    9.15    11.2    13.3
 838          SE  1267.5  1268.0  1268.5  1269.0  1269.5  1270.0  1270.5  1271.0
 839          SQ       0     0.8     4.1    8.16     9.5    13.4    16.4    19.0

 840          KK     27S
 841          KM    SUB-BASIN 27
 842          BA    .123
 843          LS              82
 844          UD    .167

 845          KK    27RR
 846          KM    DETENTION BASIN NO. 7
 847          RS       1    ELEV  1278.0
 848          SV       0     1.9     3.9     5.9     7.9     9.9    12.1
 849          SE  1278.0  1278.5  1279.0  1279.5  1280.0  1280.5  1281.5
 850          SQ       0     5.4     7.6     9.2    10.6    12.0    13.2

 851          KK     29S
 852          KM    COMBINE SUB-BASIN 28 & 29
 853          BA    .063
 854          LS              77
 855          UD    .167

 856          KK    HC29
 857          HC       2

 858          KK     30S
 859          KM    SUB-BASIN 30
 860          BA    .056
 861          LS              84
 862          UD    .167

 863          KK    30RR
 864          KM    DETENTION BASIN 10
 865          RS       1    ELEV  1265.0
 866          SV       0     .78    1.58    2.40    3.25    4.13    5.03
 867          SE  1265.0  1265.5  1266.0  1266.5  1267.0  1267.5  1268.0
 868          SQ       0     5.4     8.5    10.4    12.0    13.5    14.7
```

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

869           KK    HC30
870           HC       2

871           KK     31S
872           KM    SUB-BASIN 31
873           BA    .053
874           LS              77
875           UD    .167

876           KK    HC31
877           HC       3

878           KK     32S
879           KM    COMBINE SUB-BASIN 26 & 32
880           BA    .053
881           LS              77
882           UD    .167

883           KK    HC32
884           HC       2

885           KK     34S
886           KM    COMBINE SUB-BASIN 33 & 34
887           BA    .076
888           LS              77
889           UD    .167

890           KK    HC34
891           KM    OUTFLOW FROM SYSTEM II
892           HC       2
              *
              *    ARROWHEAD RANCH - SECTION 18 - SYSTEM III
              *

893           KK     41S
894           KM    SUB-BASIN 41
895           BA    .023
896           LS              86
897           UD    .167

898           KK     42S
899           KM    SUB-BASIN 42
900           BA    .070
901           LS              80
902           UD    .167

903           KK    HC42
904           HC       2
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 905          KK    42RR
 906          KM    LAKE NO. 1
 907          RS       1    ELEV  1303.0
 908          SV       0    1.32    2.66    4.05    5.49
 909          SE  1303.0  1303.5  1304.0  1304.5  1305.0
 910          SQ       0    12.0    13.5    15.4    29.6

 911          KK     43S
 912          KM    SUB-BASIN 43
 913          BA    .007
 914          LS              68
 915          UD    .167

 916          KK    HC43
 917          HC       2

 918          KK     44S
 919          KM    SUB-BASIN 44
 920          BA    .034
 921          LS              81
 922          UD    .167

 923          KK    HC44
 924          HC       2

 925          KK     45S
 926          KM    SUB-BASIN 45
 927          BA    .017
 928          LS              92
 929          UD    .167

 930          KK     46S
 931          KM    SUB-BASIN 46
 932          BA    .057
 933          LS              85
 934          UD    .167

 935          KK    HC46
 936          HC       2

 937          KK    46RR
 938          KM    LAKE NO. 3
 939          RS       1    ELEV  1300.0
 940          SV       0    1.39    2.81    4.30    5.86    7.44    9.19   10.97   12.81
 941          SE  1300.0  1300.5  1301.0  1301.5  1302.0  1302.5  1303.0  1303.5  1304.0
 942          SQ       0   11.32   18.50   24.75   68.41  175.58  515.84  478.47  662.59

 943          KK     47S
 944          KM    SUB-BASIN 47
 945          BA    .034
 946          LS              84
 947          UD    .167
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 948          KK   HC47A
 949          HC      2

 950          KK   HC47B
 951          HC      2

 952          KK    47RR
 953          KM    LAKE NO. 2
 954          RS      1    ELEV  1289.0
 955          SV      0     1.2    2.42    3.67    4.95
 956          SE  1289.0  1289.5  1290.0  1290.5  1291.0
 957          SQ      0     6.5    17.2    51.0   118.5

 958          KK     48S
 959          KM    SUB-BASIN 48
 960          BA    .057
 961          LS             83
 962          UD    .167

 963          KK    HC48
 964          HC      2

 965          KK    48RR
 966          KM    LAKE NO. 4
 967          RS      1    ELEV  1287.0
 968          SV      0     .45     .90    1.37    1.85
 969          SE  1287.0  1287.5  1288.0  1288.5  1289.0
 970          SQ      0   34.65   79.50  127.20  170.70

 971          KK     49S
 972          KM    SUB-BASIN 49
 973          BA    .037
 974          LS             61
 975          UD    .167

 976          KK    HC49
 977          HC      2

 978          KK     50S
 979          KM    SUB-BASIN 50
 980          BA    .022
 981          LS             84
 982          UD    .167

 983          KK    HC50
 984          HC      2

 985          KK     52S
 986          KM    SUB-BASIN 52
 987          BA    .010
 988          LS             92
 989          UD    .167
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 990          KK     53S
 991          KM    SUB-BASIN 53
 992          BA    .030
 993          LS              87
 994          UD    .167

 995          KK    HC53
 996          HC       2

 997          KK    53RR
 998          KM    LAKE NO. 5
 999          RS       1    ELEV  1297.0
1000          SV       0     .44     .89    1.38    1.89    2.43    3.00    3.60    4.23
1001          SE  1297.0  1297.5  1298.0  1298.5  1299.0  1299.5  1300.0  1300.5  1301.0
1002          SQ       0    8.15   14.50   28.24   64.15  117.14  178.85  250.28  329.60

1003          KK     54S
1004          KM    SUB-BASIN 54
1005          BA    .027
1006          LS              92
1007          UD    .167

1008          KK     55S
1009          KM    SUB-BASIN 55
1010          BA    .020
1011          LS              88
1012          UD    .167

1013          KK   HC55A
1014          HC       2

1015          KK   HC55B
1016          HC       2

1017          KK    55RR
1018          KM    LAKE NO. 6
1019          RS       1    ELEV  1294.0
1020          SV       0     .62    1.25    1.90    2.60    3.33    4.99    5.70
1021          SE  1294.0  1294.5  1295.0  1295.5  1296.0  1296.5  1297.5  1298.0
1022          SQ       0    8.15   21.60   59.15  110.62  172.74  323.46  410.25

1023          KK     56S
1024          KM    SUB-BASIN 56
1025          BA    .040
1026          LS              83
1027          UD    .167

1028          KK     57S
1029          KM    SUB-BASIN 57
1030          BA    .104
1031          LS              82
1032          UD    .167
```

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


1033          KK   HC57A
1034          HC      2

1035          KK   HC57B
1036          HC      2

1037          KK    57RR
1038          KM    LAKE NO. 7
1039          RS      1    ELEV  1290.0
1040          SV      0     .42     .85    1.32    1.81    2.35
1041          SE  1290.0  1290.5  1291.0  1291.5  1292.0  1292.5
1042          SQ      0   55.37  139.73  246.52  361.01  489.63

1043          KK     58S
1044          KM    SUB-BASIN 58
1045          BA    .006
1046          LS             79
1047          UD    .167

1048          KK    HC58
1049          HC      2

1050          KK     51S
1051          KM    SUB-BASIN 51
1052          BA    .128
1053          LS             85
1054          UD    .167

1055          KK    HC51
1056          HC      3

1057          KK   51RR1
1058          KM    LAKE NO.8
1059          RS      1    ELEV  1277.0
1060          SV      0    3.63    7.31   11.10   14.99    19.0   27.29
1061          SE  1277.5  1278.0  1278.5  1279.0  1279.5  1280.0  1280.5
1062          SQ      0   47.73  149.77  274.47  422.96  590.56  776.30

1063          KK   51RR2
1064          KM    LAKE NO. 9
1065          RS      1    ELEV  1273.0
1066          SV      0     .79    1.58    2.41    3.26
1067          SE  1273.0  1273.5  1274.0  1274.5  1275.0
1068          SQ      0   72.24  202.66  372.95  558.36

1069          KK     61S
1070          KM    COMBINE SUB-BASINS 59, 60 & 61
1071          BA    .124
1072          LS             77
1073          UD    .167
```

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

1074          KK    HC61
1075          HC       2

1076          KK    61RR
1077          KM    LAKE NO. 10
1078          RS       1    ELEV  1265.0
1079          SV       0     4.1    9.60   12.50    15.5    21.6    24.7    28.0    31.2    34.6
1080          SE  1265.0  1265.5  1266.5  1267.0  1267.5  1268.0  1268.5  1269.0  1269.5  1270.0
1081          SQ       0       0    36.0    54.0    72.0   105.0   204.4   359.2   539.2   746.9

1082          KK   HC570
1083          KM    COMBINE OUTFLOW FROM SYSTEM III WITH SYSTEM II
1084          HC       2
              *
              *
              *   CONCLUDE PORTION OF HEC-1 MODEL INPUT OBTAINED FROM ARROWHEAD RANCH
              *   DEVELOPMENT REPORT BY DIBBLE & ASSOCIATES.
              *
              *

1085          KK   RM570
1086          KM   NORMAL DEPTH STORAGE ROUTE FLOW FROM SUB-BASIN 570 THROUGH 571
1087          KM            1) Reach Length = 5301 ft
1088          RS       7    FLOW      -1
1089          RC    .030    .020    .030    5301   .0009
1090          RX      28      68      88     100     112     124     144     154
1091          RY     108     107     106     100     100     106     107     108

1092          KK    571S
1093          KM   RUNOFF GENERATED ON SUB-BASIN 571
1094          KM   THE FOLLOWING PARAMETERS WERE PROVIDED FOR THIS BASIN
1095          KM   L= 2.272 mi  S= 26 ft/mi  Kb= 0.044
1096          KM   CLARK UNIT HYDROGRAPH FOR NATURAL WATERSHEDS WAS USED FOR THIS BASIN
1097          KM   6-HOUR RAINFALL, PATTERN NO. 1.57 WAS USED TO FIND TC & R FOR THIS BASIN
1098          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF .985
1099          BA   1.345
1100          LG    .409    .109   5.980    .266   9.130
1101          UC   1.714   1.096
1102          UA       0       3       5       8      12      20      43      75      90      96
1103          UA     100

1104          KK   HC571
1105          KM   COMBINE HYDROGRAPHS FROM SUB-BASIN 571 WITH ROUTED FLOW FROM 570
1106          HC       2

1107          KK   RM571
1108          KM   NORMAL DEPTH STORAGE ROUTE FLOW FROM SUB-BASIN 571 THROUGH 553
1109          KM            1) Reach Length = 3194 ft
1110          RS       3    FLOW      -1
1111          RC    .030    .020    .030    3194   .0009
1112          RX      28      68      88     100     112     124     144     154
1113          RY     108     107     106     100     100     106     107     108
```

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

1114          KK   553S
1115          KM   RUNOFF GENERATED ON SUB-BASIN 553
1116          KM   THE FOLLOWING PARAMETERS WERE USED FOR THIS BASIN
1117          KM   L= 1.052 mi  S= 38 ft/mi  Kb= 0.056
1118          KM   CLARK UNIT HYDROGRAPH FOR NATURAL WATERSHEDS WAS USED FOR THIS BASIN
1119          KM   6-HOUR RAINFALL, PATTERN NO. 1.36 WAS USED TO FIND TC & R FOR THIS BASIN
1120          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF .988
1121          BA    .933
1122          LG    .419    .165   5.360    .284   2.760
1123          UC   1.021    .410
1124          UA      0       3       5       8      12      20      43      75      90      96
1125          UA    100

1126          KK   HC553
1127          KM   COMBINE HYDROGRAPHS FROM SUB-BASIN 553 WITH ROUTED FLOWS FROM 541, 552
1128          KM   AND 571
1129          HC      4

1130          KK   RM553
1131          KM   NORMAL DEPTH STORAGE ROUTE FLOW FROM SUB-BASIN 553 THROUGH 554
1132          KM            1) Reach Length = 5660 ft
1133          RS      5    FLOW      -1
1134          RC   .040    .040    .040    5660   .0041
1135          RX    100     150     210     240     300     350     370     400
1136          RY     36      34      28      22      22      24      30      36

1137          KK   554R1
1138          DR   554D1

1139          KK   554R2
1140          DR   554D2

1141          KK   554S
1142          KM   RUNOFF GENERATED ON SUB-BASIN 554
1143          KM   THE FOLLOWING PARAMETERS WERE PROVIDED FOR THIS BASIN
1144          KM   L= 1.531 mi  S= 25 ft/mi  Kb= 0.064
1145          KM   CLARK UNIT HYDROGRAPH FOR NATURAL WATERSHEDS WAS USED FOR THIS BASIN
1146          KM   6-HOUR RAINFALL, PATTERN NO. 1.04 WAS USED TO FIND TC & R FOR THIS BASIN
1147          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF .993
1148          BA    .540
1149          LG    .326    .248   3.610    .347  17.170
1150          UC   1.596   1.242
1151          UA      0       3       5       8      12      20      43      75      90      96
1152          UA    100

1153          KK   HC554
1154          KM   COMBINE HYDROGRAPHS FROM SUB-BASIN 554 WITH ROUTED FLOWS FROM 553
1155          KM   AND DIVERTED FLOWS FROM 532 & 533
1156          HC      4
```

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

1157          KK   RM554
1158          KM   NORMAL DEPTH STORAGE ROUTE FLOW FROM SUB-BASIN 554 THROUGH 555
1159          KM           1) Reach Length = 5771 ft
1160          RS      6    FLOW      -1
1161          RC    .040    .040    .040    5771   .0047
1162          RX      80     100     160     220     240     250     480     500
1163          RY     104     104      96      92      92      96      97     104

1164          KK   555R1
1165          DR   555D1

1166          KK   555R2
1167          DR   555D2

1168          KK    555S
1169          KM   RUNOFF GENERATED ON SUB-BASIN 555
1170          KM   THE FOLLOWING PARAMETERS WERE PROVIDED FOR THIS BASIN
1171          KM   L= 1.108 mi  S= 34 ft/mi  Kb= 0.068
1172          KM   CLARK UNIT HYDROGRAPH FOR NATURAL WATERSHEDS WAS USED FOR THIS BASIN
1173          KM   6-HOUR RAINFALL, PATTERN NO. 1.04 WAS USED TO FIND TC & R FOR THIS BASIN
1174          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF .993
1175          BA    .536
1176          LG    .326    .293   5.050    .252  11.750
1177          UC   1.163    .677
1178          UA      0       3       5       8      12      20      43      75      90      96
1179          UA    100

1180          KK  HC555A
1181          KM   COMBINE HYDROGRAPHS FROM SUB-BASIN 555 WITH ROUTED FLOW FROM 554
1182          KM   AND DIVERTED FLOWS FROM 533 & 534
1183          HC      4
              *
              *
              *   BEGIN PORTION OF HEC-1 MODEL INPUT OBTAINED FROM ARROWHEAD RANCH
              *   DEVELOPMENT REPORT BY DIBBLE & ASSOCIATES.
              *
              *
              *    ARROWHEAD RANCH - SECTION 25/26 - SYSTEM VI
              *

1184          KK     91S
1185          KM    SUB-BASIN 91
1186          BA    .069
1187          LS              77
1188          UD     .20

1189          KK     92S
1190          KM    SUB-BASIN 92
1191          BA    .033
1192          LS              84
1193          UD    .167
```

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


1194          KK    HC92
1195          HC       2

1196          KK    92RR
1197          KM    LAKE NO. 2
1198          RS       1    ELEV  1242.0
1199          SV     0.0     2.9     4.4     5.9     7.4     9.0    10.6    18.5    20.3    22.1
1200          SE  1242.0  1243.0  1243.5  1244.0  1244.5  1245.0  1245.5  1247.8  1248.3  1248.8
1201          SQ       0     .02     .03     .04     .05     .06     .07     .08    49.0   140.0

1202          KK    93S
1203          KM    SUB-BASIN 93
1204          BA    .061
1205          LS              71
1206          UD    .20

1207          KK    HC93
1208          HC       2

1209          KK    93RR
1210          KM    LAKE NO. 3
1211          RS       1    ELEV  1236.0
1212          SV     0.0     2.3     4.6     6.9     9.3    11.7    14.2
1213          SE  1236.0  1236.5  1237.0  1237.5  1238.0  1238.5  1239.0
1214          SQ       0     5.4     8.5    10.4    12.0    13.5    14.7

1215          KK    94S
1216          KM    SUB-BASIN 94
1217          BA    .077
1218          LS              76
1219          UD    .20

1220          KK    HC94
1221          HC       2

1222          KK    95S
1223          KM    SUB-BASIN 95
1224          BA    .068
1225          LS              75
1226          UD    .167

1227          KK    HC95
1228          HC       2

1229          KK    96S
1230          KM    SUB-BASIN 96
1231          BA    .086
1232          LS              84
1233          UD    .300
```

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

1234          KK    96RR
1235          KM    LAKE NO. 4
1236          RS       1    ELEV  1237.0
1237          SV     0.0     1.7     3.4     5.2     7.0     8.8    10.7
1238          SE  1237.0  1237.5  1238.0  1238.5  1239.0  1239.5  1240.0
1239          SQ     0.0     7.2    15.1    18.5    21.4    23.9    26.2

1240          KK     97S
1241          KM    SUB-BASIN 97
1242          BA    .071
1243          LS              71
1244          UD    .800

1245          KK    HC97
1246          HC       3

1247          KK    97RR
1248          KM    LAKE NO. 5
1249          RS       1    ELEV  1230.0
1250          SV     0.0     1.8     3.7     5.6     7.5     9.4    11.4    14.7    16.8    19.0
1251          SE  1230.0  1230.5  1231.0  1231.5  1232.0  1232.5  1233.0  1233.8  1234.3  1234.8
1252          SQ     0.0    0.01    0.02    0.03    0.04    0.05    0.06    0.08   124.0   350.0

1253          KK     98S
1254          KM    SUB-BASIN 98
1255          BA    .018
1256          LS              84
1257          UD    .167

1258          KK    98RR
1259          KM    LAKE NO. 6
1260          RS       1    ELEV  1230.0
1261          SV     0.0     0.5     1.1     1.7     2.3     2.9     3.5
1262          SE  1230.0  1230.5  1231.0  1231.5  1232.0  1232.5  1233.0
1263          SQ     0.0     7.2    15.1    18.5    21.4    23.9    26.2

1264          KK    HC98
1265          HC       2

1266          KK     99S
1267          KM    SUB-BASIN 99
1268          BA    .047
1269          LS              77
1270          UD    .167

1271          KK    HC99
1272          HC       2

1273          KK    99RR
1274          KM    LAKE NO.7
1275          RS       1    ELEV  1229.0
1276          SV     0.0     1.9     3.8     5.8     7.8     9.8    11.9
1277          SE  1229.0  1229.5  1230.0  1230.5  1231.0  1231.5  1232.0
1278          SQ     0.0     7.2    15.1    18.5    21.4    23.9    26.2
```

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

1279          KK     90S
1280          KM    SUB-BASIN 90
1281          BA    .077
1282          LS              77
1283          UD    .300

1284          KK   HC580
1285          KM    OUTFLOW FROM SYSTEM VI
1286          HC       2
              *
              *
              *   CONCLUDE PORTION OF HEC-1 MODEL INPUT OBTAINED FROM ARROWHEAD RANCH
              *   DEVELOPMENT REPORT BY DIBBLE & ASSOCIATES.
              *
              *

1287          KK   RM580
1288          KM   NORMAL DEPTH STORAGE ROUTE FLOW FROM SUB-BASIN 580 THROUGH 581
1289          KM            1) Reach Length = 5515 ft
1290          RS       8    FLOW      -1
1291          RC    .030    .020    .030    5515   .0047
1292          RX     148     168     188     200     208     220     260     300
1293          RY     110     107     106     100     100     106     108     109

1294          KK    581S
1295          KM   RUNOFF GENERATED ON SUB-BASIN 581
1296          KM   THE FOLLOWING PARAMETERS WERE PROVIDED FOR THIS BASIN
1297          KM   L= 1.836 mi  S= 15 ft/mi  Kb= 0.033
1298          KM   CLARK UNIT HYDROGRAPH FOR URBAN WATERSHEDS WAS USED FOR THIS BASIN
1299          KM   6-HOUR RAINFALL, PATTERN NO. 1.29 WAS USED TO FIND TC & R FOR THIS BASIN
1300          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF .989
1301          BA    .823
1302          LG    .206    .184   3.920    .429  54.370
1303          UC   1.154    .788
1304          UA       0       5      16      30      65      77      84      90      94      97
1305          UA     100

1306          KK   HC581
1307          KM   COMBINE HYDROGRAPHS FROM SUB-BASIN 581 WITH ROUTED FLOW FROM 580
1308          HC       2

1309          KK  HC555B
1310          KM   COMBINE HYDROGRAPHS FROM SUB-BASIN 555 WITH 581
1311          HC       2

1312          KK   RM555
1313          KM   NORMAL DEPTH STORAGE ROUTE FLOW FROM SUB-BASIN 555 & 581 THROUGH 556
1314          KM            1) Reach Length = 7336 ft
1315          RS       7    FLOW      -1
1316          RC    .040    .040    .040    7336   .0054
1317          RX       0      20      80     250     440     480     530     560
1318          RY      84      80      76      74      74      80      90      92
```

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

1319          KK    556R
1320          DR    556D

1321          KK    556S
1322          KM   RUNOFF GENERATED ON SUB-BASIN 556
1323          KM   THE FOLLOWING PARAMETERS WERE PROVIDED FOR THIS BASIN
1324          KM   L= 1.379 mi  S= 26 ft/mi  Kb= 0.053
1325          KM   CLARK UNIT HYDROGRAPH FOR URBAN WATERSHEDS WAS USED FOR THIS BASIN
1326          KM   6-HOUR RAINFALL, PATTERN NO. 1.06 WAS USED TO FIND TC & R FOR THIS BASIN
1327          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF .993
1328          BA    .558
1329          LG    .426    .110   3.920    .514   8.400
1330          UC   1.346    .928
1331          UA      0       5      16      30      65      77      84      90      94      97
1332          UA    100

1333          KK  HC556A
1334          KM   COMBINE HYDROGRAPHS FROM SUB-BASIN 556 WITH ROUTED FLOWS FROM 535,
1335          KM   556 & 581.  ALSO, TOTAL FLOW FROM NEW RIVER UPSTREAM OF ITS CONFLUENCE
1336          KM   WITH SKUNK CREEK.
1337          HC      4

1338          KK    408S
1339          KM   RUNOFF GENERATED ON SUB-BASIN 408
1340          KM   THE FOLLOWING PARAMETERS WERE PROVIDED FOR THIS BASIN
1341          KM   L= 1.935 mi  S= 22 ft/mi  Kb= 0.057
1342          KM   CLARK UNIT HYDROGRAPH FOR URBAN WATERSHEDS WAS USED FOR THIS BASIN
1343          KM   6-HOUR RAINFALL, PATTERN NO. 1.44 WAS USED TO FIND TC & R FOR THIS BASIN
1344          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF .986
1345          BA   1.076
1346          LG    .298    .275   3.870    .415  18.170
1347          UC   2.255   1.484
1348          UA      0       5      16      30      65      77      84      90      94      97
1349          UA    100
1350          ZZ
```

SCHEMATIC DIAGRAM OF STREAM NETWORK

```
INPUT
 'E     (V) ROUTING          (--->) DIVERSION OR PUMP FLOW

NO.     (.) CONNECTOR        (<---) RETURN OF DIVERTED OR PUMPED FLOW

 10      500S
            V
            V
 30     RM500
            .
            .
 37         .        501S
            .           .
            .           .
 49     HC501............
            V
            V
 52     RM501
            .
            .
 59         .        502S
            .           .
            .           .
 71         .           .       510S
            .           .          V
            .           .          V
 93         .           .      RM510
            .           .          .
            .           .          .
 90         .           .          .       511S
            .           .          .          .
            .           .          .          .
102         .           .      HC511............
            .           .          V
            .           .          V
105         .           .      RM511
            .           .          .
            .           .          .
112         .           .          .       512S
            .           .          .          .
            .           .          .          .
124         .           .     HC512A............
            .           .          .
            .           .          .
129         .           .          .-------->   533D
127         .           .      502RE
            .           .          .
            .           .          .
132     HC502........................
            V
            V
136     RM502
            .
            .
142         .        503S
            .           .
            .           .
153     HC503............
```

```
            V
            V
156      503RR
            V
            V
165      RM503
            .
            .
173         .          .<-------    533D
171         .       533R
            .          .
            .          .
174         .          .       533A
            .          .          .
            .          .          .
182         .     HC512B............
            .          V
            .          V
185         .      RM512
            .          .
            .          .
192         .          .       533B
            .          .          V
            .          .          V
199         .          .     533RR1
            .          .          .
            .          .          .
206         .     HC533A............
            .          .
            .          .
209         .          .       520S
            .          .          .
            .          .          .
224         .          .          .------->    530D
221         .          .      520RE
            .          .          V
            .          .          V
227         .          .      RM520
            .          .          .
            .          .          .
234         .          .          .       521S
            .          .          .          .
            .          .          .          .
246         .          .      HC521............
            .          .          V
            .          .          V
249         .          .      RM521
            .          .          .
            .          .          .
256         .          .          .       522S
            .          .          .          .
            .          .          .          .
268         .          .      HC522............
            .          .          .
            .          .          .
272         .          .          .       533C
            .          .          .          .
            .          .          .          .
280         .          .     HC533B............
            .          .          V
```

```
                .         .         V
283             .         .     533RR2
                .         .         .
                .         .         .
 9              .         .         .       533D
                .         .         .          .
                .         .         .          .
296             .         .     HC533C............
                .         .         V
                .         .         V
299             .         .     533RR3
                .         .         .
                .         .         .
305             .         .         .       533E
                .         .         .          .
                .         .         .          .
312             .         .     HC533D............
                .         .         V
                .         .         V
315             .         .     533RR4
                .         .         .
                .         .         .
321             .         .         .       530S
                .         .         .          .
                .         .         .          .
335             .         .         .          .          .<-------    530D
333             .         .         .          .       R530
                .         .         .          .          .
                .         .         .          .          .
 6              .         .         .      HC530............
                .         .         .          V
                .         .         .          V
339             .         .         .      RM530
                .         .         .          .
                .         .         .          .
346             .         .         .          .       531S
                .         .         .          .          .
                .         .         .          .          .
358             .         .         .      HC531............
                .         .         .          V
                .         .         .          V
361             .         .         .      RM531
                .         .         .          .
                .         .         .          .
368             .         .         .          .       532S
                .         .         .          .          .
                .         .         .          .          .
380             .         .         .      HC532............
                .         .         .          .
                .         .         .          .
385             .         .         .          .------->   554D1
383             .         .         .      532RE
                .         .         .          .
                .         .         .          .
 8              .         .         .          .       533F
                .         .         .          .          .
                .         .         .          .          .
395             .         .         .     HC533E............
                .         .         .          .
                .         .         .          .
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398          .          .          .          .       533G
             .          .          .          .          .
             .          .          .          .          .
             .          .          .     HC533F............
             .          .          .          V
             .          .          .          V
408          .          .          .     533RR6
             .          .          .          .
             .          .          .          .
415          .          .     HC533G............
             .          .          V
             .          .          V
418          .          .     RM522B
             .          .          .
             .          .          .
423          .          .          .       533H
             .          .          .          .
             .          .          .          .
430          .          .     HC533H............
             .          .          .
             .          .          .
432          .          .          .       533I
             .          .          .          V
             .          .          .          V
439          .          .          .     533RR8
             .          .          .          .
             .          .          .          .
445          .          .     HC533I............
             .          .          V
             .          .          V
448          .          .     RM522C
             .          .          .
             .          .          .
454          .          .          .       533J
             .          .          .          .
             .          .          .          .
461          .          .     HC533J............
             .          .          .
             .          .          .
463          .          .          .       533K
             .          .          .          V
             .          .          .          V
470          .          .          .     533RR9
             .          .          .          .
             .          .          .          .
476          .          .     HC533K............
             .          .          .
             .          .          .
482          .          .          .-------->   554D2
480          .          .     533RE1
             .          .          .
             .          .          .
488          .          .          .-------->   555D1
             .          .     533RE2
             .          .          .
             .          .          .
496          .          .          .-------->   534D1
491          .          .     533RE3
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503          .          .          .-------> 534D2
499          .          .     533RE4
             .          .          V
             .          .          V
 6           .          .     RM533C
             .          .          .
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511     HC533L.......................
            V
            V
514     RM533D
            .
            .
523          .          .<-------  534D1
521          .      534R1
             .          V
             .          V
524          .     RM533E
             .          .
             .          .
532          .          .-------> 555D2
530          .     533RE6
             .          .
             .          .
538          .          .------->  535D
535          .     533RE7
             .          V
             .          V
 1           .     RM533F
             .          .
             .          .
549          .          .          .<-------  534D2
547          .          .      534R2
             .          .          V
             .          .          V
550          .          .     RM533G
             .          .          .
             .          .          .
555          .          .          .       534S
             .          .          .          .
             .          .          .          .
567      HC534...................................
            V
            V
570     RM534A
            .
            .
578          .          .<-------  535D
577          .       535R
             .          .
             .          .
581          .          .------->  556D
579          .      535RE
             .          V
             .          V
 4           .     RM534C
             .          V
             .          V
589          .     RM534E
             .          .
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          .          .
595       .          .       535S
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          .          .          .
 7    HC535.......................
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          .
614       .-------> DV91S
610  535RE
         V
         V
617  RM535
          .
          .
624       .       540S
          .          V
          .          V
644       .      RM540
          .          .
          .          .
651       .          .       541S
          .          .          .
          .          .          .
663       .      HC541............
          .          V
          .          V
666       .      RM541
          .          .
          .          .
 3        .          .       542S
          .          .          .
          .          .          .
685       .      HC542............
          .          V
          .          V
688       .      RM542
          .          .
          .          .
695       .          .       550S
          .          .          V
          .          .          V
707       .          .      RM550
          .          .          .
          .          .          .
714       .          .          .      560S
          .          .          .         V
          .          .          .         V
726       .          .          .     RM560
          .          .          .          .
          .          .          .          .
733       .          .          .          .      551S
          .          .          .          .         .
          .          .          .          .         .
 45       .          .      HC551........................
          .          .          V
          .          .          V
748       .          .      RM551
          .          .          .
          .          .          .
755       .          .          .      552S
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     .         .         .         .
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767  .         .      HC552.........
     .         .         V
     .         .         V
770  .         .      RM552
     .         .         .
     .         .         .
777  .         .         .      21S
     .         .         .        V
     .         .         .        V
782  .         .         .     21RR
     .         .         .        .
     .         .         .        .
788  .         .         .        .        22S
     .         .         .        .          .
     .         .         .        .          .
793  .         .         .     HC22.........
     .         .         .        V
     .         .         .        V
795  .         .         .     22RR
     .         .         .        .
     .         .         .        .
801  .         .         .        .        23S
     .         .         .        .          .
     .         .         .        .          .
806  .         .         .     HC23.........
     .         .         .        V
     .         .         .        V
8    .         .         .     23RR
     .         .         .        .
     .         .         .        .
814  .         .         .        .        24S
     .         .         .        .          .
     .         .         .        .          .
819  .         .         .     HC24.........
     .         .         .        V
     .         .         .        V
821  .         .         .     24RR
     .         .         .        .
     .         .         .        .
827  .         .         .        .        25S
     .         .         .        .          .
     .         .         .        .          .
832  .         .         .     HC25.........
     .         .         .        V
     .         .         .        V
834  .         .         .     25RR
     .         .         .        .
     .         .         .        .
840  .         .         .        .        27S
     .         .         .        .          V
     .         .         .        .          V
5    .         .         .        .       27RR
     .         .         .        .          .
     .         .         .        .          .
851  .         .         .        .          .        29S
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     .         .         .        .          .          .
856  .         .         .        .       HC29.........
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858                                   30S
                                       V
                                       V
863                                  30RR
869                            HC30.........
871                                   31S
876                      HC31.................
878                            32S
883                      HC32.........
885                            34S
890                      HC34.........
 3                             41S
898                                   42S
903                            HC42.........
                                       V
                                       V
905                            42RR
911                                   43S
916                            HC43.........
918                                   44S
923                            HC44.........
 25                                   45S
930                                          46S
935                                   HC46.........
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                .         .         .         .         .         V
                .         .         .         .         .         V
937             .         .         .         .         .       46RR
                .         .         .         .         .         .
                .         .         .         .         .         .
943             .         .         .         .         .         .         47S
                .         .         .         .         .         .           .
                .         .         .         .         .         .           .
948             .         .         .         .         .      HC47A............
                .         .         .         .         .         .
                .         .         .         .         .         .
950             .         .         .         .    HC47B............
                .         .         .         .       V
                .         .         .         .       V
952             .         .         .         .     47RR
                .         .         .         .       .
                .         .         .         .       .
958             .         .         .         .         .       48S
                .         .         .         .         .         .
                .         .         .         .         .         .
963             .         .         .         .    HC48............
                .         .         .         .       V
                .         .         .         .       V
965             .         .         .         .     48RR
                .         .         .         .       .
                .         .         .         .       .
971             .         .         .         .         .       49S
                .         .         .         .         .         .
                .         .         .         .         .         .
976             .         .         .         .    HC49............
                .         .         .         .       .
                .         .         .         .       .
978             .         .         .         .         .       50S
                .         .         .         .         .         .
                .         .         .         .         .         .
983             .         .         .         .    HC50............
                .         .         .         .       .
                .         .         .         .       .
985             .         .         .         .         .       52S
                .         .         .         .         .         .
                .         .         .         .         .         .
990             .         .         .         .         .         .         53S
                .         .         .         .         .         .           .
                .         .         .         .         .         .           .
995             .         .         .         .         .      HC53............
                .         .         .         .         .         V
                .         .         .         .         .         V
997             .         .         .         .         .      53RR
                .         .         .         .         .         .
                .         .         .         .         .         .
1003            .         .         .         .         .         .         54S
                .         .         .         .         .         .           .
                .         .         .         .         .         .           .
1008            .         .         .         .         .         .           .         55S
                .         .         .         .         .         .           .           .
                .         .         .         .         .         .           .           .
1013            .         .         .         .         .         .      HC55A............
                .         .         .         .         .         .           .
                .         .         .         .         .         .           .
1015            .         .         .         .         .      HC55B............
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                                                  V
                                                  V
1017                                          55RR
                                                  .
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1023                                              .        56S
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                                                  .          .
1028                                              .          .        57S
                                                  .          .          .
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1033                                              .      HC57A............
                                                  .          .
                                                  .          .
1035                                          HC57B............
                                                  V
                                                  V
1037                                          57RR
                                                  .
                                                  .
1043                                              .        58S
                                                  .          .
                                                  .          .
1048                                          HC58............
                                                  .
                                                  .
1050                                              .        51S
                                                  .          .
                                                  .          .
5                                       HC51........................
                                           V
                                           V
1057                                    51RR1
                                           V
                                           V
1063                                    51RR2
                                           .
                                           .
1069                                          .        61S
                                              .          .
                                              .          .
1074                                    HC61............
                                           V
                                           V
1076                                    61RR
                                           .
                                           .
1082                                HC570............
                                       V
                                       V
1085                                RM570
                                       .
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2                                       571S
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1104                                HC571............
                                       V
                                       V
1107                                RM571
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1114       .          .          .          553S
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1126       .      HC553.................................
.          .          V
.          .          V
1130       .      RM553
.          .          .
.          .          .
1138       .          .          .<-------   554D1
1137       .          .      554R1
.          .          .
.          .          .
1140       .          .          .          .<-------   554D2
1139       .          .          .      554R2
.          .          .          .
.          .          .          .
1141       .          .          .          .       554S
.          .          .          .          .          .
.          .          .          .          .          .
1153       .      HC554.................................
.          .          V
.          .          V
1157       .      RM554
.          .          .
.          .          .
.          .          .          .<-------   555D1
.          .          .      555R1
.          .          .          .
.          .          .          .
1167       .          .          .          .<-------   555D2
1166       .          .          .      555R2
.          .          .          .
.          .          .          .
1168       .          .          .          .       555S
.          .          .          .          .          .
.          .          .          .          .          .
1180       .     HC555A................................
.          .          .
.          .          .
1184       .          .        91S
.          .          .          .
.          .          .          .
1189       .          .          .        92S
.          .          .          .          .
.          .          .          .          .
1194       .          .       HC92............
.          .          .          V
.          .          .          V
1196       .          .       92RR
.          .          .          .
.          .          .          .
.          .          .          .        93S
.          .          .          .          .
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1207       .          .       HC93............
.          .          .          V
.          .          .          V
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1209    .       .       93RR
        .       .         .
        .       .         .
   5    .       .         .        94S
        .       .         .          .
        .       .         .          .
1220    .       .       HC94............
        .       .         .
        .       .         .
1222    .       .         .        95S
        .       .         .          .
        .       .         .          .
1227    .       .       HC95............
        .       .         .
        .       .         .
1229    .       .         .        96S
        .       .         .          V
        .       .         .          V
1234    .       .         .       96RR
        .       .         .          .
        .       .         .          .
1240    .       .         .          .        97S
        .       .         .          .          .
        .       .         .          .          .
1245    .       .       HC97........................
        .       .         V
        .       .         V
1247    .       .       97RR
        .       .         .
        .       .         .
..53    .       .         .        98S
        .       .         .          V
        .       .         .          V
1258    .       .         .       98RR
        .       .         .          .
        .       .         .          .
1264    .       .       HC98............
        .       .         .
        .       .         .
1266    .       .         .        99S
        .       .         .          .
        .       .         .          .
1271    .       .       HC99............
        .       .         V
        .       .         V
1273    .       .       99RR
        .       .         .
        .       .         .
1279    .       .         .        90S
        .       .         .          .
        .       .         .          .
1284    .       .      HC580............
        .       .         V
        .       .         V
 ,7     .       .      RM580
        .       .         .
        .       .         .
1294    .       .         .       581S
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1306          .           .       HC581............
              .           .           .
              .           .           .
              .      HC555B............
              .           V
              .           V
1312          .       RM555
              .           .
              .           .
1320          .           .           .<-------    556D
1319          .           .       556R
              .           .           .
              .           .           .
1321          .           .           .       556S
              .           .           .           .
              .           .           .           .
1333      HC556A..................................
              .
              .
1338          .        408S
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(***) RUNOFF ALSO COMPUTED AT THIS LOCATION

```
****************************************
*                                      *
*   FLOOD HYDROGRAPH PACKAGE  (HEC-1)  *
              MAY   1991               *
           VERSION 4.0.1E              *
*                                      *
* RUN DATE  01/25/95  TIME  13:34:18   *
*                                      *
****************************************
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****************************************
*                                      *
*    U.S. ARMY CORPS OF ENGINEERS      *
*    HYDROLOGIC ENGINEERING CENTER     *
*          609 SECOND STREET           *
*       DAVIS, CALIFORNIA 95616        *
*           (916) 551-1748             *
*                                      *
****************************************
```

ACDC AREA DRAINAGE MASTER STUDY
FILENAME: NR16.DAT KHE JOB NO. 0146
WATERSHED CONTRIBUTING TO NEW RIVER UP TO ITS CONFLUENCE WITH
SKUNK CREEK

2-YEAR 6-HOUR DURATION STORM FOR EXISTING CONDITIONS

```
9 IO        OUTPUT CONTROL VARIABLES
                 IPRNT          5  PRINT CONTROL
                 IPLOT          0  PLOT CONTROL
                 QSCAL         0.  HYDROGRAPH PLOT SCALE

  IT        HYDROGRAPH TIME DATA
                  NMIN          3  MINUTES IN COMPUTATION INTERVAL
                 IDATE      1   0  STARTING DATE
                 ITIME       0000  STARTING TIME
                    NQ        500  NUMBER OF HYDROGRAPH ORDINATES
                NDDATE      2   0  ENDING DATE
                NDTIME       0057  ENDING TIME
                 ICENT         19  CENTURY MARK

            COMPUTATION INTERVAL    0.05 HOURS
                 TOTAL TIME BASE   24.95 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
```

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	500S	6.	5.30	2.	1.	1.	0.41		
ROUTED TO	RM500	5.	7.20	2.	1.	1.	0.41	100.06	7.20
HYDROGRAPH AT	501S	0.	0.05	0.	0.	0.	0.52		
2 COMBINED AT	HC501	5.	7.20	2.	1.	1.	0.93		
ROUTED TO	RM501	4.	10.20	2.	1.	1.	0.93	100.05	10.25
HYDROGRAPH AT	502S	0.	0.05	0.	0.	0.	0.55		
HYDROGRAPH AT	510S	16.	4.90	6.	2.	1.	0.63		
ROUTED TO	RM510	15.	5.65	6.	2.	1.	0.63	99.22	5.65
HYDROGRAPH AT	511S	1.	5.25	0.	0.	0.	0.44		
2 COMBINED AT	HC511	16.	5.65	6.	2.	2.	1.06		
ROUTED TO	RM511	14.	6.65	6.	2.	2.	1.06	99.23	6.65
HYDROGRAPH AT	512S	0.	0.05	0.	0.	0.	0.47		
2 COMBINED AT	HC512A	14.	6.65	6.	2.	2.	1.53		
DIVERSION TO	533D	7.	6.65	3.	1.	1.	1.53		
HYDROGRAPH AT	502RE	7.	6.65	3.	1.	1.	1.53		
3 COMBINED AT	HC502	8.	6.70	5.	2.	1.	3.02		
ROUTED TO	RM502	7.	7.65	5.	2.	1.	3.02	100.04	7.65
HYDROGRAPH AT	503S	64.	5.50	31.	9.	8.	0.95		
2 COMBINED AT	HC503	64.	5.50	34.	10.	10.	3.97		
ROUTED TO	503RR	8.	11.10	8.	5.	5.	3.97	26.31	11.15
ROUTED TO	RM503	8.	11.45	8.	5.	5.	3.97	100.14	11.50
HYDROGRAPH AT	533R	7.	6.65	3.	1.	1.	0.00		
HYDROGRAPH AT	533A	1.	4.10	0.	0.	0.	0.01		
2 COMBINED AT	HC512B	7.	6.65	3.	1.	1.	0.01		
ROUTED TO	RM512	7.	7.05	3.	1.	1.	0.01	100.18	7.05
HYDROGRAPH AT	533B	54.	4.30	15.	4.	4.	0.28		

ROUTED TO	533RR1	16.	5.40	12.	4.	4.	0.28	30.03	5.45
2 COMBINED AT	HC533A	20.	7.00	15.	5.	5.	0.29		
HYDROGRAPH AT	520S	32.	4.45	9.	2.	2.	0.68		
DIVERSION TO	530D	32.	0.05	9.	2.	2.	0.68		
HYDROGRAPH AT	520RE	0.	0.05	0.	0.	0.	0.68		
ROUTED TO	RM520	0.	0.05	0.	0.	0.	0.68	100.00	0.00
HYDROGRAPH AT	521S	61.	4.55	14.	4.	3.	0.62		
2 COMBINED AT	HC521	61.	4.55	14.	4.	3.	1.29		
ROUTED TO	RM521	49.	5.45	14.	4.	3.	1.29	100.30	5.45
HYDROGRAPH AT	522S	0.	0.05	0.	0.	0.	0.51		
2 COMBINED AT	HC522	49.	5.45	14.	4.	3.	1.80		
HYDROGRAPH AT	533C	26.	4.50	6.	2.	2.	0.12		
2 COMBINED AT	HC533B	57.	5.40	20.	5.	5.	1.92		
ROUTED TO	533RR2	35.	6.00	18.	5.	5.	1.92	35.09	6.00
HYDROGRAPH AT	533D	19.	5.00	7.	2.	2.	0.10		
2 COMBINED AT	HC533C	45.	5.95	24.	7.	7.	2.02		
ROUTED TO	533RR3	13.	9.50	12.	6.	6.	2.02	29.14	9.55
HYDROGRAPH AT	533E	3.	4.20	1.	0.	0.	0.01		
2 COMBINED AT	HC533D	13.	9.50	12.	6.	6.	2.04		
ROUTED TO	533RR4	13.	9.60	12.	6.	6.	2.04	34.06	9.65
HYDROGRAPH AT	530S	72.	4.30	14.	4.	3.	0.82		
HYDROGRAPH AT	R530	32.	4.45	9.	2.	2.	0.00		
2 COMBINED AT	HC530	101.	4.30	23.	6.	6.	0.82		
ROUTED TO	RM530	85.	4.90	23.	6.	6.	0.82	100.41	4.90
HYDROGRAPH AT	531S	143.	4.80	31.	8.	7.	0.65		
2 COMBINED AT	HC531	226.	4.85	53.	14.	13.	1.47		
ROUTED TO	RM531	207.	5.40	53.	14.	13.	1.47	100.72	5.40
HYDROGRAPH AT	532S	69.	4.90	14.	3.	3.	0.52		
2 COMBINED AT	HC532	251.	5.35	66.	17.	16.	2.00		
DIVERSION TO	554D1	176.	5.35	46.	12.	11.	2.00		

HYDROGRAPH AT	532RE	75.	5.35	20.	5.	5.	2.00		
HYDROGRAPH AT	533F	13.	4.30	3.	1.	1.	0.06		
2 COMBINED AT	HC533E	79.	5.30	23.	6.	6.	2.06		
HYDROGRAPH AT	533G	15.	4.35	4.	1.	1.	0.08		
2 COMBINED AT	HC533F	85.	5.30	26.	7.	7.	2.14		
ROUTED TO	533RR6	19.	6.75	17.	6.	6.	2.14	29.04	6.75
2 COMBINED AT	HC533G	31.	7.40	28.	12.	12.	4.18		
ROUTED TO	RM522B	31.	7.70	28.	12.	12.	4.18	100.32	7.70
HYDROGRAPH AT	533H	12.	4.25	3.	1.	1.	0.03		
2 COMBINED AT	HC533H	31.	7.70	28.	13.	13.	4.21		
HYDROGRAPH AT	533I	21.	4.60	6.	1.	1.	0.08		
ROUTED TO	533RR8	8.	5.50	5.	1.	1.	0.08	28.63	5.50
2 COMBINED AT	HC533I	36.	7.25	31.	14.	14.	4.29		
ROUTED TO	RM522C	36.	7.35	31.	14.	14.	4.29	100.26	7.35
HYDROGRAPH AT	533J	13.	4.20	3.	1.	1.	0.03		
2 COMBINED AT	HC533J	36.	7.35	31.	15.	15.	4.33		
HYDROGRAPH AT	533K	12.	4.30	3.	1.	1.	0.06		
ROUTED TO	533RR9	9.	4.70	3.	1.	1.	0.06	26.78	4.70
2 COMBINED AT	HC533K	36.	7.15	33.	16.	15.	4.38		
DIVERSION TO	554D2	0.	7.15	0.	0.	0.	4.38		
HYDROGRAPH AT	533RE1	36.	7.15	33.	16.	15.	4.38		
DIVERSION TO	555D1	0.	7.15	0.	0.	0.	4.38		
HYDROGRAPH AT	533RE2	36.	7.15	33.	16.	15.	4.38		
DIVERSION TO	534D1	0.	7.15	0.	0.	0.	4.38		
HYDROGRAPH AT	533RE3	36.	7.15	33.	16.	15.	4.38		
DIVERSION TO	534D2	0.	7.15	0.	0.	0.	4.38		
HYDROGRAPH AT	533RE4	36.	7.15	33.	16.	15.	4.38		
ROUTED TO	RM533C	36.	7.25	33.	16.	15.	4.38	100.74	7.30
3 COMBINED AT	HC533L	62.	7.10	52.	26.	25.	8.64		
ROUTED TO	RM533D	61.	7.55	52.	26.	25.	8.64	100.66	7.55

HYDROGRAPH AT	534R1	0.	0.05	0.	0.	0.	0.00		
ROUTED TO	RM533E	0.	0.05	0.	0.	0.	0.00	100.00	0.00
DIVERSION TO	555D2	0.	0.05	0.	0.	0.	0.00		
HYDROGRAPH AT	533RE6	0.	0.05	0.	0.	0.	0.00		
DIVERSION TO	535D	0.	0.05	0.	0.	0.	0.00		
HYDROGRAPH AT	533RE7	0.	0.05	0.	0.	0.	0.00		
ROUTED TO	RM533F	0.	0.05	0.	0.	0.	0.00	100.00	0.00
HYDROGRAPH AT	534R2	0.	0.05	0.	0.	0.	0.00		
ROUTED TO	RM533G	0.	0.05	0.	0.	0.	0.00	100.00	0.00
HYDROGRAPH AT	534S	53.	4.95	22.	6.	6.	0.90		
4 COMBINED AT	HC534	102.	5.10	70.	31.	30.	9.54		
ROUTED TO	RM534A	100.	5.40	70.	31.	.30.	9.54	100.49	5.40
HYDROGRAPH AT	535R	0.	0.05	0.	0.	0.	0.00		
DIVERSION TO	556D	0.	0.05	0.	0.	0.	0.00		
HYDROGRAPH AT	535RE	0.	0.05	0.	0.	0.	0.00		
ROUTED TO	RM534C	0.	0.05	0.	0.	0.	0.00	100.00	0.00
ROUTED TO	RM534E	0.	0.05	0.	0.	0.	0.00	100.00	0.00
HYDROGRAPH AT	535S	58.	4.45	17.	4.	4.	0.64		
3 COMBINED AT	HC535	127.	5.25	79.	35.	34.	10.18		
DIVERSION TO	DV91S	0.	5.25	0.	0.	0.	10.18		
HYDROGRAPH AT	535RE	127.	5.25	79.	35.	34.	10.18		
ROUTED TO	RM535	126.	5.35	79.	35.	34.	10.18	101.56	5.35
HYDROGRAPH AT	540S	20.	6.70	11.	3.	3.	2.24		
ROUTED TO	RM540	20.	7.35	11.	3.	3.	2.24	18.44	7.35
HYDROGRAPH AT	541S	0.	0.05	0.	0.	0.	0.47		
2 COMBINED AT	HC541	20.	7.35	11.	3.	3.	2.71		
ROUTED TO	RM541	19.	8.50	11.	3.	3.	2.71	86.39	8.50
HYDROGRAPH AT	542S	1.	5.05	0.	0.	0.	0.49		
2 COMBINED AT	HC542	19.	8.50	11.	3.	3.	3.20		
ROUTED TO	RM542	18.	9.55	11.	3.	3.	3.20	64.35	9.55

HYDROGRAPH AT	550S	17.	5.80	8.	2.	2.	1.95		
ROUTED TO	RM550	14.	7.65	8.	2.	2.	1.95	24.18	7.65
HYDROGRAPH AT	560S	16.	4.75	5.	1.	1.	1.12		
ROUTED TO	RM560	11.	7.25	5.	1.	1.	1.12	88.31	7.25
HYDROGRAPH AT	551S	2.	6.75	1.	0.	0.	1.45		
3 COMBINED AT	HC551	26.	7.50	14.	4.	4.	4.51		
ROUTED TO	RM551	26.	8.15	14.	4.	4.	4.51	76.06	8.15
HYDROGRAPH AT	552S	27.	6.90	17.	5.	5.	2.38		
2 COMBINED AT	HC552	47.	7.80	30.	9.	9.	6.90		
ROUTED TO	RM552	45.	8.90	30.	9.	9.	6.90	48.23	8.90
HYDROGRAPH AT	21S	3.	4.30	1.	0.	0.	0.04		
ROUTED TO	21RR	0.	0.05	0.	0.	0.	0.04	1277.16	6.60
HYDROGRAPH AT	22S	8.	4.10	1.	0.	0.	0.03		
2 COMBINED AT	HC22	8.	4.10	1.	0.	0.	0.06		
ROUTED TO	22RR	5.	4.45	1.	0.	0.	0.06	1276.86	4.45
HYDROGRAPH AT	23S	1.	4.15	0.	0.	0.	0.01		
2 COMBINED AT	HC23	6.	4.40	2.	0.	0.	0.07		
ROUTED TO	23RR	5.	4.80	2.	0.	0.	0.07	1275.29	4.80
HYDROGRAPH AT	24S	1.	4.15	0.	0.	0.	0.01		
2 COMBINED AT	HC24	6.	4.75	2.	0.	0.	0.08		
ROUTED TO	24RR	5.	5.15	2.	0.	0.	0.08	1272.28	5.15
HYDROGRAPH AT	25S	7.	4.15	1.	0.	0.	0.05		
2 COMBINED AT	HC25	9.	4.35	3.	1.	1.	0.13		
ROUTED TO	25RR	2.	6.50	2.	1.	1.	0.13	1268.22	6.55
HYDROGRAPH AT	27S	11.	4.30	2.	1.	0.	0.12		
ROUTED TO	27RR	2.	5.45	1.	1.	0.	0.12	1278.19	5.45
HYDROGRAPH AT	29S	3.	4.35	0.	0.	0.	0.06		
2 COMBINED AT	HC29	4.	4.60	2.	1.	1.	0.19		
HYDROGRAPH AT	30S	7.	4.25	1.	0.	0.	0.06		
ROUTED TO	30RR	2.	5.10	1.	0.	0.	0.06	1265.21	5.10

2 COMBINED AT	HC30	6.	4.65	3.	1.	1.	0.24		
HYDROGRAPH AT	31S	2.	4.35	0.	0.	0.	0.05		
3 COMBINED AT	HC31	9.	4.60	5.	2.	2.	0.42		
HYDROGRAPH AT	32S	2.	4.35	0.	0.	0.	0.05		
2 COMBINED AT	HC32	11.	4.60	6.	2.	2.	0.48		
HYDROGRAPH AT	34S	3.	4.35	1.	0.	0.	0.08		
2 COMBINED AT	HC34	14.	4.55	6.	2.	2.	0.55		
HYDROGRAPH AT	41S	3.	4.15	1.	0.	0.	0.02		
HYDROGRAPH AT	42S	5.	4.35	1.	0.	0.	0.07		
2 COMBINED AT	HC42	8.	4.30	2.	0.	0.	0.09		
ROUTED TO	42RR	3.	5.05	1.	0.	0.	0.09	1303.14	5.05
HYDROGRAPH AT	43S	0.	5.05	0.	0.	0.	0.01		
2 COMBINED AT	HC43	3.	5.05	1.	0.	0.	0.10		
HYDROGRAPH AT	44S	3.	4.30	0.	0.	0.	0.03		
2 COMBINED AT	HC44	5.	4.60	2.	1.	0.	0.13		
HYDROGRAPH AT	45S	5.	4.10	1.	0.	0.	0.02		
HYDROGRAPH AT	46S	8.	4.15	1.	0.	0.	0.06		
2 COMBINED AT	HC46	12.	4.15	2.	1.	1.	0.07		
ROUTED TO	46RR	5.	4.90	2.	1.	1.	0.07	1300.21	4.90
HYDROGRAPH AT	47S	4.	4.25	1.	0.	0.	0.03		
2 COMBINED AT	HC47A	7.	4.40	3.	1.	1.	0.11		
2 COMBINED AT	HC47B	12.	4.40	5.	1.	1.	0.24		
ROUTED TO	47RR	6.	6.20	4.	1.	1.	0.24	1289.45	6.20
HYDROGRAPH AT	48S	6.	4.30	1.	0.	0.	0.06		
2 COMBINED AT	HC48	8.	4.35	5.	2.	1.	0.30		
ROUTED TO	48RR	7.	4.60	5.	2.	1.	0.30	1287.10	4.60
HYDROGRAPH AT	49S	0.	0.05	0.	0.	0.	0.04		
2 COMBINED AT	HC49	7.	4.60	5.	2.	1.	0.34		
HYDROGRAPH AT	50S	3.	4.25	0.	0.	0.	0.02		
2 COMBINED AT	HC50	9.	4.45	5.	2.	2.	0.36		

HYDROGRAPH AT	52S	3.	4.10	1.	0.	0.	0.01		
HYDROGRAPH AT	53S	5.	4.15	1.	0.	0.	0.03		
2 COMBINED AT	HC53	8.	4.10	1.	0.	0.	0.04		
ROUTED TO	53RR	5.	4.60	1.	0.	0.	0.04	1297.29	4.60
HYDROGRAPH AT	54S	8.	4.10	1.	0.	0.	0.03		
HYDROGRAPH AT	55S	4.	4.10	1.	0.	0.	0.02		
2 COMBINED AT	HC55A	12.	4.10	2.	1.	0.	0.05		
2 COMBINED AT	HC55B	15.	4.15	3.	1.	1.	0.09		
ROUTED TO	55RR	8.	4.90	3.	1.	1.	0.09	1294.51	4.90
HYDROGRAPH AT	56S	4.	4.30	1.	0.	0.	0.04		
HYDROGRAPH AT	57S	10.	4.30	2.	0.	0.	0.10		
2 COMBINED AT	HC57A	14.	4.30	2.	1.	1.	0.14		
2 COMBINED AT	HC57B	20.	4.35	6.	1.	1.	0.23		
ROUTED TO	57RR	19.	4.45	6.	1.	1.	0.23	1290.17	4.45
HYDROGRAPH AT	58S	0.	4.35	0.	0.	0.	0.01		
2 COMBINED AT	HC58	20.	4.45	6.	2.	1.	0.24		
HYDROGRAPH AT	51S	17.	4.15	3.	1.	1.	0.13		
3 COMBINED AT	HC51	45.	4.35	15.	4.	4.	0.72		
ROUTED TO	51RR1	26.	5.15	14.	4.	4.	0.72	1277.77	5.15
ROUTED TO	51RR2	26.	5.30	14.	4.	4.	0.72	1273.18	5.30
HYDROGRAPH AT	61S	5.	4.35	1.	0.	0.	0.12		
2 COMBINED AT	HC61	28.	5.10	15.	4.	4.	0.85		
ROUTED TO	61RR	9.	8.25	7.	2.	2.	0.85	1265.74	8.25
2 COMBINED AT	HC570	14.	4.55	11.	4.	4.	1.40		
ROUTED TO	RM570	13.	8.55	11.	4.	4.	1.40	100.60	8.55
HYDROGRAPH AT	571S	32.	5.40	14.	4.	4.	1.35		
2 COMBINED AT	HC571	44.	5.40	22.	8.	8.	2.74		
ROUTED TO	RM571	43.	5.70	22.	8.	8.	2.74	101.27	5.70
HYDROGRAPH AT	553S	10.	4.70	3.	1.	1.	0.93		
4 COMBINED AT	HC553	77.	9.05	61.	21.	20.	13.77		

ROUTED TO	RM553	75.	9.90	60.	21.	20.	13.77	22.60	9.90
HYDROGRAPH AT	554R1	176.	5.35	46.	12.	11.	0.00		
HYDROGRAPH AT	554R2	0.	0.05	0.	0.	0.	0.00		
HYDROGRAPH AT	554S	22.	5.35	10.	3.	3.	0.54		
4 COMBINED AT	HC554	219.	5.35	106.	36.	34.	14.31		
ROUTED TO	RM554	206.	5.85	105.	36.	34.	14.31	93.87	5.85
HYDROGRAPH AT	555R1	0.	0.05	0.	0.	0.	0.00		
HYDROGRAPH AT	555R2	0.	0.05	0.	0.	0.	0.00		
HYDROGRAPH AT	555S	20.	4.90	7.	2.	2.	0.54		
4 COMBINED AT	HC555A	218.	5.80	108.	38.	36.	14.85		
HYDROGRAPH AT	91S	3.	4.45	1.	0.	0.	0.07		
HYDROGRAPH AT	92S	4.	4.25	1.	0.	0.	0.03		
2 COMBINED AT	HC92	7.	4.35	1.	0.	0.	0.10		
ROUTED TO	92RR	0.	6.15	0.	0.	0.	0.10	1242.21	6.60
HYDROGRAPH AT	93S	1.	4.85	0.	0.	0.	0.06		
2 COMBINED AT	HC93	1.	4.85	0.	0.	0.	0.16		
ROUTED TO	93RR	0.	6.25	0.	0.	0.	0.16	1236.01	6.20
HYDROGRAPH AT	94S	3.	4.50	1.	0.	0.	0.08		
2 COMBINED AT	HC94	3.	4.50	1.	0.	0.	0.24		
HYDROGRAPH AT	95S	2.	4.55	0.	0.	0.	0.07		
2 COMBINED AT	HC95	4.	4.50	1.	0.	0.	0.31		
HYDROGRAPH AT	96S	9.	4.40	2.	0.	0.	0.09		
ROUTED TO	96RR	2.	5.45	2.	0.	0.	0.09	1237.17	5.45
HYDROGRAPH AT	97S	0.	5.55	0.	0.	0.	0.07		
3 COMBINED AT	HC97	6.	4.60	3.	1.	1.	0.47		
ROUTED TO	97RR	0.	10.30	0.	0.	0.	0.47	1230.41	24.15
HYDROGRAPH AT	98S	2.	4.25	0.	0.	0.	0.02		
ROUTED TO	98RR	1.	4.75	0.	0.	0.	0.02	1230.08	4.75
2 COMBINED AT	HC98	1.	4.75	0.	0.	0.	0.48		
HYDROGRAPH AT	99S	2.	4.35	0.	0.	0.	0.05		

2 COMBINED AT	HC99	3.	4.45	1.	0.	0.	0.53		
ROUTED TO	99RR	1.	6.10	1.	0.	0.	0.53	1229.06	6.15
HYDROGRAPH AT	90S	3.	4.60	1.	0.	0.	0.08		
2 COMBINED AT	HC580	3.	4.65	1.	0.	0.	0.61		
ROUTED TO	RM580	3.	5.20	1.	0.	0.	0.61	100.11	5.20
HYDROGRAPH AT	581S	132.	4.70	50.	13.	13.	0.82		
2 COMBINED AT	HC581	133.	4.70	51.	14.	13.	1.43		
2 COMBINED AT	HC555B	289.	5.70	143.	51.	49.	16.28		
ROUTED TO	RM555	261.	6.60	142.	51.	49.	16.28	74.47	6.60
HYDROGRAPH AT	556R	0.	0.05	0.	0.	0.	0.00		
HYDROGRAPH AT	556S	13.	4.80	5.	1.	1.	0.56		
4 COMBINED AT	HC556A	347.	6.55	223.	88.	.85.	27.02		
HYDROGRAPH AT	408S	39.	5.30	21.	6.	6.	1.08		

NORMAL END OF HEC-1 ***

SECTION II

HEC-1 Hydrology Results 10-Year 6-Hour Storm (Existing Conditions)

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*                                      *
*   FLOOD HYDROGRAPH PACKAGE  (HEC-1)  *
*              MAY   1991              *
*           VERSION 4.0.1E             *
*                                      *
*  RUN DATE  01/25/95  TIME  13:09:31  *
*                                      *
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*                                      *
*    U.S. ARMY CORPS OF ENGINEERS      *
*    HYDROLOGIC ENGINEERING CENTER     *
*          609 SECOND STREET           *
*       DAVIS, CALIFORNIA 95616        *
*           (916) 551-1748             *
*                                      *
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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

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

  1           ID    ACDC AREA DRAINAGE MASTER STUDY
  2           ID    FILENAME:  NR26.DAT          KHE JOB NO. 0146
  3           ID    WATERSHED CONTRIBUTING TO NEW RIVER UP TO ITS CONFLUENCE WITH
  4           ID    SKUNK CREEK
  5           ID
  6           ID    10-YEAR 6-HOUR DURATION STORM FOR EXISTING CONDITIONS
  7           ID
              *
              *        CREATED:  JANUARY 19, 1995
              *
              *
              *DIAGRAM
  8           IT       3                    500
  9           IO       5
              *    *    *    *    *    *    *    *    *    *    *    *    *
              *                                                             *
              *          SUBAREA GROUPING CONTRIBUTING TO 91ST AVENUE DRAIN *
              *           SUB-BASINS 500-503, 510-512, 520-522, & 530-535   *
              *              TOTAL CONTRIBUTING AREA = 10.18 SQ. MI.        *
              *                                                             *
              *    *    *    *    *    *    *    *    *    *    *    *    *

 10           KK    500S
 11           KM   RUNOFF GENERATED ON SUB-BASIN 500
 12           KM   THE FOLLOWING PARAMETERS WERE PROVIDED FOR THIS BASIN
 13           KM   L= 1.455 mi  S= 50 ft/mi  Kb= 0.078
 14           KM   CLARK UNIT HYDROGRAPH FOR NATURAL WATERSHEDS WAS USED FOR THIS BASIN
 15           KM   6-HOUR RAINFALL, PATTERN NO. 1.00 WAS USED TO FIND TC & R FOR THIS BASIN
 16           KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF .995
 17           BA    .410
 18           IN      15
 19           KM   RAINFALL DEPTH OF 2.00 WAS SPACIALLY REDUCED AS SHOWN BY THE PB RECORD
 20           KM   AN AREAL REDUCTION COEFFICIENT OF .939 WAS USED
 21           PB   1.878
 22           KM   THE FOLLOWING PC RECORD USED A 6-HOUR STORM WITH A PATTERN NO. OF 2.74
 23           PC    .000    .013    .019    .029    .044    .058    .070    .082    .095    .108
 24           PC    .123    .139    .161    .207    .291    .467    .676    .807    .876    .919
 25           PC    .947    .961    .974    .987   1.000
 26           LG    .282    .323   4.080    .419   5.530
 27           UC   1.523   1.324
 28           UA       0       3       5       8      12      20      43      75      90      96
 29           UA     100

 30           KK   RN500
 31           KM   NORMAL DEPTH STORAGE ROUTE FLOW FROM SUB-BASIN 500 THROUGH 501
 32           KM              1) Reach Length = 5446 ft
 33           RS      13    FLOW      -1
 34           RC    .040    .030    .040    5446   .0060
 35           RX       0      25      50      80     120     150     175     200
 36           RY     102     101     100     100     100     100     101     102
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

  37          KK   501S
  38          KM   RUNOFF GENERATED ON SUB-BASIN 501
  39          KM   THE FOLLOWING PARAMETERS WERE PROVIDED FOR THIS BASIN
  40          KM   L= 1.031 mi  S= 32 ft/mi  Kb= 0.087
  41          KM   CLARK UNIT HYDROGRAPH FOR NATURAL WATERSHEDS WAS USED FOR THIS BASIN
  42          KM   6-HOUR RAINFALL, PATTERN NO. 1.03 WAS USED TO FIND TC & R FOR THIS BASIN
  43          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF .993
  44          BA    .524
  45          LG    .350    .350   3.920    .384    .000
  46          UC   1.672    .970
  47          UA      0       3       5       8      12      20      43      75      90      96
  48          UA    100

  49          KK   HC501
  50          KM   COMBINE HYDROGRAPHS FROM SUB-BASIN 501 WITH ROUTED FLOW FROM 500
  51          HC      2

  52          KK   RM501
  53          KM   NORMAL DEPTH STORAGE ROUTE FROM SUB-BASIN 501 THROUGH 502
  54          KM           1) Reach Length = 7666 ft
  55          RS     17    FLOW      -1
  56          RC   .040    .030    .040    7666   .0044
  57          RX      0      25      50      80     120     150     175     200
  58          RY    102     101     100     100     100     100     101     102

  59          KK   502S
  60          KM   RUNOFF GENERATED ON SUB-BASIN 502
  61          KM   THE FOLLOWING PARAMETERS WERE PROVIDED FOR THIS BASIN
  62          KM   L= 1.452 mi  S= 23 ft/mi  Kb= 0.086
  63          KM   CLARK UNIT HYDROGRAPH FOR NATURAL WATERSHEDS WAS USED FOR THIS BASIN
  64          KM   6-HOUR RAINFALL, PATTERN NO. 1.06 WAS USED TO FIND TC & R FOR THIS BASIN
  65          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF .993
  66          BA    .553
  67          LG    .350    .350   3.820    .361    .000
  68          UC   2.536   1.963
  69          UA      0       3       5       8      12      20      43      75      90      96
  70          UA    100

  71          KK   510S
  72          KM   RUNOFF GENERATED ON SUB-BASIN 510
  73          KM   THE FOLLOWING PARAMETERS WERE PROVIDED FOR THIS BASIN
  74          KM   L= 1.577 mi  S= 93 ft/mi  Kb= 0.074
  75          KM   CLARK UNIT HYDROGRAPH FOR NATURAL WATERSHEDS WAS USED FOR THIS BASIN
  76          KM   6-HOUR RAINFALL, PATTERN NO. 1.13 WAS USED TO FIND TC & R FOR THIS BASIN
  77          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF .992
  78          BA    .625
  79          LG    .209    .322   3.980    .396   8.130
  80          UC   1.112    .784
  81          UA      0       3       5       8      12      20      43      75      90      96
  82          UA    100
```

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

 83           KK   RM510
 84           KM   NORMAL DEPTH STORAGE ROUTE FLOW FROM SUB-BASIN 510 THROUGH 511
 85           KM            1) Reach Length = 5415 ft
 86           RS      10    FLOW      -1
 87           RC    .040    .030    .040    5415   .0065
 88           RX       0      25      50      80     120     150     175     200
 89           RY     102     101     100      99      99     100     101     102

 90           KK    511S
 91           KM   RUNOFF GENERATED ON SUB-BASIN 511
 92           KM   THE FOLLOWING PARAMETERS WERE PROVIDED FOR THIS BASIN
 93           KM   L= 1.025 mi  S= 34 ft/mi  Kb= 0.087
 94           KM   CLARK UNIT HYDROGRAPH FOR NATURAL WATERSHEDS WAS USED FOR THIS BASIN
 95           KM   6-HOUR RAINFALL, PATTERN NO. 1.00 WAS USED TO FIND TC & R FOR THIS BASIN
 96           KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF .994
 97           BA    .437
 98           LG    .336    .345   3.770    .350    .820
 99           UC   1.540    .977
100           UA       0       3       5       8      12      20      43      75      90      96
101           UA     100

102           KK   HC511
103           KM   COMBINE HYDROGRAPHS FROM SUB-BASIN 511 WITH ROUTED FLOW FROM 510
104           HC       2

105           KK   RM511
106           KM   NORMAL DEPTH STORAGE ROUTE FLOW FROM SUB-BASIN 511 THROUGH 512
107           KM            1) Reach Length = 5909 ft
108           RS      10    FLOW      -1
109           RC    .040    .030    .040    5909   .0054
110           RX       0      25      50      80     120     150     175     200
111           RY     102     101     100      99      99     100     101     102

112           KK    512S
113           KM   RUNOFF GENERATED ON SUB-BASIN 512
114           KM   THE FOLLOWING PARAMETERS WERE PROVIDED FOR THIS BASIN
115           KM   L= 1.210 mi  S= 26 ft/mi  Kb= 0.088
116           KM   CLARK UNIT HYDROGRAPH FOR NATURAL WATERSHEDS WAS USED FOR THIS BASIN
117           KM   6-HOUR RAINFALL, PATTERN NO. 1.00 WAS USED TO FIND TC & R FOR THIS BASIN
118           KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF .994
119           BA    .469
120           LG    .350    .350   3.610    .315    .000
121           UC   2.000   1.432
122           UA       0       3       5       8      12      20      43      75      90      96
123           UA     100

124           KK  HC512A
125           KM   COMBINE HYDROGRAPHS FROM SUB-BASIN 512 WITH ROUTED FLOW FROM 511
126           HC       2
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 127          KK   502RE
 128          KM   DIVERT 50% WESTERLY ALONG BEARDSLEY RD. TO WESTBROOK VILLAGE WEST INLET
 129          DT    533D
 130          DI       0    1000    2000    3000
 131          DQ       0     500    1000    1500

 132          KK   HC502
 133          KM   COMBINE HYDROGRAPHS FROM SUB-BASIN 502 WITH ROUTED FLOW FROM 501 AND
 134          KM   REMAINING FLOW FROM SUBBASIN NO. 512 AT INLET TO WESTBROOK VILLAGE WEST
 135          HC       3
              *
              *     INFLOW TO WESTBROOK VILLAGE WEST
              *
              *     This section of the model was developed by the FCDMC and was obtained
              *     from a Draft Copy of their June 20, 1994 report, "91st Avenue Drain
              *     Hydrology Update, Flood Control District of Maricopa County, Watershed
              *     Management Branch."
              *

 136          KK   RM502
 137          KM   NORMAL DEPTH STORAGE ROUTE FROM SUB-BASIN 502 THROUGH 503
 138          RS      10    FLOW      -1
 139          RC    .030    .020    .030    5280   .0050
 140          RX       0      30      60      90     190     300     330     360
 141          RY     104     103     101     100     100     101     103     104

 142          KK    503S
 143          KM   RUNOFF GENERATED ON SUB-BASIN 503 (FCDMC SUB-BASIN I.D. WBW)
 144          KM   TOTAL OF PARCELS 1 TO 27 IN WESTBROOK VILLAGE WEST (1983 PROJECT)
 145          KM   PLUS PARCELS 28 (GOLF COURSES) ABOUT 23% OF AREA
 146          KM   AREA REVISED FROM 1.00 SQ.MI. TO 0.952 SQ.MI. PARCEL IN SOUTHWEST CORNER OF
 147          KM   SUBDIVISION DOES NOT CONTRIBUTE;  FLOWS PROCEED WESTWARD ON UNION HILLS DR.
 148          BA    .952
 149          LG     .35     .25   3.500    .280      30
 150          UC   1.724   1.556
 151          UA       0       3       5       8      12      20      43      75      90      96
 152          UA     100

 153          KK   HC503
 154          KM   COMBINE HYDROGRAPHS FROM SUB-BASIN 503 WITH ROUTED FLOW FROM 502
 155          HC       2

 156          KK   503RR
 157          KM   PER 1983 UDC REPORT AVAILABLE STORAGE IS 472 AC-FT IN GOLF COURSES
 158          KM   A MAXIMUM OF 350 AC-FT IS ASSUMED AS PER ERIE'S QU ESTIMATE
 159          KM   PER MEETING ON MAY 9, 1994 25 CFS IS ASSUMED AS BLEED OFF THRU 2' DIA PIPE
 160          KM   CULVERT CROSSING UNION HILLS DRIVE AT ABOUT 93RD ALIGNMENT
 161          RS       1    STOR       0
 162          SV       0      50     100     150     200     300     350     400     500
 163          SE      26      27      28      29      30      32      34      36      38
 164          SQ       0      25      25      25      25      25      25     300     400
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 165          KK   RM503
 166          KM   ROUTE ALONG UNION HILLS DR. EASTWARD TOWARDS 93RD AVE
 167          RS      5    FLOW      -1
 168          RC    .03     .02     .03    2080   .0019
 169          RX      0      20      40      60      80     100     120     140
 170          RY    102     101     100     100     100     100     101     102
              *
              *
              *     THIS CONCLUDES PORTION OF HEC-1 FILE OBTAINED FROM THE
              *      FCDMC HYDROLOGY
              *

 171          KK    533R
 172          KM    RETRIEVE FLOWS GOING SOUTH ALONG 91ST AVE.
 173          DR    533D
              *
              *
              *   BEGIN PORTION OF HEC-1 FILE OBTAINED FROM THE FCDMC HYDROLOGY
              *

 174          KK    533A
 175          KM   WESTBROOK VILLAGE PARCEL B8
 176          KM   THIS PARCEL DISCHARGES DIRECTLY INTO 91ST AVE
 177          BA   .0085
 178          LG    .25     .25     3.5     .28      30
 179          UC   .293    .274
 180          UA      0       5      16      30      65      77      84      90      94      96
 181          UA    100

 182          KK  HC512B
 183          KM   COMBINE HYDROGRAPHS SOUTH OF BEARDSLEY ROAD ALONG 91ST AVENUE
 184          HC      2

 185          KK   RM512
 186          KM   ROUTE FLOWS ON 91ST AVENUE, BEARDSLY RD. TO UNION HILLS DR.
 187          KM   ROUTE THRU 91ST AVE. SOUTHWARD, X-SECTION GIVEN IN 1983 WB REPORT
 188          RS      2    FLOW      -1
 189          RC    .02    .015     .02    2380   .0045
 190          RX      0      12      22      40      80     121     131     143
 191          RY    103     100     100     102     102     100     100     103

 192          KK    533B
 193          KM    COMBINE PARCELS 8A, 10B, 7, 6, 5, G10, 2B, 3B
 194          BA   .2814
 195          LG    .25     .25     3.5     .28      45
 196          UC   .500    .458
 197          UA      0       5      16      30      65      77      84      90      94      96
 198          UA    100
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 199          KK  533RR1
 200          KM   ROUTE FLOWS THROUGH RESERVOIR 10, WESTBROOK VILLAGE EAST
 201          KM   THE RESERVOIR BLEEDS INTO 91ST AVENUE
 202          RS      1    STOR      -1       0
 203          SV      0     .35    2.28     6.4   12.82    24.0
 204          SE   27.5    28.5    29.5    30.5    31.5    32.5
 205          SQ      0       2      12      19      22      44

 206          KK  HC533A
 207          KM   91ST AVENUE AT INTERSECTION WITH UNION HILL DR.
 208          HC      2
              *
              *   CONCLUDE PORTION OF HEC-1 FILE OBTAINED FROM THE FCDMC HYDROLOGY
              *

 209          KK   520S
 210          KM   RUNOFF GENERATED ON SUB-BASIN 520
 211          KM   THE FOLLOWING PARAMETERS WERE PROVIDED FOR THIS BASIN -
 212          KM   L= 1.569 mi  S= 238 ft/mi  Kb= 0.071
 213          KM   CLARK UNIT HYDROGRAPH FOR NATURAL WATERSHEDS WAS USED FOR THIS BASIN
 214          KM   6-HOUR RAINFALL, PATTERN NO. 1.17 WAS USED TO FIND TC & R FOR THIS BASIN
 215          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF .991
 216          BA    .675
 217          LG    .202    .318   3.920    .384  11.030
 218          UC    .667    .423
 219          UA      0       3       5       8      12      20      43      75      90      96
 220          UA    100

 221          KK   520RE
 222          KM   DIVERT MAX. OF 136 CFS EAST ALONG CALLE LEJOS TO 83RD AVENUE AS
 223          KM   PER AM. ENGINEERING CO. REPORT DEC. 1993
 224          DT    530D
 225          DI      0      50     100     137     200     400    1000
 226          DQ      0      50     100     137     137     137     137

 227          KK   RM520
 228          KM   NORMAL DEPTH STORAGE ROUTE FLOW FROM SUB-BASIN 520 THROUGH 521
 229          KM            1) Reach Length = 5886 ft
 230          RS      9    FLOW      -1
 231          RC   .040    .030    .040    5886   .0056
 232          RX     40      80      90     100     140     150     160     200
 233          RY    103     102     101     100     100     101     102     103

 234          KK   521S
 235          KM   RUNOFF GENERATED ON SUB-BASIN 521
 236          KM   THE FOLLOWING PARAMETERS WERE PROVIDED FOR THIS BASIN
 237          KM   L= 1.176 mi  S= 30 ft/mi  Kb= 0.044
 238          KM   CLARK UNIT HYDROGRAPH FOR NATURAL WATERSHEDS WAS USED FOR THIS BASIN
 239          KM   6-HOUR RAINFALL, PATTERN NO. 1.12 WAS USED TO FIND TC & R FOR THIS BASIN
 240          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF .992
 241          BA    .617
 242          LG    .100    .250   6.290    .186  15.530
 243          UC    .808    .438
 244          UA      0       3       5       8      12      20      43      75      90      96
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 245          UA     100

 246          KK   HC521
 247          KM   COMBINE HYDROGRAPHS FROM SUB-BASIN 521 WITH ROUTED FLOW FROM 520
 248          HC       2

 249          KK   RM521
 250          KM   NORMAL DEPTH STORAGE ROUTE FLOW FROM SUB-BASIN 521 THROUGH 522
 251          KM            1) Reach Length = 6074 ft
 252          RS      10    FLOW      -1
 253          RC    .040    .030    .040    6074   .0049
 254          RX       0      50      75     105     145     175     200     250
 255          RY     103     101     100     100     100     100     101     103

 256          KK    522S
 257          KM   RUNOFF GENERATED ON SUB-BASIN 522
 258          KM   THE FOLLOWING PARAMETERS WERE PROVIDED FOR THIS BASIN
 259          KM   L= 1.186 mi  S= 24 ft/mi  Kb= 0.077
 260          KM   CLARK UNIT HYDROGRAPH FOR NATURAL WATERSHEDS WAS USED FOR THIS BASIN
 261          KM   6-HOUR RAINFALL, PATTERN NO. 1.01 WAS USED TO FIND TC & R FOR THIS BASIN
 262          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF .993
 263          BA    .508
 264          LG    .388    .290   6.780    .185    .000
 265          UC   1.765   1.172
 266          UA       0       3       5       8      12      20      43      75      90      96
 267          UA     100

 268          KK   HC522
 269          KM   COMBINE HYDROGRAPHS FROM SUB-BASIN 522 WITH ROUTED FLOW FROM 521
 270          KM   WEST INLET FOR WESTBROOK VILLAGE EAST
 271          HC       2
              *
              *   BEGIN PORTION OF HEC-1 FILE OBTAINED FROM THE FCDMC HYDROLOGY
              *
              *  ROUTING COMMAND REMOVED FROM MODEL.  REACH LENGTH IS TOO SHORT FOR PEAK
              *  DISCHARGE ATTENUATION.
              *
              * KKRM522A
              * KM ROUTE OFFSITE INFLOWS, W.B. EAST INLET TO FIRST DETENTION
              * RS      1    FLOW      -1
              * RC    .03     .02     .03     260  .00192
              * RX      0      12    17.5    22.5    33.5    37.5      43      55
              * RY     45      42      40      40      40      40      42      45

 272          KK    533C
 273          KM   COMBINE PARCELS 9, 10A, 11, 12, GC3
 274          KM   HIGHEST SCS LAG TIME USED BY CONSULTANT WAS CONVERTED TO TC: TLAG/0.60
 275          BA    .123
 276          LG     .35     .25     8.4     .06      35
 277          UC    .574    .457
 278          UA       0       3       5       8      12      20      43      75      90      96
 279          UA     100
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 280          KK  HC533B
 281          KM   COMBINE HYDROGRAPHS WITHIN EAST WESTBROOK VILLAGE
 282          HC       2

 283          KK  533RR2
 284          KM   ROUTE FLOW THROUGH WESTBROOK VILLAGE EAST RESERVOIR 3
 285          RS       1    STOR      -1       0
 286          SV       0     .19    1.23    3.71    7.87    12.1    24.0
 287          SE      32      33      34      35      36      37      38
 288          SQ       0       2      12      19     195     811    1200

 289          KK    533D
 290          KM   COMBINE PARCELS 19, 18B, GC4-5
 291          BA    .101
 292          LG     .35     .15     8.4     .06      45
 293          UC   1.172    .915
 294          UA       0       3       5       8      12      20      43      75      90      96
 295          UA     100

 296          KK  HC533C
 297          KM   COMBINE HYDROGRAPHS WITHIN EAST WESTBROOK VILLAGE
 298          HC       2

 299          KK  533RR3
 300          KM   ROUTE FLOW THROUGH WESTBROOK VILLAGE EAST RESERVOIR 4 & 5
 301          RS       1    STOR      -1       0
 302          SV       0    2.57    7.19   13.71    22.4      32      37      42      47      52
 303          SE      27      28      29      30      31      33      34      35      36      37
 304          SQ       0       2      12      19      21      21      21      21     386    1207

 305          KK    533E
 306          KM   GOLF COURSE AT DRIVING RANGE
 307          BA   .0126
 308          LG     .35     .25     3.5     .29      45
 309          UC    .305    .274
 310          UA       0       3       5       8      12      20      43      75      90      96
 311          UA     100

 312          KK  HC533D
 313          KM   COMBINE HYDROGRAPHS WITH IN EAST WESTBROOK VILLAGE
 314          HC       2

 315          KK  533RR4
 316          KM   ROUTE FLOW THROUGH WESTBROOK VILLAGE EAST RESERVOIR 6
 317          RS       1    STOR      -1       0
 318          SV       0       2       4       6       8
 319          SE      33      34      35      36      37
 320          SQ       0       0     227     811    1200
              *
              *   CONCLUDE PORTION OF HEC-1 FILE OBTAINED FROM THE FCDMC HYDROLOGY
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 321          KK   530S
 322          KM   RUNOFF GENERATED ON SUB-BASIN 530
 323          KM   THE FOLLOWING PARAMETERS WERE PROVIDED FOR THIS BASIN
 324          KM   L= 1.452 mi  S= 280 ft/mi  Kb= 0.053
 325          KM   CLARK UNIT HYDROGRAPH FOR NATURAL WATERSHEDS WAS USED FOR THIS BASIN
 326          KM   6-HOUR RAINFALL, PATTERN NO. 1.29 WAS USED TO FIND TC & R FOR THIS BASIN
 327          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF .989
 328          BA    .821
 329          LG    .139    .276   3.550    .303  13.320
 330          UC    .425    .216
 331          UA       0       3       5       8      12      20      43      75      90      96
 332          UA     100

 333          KK   R530
 334          KM   RETRIEVE DIVERTED FLOW FROM SUB-BASIN 520
 335          DR   5300

 336          KK   HC530
 337          KM   COMBINE HYDROGRAPHS FROM SUB-BASIN 530 WITH DIVERTED FLOW FROM 520
 338          HC       2

 339          KK   RM530
 340          KM   NORMAL DEPTH STORAGE ROUTE FLOW FROM SUB-BASIN 530 THROUGH 531
 341          KM            1) Reach Length = 5688 ft
 342          RS       8    FLOW      -1
 343          RC    .040    .030    .040    5688   .0053
 344          RX       0      25      50      80     120     150     175     200
 345          RY     102     101     100     100     100     100     101     102

 346          KK   531S
 347          KM   RUNOFF GENERATED ON SUB-BASIN 531
 348          KM   THE FOLLOWING PARAMETERS WERE PROVIDED FOR THIS BASIN
 349          KM   L= 1.193 mi  S= 25 ft/mi  Kb= 0.060
 350          KM   CLARK UNIT HYDROGRAPH FOR NATURAL WATERSHEDS WAS USED FOR THIS BASIN
 351          KM   6-HOUR RAINFALL, PATTERN NO. 1.16 WAS USED TO FIND TC & R FOR THIS BASIN
 352          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF .991
 353          BA    .654
 354          LG    .225    .170  10.100    .036   9.530
 355          UC    .983    .533
 356          UA       0       3       5       8      12      20      43      75      90      96
 357          UA     100

 358          KK   HC531
 359          KM   COMBINE HYDROGRAPHS FROM SUB-BASIN 531 WITH ROUTED FLOW FROM 530
 360          HC       2

 361          KK   RM531
 362          KM   NORMAL DEPTH STORAGE ROUTE FLOW FROM SUB-BASIN 531 THROUGH 532
 363          KM            1) Reach Length = 6723 ft
 364          RS       9    FLOW      -1
 365          RC    .040    .030    .040    6723   .0043
 366          RX       0      50      75     105     145     175     200     250
 367          RY     103     101     100     100     100     100     101     103
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

368           KK    532S
369           KM   RUNOFF GENERATED ON SUB-BASIN 532
370           KM   THE FOLLOWING PARAMETERS WERE PROVIDED FOR THIS BASIN
371           KM   L= 1.109 mi  S= 25 ft/mi  Kb= 0.062
372           KM   CLARK UNIT HYDROGRAPH FOR NATURAL WATERSHEDS WAS USED FOR THIS BASIN
373           KM   6-HOUR RAINFALL, PATTERN NO. 1.02 WAS USED TO FIND TC & R FOR THIS BASIN
374           KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF .993
375           BA    .521
376           LG    .438    .103  10.100    .046    .000
377           UC   1.021    .596
378           UA      0       3       5       8      12      20      43      75      90      96
379           UA    100

380           KK   HC532
381           KM   COMBINE HYDROGRAPHS FROM SUB-BASIN 532 WITH ROUTED FLOW FROM 531
382           HC      2
              *
              *   BEGIN PORTION OF HEC-1 FILE OBTAINED FROM THE FCDMC HYDROLOGY
              *

383           KK   532RE
384           KM   DIVERT 70% SOUTHWARD THRU 83RD AVENUE
385           DT   554D1
386           DI      0     200     400     800    1200    1500    2000    2500
387           DQ      0     140     280     560     840    1050    1400    1750

388           KK    533F
389           KM   COMBINE PARCELS 13, 14, G1
390           BA   .0644
391           LG    .35     .25     3.5     .29      45
392           UC    .416    .366
393           UA      0       3       5       8      12      20      43      75      90      96
394           UA    100

395           KK  HC533E
396           KM   COMBINE HYDROGRAPHS WITHIN EAST WESTBROOK VILLAGE
397           HC      2
              *    *    *    *    *    *    *    *    *    *    *    *
              *                                                       *
              *     RESERVOIR ROUTING OPTION WAS REMOVED FROM THE MODEL.      *
              *     ROUTED FLOWS WERE INCREASING AND/OR NO DIFFERENCE IN      *
              *     TIMING FROM THE INFLOW HYDROGRAPH WERE OBSERVED.          *
              *                                                               *
              *    *    *    *    *    *    *    *    *    *    *    *
              * KK533RR5
              * KM ROUTE FLOW THROUGH WESTBROOK VILLAGE EAST RESERVOIR 1
              * KM
              * RS     1    STOR      -1       0
              * SV     0     .11     .63    1.43     3.3     5.5    6.46    6.94     7.5    10
              * SE    36      37      38      39      40      41      42      43      44    45
              * SQ     0       2      12      19    21.8    23.1    24.1      25     750    13
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 398          KK    533G
 399          KM   COMBINE PARCELS 15, 16, 17, 18A, 23A, GC2
 400          BA    .079
 401          LG     .35     .25     3.5     .29      45
 402          UC    .491    .457
 403          UA       0       3       5       8      12      20      43      75      90      96
 404          UA     100

 405          KK  HC533F
 406          KM   COMBINE HYDROGRAPHS WITHIN EAST WESTBROOK VILLAGE
 407          HC       2

 408          KK  533RR6
 409          KM   ROUTE FLOW THROUGH WESTBROOK VILLAGE EAST RESERVOIR 2
 410          KM
 411          RS       1    STOR      -1       0
 412          SV       0    1.97    4.86    9.02   14.99      20      25      30      34      38
 413          SE      26      27      28      29      30      31      32      33      34      35
 414          SQ       0       2      12      19      21      21      21      21     930    1200

 415          KK  HC533G
 416          KM   COMBINE 533RR4 AND 533RR6
 417          HC       2

 418          KK  RM522B
 419          RS       3    FLOW      -1
 420          RC     .04     .03     .04    1420   .0018
 421          RX       0      30      60      90     120     150     180     210
 422          RY     104     102     100     100     100     100     102     104

 423          KK    533H
 424          KM   COMBINE PARCELS 23B, 21A, G7
 425          BA    .033
 426          LG     .35     .15     8.4     .06      60
 427          UC    .375    .274
 428          UA       0       3       5       8      12      20      43      75      90      96
 429          UA     100

 430          KK  HC533H
 431          HC       2
              *    *    *    *    *    *    *    *    *    *    *    *
              *                                                       *
              *     RESERVOIR ROUTING OPTION WAS REMOVED FROM THE MODEL.      *
              *     ROUTED FLOWS WERE INCREASING AND/OR NO DIFFERENCE IN      *
              *     TIMING FROM THE INFLOW HYDROGRAPH WERE OBSERVED.          *
              *                                                               *
              *    *    *    *    *    *    *    *    *    *    *    *
              * KK533RR7
              * KM ROUTE FLOWS THROUGH RESERVOIR 7, WESTBROOK VILLAGE EAST
              * RS     1    STOR      -1       0
              * SV     0     .15     .85    2.26    4.71     6.0     7.0     9.0
              * SE    27      28      29      30      31      32      33      34
              * SQ     0      11      23      35      46     526    1391    2500
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 432          KK   533I
 433          KM   COMBINE PARCELS 25, 24, GC8, 27A, 26A
 434          BA   .0839
 435          LG    .35     .15     8.4     .06      45
 436          UC   .747    .550
 437          UA      0       3       5       8      12      20      43      75      90      96
 438          UA    100

 439          KK  533RR8
 440          KM   ROUTE FLOWS THROUGH RESERVOIR 8, WESTBROOK VILLAGE EAST
 441          RS      1    STOR      -1       0
 442          SV      0     .36    2.13    5.54   10.63   15.29    16.0
 443          SE     27      28      29      30      31      32      33
 444          SQ      0       2      12      19      22      30     100

 445          KK  HC533I
 446          KM   COMBINE OUTFLOW FROM RESERVOIRS 7 AND 8
 447          HC      2

 448          KK  RM522C
 449          KM   ROUTE HYDROGRAPHS THRU MAIN SOUTH STREET WITHIN EAST WESTBROOK VILLAGE
 450          RS      1    FLOW      -1
 451          RC    .03     .02     .03    1120   .0032
 452          RX      0      15      30      60      80     105     120     135
 453          RY    104     102     100     100     100     100     102     104

 454          KK   533J
 455          KM   COMBINE R/C, 1B, 26B
 456          BA   .0342
 457          LG    .35     .15     8.4     .06      60
 458          UC   .288    .275
 459          UA      0       3       5       8      12      20      43      75      90      96
 460          UA    100

 461          KK  HC533J
 462          HC      2

 463          KK   533K
 464          KM   COMBINE PARCELS 1A, 20, 21B, G9A, G9B, 2A, 3A
 465          BA   .0572
 466          LG    .35     .25     5.0     .28      45
 467          UC   .469    .366
 468          UA      0       3       5       8      12      20      43      75      90      96
 469          UA    100

 470          KK  533RR9
 471          KM   ROUTE THROUGH RESERVOIR 9, WESTBROOK VILLAGE EAST
 472          RS      1    STOR      -1       0
 473          SV      0     .03    .376   1.698   4.517   9.114  12.000
 474          SE     25      26      27      28      29      30      31
 475          SQ      0       2      11      18      24     128     200
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LINE        ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

476         KK  HC533K
477         KM   OUTFLOW FROM WESTBROOK VILLAGE EAST INTO UNION HILLS DR. AT 86TH AVE.
478         KM   ALIGNMENT AT INTERSECTION OF OUTLET WITH UNION HILLS RD., MAIN ENTRANCE
479         HC       2

480         KK  533RE1
481         KM   DIVERT 100 CFS TO NEW RIVER:  50 CFS THRU 42" CMP AND 50 CFS OVERLAND
482         DT   554D2
483         DI       0      50     100     150     300     600     900    1500
484         DQ       0       0       0     100     100     100     100     100

485         KK  533RE2
486         KM   DIVERT TO COUNTRY CLUB ROAD AND EVENTUALLY TO NEW RIVER.  RATING CURVE
487         KM   AS PER ERIE'S REPORT, ASSUMES OVERFLOW PROPORTIONAL TO WEIR LENGTH
488         DT   555D1
489         DI       0      50      80     982    2670    7461   13454
490         DQ       0       0       0     214     607    1716    3152
            *
            *  ROUTING COMMAND REMOVED FROM MODEL.  REACH LENGTH IS TOO SHORT FOR PEAK
            *  DISCHARGE ATTENUATION.
            *
            * KKRM533A
            * KM ROUTE REMAINING TO INTERSECTION OF UNION HILLS DR. & 87TH AVENUE
            * RS     1    FLOW      -1
            * RC   .02    .015     .02     660   .0015
            * RX     0       1       5      35      40      70      74      75
            * RY   104     102     100     101     101     100     102     104

491         KK  533RE3
492         KM   DIVERT SOUTH THRU 87TH AVE., PORTION GOES TO 91ST AVE. AT UNION HILLS DR.
493         KM   USING RATING CURVE DEVELOPED BY ERIE & ASSOCIATES
494         KM   INFLOW IS ASSUMED SUM OF RATED Q AT ROAD INTERSECTION
495         KM   THIS APPLIES TO SUCCEDING DIVERSIONS USING ERIE'S DATA
496         DT   534D1
497         DI       0      50      80     762    2067    5745
498         DQ       0       0       0     221     625    1768
            *
            *  ROUTING COMMAND REMOVED FROM MODEL.  REACH LENGTH IS TOO SHORT FOR PEAK
            *  DISCHARGE ATTENUATION.
            *
            * KKRM533B
            * KM ROUTE REMAINING FLOW TO 89TH AVE. THRU NORTH SIDE OF UNION HILLS RD.
            * RS     1    FLOW      -1
            * RC  .015    .015    .015    1320   .0037
            * RX     0       1       5      35      40      70      74      75
            * RY   104     102     100     101     101     100     102     104

499         KK  533RE4
500         KM   ASSUME SPLIT OCCURS WHEN DEPTH IS 0.5 FT ABOVE 91ST AVE CROWN AT INTERSECTION
501         KM   PER ERIE'S RATING Q=145 CFS ABOVE WHICH FLOW WILL HAVE 50-50 SPLIT
502         KM   FLOW LESS THAN OR EQUAL TO 145 CFS WILL CONTINUE WESTWARD TO 91ST AVE.
503         DT   534D2
504         DI       0      80     145     300     500     800    1200
505         DQ       0       0       0     150     250     400     600
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

506           KK  RM533C
507           RS      2    FLOW      -1
508           RC    .02    .015     .02    1320   .0015
509           RX      0       1       5      35      40      70      74      75
510           RY    104     102     100     101     101     100     102     104

511           KK  HC533L
512           KM   UNION HILLS DR. AT 91ST AVENUE
513           HC      3

514           KK  RM533D
515           KM   NORMAL DEPTH STORAGE ROUTE FLOW FROM SUB-BASIN 533 THROUGH 534
516           KM            1) Reach Length = 5474 ft
517           RS      6    FLOW      -1
518           RC   .025    .020    .025    5474   .0044
519           RX      0      12      22      40     100     121     131     143
520           RY    103     100     100     101     101     100     100     103

521           KK   534R1
522           KM   RETRIEVE FLOWS GOING SOUTH OF 87TH AVE. SOUTH OF UNION HILLS DR.
523           DR   534D1

524           KK  RM533E
525           KM   ROUTE SOUTHWARD THRU 87TH AVE
526           RS      7    FLOW      -1
527           RC    .02    .015     .02    5560   .0042
528           RX      0       1       5      35      40      70      74      75
529           RY    104     102     100     101     101     100     102     104

530           KK  533RE6
531           KM   DIVERT 50% UP TO MAXIMUM OF 150 CFS EASTWARD ALONG BELL RD. TO NEW RIVER
532           DT   555D2
533           DI      0      20      50     150     200     300
534           DQ      0       6      50     150     150     150

535           KK  533RE7
536           KM   DIVERT SOUTHWARD ALONG 87TH AVE., SOUTH OF BELL RD. USING ERIE'S RATING
537           KM   VALUES
538           DT    535D
539           DI      0     101     600    2410    4905
540           DQ      0      80     310    1540    3050

541           KK  RM533F
542           KM   ROUTE WESTWARD ALONG BELL RD.
543           RS      3    FLOW      -1
544           RC    .02    .015     .02    1320   .0015
545           RX      0       1       5      45      50      90      94      95
546           RY    104     102     100     101     101     100     102     104
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LINE        ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

547         KK   534R2
548         KM   RETRIEVE FLOWS GOING SOUTH ON 89TH AVE. SOUTH OF UNION HILL DR.
549         DR   534D2

550         KK  RM533G
551         RS      6    FLOW      -1
552         RC    .02    .015     .02    5280   .0049
553         RX      0       1       5      35      40      70      74      75
554         RY    104     102     100     101     101     100     102     104
            *
            *  ROUTING COMMAND REMOVED FROM MODEL.  REACH LENGTH IS TOO SHORT FOR PEAK
            *  DISCHARGE ATTENUATION.
            *
            * KKRM533H
            * RS     1    FLOW      -1
            * RC   .02    .015     .02     680   .0015
            * RX     0       1       5      35      40      70      74      75
            * RY   104     102     100     101     101     100     102     104
            *
            *   CONCLUDE PORTION OF HEC-1 FILE OBTAINED FROM THE FCDMC HYDROLOGY
            *

555         KK    534S
556         KM   RUNOFF GENERATED ON SUB-BASIN 534
557         KM   THE FOLLOWING PARAMETERS WERE PROVIDED FOR THIS BASIN
558         KM   L= 1.571 mi  S= 18 ft/mi  Kb= 0.061
559         KM   CLARK UNIT HYDROGRAPH FOR URBAN WATERSHEDS WAS USED FOR THIS BASIN
560         KM   6-HOUR RAINFALL, PATTERN NO. 1.34 WAS USED TO FIND TC & R FOR THIS BASIN
561         KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF .988
562         BA    .896
563         LG    .264    .281   7.500    .116  18.180
564         UC   1.734   1.042
565         UA      0       5      16      30      65      77      84      90      94      97
566         UA    100

567         KK   HC534
568         KM   COMBINE HYDROGRAPHS FROM SUB-BASIN 534 WITH ROUTED FLOW FROM SUB-BASIN 533
569         HC      4

570         KK  RM534A
571         KM   NORMAL DEPTH STORAGE ROUTE FLOW FROM SUB-BASIN 534 THROUGH 535
572         KM           1) Reach Length = 5114 ft
573         RS      4    FLOW      -1
574         RC   .030    .020    .030    5114   .0041
575         RX      0       0       5      10      75      80      85      85
576         RY    108     104     102     100     100     102     104     108

577         KK    535R
578         DR    535D
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LINE        ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

579         KK   535RE
580         KM   DIVERT THROUGH PARADISE LANE WESTWARD USING ERIE'S RATING VALUES
581         DT    556D
582         DI       0     144     570    2530    5490
583         DQ       0      80     310    1540    3050

584         KK  RM534C
585         RS       1    FLOW      -1
586         RC     .02    .015     .02     720   .0038
587         RX       0       1       5      35      40      70      74      75
588         RY     104     102     100     101     101     100     102     104
            *
            *  ROUTING COMMAND REMOVED FROM MODEL.  REACH LENGTH IS TOO SHORT FOR PEAK
            *  DISCHARGE ATTENUATION.  INCLUDE REACH LENGTH IN HEC-1 COMMAND RM534E.
            *
            * KKRM534D
            * KM ROUTE TO EXISTING 91ST AVE. CHANNEL WESTWARD
            * RS     1    FLOW      -1
            * RC   .03     .02     .03     560   .0036
            * RX     0      10      20      35      45      60      70      80
            * RY   108     104     102     100     100     102     104     108

589         KK  RM534E
590         KM   ROUTE THRU EXISTING DRAIN
591         RS       4    FLOW      -1
592         RC    .030    .020    .030    1810   .0042
593         RX       0       6      12      24      36      48      60      72
594         RY     108     104     102     100     100     102     104     108

595         KK    535S
596         KM   RUNOFF GENERATED ON SUB-BASIN 535
597         KM   THE FOLLOWING PARAMETERS WERE PROVIDED FOR THIS BASIN
598         KM   L= 1.176 mi  S= 22 ft/mi  Kb= 0.040
599         KM   CLARK UNIT HYDROGRAPH FOR URBAN WATERSHEDS WAS USED FOR THIS BASIN
600         KM   6-HOUR RAINFALL, PATTERN NO. 1.14 WAS USED TO FIND TC & R FOR THIS BASIN
601         KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF .992
602         BA    .642
603         LG    .301    .164   6.290    .227  20.750
604         UC    .883    .473
605         UA       0       5      16      30      65      77      84      90      94      97
606         UA     100

607         KK   HC535
608         KM   COMBINE HYDROGRAPHS AT 91ST AVE. DRAIN AND ALIGNMENT OF GREENWAY RD.
609         HC       3

610         KK   535RE
611         KM   DIVERT THRU EXISTING 91ST AVE. CHANNEL SPILLWAY PER DESIGN DRAWINGS
612         KM   DESIGN CAPACITY OF TRIPLE BARREL CULVERT = 743 CFS PLUS FB CAPACITY
613         KM   FLOW SOUTHWARD ALONG 91ST AVE. TOWARDS DESERT HARBOR MPC
614         DT   DV91S
615         DI       0     100     743    1170    1900    3000    4700
616         DQ       0       0       0       0     520    1470    2700
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

617           KK   RM535
618           KM   ROUTE REMAINING FLOW THRU 91ST AVE. CHANNEL TO OUTLET
619           KM   EXISTING GUNITE CHANNEL WITH 2:1 SS AS PER FCD CONSULTANT DESIGN
620           RS      2    FLOW      -1
621           RC    .02    .015     .02    1720   .0008
622           RX      0       7      14      20      28      34      41      48
623           RY    107   103.5     100     100     100     100   103.5     107
              *    *    *    *    *    *    *    *    *    *    *    *
              *                                                         *
              *       SUBAREA GROUPING CONTRIBUTING TO NEW RIVER ABOVE  *
              *               CONFLUENCE WITH SKUNK CREEK.              *
              *       SUB-BASINS 540-542, 550-556, 560, 570-571 & 580-581 *
              *           TOTAL CONTRIBUTING AREA = 16.84 SQ. MI.      *
              *                                                         *
              *    *    *    *    *    *    *    *    *    *    *    *

624           KK   540S
625           KM   RUNOFF GENERATED ON SUB-BASIN 540
626           KM   THE FOLLOWING PARAMETERS WERE PROVIDED FOR THIS BASIN
627           KM   L= 2.367 mi  S= 28 ft/mi  Kb= 0.071
628           KM   CLARK UNIT HYDROGRAPH FOR NATURAL WATERSHEDS WAS USED FOR THIS BASIN
629           KM   6-HOUR RAINFALL, PATTERN NO. 1.87 WAS USED TO FIND TC & R FOR THIS BASIN
630           KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF .979
631           BA   2.244
632           IN     15
633           KM   RAINFALL DEPTH OF 2.00 WAS SPACIALLY REDUCED AS SHOWN BY THE PB RECORD
634           KM   AN AREAL REDUCTION COEFFICIENT OF .919 WAS USED
635           PB   1.838
636           KM   THE FOLLOWING PC RECORD USED A 6-HOUR STORM WITH A PATTERN No. OF 3.03
637           PC    .000    .015    .020    .031    .049    .064    .077    .091    .106    .120
638           PC    .136    .153    .177    .224    .306    .473    .670    .795    .867    .911
639           PC    .945    .960    .973    .987   1.000
640           LG    .250    .350   3.610    .315   5.020
641           UC   3.359   1.785
642           UA      0       3       5       8      12      20      43      75      90      96
643           UA    100

644           KK   RM540
645           KM   NORMAL DEPTH STORAGE ROUTE FLOW FROM SUB-BASIN 540 THROUGH 541
646           KM           1) Reach Length = 5708 ft
647           RS      7    FLOW      -1
648           RC    .040    .040    .040    5708   .0058
649           RX     40      80     180     200     225     245     260     300
650           RY     24      24      22      18      18      22      24      24

651           KK   541S
652           KM   RUNOFF GENERATED ON SUB-BASIN 541
653           KM   THE FOLLOWING PARAMETERS WERE PROVIDED FOR THIS BASIN
654           KM   L= 1.081 mi  S= 31 ft/mi  Kb= 0.088
655           KM   CLARK UNIT HYDROGRAPH FOR NATURAL WATERSHEDS WAS USED FOR THIS BASIN
656           KM   6-HOUR RAINFALL, PATTERN NO. 1.00 WAS USED TO FIND TC & R FOR THIS BASIN
657           KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF .994
658           BA    .467
659           LG    .250    .350   4.030    .408    .000
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

660           UC   1.740   1.124
661           UA       0       3       5       8      12      20      43      75      90      96
662           UA     100

663           KK   HC541
664           KM   COMBINE HYDROGRAPHS FROM SUB-BASIN 541 WITH ROUTED FLOW FROM 540
665           HC       2

666           KK   RM541
667           KM   NORMAL DEPTH STORAGE ROUTE FLOW FROM SUB-BASIN 541 THROUGH 542
668           KM            1) Reach Length = 5535 ft
669           RS       7    FLOW      -1
670           RC    .040    .040    .040    5535   .0054
671           RX     140     170     200     210     240     265     285     300
672           RY      94      92      90      86      86      90      92      94

673           KK    542S
674           KM   RUNOFF GENERATED ON SUB-BASIN 542
675           KM   THE FOLLOWING PARAMETERS WERE PROVIDED FOR THIS BASIN
676           KM   L= 1.059 mi  S= 33 ft/mi  Kb= 0.073
677           KM   CLARK UNIT HYDROGRAPH FOR NATURAL WATERSHEDS WAS USED FOR THIS BASIN
678           KM   6-HOUR RAINFALL, PATTERN NO. 1.00 WAS USED TO FIND TC & R FOR THIS BASIN
679           KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF .994
680           BA    .490
681           LG    .383    .239   3.770    .405    .740
682           UC   1.362    .820
683           UA       0       3       5       8      12      20      43      75      90      96
684           UA     100

685           KK   HC542
686           KM   COMBINE HYDROGRAPHS FROM SUB-BASIN 542 WITH ROUTED FLOW FROM 541
687           HC       2

688           KK   RM542
689           KM   NORMAL DEPTH STORAGE ROUTE FLOW FROM SUB-BASIN 542 THROUGH 553
690           KM            1) Reach Length = 5557 ft
691           RS       6    FLOW      -1
692           RC    .040    .040    .040    5557   .0061
693           RX      40      60     100     130     160     190     210     230
694           RY      72      71      70      64      64      70      71      72
              *    *    *    *    *    *    *    *    *    *    *    *    *
              *                                                            *
              *      BREAK SEQUENCE - JUMP TO SUB-BASIN 550                *
              *                                                            *
              *      SUB-BASIN 550 IS LOCATED DOWNSTREAM OF NEW RIVER DAM.  THE  *
              *      BF(BASE FLOW) RECORD OF HEC-1 WAS INCLUDED IN THIS SUB-BASIN *
              *      TO MODEL THE NEW RIVER DAM LOW LEVEL OUTFLOW.         *
              *      ASSUMED CONSTANT OUTFLOW OF 1700 CFS FOR 10-YEAR STORM.  *
              *      SOURCE:  F.I.S., MARICOPA COUNTY, ARIZONA AND INCORPORATED *
              *               AREAS, FEMA.                                 *
              *                                                            *
              *    *    *    *    *    *    *    *    *    *    *    *    *
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LINE        ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

695         KK   550S
696         KM   RUNOFF GENERATED ON SUB-BASIN 550
697         KM   THE FOLLOWING PARAMETERS WERE PROVIDED FOR THIS BASIN
698         KM   L= 1.701 mi  S= 63 ft/mi  Kb= 0.073
699         KM   CLARK UNIT HYDROGRAPH FOR NATURAL WATERSHEDS WAS USED FOR THIS BASIN
700         KM   6-HOUR RAINFALL, PATTERN NO. 1.79 WAS USED TO FIND TC & R FOR THIS BASIN
701         KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF .981
702         BA   1.946
703         BF    1700
704         LG   .250    .350   4.140    .431   3.600
705         UC  2.361   1.005
706         UA      0       3       5       8      12      20      43      75      90      96
707         UA    100

708         KK   RM550
709         KM   NORMAL DEPTH STORAGE ROUTE FLOW FROM SUB-BASIN 550 THROUGH 551
710         KM           1) Reach Length = 8432 ft
711         RS      8    FLOW      -1
712         RC   .040    .040    .040    8432   .0044
713         RX    210     400     420     445     500     525     590     670
714         RY     32      30      26      24      24      26      30      32
            *    *    *    *    *    *    *    *    *    *    *    *    *
            *                                                             *
            *    FOR BF RECORD IN SUB-BASIN 560, USE STRTQ=0 TO RETURN BASE FLOW  *
            *    CONDITIONS BACK TO NORMAL.  THIS RECORD PREVENTS SUBSEQUENT      *
            *    SUB-BASINS FROM HAVING A BASE FLOW VALUE OF 2350 CFS.            *
            *                                                             *
            *    *    *    *    *    *    *    *    *    *    *    *    *

715         KK   560S
716         KM   RUNOFF GENERATED ON SUB-BASIN 560
717         KM   THE FOLLOWING PARAMETERS WERE PROVIDED FOR THIS BASIN
718         KM   L= 1.866 mi  S= 192 ft/mi  Kb= 0.079
719         KM   CLARK UNIT HYDROGRAPH FOR NATURAL WATERSHEDS WAS USED FOR THIS BASIN
720         KM   6-HOUR RAINFALL, PATTERN NO. 1.47 WAS USED TO FIND TC & R FOR THIS BASIN
721         KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF .986
722         BA   1.116
723         BF      0
724         LG   .250    .360   4.120    .268   4.150
725         UC  1.004    .575
726         UA      0       3       5       8      12      20      43      75      90      96
727         UA    100

728         KK   RM560
729         KM   NORMAL DEPTH STORAGE ROUTE FLOW FROM SUB-BASIN 560 THROUGH 551
730         KM           1) Reach Length = 14187 ft
731         RS     17    FLOW      -1
732         RC   .030    .040    .030   14187   .0088
733         RX      0     215     250     280     300     320     460     560
734         RY     94      92      90      88      88      90      92      94
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 735          KK   551S
 736          KM   RUNOFF GENERATED ON SUB-BASIN 551
 737          KM   THE FOLLOWING PARAMETERS WERE PROVIDED FOR THIS BASIN
 738          KM   L= 2.280 mi  S= 46 ft/mi  Kb= 0.075
 739          KM   CLARK UNIT HYDROGRAPH FOR NATURAL WATERSHEDS WAS USED FOR THIS BASIN
 740          KM   6-HOUR RAINFALL, PATTERN NO. 1.62 WAS USED TO FIND TC & R FOR THIS BASIN
 741          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF .984
 742          BA   1.448
 743          LG    .248    .349   4.190    .443    .680
 744          UC   3.382   2.240
 745          UA      0       3       5       8      12      20      43      75      90      96
 746          UA    100

 747          KK   HC551
 748          KM   COMBINE HYDROGRAPHS FROM SUB-BASIN 551 WITH ROUTED FLOWS FROM 550 & 560
 749          HC      3

 750          KK   RM551
 751          KM   NORMAL DEPTH STORAGE ROUTE FLOW FROM SUB-BASIN 551 THROUGH 552
 752          KM           1) Reach Length = 5663 ft
 753          RS      6    FLOW      -1
 754          RC   .040    .040    .040    5663   .0056
 755          RX    100     100     145     250     420     450     510     520
 756          RY     92      88      78      76      76      82      84      92

 757          KK   552S
 758          KM   RUNOFF GENERATED ON SUB-BASIN 552
 759          KM   THE FOLLOWING PARAMETERS WERE PROVIDED FOR THIS BASIN
 760          KM   L= 3.216 mi  S= 46 ft/mi  Kb= 0.068
 761          KM   CLARK UNIT HYDROGRAPH FOR NATURAL WATERSHEDS WAS USED FOR THIS BASIN
 762          KM   6-HOUR RAINFALL, PATTERN NO. 1.91 WAS USED TO FIND TC & R FOR THIS BASIN
 763          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF .978
 764          BA   2.385
 765          LG    .244    .340   3.820    .363   7.320
 766          UC   3.531   2.328
 767          UA      0       3       5       8      12      20      43      75      90      96
 768          UA    100

 769          KK   HC552
 770          KM   COMBINE HYDROGRAPHS FROM SUB-BASIN 552 WITH ROUTED FLOW FROM 551
 771          HC      2

 772          KK   RM552
 773          KM   NORMAL DEPTH STORAGE ROUTE FLOW FROM SUB-BASIN 552 THROUGH 553
 774          KM           1) Reach Length = 5971 ft
 775          RS      6    FLOW      -1
 776          RC   .040    .040    .040    5971   .0055
 777          RX      0     100     130     190     310     390     450     500
 778          RY     56      54      50      48      48      50      52      56
              *
              *   ARROWHEAD RANCH DEVELOPMENT
              *
              *   This section of the model was developed by Dibble and Associates
              *   Consulting Engineers for the City of Glendale to address the Storm
              *   Drainage Plan for the Arrowhead Ranch Development.  The drainage
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*    report was titled, "Specific Area Plan, Storm Drainage Plan for the
*    Arrowhead Ranch Development" and was prepared on April 20, 1992.
*
*    ARROWHEAD RANCH - SECTION 18/19 - SYSTEM II
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 779          KK     21S
 780          KM    SUB-BASIN 21
 781          BA    .035
 782          LS              82
 783          UD    .167

 784          KK    21RR
 785          KM    LAKE NO. 1
 786          RS       1    ELEV  1277.0
 787          SV     0.0     3.6     4.5     5.4     6.3     7.2
 788          SE  1277.0  1279.0  1279.5  1280.0  1280.5  1281.0
 789          SQ       0       0     5.4     8.5    10.4    12.0

 790          KK     22S
 791          KM    SUB-BASIN 22
 792          BA    .027
 793          LS              92
 794          UD    .167

 795          KK    HC22
 796          HC       2

 797          KK    22RR
 798          KM    LAKE NO. 2
 799          RS       1    ELEV  1276.5
 800          SV     0.0     0.3     0.7     1.2     1.6     2.2     2.7     3.3
 801          SE  1276.5  1277.0  1277.5  1278.0  1278.5  1279.0  1279.5  1280.0
 802          SQ       0     7.1    14.1    19.7    42.4    92.7   164.8   200.0

 803          KK     23S
 804          KM    SUB-BASIN 23
 805          BA    .009
 806          LS              86
 807          UD    .167

 808          KK    HC23
 809          HC       2

 810          KK    23RR
 811          KM    LAKE NO. 3
 812          RS       1    ELEV  1275.0
 813          SV     0.0      .3      .7     1.1     1.5    2.00     2.5
 814          SE  1275.0  1275.5  1276.0  1276.5  1277.0  1277.5  1278.0
 815          SQ       0     8.7    15.3    22.3    49.6   106.0   180.4

 816          KK     24S
 817          KM    SUB-BASIN 24
 818          BA    .006
 819          LS              87
 820          UD    .167
```

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

 821          KK    HC24
 822          HC       2

 823          KK    24RR
 824          KM    LAKE NO. 4
 825          RS       1    ELEV  1272.0
 826          SV       0      .3      .7     1.1     1.6     2.0     2.5
 827          SE  1272.0  1272.5  1273.0  1273.5  1274.0  1274.5  1275.0
 828          SQ       0     8.7    15.3    22.3    49.6   106.0   180.4

 829          KK     25S
 830          KM    SUB-BASIN 25
 831          BA    .051
 832          LS             85
 833          UD    .167

 834          KK    HC25
 835          HC       2

 836          KK    25RR
 837          KM    LAKE NO. 5
 838          RS       1    ELEV  1268.0
 839          SV       0    1.75     3.5    5.31     7.2    9.15    11.2    13.3
 840          SE  1267.5  1268.0  1268.5  1269.0  1269.5  1270.0  1270.5  1271.0
 841          SQ       0     0.8     4.1    8.16     9.5    13.4    16.4    19.0

 842          KK     27S
 843          KM    SUB-BASIN 27
 844          BA    .123
 845          LS             82
 846          UD    .167

 847          KK    27RR
 848          KM    DETENTION BASIN NO. 7
 849          RS       1    ELEV  1278.0
 850          SV       0     1.9     3.9     5.9     7.9     9.9    12.1
 851          SE  1278.0  1278.5  1279.0  1279.5  1280.0  1280.5  1281.5
 852          SQ       0     5.4     7.6     9.2    10.6    12.0    13.2

 853          KK     29S
 854          KM    COMBINE SUB-BASIN 28 & 29
 855          BA    .063
 856          LS             77
 857          UD    .167

 858          KK    HC29
 859          HC       2

 860          KK     30S
 861          KM    SUB-BASIN 30
 862          BA    .056
 863          LS             84
 864          UD    .167
```

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

865           KK    30RR
866           KM    DETENTION BASIN 10
867           RS       1    ELEV  1265.0
868           SV       0     .78    1.58    2.40    3.25    4.13    5.03
869           SE  1265.0  1265.5  1266.0  1266.5  1267.0  1267.5  1268.0
870           SQ       0     5.4     8.5    10.4    12.0    13.5    14.7

871           KK    HC30
872           HC       2

873           KK     31S
874           KM    SUB-BASIN 31
875           BA    .053
876           LS              77
877           UD    .167

878           KK    HC31
879           HC       3

880           KK     32S
881           KM    COMBINE SUB-BASIN 26 & 32
882           BA    .053
883           LS              77
884           UD    .167

885           KK    HC32
886           HC       2

887           KK     34S
888           KM    COMBINE SUB-BASIN 33 & 34
889           BA    .076
890           LS              77
891           UD    .167

892           KK    HC34
893           KM    OUTFLOW FROM SYSTEM II
894           HC       2
              *
              *    ARROWHEAD RANCH - SECTION 18 - SYSTEM III
              *

895           KK     41S
896           KM    SUB-BASIN 41
897           BA    .023
898           LS              86
899           UD    .167

900           KK     42S
901           KM    SUB-BASIN 42
902           BA    .070
903           LS              80
904           UD    .167
```

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

 905          KK    HC42
 906          HC       2

 907          KK    42RR
 908          KM    LAKE NO. 1
 909          RS       1    ELEV  1303.0
 910          SV       0    1.32    2.66    4.05    5.49
 911          SE  1303.0  1303.5  1304.0  1304.5  1305.0
 912          SQ       0    12.0    13.5    15.4    29.6

 913          KK     43S
 914          KM    SUB-BASIN 43
 915          BA    .007
 916          LS              68
 917          UD    .167

 918          KK    HC43
 919          HC       2

 920          KK     44S
 921          KM    SUB-BASIN 44
 922          BA    .034
 923          LS              81
 924          UD    .167

 925          KK    HC44
 926          HC       2

 927          KK     45S
 928          KM    SUB-BASIN 45
 929          BA    .017
 930          LS              92
 931          UD    .167

 932          KK     46S
 933          KM    SUB-BASIN 46
 934          BA    .057
 935          LS              85
 936          UD    .167

 937          KK    HC46
 938          HC       2

 939          KK    46RR
 940          KM    LAKE NO. 3
 941          RS       1    ELEV  1300.0
 942          SV       0    1.39    2.81    4.30    5.86    7.44    9.19   10.97   12.81
 943          SE  1300.0  1300.5  1301.0  1301.5  1302.0  1302.5  1303.0  1303.5  1304.0
 944          SQ       0   11.32   18.50   24.75   68.41  175.58  515.84  478.47  662.59
```

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

 945          KK     47S
 946          KM    SUB-BASIN 47
 947          BA    .034
 948          LS              84
 949          UD    .167

 950          KK   HC47A
 951          HC       2

 952          KK   HC47B
 953          HC       2

 954          KK    47RR
 955          KM    LAKE NO. 2
 956          RS       1    ELEV  1289.0
 957          SV       0     1.2    2.42    3.67    4.95
 958          SE  1289.0  1289.5  1290.0  1290.5  1291.0
 959          SQ       0     6.5    17.2    51.0   118.5

 960          KK     48S
 961          KM    SUB-BASIN 48
 962          BA    .057
 963          LS              83
 964          UD    .167

 965          KK    HC48
 966          HC       2

 967          KK    48RR
 968          KM    LAKE NO. 4
 969          RS       1    ELEV  1287.0
 970          SV       0     .45     .90    1.37    1.85
 971          SE  1287.0  1287.5  1288.0  1288.5  1289.0
 972          SQ       0   34.65   79.50  127.20  170.70

 973          KK     49S
 974          KM    SUB-BASIN 49
 975          BA    .037
 976          LS              61
 977          UD    .167

 978          KK    HC49
 979          HC       2

 980          KK     50S
 981          KM    SUB-BASIN 50
 982          BA    .022
 983          LS              84
 984          UD    .167
```

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

 985          KK    HC50
 986          HC       2

 987          KK     52S
 988          KM    SUB-BASIN 52
 989          BA    .010
 990          LS              92
 991          UD    .167

 992          KK     53S
 993          KM    SUB-BASIN 53
 994          BA    .030
 995          LS              87
 996          UD    .167

 997          KK    HC53
 998          HC       2

 999          KK    53RR
1000          KM    LAKE NO. 5
1001          RS       1    ELEV  1297.0
1002          SV       0     .44     .89    1.38    1.89    2.43    3.00    3.60    4.23
1003          SE  1297.0  1297.5  1298.0  1298.5  1299.0  1299.5  1300.0  1300.5  1301.0
1004          SQ       0    8.15   14.50   28.24   64.15  117.14  178.85  250.28  329.60

1005          KK     54S
1006          KM    SUB-BASIN 54
1007          BA    .027
1008          LS              92
1009          UD    .167

1010          KK     55S
1011          KM    SUB-BASIN 55
1012          BA    .020
1013          LS              88
1014          UD    .167

1015          KK   HC55A
1016          HC       2

1017          KK   HC55B
1018          HC       2

1019          KK    55RR
1020          KM    LAKE NO. 6
1021          RS       1    ELEV  1294.0
1022          SV       0     .62    1.25    1.90    2.60    3.33    4.99    5.70
1023          SE  1294.0  1294.5  1295.0  1295.5  1296.0  1296.5  1297.5  1298.0
1024          SQ       0    8.15   21.60   59.15  110.62  172.74  323.46  410.25
```

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

1025          KK     56S
1026          KM    SUB-BASIN 56
1027          BA    .040
1028          LS              83
1029          UD    .167

1030          KK     57S
1031          KM    SUB-BASIN 57
1032          BA    .104
1033          LS              82
1034          UD    .167

1035          KK   HC57A
1036          HC       2

1037          KK   HC57B
1038          HC       2

1039          KK    57RR
1040          KM    LAKE NO. 7
1041          RS       1    ELEV  1290.0
1042          SV       0     .42     .85    1.32    1.81    2.35
1043          SE  1290.0  1290.5  1291.0  1291.5  1292.0  1292.5
1044          SQ       0   55.37  139.73  246.52  361.01  489.63

1045          KK     58S
1046          KM    SUB-BASIN 58
1047          BA    .006
1048          LS              79
1049          UD    .167

1050          KK    HC58
1051          HC       2

1052          KK     51S
1053          KM    SUB-BASIN 51
1054          BA    .128
1055          LS              85
1056          UD    .167

1057          KK    HC51
1058          HC       3

1059          KK   51RR1
1060          KM    LAKE NO.8
1061          RS       1    ELEV  1277.0
1062          SV       0    3.63    7.31   11.10   14.99    19.0   27.29
1063          SE  1277.5  1278.0  1278.5  1279.0  1279.5  1280.0  1280.5
1064          SQ       0   47.73  149.77  274.47  422.96  590.56  776.30
```

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

1065          KK   51RR2
1066          KM    LAKE NO. 9
1067          RS       1    ELEV  1273.0
1068          SV       0     .79    1.58    2.41    3.26
1069          SE  1273.0  1273.5  1274.0  1274.5  1275.0
1070          SQ       0   72.24  202.66  372.95  558.36

1071          KK    61S
1072          KM    COMBINE SUB-BASINS 59, 60 & 61
1073          BA    .124
1074          LS              77
1075          UD    .167

1076          KK    HC61
1077          HC       2

1078          KK    61RR
1079          KM    LAKE NO. 10
1080          RS       1    ELEV  1265.0
1081          SV       0     4.1    9.60   12.50    15.5    21.6    24.7    28.0    31.2    34.6
1082          SE  1265.0  1265.5  1266.5  1267.0  1267.5  1268.0  1268.5  1269.0  1269.5  1270.0
1083          SQ       0       0    36.0    54.0    72.0   105.0   204.4   359.2   539.2   746.9

1084          KK   HC570
1085          KM    COMBINE OUTFLOW FROM SYSTEM III WITH SYSTEM II
1086          HC       2
              *
              *
              *   CONCLUDE PORTION OF HEC-1 MODEL INPUT OBTAINED FROM ARROWHEAD RANCH
              *   DEVELOPMENT REPORT BY DIBBLE & ASSOCIATES.
              *
              *

1087          KK   RM570
1088          KM   NORMAL DEPTH STORAGE ROUTE FLOW FROM SUB-BASIN 570 THROUGH 571
1089          KM            1) Reach Length = 5301 ft
1090          RS       7    FLOW      -1
1091          RC    .030    .020    .030    5301   .0009
1092          RX      28      68      88     100     112     124     144     154
1093          RY     108     107     106     100     100     106     107     108

1094          KK    571S
1095          KM   RUNOFF GENERATED ON SUB-BASIN 571
1096          KM   THE FOLLOWING PARAMETERS WERE PROVIDED FOR THIS BASIN
1097          KM   L= 2.272 mi  S= 26 ft/mi  Kb= 0.044
1098          KM   CLARK UNIT HYDROGRAPH FOR NATURAL WATERSHEDS WAS USED FOR THIS BASIN
1099          KM   6-HOUR RAINFALL, PATTERN NO. 1.57 WAS USED TO FIND TC & R FOR THIS BASIN
1100          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF .985
1101          BA   1.345
1102          LG    .409    .109   5.980    .266   9.130
1103          UC   1.714   1.096
1104          UA       0       3       5       8      12      20      43      75      90      96
1105          UA     100
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1106          KK   HC571
1107          KM   COMBINE HYDROGRAPHS FROM SUB-BASIN 571 WITH ROUTED FLOW FROM 570
1108          HC       2

1109          KK   RM571
1110          KM   NORMAL DEPTH STORAGE ROUTE FLOW FROM SUB-BASIN 571 THROUGH 553
1111          KM            1) Reach Length = 3194 ft
1112          RS       3    FLOW      -1
1113          RC    .030    .020    .030    3194   .0009
1114          RX      28      68      88     100     112     124     144     154
1115          RY     108     107     106     100     100     106     107     108

1116          KK    553S
1117          KM   RUNOFF GENERATED ON SUB-BASIN 553
1118          KM   THE FOLLOWING PARAMETERS WERE USED FOR THIS BASIN
1119          KM   L= 1.052 mi  S= 38 ft/mi  Kb= 0.056
1120          KM   CLARK UNIT HYDROGRAPH FOR NATURAL WATERSHEDS WAS USED FOR THIS BASIN
1121          KM   6-HOUR RAINFALL, PATTERN NO. 1.36 WAS USED TO FIND TC & R FOR THIS BASIN
1122          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF .988
1123          BA    .933
1124          LG    .419    .165   5.360    .284   2.760
1125          UC   1.021    .410
1126          UA       0       3       5       8      12      20      43      75      90      96
1127          UA     100

1128          KK   HC553
1129          KM   COMBINE HYDROGRAPHS FROM SUB-BASIN 553 WITH ROUTED FLOWS FROM 541, 552
1130          KM   AND 571
1131          HC       4

1132          KK   RM553
1133          KM   NORMAL DEPTH STORAGE ROUTE FLOW FROM SUB-BASIN 553 THROUGH 554
1134          KM            1) Reach Length = 5660 ft
1135          RS       5    FLOW      -1
1136          RC    .040    .040    .040    5660   .0041
1137          RX     100     150     210     240     300     350     370     400
1138          RY      36      34      28      22      22      24      30      36

1139          KK   554R1
1140          DR   554D1

1141          KK   554R2
1142          DR   554D2

1143          KK    554S
1144          KM   RUNOFF GENERATED ON SUB-BASIN 554
1145          KM   THE FOLLOWING PARAMETERS WERE PROVIDED FOR THIS BASIN
1146          KM   L= 1.531 mi  S= 25 ft/mi  Kb= 0.064
1147          KM   CLARK UNIT HYDROGRAPH FOR NATURAL WATERSHEDS WAS USED FOR THIS BASIN
1148          KM   6-HOUR RAINFALL, PATTERN NO. 1.04 WAS USED TO FIND TC & R FOR THIS BASIN
1149          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF .993
1150          BA    .540
1151          LG    .326    .248   3.610    .347  17.170
1152          UC   1.596   1.242
```

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

1153          UA       0       3       5       8      12      20      43      75      90      96
1154          UA     100

1155          KK   HC554
1156          KM   COMBINE HYDROGRAPHS FROM SUB-BASIN 554 WITH ROUTED FLOWS FROM 553
1157          KM   AND DIVERTED FLOWS FROM 532 & 533
1158          HC       4

1159          KK   RM554
1160          KM   NORMAL DEPTH STORAGE ROUTE FLOW FROM SUB-BASIN 554 THROUGH 555
1161          KM            1) Reach Length = 5771 ft
1162          RS       6    FLOW      -1
1163          RC    .040    .040    .040    5771   .0047
1164          RX      80     100     160     220     240     250     480     500
1165          RY     104     104      96      92      92      96      97     104

1166          KK   555R1
1167          DR   555D1

1168          KK   555R2
1169          DR   555D2

1170          KK    555S
1171          KM   RUNOFF GENERATED ON SUB-BASIN 555
1172          KM   THE FOLLOWING PARAMETERS WERE PROVIDED FOR THIS BASIN
1173          KM   L= 1.108 mi  S= 34 ft/mi  Kb= 0.068
1174          KM   CLARK UNIT HYDROGRAPH FOR NATURAL WATERSHEDS WAS USED FOR THIS BASIN
1175          KM   6-HOUR RAINFALL, PATTERN NO. 1.04 WAS USED TO FIND TC & R FOR THIS BASIN
1176          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF .993
1177          BA    .536
1178          LG    .326    .293   5.050    .252  11.750
1179          UC   1.163    .677
1180          UA       0       3       5       8      12      20      43      75      90      96
1181          UA     100

1182          KK  HC555A
1183          KM   COMBINE HYDROGRAPHS FROM SUB-BASIN 555 WITH ROUTED FLOW FROM 554
1184          KM   AND DIVERTED FLOWS FROM 533 & 534
1185          HC       4
              *
              *
              *   BEGIN PORTION OF HEC-1 MODEL INPUT OBTAINED FROM ARROWHEAD RANCH
              *   DEVELOPMENT REPORT BY DIBBLE & ASSOCIATES.
              *
              *
              *    ARROWHEAD RANCH - SECTION 25/26 - SYSTEM VI
              *

1186          KK     91S
1187          KM    SUB-BASIN 91
1188          BA    .069
1189          LS              77
1190          UD     .20
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1191          KK     92S
1192          KM    SUB-BASIN 92
1193          BA    .033
1194          LS              84
1195          UD    .167

1196          KK    HC92
1197          HC       2

1198          KK    92RR
1199          KM    LAKE NO. 2
1200          RS       1    ELEV  1242.0
1201          SV     0.0     2.9     4.4     5.9     7.4     9.0    10.6    18.5    20.3    22.1
1202          SE  1242.0  1243.0  1243.5  1244.0  1244.5  1245.0  1245.5  1247.8  1248.3  1248.8
1203          SQ       0     .02     .03     .04     .05     .06     .07     .08    49.0   140.0

1204          KK     93S
1205          KM    SUB-BASIN 93
1206          BA    .061
1207          LS              71
1208          UD     .20

1209          KK    HC93
1210          HC       2

1211          KK    93RR
1212          KM    LAKE NO. 3
1213          RS       1    ELEV  1236.0
1214          SV     0.0     2.3     4.6     6.9     9.3    11.7    14.2
1215          SE  1236.0  1236.5  1237.0  1237.5  1238.0  1238.5  1239.0
1216          SQ       0     5.4     8.5    10.4    12.0    13.5    14.7

1217          KK     94S
1218          KM    SUB-BASIN 94
1219          BA    .077
1220          LS              76
1221          UD     .20

1222          KK    HC94
1223          HC       2

1224          KK     95S
1225          KM    SUB-BASIN 95
1226          BA    .068
1227          LS              75
1228          UD    .167

1229          KK    HC95
1230          HC       2
```

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


1231          KK     96S
1232          KM    SUB-BASIN 96
1233          BA    .086
1234          LS              84
1235          UD    .300

1236          KK    96RR
1237          KM    LAKE NO. 4
1238          RS       1    ELEV  1237.0
1239          SV     0.0     1.7     3.4     5.2     7.0     8.8    10.7
1240          SE  1237.0  1237.5  1238.0  1238.5  1239.0  1239.5  1240.0
1241          SQ     0.0     7.2    15.1    18.5    21.4    23.9    26.2

1242          KK     97S
1243          KM    SUB-BASIN 97
1244          BA    .071
1245          LS              71
1246          UD    .800

1247          KK    HC97
1248          HC       3

1249          KK    97RR
1250          KM    LAKE NO. 5
1251          RS       1    ELEV  1230.0
1252          SV     0.0     1.8     3.7     5.6     7.5     9.4    11.4    14.7    16.8    19.0
1253          SE  1230.0  1230.5  1231.0  1231.5  1232.0  1232.5  1233.0  1233.8  1234.3  1234.8
1254          SQ     0.0    0.01    0.02    0.03    0.04    0.05    0.06    0.08   124.0   350.0

1255          KK     98S
1256          KM    SUB-BASIN 98
1257          BA    .018
1258          LS              84
1259          UD    .167

1260          KK    98RR
1261          KM    LAKE NO. 6
1262          RS       1    ELEV  1230.0
1263          SV     0.0     0.5     1.1     1.7     2.3     2.9     3.5
1264          SE  1230.0  1230.5  1231.0  1231.5  1232.0  1232.5  1233.0
1265          SQ     0.0     7.2    15.1    18.5    21.4    23.9    26.2

1266          KK    HC98
1267          HC       2

1268          KK     99S
1269          KM    SUB-BASIN 99
1270          BA    .047
1271          LS              77
1272          UD    .167
```

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

1273        KK    HC99
1274        HC       2

1275        KK    99RR
1276        KM    LAKE NO.7
1277        RS       1    ELEV  1229.0
1278        SV     0.0     1.9     3.8     5.8     7.8     9.8    11.9
1279        SE  1229.0  1229.5  1230.0  1230.5  1231.0  1231.5  1232.0
1280        SQ     0.0     7.2    15.1    18.5    21.4    23.9    26.2

1281        KK     90S
1282        KM    SUB-BASIN 90
1283        BA    .077
1284        LS              77
1285        UD    .300

1286        KK   HC580
1287        KM    OUTFLOW FROM SYSTEM VI
1288        HC       2
            *
            *
            *   CONCLUDE PORTION OF HEC-1 MODEL INPUT OBTAINED FROM ARROWHEAD RANCH
            *   DEVELOPMENT REPORT BY DIBBLE & ASSOCIATES.
            *
            *

1289        KK   RM580
1290        KM   NORMAL DEPTH STORAGE ROUTE FLOW FROM SUB-BASIN 580 THROUGH 581
1291        KM            1) Reach Length = 5515 ft
1292        RS       8    FLOW      -1
1293        RC    .030    .020    .030    5515   .0047
1294        RX     148     168     188     200     208     220     260     300
1295        RY     110     107     106     100     100     106     108     109

1296        KK    581S
1297        KM   RUNOFF GENERATED ON SUB-BASIN 581
1298        KM   THE FOLLOWING PARAMETERS WERE PROVIDED FOR THIS BASIN
1299        KM   L= 1.836 mi  S= 15 ft/mi  Kb= 0.033
1300        KM   CLARK UNIT HYDROGRAPH FOR URBAN WATERSHEDS WAS USED FOR THIS BASIN
1301        KM   6-HOUR RAINFALL, PATTERN NO. 1.29 WAS USED TO FIND TC & R FOR THIS BASIN
1302        KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF .989
1303        BA    .823
1304        LG    .206    .184   3.920    .429  54.370
1305        UC   1.154    .788
1306        UA       0       5      16      30      65      77      84      90      94      97
1307        UA     100

1308        KK   HC581
1309        KM   COMBINE HYDROGRAPHS FROM SUB-BASIN 581 WITH ROUTED FLOW FROM 580
1310        HC       2
```

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

1311          KK  HC555B
1312          KM   COMBINE HYDROGRAPHS FROM SUB-BASIN 555 WITH 581
1313          HC       2

1314          KK   RM555
1315          KM   NORMAL DEPTH STORAGE ROUTE FLOW FROM SUB-BASIN 555 & 581 THROUGH 556
1316          KM            1) Reach Length = 7336 ft
1317          RS       7    FLOW      -1
1318          RC    .040    .040    .040    7336    .0054
1319          RX       0      20      80     250     440     480     530     560
1320          RY      84      80      76      74      74      80      90      92

1321          KK    556R
1322          DR    556D

1323          KK    556S
1324          KM   RUNOFF GENERATED ON SUB-BASIN 556
1325          KM   THE FOLLOWING PARAMETERS WERE PROVIDED FOR THIS BASIN
1326          KM   L= 1.379 mi  S= 26 ft/mi  Kb= 0.053
1327          KM   CLARK UNIT HYDROGRAPH FOR URBAN WATERSHEDS WAS USED FOR THIS BASIN
1328          KM   6-HOUR RAINFALL, PATTERN NO. 1.06 WAS USED TO FIND TC & R FOR THIS BASIN
1329          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF .993
1330          BA    .558
1331          LG    .426    .110   3.920    .514   8.400
1332          UC   1.346    .928
1333          UA       0       5      16      30      65      77      84      90      94      97
1334          UA     100

1335          KK  HC556A
1336          KM   COMBINE HYDROGRAPHS FROM SUB-BASIN 556 WITH ROUTED FLOWS FROM 535,
1337          KM   556 & 581.  ALSO, TOTAL FLOW FROM NEW RIVER UPSTREAM OF ITS CONFLUENCE
1338          KM   WITH SKUNK CREEK.
1339          HC       4

1340          KK    408S
1341          KM   RUNOFF GENERATED ON SUB-BASIN 408
1342          KM   THE FOLLOWING PARAMETERS WERE PROVIDED FOR THIS BASIN
1343          KM   L= 1.935 mi  S= 22 ft/mi  Kb= 0.057
1344          KM   CLARK UNIT HYDROGRAPH FOR URBAN WATERSHEDS WAS USED FOR THIS BASIN
1345          KM   6-HOUR RAINFALL, PATTERN NO. 1.44 WAS USED TO FIND TC & R FOR THIS BASIN
1346          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF .986
1347          BA   1.076
1348          LG    .298    .275   3.870    .415  18.170
1349          UC   2.255   1.484
1350          UA       0       5      16      30      65      77      84      90      94      97
1351          UA     100
1352          ZZ
```

SCHEMATIC DIAGRAM OF STREAM NETWORK

```
      (V) ROUTING          (--->) DIVERSION OR PUMP FLOW

NO.   (.) CONNECTOR        (<---) RETURN OF DIVERTED OR PUMPED FLOW

 10    500S
          V
          V
 30    RM500
          .
          .
 37       .        501S
          .           .
          .           .
 49    HC501............
          V
          V
 52    RM501
          .
          .
 59       .        502S
          .           .
          .           .
 71       .           .        510S
          .           .           V
          .           .           V
          .           .       RM510
          .           .           .
          .           .           .
 90       .           .           .        511S
          .           .           .           .
          .           .           .           .
102       .           .       HC511............
          .           .           V
          .           .           V
105       .           .       RM511
          .           .           .
          .           .           .
112       .           .           .        512S
          .           .           .           .
          .           .           .           .
124       .           .      HC512A............
          .           .           .
          .           .           .
129       .           .           .-------->    533D
127       .           .       502RE
          .           .           .
          .           .           .
132    HC502........................
          V
          V
       RM502
          .
          .
142       .        503S
          .           .
          .           .
153    HC503............
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            V
            V
 6       503RR
            V
            V
165       RM503
            .
            .
173         .          .<-------    533D
171         .       533R
            .          .
            .          .
174         .          .        533A
            .          .           .
            .          .           .
182         .     HC512B............
            .          V
            .          V
185         .      RM512
            .          .
            .          .
192         .          .        533B
            .          .           V
            .          .           V
199         .          .      533RR1
            .          .           .
            .          .           .
206         .     HC533A............
            .          .
            .          .
209         .          .        520S
            .          .           .
            .          .           .
224         .          .           .------->    530D
221         .          .       520RE
            .          .           V
            .          .           V
227         .          .       RM520
            .          .           .
            .          .           .
234         .          .           .        521S
            .          .           .           .
            .          .           .           .
246         .          .       HC521............
            .          .           V
            .          .           V
249         .          .       RM521
            .          .           .
            .          .           .
256         .          .           .        522S
            .          .           .           .
            .          .           .           .
268         .          .       HC522............
            .          .           .
            .          .           .
272         .          .           .        533C
            .          .           .           .
            .          .           .           .
280         .          .      HC533B............
            .          .           V
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                 .         .         V
283              .         .     533RR2
                 .         .         .
                 .         .         .
,9               .         .         .        533D
                 .         .         .          .
                 .         .         .          .
296              .         .     HC533C............
                 .         .         V
                 .         .         V
299              .         .     533RR3
                 .         .         .
                 .         .         .
305              .         .         .        533E
                 .         .         .          .
                 .         .         .          .
312              .         .     HC533D............
                 .         .         V
                 .         .         V
315              .         .     533RR4
                 .         .         .
                 .         .         .
321              .         .         .        530S
                 .         .         .          .
                 .         .         .          .
335              .         .         .          .          .<-------    530D
333              .         .         .          .       R530
                 .         .         .          .          .
                 .         .         .          .          .
.6               .         .         .      HC530............
                 .         .         .          V
                 .         .         .          V
339              .         .         .      RM530
                 .         .         .          .
                 .         .         .          .
346              .         .         .          .       531S
                 .         .         .          .          .
                 .         .         .          .          .
358              .         .         .      HC531............
                 .         .         .          V
                 .         .         .          V
361              .         .         .      RM531
                 .         .         .          .
                 .         .         .          .
368              .         .         .          .       532S
                 .         .         .          .          .
                 .         .         .          .          .
380              .         .         .      HC532............
                 .         .         .          .
                 .         .         .          .
385              .         .         .          .------->   554D1
383              .         .         .      532RE
                 .         .         .          .
                 .         .         .          .
8                .         .         .          .       533F
                 .         .         .          .          .
                 .         .         .          .          .
395              .         .         .      HC533E............
                 .         .         .          .
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398   .   .   .   .   533G
      .   .   .   .     .
      .   .   .   .     .
 5    .   .   .   HC533F............
      .   .   .     V
      .   .   .     V
408   .   .   .   533RR6
      .   .   .     .
      .   .   .     .
415   .   .   HC533G............
      .   .     V
      .   .     V
418   .   .   RM522B
      .   .     .
      .   .     .
423   .   .   .   533H
      .   .   .     .
      .   .   .     .
430   .   .   HC533H............
      .   .     .
      .   .     .
432   .   .   .   533I
      .   .   .     V
      .   .   .     V
439   .   .   .   533RR8
      .   .   .     .
      .   .   .     .
445   .   .   HC533I............
      .   .     V
      .   .     V
.48   .   .   RM522C
      .   .     .
      .   .     .
454   .   .   .   533J
      .   .   .     .
      .   .   .     .
461   .   .   HC533J............
      .   .     .
      .   .     .
463   .   .   .   533K
      .   .   .     V
      .   .   .     V
470   .   .   .   533RR9
      .   .   .     .
      .   .   .     .
476   .   .   HC533K............
      .   .     .
      .   .     .
482   .   .   .-------> 554D2
480   .   .   533RE1
      .   .     .
      .   .     .
488   .   .   .-------> 555D1
35    .   .   533RE2
      .   .     .
      .   .     .
496   .   .   .-------> 534D1
491   .   .   533RE3
      .   .     .
      .   .     .
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503          .          .          .-------->   534D2
499          .          .     533RE4
             .          .          V
             .          .          V
 6           .          .     RM533C
             .          .          .
             .          .          .
511     HC533L.......................
             V
             V
514     RM533D
             .
             .
523          .          .<-------   534D1
521          .      534R1
             .          V
             .          V
524          .     RM533E
             .          .
             .          .
532          .          .-------->   555D2
530          .     533RE6
             .          .
             .          .
538          .          .-------->    535D
535          .     533RE7
             .          V
             .          V
 1           .     RM533F
             .          .
             .          .
549          .          .          .<-------   534D2
547          .          .      534R2
             .          .          V
             .          .          V
550          .          .     RM533G
             .          .          .
             .          .          .
555          .          .          .       534S
             .          .          .          .
             .          .          .          .
567      HC534.................................
             V
             V
570     RM534A
             .
             .
578          .          .<-------    535D
577          .       535R
             .          .
             .          .
581          .          .-------->    556D
579          .      535RE
             .          V
             .          V
 34          .     RM534C
             .          V
             .          V
589          .     RM534E
             .          .
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          .          .
595       .          .       535S
          .          .          .
          .          .          .
 7     HC535.......................
          .
          .
614       .-------->  DV91S
610    535RE
          V
          V
617    RM535
          .
          .
624       .       540S
          .          V
          .          V
644       .      RM540
          .          .
          .          .
651       .          .       541S
          .          .          .
          .          .          .
663       .      HC541............
          .          V
          .          V
666       .      RM541
          .          .
          .          .
 3        .          .       542S
          .          .          .
          .          .          .
685       .      HC542............
          .          V
          .          V
688       .      RM542
          .          .
          .          .
695       .          .       550S
          .          .          V
          .          .          V
708       .          .      RM550
          .          .          .
          .          .          .
715       .          .          .      560S
          .          .          .         V
          .          .          .         V
728       .          .          .     RM560
          .          .          .          .
          .          .          .          .
735       .          .          .          .       551S
          .          .          .          .          .
          .          .          .          .          .
 7        .          .      HC551........................
          .          .          V
          .          .          V
750       .          .      RM551
          .          .          .
          .          .          .
757       .          .          .      552S
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                .         .         .         .
                .         .         .         .
769             .         .      HC552.........
                .         .         V
                .         .         V
772             .         .      RM552
                .         .         .
                .         .         .
779             .         .         .       21S
                .         .         .         V
                .         .         .         V
784             .         .         .      21RR
                .         .         .         .
                .         .         .         .
790             .         .         .         .        22S
                .         .         .         .         .
                .         .         .         .         .
795             .         .         .      HC22.........
                .         .         .         V
                .         .         .         V
797             .         .         .      22RR
                .         .         .         .
                .         .         .         .
803             .         .         .         .        23S
                .         .         .         .         .
                .         .         .         .         .
808             .         .         .      HC23.........
                .         .         .         V
                .         .         .         V
J               .         .         .      23RR
                .         .         .         .
                .         .         .         .
816             .         .         .         .        24S
                .         .         .         .         .
                .         .         .         .         .
821             .         .         .      HC24.........
                .         .         .         V
                .         .         .         V
823             .         .         .      24RR
                .         .         .         .
                .         .         .         .
829             .         .         .         .        25S
                .         .         .         .         .
                .         .         .         .         .
834             .         .         .      HC25.........
                .         .         .         V
                .         .         .         V
836             .         .         .      25RR
                .         .         .         .
                .         .         .         .
842             .         .         .         .        27S
                .         .         .         .         V
                .         .         .         .         V
847             .         .         .         .      27RR
                .         .         .         .         .
                .         .         .         .         .
853             .         .         .         .         .        29S
                .         .         .         .         .         .
                .         .         .         .         .         .
858             .         .         .         .      HC29.........
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                                                  .
                                                  .
 ^0                                               .        30S
                                                  .         V
                                                  .         V
865                                               .       30RR
                                                  .         .
                                                  .         .
871                                               .   HC30...........
                                                  .
                                                  .
873                                               .        31S
                                                  .         .
                                                  .         .
878                                       HC31.......................
                                                  .
                                                  .
880                                               .   32S
                                                  .
                                                  .
885                                       HC32...........
                                                  .
                                                  .
887                                               .   34S
                                                  .
                                                  .
892                                       HC34...........
                                                  .
                                                  .
 95                                               .   41S
                                                  .
                                                  .
900                                               .        42S
                                                  .         .
                                                  .         .
905                                               .   HC42...........
                                                  .     V
                                                  .     V
907                                               .   42RR
                                                  .
                                                  .
913                                               .        43S
                                                  .         .
                                                  .         .
918                                               .   HC43...........
                                                  .
                                                  .
920                                               .        44S
                                                  .         .
                                                  .         .
925                                               .   HC44...........
                                                  .
                                                  .
 17                                               .        45S
                                                  .         .
                                                  .         .
932                                               .         .        46S
                                                  .         .         .
                                                  .         .         .
937                                               .       HC46...........
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                                                V
                                                V
-9                                            46RR
                                                .
                                                .
945                                             .        47S
                                                .         .
                                                .         .
950                                           HC47A............
                                                .
                                                .
952                                     HC47B............
                                          V
                                          V
954                                     47RR
                                          .
                                          .
960                                           .        48S
                                              .         .
                                              .         .
965                                     HC48............
                                          V
                                          V
967                                     48RR
                                          .
                                          .
973                                           .       -49S
                                              .         .
                                              .         .
-8                                      HC49............
                                          .
                                          .
980                                           .        50S
                                              .         .
                                              .         .
985                                     HC50............
                                          .
                                          .
987                                           .        52S
                                              .         .
                                              .         .
992                                           .         .        53S
                                              .         .         .
                                              .         .         .
997                                           .       HC53............
                                                V
                                                V
999                                           .       53RR
                                                .
                                                .
1005                                          .         .        54S
                                              .         .         .
                                              .         .         .
-1                                            .         .         .        55S
                                              .         .         .         .
                                              .         .         .         .
1015                                          .         .      HC55A............
                                              .         .         .
                                              .         .         .
1017                                          .       HC55B............
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                                                  V
                                                  V
9                                              55RR
                                                  .
                                                  .
1025                                              .        56S
                                                  .          .
                                                  .          .
1030                                              .          .        57S
                                                  .          .          .
                                                  .          .          .
1035                                              .      HC57A............
                                                  .          .
                                                  .          .
1037                                           HC57B............
                                                  V
                                                  V
1039                                           57RR
                                                  .
                                                  .
1045                                              .        58S
                                                  .          .
                                                  .          .
1050                                           HC58............
                                                  .
                                                  .
1052                                              .        51S
                                                  .          .
                                                  .          .
57                                          HC51........................
                                               V
                                               V
1059                                        51RR1
                                               V
                                               V
1065                                        51RR2
                                               .
                                               .
1071                                           .        61S
                                               .          .
                                               .          .
1076                                        HC61............
                                               V
                                               V
1078                                        61RR
                                               .
                                               .
1084                                     HC570............
                                            V
                                            V
1087                                     RM570
                                            .
                                            .
4                                           571S
                                               .
                                               .
1106                                     HC571............
                                            V
                                            V
1109                                     RM571
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                .         .         .         .
                .         .         .         .
1116            .         .         .         .       553S
                .         .         .         .         .
                .         .         .         .         .
1128            .      HC553.................................
                .         V
                .         V
1132            .      RM553
                .         .
                .         .
1140            .         .         .<-------   554D1
1139            .         .      554R1
                .         .         .
                .         .         .
1142            .         .         .         .<-------   554D2
1141            .         .         .      554R2
                .         .         .         .
                .         .         .         .
1143            .         .         .         .       554S
                .         .         .         .         .
                .         .         .         .         .
1155            .      HC554.................................
                .         V
                .         V
1159            .      RM554
                .         .
                .         .
                .         .         .<-------   555D1
                .         .      555R1
                .         .         .
                .         .         .
1169            .         .         .         .<-------   555D2
1168            .         .         .      555R2
                .         .         .         .
                .         .         .         .
1170            .         .         .         .       555S
                .         .         .         .         .
                .         .         .         .         .
1182            .      HC555A................................
                .         .
                .         .
1186            .         .       91S
                .         .         .
                .         .         .
1191            .         .         .       92S
                .         .         .         .
                .         .         .         .
1196            .         .      HC92............
                .         .         V
                .         .         V
1198            .         .      92RR
                .         .         .
                .         .         .
                .         .         .       93S
                .         .         .         .
                .         .         .         .
1209            .         .      HC93............
                .         .         V
                .         .         V
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1211    .       .       93RR
        .       .         .
        .       .         .
 7      .       .         .       94S
        .       .         .         .
        .       .         .         .
1222    .       .       HC94............
        .       .         .
        .       .         .
1224    .       .         .       95S
        .       .         .         .
        .       .         .         .
1229    .       .       HC95............
        .       .         .
        .       .         .
1231    .       .         .       96S
        .       .         .         V
        .       .         .         V
1236    .       .         .       96RR
        .       .         .         .
        .       .         .         .
1242    .       .         .         .       97S
        .       .         .         .         .
        .       .         .         .         .
1247    .       .       HC97........................
        .       .         V
        .       .         V
1249    .       .       97RR
        .       .         .
        .       .         .
.255    .       .         .       98S
        .       .         .         V
        .       .         .         V
1260    .       .         .       98RR
        .       .         .         .
        .       .         .         .
1266    .       .       HC98............
        .       .         .
        .       .         .
1268    .       .         .       99S
        .       .         .         .
        .       .         .         .
1273    .       .       HC99............
        .       .         V
        .       .         V
1275    .       .       99RR
        .       .         .
        .       .         .
1281    .       .         .       90S
        .       .         .         .
        .       .         .         .
1286    .       .       HC580...........
        .       .         V
        .       .         V
 9      .       .       RM580
        .       .         .
        .       .         .
1296    .       .         .       581S
        .       .         .         .
        .       .         .         .
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1308          .          .       HC581............
              .          .          .
              .          .          .
 1            .      HC555B............
              .          V
              .          V
1314          .       RM555
              .          .
              .          .
1322          .          .          .<-------    556D
1321          .          .       556R
              .          .          .
              .          .          .
1323          .          .          .       556S
              .          .          .          .
              .          .          .          .
1335      HC556A...................................
              .
              .
1340          .        408S
```

(***) RUNOFF ALSO COMPUTED AT THIS LOCATION

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****************************************
*                                      *
*   FLOOD HYDROGRAPH PACKAGE  (HEC-1)  *
*            MAY   1991                *
*          VERSION 4.0.1E              *
*                                      *
* RUN DATE  01/25/95  TIME  13:09:31   *
*                                      *
****************************************
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****************************************
*                                      *
*   U.S. ARMY CORPS OF ENGINEERS       *
*   HYDROLOGIC ENGINEERING CENTER      *
*         609 SECOND STREET            *
*      DAVIS, CALIFORNIA 95616         *
*          (916) 551-1748              *
*                                      *
****************************************
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ACDC AREA DRAINAGE MASTER STUDY
FILENAME: NR26.DAT KHE JOB NO. 0146
WATERSHED CONTRIBUTING TO NEW RIVER UP TO ITS CONFLUENCE WITH
SKUNK CREEK

10-YEAR 6-HOUR DURATION STORM FOR EXISTING CONDITIONS

```
9 IO          OUTPUT CONTROL VARIABLES
                    IPRNT          5  PRINT CONTROL
                    IPLOT          0  PLOT CONTROL
                    QSCAL         0.  HYDROGRAPH PLOT SCALE

  IT          HYDROGRAPH TIME DATA
                     NMIN          3  MINUTES IN COMPUTATION INTERVAL
                    IDATE      1   0  STARTING DATE
                    ITIME       0000  STARTING TIME
                       NQ        500  NUMBER OF HYDROGRAPH ORDINATES
                   NDDATE      2   0  ENDING DATE
                   NDTIME       0057  ENDING TIME
                    ICENT         19  CENTURY MARK

              COMPUTATION INTERVAL    0.05 HOURS
                   TOTAL TIME BASE   24.95 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
       WARNING EXCESS AT PONDING LESS THAN ZERO FOR PERIOD. EXCESS SET TO ZERO
```

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	500S	23.	5.25	8.	2.	2.	0.41		
ROUTED TO	RM500	21.	6.20	8.	2.	2.	0.41	100.17	6.20
HYDROGRAPH AT	501S	23.	5.30	6.	2.	1.	0.52		
2 COMBINED AT	HC501	33.	6.10	14.	4.	4.	0.93		
ROUTED TO	RM501	29.	7.20	14.	4.	4.	0.93	100.23	7.20
HYDROGRAPH AT	502S	17.	6.00	8.	2.	2.	0.55		
HYDROGRAPH AT	510S	74.	4.85	20.	5.	5.	0.63		
ROUTED TO	RM510	70.	5.40	20.	5.	5.	0.63	99.54	5.40
HYDROGRAPH AT	511S	31.	5.20	8.	2.	2.	0.44		
2 COMBINED AT	HC511	100.	5.35	28.	7.	7.	1.06		
ROUTED TO	RM511	93.	5.90	28.	7.	7.	1.06	99.67	5.90
HYDROGRAPH AT	512S	29.	5.60	11.	3.	3.	0.47		
2 COMBINED AT	HC512A	120.	5.90	38.	10.	10.	1.53		
DIVERSION TO	533D	60.	5.90	19.	5.	5.	1.53		
HYDROGRAPH AT	502RE	60.	5.90	19.	5.	5.	1.53		
3 COMBINED AT	HC502	78.	5.90	39.	11.	10.	3.02		
ROUTED TO	RM502	74.	6.40	39.	11.	10.	3.02	100.28	6.40
HYDROGRAPH AT	503S	175.	5.45	76.	21.	20.	0.95		
2 COMBINED AT	HC503	197.	6.30	111.	32.	31.	3.97		
ROUTED TO	503RR	25.	10.05	24.	17.	16.	3.97	27.00	10.70
ROUTED TO	RM503	25.	10.75	24.	16.	16.	3.97	100.28	10.90
HYDROGRAPH AT	533R	60.	5.90	19.	5.	5.	0.00		
HYDROGRAPH AT	533A	4.	4.10	1.	0.	0.	0.01		
2 COMBINED AT	HC512B	60.	5.90	20.	5.	5.	0.01		
ROUTED TO	RM512	59.	6.05	19.	5.	5.	0.01	100.59	6.05
HYDROGRAPH AT	533B	132.	4.30	32.	8.	8.	0.28		

ROUTED TO	533RR1	21.	5.65	20.	8.	8.	0.28	31.24	5.70
2 COMBINED AT	HC533A	80.	6.05	39.	13.	13.	0.29		
HYDROGRAPH AT	520S	142.	4.50	27.	7.	7.	0.68		
DIVERSION TO	530D	137.	4.50	27.	7.	7.	0.68		
HYDROGRAPH AT	520RE	5.	4.50	0.	0.	0.	0.68		
ROUTED TO	RM520	0.	5.85	0.	0.	0.	0.68	100.01	5.85
HYDROGRAPH AT	521S	237.	4.60	47.	12.	11.	0.62		
2 COMBINED AT	HC521	237.	4.60	48.	12.	12.	1.29		
ROUTED TO	RM521	223.	5.05	47.	12.	12.	1.29	100.72	5.05
HYDROGRAPH AT	522S	50.	5.40	16.	4.	4.	0.51		
2 COMBINED AT	HC522	260.	5.10	63.	16.	15.	1.80		
HYDROGRAPH AT	533C	64.	4.45	15.	4.	4.	0.12		
2 COMBINED AT	HC533B	293.	5.05	76.	20.	19.	1.92		
ROUTED TO	533RR2	275.	5.25	73.	20.	19.	1.92	36.13	5.25
HYDROGRAPH AT	533D	41.	5.00	14.	4.	3.	0.10		
2 COMBINED AT	HC533C	312.	5.25	85.	23.	22.	2.02		
ROUTED TO	533RR3	21.	5.75	21.	17.	17.	2.02	33.68	8.30
HYDROGRAPH AT	533E	7.	4.20	1.	0.	0.	0.01		
2 COMBINED AT	HC533D	21.	5.75	21.	18.	17.	2.04		
ROUTED TO	533RR4	21.	6.05	21.	17.	17.	2.04	34.09	6.05
HYDROGRAPH AT	530S	379.	4.25	53.	13.	13.	0.82		
HYDROGRAPH AT	R530	137.	4.45	27.	7.	7.	0.00		
2 COMBINED AT	HC530	481.	4.30	80.	20.	19.	0.82		
ROUTED TO	RM530	447.	4.65	79.	20.	19.	0.82	101.06	4.65
HYDROGRAPH AT	531S	327.	4.75	76.	19.	18.	0.65		
2 COMBINED AT	HC531	768.	4.70	155.	39.	38.	1.47		
ROUTED TO	RM531	726.	5.10	155.	39.	38.	1.47	101.47	5.10
HYDROGRAPH AT	532S	219.	4.85	50.	13.	12.	0.52		
2 COMBINED AT	HC532	925.	5.05	205.	52.	50.	2.00		
DIVERSION TO	554D1	647.	5.05	143.	36.	35.	2.00		

HYDROGRAPH AT	532RE	277.	5.05	61.	16.	15.	2.00		
HYDROGRAPH AT	533F	32.	4.30	7.	2.	2.	0.06		
2 COMBINED AT	HC533E	290.	5.05	68.	17.	17.	2.06		
HYDROGRAPH AT	533G	36.	4.35	9.	2.	2.	0.08		
2 COMBINED AT	HC533F	307.	5.05	76.	20.	19.	2.14		
ROUTED TO	533RR6	66.	6.35	25.	18.	17.	2.14	33.05	6.35
2 COMBINED AT	HC533G	87.	6.35	46.	35.	34.	4.18		
ROUTED TO	RM522B	78.	6.60	46.	35.	33.	4.18	100.57	6.60
HYDROGRAPH AT	533H	24.	4.25	5.	1.	1.	0.03		
2 COMBINED AT	HC533H	79.	6.60	46.	36.	34.	4.21		
HYDROGRAPH AT	533I	44.	4.60	12.	3.	3.	0.08		
ROUTED TO	533RR8	14.	5.65	10.	3.	3.	0.08	29.34	5.65
2 COMBINED AT	HC533I	92.	6.60	54.	39.	37.	4.29		
ROUTED TO	RM522C	90.	6.70	54.	39.	37.	4.29	100.46	6.70
HYDROGRAPH AT	533J	25.	4.20	5.	1.	1.	0.03		
2 COMBINED AT	HC533J	90.	6.70	56.	40.	38.	4.33		
HYDROGRAPH AT	533K	27.	4.35	6.	2.	1.	0.06		
ROUTED TO	533RR9	14.	4.90	6.	2.	1.	0.06	27.41	4.90
2 COMBINED AT	HC533K	93.	6.70	61.	41.	40.	4.38		
DIVERSION TO	554D2	0.	6.70	0.	0.	0.	4.38		
HYDROGRAPH AT	533RE1	93.	6.70	61.	41.	40.	4.38		
DIVERSION TO	555D1	3.	6.70	0.	0.	0.	4.38		
HYDROGRAPH AT	533RE2	90.	6.70	61.	41.	40.	4.38		
DIVERSION TO	534D1	3.	6.70	0.	0.	0.	4.38		
HYDROGRAPH AT	533RE3	87.	6.70	61.	41.	40.	4.38		
DIVERSION TO	534D2	0.	6.70	0.	0.	0.	4.38		
HYDROGRAPH AT	533RE4	87.	6.70	61.	41.	40.	4.38		
ROUTED TO	RM533C	86.	6.80	61.	41.	40.	4.38	101.05	6.80
3 COMBINED AT	HC533L	158.	6.75	114.	71.	68.	8.64		
ROUTED TO	RM533D	154.	7.30	114.	70.	67.	8.64	101.05	7.30

HYDROGRAPH AT	534R1	3.	6.70	0.	0.	0.	0.00		
ROUTED TO	RM533E	1.	7.65	0.	0.	0.	0.00	100.10	7.65
DIVERSION TO	555D2	0.	7.65	0.	0.	0.	0.00		
HYDROGRAPH AT	533RE6	1.	7.65	0.	0.	0.	0.00		
DIVERSION TO	535D	1.	7.65	0.	0.	0.	0.00		
HYDROGRAPH AT	533RE7	0.	7.65	0.	0.	0.	0.00		
ROUTED TO	RM533F	0.	8.05	0.	0.	0.	0.00	100.02	8.10
HYDROGRAPH AT	534R2	0.	0.05	0.	0.	0.	0.00		
ROUTED TO	RM533G	0.	0.05	0.	0.	0.	0.00	100.00	0.00
HYDROGRAPH AT	534S	197.	4.90	72.	19.	18.	0.90		
4 COMBINED AT	HC534	288.	4.95	179.	88.	85.	9.54		
ROUTED TO	RM534A	286.	5.20	178.	87.	84.	9.54	100.94	5.20
HYDROGRAPH AT	535R	1.	7.65	0.	0.	0.	0.00		
DIVERSION TO	556D	0.	7.65	0.	0.	0.	0.00		
HYDROGRAPH AT	535RE	0.	7.65	0.	0.	0.	0.00		
ROUTED TO	RM534C	0.	7.80	0.	0.	0.	0.00	100.02	7.80
ROUTED TO	RM534E	0.	8.00	0.	0.	0.	0.00	100.01	8.00
HYDROGRAPH AT	535S	223.	4.45	51.	13.	12.	0.64		
3 COMBINED AT	HC535	408.	4.95	217.	100.	96.	10.18		
DIVERSION TO	DV91S	0.	4.95	0.	0.	0.	10.18		
HYDROGRAPH AT	535RE	408.	4.95	217.	100.	96.	10.18		
ROUTED TO	RM535	406.	5.00	217.	100.	96.	10.18	103.04	5.00
HYDROGRAPH AT	540S	127.	6.60	62.	17.	17.	2.24		
ROUTED TO	RM540	125.	6.95	62.	17.	17.	2.24	19.32	6.95
HYDROGRAPH AT	541S	12.	5.30	4.	1.	1.	0.47		
2 COMBINED AT	HC541	128.	6.95	64.	18.	17.	2.71		
ROUTED TO	RM541	126.	7.40	64.	18.	17.	2.71	87.24	7.40
HYDROGRAPH AT	542S	31.	5.05	8.	2.	2.	0.49		
2 COMBINED AT	HC542	129.	7.35	67.	20.	19.	3.20		
ROUTED TO	RM542	127.	7.75	67.	20.	19.	3.20	65.19	7.75

HYDROGRAPH AT	550S	1763.	5.75	1723.	1706.	1706.	1.95		
ROUTED TO	RM550	1762.	6.10	1723.	1706.	1706.	1.95	27.57	6.10
HYDROGRAPH AT	560S	172.	4.80	35.	9.	9.	1.12		
ROUTED TO	RM560	144.	5.80	35.	9.	9.	1.12	89.26	5.80
HYDROGRAPH AT	551S	14.	6.65	7.	2.	2.	1.45		
3 COMBINED AT	HC551	1906.	5.85	1765.	1717.	1716.	4.51		
ROUTED TO	RM551	1902.	6.15	1765.	1717.	1716.	4.51	78.04	6.15
HYDROGRAPH AT	552S	97.	6.80	55.	17.	16.	2.38		
2 COMBINED AT	HC552	1978.	6.25	1820.	1734.	1732.	6.90		
ROUTED TO	RM552	1975.	6.55	1820.	1734.	1732.	6.90	50.36	6.55
HYDROGRAPH AT	21S	12.	4.10	2.	1.	0.	0.04		
ROUTED TO	21RR	0.	0.05	0.	0.	0.	0.04	1277.56	6.65
HYDROGRAPH AT	22S	17.	4.10	3.	1.	1.	0.03		
2 COMBINED AT	HC22	17.	4.10	3.	1.	1.	0.06		
ROUTED TO	22RR	11.	4.45	3.	1.	1.	0.06	1277.27	4.45
HYDROGRAPH AT	23S	4.	4.10	1.	0.	0.	0.01		
2 COMBINED AT	HC23	14.	4.35	4.	1.	1.	0.07		
ROUTED TO	23RR	11.	4.85	4.	1.	1.	0.07	1275.66	4.85
HYDROGRAPH AT	24S	3.	4.10	1.	0.	0.	0.01		
2 COMBINED AT	HC24	12.	4.60	4.	1.	1.	0.08		
ROUTED TO	24RR	10.	5.25	4.	1.	1.	0.08	1272.63	5.25
HYDROGRAPH AT	25S	21.	4.10	4.	1.	1.	0.05		
2 COMBINED AT	HC25	26.	4.15	8.	2.	2.	0.13		
ROUTED TO	25RR	6.	6.45	5.	2.	2.	0.13	1268.71	6.45
HYDROGRAPH AT	27S	41.	4.10	7.	2.	2.	0.12		
ROUTED TO	27RR	6.	5.35	5.	2.	2.	0.12	1278.68	5.35
HYDROGRAPH AT	29S	14.	4.20	2.	1.	1.	0.06		
2 COMBINED AT	HC29	18.	4.35	7.	2.	2.	0.19		
HYDROGRAPH AT	30S	22.	4.10	4.	1.	1.	0.06		
ROUTED TO	30RR	7.	5.00	4.	1.	1.	0.06	1265.69	5.00

2 COMBINED AT	HC30	23.	4.35	11.	3.	3.	0.24		
HYDROGRAPH AT	31S	11.	4.20	2.	1.	0.	0.05		
3 COMBINED AT	HC31	37.	4.35	17.	6.	6.	0.42		
HYDROGRAPH AT	32S	11.	4.20	2.	1.	0.	0.05		
2 COMBINED AT	HC32	48.	4.30	20.	7.	6.	0.48		
HYDROGRAPH AT	34S	16.	4.20	3.	1.	1.	0.08		
2 COMBINED AT	HC34	64.	4.30	22.	7.	7.	0.55		
HYDROGRAPH AT	41S	10.	4.10	2.	0.	0.	0.02		
HYDROGRAPH AT	42S	20.	4.15	4.	1.	1.	0.07		
2 COMBINED AT	HC42	30.	4.10	5.	1.	1.	0.09		
ROUTED TO	42RR	12.	4.85	5.	1.	1.	0.09	1303.50	4.85
HYDROGRAPH AT	43S	1.	4.35	0.	0.	0.	0.01		
2 COMBINED AT	HC43	12.	4.80	5.	1.	1.	0.10		
HYDROGRAPH AT	44S	10.	4.15	2.	0.	0.	0.03		
2 COMBINED AT	HC44	19.	4.35	7.	2.	2.	0.13		
HYDROGRAPH AT	45S	11.	4.10	2.	0.	0.	0.02		
HYDROGRAPH AT	46S	24.	4.10	4.	1.	1.	0.06		
2 COMBINED AT	HC46	35.	4.10	6.	2.	1.	0.07		
ROUTED TO	46RR	12.	4.80	6.	2.	1.	0.07	1300.58	4.80
HYDROGRAPH AT	47S	13.	4.10	2.	1.	1.	0.03		
2 COMBINED AT	HC47A	22.	4.35	8.	2.	2.	0.11		
2 COMBINED AT	HC47B	42.	4.35	15.	4.	4.	0.24		
ROUTED TO	47RR	26.	5.40	14.	4.	4.	0.24	1290.12	5.40
HYDROGRAPH AT	48S	20.	4.10	4.	1.	1.	0.06		
2 COMBINED AT	HC48	29.	5.15	17.	5.	5.	0.30		
ROUTED TO	48RR	29.	5.30	17.	5.	5.	0.30	1287.41	5.30
HYDROGRAPH AT	49S	1.	4.60	0.	0.	0.	0.04		
2 COMBINED AT	HC49	29.	5.30	17.	5.	5.	0.34		
HYDROGRAPH AT	50S	9.	4.10	1.	0.	0.	0.02		
2 COMBINED AT	HC50	32.	4.40	18.	5.	5.	0.36		

HYDROGRAPH AT	52S	6.	4.10	1.	0.	0.	0.01		
HYDROGRAPH AT	53S	14.	4.10	3.	1.	1.	0.03		
2 COMBINED AT	HC53	21.	4.10	4.	1.	1.	0.04		
ROUTED TO	53RR	12.	4.55	4.	1.	1.	0.04	1297.77	4.55
HYDROGRAPH AT	54S	17.	4.10	3.	1.	1.	0.03		
HYDROGRAPH AT	55S	10.	4.10	2.	0.	0.	0.02		
2 COMBINED AT	HC55A	28.	4.10	5.	1.	1.	0.05		
2 COMBINED AT	HC55B	36.	4.10	9.	2.	2.	0.09		
ROUTED TO	55RR	25.	4.60	9.	2.	2.	0.09	1295.05	4.60
HYDROGRAPH AT	56S	14.	4.10	3.	1.	1.	0.04		
HYDROGRAPH AT	57S	35.	4.10	6.	2.	1.	0.10		
2 COMBINED AT	HC57A	49.	4.10	9.	2.	2.	0.14		
2 COMBINED AT	HC57B	64.	4.30	17.	4.	4.	0.23		
ROUTED TO	57RR	64.	4.35	17.	4.	4.	0.23	1290.55	4.35
HYDROGRAPH AT	58S	2.	4.15	0.	0.	0.	0.01		
2 COMBINED AT	HC58	65.	4.35	17.	4.	4.	0.24		
HYDROGRAPH AT	51S	53.	4.10	9.	2.	2.	0.13		
3 COMBINED AT	HC51	143.	4.25	45.	12.	12.	0.72		
ROUTED TO	51RR1	99.	4.80	44.	12.	12.	0.72	1278.25	4.80
ROUTED TO	51RR2	99.	4.90	44.	12.	12.	0.72	1273.60	4.85
HYDROGRAPH AT	61S	27.	4.20	5.	1.	1.	0.12		
2 COMBINED AT	HC61	111.	4.80	48.	13.	13.	0.85		
ROUTED TO	61RR	50.	6.55	36.	11.	11.	0.85	1266.88	6.55
2 COMBINED AT	HC570	72.	6.05	55.	18.	18.	1.40		
ROUTED TO	RM570	71.	6.40	54.	18.	18.	1.40	101.69	6.40
HYDROGRAPH AT	571S	212.	5.35	71.	18.	18.	1.35		
2 COMBINED AT	HC571	269.	5.40	123.	37.	35.	2.74		
ROUTED TO	RM571	266.	5.55	123.	37.	35.	2.74	103.49	5.55
HYDROGRAPH AT	553S	185.	4.75	31.	8.	7.	0.93		
4 COMBINED AT	HC553	2204.	6.45	2030.	1798.	1795.	13.77		

ROUTED TO	RM553	2201.	6.60	2029.	1798.	1795.	13.77	25.91	6.60
HYDROGRAPH AT	554R1	647.	5.05	143.	36.	35.	0.00		
HYDROGRAPH AT	554R2	0.	0.05	0.	0.	0.	0.00		
HYDROGRAPH AT	554S	70.	5.30	27.	7.	7.	0.54		
4 COMBINED AT	HC554	2743.	5.10	2194.	1842.	1836.	14.31		
ROUTED TO	RM554	2710.	5.45	2193.	1842.	1836.	14.31	97.40	5.45
HYDROGRAPH AT	555R1	3.	6.70	0.	0.	0.	0.00		
HYDROGRAPH AT	555R2	0.	7.65	0.	0.	0.	0.00		
HYDROGRAPH AT	555S	89.	4.90	23.	6.	6.	0.54		
4 COMBINED AT	HC555A	2771.	5.40	2211.	1848.	1842.	14.85		
HYDROGRAPH AT	91S	15.	4.25	3.	1.	1.	0.07		
HYDROGRAPH AT	92S	13.	4.10	2.	1.	1.	0.03		
2 COMBINED AT	HC92	27.	4.15	5.	1.	1.	0.10		
ROUTED TO	92RR	0.	5.90	0.	0.	0.	0.10	1242.84	6.70
HYDROGRAPH AT	93S	7.	4.35	1.	0.	0.	0.06		
2 COMBINED AT	HC93	7.	4.35	1.	0.	0.	0.16		
ROUTED TO	93RR	1.	6.10	1.	0.	0.	0.16	1236.11	6.10
HYDROGRAPH AT	94S	15.	4.30	3.	1.	1.	0.08		
2 COMBINED AT	HC94	15.	4.30	4.	1.	1.	0.24		
HYDROGRAPH AT	95S	12.	4.30	2.	1.	1.	0.07		
2 COMBINED AT	HC95	28.	4.30	6.	2.	2.	0.31		
HYDROGRAPH AT	96S	29.	4.30	6.	1.	1.	0.09		
ROUTED TO	96RR	8.	5.30	5.	1.	1.	0.09	1237.55	5.30
HYDROGRAPH AT	97S	5.	5.15	2.	0.	0.	0.07		
3 COMBINED AT	HC97	33.	4.35	12.	3.	3.	0.47		
ROUTED TO	97RR	0.	18.15	0.	0.	0.	0.47	1231.80	24.80
HYDROGRAPH AT	98S	7.	4.10	1.	0.	0.	0.02		
ROUTED TO	98RR	4.	4.65	1.	0.	0.	0.02	1230.25	4.65
2 COMBINED AT	HC98	4.	4.65	1.	0.	0.	0.48		
HYDROGRAPH AT	99S	10.	4.20	2.	0.	0.	0.05		

2 COMBINED AT	HC99	13.	4.30	3.	1.	1.	0.53		
ROUTED TO	99RR	3.	5.70	2.	1.	1.	0.53	1229.24	5.75
HYDROGRAPH AT	90S	15.	4.40	3.	1.	1.	0.08		
2 COMBINED AT	HC580	17.	4.40	5.	2.	1.	0.61		
ROUTED TO	RM580	16.	4.80	5.	2.	1.	0.61	100.55	4.80
HYDROGRAPH AT	581S	257.	4.65	93.	24.	23.	0.82		
2 COMBINED AT	HC581	271.	4.70	98.	26.	25.	1.43		
2 COMBINED AT	HC555B	2961.	5.35	2287.	1874.	1867.	16.28		
ROUTED TO	RM555	2931.	5.70	2287.	1874.	1867.	16.28	76.33	5.70
HYDROGRAPH AT	556R	0.	7.65	0.	0.	0.	0.00		
HYDROGRAPH AT	556S	55.	4.75	18.	5.	4.	0.56		
4 COMBINED AT	HC556A	3273.	5.65	2517.	1978.	1967.	27.02		
HYDROGRAPH AT	408S	88.	5.25	44.	12.	12.	1.08		

NORMAL END OF HEC-1 ***

SECTION III

HEC-1 Hydrology Results, 100-Year 6-Hour Storm (Existing Conditions)

```
****************************************
*                                      *
*   FLOOD HYDROGRAPH PACKAGE  (HEC-1)  *
*             MAY   1991               *
*           VERSION 4.0.1E             *
*                                      *
* RUN DATE  01/25/95  TIME  12:59:22   *
*                                      *
****************************************
```

```
****************************************
*                                      *
*   U.S. ARMY CORPS OF ENGINEERS       *
*   HYDROLOGIC ENGINEERING CENTER      *
*         609 SECOND STREET            *
*      DAVIS, CALIFORNIA 95616         *
*          (916) 551-1748              *
*                                      *
****************************************
```

```
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

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

  1           ID    ACDC AREA DRAINAGE MASTER STUDY
  2           ID    FILENAME:  NR36B.DAT          KHE JOB NO. 0146
  3           ID    WATERSHED CONTRIBUTING TO NEW RIVER UP TO ITS CONFLUENCE WITH
  4           ID    SKUNK CREEK
  5           ID
  6           ID    100-YEAR 6-HOUR DURATION STORM FOR EXISTING CONDITIONS
  7           ID
              *
              *        CREATED:  AUGUST 4, 1994
              *
              *        REVISED:  SEPTEMBER 12, 1994
              *                  Revised to reflect the FCDMC's Hydrology for the
              *                  91st Avenue Drain as presented in a DRAFT Copy
              *                  dated June 20, 1994.
              *
              *        REVISED:  JANUARY 4, 1994
              *                  Revised to reflect the FCDMC's Hydrology Review
              *                  Comments dated October 14, 1994.
              *
              *DIAGRAM
  8           IT       3                    500
  9           IO       5
              *    *    *    *    *    *    *    *    *    *    *    *    *
              *                                                            *
              *          SUBAREA GROUPING CONTRIBUTING TO 91ST AVENUE DRAIN *
              *           SUB-BASINS 500-503, 510-512, 520-522, & 530-535   *
              *              TOTAL CONTRIBUTING AREA = 10.18 SQ. MI.        *
              *                                                            *
              *    *    *    *    *    *    *    *    *    *    *    *    *

 10           KK    500S
 11           KM   RUNOFF GENERATED ON SUB-BASIN 500
 12           KM   THE FOLLOWING PARAMETERS WERE PROVIDED FOR THIS BASIN
 13           KM   L= 1.455 mi  S= 50 ft/mi  Kb= 0.078
 14           KM   CLARK UNIT HYDROGRAPH FOR NATURAL WATERSHEDS WAS USED FOR THIS BASIN
 15           KM   6-HOUR RAINFALL, PATTERN NO. 1.00 WAS USED TO FIND TC & R FOR THIS BASIN
 16           KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF .995
 17           BA    .410
 18           IN      15
 19           KM   RAINFALL DEPTH OF 3.20 WAS SPACIALLY REDUCED AS SHOWN BY THE PB RECORD
 20           KM   AN AREAL REDUCTION COEFFICIENT OF .939 WAS USED
 21           PB   3.006
 22           KM   THE FOLLOWING PC RECORD USED A 6-HOUR STORM WITH A PATTERN NO. OF 2.74
 23           PC    .000    .013    .019    .029    .044    .058    .070    .082    .095    .108
 24           PC    .123    .139    .161    .207    .291    .467    .676    .807    .876    .919
 25           PC    .947    .961    .974    .987   1.000
 26           LG    .282    .323   4.080    .419   5.530
 27           UC    .983    .815
 28           UA       0       3       5       8      12      20      43      75      90      96
 29           UA     100
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

  30          KK   RM500
  31          KM   NORMAL DEPTH STORAGE ROUTE FLOW FROM SUB-BASIN 500 THROUGH 501
  32          KM             1) Reach Length = 5446 ft
  33          RS     13    FLOW      -1
  34          RC   .040    .030    .040    5446   .0060
  35          RX      0      25      50      80     120     150     175     200
  36          RY    102     101     100     100     100     100     101     102

  37          KK    501S
  38          KM   RUNOFF GENERATED ON SUB-BASIN 501
  39          KM   THE FOLLOWING PARAMETERS WERE PROVIDED FOR THIS BASIN
  40          KM   L= 1.031 mi  S= 32 ft/mi  Kb= 0.087
  41          KM   CLARK UNIT HYDROGRAPH FOR NATURAL WATERSHEDS WAS USED FOR THIS BASIN
  42          KM   6-HOUR RAINFALL, PATTERN NO. 1.03 WAS USED TO FIND TC & R FOR THIS BASIN
  43          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF .993
  44          BA    .524
  45          LG   .350    .350   3.920    .384    .000
  46          UC   .979    .535
  47          UA      0       3       5       8      12      20      43      75      90      96
  48          UA    100

  49          KK   HC501
  50          KM   COMBINE HYDROGRAPHS FROM SUB-BASIN 501 WITH ROUTED FLOW FROM 500
  51          HC      2

  52          KK   RM501
  53          KM   NORMAL DEPTH STORAGE ROUTE FROM SUB-BASIN 501 THROUGH 502
  54          KM           1) Reach Length = 7666 ft
  55          RS     17    FLOW      -1
  56          RC   .040    .030    .040    7666   .0044
  57          RX      0      25      50      80     120     150     175     200
  58          RY    102     101     100     100     100     100     101     102

  59          KK    502S
  60          KM   RUNOFF GENERATED ON SUB-BASIN 502
  61          KM   THE FOLLOWING PARAMETERS WERE PROVIDED FOR THIS BASIN
  62          KM   L= 1.452 mi  S= 23 ft/mi  Kb= 0.086
  63          KM   CLARK UNIT HYDROGRAPH FOR NATURAL WATERSHEDS WAS USED FOR THIS BASIN
  64          KM   6-HOUR RAINFALL, PATTERN NO. 1.06 WAS USED TO FIND TC & R FOR THIS BASIN
  65          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF .993
  66          BA    .553
  67          LG   .350    .350   3.820    .361    .000
  68          UC  1.483   1.083
  69          UA      0       3       5       8      12      20      43      75      90      96
  70          UA    100

  71          KK    510S
  72          KM   RUNOFF GENERATED ON SUB-BASIN 510
  73          KM   THE FOLLOWING PARAMETERS WERE PROVIDED FOR THIS BASIN
  74          KM   L= 1.577 mi  S= 93 ft/mi  Kb= 0.074
  75          KM   CLARK UNIT HYDROGRAPH FOR NATURAL WATERSHEDS WAS USED FOR THIS BASIN
  76          KM   6-HOUR RAINFALL, PATTERN NO. 1.13 WAS USED TO FIND TC & R FOR THIS BASIN
  77          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF .992
  78          BA    .625
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

  79          LG    .209    .322   3.980    .396   8.130
  80          UC    .679    .453
  81          UA       0       3       5       8      12      20      43      75      90      96
  82          UA     100

  83          KK   RM510
  84          KM   NORMAL DEPTH STORAGE ROUTE FLOW FROM SUB-BASIN 510 THROUGH 511
  85          KM            1) Reach Length = 5415 ft
  86          RS      10    FLOW      -1
  87          RC    .040    .030    .040    5415   .0065
  88          RX       0      25      50      80     120     150     175     200
  89          RY     102     101     100      99      99     100     101     102

  90          KK    511S
  91          KM   RUNOFF GENERATED ON SUB-BASIN 511
  92          KM   THE FOLLOWING PARAMETERS WERE PROVIDED FOR THIS BASIN
  93          KM   L= 1.025 mi  S= 34 ft/mi  Kb= 0.087
  94          KM   CLARK UNIT HYDROGRAPH FOR NATURAL WATERSHEDS WAS USED FOR THIS BASIN
  95          KM   6-HOUR RAINFALL, PATTERN NO. 1.00 WAS USED TO FIND TC & R FOR THIS BASIN
  96          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF .994
  97          BA    .437
  98          LG    .336    .345   3.770    .350    .820
  99          UC    .904    .541
 100          UA       0       3       5       8      12      20      43      75      90      96
 101          UA     100

 102          KK   HC511
 103          KM   COMBINE HYDROGRAPHS FROM SUB-BASIN 511 WITH ROUTED FLOW FROM 510
 104          HC       2

 105          KK   RM511
 106          KM   NORMAL DEPTH STORAGE ROUTE FLOW FROM SUB-BASIN 511 THROUGH 512
 107          KM            1) Reach Length = 5909 ft
 108          RS      10    FLOW      -1
 109          RC    .040    .030    .040    5909   .0054
 110          RX       0      25      50      80     120     150     175     200
 111          RY     102     101     100      99      99     100     101     102

 112          KK    512S
 113          KM   RUNOFF GENERATED ON SUB-BASIN 512
 114          KM   THE FOLLOWING PARAMETERS WERE PROVIDED FOR THIS BASIN
 115          KM   L= 1.210 mi  S= 26 ft/mi  Kb= 0.088
 116          KM   CLARK UNIT HYDROGRAPH FOR NATURAL WATERSHEDS WAS USED FOR THIS BASIN
 117          KM   6-HOUR RAINFALL, PATTERN NO. 1.00 WAS USED TO FIND TC & R FOR THIS BASIN
 118          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF .994
 119          BA    .469
 120          LG    .350    .350   3.610    .315    .000
 121          UC   1.167    .787
 122          UA       0       3       5       8      12      20      43      75      90      96
 123          UA     100
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 124          KK  HC512A
 125          KM   COMBINE HYDROGRAPHS FROM SUB-BASIN 512 WITH ROUTED FLOW FROM 511
 126          HC       2

 127          KK   502RE
 128          KM   DIVERT 50% WESTERLY ALONG BEARDSLEY RD. TO WESTBROOK VILLAGE WEST INLET
 129          DT    533D
 130          DI       0    1000    2000    3000
 131          DQ       0     500    1000    1500

 132          KK   HC502
 133          KM   COMBINE HYDROGRAPHS FROM SUB-BASIN 502 WITH ROUTED FLOW FROM 501 AND
 134          KM   REMAINING FLOW FROM SUBBASIN NO. 512 AT INLET TO WESTBROOK VILLAGE WEST
 135          HC       3
              *
              *     INFLOW TO WESTBROOK VILLAGE WEST
              *
              *     This section of the model was developed by the FCDMC and was obtained
              *     from a Draft Copy of their June 20, 1994 report, "91st Avenue Drain
              *     Hydrology Update, Flood Control District of Maricopa County, Watershed
              *     Management Branch."
              *

 136          KK   RM502
 137          KM   NORMAL DEPTH STORAGE ROUTE FROM SUB-BASIN 502 THROUGH 503
 138          RS      10    FLOW      -1
 139          RC    .030    .020    .030    5280   .0050
 140          RX       0      30      60      90     190     300     330     360
 141          RY     104     103     101     100     100     101     103     104

 142          KK    503S
 143          KM   RUNOFF GENERATED ON SUB-BASIN 503 (FCDMC SUB-BASIN I.D. WBW)
 144          KM   TOTAL OF PARCELS 1 TO 27 IN WESTBROOK VILLAGE WEST (1983 PROJECT)
 145          KM   PLUS PARCELS 28 (GOLF COURSES) ABOUT 23% OF AREA
 146          KM   AREA REVISED FROM 1.00 SQ.MI. TO 0.952 SQ.MI. PARCEL IN SOUTHWEST CORNER OF
 147          KM   SUBDIVISION DOES NOT CONTRIBUTE;  FLOWS PROCEED WESTWARD ON UNION HILLS DR.
 148          BA    .952
 149          LG     .35     .25   3.500    .280      30
 150          UC   1.000    .850
 151          UA       0       3       5       8      12      20      43      75      90      96
 152          UA     100

 153          KK   HC503
 154          KM   COMBINE HYDROGRAPHS FROM SUB-BASIN 503 WITH ROUTED FLOW FROM 502
 155          HC       2

 156          KK   503RR
 157          KM   PER 1983 UDC REPORT AVAILABLE STORAGE IS 472 AC-FT IN GOLF COURSES
 158          KM   A MAXIMUM OF 350 AC-FT IS ASSUMED AS PER ERIE'S QU ESTIMATE
 159          KM   PER MEETING ON MAY 9, 1994 25 CFS IS ASSUMED AS BLEED OFF THRU 2' DIA PIPE
 160          KM   CULVERT CROSSING UNION HILLS DRIVE AT ABOUT 93RD ALIGNMENT
 161          RS       1    STOR       0
 162          SV       0      50     100     150     200     300     350     400     500
 163          SE      26      27      28      29      30      32      34      36      38
```

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

 164          SQ       0      25      25      25      25      25      25     300     400

 165          KK   RM503
 166          KM   ROUTE ALONG UNION HILLS DR. EASTWARD TOWARDS 93RD AVE
 167          RS       5    FLOW      -1
 168          RC     .03     .02     .03    2080   .0019
 169          RX       0      20      40      60      80     100     120     140
 170          RY     102     101     100     100     100     100     101     102
              *
              *
              *     THIS CONCLUDES PORTION OF HEC-1 FILE OBTAINED FROM THE
              *      FCDMC HYDROLOGY
              *

 171          KK    533R
 172          KM    RETRIEVE FLOWS GOING SOUTH ALONG 91ST AVE.
 173          DR    533D
              *
              *
              *   BEGIN PORTION OF HEC-1 FILE OBTAINED FROM THE FCDMC HYDROLOGY
              *

 174          KK    533A
 175          KM   WESTBROOK VILLAGE PARCEL B8
 176          KM   THIS PARCEL DISCHARGES DIRECTLY INTO 91ST AVE
 177          BA   .0085
 178          LG     .25     .25     3.5     .28      30
 179          UC    .170    .150
 180          UA       0       5      16      30      65      77      84      90      94      96
 181          UA     100

 182          KK  HC512B
 183          KM   COMBINE HYDROGRAPHS SOUTH OF BEARDSLEY ROAD ALONG 91ST AVENUE
 184          HC       2

 185          KK   RM512
 186          KM   ROUTE FLOWS ON 91ST AVENUE, BEARDSLY RD. TO UNION HILLS DR.
 187          KM   ROUTE THRU 91ST AVE. SOUTHWARD, X-SECTION GIVEN IN 1983 WB REPORT
 188          RS       2    FLOW      -1
 189          RC     .02    .015     .02    2380   .0045
 190          RX       0      12      22      40      80     121     131     143
 191          RY     103     100     100     102     102     100     100     103

 192          KK    533B
 193          KM    COMBINE PARCELS 8A, 10B, 7, 6, 5, G10, 2B, 3B
 194          BA   .2814
 195          LG     .25     .25     3.5     .28      45
 196          UC    .290    .250
 197          UA       0       5      16      30      65      77      84      90      94      96
 198          UA     100
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 199          KK  533RR1
 200          KM   ROUTE FLOWS THROUGH RESERVOIR 10, WESTBROOK VILLAGE EAST
 201          KM   THE RESERVOIR BLEEDS INTO 91ST AVENUE
 202          RS      1    STOR      -1       0
 203          SV      0     .35    2.28     6.4   12.82    24.0
 204          SE   27.5    28.5    29.5    30.5    31.5    32.5
 205          SQ      0       2      12      19      22      44

 206          KK  HC533A
 207          KM   91ST AVENUE AT INTERSECTION WITH UNION HILL DR.
 208          HC      2
              *
              *   CONCLUDE PORTION OF HEC-1 FILE OBTAINED FROM THE FCDMC HYDROLOGY
              *

 209          KK    520S
 210          KM   RUNOFF GENERATED ON SUB-BASIN 520
 211          KM   THE FOLLOWING PARAMETERS WERE PROVIDED FOR THIS BASIN
 212          KM   L= 1.569 mi  S= 238 ft/mi  Kb= 0.071
 213          KM   CLARK UNIT HYDROGRAPH FOR NATURAL WATERSHEDS WAS USED FOR THIS BASIN
 214          KM   6-HOUR RAINFALL, PATTERN NO. 1.17 WAS USED TO FIND TC & R FOR THIS BASIN
 215          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF .991
 216          BA    .675
 217          LG    .202    .318   3.920    .384  11.030
 218          UC    .429    .260
 219          UA      0       3       5       8      12      20      43      75      90      96
 220          UA     100

 221          KK   520RE
 222          KM   DIVERT MAX. OF 136 CFS EAST ALONG CALLE LEJOS TO 83RD AVENUE AS
 223          KM   PER AM. ENGINEERING CO. REPORT DEC. 1993
 224          DT    530D
 225          DI      0      50     100     137     200     400    1000
 226          DQ      0      50     100     137     137     137     137

 227          KK   RM520
 228          KM   NORMAL DEPTH STORAGE ROUTE FLOW FROM SUB-BASIN 520 THROUGH 521
 229          KM            1) Reach Length = 5886 ft
 230          RS      9    FLOW      -1
 231          RC    .040    .030    .040    5886   .0056
 232          RX     40      80      90     100     140     150     160     200
 233          RY    103     102     101     100     100     101     102     103

 234          KK    521S
 235          KM   RUNOFF GENERATED ON SUB-BASIN 521
 236          KM   THE FOLLOWING PARAMETERS WERE PROVIDED FOR THIS BASIN
 237          KM   L= 1.176 mi  S= 30 ft/mi  Kb= 0.044
 238          KM   CLARK UNIT HYDROGRAPH FOR NATURAL WATERSHEDS WAS USED FOR THIS BASIN
 239          KM   6-HOUR RAINFALL, PATTERN NO. 1.12 WAS USED TO FIND TC & R FOR THIS BASIN
 240          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF .992
 241          BA    .617
 242          LG    .100    .250   6.290    .186  15.530
 243          UC    .558    .290
 244          UA      0       3       5       8      12      20      43      75      90      96
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 245          UA     100

 246          KK   HC521
 247          KM   COMBINE HYDROGRAPHS FROM SUB-BASIN 521 WITH ROUTED FLOW FROM 520
 248          HC       2

 249          KK   RM521
 250          KM   NORMAL DEPTH STORAGE ROUTE FLOW FROM SUB-BASIN 521 THROUGH 522
 251          KM            1) Reach Length = 6074 ft
 252          RS      10    FLOW      -1
 253          RC    .040    .030    .040    6074   .0049
 254          RX       0      50      75     105     145     175     200     250
 255          RY     103     101     100     100     100     100     101     103

 256          KK    522S
 257          KM   RUNOFF GENERATED ON SUB-BASIN 522
 258          KM   THE FOLLOWING PARAMETERS WERE PROVIDED FOR THIS BASIN
 259          KM   L= 1.186 mi  S= 24 ft/mi  Kb= 0.077
 260          KM   CLARK UNIT HYDROGRAPH FOR NATURAL WATERSHEDS WAS USED FOR THIS BASIN
 261          KM   6-HOUR RAINFALL, PATTERN NO. 1.01 WAS USED TO FIND TC & R FOR THIS BASIN
 262          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF .993
 263          BA    .508
 264          LG    .388    .290   6.780    .185    .000
 265          UC   1.033    .647
 266          UA       0       3       5       8      12      20      43      75      90      96
 267          UA     100

 268          KK   HC522
 269          KM   COMBINE HYDROGRAPHS FROM SUB-BASIN 522 WITH ROUTED FLOW FROM 521
 270          KM   WEST INLET FOR WESTBROOK VILLAGE EAST
 271          HC       2
              *
              *   BEGIN PORTION OF HEC-1 FILE OBTAINED FROM THE FCDMC HYDROLOGY
              *
              *  ROUTING COMMAND REMOVED FROM MODEL.  REACH LENGTH IS TOO SHORT FOR PEAK
              *  DISCHARGE ATTENUATION.
              *
              * KKRM522A
              * KM ROUTE OFFSITE INFLOWS, W.B. EAST INLET TO FIRST DETENTION
              * RS      1    FLOW      -1
              * RC    .03     .02     .03     260  .00192
              * RX      0      12    17.5    22.5    33.5    37.5      43      55
              * RY     45      42      40      40      40      40      42      45

 272          KK    533C
 273          KM   COMBINE PARCELS 9, 10A, 11, 12, GC3
 274          KM   HIGHEST SCS LAG TIME USED BY CONSULTANT WAS CONVERTED TO TC: TLAG/0.60
 275          BA    .123
 276          LG     .35     .25     8.4     .06      35
 277          UC    .333    .250
 278          UA       0       3       5       8      12      20      43      75      90      96
 279          UA     100
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 280          KK  HC533B
 281          KM   COMBINE HYDROGRAPHS WITHIN EAST WESTBROOK VILLAGE
 282          HC       2

 283          KK  533RR2
 284          KM   ROUTE FLOW THROUGH WESTBROOK VILLAGE EAST RESERVOIR 3
 285          RS       1    STOR      -1       0
 286          SV       0     .19    1.23    3.71    7.87    12.1    24.0
 287          SE      32      33      34      35      36      37      38
 288          SQ       0       2      12      19     195     811    1200

 289          KK    533D
 290          KM   COMBINE PARCELS 19, 18B, GC4-5
 291          BA    .101
 292          LG     .35     .15     8.4     .06      45
 293          UC    .680    .500
 294          UA       0       3       5       8      12      20      43      75      90      96
 295          UA     100

 296          KK  HC533C
 297          KM   COMBINE HYDROGRAPHS WITHIN EAST WESTBROOK VILLAGE
 298          HC       2

 299          KK  533RR3
 300          KM   ROUTE FLOW THROUGH WESTBROOK VILLAGE EAST RESERVOIR 4 & 5
 301          RS       1    STOR      -1       0
 302          SV       0    2.57    7.19   13.71    22.4      32      37      42      47      52
 303          SE      27      28      29      30      31      33      34      35      36      37
 304          SQ       0       2      12      19      21      21      21      21     386    1207

 305          KK    533E
 306          KM   GOLF COURSE AT DRIVING RANGE
 307          BA   .0126
 308          LG     .35     .25     3.5     .29      45
 309          UC    .177    .150
 310          UA       0       3       5       8      12      20      43      75      90      96
 311          UA     100

 312          KK  HC533D
 313          KM   COMBINE HYDROGRAPHS WITH IN EAST WESTBROOK VILLAGE
 314          HC       2

 315          KK  533RR4
 316          KM   ROUTE FLOW THROUGH WESTBROOK VILLAGE EAST RESERVOIR 6
 317          RS       1    STOR      -1       0
 318          SV       0       2       4       6       8
 319          SE      33      34      35      36      37
 320          SQ       0       0     227     811    1200
              *
              *   CONCLUDE PORTION OF HEC-1 FILE OBTAINED FROM THE FCDMC HYDROLOGY
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 321          KK   530S
 322          KM   RUNOFF GENERATED ON SUB-BASIN 530
 323          KM   THE FOLLOWING PARAMETERS WERE PROVIDED FOR THIS BASIN
 324          KM   L= 1.452 mi  S= 280 ft/mi  Kb= 0.053
 325          KM   CLARK UNIT HYDROGRAPH FOR NATURAL WATERSHEDS WAS USED FOR THIS BASIN
 326          KM   6-HOUR RAINFALL, PATTERN NO. 1.29 WAS USED TO FIND TC & R FOR THIS BASIN
 327          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF .989
 328          BA    .821
 329          LG    .139    .276   3.550    .303  13.320
 330          UC    .308    .151
 331          UA       0       3       5       8      12      20      43      75      90      96
 332          UA     100

 333          KK   R530
 334          KM   RETRIEVE DIVERTED FLOW FROM SUB-BASIN 520
 335          DR   530D

 336          KK   HC530
 337          KM   COMBINE HYDROGRAPHS FROM SUB-BASIN 530 WITH DIVERTED FLOW FROM 520
 338          HC       2

 339          KK   RM530
 340          KM   NORMAL DEPTH STORAGE ROUTE FLOW FROM SUB-BASIN 530 THROUGH 531
 341          KM            1) Reach Length = 5688 ft
 342          RS       8    FLOW      -1
 343          RC    .040    .030    .040    5688   .0053
 344          RX       0      25      50      80     120     150     175     200
 345          RY     102     101     100     100     100     100     101     102

 346          KK   531S
 347          KM   RUNOFF GENERATED ON SUB-BASIN 531
 348          KM   THE FOLLOWING PARAMETERS WERE PROVIDED FOR THIS BASIN
 349          KM   L= 1.193 mi  S= 25 ft/mi  Kb= 0.060
 350          KM   CLARK UNIT HYDROGRAPH FOR NATURAL WATERSHEDS WAS USED FOR THIS BASIN
 351          KM   6-HOUR RAINFALL, PATTERN NO. 1.16 WAS USED TO FIND TC & R FOR THIS BASIN
 352          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF .991
 353          BA    .654
 354          LG    .225    .170  10.100    .036   9.530
 355          UC    .725    .380
 356          UA       0       3       5       8      12      20      43      75      90      96
 357          UA     100

 358          KK   HC531
 359          KM   COMBINE HYDROGRAPHS FROM SUB-BASIN 531 WITH ROUTED FLOW FROM 530
 360          HC       2

 361          KK   RM531
 362          KM   NORMAL DEPTH STORAGE ROUTE FLOW FROM SUB-BASIN 531 THROUGH 532
 363          KM            1) Reach Length = 6723 ft
 364          RS       9    FLOW      -1
 365          RC    .040    .030    .040    6723   .0043
 366          RX       0      50      75     105     145     175     200     250
 367          RY     103     101     100     100     100     100     101     103
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

368           KK   532S
369           KM   RUNOFF GENERATED ON SUB-BASIN 532
370           KM   THE FOLLOWING PARAMETERS WERE PROVIDED FOR THIS BASIN
371           KM   L= 1.109 mi  S= 25 ft/mi  Kb= 0.062
372           KM   CLARK UNIT HYDROGRAPH FOR NATURAL WATERSHEDS WAS USED FOR THIS BASIN
373           KM   6-HOUR RAINFALL, PATTERN NO. 1.02 WAS USED TO FIND TC & R FOR THIS BASIN
374           KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF .993
375           BA    .521
376           LG    .438    .103  10.100    .046    .000
377           UC    .704    .395
378           UA      0       3       5       8      12      20      43      75      90      96
379           UA     100

380           KK   HC532
381           KM   COMBINE HYDROGRAPHS FROM SUB-BASIN 532 WITH ROUTED FLOW FROM 531
382           HC      2
              *
              *   BEGIN PORTION OF HEC-1 FILE OBTAINED FROM THE FCDMC HYDROLOGY
              *

383           KK   532RE
384           KM   DIVERT 70% SOUTHWARD THRU 83RD AVENUE
385           DT   554D1
386           DI      0     200     400     800    1200    1500    2000    2500
387           DQ      0     140     280     560     840    1050    1400    1750

388           KK    533F
389           KM   COMBINE PARCELS 13, 14, G1
390           BA   .0644
391           LG     .35     .25     3.5     .29      45
392           UC    .241    .200
393           UA      0       3       5       8      12      20      43      75      90      96
394           UA     100

395           KK  HC533E
396           KM   COMBINE HYDROGRAPHS WITHIN EAST WESTBROOK VILLAGE
397           HC      2
              *    *    *    *    *    *    *    *    *    *    *    *
              *                                                       *
              *     RESERVOIR ROUTING OPTION WAS REMOVED FROM THE MODEL.      *
              *     ROUTED FLOWS WERE INCREASING AND/OR NO DIFFERENCE IN      *
              *     TIMING FROM THE INFLOW HYDROGRAPH WERE OBSERVED.          *
              *                                                               *
              *    *    *    *    *    *    *    *    *    *    *    *
              * KK533RR5
              * KM ROUTE FLOW THROUGH WESTBROOK VILLAGE EAST RESERVOIR 1
              * KM
              * RS     1    STOR      -1       0
              * SV     0     .11     .63    1.43     3.3     5.5    6.46    6.94     7.5    10
              * SE    36      37      38      39      40      41      42      43      44    45
              * SQ     0       2      12      19    21.8    23.1    24.1      25     750    13
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 398          KK    533G
 399          KM   COMBINE PARCELS 15, 16, 17, 18A, 23A, GC2
 400          BA    .079
 401          LG     .35     .25     3.5     .29      45
 402          UC    .285    .250
 403          UA       0       3       5       8      12      20      43      75      90      96
 404          UA     100

 405          KK  HC533F
 406          KM   COMBINE HYDROGRAPHS WITHIN EAST WESTBROOK VILLAGE
 407          HC       2

 408          KK  533RR6
 409          KM   ROUTE FLOW THROUGH WESTBROOK VILLAGE EAST RESERVOIR 2
 410          KM
 411          RS       1    STOR      -1       0
 412          SV       0    1.97    4.86    9.02   14.99      20      25      30      34      38
 413          SE      26      27      28      29      30      31      32      33      34      35
 414          SQ       0       2      12      19      21      21      21      21     930    1200

 415          KK  HC533G
 416          KM   COMBINE 533RR4 AND 533RR6
 417          HC       2

 418          KK  RM522B
 419          RS       3    FLOW      -1
 420          RC     .04     .03     .04    1420   .0018
 421          RX       0      30      60      90     120     150     180     210
 422          RY     104     102     100     100     100     100     102     104

 423          KK    533H
 424          KM   COMBINE PARCELS 23B, 21A, G7
 425          BA    .033
 426          LG     .35     .15     8.4     .06      60
 427          UC    .218    .150
 428          UA       0       3       5       8      12      20      43      75      90      96
 429          UA     100

 430          KK  HC533H
 431          HC       2
              *    *    *    *    *    *    *    *    *    *    *    *
              *                                                       *
              *     RESERVOIR ROUTING OPTION WAS REMOVED FROM THE MODEL.      *
              *     ROUTED FLOWS WERE INCREASING AND/OR NO DIFFERENCE IN      *
              *     TIMING FROM THE INFLOW HYDROGRAPH WERE OBSERVED.          *
              *                                                               *
              *    *    *    *    *    *    *    *    *    *    *    *
              * KK533RR7
              * KM ROUTE FLOWS THROUGH RESERVOIR 7, WESTBROOK VILLAGE EAST
              * RS     1    STOR      -1       0
              * SV     0     .15     .85    2.26    4.71     6.0     7.0     9.0
              * SE    27      28      29      30      31      32      33      34
              * SQ     0      11      23      35      46     526    1391    2500
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

432           KK   533I
433           KM   COMBINE PARCELS 25, 24, GC8, 27A, 26A
434           BA   .0839
435           LG    .35     .15     8.4     .06      45
436           UC   .433    .330
437           UA      0       3       5       8      12      20      43      75      90      96
438           UA    100

439           KK  533RR8
440           KM   ROUTE FLOWS THROUGH RESERVOIR 8, WESTBROOK VILLAGE EAST
441           RS      1    STOR      -1       0
442           SV      0     .36    2.13    5.54   10.63   15.29    16.0
443           SE     27      28      29      30      31      32      33
444           SQ      0       2      12      19      22      30     100

445           KK  HC533I
446           KM   COMBINE OUTFLOW FROM RESERVOIRS 7 AND 8
447           HC      2

448           KK  RM522C
449           KM   ROUTE HYDROGRAPHS THRU MAIN SOUTH STREET WITHIN EAST WESTBROOK VILLAGE
450           RS      1    FLOW      -1
451           RC    .03     .02     .03    1120   .0032
452           RX      0      15      30      60      80     105     120     135
453           RY    104     102     100     100     100     100     102     104

454           KK   533J
455           KM   COMBINE R/C, 1B, 26B
456           BA   .0342
457           LG    .35     .15     8.4     .06      60
458           UC   .167    .150
459           UA      0       3       5       8      12      20      43      75      90      96
460           UA    100

461           KK  HC533J
462           HC      2

463           KK   533K
464           KM   COMBINE PARCELS 1A, 20, 21B, G9A, G9B, 2A, 3A
465           BA   .0572
466           LG    .35     .25     5.0     .28      45
467           UC   .272    .200
468           UA      0       3       5       8      12      20      43      75      90      96
469           UA    100

470           KK  533RR9
471           KM   ROUTE THROUGH RESERVOIR 9, WESTBROOK VILLAGE EAST
472           RS      1    STOR      -1       0
473           SV      0     .03    .376   1.698   4.517   9.114  12.000
474           SE     25      26      27      28      29      30      31
475           SQ      0       2      11      18      24     128     200
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

476           KK  HC533K
477           KM   OUTFLOW FROM WESTBROOK VILLAGE EAST INTO UNION HILLS DR. AT 86TH AVE.
478           KM   ALIGNMENT AT INTERSECTION OF OUTLET WITH UNION HILLS RD., MAIN ENTRANCE
479           HC       2

480           KK  533RE1
481           KM   DIVERT 100 CFS TO NEW RIVER:  50 CFS THRU 42" CMP AND 50 CFS OVERLAND
482           DT   554D2
483           DI       0      50     100     150     300     600     900    1500
484           DQ       0       0       0     100     100     100     100     100

485           KK  533RE2
486           KM   DIVERT TO COUNTRY CLUB ROAD AND EVENTUALLY TO NEW RIVER.  RATING CURVE
487           KM   AS PER ERIE'S REPORT, ASSUMES OVERFLOW PROPORTIONAL TO WEIR LENGTH
488           DT   555D1
489           DI       0      50      80     982    2670    7461   13454
490           DQ       0       0       0     214     607    1716    3152 _
              *
              *  ROUTING COMMAND REMOVED FROM MODEL.  REACH LENGTH IS TOO SHORT FOR PEAK
              *  DISCHARGE ATTENUATION.
              *
              * KKRM533A
              * KM ROUTE REMAINING TO INTERSECTION OF UNION HILLS DR. & 87TH AVENUE
              * RS     1    FLOW      -1
              * RC   .02    .015     .02     660   .0015
              * RX     0       1       5      35      40      70      74      75
              * RY   104     102     100     101     101     100     102     104

491           KK  533RE3
492           KM   DIVERT SOUTH THRU 87TH AVE., PORTION GOES TO 91ST AVE. AT UNION HILLS DR.
493           KM   USING RATING CURVE DEVELOPED BY ERIE & ASSOCIATES
494           KM   INFLOW IS ASSUMED SUM OF RATED Q AT ROAD INTERSECTION
495           KM   THIS APPLIES TO SUCCEDING DIVERSIONS USING ERIE'S DATA
496           DT   534D1
497           DI       0      50      80     762    2067    5745
498           DQ       0       0       0     221     625    1768
              *
              *  ROUTING COMMAND REMOVED FROM MODEL.  REACH LENGTH IS TOO SHORT FOR PEAK
              *  DISCHARGE ATTENUATION.
              *
              * KKRM533B
              * KM ROUTE REMAINING FLOW TO 89TH AVE. THRU NORTH SIDE OF UNION HILLS RD.
              * RS     1    FLOW      -1
              * RC  .015    .015    .015    1320   .0037
              * RX     0       1       5      35      40      70      74      75
              * RY   104     102     100     101     101     100     102     104

499           KK  533RE4
500           KM   ASSUME SPLIT OCCURS WHEN DEPTH IS 0.5 FT ABOVE 91ST AVE CROWN AT INTERSECTION
501           KM   PER ERIE'S RATING Q=145 CFS ABOVE WHICH FLOW WILL HAVE 50-50 SPLIT
502           KM   FLOW LESS THAN OR EQUAL TO 145 CFS WILL CONTINUE WESTWARD TO 91ST AVE.
503           DT   534D2
504           DI       0      80     145     300     500     800    1200
505           DQ       0       0       0     150     250     400     600
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

506           KK  RM533C
507           RS       2    FLOW      -1
508           RC     .02    .015     .02    1320   .0015
509           RX       0       1       5      35      40      70      74      75
510           RY     104     102     100     101     101     100     102     104

511           KK  HC533L
512           KM   UNION HILLS DR. AT 91ST AVENUE
513           HC       3

514           KK  RM533D
515           KM   NORMAL DEPTH STORAGE ROUTE FLOW FROM SUB-BASIN 533 THROUGH 534
516           KM            1) Reach Length = 5474 ft
517           RS       6    FLOW      -1
518           RC    .025    .020    .025    5474   .0044
519           RX       0      12      22      40     100     121     131     143
520           RY     103     100     100     101     101     100     100     103

521           KK   534R1
522           KM   RETRIEVE FLOWS GOING SOUTH OF 87TH AVE. SOUTH OF UNION HILLS DR.
523           DR   534D1

524           KK  RM533E
525           KM   ROUTE SOUTHWARD THRU 87TH AVE
526           RS       7    FLOW      -1
527           RC     .02    .015     .02    5560   .0042
528           RX       0       1       5      35      40      70      74      75
529           RY     104     102     100     101     101     100     102     104

530           KK  533RE6
531           KM   DIVERT 50% UP TO MAXIMUM OF 150 CFS EASTWARD ALONG BELL RD. TO NEW RIVER
532           DT   555D2
533           DI       0      20      50     150     200     300
534           DQ       0       6      50     150     150     150

535           KK  533RE7
536           KM   DIVERT SOUTHWARD ALONG 87TH AVE., SOUTH OF BELL RD. USING ERIE'S RATING
537           KM   VALUES
538           DT    535D
539           DI       0     101     600    2410    4905
540           DQ       0      80     310    1540    3050

541           KK  RM533F
542           KM   ROUTE WESTWARD ALONG BELL RD.
543           RS       3    FLOW      -1
544           RC     .02    .015     .02    1320   .0015
545           RX       0       1       5      45      50      90      94      95
546           RY     104     102     100     101     101     100     102     104
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LINE        ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

547         KK   534R2
548         KM   RETRIEVE FLOWS GOING SOUTH ON 89TH AVE. SOUTH OF UNION HILL DR.
549         DR   534D2

550         KK  RM533G
551         RS      6    FLOW      -1
552         RC    .02    .015     .02    5280   .0049
553         RX      0       1       5      35      40      70      74      75
554         RY    104     102     100     101     101     100     102     104
            *
            *  ROUTING COMMAND REMOVED FROM MODEL.  REACH LENGTH IS TOO SHORT FOR PEAK
            *  DISCHARGE ATTENUATION.
            *
            * KKRM533H
            * RS     1    FLOW      -1
            * RC   .02    .015     .02     680   .0015
            * RX     0       1       5      35      40      70      74      75
            * RY   104     102     100     101     101     100     102     104
            *
            *   CONCLUDE PORTION OF HEC-1 FILE OBTAINED FROM THE FCDMC HYDROLOGY
            *

555         KK    534S
556         KM   RUNOFF GENERATED ON SUB-BASIN 534
557         KM   THE FOLLOWING PARAMETERS WERE PROVIDED FOR THIS BASIN
558         KM   L= 1.571 mi  S= 18 ft/mi  Kb= 0.061
559         KM   CLARK UNIT HYDROGRAPH FOR URBAN WATERSHEDS WAS USED FOR THIS BASIN
560         KM   6-HOUR RAINFALL, PATTERN NO. 1.34 WAS USED TO FIND TC & R FOR THIS BASIN
561         KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF .988
562         BA    .896
563         LG    .264    .281   7.500    .116  18.180
564         UC   1.129    .647
565         UA      0       5      16      30      65      77      84      90      94      97
566         UA    100

567         KK   HC534
568         KM   COMBINE HYDROGRAPHS FROM SUB-BASIN 534 WITH ROUTED FLOW FROM SUB-BASIN 533
569         HC      4

570         KK  RM534A
571         KM   NORMAL DEPTH STORAGE ROUTE FLOW FROM SUB-BASIN 534 THROUGH 535
572         KM            1) Reach Length = 5114 ft
573         RS      4    FLOW      -1
574         RC   .030    .020    .030    5114   .0041
575         RX      0       0       5      10      75      80      85      85
576         RY    108     104     102     100     100     102     104     108

577         KK    535R
578         DR    535D
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

579           KK   535RE
580           KM   DIVERT THROUGH PARADISE LANE WESTWARD USING ERIE'S RATING VALUES
581           DT    556D
582           DI       0     144     570    2530    5490
583           DQ       0      80     310    1540    3050

584           KK  RM534C
585           RS       1    FLOW      -1
586           RC     .02    .015     .02     720   .0038
587           RX       0       1       5      35      40      70      74      75
588           RY     104     102     100     101     101     100     102     104
              *
              *  ROUTING COMMAND REMOVED FROM MODEL.  REACH LENGTH IS TOO SHORT FOR PEAK
              *  DISCHARGE ATTENUATION.  INCLUDE REACH LENGTH IN HEC-1 COMMAND RM534E.
              *
              * KKRM534D
              * KM ROUTE TO EXISTING 91ST AVE. CHANNEL WESTWARD
              * RS     1    FLOW      -1
              * RC   .03     .02     .03     560   .0036
              * RX     0      10      20      35      45      60      70      80
              * RY   108     104     102     100     100     102     104     108

589           KK  RM534E
590           KM   ROUTE THRU EXISTING DRAIN
591           RS       4    FLOW      -1
592           RC    .030    .020    .030    1810   .0042
593           RX       0       6      12      24      36      48      60      72
594           RY     108     104     102     100     100     102     104     108

595           KK    535S
596           KM   RUNOFF GENERATED ON SUB-BASIN 535
597           KM   THE FOLLOWING PARAMETERS WERE PROVIDED FOR THIS BASIN
598           KM   L= 1.176 mi  S= 22 ft/mi  Kb= 0.040
599           KM   CLARK UNIT HYDROGRAPH FOR URBAN WATERSHEDS WAS USED FOR THIS BASIN
600           KM   6-HOUR RAINFALL, PATTERN NO. 1.14 WAS USED TO FIND TC & R FOR THIS BASIN
601           KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF .992
602           BA    .642
603           LG    .301    .164   6.290    .227  20.750
604           UC    .600    .308
605           UA       0       5      16      30      65      77      84      90      94      97
606           UA     100

607           KK   HC535
608           KM   COMBINE HYDROGRAPHS AT 91ST AVE. DRAIN AND ALIGNMENT OF GREENWAY RD.
609           HC       3

610           KK   535RE
611           KM   DIVERT THRU EXISTING 91ST AVE. CHANNEL SPILLWAY PER DESIGN DRAWINGS
612           KM   DESIGN CAPACITY OF TRIPLE BARREL CULVERT = 743 CFS PLUS FB CAPACITY
613           KM   FLOW SOUTHWARD ALONG 91ST AVE. TOWARDS DESERT HARBOR MPC
614           DT   DV91S
615           DI       0     100     743    1170    1900    3000    4700
616           DQ       0       0       0       0     520    1470    2700
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LINE        ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

617         KK   RM535
618         KM   ROUTE REMAINING FLOW THRU 91ST AVE. CHANNEL TO OUTLET
619         KM   EXISTING GUNITE CHANNEL WITH 2:1 SS AS PER FCD CONSULTANT DESIGN
620         RS      2    FLOW      -1
621         RC    .02    .015     .02    1720   .0008
622         RX      0       7      14      20      28      34      41      48
623         RY    107   103.5     100     100     100     100   103.5     107
            *    *    *    *    *    *    *    *    *    *    *    *
            *                                                          *
            *       SUBAREA GROUPING CONTRIBUTING TO NEW RIVER ABOVE   *
            *               CONFLUENCE WITH SKUNK CREEK.               *
            *       SUB-BASINS 540-542, 550-556, 560, 570-571 & 580-581 *
            *           TOTAL CONTRIBUTING AREA = 16.84 SQ. MI.        *
            *                                                          *
            *    *    *    *    *    *    *    *    *    *    *    *

624         KK   540S
625         KM   RUNOFF GENERATED ON SUB-BASIN 540
626         KM   THE FOLLOWING PARAMETERS WERE PROVIDED FOR THIS BASIN
627         KM   L= 2.367 mi  S= 28 ft/mi  Kb= 0.071
628         KM   CLARK UNIT HYDROGRAPH FOR NATURAL WATERSHEDS WAS USED FOR THIS BASIN
629         KM   6-HOUR RAINFALL, PATTERN NO. 1.87 WAS USED TO FIND TC & R FOR THIS BASIN
630         KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF .979
631         BA   2.244
632         IN      15
633         KM   RAINFALL DEPTH OF 3.20 WAS SPACIALLY REDUCED AS SHOWN BY THE PB RECORD
634         KM   AN AREAL REDUCTION COEFFICIENT OF .919 WAS USED
635         PB   2.942
636         KM   THE FOLLOWING PC RECORD USED A 6-HOUR STORM WITH A PATTERN No. OF 3.03
637         PC    .000    .015    .020    .031    .049    .064    .077    .091    .106    .120
638         PC    .136    .153    .177    .224    .306    .473    .670    .795    .867    .911
639         PC    .945    .960    .973    .987   1.000
640         LG    .250    .350   3.610    .315   5.020
641         UC   1.751    .866
642         UA      0       3       5       8      12      20      43      75      90      96
643         UA    100

644         KK   RM540
645         KM   NORMAL DEPTH STORAGE ROUTE FLOW FROM SUB-BASIN 540 THROUGH 541
646         KM           1) Reach Length = 5708 ft
647         RS      7    FLOW      -1
648         RC    .040    .040    .040    5708   .0058
649         RX     40      80     180     200     225     245     260     300
650         RY     24      24      22      18      18      22      24      24

651         KK   541S
652         KM   RUNOFF GENERATED ON SUB-BASIN 541
653         KM   THE FOLLOWING PARAMETERS WERE PROVIDED FOR THIS BASIN
654         KM   L= 1.081 mi  S= 31 ft/mi  Kb= 0.088
655         KM   CLARK UNIT HYDROGRAPH FOR NATURAL WATERSHEDS WAS USED FOR THIS BASIN
656         KM   6-HOUR RAINFALL, PATTERN NO. 1.00 WAS USED TO FIND TC & R FOR THIS BASIN
657         KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF .994
658         BA    .467
659         LG    .250    .350   4.030    .408    .000
```

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

 660          UC   1.038    .633
 661          UA       0       3       5       8      12      20      43      75      90      96
 662          UA     100

 663          KK   HC541
 664          KM   COMBINE HYDROGRAPHS FROM SUB-BASIN 541 WITH ROUTED FLOW FROM 540
 665          HC       2

 666          KK   RM541
 667          KM   NORMAL DEPTH STORAGE ROUTE FLOW FROM SUB-BASIN 541 THROUGH 542
 668          KM            1) Reach Length = 5535 ft
 669          RS       7    FLOW      -1
 670          RC    .040    .040    .040    5535   .0054
 671          RX     140     170     200     210     240     265     285     300
 672          RY      94      92      90      86      86      90      92      94

 673          KK    542S
 674          KM   RUNOFF GENERATED ON SUB-BASIN 542
 675          KM   THE FOLLOWING PARAMETERS WERE PROVIDED FOR THIS BASIN
 676          KM   L= 1.059 mi  S= 33 ft/mi  Kb= 0.073
 677          KM   CLARK UNIT HYDROGRAPH FOR NATURAL WATERSHEDS WAS USED FOR THIS BASIN
 678          KM   6-HOUR RAINFALL, PATTERN NO. 1.00 WAS USED TO FIND TC & R FOR THIS BASIN
 679          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF .994
 680          BA    .490
 681          LG    .383    .239   3.770    .405    .740
 682          UC    .808    .459
 683          UA       0       3       5       8      12      20      43      75      90      96
 684          UA     100

 685          KK   HC542
 686          KM   COMBINE HYDROGRAPHS FROM SUB-BASIN 542 WITH ROUTED FLOW FROM 541
 687          HC       2

 688          KK   RM542
 689          KM   NORMAL DEPTH STORAGE ROUTE FLOW FROM SUB-BASIN 542 THROUGH 553
 690          KM            1) Reach Length = 5557 ft
 691          RS       6    FLOW      -1
 692          RC    .040    .040    .040    5557   .0061
 693          RX      40      60     100     130     160     190     210     230
 694          RY      72      71      70      64      64      70      71      72
              *    *    *    *    *    *    *    *    *    *    *    *    *
              *                                                            *
              *      BREAK SEQUENCE - JUMP TO SUB-BASIN 550                *
              *                                                            *
              *      SUB-BASIN 550 IS LOCATED DOWNSTREAM OF NEW RIVER DAM.  THE  *
              *      BF(BASE FLOW) RECORD OF HEC-1 WAS INCLUDED IN THIS SUB-BASIN *
              *      TO MODEL THE NEW RIVER DAM LOW LEVEL OUTFLOW.         *
              *      ASSUMED CONSTANT OUTFLOW OF 2350 CFS FOR 100-YEAR STORM.  *
              *      SOURCE:  F.I.S., MARICOPA COUNTY, ARIZONA AND INCORPORATED *
              *               AREAS, FEMA.                                 *
              *                                                            *
              *    *    *    *    *    *    *    *    *    *    *    *    *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

695           KK   550S
696           KM   RUNOFF GENERATED ON SUB-BASIN 550
697           KM   THE FOLLOWING PARAMETERS WERE PROVIDED FOR THIS BASIN
698           KM   L= 1.701 mi  S= 63 ft/mi  Kb= 0.073
699           KM   CLARK UNIT HYDROGRAPH FOR NATURAL WATERSHEDS WAS USED FOR THIS BASIN
700           KM   6-HOUR RAINFALL, PATTERN NO. 1.79 WAS USED TO FIND TC & R FOR THIS BASIN
701           KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF .981
702           BA   1.946
703           BF    2350
704           LG    .250    .350   4.140    .431   3.600
705           UC   1.025    .398
706           UA      0       3       5       8      12      20      43      75      90      96
707           UA    100

708           KK   RM550
709           KM   NORMAL DEPTH STORAGE ROUTE FLOW FROM SUB-BASIN 550 THROUGH 551
710           KM           1) Reach Length = 8432 ft
711           RS      8    FLOW      -1
712           RC    .040    .040    .040    8432   .0044
713           RX    210     400     420     445     500     525     590     670
714           RY     32      30      26      24      24      26      30      32
              *    *    *    *    *    *    *    *    *    *    *    *    *
              *                                                            *
              *    FOR BF RECORD IN SUB-BASIN 560, USE STRTQ=0 TO RETURN BASE FLOW  *
              *    CONDITIONS BACK TO NORMAL.  THIS RECORD PREVENTS SUBSEQUENT      *
              *    SUB-BASINS FROM HAVING A BASE FLOW VALUE OF 2350 CFS.            *
              *                                                            *
              *    *    *    *    *    *    *    *    *    *    *    *    *

715           KK   560S
716           KM   RUNOFF GENERATED ON SUB-BASIN 560
717           KM   THE FOLLOWING PARAMETERS WERE PROVIDED FOR THIS BASIN
718           KM   L= 1.866 mi  S= 192 ft/mi  Kb= 0.079
719           KM   CLARK UNIT HYDROGRAPH FOR NATURAL WATERSHEDS WAS USED FOR THIS BASIN
720           KM   6-HOUR RAINFALL, PATTERN NO. 1.47 WAS USED TO FIND TC & R FOR THIS BASIN
721           KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF .986
722           BA   1.116
723           BF      0
724           LG    .250    .360   4.120    .268   4.150
725           UC    .596    .322
726           UA      0       3       5       8      12      20      43      75      90      96
727           UA    100

728           KK   RM560
729           KM   NORMAL DEPTH STORAGE ROUTE FLOW FROM SUB-BASIN 560 THROUGH 551
730           KM           1) Reach Length = 14187 ft
731           RS     17    FLOW      -1
732           RC    .030    .040    .030   14187   .0088
733           RX      0     215     250     280     300     320     460     560
734           RY     94      92      90      88      88      90      92      94
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

735           KK   551S
736           KM   RUNOFF GENERATED ON SUB-BASIN 551
737           KM   THE FOLLOWING PARAMETERS WERE PROVIDED FOR THIS BASIN
738           KM   L= 2.280 mi  S= 46 ft/mi  Kb= 0.075
739           KM   CLARK UNIT HYDROGRAPH FOR NATURAL WATERSHEDS WAS USED FOR THIS BASIN
740           KM   6-HOUR RAINFALL, PATTERN NO. 1.62 WAS USED TO FIND TC & R FOR THIS BASIN
741           KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF .984
742           BA   1.448
743           LG    .248    .349   4.190    .443    .680
744           UC   1.566    .946
745           UA      0       3       5       8      12      20      43      75      90      96
746           UA    100

747           KK   HC551
748           KM   COMBINE HYDROGRAPHS FROM SUB-BASIN 551 WITH ROUTED FLOWS FROM 550 & 560
749           HC      3

750           KK   RM551
751           KM   NORMAL DEPTH STORAGE ROUTE FLOW FROM SUB-BASIN 551 THROUGH 552
752           KM           1) Reach Length = 5663 ft
753           RS      6    FLOW      -1
754           RC   .040    .040    .040    5663   .0056
755           RX    100     100     145     250     420     450     510     520
756           RY     92      88      78      76      76      82      84      92

757           KK   552S
758           KM   RUNOFF GENERATED ON SUB-BASIN 552
759           KM   THE FOLLOWING PARAMETERS WERE PROVIDED FOR THIS BASIN
760           KM   L= 3.216 mi  S= 46 ft/mi  Kb= 0.068
761           KM   CLARK UNIT HYDROGRAPH FOR NATURAL WATERSHEDS WAS USED FOR THIS BASIN
762           KM   6-HOUR RAINFALL, PATTERN NO. 1.91 WAS USED TO FIND TC & R FOR THIS BASIN
763           KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF .978
764           BA   2.385
765           LG    .244    .340   3.820    .363   7.320
766           UC   1.729   1.054
767           UA      0       3       5       8      12      20      43      75      90      96
768           UA    100

769           KK   HC552
770           KM   COMBINE HYDROGRAPHS FROM SUB-BASIN 552 WITH ROUTED FLOW FROM 551
771           HC      2

772           KK   RM552
773           KM   NORMAL DEPTH STORAGE ROUTE FLOW FROM SUB-BASIN 552 THROUGH 553
774           KM           1) Reach Length = 5971 ft
775           RS      6    FLOW      -1
776           RC   .040    .040    .040    5971   .0055
777           RX      0     100     130     190     310     390     450     500
778           RY     56      54      50      48      48      50      52      56
              *
              *    ARROWHEAD RANCH DEVELOPMENT
              *
              *    This section of the model was developed by Dibble and Associates
              *    Consulting Engineers for the City of Glendale to address the Storm
              *    Drainage Plan for the Arrowhead Ranch Development.  The drainage
```

```
*    report was titled, "Specific Area Plan, Storm Drainage Plan for the
*    Arrowhead Ranch Development" and was prepared on April 20, 1992.
*
*    ARROWHEAD RANCH - SECTION 18/19 - SYSTEM II
*
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 779          KK     21S
 780          KM    SUB-BASIN 21
 781          BA    .035
 782          LS              82
 783          UD    .167

 784          KK    21RR
 785          KM    LAKE NO. 1
 786          RS       1    ELEV  1277.0
 787          SV     0.0     3.6     4.5     5.4     6.3     7.2
 788          SE  1277.0  1279.0  1279.5  1280.0  1280.5  1281.0
 789          SQ       0       0     5.4     8.5    10.4    12.0

 790          KK     22S
 791          KM    SUB-BASIN 22
 792          BA    .027
 793          LS              92
 794          UD    .167

 795          KK    HC22
 796          HC       2

 797          KK    22RR
 798          KM    LAKE NO. 2
 799          RS       1    ELEV  1276.5
 800          SV     0.0     0.3     0.7     1.2     1.6     2.2     2.7     3.3
 801          SE  1276.5  1277.0  1277.5  1278.0  1278.5  1279.0  1279.5  1280.0
 802          SQ       0     7.1    14.1    19.7    42.4    92.7   164.8   200.0

 803          KK     23S
 804          KM    SUB-BASIN 23
 805          BA    .009
 806          LS              86
 807          UD    .167

 808          KK    HC23
 809          HC       2

 810          KK    23RR
 811          KM    LAKE NO. 3
 812          RS       1    ELEV  1275.0
 813          SV     0.0      .3      .7     1.1     1.5    2.00     2.5
 814          SE  1275.0  1275.5  1276.0  1276.5  1277.0  1277.5  1278.0
 815          SQ       0     8.7    15.3    22.3    49.6   106.0   180.4

 816          KK     24S
 817          KM    SUB-BASIN 24
 818          BA    .006
 819          LS              87
 820          UD    .167
```

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

 821          KK    HC24
 822          HC       2

 823          KK    24RR
 824          KM    LAKE NO. 4
 825          RS       1    ELEV  1272.0
 826          SV       0      .3      .7     1.1     1.6     2.0     2.5
 827          SE  1272.0  1272.5  1273.0  1273.5  1274.0  1274.5  1275.0
 828          SQ       0     8.7    15.3    22.3    49.6   106.0   180.4

 829          KK     25S
 830          KM    SUB-BASIN 25
 831          BA    .051
 832          LS              85
 833          UD    .167

 834          KK    HC25
 835          HC       2

 836          KK    25RR
 837          KM    LAKE NO. 5
 838          RS       1    ELEV  1268.0
 839          SV       0    1.75     3.5    5.31     7.2    9.15    11.2    13.3
 840          SE  1267.5  1268.0  1268.5  1269.0  1269.5  1270.0  1270.5  1271.0
 841          SQ       0     0.8     4.1    8.16     9.5    13.4    16.4    19.0

 842          KK     27S
 843          KM    SUB-BASIN 27
 844          BA    .123
 845          LS              82
 846          UD    .167

 847          KK    27RR
 848          KM    DETENTION BASIN NO. 7
 849          RS       1    ELEV  1278.0
 850          SV       0     1.9     3.9     5.9     7.9     9.9    12.1
 851          SE  1278.0  1278.5  1279.0  1279.5  1280.0  1280.5  1281.5
 852          SQ       0     5.4     7.6     9.2    10.6    12.0    13.2

 853          KK     29S
 854          KM    COMBINE SUB-BASIN 28 & 29
 855          BA    .063
 856          LS              77
 857          UD    .167

 858          KK    HC29
 859          HC       2

 860          KK     30S
 861          KM    SUB-BASIN 30
 862          BA    .056
 863          LS              84
 864          UD    .167
```

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

 865          KK    30RR
 866          KM    DETENTION BASIN 10
 867          RS       1    ELEV  1265.0
 868          SV       0     .78    1.58    2.40    3.25    4.13    5.03
 869          SE  1265.0  1265.5  1266.0  1266.5  1267.0  1267.5  1268.0
 870          SQ       0     5.4     8.5    10.4    12.0    13.5    14.7

 871          KK    HC30
 872          HC       2

 873          KK     31S
 874          KM    SUB-BASIN 31
 875          BA    .053
 876          LS              77
 877          UD    .167

 878          KK    HC31
 879          HC       3

 880          KK     32S
 881          KM    COMBINE SUB-BASIN 26 & 32
 882          BA    .053
 883          LS              77
 884          UD    .167

 885          KK    HC32
 886          HC       2

 887          KK     34S
 888          KM    COMBINE SUB-BASIN 33 & 34
 889          BA    .076
 890          LS              77
 891          UD    .167

 892          KK    HC34
 893          KM    OUTFLOW FROM SYSTEM II
 894          HC       2
              *
              *    ARROWHEAD RANCH - SECTION 18 - SYSTEM III
              *

 895          KK     41S
 896          KM    SUB-BASIN 41
 897          BA    .023
 898          LS              86
 899          UD    .167

 900          KK     42S
 901          KM    SUB-BASIN 42
 902          BA    .070
 903          LS              80
 904          UD    .167
```

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

905           KK    HC42
906           HC       2

907           KK    42RR
908           KM    LAKE NO. 1
909           RS       1    ELEV  1303.0
910           SV       0    1.32    2.66    4.05    5.49
911           SE  1303.0  1303.5  1304.0  1304.5  1305.0
912           SQ       0    12.0    13.5    15.4    29.6

913           KK     43S
914           KM    SUB-BASIN 43
915           BA    .007
916           LS              68
917           UD    .167

918           KK    HC43
919           HC       2

920           KK     44S
921           KM    SUB-BASIN 44
922           BA    .034
923           LS              81
924           UD    .167

925           KK    HC44
926           HC       2

927           KK     45S
928           KM    SUB-BASIN 45
929           BA    .017
930           LS              92
931           UD    .167

932           KK     46S
933           KM    SUB-BASIN 46
934           BA    .057
935           LS              85
936           UD    .167

937           KK    HC46
938           HC       2

939           KK    46RR
940           KM    LAKE NO. 3
941           RS       1    ELEV  1300.0
942           SV       0    1.39    2.81    4.30    5.86    7.44    9.19   10.97   12.81
943           SE  1300.0  1300.5  1301.0  1301.5  1302.0  1302.5  1303.0  1303.5  1304.0
944           SQ       0   11.32   18.50   24.75   68.41  175.58  515.84  478.47  662.59
```

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

945           KK     47S
946           KM    SUB-BASIN 47
947           BA    .034
948           LS              84
949           UD    .167

950           KK   HC47A
951           HC       2

952           KK   HC47B
953           HC       2

954           KK    47RR
955           KM    LAKE NO. 2
956           RS       1    ELEV  1289.0
957           SV       0     1.2    2.42    3.67    4.95
958           SE  1289.0  1289.5  1290.0  1290.5  1291.0
959           SQ       0     6.5    17.2    51.0   118.5

960           KK     48S
961           KM    SUB-BASIN 48
962           BA    .057
963           LS              83
964           UD    .167

965           KK    HC48
966           HC       2

967           KK    48RR
968           KM    LAKE NO. 4
969           RS       1    ELEV  1287.0
970           SV       0     .45     .90    1.37    1.85
971           SE  1287.0  1287.5  1288.0  1288.5  1289.0
972           SQ       0   34.65   79.50  127.20  170.70

973           KK     49S
974           KM    SUB-BASIN 49
975           BA    .037
976           LS              61
977           UD    .167

978           KK    HC49
979           HC       2

980           KK     50S
981           KM    SUB-BASIN 50
982           BA    .022
983           LS              84
984           UD    .167
```

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

  985         KK    HC50
  986         HC       2

  987         KK     52S
  988         KM    SUB-BASIN 52
  989         BA    .010
  990         LS              92
  991         UD    .167

  992         KK     53S
  993         KM    SUB-BASIN 53
  994         BA    .030
  995         LS              87
  996         UD    .167

  997         KK    HC53
  998         HC       2

  999         KK    53RR
 1000         KM    LAKE NO. 5
 1001         RS       1    ELEV  1297.0
 1002         SV       0     .44     .89    1.38    1.89    2.43    3.00    3.60    4.23
 1003         SE  1297.0  1297.5  1298.0  1298.5  1299.0  1299.5  1300.0  1300.5  1301.0
 1004         SQ       0    8.15   14.50   28.24   64.15  117.14  178.85  250.28  329.60

 1005         KK     54S
 1006         KM    SUB-BASIN 54
 1007         BA    .027
 1008         LS              92
 1009         UD    .167

 1010         KK     55S
 1011         KM    SUB-BASIN 55
 1012         BA    .020
 1013         LS              88
 1014         UD    .167

 1015         KK   HC55A
 1016         HC       2

 1017         KK   HC55B
 1018         HC       2

 1019         KK    55RR
 1020         KM    LAKE NO. 6
 1021         RS       1    ELEV  1294.0
 1022         SV       0     .62    1.25    1.90    2.60    3.33    4.99    5.70
 1023         SE  1294.0  1294.5  1295.0  1295.5  1296.0  1296.5  1297.5  1298.0
 1024         SQ       0    8.15   21.60   59.15  110.62  172.74  323.46  410.25
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1025          KK     56S
1026          KM    SUB-BASIN 56
1027          BA    .040
1028          LS              83
1029          UD    .167

1030          KK     57S
1031          KM    SUB-BASIN 57
1032          BA    .104
1033          LS              82
1034          UD    .167

1035          KK   HC57A
1036          HC       2

1037          KK   HC57B
1038          HC       2

1039          KK    57RR
1040          KM    LAKE NO. 7
1041          RS       1    ELEV  1290.0
1042          SV       0     .42     .85    1.32    1.81    2.35
1043          SE  1290.0  1290.5  1291.0  1291.5  1292.0  1292.5
1044          SQ       0   55.37  139.73  246.52  361.01  489.63

1045          KK     58S
1046          KM    SUB-BASIN 58
1047          BA    .006
1048          LS              79
1049          UD    .167

1050          KK    HC58
1051          HC       2

1052          KK     51S
1053          KM    SUB-BASIN 51
1054          BA    .128
1055          LS              85
1056          UD    .167

1057          KK    HC51
1058          HC       3

1059          KK   51RR1
1060          KM    LAKE NO.8
1061          RS       1    ELEV  1277.0
1062          SV       0    3.63    7.31   11.10   14.99    19.0   27.29
1063          SE  1277.5  1278.0  1278.5  1279.0  1279.5  1280.0  1280.5
1064          SQ       0   47.73  149.77  274.47  422.96  590.56  776.30
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1065          KK   51RR2
1066          KM    LAKE NO. 9
1067          RS       1    ELEV  1273.0
1068          SV       0     .79    1.58    2.41    3.26
1069          SE  1273.0  1273.5  1274.0  1274.5  1275.0
1070          SQ       0   72.24  202.66  372.95  558.36

1071          KK     61S
1072          KM    COMBINE SUB-BASINS 59, 60 & 61
1073          BA    .124
1074          LS              77
1075          UD    .167

1076          KK    HC61
1077          HC       2

1078          KK    61RR
1079          KM    LAKE NO. 10
1080          RS       1    ELEV  1265.0
1081          SV       0     4.1    9.60   12.50    15.5    21.6    24.7    28.0    31.2    34.6
1082          SE  1265.0  1265.5  1266.5  1267.0  1267.5  1268.0  1268.5  1269.0  1269.5  1270.0
1083          SQ       0       0    36.0    54.0    72.0   105.0   204.4   359.2   539.2   746.9

1084          KK   HC570
1085          KM    COMBINE OUTFLOW FROM SYSTEM III WITH SYSTEM II
1086          HC       2
              *
              *
              *   CONCLUDE PORTION OF HEC-1 MODEL INPUT OBTAINED FROM ARROWHEAD RANCH
              *   DEVELOPMENT REPORT BY DIBBLE & ASSOCIATES.
              *
              *

1087          KK   RM570
1088          KM   NORMAL DEPTH STORAGE ROUTE FLOW FROM SUB-BASIN 570 THROUGH 571
1089          KM            1) Reach Length = 5301 ft
1090          RS       7    FLOW      -1
1091          RC    .030    .020    .030    5301   .0009
1092          RX      28      68      88     100     112     124     144     154
1093          RY     108     107     106     100     100     106     107     108

1094          KK    571S
1095          KM   RUNOFF GENERATED ON SUB-BASIN 571
1096          KM   THE FOLLOWING PARAMETERS WERE PROVIDED FOR THIS BASIN
1097          KM   L= 2.272 mi  S= 26 ft/mi  Kb= 0.044
1098          KM   CLARK UNIT HYDROGRAPH FOR NATURAL WATERSHEDS WAS USED FOR THIS BASIN
1099          KM   6-HOUR RAINFALL, PATTERN NO. 1.57 WAS USED TO FIND TC & R FOR THIS BASIN
1100          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF .985
1101          BA   1.345
1102          LG    .409    .109   5.980    .266   9.130
1103          UC   1.038    .628
1104          UA       0       3       5       8      12      20      43      75      90      96
1105          UA     100
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```
LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1106          KK   HC571
1107          KM   COMBINE HYDROGRAPHS FROM SUB-BASIN 571 WITH ROUTED FLOW FROM 570
1108          HC       2

1109          KK   RM571
1110          KM   NORMAL DEPTH STORAGE ROUTE FLOW FROM SUB-BASIN 571 THROUGH 553
1111          KM            1) Reach Length = 3194 ft
1112          RS       3    FLOW      -1
1113          RC    .030    .020    .030    3194   .0009
1114          RX      28      68      88     100     112     124     144     154
1115          RY     108     107     106     100     100     106     107     108

1116          KK    553S
1117          KM   RUNOFF GENERATED ON SUB-BASIN 553
1118          KM   THE FOLLOWING PARAMETERS WERE USED FOR THIS BASIN
1119          KM   L= 1.052 mi  S= 38 ft/mi  Kb= 0.056
1120          KM   CLARK UNIT HYDROGRAPH FOR NATURAL WATERSHEDS WAS USED FOR THIS BASIN
1121          KM   6-HOUR RAINFALL, PATTERN NO. 1.36 WAS USED TO FIND TC & R FOR THIS BASIN
1122          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF .988
1123          BA    .933
1124          LG    .419    .165   5.360    .284   2.760
1125          UC    .608    .231
1126          UA       0       3       5       8      12      20      43      75      90      96
1127          UA     100

1128          KK   HC553
1129          KM   COMBINE HYDROGRAPHS FROM SUB-BASIN 553 WITH ROUTED FLOWS FROM 541, 552
1130          KM   AND 571
1131          HC       4

1132          KK   RM553
1133          KM   NORMAL DEPTH STORAGE ROUTE FLOW FROM SUB-BASIN 553 THROUGH 554
1134          KM            1) Reach Length = 5660 ft
1135          RS       5    FLOW      -1
1136          RC    .040    .040    .040    5660   .0041
1137          RX     100     150     210     240     300     350     370     400
1138          RY      36      34      28      22      22      24      30      36

1139          KK   554R1
1140          DR   554D1

1141          KK   554R2
1142          DR   554D2

1143          KK    554S
1144          KM   RUNOFF GENERATED ON SUB-BASIN 554
1145          KM   THE FOLLOWING PARAMETERS WERE PROVIDED FOR THIS BASIN
1146          KM   L= 1.531 mi  S= 25 ft/mi  Kb= 0.064
1147          KM   CLARK UNIT HYDROGRAPH FOR NATURAL WATERSHEDS WAS USED FOR THIS BASIN
1148          KM   6-HOUR RAINFALL, PATTERN NO. 1.04 WAS USED TO FIND TC & R FOR THIS BASIN
1149          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF .993
1150          BA    .540
1151          LG    .326    .248   3.610    .347  17.170
1152          UC   1.021    .756
```

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

1153        UA       0       3       5       8      12      20      43      75      90      96
1154        UA     100

1155        KK   HC554
1156        KM   COMBINE HYDROGRAPHS FROM SUB-BASIN 554 WITH ROUTED FLOWS FROM 553
1157        KM   AND DIVERTED FLOWS FROM 532 & 533
1158        HC       4

1159        KK   RM554
1160        KM   NORMAL DEPTH STORAGE ROUTE FLOW FROM SUB-BASIN 554 THROUGH 555
1161        KM            1) Reach Length = 5771 ft
1162        RS       6    FLOW      -1
1163        RC    .040    .040    .040    5771   .0047
1164        RX      80     100     160     220     240     250     480     500
1165        RY     104     104      96      92      92      96      97     104

1166        KK   555R1
1167        DR   555D1

1168        KK   555R2
1169        DR   555D2

1170        KK    555S
1171        KM   RUNOFF GENERATED ON SUB-BASIN 555
1172        KM   THE FOLLOWING PARAMETERS WERE PROVIDED FOR THIS BASIN
1173        KM   L= 1.108 mi  S= 34 ft/mi  Kb= 0.068
1174        KM   CLARK UNIT HYDROGRAPH FOR NATURAL WATERSHEDS WAS USED FOR THIS BASIN
1175        KM   6-HOUR RAINFALL, PATTERN NO. 1.04 WAS USED TO FIND TC & R FOR THIS BASIN
1176        KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF .993
1177        BA    .536
1178        LG    .326    .293   5.050    .252  11.750
1179        UC    .729    .404
1180        UA       0       3       5       8      12      20      43      75      90      96
1181        UA     100

1182        KK  HC555A
1183        KM   COMBINE HYDROGRAPHS FROM SUB-BASIN 555 WITH ROUTED FLOW FROM 554
1184        KM   AND DIVERTED FLOWS FROM 533 & 534
1185        HC       4
            *
            *
            *   BEGIN PORTION OF HEC-1 MODEL INPUT OBTAINED FROM ARROWHEAD RANCH
            *   DEVELOPMENT REPORT BY DIBBLE & ASSOCIATES.
            *
            *
            *    ARROWHEAD RANCH - SECTION 25/26 - SYSTEM VI
            *

1186        KK     91S
1187        KM    SUB-BASIN 91
1188        BA    .069
1189        LS              77
1190        UD     .20
```

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

1191          KK     92S
1192          KM    SUB-BASIN 92
1193          BA    .033
1194          LS              84
1195          UD    .167

1196          KK    HC92
1197          HC       2

1198          KK    92RR
1199          KM    LAKE NO. 2
1200          RS       1    ELEV  1242.0
1201          SV     0.0     2.9     4.4     5.9     7.4     9.0    10.6    18.5    20.3    22.1
1202          SE  1242.0  1243.0  1243.5  1244.0  1244.5  1245.0  1245.5  1247.8  1248.3  1248.8
1203          SQ       0     .02     .03     .04     .05     .06     .07     .08    49.0   140.0

1204          KK     93S
1205          KM    SUB-BASIN 93
1206          BA    .061
1207          LS              71
1208          UD     .20

1209          KK    HC93
1210          HC       2

1211          KK    93RR
1212          KM    LAKE NO. 3
1213          RS       1    ELEV  1236.0
1214          SV     0.0     2.3     4.6     6.9     9.3    11.7    14.2
1215          SE  1236.0  1236.5  1237.0  1237.5  1238.0  1238.5  1239.0
1216          SQ       0     5.4     8.5    10.4    12.0    13.5    14.7

1217          KK     94S
1218          KM    SUB-BASIN 94
1219          BA    .077
1220          LS              76
1221          UD     .20

1222          KK    HC94
1223          HC       2

1224          KK     95S
1225          KM    SUB-BASIN 95
1226          BA    .068
1227          LS              75
1228          UD    .167

1229          KK    HC95
1230          HC       2
```

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

1231          KK     96S
1232          KM    SUB-BASIN 96
1233          BA    .086
1234          LS              84
1235          UD    .300

1236          KK    96RR
1237          KM    LAKE NO. 4
1238          RS       1    ELEV  1237.0
1239          SV     0.0     1.7     3.4     5.2     7.0     8.8    10.7
1240          SE  1237.0  1237.5  1238.0  1238.5  1239.0  1239.5  1240.0
1241          SQ     0.0     7.2    15.1    18.5    21.4    23.9    26.2

1242          KK     97S
1243          KM    SUB-BASIN 97
1244          BA    .071
1245          LS              71
1246          UD    .800

1247          KK    HC97
1248          HC       3

1249          KK    97RR
1250          KM    LAKE NO. 5
1251          RS       1    ELEV  1230.0
1252          SV     0.0     1.8     3.7     5.6     7.5     9.4    11.4    14.7    16.8    19.0
1253          SE  1230.0  1230.5  1231.0  1231.5  1232.0  1232.5  1233.0  1233.8  1234.3  1234.8
1254          SQ     0.0    0.01    0.02    0.03    0.04    0.05    0.06    0.08   124.0   350.0

1255          KK     98S
1256          KM    SUB-BASIN 98
1257          BA    .018
1258          LS              84
1259          UD    .167

1260          KK    98RR
1261          KM    LAKE NO. 6
1262          RS       1    ELEV  1230.0
1263          SV     0.0     0.5     1.1     1.7     2.3     2.9     3.5
1264          SE  1230.0  1230.5  1231.0  1231.5  1232.0  1232.5  1233.0
1265          SQ     0.0     7.2    15.1    18.5    21.4    23.9    26.2

1266          KK    HC98
1267          HC       2

1268          KK     99S
1269          KM    SUB-BASIN 99
1270          BA    .047
1271          LS              77
1272          UD    .167
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LINE        ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1273        KK    HC99
1274        HC       2

1275        KK    99RR
1276        KM    LAKE NO.7
1277        RS       1    ELEV  1229.0
1278        SV     0.0     1.9     3.8     5.8     7.8     9.8    11.9
1279        SE  1229.0  1229.5  1230.0  1230.5  1231.0  1231.5  1232.0
1280        SQ     0.0     7.2    15.1    18.5    21.4    23.9    26.2

1281        KK     90S
1282        KM    SUB-BASIN 90
1283        BA    .077
1284        LS              77
1285        UD    .300

1286        KK   HC580
1287        KM    OUTFLOW FROM SYSTEM VI
1288        HC       2
            *
            *
            *   CONCLUDE PORTION OF HEC-1 MODEL INPUT OBTAINED FROM ARROWHEAD RANCH
            *   DEVELOPMENT REPORT BY DIBBLE & ASSOCIATES.
            *
            *

1289        KK   RM580
1290        KM   NORMAL DEPTH STORAGE ROUTE FLOW FROM SUB-BASIN 580 THROUGH 581
1291        KM            1) Reach Length = 5515 ft
1292        RS       8    FLOW      -1
1293        RC    .030    .020    .030    5515   .0047
1294        RX     148     168     188     200     208     220     260     300
1295        RY     110     107     106     100     100     106     108     109

1296        KK    581S
1297        KM   RUNOFF GENERATED ON SUB-BASIN 581
1298        KM   THE FOLLOWING PARAMETERS WERE PROVIDED FOR THIS BASIN
1299        KM   L= 1.836 mi  S= 15 ft/mi  Kb= 0.033
1300        KM   CLARK UNIT HYDROGRAPH FOR URBAN WATERSHEDS WAS USED FOR THIS BASIN
1301        KM   6-HOUR RAINFALL, PATTERN NO. 1.29 WAS USED TO FIND TC & R FOR THIS BASIN
1302        KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF .989
1303        BA    .823
1304        LG    .206    .184   3.920    .429  54.370
1305        UC    .833    .549
1306        UA       0       5      16      30      65      77      84      90      94      97
1307        UA     100

1308        KK   HC581
1309        KM   COMBINE HYDROGRAPHS FROM SUB-BASIN 581 WITH ROUTED FLOW FROM 580
1310        HC       2
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1311          KK  HC555B
1312          KM   COMBINE HYDROGRAPHS FROM SUB-BASIN 555 WITH 581
1313          HC       2

1314          KK   RM555
1315          KM   NORMAL DEPTH STORAGE ROUTE FLOW FROM SUB-BASIN 555 & 581 THROUGH 556
1316          KM            1) Reach Length = 7336 ft
1317          RS       7    FLOW      -1
1318          RC    .040    .040    .040    7336   .0054
1319          RX       0      20      80     250     440     480     530     560
1320          RY      84      80      76      74      74      80      90      92

1321          KK    556R
1322          DR    556D

1323          KK    556S
1324          KM   RUNOFF GENERATED ON SUB-BASIN 556
1325          KM   THE FOLLOWING PARAMETERS WERE PROVIDED FOR THIS BASIN
1326          KM   L= 1.379 mi  S= 26 ft/mi  Kb= 0.053
1327          KM   CLARK UNIT HYDROGRAPH FOR URBAN WATERSHEDS WAS USED FOR THIS BASIN
1328          KM   6-HOUR RAINFALL, PATTERN NO. 1.06 WAS USED TO FIND TC & R FOR THIS BASIN
1329          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF .993
1330          BA    .558
1331          LG    .426    .110   3.920    .514   8.400
1332          UC    .833    .545
1333          UA       0       5      16      30      65      77      84      90      94      97
1334          UA     100

1335          KK  HC556A
1336          KM   COMBINE HYDROGRAPHS FROM SUB-BASIN 556 WITH ROUTED FLOWS FROM 535,
1337          KM   556 & 581.  ALSO, TOTAL FLOW FROM NEW RIVER UPSTREAM OF ITS CONFLUENCE
1338          KM   WITH SKUNK CREEK.
1339          HC       4

1340          KK    408S
1341          KM   RUNOFF GENERATED ON SUB-BASIN 408
1342          KM   THE FOLLOWING PARAMETERS WERE PROVIDED FOR THIS BASIN
1343          KM   L= 1.935 mi  S= 22 ft/mi  Kb= 0.057
1344          KM   CLARK UNIT HYDROGRAPH FOR URBAN WATERSHEDS WAS USED FOR THIS BASIN
1345          KM   6-HOUR RAINFALL, PATTERN NO. 1.44 WAS USED TO FIND TC & R FOR THIS BASIN
1346          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF .986
1347          BA   1.076
1348          LG    .298    .275   3.870    .415  18.170
1349          UC   1.521    .958
1350          UA       0       5      16      30      65      77      84      90      94      97
1351          UA     100
1352          ZZ
```

SCHEMATIC DIAGRAM OF STREAM NETWORK

```
NO.   (V) ROUTING          (--->) DIVERSION OR PUMP FLOW
      (.) CONNECTOR        (<---) RETURN OF DIVERTED OR PUMPED FLOW

 10    500S
          V
          V
 30    RM500
          .
          .
 37       .        501S
          .           .
          .           .
 49    HC501............
          V
          V
 52    RM501
          .
          .
 59       .        502S
          .           .
          .           .
 71       .           .        510S
          .           .           V
          .           .           V
          .           .       RM510
          .           .           .
          .           .           .
 90       .           .           .        511S
          .           .           .           .
          .           .           .           .
102       .           .       HC511............
          .           .           V
          .           .           V
105       .           .       RM511
          .           .           .
          .           .           .
112       .           .           .        512S
          .           .           .           .
          .           .           .           .
124       .           .      HC512A............
          .           .           .
          .           .           .
129       .           .           .-------->    533D
127       .           .       502RE
          .           .           .
          .           .           .
132    HC502........................
          V
          V
 5     RM502
          .
          .
142       .        503S
          .           .
          .           .
153    HC503............
```

```
            V
            V
156      503RR
            V
            V
165      RM503
            .
            .
173         .          .<-------    533D
171         .       533R
            .          .
            .          .
174         .          .        533A
            .          .           .
            .          .           .
182         .     HC512B............
            .          V
            .          V
185         .      RM512
            .          .
            .          .
192         .          .        533B
            .          .           V
            .          .           V
199         .          .      533RR1
            .          .           .
            .          .           .
206         .     HC533A............
            .          .
            .          .
209         .          .        520S
            .          .           .
            .          .           .
224         .          .           .-------->    530D
221         .          .      520RE
            .          .           V
            .          .           V
227         .          .      RM520
            .          .           .
            .          .           .
234         .          .           .        521S
            .          .           .           .
            .          .           .           .
246         .          .      HC521............
            .          .           V
            .          .           V
249         .          .      RM521
            .          .           .
            .          .           .
256         .          .           .        522S
            .          .           .           .
            .          .           .           .
268         .          .      HC522............
            .          .           .
            .          .           .
272         .          .           .        533C
            .          .           .           .
            .          .           .           .
280         .          .     HC533B............
            .          .           V
```

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                 .         .         V
283              .         .     533RR2
                 .         .         .
                 .         .         .
                 .         .         .       533D
                 .         .         .         .
                 .         .         .         .
296              .         .     HC533C............
                 .         .         V
                 .         .         V
299              .         .     533RR3
                 .         .         .
                 .         .         .
305              .         .         .       533E
                 .         .         .         .
                 .         .         .         .
312              .         .     HC533D............
                 .         .         V
                 .         .         V
315              .         .     533RR4
                 .         .         .
                 .         .         .
321              .         .         .       530S
                 .         .         .         .
                 .         .         .         .
335              .         .         .         .          .<-------    530D
333              .         .         .         .       R530
                 .         .         .         .          .
                 .         .         .         .          .
                 .         .         .      HC530............
                 .         .         .         V
                 .         .         .         V
339              .         .         .      RM530
                 .         .         .         .
                 .         .         .         .
346              .         .         .         .       531S
                 .         .         .         .          .
                 .         .         .         .          .
358              .         .         .      HC531............
                 .         .         .         V
                 .         .         .         V
361              .         .         .      RM531
                 .         .         .         .
                 .         .         .         .
368              .         .         .         .       532S
                 .         .         .         .          .
                 .         .         .         .          .
380              .         .         .      HC532............
                 .         .         .         .
                 .         .         .         .
385              .         .         .         .------->   554D1
383              .         .         .      532RE
                 .         .         .         .
                 .         .         .         .
                 .         .         .         .       533F
                 .         .         .         .          .
                 .         .         .         .          .
395              .         .         .     HC533E............
                 .         .         .         .
                 .         .         .         .
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398   .     .     .     .     533G
      .     .     .     .       .
      .     .     .     .       .
5     .     .     .  HC533F............
      .     .     .     V
      .     .     .     V
408   .     .     .  533RR6
      .     .     .     .
      .     .     .     .
415   .     .  HC533G............
      .     .     V
      .     .     V
418   .     .  RM522B
      .     .     .
      .     .     .
423   .     .     .     533H
      .     .     .       .
      .     .     .       .
430   .     .  HC533H............
      .     .     .
      .     .     .
432   .     .     .     533I
      .     .     .       V
      .     .     .       V
439   .     .     .  533RR8
      .     .     .       .
      .     .     .       .
445   .     .  HC533I............
      .     .     V
      .     .     V
.48   .     .  RM522C
      .     .     .
      .     .     .
454   .     .     .     533J
      .     .     .       .
      .     .     .       .
461   .     .  HC533J............
      .     .     .
      .     .     .
463   .     .     .     533K
      .     .     .       V
      .     .     .       V
470   .     .     .  533RR9
      .     .     .       .
      .     .     .       .
476   .     .  HC533K............
      .     .     .
      .     .     .
482   .     .     .-------> 554D2
480   .     .  533RE1
      .     .     .
      .     .     .
488   .     .     .-------> 555D1
485   .     .  533RE2
      .     .     .
      .     .     .
496   .     .     .-------> 534D1
491   .     .  533RE3
      .     .     .
      .     .     .
```

```
503          .          .          .-------->   534D2
499          .          .     533RE4
             .          .          V
             .          .          V
 6           .          .     RM533C
             .          .          .
             .          .          .
511     HC533L.......................
             V
             V
514     RM533D
             .
             .
523          .          .<-------   534D1
521          .      534R1
             .          V
             .          V
524          .     RM533E
             .          .
             .          .
532          .          .-------->   555D2
530          .     533RE6
             .          .
             .          .
538          .          .-------->    535D
535          .     533RE7
             .          V
             .          V
 1           .     RM533F
             .          .
             .          .
549          .          .          .<-------   534D2
547          .          .      534R2
             .          .          V
             .          .          V
550          .          .     RM533G
             .          .          .
             .          .          .
555          .          .          .       534S
             .          .          .          .
             .          .          .          .
567      HC534.................................
             V
             V
570     RM534A
             .
             .
578          .          .<-------    535D
577          .       535R
             .          .
             .          .
581          .          .-------->    556D
579          .      535RE
             .          V
             .          V
34           .     RM534C
             .          V
             .          V
589          .     RM534E
             .          .
             .          .
```

```
          .          .
595       .          .       535S
          .          .          .
          .          .          .
 7    HC535.......................
          .
          .
614       .-------> DV91S
610  535RE
         V
         V
617  RM535
          .
          .
624       .       540S
          .          V
          .          V
644       .      RM540
          .          .
          .          .
651       .          .       541S
          .          .          .
          .          .          .
663       .      HC541............
          .          V
          .          V
666       .      RM541
          .          .
          .          .
 73       .          .       542S
          .          .          .
          .          .          .
685       .      HC542............
          .          V
          .          V
688       .      RM542
          .          .
          .          .
695       .          .       550S
          .          .          V
          .          .          V
708       .          .      RM550
          .          .          .
          .          .          .
715       .          .          .      560S
          .          .          .         V
          .          .          .         V
728       .          .          .     RM560
          .          .          .          .
          .          .          .          .
735       .          .          .          .       551S
          .          .          .          .          .
          .          .          .          .          .
 7        .          .      HC551.......................
          .          .          V
          .          .          V
750       .          .      RM551
          .          .          .
          .          .          .
757       .          .          .      552S
```

```
                .         .         .         .
                .         .         .         .
749             .         .     HC552............
                .         .         V
                .         .         V
772             .         .     RM552
                .         .         .
                .         .         .
779             .         .         .       21S
                .         .         .         V
                .         .         .         V
784             .         .         .      21RR
                .         .         .         .
                .         .         .         .
790             .         .         .         .        22S
                .         .         .         .         .
                .         .         .         .         .
795             .         .         .      HC22............
                .         .         .         V
                .         .         .         V
797             .         .         .      22RR
                .         .         .         .
                .         .         .         .
803             .         .         .         .        23S
                .         .         .         .         .
                .         .         .         .         .
808             .         .         .      HC23............
                .         .         .         V
                .         .         .         V
10              .         .         .      23RR
                .         .         .         .
                .         .         .         .
816             .         .         .         .        24S
                .         .         .         .         .
                .         .         .         .         .
821             .         .         .      HC24............
                .         .         .         V
                .         .         .         V
823             .         .         .      24RR
                .         .         .         .
                .         .         .         .
829             .         .         .         .        25S
                .         .         .         .         .
                .         .         .         .         .
834             .         .         .      HC25............
                .         .         .         V
                .         .         .         V
836             .         .         .      25RR
                .         .         .         .
                .         .         .         .
842             .         .         .         .        27S
                .         .         .         .         V
                .         .         .         .         V
7               .         .         .         .       27RR
                .         .         .         .         .
                .         .         .         .         .
853             .         .         .         .         .        29S
                .         .         .         .         .         .
                .         .         .         .         .         .
858             .         .         .         .       HC29............
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860                                   30S
                                       V
                                       V
865                                  30RR
871                             HC30.........
873                                   31S
878                        HC31.............
880                             32S
885                        HC32.........
887                             34S
892                        HC34.........
895                             41S
900                                   42S
905                             HC42.........
                                  V
                                  V
907                             42RR
913                                   43S
918                             HC43.........
920                                   44S
925                             HC44.........
927                                   45S
932                                         46S
937                                   HC46.........
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                                                  V
                                                  V
939                                             46RR
                                                   .
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945                                                .        47S
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950                                             HC47A............
                                                   .
                                                   .
952                                        HC47B............
                                                V
                                                V
954                                        47RR
                                                .
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960                                             .        48S
                                                .          .
                                                .          .
965                                        HC48............
                                                V
                                                V
967                                        48RR
                                                .
                                                .
973                                             .        49S
                                                .          .
                                                .          .
 8                                         HC49............
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                                                .
980                                             .        50S
                                                .          .
                                                .          .
985                                        HC50............
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                                                .
987                                             .        52S
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                                                .          .
992                                             .          .        53S
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                                                .          .          .
997                                             .      HC53............
                                                .          V
                                                .          V
999                                             .      53RR
                                                .          .
                                                .          .
1005                                            .          .        54S
                                                .          .          .
                                                .          .          .
1010                                            .          .          .        55S
                                                .          .          .          .
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1015                                            .          .      HC55A............
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1017                                            .      HC55B............
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                 .         .         .         .         .         V
                 .         .         .         .         .         V
1019             .         .         .         .         .       55RR
                 .         .         .         .         .         .
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1025             .         .         .         .         .         .        56S
                 .         .         .         .         .         .         .
                 .         .         .         .         .         .         .
1030             .         .         .         .         .         .         .        57S
                 .         .         .         .         .         .         .         .
                 .         .         .         .         .         .         .         .
1035             .         .         .         .         .         .      HC57A............
                 .         .         .         .         .         .         .
                 .         .         .         .         .         .         .
1037             .         .         .         .         .      HC57B............
                 .         .         .         .         .         V
                 .         .         .         .         .         V
1039             .         .         .         .         .       57RR
                 .         .         .         .         .         .
                 .         .         .         .         .         .
1045             .         .         .         .         .         .        58S
                 .         .         .         .         .         .         .
                 .         .         .         .         .         .         .
1050             .         .         .         .         .       HC58............
                 .         .         .         .         .         .
                 .         .         .         .         .         .
1052             .         .         .         .         .         .        51S
                 .         .         .         .         .         .         .
                 .         .         .         .         .         .         .
                 .         .         .         .      HC51........................
                 .         .         .         .         V
                 .         .         .         .         V
1059             .         .         .         .      51RR1
                 .         .         .         .         V
                 .         .         .         .         V
1065             .         .         .         .      51RR2
                 .         .         .         .         .
                 .         .         .         .         .
1071             .         .         .         .         .       61S
                 .         .         .         .         .         .
                 .         .         .         .         .         .
1076             .         .         .         .      HC61............
                 .         .         .         .         V
                 .         .         .         .         V
1078             .         .         .         .      61RR
                 .         .         .         .         .
                 .         .         .         .         .
1084             .         .         .     HC570............
                 .         .         .         V
                 .         .         .         V
1087             .         .         .     RM570
                 .         .         .         .
                 .         .         .         .
1094             .         .         .         .      571S
                 .         .         .         .         .
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1106             .         .         .     HC571............
                 .         .         .         V
                 .         .         .         V
1109             .         .         .     RM571
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 16     .         .         .         .       553S
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        .         .         .         .         .
1128    .      HC553.................................
        .         V
        .         V
1132    .      RM553
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        .         .
1140    .         .         .<-------   554D1
1139    .         .      554R1
        .         .         .
        .         .         .
1142    .         .         .         .<-------   554D2
1141    .         .         .      554R2
        .         .         .         .
        .         .         .         .
1143    .         .         .         .       554S
        .         .         .         .         .
        .         .         .         .         .
1155    .      HC554.................................
        .         V
        .         V
1159    .      RM554
        .         .
        .         .
 57     .         .         .<-------   555D1
 56     .         .      555R1
        .         .         .
        .         .         .
1169    .         .         .         .<-------   555D2
1168    .         .         .      555R2
        .         .         .         .
        .         .         .         .
1170    .         .         .         .       555S
        .         .         .         .         .
        .         .         .         .         .
1182    .     HC555A................................
        .         .
        .         .
1186    .         .        91S
        .         .         .
        .         .         .
1191    .         .         .        92S
        .         .         .         .
        .         .         .         .
1196    .         .       HC92............
        .         .         V
        .         .         V
1198    .         .       92RR
        .         .         .
        .         .         .
 04     .         .         .        93S
        .         .         .         .
        .         .         .         .
1209    .         .       HC93............
        .         .         V
        .         .         V
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1211        .         .      93RR
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            .         .        .
            .         .        .        94S
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1222        .         .      HC94............
            .         .        .
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1224        .         .        .        95S
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1229        .         .      HC95............
            .         .        .
            .         .        .
1231        .         .        .        96S
            .         .        .          V
            .         .        .          V
1236        .         .        .       96RR
            .         .        .          .
            .         .        .          .
1242        .         .        .          .        97S
            .         .        .          .          .
            .         .        .          .          .
1247        .         .      HC97........................
            .         .        V
            .         .        V
            .         .      97RR
            .         .        .
            .         .        .
            .         .        .        98S
            .         .        .          V
            .         .        .          V
1260        .         .        .       98RR
            .         .        .          .
            .         .        .          .
1266        .         .      HC98............
            .         .        .
            .         .        .
1268        .         .        .        99S
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1273        .         .      HC99............
            .         .        V
            .         .        V
1275        .         .      99RR
            .         .        .
            .         .        .
1281        .         .        .        90S
            .         .        .          .
            .         .        .          .
1286        .         .     HC580............
            .         .        V
            .         .        V
            .         .     RM580
            .         .        .
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1296        .         .        .       581S
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1308          .          .       HC581............
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 1            .      HC555B............
              .          V
              .          V
1314          .       RM555
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1322          .          .          .<-------    556D
1321          .          .       556R
              .          .          .
              .          .          .
1323          .          .          .       556S
              .          .          .          .
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1335      HC556A...................................
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1340          .        408S
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(***) RUNOFF ALSO COMPUTED AT THIS LOCATION

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****************************************
*                                      *
*   FLOOD HYDROGRAPH PACKAGE  (HEC-1)  *
*             MAY   1991               *
*          VERSION 4.0.1E              *
*                                      *
*  RUN DATE  01/25/95  TIME  12:59:22  *
*                                      *
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****************************************
*                                      *
*    U.S. ARMY CORPS OF ENGINEERS      *
*    HYDROLOGIC ENGINEERING CENTER     *
*          609 SECOND STREET           *
*       DAVIS, CALIFORNIA 95616        *
*           (916) 551-1748             *
*                                      *
****************************************
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ACDC AREA DRAINAGE MASTER STUDY
FILENAME: NR368.DAT KHE JOB NO. 0146
WATERSHED CONTRIBUTING TO NEW RIVER UP TO ITS CONFLUENCE WITH
SKUNK CREEK

100-YEAR 6-HOUR DURATION STORM FOR EXISTING CONDITIONS

```
9 IO        OUTPUT CONTROL VARIABLES
                 IPRNT          5  PRINT CONTROL
                 IPLOT          0  PLOT CONTROL
                 QSCAL         0.  HYDROGRAPH PLOT SCALE

  IT        HYDROGRAPH TIME DATA
                  NMIN          3  MINUTES IN COMPUTATION INTERVAL
                 IDATE      1   0  STARTING DATE
                 ITIME       0000  STARTING TIME
                    NQ        500  NUMBER OF HYDROGRAPH ORDINATES
                NDDATE      2   0  ENDING DATE
                NDTIME       0057  ENDING TIME
                 ICENT         19  CENTURY MARK

            COMPUTATION INTERVAL    0.05 HOURS
                 TOTAL TIME BASE   24.95 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
```

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	500S	162.	4.80	40.	10.	10.	0.41		
ROUTED TO	RM500	157.	5.20	40.	10.	10.	0.41	100.56	5.20
HYDROGRAPH AT	501S	246.	4.75	46.	12.	11.	0.52		
2 COMBINED AT	HC501	331.	5.00	86.	22.	21.	0.93		
ROUTED TO	RM501	315.	5.55	84.	22.	21.	0.93	100.91	5.55
HYDROGRAPH AT	502S	172.	5.20	52.	13.	13.	0.55		
HYDROGRAPH AT	510S	383.	4.50	71.	18.	17.	0.63		
ROUTED TO	RM510	374.	4.80	71.	18.	17.	0.63	100.26	4.80
HYDROGRAPH AT	511S	227.	4.70	44.	11.	11.	0.44		
2 COMBINED AT	HC511	599.	4.75	114.	29.	28.	1.06		
ROUTED TO	RM511	583.	5.05	114.	29.	28.	1.06	100.61	5.05
HYDROGRAPH AT	512S	204.	4.95	50.	12.	12.	0.47		
2 COMBINED AT	HC512A	781.	5.05	164.	41.	40.	1.53		
DIVERSION TO	533D	391.	5.05	82.	21.	20.	1.53		
HYDROGRAPH AT	502RE	391.	5.05	82.	21.	20.	1.53		
3 COMBINED AT	HC502	757.	5.25	217.	55.	53.	3.02		
ROUTED TO	RM502	749.	5.55	216.	55.	53.	3.02	101.01	5.55
HYDROGRAPH AT	503S	572.	4.85	172.	44.	43.	0.95		
2 COMBINED AT	HC503	1114.	5.45	379.	100.	96.	3.97		
ROUTED TO	503RR	25.	5.15	25.	21.	21.	3.97	29.65	10.10
ROUTED TO	RM503	25.	6.10	25.	21.	20.	3.97	100.28	6.25
HYDROGRAPH AT	533R	391.	5.05	82.	21.	20.	0.00		
HYDROGRAPH AT	533A	11.	4.05	2.	0.	0.	0.01		
2 COMBINED AT	HC512B	391.	5.00	83.	21.	20.	0.01		
ROUTED TO	RM512	385.	5.10	83.	21.	20.	0.01	101.47	5.10
HYDROGRAPH AT	533B	320.	4.10	61.	15.	15.	0.28		

ROUTED TO	533RR1	42.	5.15	32.	15.	15.	0.28	32.43	5.15
2 COMBINED AT	HC533A	428.	5.10	115.	36.	35.	0.29		
HYDROGRAPH AT	520S	563.	4.25	83.	21.	20.	0.68		
DIVERSION TO	530D	137.	4.25	40.	10.	10.	0.68		
HYDROGRAPH AT	520RE	426.	4.25	43.	11.	10.	0.68		
ROUTED TO	RM520	401.	4.55	43.	11.	10.	0.68	101.58	4.55
HYDROGRAPH AT	521S	611.	4.35	107.	27.	26.	0.62		
2 COMBINED AT	HC521	970.	4.45	150.	38.	36.	1.29		
ROUTED TO	RM521	918.	4.80	149.	38.	36.	1.29	101.61	4.80
HYDROGRAPH AT	522S	276.	4.80	61.	15.	15.	0.51		
2 COMBINED AT	HC522	1194.	4.80	211.	53.	51.	1.80		
HYDROGRAPH AT	533C	150.	4.20	28.	7.	7.	0.12		
2 COMBINED AT	HC533B	1259.	4.80	238.	60.	58.	1.92		
ROUTED TO	533RR2	1057.	5.00	233.	60.	58.	1.92	37.63	5.00
HYDROGRAPH AT	533D	98.	4.50	25.	6.	6.	0.10		
2 COMBINED AT	HC533C	1127.	5.00	257.	66.	64.	2.02		
ROUTED TO	533RR3	1076.	5.15	179.	58.	56.	2.02	36.84	5.15
HYDROGRAPH AT	533E	16.	4.10	3.	1.	1.	0.01		
2 COMBINED AT	HC533D	1077.	5.15	180.	58.	56.	2.04		
ROUTED TO	533RR4	1058.	5.25	180.	58.	56.	2.04	36.63	5.25
HYDROGRAPH AT	530S	926.	4.15	126.	32.	30.	0.82		
HYDROGRAPH AT	R530	137.	3.85	40.	10.	10.	0.00		
2 COMBINED AT	HC530	1063.	4.15	166.	42.	40.	0.82		
ROUTED TO	RM530	1007.	4.40	165.	42.	40.	0.82	101.66	4.40
HYDROGRAPH AT	531S	689.	4.50	149.	37.	36.	0.65		
2 COMBINED AT	HC531	1682.	4.45	314.	79.	76.	1.47		
ROUTED TO	RM531	1617.	4.75	313.	79.	76.	1.47	102.27	4.75
HYDROGRAPH AT	532S	524.	4.50	108.	27.	26.	0.52		
2 COMBINED AT	HC532	2082.	4.70	421.	106.	102.	2.00		
DIVERSION TO	554D1	1457.	4.70	294.	74.	71.	2.00		

HYDROGRAPH AT	532RE	625.	4.70	126.	32.	31.	2.00		
HYDROGRAPH AT	533F	77.	4.15	14.	3.	3.	0.06		
2 COMBINED AT	HC533E	653.	4.70	139.	35.	34.	2.06		
HYDROGRAPH AT	533G	89.	4.15	17.	4.	4.	0.08		
2 COMBINED AT	HC533F	694.	4.70	154.	39.	38.	2.14		
ROUTED TO	533RR6	637.	4.85	103.	38.	36.	2.14	33.68	4.85
2 COMBINED AT	HC533G	1502.	5.15	283.	96.	92.	4.18		
ROUTED TO	RM522B	1493.	5.25	283.	95.	92.	4.18	103.03	5.25
HYDROGRAPH AT	533H	47.	4.10	9.	2.	2.	0.03		
2 COMBINED AT	HC533H	1497.	5.25	287.	98.	94.	4.21		
HYDROGRAPH AT	533I	97.	4.30	21.	5.	5.	0.08		
ROUTED TO	533RR8	20.	5.35	17.	5.	5.	0.08	30.31	5.40
2 COMBINED AT	HC533I	1517.	5.25	303.	103.	99.	4.29		
ROUTED TO	RM522C	1511.	5.30	303.	103.	99.	4.29	102.41	5.30
HYDROGRAPH AT	533J	49.	4.05	9.	2.	2.	0.03		
2 COMBINED AT	HC533J	1514.	5.30	309.	105.	101.	4.33		
HYDROGRAPH AT	533K	67.	4.15	12.	3.	3.	0.06		
ROUTED TO	533RR9	21.	4.75	11.	3.	3.	0.06	28.42	4.75
2 COMBINED AT	HC533K	1534.	5.30	320.	108.	104.	4.38		
DIVERSION TO	554D2	100.	5.30	51.	13.	12.	4.38		
HYDROGRAPH AT	533RE1	1434.	5.30	269.	95.	92.	4.38		
DIVERSION TO	555D1	319.	5.30	47.	12.	11.	4.38		
HYDROGRAPH AT	533RE2	1115.	5.30	222.	83.	80.	4.38		
DIVERSION TO	534D1	330.	5.30	48.	12.	12.	4.38		
HYDROGRAPH AT	533RE3	785.	5.30	174.	71.	69.	4.38		
DIVERSION TO	534D2	392.	5.30	56.	14.	13.	4.38		
HYDROGRAPH AT	533RE4	392.	5.30	118.	57.	55.	4.38		
ROUTED TO	RM533C	390.	5.35	118.	57.	55.	4.38	101.81	5.35
3 COMBINED AT	HC533L	802.	5.30	253.	114.	110.	8.64		
ROUTED TO	RM533D	782.	5.50	253.	113.	109.	8.64	101.85	5.50

HYDROGRAPH AT	534R1	330.	5.30	48.	12.	12.	0.00		
ROUTED TO	RM533E	324.	5.50	48.	12.	12.	0.00	101.37	5.50
DIVERSION TO	555D2	150.	5.50	33.	8.	8.	0.00		
HYDROGRAPH AT	533RE6	174.	5.50	15.	4.	4.	0.00		
DIVERSION TO	535D	114.	5.50	11.	3.	3.	0.00		
HYDROGRAPH AT	533RE7	60.	5.50	4.	1.	1.	0.00		
ROUTED TO	RM533F	53.	5.65	4.	1.	1.	0.00	100.78	5.65
HYDROGRAPH AT	534R2	392.	5.30	56.	14.	13.	0.00		
ROUTED TO	RM533G	386.	5.45	56.	14.	13.	0.00	101.42	5.45
HYDROGRAPH AT	534S	601.	4.65	163.	41.	40.	0.90		
4 COMBINED AT	HC534	1472.	5.50	465.	169.	163.	9.54		
ROUTED TO	RM534A	1463.	5.60	465.	168.	162.	9.54	102.47	5.60
HYDROGRAPH AT	535R	114.	5.50	11.	3.	3.	0.00		
DIVERSION TO	556D	63.	5.50	6.	2.	1.	0.00		
HYDROGRAPH AT	535RE	50.	5.50	5.	1.	1.	0.00		
ROUTED TO	RM534C	49.	5.55	5.	1.	1.	0.00	100.70	5.55
ROUTED TO	RM534E	48.	5.70	5.	1.	1.	0.00	100.80	5.70
HYDROGRAPH AT	535S	604.	4.25	113.	28.	27.	0.64		
3 COMBINED AT	HC535	1547.	5.60	571.	198.	190.	10.18		
DIVERSION TO	DV91S	269.	5.60	17.	4.	4.	10.18		
HYDROGRAPH AT	535RE	1279.	5.60	554.	193.	186.	10.18		
ROUTED TO	RM535	1277.	5.65	554.	193.	186.	10.18	105.70	5.65
HYDROGRAPH AT	540S	840.	5.35	245.	62.	60.	2.24		
ROUTED TO	RM540	829.	5.60	245.	62.	60.	2.24	21.64	5.60
HYDROGRAPH AT	541S	173.	4.80	36.	9.	9.	0.47		
2 COMBINED AT	HC541	900.	5.55	281.	71.	68.	2.71		
ROUTED TO	RM541	891.	5.75	280.	71.	68.	2.71	89.66	5.75
HYDROGRAPH AT	542S	252.	4.60	45.	11.	11.	0.49		
2 COMBINED AT	HC542	926.	5.70	323.	82.	79.	3.20		
ROUTED TO	RM542	917.	5.95	321.	82.	79.	3.20	67.53	5.95

HYDROGRAPH AT	550S	3233.	4.70	2504.	2389.	2387.	1.95		
ROUTED TO	RM550	3203.	5.00	2504.	2389.	2387.	1.95	28.78	5.00
HYDROGRAPH AT	560S	795.	4.40	126.	32.	30.	1.12		
ROUTED TO	RM560	722.	5.05	126.	32.	30.	1.12	90.58	5.05
HYDROGRAPH AT	551S	362.	5.20	101.	25.	24.	1.45		
3 COMBINED AT	HC551	4262.	5.05	2728.	2445.	2442.	4.51		
ROUTED TO	RM551	4223.	5.25	2728.	2445.	2442.	4.51	79.12	5.25
HYDROGRAPH AT	552S	755.	5.35	246.	63.	61.	2.38		
2 COMBINED AT	HC552	4962.	5.25	2974.	2509.	2503.	6.90		
ROUTED TO	RM552	4917.	5.50	2974.	2509.	2503.	6.90	51.66	5.50
HYDROGRAPH AT	21S	28.	4.10	5.	1.	1.	0.04		
ROUTED TO	21RR	0.	0.05	0.	0.	0.	0.04	1278.38	6.85
HYDROGRAPH AT	22S	32.	4.05	6.	2.	1.	0.03		
2 COMBINED AT	HC22	32.	4.05	6.	2.	1.	0.06		
ROUTED TO	22RR	18.	4.45	6.	2.	1.	0.06	1277.86	4.45
HYDROGRAPH AT	23S	9.	4.10	2.	0.	0.	0.01		
2 COMBINED AT	HC23	25.	4.30	8.	2.	2.	0.07		
ROUTED TO	23RR	19.	4.90	8.	2.	2.	0.07	1276.24	4.90
HYDROGRAPH AT	24S	6.	4.10	1.	0.	0.	0.01		
2 COMBINED AT	HC24	21.	4.65	9.	2.	2.	0.08		
ROUTED TO	24RR	18.	5.35	9.	2.	2.	0.08	1273.18	5.35
HYDROGRAPH AT	25S	47.	4.10	8.	2.	2.	0.05		
2 COMBINED AT	HC25	56.	4.10	17.	4.	4.	0.13		
ROUTED TO	25RR	10.	6.95	9.	4.	4.	0.13	1269.55	6.95
HYDROGRAPH AT	27S	100.	4.10	18.	4.	4.	0.12		
ROUTED TO	27RR	10.	5.85	9.	4.	4.	0.12	1279.76	5.85
HYDROGRAPH AT	29S	40.	4.10	7.	2.	2.	0.06		
2 COMBINED AT	HC29	46.	4.10	16.	6.	6.	0.19		
HYDROGRAPH AT	30S	50.	4.10	9.	2.	2.	0.06		
ROUTED TO	30RR	11.	5.10	8.	2.	2.	0.06	1266.74	5.10

2 COMBINED AT	HC30	55.	4.15	23.	8.	8.	0.24		
HYDROGRAPH AT	31S	34.	4.10	6.	1.	1.	0.05		
3 COMBINED AT	HC31	92.	4.15	38.	14.	14.	0.42		
HYDROGRAPH AT	32S	34.	4.10	6.	1.	1.	0.05		
2 COMBINED AT	HC32	125.	4.10	43.	16.	15.	0.48		
HYDROGRAPH AT	34S	48.	4.10	8.	2.	2.	0.08		
2 COMBINED AT	HC34	173.	4.10	52.	18.	17.	0.55		
HYDROGRAPH AT	41S	22.	4.10	4.	1.	1.	0.02		
HYDROGRAPH AT	42S	52.	4.10	9.	2.	2.	0.07		
2 COMBINED AT	HC42	74.	4.10	13.	3.	3.	0.09		
ROUTED TO	42RR	16.	5.15	12.	3.	3.	0.09	1304.52	5.15
HYDROGRAPH AT	43S	2.	4.15	0.	0.	0.	0.01		
2 COMBINED AT	HC43	17.	5.10	13.	3.	3.	0.10		
HYDROGRAPH AT	44S	26.	4.10	5.	1.	1.	0.03		
2 COMBINED AT	HC44	41.	4.10	17.	5.	4.	0.13		
HYDROGRAPH AT	45S	20.	4.05	4.	1.	1.	0.02		
HYDROGRAPH AT	46S	53.	4.10	9.	2.	2.	0.06		
2 COMBINED AT	HC46	73.	4.10	13.	3.	3.	0.07		
ROUTED TO	46RR	22.	4.85	13.	3.	3.	0.07	1301.31	4.85
HYDROGRAPH AT	47S	30.	4.10	5.	1.	1.	0.03		
2 COMBINED AT	HC47A	46.	4.15	18.	5.	4.	0.11		
2 COMBINED AT	HC47B	87.	4.10	35.	9.	9.	0.24		
ROUTED TO	47RR	62.	4.70	32.	9.	9.	0.24	1290.58	4.70
HYDROGRAPH AT	48S	48.	4.10	9.	2.	2.	0.06		
2 COMBINED AT	HC48	85.	4.55	39.	11.	11.	0.30		
ROUTED TO	48RR	83.	4.65	39.	11.	11.	0.30	1288.04	4.65
HYDROGRAPH AT	49S	8.	4.35	1.	0.	0.	0.04		
2 COMBINED AT	HC49	89.	4.65	41.	12.	11.	0.34		
HYDROGRAPH AT	50S	20.	4.10	3.	1.	1.	0.02		
2 COMBINED AT	HC50	99.	4.55	44.	13.	12.	0.36		

HYDROGRAPH AT	52S	12.	4.05	2.	1.	1.	0.01		
HYDROGRAPH AT	53S	30.	4.10	5.	1.	1.	0.03		
2 COMBINED AT	HC53	42.	4.05	8.	2.	2.	0.04		
ROUTED TO	53RR	27.	4.45	8.	2.	2.	0.04	1298.46	4.45
HYDROGRAPH AT	54S	32.	4.05	6.	2.	1.	0.03		
HYDROGRAPH AT	55S	21.	4.10	4.	1.	1.	0.02		
2 COMBINED AT	HC55A	53.	4.05	10.	2.	2.	0.05		
2 COMBINED AT	HC55B	72.	4.10	18.	4.	4.	0.09		
ROUTED TO	55RR	64.	4.40	17.	4.	4.	0.09	1295.54	4.40
HYDROGRAPH AT	56S	34.	4.10	6.	2.	1.	0.04		
HYDROGRAPH AT	57S	84.	4.10	15.	4.	4.	0.10		
2 COMBINED AT	HC57A	118.	4.10	21.	5.	5.	0.14		
2 COMBINED AT	HC57B	167.	4.15	38.	10.	9.	0.23		
ROUTED TO	57RR	165.	4.25	38.	10.	9.	0.23	1291.12	4.25
HYDROGRAPH AT	58S	4.	4.10	1.	0.	0.	0.01		
2 COMBINED AT	HC58	169.	4.25	39.	10.	9.	0.24		
HYDROGRAPH AT	51S	118.	4.10	21.	5.	5.	0.13		
3 COMBINED AT	HC51	364.	4.20	103.	28.	27.	0.72		
ROUTED TO	51RR1	284.	4.60	101.	28.	27.	0.72	1279.03	4.60
ROUTED TO	51RR2	283.	4.65	101.	28.	27.	0.72	1274.23	4.65
HYDROGRAPH AT	61S	78.	4.10	14.	3.	3.	0.12		
2 COMBINED AT	HC61	325.	4.60	114.	31.	30.	0.85		
ROUTED TO	61RR	187.	5.50	95.	29.	28.	0.85	1268.41	5.50
2 COMBINED AT	HC570	235.	5.45	142.	47.	45.	1.40		
ROUTED TO	RM570	233.	5.75	141.	47.	45.	1.40	103.26	5.75
HYDROGRAPH AT	571S	798.	4.80	194.	49.	47.	1.35		
2 COMBINED AT	HC571	976.	4.80	327.	96.	92.	2.74		
ROUTED TO	RM571	966.	4.95	327.	96.	92.	2.74	106.56	4.95
HYDROGRAPH AT	553S	768.	4.40	110.	28.	26.	0.93		
4 COMBINED AT	HC553	6307.	5.50	3725.	2714.	2700.	13.77		

ROUTED TO	RM553	6288.	5.65	3724.	2714.	2700.	13.77	28.74	5.65
HYDROGRAPH AT	554R1	1457.	4.70	294.	74.	71.	0.00		
HYDROGRAPH AT	554R2	100.	4.80	51.	13.	12.	0.00		
HYDROGRAPH AT	554S	270.	4.85	73.	19.	18.	0.54		
4 COMBINED AT	HC554	7021.	5.55	4137.	2820.	2802.	14.31		
ROUTED TO	RM554	6990.	5.75	4136.	2820.	2802.	14.31	99.10	5.75
HYDROGRAPH AT	555R1	319.	5.30	47.	12.	11.	0.00		
HYDROGRAPH AT	555R2	150.	5.30	33.	8.	8.	0.00		
HYDROGRAPH AT	555S	360.	4.55	69.	17.	17.	0.54		
4 COMBINED AT	HC555A	7388.	5.70	4279.	2857.	2838.	14.85		
HYDROGRAPH AT	91S	42.	4.15	8.	2.	2.	0.07		
HYDROGRAPH AT	92S	29.	4.10	5.	1.	1.	0.03		
2 COMBINED AT	HC92	71.	4.10	13.	3.	3.	0.10		
ROUTED TO	92RR	0.	6.70	0.	0.	0.	0.10	1244.16	6.75
HYDROGRAPH AT	93S	26.	4.20	5.	1.	1.	0.06		
2 COMBINED AT	HC93	26.	4.20	5.	1.	1.	0.16		
ROUTED TO	93RR	4.	5.45	3.	1.	1.	0.16	1236.38	5.45
HYDROGRAPH AT	94S	44.	4.15	8.	2.	2.	0.08		
2 COMBINED AT	HC94	46.	4.15	11.	3.	3.	0.24		
HYDROGRAPH AT	95S	38.	4.10	7.	2.	2.	0.07		
2 COMBINED AT	HC95	84.	4.15	18.	5.	5.	0.31		
HYDROGRAPH AT	96S	67.	4.25	14.	3.	3.	0.09		
ROUTED TO	96RR	17.	5.25	11.	3.	3.	0.09	1238.27	5.30
HYDROGRAPH AT	97S	19.	4.95	6.	1.	1.	0.07		
3 COMBINED AT	HC97	97.	4.30	34.	10.	9.	0.47		
ROUTED TO	97RR	14.	7.60	7.	2.	2.	0.47	1233.86	7.55
HYDROGRAPH AT	98S	16.	4.10	3.	1.	1.	0.02		
ROUTED TO	98RR	8.	4.60	3.	1.	1.	0.02	1230.57	4.60
2 COMBINED AT	HC98	15.	7.55	8.	3.	3.	0.48		
HYDROGRAPH AT	99S	30.	4.10	5.	1.	1.	0.05		

2 COMBINED AT	HC99	35.	4.15	13.	4.	4.	0.53		
ROUTED TO	99RR	10.	8.90	9.	4.	4.	0.53	1229.65	8.90
HYDROGRAPH AT	90S	43.	4.30	9.	2.	2.	0.08		
2 COMBINED AT	HC580	48.	4.35	16.	6.	6.	0.61		
ROUTED TO	RM580	47.	4.60	16.	6.	6.	0.61	101.03	4.60
HYDROGRAPH AT	581S	602.	4.45	175.	45.	43.	0.82		
2 COMBINED AT	HC581	648.	4.50	187.	51.	49.	1.43		
2 COMBINED AT	HC555B	7584.	5.65	4444.	2908.	2887.	16.28		
ROUTED TO	RM555	7544.	5.90	4443.	2908.	2886.	16.28	77.81	5.90
HYDROGRAPH AT	556R	63.	5.50	6.	2.	1.	0.00		
HYDROGRAPH AT	556S	283.	4.45	62.	16.	15.	0.56		
4 COMBINED AT	HC556A	8848.	5.85	5060.	3118.	3089.	27.02		
HYDROGRAPH AT	408S	380.	4.80	131.	34.	33.	1.08		

NORMAL END OF HEC-1 ***

SECTION IV

HEC-1 Hydrology Results, 2-Year 24-Hour Storm (Existing Conditions)

```
****************************************
*                                      *
*   FLOOD HYDROGRAPH PACKAGE  (HEC-1)  *
*              MAY   1991              *
*            VERSION 4.0.1E            *
*                                      *
*  RUN DATE  01/25/95  TIME  13:27:13  *
*                                      *
****************************************
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****************************************
*                                      *
*    U.S. ARMY CORPS OF ENGINEERS      *
*    HYDROLOGIC ENGINEERING CENTER     *
*          609 SECOND STREET           *
*       DAVIS, CALIFORNIA 95616        *
*          (916) 551-1748              *
*                                      *
****************************************
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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

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

  1           ID    ACDC AREA DRAINAGE MASTER STUDY
  2           ID    FILENAME:  NR124.DAT          KHE JOB NO. 0146
  3           ID    WATERSHED CONTRIBUTING TO NEW RIVER UP TO ITS CONFLUENCE WITH
  4           ID    SKUNK CREEK
  5           ID
  6           ID    2-YEAR 24-HOUR DURATION STORM FOR EXISTING CONDITIONS
  7           ID
              *
              *       CREATED:  JANUARY 19, 1994
              *
              *    *DIAGRAM
  8           IT      4                    800
  9           IO      5
              *    *    *    *    *    *    *    *    *    *    *    *    *
              *                                                             *
              *          SUBAREA GROUPING CONTRIBUTING TO 91ST AVENUE DRAIN *
              *           SUB-BASINS 500-503, 510-512, 520-522, & 530-535   *
              *              TOTAL CONTRIBUTING AREA = 10.18 SQ. MI.        *
              *                                                             *
              *    *    *    *    *    *    *    *    *    *    *    *    *

 10           KK   500S
 11           KM   RUNOFF GENERATED ON SUB-BASIN 500
 12           KM   THE FOLLOWING PARAMETERS WERE PROVIDED FOR THIS BASIN
 13           KM   L= 1.455 mi  S= 50 ft/mi  Kb= 0.078
 14           KM   CLARK UNIT HYDROGRAPH FOR NATURAL WATERSHEDS WAS USED FOR THIS BASIN
 15           BA    .410
 16           IN      30
 17           KM   RAINFALL DEPTH OF 1.50 WAS SPACIALLY REDUCED AS SHOWN BY THE PB RECORD
 18           KM   AN AREAL REDUCTION COEFFICIENT OF .959 WAS USED FOR THIS BASIN
 19           PB   1.439
 20           KM   THE FOLLOWING PC RECORD USED A 24-HR SCS TYPE II STORM
 21           PC    .000    .005    .011    .016    .022    .028    .035    .041    .048    .056
 22           PC    .063    .071    .080    .089    .098    .109    .120    .133    .147    .163
 23           PC    .181    .204    .235    .283    .663    .735    .772    .799    .820    .838
 24           PC    .854    .868    .880    .891    .902    .912    .921    .929    .937    .945
 25           PC    .952    .959    .965    .972    .978    .984    .989    .995   1.000
 26           LG    .282    .323   4.080    .419   5.530
 27           UC   1.600   1.399
 28           UA      0       3       5       8      12      20      43      75      90      96
 29           UA    100

 30           KK   RM500
 31           KM   NORMAL DEPTH STORAGE ROUTE FLOW FROM SUB-BASIN 500 THROUGH 501
 32           KM             1) Reach Length = 5446 ft
 33           RS      9    FLOW      -1
 34           RC    .040    .030    .040    5446   .0060
 35           RX      0      25      50      80     120     150     175     200
 36           RY    102     101     100     100     100     100     101     102
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

  37          KK   501S
  38          KM   RUNOFF GENERATED ON SUB-BASIN 501
  39          KM   THE FOLLOWING PARAMETERS WERE PROVIDED FOR THIS BASIN
  40          KM   L= 1.031 mi  S= 32 ft/mi  Kb= 0.087
  41          KM   CLARK UNIT HYDROGRAPH FOR NATURAL WATERSHEDS WAS USED FOR THIS BASIN
  42          BA    .524
  43          LG    .350    .350   3.920    .384    .000
  44          UC   1.711    .995
  45          UA      0       3       5       8      12      20      43      75      90      96
  46          UA    100

  47          KK   HC501
  48          KM   COMBINE HYDROGRAPHS FROM SUB-BASIN 501 WITH ROUTED FLOW FROM 500
  49          HC      2

  50          KK   RM501
  51          KM   NORMAL DEPTH STORAGE ROUTE FROM SUB-BASIN 501 THROUGH 502
  52          KM           1) Reach Length = 7666 ft
  53          RS     12    FLOW      -1
  54          RC   .040    .030    .040    7666   .0044
  55          RX      0      25      50      80     120     150     175     200
  56          RY    102     101     100     100     100     100     101     102

  57          KK   502S
  58          KM   RUNOFF GENERATED ON SUB-BASIN 502
  59          KM   THE FOLLOWING PARAMETERS WERE PROVIDED FOR THIS BASIN
  60          KM   L= 1.452 mi  S= 23 ft/mi  Kb= 0.086
  61          KM   CLARK UNIT HYDROGRAPH FOR NATURAL WATERSHEDS WAS USED FOR THIS BASIN
  62          BA    .553
  63          LG    .350    .350   3.820    .361    .000
  64          UC   2.984   2.352
  65          UA      0       3       5       8      12      20      43      75      90      96
  66          UA    100

  67          KK   510S
  68          KM   RUNOFF GENERATED ON SUB-BASIN 510
  69          KM   THE FOLLOWING PARAMETERS WERE PROVIDED FOR THIS BASIN
  70          KM   L= 1.577 mi  S= 93 ft/mi  Kb= 0.074
  71          KM   CLARK UNIT HYDROGRAPH FOR NATURAL WATERSHEDS WAS USED FOR THIS BASIN
  72          BA    .625
  73          LG    .209    .322   3.980    .396   8.130
  74          UC   1.108    .781
  75          UA      0       3       5       8      12      20      43      75      90      96
  76          UA    100

  77          KK   RM510
  78          KM   NORMAL DEPTH STORAGE ROUTE FLOW FROM SUB-BASIN 510 THROUGH 511
  79          KM           1) Reach Length = 5415 ft
  80          RS      7    FLOW      -1
  81          RC   .040    .030    .040    5415   .0065
  82          RX      0      25      50      80     120     150     175     200
  83          RY    102     101     100      99      99     100     101     102
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 84           KK   511S
 85           KM   RUNOFF GENERATED ON SUB-BASIN 511
 86           KM   THE FOLLOWING PARAMETERS WERE PROVIDED FOR THIS BASIN
 87           KM   L= 1.025 mi  S= 34 ft/mi  Kb= 0.087
 88           KM   CLARK UNIT HYDROGRAPH FOR NATURAL WATERSHEDS WAS USED FOR THIS BASIN
 89           BA    .437
 90           LG    .336    .345   3.770    .350    .820
 91           UC   1.540    .977
 92           UA      0       3       5       8      12      20      43      75      90      96
 93           UA    100

 94           KK   HC511
 95           KM   COMBINE HYDROGRAPHS FROM SUB-BASIN 511 WITH ROUTED FLOW FROM 510
 96           HC      2

 97           KK   RM511
 98           KM   NORMAL DEPTH STORAGE ROUTE FLOW FROM SUB-BASIN 511 THROUGH 512
 99           KM           1) Reach Length = 5909 ft
100           RS      8    FLOW      -1
101           RC    .040    .030    .040    5909   .0054
102           RX      0      25      50      80     120     150     175     200
103           RY    102     101     100      99      99     100     101     102

104           KK   512S
105           KM   RUNOFF GENERATED ON SUB-BASIN 512
106           KM   THE FOLLOWING PARAMETERS WERE PROVIDED FOR THIS BASIN
107           KM   L= 1.210 mi  S= 26 ft/mi  Kb= 0.088
108           KM   CLARK UNIT HYDROGRAPH FOR NATURAL WATERSHEDS WAS USED FOR THIS BASIN
109           BA    .469
110           LG    .350    .350   3.610    .315    .000
111           UC   1.989   1.423
112           UA      0       3       5       8      12      20      43      75      90      96
113           UA    100

114           KK  HC512A
115           KM   COMBINE HYDROGRAPHS FROM SUB-BASIN 512 WITH ROUTED FLOW FROM 511
116           HC      2

117           KK   502RE
118           KM   DIVERT 50% WESTERLY ALONG BEARDSLEY RD. TO WESTBROOK VILLAGE WEST INLET
119           DT   533D
120           DI      0    1000    2000    3000
121           DQ      0     500    1000    1500

122           KK   HC502
123           KM   COMBINE HYDROGRAPHS FROM SUB-BASIN 502 WITH ROUTED FLOW FROM 501 AND
124           KM   REMAINING FLOW FROM SUBBASIN NO. 512 AT INLET TO WESTBROOK VILLAGE WEST
125           HC      3
              *
              *    INFLOW TO WESTBROOK VILLAGE WEST
              *
              *    This section of the model was developed by the FCDMC and was obtained
              *    from a Draft Copy of their June 20, 1994 report, "91st Avenue Drain
              *    Hydrology Update, Flood Control District of Maricopa County, Watershed
              *    Management Branch."
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 126          KK   RM502
 127          KM   NORMAL DEPTH STORAGE ROUTE FROM SUB-BASIN 502 THROUGH 503
 128          RS       7    FLOW      -1
 129          RC    .030    .020    .030    5280   .0050
 130          RX       0      30      60      90     190     300     330     360
 131          RY     104     103     101     100     100     101     103     104

 132          KK    503S
 133          KM   RUNOFF GENERATED ON SUB-BASIN 503 (FCDMC SUB-BASIN I.D. WBW)
 134          KM   TOTAL OF PARCELS 1 TO 27 IN WESTBROOK VILLAGE WEST (1983 PROJECT)
 135          KM   PLUS PARCELS 28 (GOLF COURSES) ABOUT 23% OF AREA
 136          KM   AREA REVISED FROM 1.00 SQ.MI. TO 0.952 SQ.MI. PARCEL IN SOUTHWEST CORNER OF
 137          KM   SUBDIVISION DOES NOT CONTRIBUTE;  FLOWS PROCEED WESTWARD ON UNION HILLS DR.
 138          BA    .952
 139          LG     .35     .25   3.500    .280      30
 140          UC   1.680   1.512
 141          UA       0       3       5       8      12      20      43      75      90      96
 142          UA     100

 143          KK   HC503
 144          KM   COMBINE HYDROGRAPHS FROM SUB-BASIN 503 WITH ROUTED FLOW FROM 502
 145          HC       2

 146          KK   503RR
 147          KM   PER 1983 UDC REPORT AVAILABLE STORAGE IS 472 AC-FT IN GOLF COURSES
 148          KM   A MAXIMUM OF 350 AC-FT IS ASSUMED AS PER ERIE'S QU ESTIMATE
 149          KM   PER MEETING ON MAY 9, 1994 25 CFS IS ASSUMED AS BLEED OFF THRU 2' DIA PIPE
 150          KM   CULVERT CROSSING UNION HILLS DRIVE AT ABOUT 93RD ALIGNMENT
 151          RS       1    STOR       0
 152          SV       0      50     100     150     200     300     350     400     500
 153          SE      26      27      28      29      30      32      34      36      38
 154          SQ       0      25      25      25      25      25      25     300     400

 155          KK   RM503
 156          KM   ROUTE ALONG UNION HILLS DR. EASTWARD TOWARDS 93RD AVE
 157          RS       3    FLOW      -1
 158          RC     .03     .02     .03    2080   .0019
 159          RX       0      20      40      60      80     100     120     140
 160          RY     102     101     100     100     100     100     101     102
              *
              *
              *     THIS CONCLUDES PORTION OF HEC-1 FILE OBTAINED FROM THE
              *      FCDMC HYDROLOGY
              *
              *

 161          KK    533R
 162          KM    RETRIEVE FLOWS GOING SOUTH ALONG 91ST AVE.
 163          DR    533D
              *
              *
              *   BEGIN PORTION OF HEC-1 FILE OBTAINED FROM THE FCDMC HYDROLOGY
              *
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LINE        ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 164        KK    533A
 165        KM   WESTBROOK VILLAGE PARCEL B8
 166        KM   THIS PARCEL DISCHARGES DIRECTLY INTO 91ST AVE
 167        BA   .0085
 168        LG     .25     .25     3.5     .28      30
 169        UC    .286    .267
 170        UA       0       5      16      30      65      77      84      90      94      96
 171        UA     100

 172        KK  HC512B
 173        KM   COMBINE HYDROGRAPHS SOUTH OF BEARDSLEY ROAD ALONG 91ST AVENUE
 174        HC       2

 175        KK   RM512
 176        KM   ROUTE FLOWS ON 91ST AVENUE, BEARDSLY RD. TO UNION HILLS DR.
 177        KM   ROUTE THRU 91ST AVE. SOUTHWARD, X-SECTION GIVEN IN 1983 WB REPORT
 178        RS       2    FLOW      -1
 179        RC     .02    .015     .02    2380   .0045
 180        RX       0      12      22      40      80     121     131     143
 181        RY     103     100     100     102     102     100     100     103

 182        KK    533B
 183        KM    COMBINE PARCELS 8A, 10B, 7, 6, 5, G10, 2B, 3B
 184        BA   .2814
 185        LG     .25     .25     3.5     .28      45
 186        UC    .488    .446
 187        UA       0       5      16      30      65      77      84      90      94      96
 188        UA     100

 189        KK  533RR1
 190        KM   ROUTE FLOWS THROUGH RESERVOIR 10, WESTBROOK VILLAGE EAST
 191        KM   THE RESERVOIR BLEEDS INTO 91ST AVENUE
 192        RS       1    STOR      -1       0
 193        SV       0     .35    2.28     6.4   12.82    24.0
 194        SE    27.5    28.5    29.5    30.5    31.5    32.5
 195        SQ       0       2      12      19      22      44

 196        KK  HC533A
 197        KM   91ST AVENUE AT INTERSECTION WITH UNION HILL DR.
 198        HC       2
            *
            *   CONCLUDE PORTION OF HEC-1 FILE OBTAINED FROM THE FCDMC HYDROLOGY
            *

 199        KK    520S
 200        KM   RUNOFF GENERATED ON SUB-BASIN 520
 201        KM   THE FOLLOWING PARAMETERS WERE PROVIDED FOR THIS BASIN
 202        KM   L= 1.569 mi  S= 238 ft/mi  Kb= 0.071
 203        KM   CLARK UNIT HYDROGRAPH FOR NATURAL WATERSHEDS WAS USED FOR THIS BASIN
 204        BA    .675
 205        LG    .202    .318   3.920    .384  11.030
 206        UC    .650    .411
 207        UA       0       3       5       8      12      20      43      75      90      96
 208        UA     100
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 209          KK   520RE
 210          KM   DIVERT MAX. OF 136 CFS EAST ALONG CALLE LEJOS TO 83RD AVENUE AS
 211          KM   PER AM. ENGINEERING CO. REPORT DEC. 1993
 212          DT    5300
 213          DI       0      50     100     137     200     400    1000
 214          DQ       0      50     100     137     137     137     137

 215          KK   RM520
 216          KM   NORMAL DEPTH STORAGE ROUTE FLOW FROM SUB-BASIN 520 THROUGH 521
 217          KM            1) Reach Length = 5886 ft
 218          RS       6    FLOW      -1
 219          RC    .040    .030    .040    5886   .0056
 220          RX      40      80      90     100     140     150     160     200
 221          RY     103     102     101     100     100     101     102     103

 222          KK    521S
 223          KM   RUNOFF GENERATED ON SUB-BASIN 521
 224          KM   THE FOLLOWING PARAMETERS WERE PROVIDED FOR THIS BASIN
 225          KM   L= 1.176 mi  S= 30 ft/mi  Kb= 0.044
 226          KM   CLARK UNIT HYDROGRAPH FOR NATURAL WATERSHEDS WAS USED FOR THIS BASIN
 227          BA    .617
 228          LG    .100    .250   6.290    .186  15.530
 229          UC    .817    .443
 230          UA       0       3       5       8      12      20      43      75      90      96
 231          UA     100

 232          KK   HC521
 233          KM   COMBINE HYDROGRAPHS FROM SUB-BASIN 521 WITH ROUTED FLOW FROM 520
 234          HC       2

 235          KK   RM521
 236          KM   NORMAL DEPTH STORAGE ROUTE FLOW FROM SUB-BASIN 521 THROUGH 522
 237          KM            1) Reach Length = 6074 ft
 238          RS       7    FLOW      -1
 239          RC    .040    .030    .040    6074   .0049
 240          RX       0      50      75     105     145     175     200     250
 241          RY     103     101     100     100     100     100     101     103

 242          KK    522S
 243          KM   RUNOFF GENERATED ON SUB-BASIN 522
 244          KM   THE FOLLOWING PARAMETERS WERE PROVIDED FOR THIS BASIN
 245          KM   L= 1.186 mi  S= 24 ft/mi  Kb= 0.077
 246          KM   CLARK UNIT HYDROGRAPH FOR NATURAL WATERSHEDS WAS USED FOR THIS BASIN
 247          BA    .508
 248          LG    .388    .290   6.780    .185    .000
 249          UC   1.731   1.147
 250          UA       0       3       5       8      12      20      43      75      90      96
 251          UA     100
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LINE        ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

252         KK   HC522
253         KM   COMBINE HYDROGRAPHS FROM SUB-BASIN 522 WITH ROUTED FLOW FROM 521
254         KM   WEST INLET FOR WESTBROOK VILLAGE EAST
255         HC       2
            *
            *   BEGIN PORTION OF HEC-1 FILE OBTAINED FROM THE FCDMC HYDROLOGY
            *
            *  ROUTING COMMAND REMOVED FROM MODEL.  REACH LENGTH IS TOO SHORT FOR PEAK
            *  DISCHARGE ATTENUATION.
            *
            * KKRM522A
            * KM ROUTE OFFSITE INFLOWS, W.B. EAST INLET TO FIRST DETENTION
            * RS     1    FLOW      -1
            * RC   .03     .02     .03     260  .00192
            * RX     0      12    17.5    22.5    33.5    37.5      43      55
            * RY    45      42      40      40      40      40      42      45

256         KK    533C
257         KM   COMBINE PARCELS 9, 10A, 11, 12, GC3
258         KM   HIGHEST SCS LAG TIME USED BY CONSULTANT WAS CONVERTED TO TC: TLAG/0.60
259         BA    .123
260         LG     .35     .25     8.4     .06      35
261         UC    .559    .444
262         UA       0       3       5       8      12      20      43      75      90      96
263         UA     100

264         KK  HC533B
265         KM   COMBINE HYDROGRAPHS WITHIN EAST WESTBROOK VILLAGE
266         HC       2

267         KK  533RR2
268         KM   ROUTE FLOW THROUGH WESTBROOK VILLAGE EAST RESERVOIR 3
269         RS       1    STOR      -1       0
270         SV       0     .19    1.23    3.71    7.87    12.1    24.0
271         SE      32      33      34      35      36      37      38
272         SQ       0       2      12      19     195     811    1200

273         KK    533D
274         KM   COMBINE PARCELS 19, 18B, GC4-5
275         BA    .101
276         LG     .35     .15     8.4     .06      45
277         UC   1.142    .889
278         UA       0       3       5       8      12      20      43      75      90      96
279         UA     100

280         KK  HC533C
281         KM   COMBINE HYDROGRAPHS WITHIN EAST WESTBROOK VILLAGE
282         HC       2
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LINE        ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

283         KK  533RR3
284         KM   ROUTE FLOW THROUGH WESTBROOK VILLAGE EAST RESERVOIR 4 & 5
285         RS       1    STOR      -1       0
286         SV       0    2.57    7.19   13.71    22.4      32      37      42      47      52
287         SE      27      28      29      30      31      33      34      35      36      37
288         SQ       0       2      12      19      21      21      21      21     386    1207

289         KK    533E
290         KM   GOLF COURSE AT DRIVING RANGE
291         BA   .0126
292         LG     .35     .25     3.5     .29      45
293         UC    .297    .266
294         UA       0       3       5       8      12      20      43      75      90      96
295         UA     100

296         KK  HC533D
297         KM   COMBINE HYDROGRAPHS WITH IN EAST WESTBROOK VILLAGE
298         HC       2

299         KK  533RR4
300         KM   ROUTE FLOW THROUGH WESTBROOK VILLAGE EAST RESERVOIR 6
301         RS       1    STOR      -1       0
302         SV       0       2       4       6       8
303         SE      33      34      35      36      37
304         SQ       0       0     227     811    1200
            *
            *   CONCLUDE PORTION OF HEC-1 FILE OBTAINED FROM THE FCDMC HYDROLOGY
            *

305         KK    530S
306         KM   RUNOFF GENERATED ON SUB-BASIN 530
307         KM   THE FOLLOWING PARAMETERS WERE PROVIDED FOR THIS BASIN
308         KM   L= 1.452 mi  S= 280 ft/mi  Kb= 0.053
309         KM   CLARK UNIT HYDROGRAPH FOR NATURAL WATERSHEDS WAS USED FOR THIS BASIN
310         BA    .821
311         LG    .139    .276   3.550    .303  13.320
312         UC    .429    .218
313         UA       0       3       5       8      12      20      43      75      90      96
314         UA     100

315         KK    R530
316         KM   RETRIEVE DIVERTED FLOW FROM SUB-BASIN 520
317         DR    5300

318         KK   HC530
319         KM   COMBINE HYDROGRAPHS FROM SUB-BASIN 530 WITH DIVERTED FLOW FROM 520
320         HC       2

321         KK   RM530
322         KM   NORMAL DEPTH STORAGE ROUTE FLOW FROM SUB-BASIN 530 THROUGH 531
323         KM            1) Reach Length = 5688 ft
324         RS       6    FLOW      -1
325         RC    .040    .030    .040    5688   .0053
326         RX       0      25      50      80     120     150     175     200
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 327          RY     102     101     100     100     100     100     101     102

 328          KK    531S
 329          KM   RUNOFF GENERATED ON SUB-BASIN 531
 330          KM   THE FOLLOWING PARAMETERS WERE PROVIDED FOR THIS BASIN
 331          KM   L= 1.193 mi  S= 25 ft/mi  Kb= 0.060
 332          KM   CLARK UNIT HYDROGRAPH FOR NATURAL WATERSHEDS WAS USED FOR THIS BASIN
 333          BA    .654
 334          LG    .225    .170  10.100    .036   9.530
 335          UC   1.000    .543
 336          UA      0       3       5       8      12      20      43      75      90      96
 337          UA    100

 338          KK   HC531
 339          KM   COMBINE HYDROGRAPHS FROM SUB-BASIN 531 WITH ROUTED FLOW FROM 530
 340          HC      2

 341          KK   RM531
 342          KM   NORMAL DEPTH STORAGE ROUTE FLOW FROM SUB-BASIN 531 THROUGH 532
 343          KM            1) Reach Length = 6723 ft
 344          RS      7    FLOW      -1
 345          RC   .040    .030    .040    6723   .0043
 346          RX      0      50      75     105     145     175     200     250
 347          RY    103     101     100     100     100     100     101     103

 348          KK    532S
 349          KM   RUNOFF GENERATED ON SUB-BASIN 532
 350          KM   THE FOLLOWING PARAMETERS WERE PROVIDED FOR THIS BASIN
 351          KM   L= 1.109 mi  S= 25 ft/mi  Kb= 0.062
 352          KM   CLARK UNIT HYDROGRAPH FOR NATURAL WATERSHEDS WAS USED FOR THIS BASIN
 353          BA    .521
 354          LG    .438    .103  10.100    .046    .000
 355          UC    .992    .577
 356          UA      0       3       5       8      12      20      43      75      90      96
 357          UA    100

 358          KK   HC532
 359          KM   COMBINE HYDROGRAPHS FROM SUB-BASIN 532 WITH ROUTED FLOW FROM 531
 360          HC      2
              *
              *   BEGIN PORTION OF HEC-1 FILE OBTAINED FROM THE FCDMC HYDROLOGY
              *

 361          KK   532RE
 362          KM   DIVERT 70% SOUTHWARD THRU 83RD AVENUE
 363          DT   554D1
 364          DI      0     200     400     800    1200    1500    2000    2500
 365          DQ      0     140     280     560     840    1050    1400    1750

 366          KK    533F
 367          KM   COMBINE PARCELS 13, 14, G1
 368          BA   .0644
 369          LG    .35     .25     3.5     .29      45
 370          UC    .405    .356
 371          UA      0       3       5       8      12      20      43      75      90      96
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 372          UA     100

 373          KK  HC533E
 374          KM   COMBINE HYDROGRAPHS WITHIN EAST WESTBROOK VILLAGE
 375          HC       2
              *    *    *    *    *    *    *    *    *    *    *    *
              *                                                       *
              *     RESERVOIR ROUTING OPTION WAS REMOVED FROM THE MODEL.      *
              *     ROUTED FLOWS WERE INCREASING AND/OR NO DIFFERENCE IN      *
              *     TIMING FROM THE INFLOW HYDROGRAPH WERE OBSERVED.          *
              *                                                               *
              *    *    *    *    *    *    *    *    *    *    *    *
              * KK533RR5
              * KM ROUTE FLOW THROUGH WESTBROOK VILLAGE EAST RESERVOIR 1
              * KM
              * RS     1    STOR       0
              * SV     0     .11     .63    1.43     3.3     5.5     6.5     6.9     7.5    10
              * SE    36      37      38      39      40      41      42      43      44    45
              * SQ     0       2      12      19    21.8    23.1    24.1      25     750    13

 376          KK    533G
 377          KM   COMBINE PARCELS 15, 16, 17, 18A, 23A, GC2
 378          BA    .079
 379          LG     .35     .25     3.5     .29      45
 380          UC    .478    .444
 381          UA       0       3       5       8      12      20      43      75      90      96
 382          UA     100

 383          KK  HC533F
 384          KM   COMBINE HYDROGRAPHS WITHIN EAST WESTBROOK VILLAGE
 385          HC       2

 386          KK  533RR6
 387          KM   ROUTE FLOW THROUGH WESTBROOK VILLAGE EAST RESERVOIR 2
 388          KM
 389          RS       1    STOR      -1       0
 390          SV       0    1.97    4.86    9.02   14.99      20      25      30      34      38
 391          SE      26      27      28      29      30      31      32      33      34      35
 392          SQ       0       2      12      19      21      21      21      21     930    1200

 393          KK  HC533G
 394          KM   COMBINE 533RR4 AND 533RR6
 395          HC       2

 396          KK  RM522B
 397          RS       2    FLOW      -1
 398          RC     .04     .03     .04    1420   .0018
 399          RX       0      30      60      90     120     150     180     210
 400          RY     104     102     100     100     100     100     102     104
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

401           KK    533H
402           KM   COMBINE PARCELS 23B, 21A, G7
403           BA    .033
404           LG     .35     .15     8.4     .06      60
405           UC    .366    .266
406           UA       0       3       5       8      12      20      43      75      90      96
407           UA     100

408           KK  HC533H
409           HC       2
              *    *    *    *    *    *    *    *    *    *    *    *
              *                                                       *
              *     RESERVOIR ROUTING OPTION WAS REMOVED FROM THE MODEL.      *
              *     ROUTED FLOWS WERE INCREASING AND/OR NO DIFFERENCE IN      *
              *     TIMING FROM THE INFLOW HYDROGRAPH WERE OBSERVED.          *
              *                                                               *
              *    *    *    *    *    *    *    *    *    *    *    *
              * KK533RR7
              * KM ROUTE FLOWS THROUGH RESERVOIR 7, WESTBROOK VILLAGE EAST
              * RS     1    STOR      -1       0
              * SV     0     .15     .85    2.26    4.71     6.0     7.0     9.0
              * SE    27      28      29      30      31      32      33      34
              * SQ     0      11      23      35      46     526    1391    2500

410           KK    533I
411           KM   COMBINE PARCELS 25, 24, GC8, 27A, 26A
412           BA   .0839
413           LG     .35     .15     8.4     .06      45
414           UC    .728    .534
415           UA       0       3       5       8      12      20      43      75      90      96
416           UA     100

417           KK  533RR8
418           KM   ROUTE FLOWS THROUGH RESERVOIR 8, WESTBROOK VILLAGE EAST
419           RS       1    STOR      -1       0
420           SV       0     .36    2.13    5.54   10.63   15.29    16.0
421           SE      27      28      29      30      31      32      33
422           SQ       0       2      12      19      22      30     100

423           KK  HC533I
424           KM   COMBINE OUTFLOW FROM RESERVOIRS 7 AND 8
425           HC       2

426           KK  RM522C
427           KM   ROUTE HYDROGRAPHS THRU MAIN SOUTH STREET WITHIN EAST WESTBROOK VILLAGE
428           RS       1    FLOW      -1
429           RC     .03     .02     .03    1120   .0032
430           RX       0      15      30      60      80     105     120     135
431           RY     104     102     100     100     100     100     102     104
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

432           KK    533J
433           KM   COMBINE R/C, 1B, 26B
434           BA   .0342
435           LG     .35     .15     8.4     .06      60
436           UC    .281    .267
437           UA       0       3       5       8      12      20      43      75      90      96
438           UA     100

439           KK  HC533J
440           HC       2

441           KK    533K
442           KM   COMBINE PARCELS 1A, 20, 21B, G9A, G9B, 2A, 3A
443           BA   .0572
444           LG     .35     .25     5.0     .28      45
445           UC    .456    .355
446           UA       0       3       5       8      12      20      43      75      90      96
447           UA     100

448           KK  533RR9
449           KM   ROUTE THROUGH RESERVOIR 9, WESTBROOK VILLAGE EAST
450           RS       1    STOR      -1       0
451           SV       0     .03    .376   1.698   4.517   9.114  12.000
452           SE      25      26      27      28      29      30      31
453           SQ       0       2      11      18      24     128     200

454           KK  HC533K
455           KM   OUTFLOW FROM WESTBROOK VILLAGE EAST INTO UNION HILLS DR. AT 86TH AVE.
456           KM   ALIGNMENT AT INTERSECTION OF OUTLET WITH UNION HILLS RD., MAIN ENTRANCE
457           HC       2

458           KK  533RE1
459           KM   DIVERT 100 CFS TO NEW RIVER:  50 CFS THRU 42" CMP AND 50 CFS OVERLAND
460           DT   554D2
461           DI       0      50     100     150     300     600     900
462           DQ       0       0       0     100     100     100     100

463           KK  533RE2
464           KM   DIVERT TO COUNTRY CLUB ROAD AND EVENTUALLY TO NEW RIVER.  RATING CURVE
465           KM   AS PER ERIE'S REPORT, ASSUMES OVERFLOW PROPORTIONAL TO WEIR LENGTH
466           DT   555D1
467           DI       0      50      80     982    2670    7461   13454
468           DQ       0       0       0     214     607    1716    3152
              *
              *  ROUTING COMMAND REMOVED FROM MODEL.  REACH LENGTH IS TOO SHORT FOR PEAK
              *  DISCHARGE ATTENUATION.
              *
              * KK RM533A
              * KM ROUTE REMAINING TO INTERSECTION OF UNION HILLS DR. & 87TH AVENUE
              * RS     1    FLOW      -1
              * RC   .02    .015     .02     660   .0015
              * RX     0       1       5      35      40      70      74      75
              * RY   104     102     100     101     101     100     102     104
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

469           KK  533RE3
470           KM   DIVERT SOUTH THRU 87TH AVE., PORTION GOES TO 91ST AVE. AT UNION HILLS DR.
471           KM   USING RATING CURVE DEVELOPED BY ERIE & ASSOCIATES
472           KM   INFLOW IS ASSUMED SUM OF RATED Q AT ROAD INTERSECTION
473           KM   THIS APPLIES TO SUCCEDING DIVERSIONS USING ERIE'S DATA
474           DT   534D1
475           DI       0      50      80     762    2067    5745
476           DQ       0       0       0     221     625    1768
              *
              *  ROUTING COMMAND REMOVED FROM MODEL.  REACH LENGTH IS TOO SHORT FOR PEAK
              *  DISCHARGE ATTENUATION.
              *
              * KKRM533B
              * KM ROUTE REMAINING FLOW TO 89TH AVE. THRU NORTH SIDE OF UNION HILLS RD.
              * RS      1    FLOW      -1
              * RC   .015    .015    .015    1320   .0037
              * RX      0       1       5      35      40      70      74      75
              * RY    104     102     100     101     101     100     102 .   104

477           KK  533RE4
478           KM   ASSUME SPLIT OCCURS WHEN DEPTH IS 0.5 FT ABOVE 91ST AVE CROWN AT INTERSECTION
479           KM   PER ERIE'S RATING Q=145 CFS ABOVE WHICH FLOW WILL HAVE 50-50 SPLIT
480           KM   FLOW LESS THAN OR EQUAL TO 145 CFS WILL CONTINUE WESTWARD TO 91ST AVE.
481           DT   534D2
482           DI       0      80     145     300     500     800    1200
483           DQ       0       0       0     150     250     400     600

484           KK  RM533C
485           RS       1    FLOW      -1
486           RC     .02    .015     .02    1320   .0015
487           RX       0       1       5      35      40      70      74      75
488           RY     104     102     100     101     101     100     102     104

489           KK  HC533L
490           KM   UNION HILLS DR. AT 91ST AVENUE
491           HC       3

492           KK  RM533D
493           KM   NORMAL DEPTH STORAGE ROUTE FLOW FROM SUB-BASIN 533 THROUGH 534
494           KM            1) Reach Length = 5474 ft
495           RS       4    FLOW      -1
496           RC    .025    .020    .025    5474   .0044
497           RX       0      12      22      40     100     121     131     143
498           RY     103     100     100     101     101     100     100     103

499           KK   534R1
500           KM   RETRIEVE FLOWS GOING SOUTH OF 87TH AVE. SOUTH OF UNION HILLS DR.
501           DR   534D1
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LINE        ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

502         KK  RM533E
503         KM   ROUTE SOUTHWARD THRU 87TH AVE
504         RS       5    FLOW      -1
505         RC     .02    .015     .02    5560   .0042
506         RX       0       1       5      35      40      70      74      75
507         RY     104     102     100     101     101     100     102     104

508         KK  533RE6
509         KM   DIVERT 50% UP TO MAXIMUM OF 150 CFS EASTWARD ALONG BELL RD. TO NEW RIVER
510         DT   555D2
511         DI       0      20      50     150     200     300
512         DQ       0       6      50     150     150     150

513         KK  533RE7
514         KM   DIVERT SOUTHWARD ALONG 87TH AVE., SOUTH OF BELL RD. USING ERIE'S RATING
515         KM   VALUES
516         DT    535D
517         DI       0     101     600    2410    4905
518         DQ       0      80     310    1540    3050

519         KK  RM533F
520         KM   ROUTE WESTWARD ALONG BELL RD.
521         RS       2    FLOW      -1
522         RC     .02    .015     .02    1320   .0015
523         RX       0       1       5      45      50      90      94      95
524         RY     104     102     100     101     101     100     102     104

525         KK   534R2
526         KM   RETRIEVE FLOWS GOING SOUTH ON 89TH AVE. SOUTH OF UNION HILL DR.
527         DR   534D2

528         KK  RM533G
529         RS       4    FLOW      -1
530         RC     .02    .015     .02    5280   .0049
531         RX       0       1       5      35      40      70      74      75
532         RY     104     102     100     101     101     100     102     104
            *
            *  ROUTING COMMAND REMOVED FROM MODEL.  REACH LENGTH IS TOO SHORT FOR PEAK
            *  DISCHARGE ATTENUATION.
            *
            * KKRM533H
            * RS      1    FLOW      -1
            * RC    .02    .015     .02     680   .0015
            * RX      0       1       5      35      40      70      74      75
            * RY    104     102     100     101     101     100     102     104
            *
            *   CONCLUDE PORTION OF HEC-1 FILE OBTAINED FROM THE FCDMC HYDROLOGY
            *
```

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

533           KK    534S
534           KM   RUNOFF GENERATED ON SUB-BASIN 534
535           KM   THE FOLLOWING PARAMETERS WERE PROVIDED FOR THIS BASIN
536           KM   L= 1.571 mi  S= 18 ft/mi  Kb= 0.061
537           KM   CLARK UNIT HYDROGRAPH FOR URBAN WATERSHEDS WAS USED FOR THIS BASIN
538           BA    .896
539           LG    .264    .281   7.500    .116  18.180
540           UC   1.675   1.002
541           UA       0       5      16      30      65      77      84      90      94      97
542           UA     100

543           KK   HC534
544           KM   COMBINE HYDROGRAPHS FROM SUB-BASIN 534 WITH ROUTED FLOW FROM SUB-BASIN 533
545           HC       4

546           KK  RM534A
547           KM   NORMAL DEPTH STORAGE ROUTE FLOW FROM SUB-BASIN 534 THROUGH 535
548           KM            1) Reach Length = 5114 ft
549           RS       3    FLOW      -1
550           RC    .030    .020    .030    5114   .0041
551           RX       0       0       5      10      75      80      85      85
552           RY     108     104     102     100     100     102     104     108

553           KK    535R
554           DR    535D

555           KK   535RE
556           KM   DIVERT THROUGH PARADISE LANE WESTWARD USING ERIE'S RATING VALUES
557           DT    556D
558           DI       0     144     570    2530    5490
559           DQ       0      80     310    1540    3050

560           KK  RM534C
561           RS       1    FLOW      -1
562           RC     .02    .015     .02     720   .0038
563           RX       0       1       5      35      40      70      74      75
564           RY     104     102     100     101     101     100     102     104
              *
              *  ROUTING COMMAND REMOVED FROM MODEL.  REACH LENGTH IS TOO SHORT FOR PEAK
              *  DISCHARGE ATTENUATION.  INCLUDE REACH LENGTH IN HEC-1 COMMAND RM534E.
              *
              * KKRM534D
              * KM ROUTE TO EXISTING 91ST AVE. CHANNEL WESTWARD
              * RS       1    FLOW      -1
              * RC     .03     .02     .03     560   .0036
              * RX       0      10      20      35      45      60      70      80
              * RY     108     104     102     100     100     102     104     108

565           KK  RM534E
566           KM   ROUTE THRU EXISTING DRAIN
567           RS       3    FLOW      -1
568           RC    .030    .020    .030    1810   .0042
569           RX       0       6      12      24      36      48      60      72
570           RY     108     104     102     100     100     102     104     108
```

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

571           KK   535S
572           KM   RUNOFF GENERATED ON SUB-BASIN 535
573           KM   THE FOLLOWING PARAMETERS WERE PROVIDED FOR THIS BASIN
574           KM   L= 1.176 mi  S= 22 ft/mi  Kb= 0.040
575           KM   CLARK UNIT HYDROGRAPH FOR URBAN WATERSHEDS WAS USED FOR THIS BASIN
576           BA    .642
577           LG    .301    .164   6.290    .227  20.750
578           UC    .879    .470
579           UA       0       5      16      30      65      77      84      90      94      97
580           UA     100

581           KK   HC535
582           KM   COMBINE HYDROGRAPHS AT 91ST AVE. DRAIN AND ALIGNMENT OF GREENWAY RD.
583           HC       3

584           KK   535RE
585           KM   DIVERT THRU EXISTING 91ST AVE. CHANNEL SPILLWAY PER DESIGN DRAWINGS
586           KM   DESIGN CAPACITY OF TRIPLE BARREL CULVERT = 743 CFS PLUS FB CAPACITY
587           KM   FLOW SOUTHWARD ALONG 91ST AVE. TOWARDS DESERT HARBOR MPC
588           DT   DV91S
589           DI       0     100     743    1170    1900    3000    4700
590           DQ       0       0       0       0     520    1470    2700

591           KK   RM535
592           KM   ROUTE REMAINING FLOW THRU 91ST AVE. CHANNEL TO OUTLET
593           KM   EXISTING GUNITE CHANNEL WITH 2:1 SS AS PER FCD CONSULTANT DESIGN
594           RS       1    FLOW      -1
595           RC     .02    .015     .02    1720   .0008
596           RX       0       7      14      20      28      34      41      48
597           RY     107   103.5     100     100     100     100   103.5     107
              *     *     *     *     *     *     *     *     *     *     *     *
              *                                                                 *
              *        SUBAREA GROUPING CONTRIBUTING TO NEW RIVER ABOVE         *
              *                 CONFLUENCE WITH SKUNK CREEK.                    *
              *        SUB-BASINS 540-542, 550-556, 560, 570-571 & 580-581      *
              *            TOTAL CONTRIBUTING AREA = 16.84 SQ. MI.          *
              *                                                                 *
              *     *     *     *     *     *     *     *     *     *     *     *

598           KK   540S
599           KM   RUNOFF GENERATED ON SUB-BASIN 540
600           KM   THE FOLLOWING PARAMETERS WERE PROVIDED FOR THIS BASIN
601           KM   L= 2.367 mi  S= 28 ft/mi  Kb= 0.071
602           KM   CLARK UNIT HYDROGRAPH FOR NATURAL WATERSHEDS WAS USED FOR THIS BASIN
603           BA   2.244
604           KM   RAINFALL DEPTH OF 1.50 WAS SPACIALLY REDUCED AS SHOWN BY THE PB RECORD
605           KM   AN AREAL REDUCTION COEFFICIENT OF .933 WAS USED
606           PB   1.400
607           LG    .250    .350   3.610    .315   5.020
608           UC   2.584   1.334
609           UA       0       3       5       8      12      20      43      75      90      96
610           UA     100
```

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

611           KK   RM540
612           KM   NORMAL DEPTH STORAGE ROUTE FLOW FROM SUB-BASIN 540 THROUGH 541
613           KM            1) Reach Length = 5708 ft
614           RS       5    FLOW      -1
615           RC    .040    .040    .040    5708   .0058
616           RX      40      80     180     200     225     245     260     300
617           RY      24      24      22      18      18      22      24      24

618           KK    541S
619           KM   RUNOFF GENERATED ON SUB-BASIN 541
620           KM   THE FOLLOWING PARAMETERS WERE PROVIDED FOR THIS BASIN
621           KM   L= 1.081 mi  S= 31 ft/mi  Kb= 0.088
622           KM   CLARK UNIT HYDROGRAPH FOR NATURAL WATERSHEDS WAS USED FOR THIS BASIN
623           BA    .467
624           LG    .250    .350   4.030    .408    .000
625           UC   1.839   1.196
626           UA       0       3       5       8      12      20      43 .    75      90      96
627           UA     100

628           KK   HC541
629           KM   COMBINE HYDROGRAPHS FROM SUB-BASIN 541 WITH ROUTED FLOW FROM 540
630           HC       2

631           KK   RM541
632           KM   NORMAL DEPTH STORAGE ROUTE FLOW FROM SUB-BASIN 541 THROUGH 542
633           KM            1) Reach Length = 5535 ft
634           RS       5    FLOW      -1
635           RC    .040    .040    .040    5535   .0054
636           RX     140     170     200     210     240     265     285     300
637           RY      94      92      90      86      86      90      92      94

638           KK    542S
639           KM   RUNOFF GENERATED ON SUB-BASIN 542
640           KM   THE FOLLOWING PARAMETERS WERE PROVIDED FOR THIS BASIN
641           KM   L= 1.059 mi  S= 33 ft/mi  Kb= 0.073
642           KM   CLARK UNIT HYDROGRAPH FOR NATURAL WATERSHEDS WAS USED FOR THIS BASIN
643           BA    .490
644           LG    .383    .239   3.770    .405    .740
645           UC   1.388    .837
646           UA       0       3       5       8      12      20      43      75      90      96
647           UA     100

648           KK   HC542
649           KM   COMBINE HYDROGRAPHS FROM SUB-BASIN 542 WITH ROUTED FLOW FROM 541
650           HC       2

651           KK   RM542
652           KM   NORMAL DEPTH STORAGE ROUTE FLOW FROM SUB-BASIN 542 THROUGH 553
653           KM            1) Reach Length = 5557 ft
654           RS       5    FLOW      -1
655           RC    .040    .040    .040    5557   .0061
656           RX      40      60     100     130     160     190     210     230
657           RY      72      71      70      64      64      70      71      72
              *    *    *    *    *    *    *    *    *    *    *    *    *
              *                                                            *
```

```
*     BREAK SEQUENCE - JUMP TO SUB-BASIN 550                          *
*                                                                     *
*     SUB-BASIN 550 IS LOCATED DOWNSTREAM OF NEW RIVER DAM.  THE      *
*     BF(BASE FLOW) RECORD OF HEC-1 WAS INCLUDED IN THIS SUB-BASIN    *
*     TO MODEL THE NEW RIVER DAM LOW LEVEL OUTFLOW.                   *
*     ASSUMED NO OUTFLOW FOR THE 2-YEAR STORM.                        *
*     SOURCE:  F.I.S., MARICOPA COUNTY, ARIZONA AND INCORPORATED      *
*              AREAS, FEMA.                                           *
*                                                                     *
*  *  *  *  *  *  *  *  *  *  *  *  *                                 *
```

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

658         KK   550S
659         KM   RUNOFF GENERATED ON SUB-BASIN 550
660         KM   THE FOLLOWING PARAMETERS WERE PROVIDED FOR THIS BASIN
661         KM   L= 1.701 mi  S= 63 ft/mi  Kb= 0.073
662         KM   CLARK UNIT HYDROGRAPH FOR NATURAL WATERSHEDS WAS USED FOR THIS BASIN
663         BA   1.946
664         LG    .250    .350   4.140    .431   3.600
665         UC   1.500    .607
666         UA      0       3       5       8      12      20      43      75      90      96
667         UA    100

668         KK   RM550
669         KM   NORMAL DEPTH STORAGE ROUTE FLOW FROM SUB-BASIN 550 THROUGH 551
670         KM           1) Reach Length = 8432 ft
671         RS      6    FLOW      -1
672         RC   .040    .040    .040    8432   .0044
673         RX    210     400     420     445     500     525     590     670
674         RY     32      30      26      24      24      26      30      32

675         KK   560S
676         KM   RUNOFF GENERATED ON SUB-BASIN 560
677         KM   THE FOLLOWING PARAMETERS WERE PROVIDED FOR THIS BASIN
678         KM   L= 1.866 mi  S= 192 ft/mi  Kb= 0.079
679         KM   CLARK UNIT HYDROGRAPH FOR NATURAL WATERSHEDS WAS USED FOR THIS BASIN
680         BA   1.116
681         LG    .250    .360   4.120    .268   4.150
682         UC    .879    .496
683         UA      0       3       5       8      12      20      43      75      90      96
684         UA    100

685         KK   RM560
686         KM   NORMAL DEPTH STORAGE ROUTE FLOW FROM SUB-BASIN 560 THROUGH 551
687         KM           1) Reach Length = 14187 ft
688         RS     12    FLOW      -1
689         RC   .030    .040    .030   14187   .0088
690         RX      0     215     250     280     300     320     460     560
691         RY     94      92      90      88      88      90      92      94

692         KK   551S
693         KM   RUNOFF GENERATED ON SUB-BASIN 551
694         KM   THE FOLLOWING PARAMETERS WERE PROVIDED FOR THIS BASIN
695         KM   L= 2.280 mi  S= 46 ft/mi  Kb= 0.075
696         KM   CLARK UNIT HYDROGRAPH FOR NATURAL WATERSHEDS WAS USED FOR THIS BASIN
697         BA   1.448
698         LG    .248    .349   4.190    .443    .680
699         UC   2.568   1.649
700         UA      0       3       5       8      12      20      43      75      90      96
701         UA    100
```

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

702         KK   HC551
703         KM   COMBINE HYDROGRAPHS FROM SUB-BASIN 551 WITH ROUTED FLOWS FROM 550 & 560
704         HC      3

705         KK   RM551
706         KM   NORMAL DEPTH STORAGE ROUTE FLOW FROM SUB-BASIN 551 THROUGH 552
707         KM           1) Reach Length = 5663 ft
708         RS      4    FLOW      -1
709         RC   .040    .040    .040    5663   .0056
710         RX    100     100     145     250     420     450     510     520
711         RY     92      88      78      76      76      82      84      92

712         KK   552S
713         KM   RUNOFF GENERATED ON SUB-BASIN 552
714         KM   THE FOLLOWING PARAMETERS WERE PROVIDED FOR THIS BASIN
715         KM   L= 3.216 mi  S= 46 ft/mi  Kb= 0.068
716         KM   CLARK UNIT HYDROGRAPH FOR NATURAL WATERSHEDS WAS USED FOR THIS BASIN
717         BA   2.385
718         LG   .244    .340   3.820    .363   7.320
719         UC  2.619   1.671
720         UA      0       3       5       8      12      20      43      75      90      96
721         UA    100

722         KK   HC552
723         KM   COMBINE HYDROGRAPHS FROM SUB-BASIN 552 WITH ROUTED FLOW FROM 551
724         HC      2

725         KK   RM552
726         KM   NORMAL DEPTH STORAGE ROUTE FLOW FROM SUB-BASIN 552 THROUGH 553
727         KM           1) Reach Length = 5971 ft
728         RS      5    FLOW      -1
729         RC   .040    .040    .040    5971   .0055
730         RX      0     100     130     190     310     390     450     500
731         RY     56      54      50      48      48      50      52      56
            *
            *    ARROWHEAD RANCH DEVELOPMENT
            *
            *    This section of the model was developed by Dibble and Associates
            *    Consulting Engineers for the City of Glendale to address the Storm
            *    Drainage Plan for the Arrowhead Ranch Development.  The drainage
            *    report was titled, "Specific Area Plan, Storm Drainage Plan for the
            *    Arrowhead Ranch Development" and was prepared on April 20, 1992.
            *
            *    ARROWHEAD RANCH - SECTION 18/19 - SYSTEM II
            *

732         KK    21S
733         KM   SUB-BASIN 21
734         BA   .035
735         LS            82
736         UD   .167
```

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

 737          KK    21RR
 738          KM    LAKE NO. 1
 739          RS       1    ELEV  1277.0
 740          SV     0.0     3.6     4.5     5.4     6.3     7.2
 741          SE  1277.0  1279.0  1279.5  1280.0  1280.5  1281.0
 742          SQ       0       0     5.4     8.5    10.4    12.0

 743          KK     22S
 744          KM    SUB-BASIN 22
 745          BA    .027
 746          LS              92
 747          UD    .167

 748          KK    HC22
 749          HC       2

 750          KK    22RR
 751          KM    LAKE NO. 2
 752          RS       1    ELEV  1276.5
 753          SV     0.0     0.3     0.7     1.2     1.6     2.2     2.7     3.3
 754          SE  1276.5  1277.0  1277.5  1278.0  1278.5  1279.0  1279.5  1280.0
 755          SQ       0     7.1    14.1    19.7    42.4    92.7   164.8   200.0

 756          KK     23S
 757          KM    SUB-BASIN 23
 758          BA    .009
 759          LS              86
 760          UD    .167

 761          KK    HC23
 762          HC       2

 763          KK    23RR
 764          KM    LAKE NO. 3
 765          RS       1    ELEV  1275.0
 766          SV     0.0      .3      .7     1.1     1.5    2.00     2.5
 767          SE  1275.0  1275.5  1276.0  1276.5  1277.0  1277.5  1278.0
 768          SQ       0     8.7    15.3    22.3    49.6   106.0   180.4

 769          KK     24S
 770          KM    SUB-BASIN 24
 771          BA    .006
 772          LS              87
 773          UD    .167

 774          KK    HC24
 775          HC       2

 776          KK    24RR
 777          KM    LAKE NO. 4
 778          RS       1    ELEV  1272.0
 779          SV       0      .3      .7     1.1     1.6     2.0     2.5
 780          SE  1272.0  1272.5  1273.0  1273.5  1274.0  1274.5  1275.0
 781          SQ       0     8.7    15.3    22.3    49.6   106.0   180.4
```

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

 782          KK     25S
 783          KM    SUB-BASIN 25
 784          BA    .051
 785          LS              85
 786          UD    .167

 787          KK    HC25
 788          HC       2

 789          KK    25RR
 790          KM    LAKE NO. 5
 791          RS       1    ELEV  1268.0
 792          SV       0    1.75     3.5    5.31     7.2    9.15    11.2    13.3
 793          SE  1267.5  1268.0  1268.5  1269.0  1269.5  1270.0  1270.5  1271.0
 794          SQ       0     0.8     4.1    8.16     9.5    13.4    16.4    19.0

 795          KK     27S
 796          KM    SUB-BASIN 27
 797          BA    .123
 798          LS              82
 799          UD    .167

 800          KK    27RR
 801          KM    DETENTION BASIN NO. 7
 802          RS       1    ELEV  1278.0
 803          SV       0     1.9     3.9     5.9     7.9     9.9    12.1
 804          SE  1278.0  1278.5  1279.0  1279.5  1280.0  1280.5  1281.5
 805          SQ       0     5.4     7.6     9.2    10.6    12.0    13.2

 806          KK     29S
 807          KM    COMBINE SUB-BASIN 28 & 29
 808          BA    .063
 809          LS              77
 810          UD    .167

 811          KK    HC29
 812          HC       2

 813          KK     30S
 814          KM    SUB-BASIN 30
 815          BA    .056
 816          LS              84
 817          UD    .167

 818          KK    30RR
 819          KM    DETENTION BASIN 10
 820          RS       1    ELEV  1265.0
 821          SV       0     .78    1.58    2.40    3.25    4.13    5.03
 822          SE  1265.0  1265.5  1266.0  1266.5  1267.0  1267.5  1268.0
 823          SQ       0     5.4     8.5    10.4    12.0    13.5    14.7
```

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

824           KK    HC30
825           HC      2

826           KK     31S
827           KM    SUB-BASIN 31
828           BA    .053
829           LS              77
830           UD    .167

831           KK    HC31
832           HC      3

833           KK     32S
834           KM    COMBINE SUB-BASIN 26 & 32
835           BA    .053
836           LS              77
837           UD    .167

838           KK    HC32
839           HC      2

840           KK     34S
841           KM    COMBINE SUB-BASIN 33 & 34
842           BA    .076
843           LS              77
844           UD    .167

845           KK    HC34
846           KM    OUTFLOW FROM SYSTEM II
847           HC      2
              *
              *    ARROWHEAD RANCH - SECTION 18 - SYSTEM III
              *

848           KK     41S
849           KM    SUB-BASIN 41
850           BA    .023
851           LS              86
852           UD    .167

853           KK     42S
854           KM    SUB-BASIN 42
855           BA    .070
856           LS              80
857           UD    .167

858           KK    HC42
859           HC      2
```

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

 860          KK    42RR
 861          KM    LAKE NO. 1
 862          RS       1    ELEV  1303.0
 863          SV       0    1.32    2.66    4.05    5.49
 864          SE  1303.0  1303.5  1304.0  1304.5  1305.0
 865          SQ       0    12.0    13.5    15.4    29.6

 866          KK     43S
 867          KM    SUB-BASIN 43
 868          BA    .007
 869          LS              68
 870          UD    .167

 871          KK    HC43
 872          HC       2

 873          KK     44S
 874          KM    SUB-BASIN 44
 875          BA    .034
 876          LS              81
 877          UD    .167

 878          KK    HC44
 879          HC       2

 880          KK     45S
 881          KM    SUB-BASIN 45
 882          BA    .017
 883          LS              92
 884          UD    .167

 885          KK     46S
 886          KM    SUB-BASIN 46
 887          BA    .057
 888          LS              85
 889          UD    .167

 890          KK    HC46
 891          HC       2

 892          KK    46RR
 893          KM    LAKE NO. 3
 894          RS       1    ELEV  1300.0
 895          SV       0    1.39    2.81    4.30    5.86    7.44    9.19   10.97   12.81
 896          SE  1300.0  1300.5  1301.0  1301.5  1302.0  1302.5  1303.0  1303.5  1304.0
 897          SQ       0   11.32   18.50   24.75   68.41  175.58  515.84  478.47  662.59

 898          KK     47S
 899          KM    SUB-BASIN 47
 900          BA    .034
 901          LS              84
 902          UD    .167
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

903           KK   HC47A
904           HC      2

905           KK   HC47B
906           HC      2

907           KK    47RR
908           KM    LAKE NO. 2
909           RS      1    ELEV  1289.0
910           SV      0     1.2    2.42    3.67    4.95
911           SE  1289.0  1289.5  1290.0  1290.5  1291.0
912           SQ      0     6.5    17.2    51.0   118.5

913           KK     48S
914           KM    SUB-BASIN 48
915           BA    .057
916           LS              83
917           UD    .167

918           KK    HC48
919           HC      2

920           KK    48RR
921           KM    LAKE NO. 4
922           RS      1    ELEV  1287.0
923           SV      0     .45     .90    1.37    1.85
924           SE  1287.0  1287.5  1288.0  1288.5  1289.0
925           SQ      0   34.65   79.50  127.20  170.70

926           KK     49S
927           KM    SUB-BASIN 49
928           BA    .037
929           LS              61
930           UD    .167

931           KK    HC49
932           HC      2

933           KK     50S
934           KM    SUB-BASIN 50
935           BA    .022
936           LS              84
937           UD    .167

938           KK    HC50
939           HC      2

940           KK     52S
941           KM    SUB-BASIN 52
942           BA    .010
943           LS              92
944           UD    .167
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 945          KK     53S
 946          KM    SUB-BASIN 53
 947          BA    .030
 948          LS              87
 949          UD    .167

 950          KK    HC53
 951          HC       2

 952          KK    53RR
 953          KM    LAKE NO. 5
 954          RS       1    ELEV  1297.0
 955          SV       0     .44     .89    1.38    1.89    2.43    3.00    3.60    4.23
 956          SE  1297.0  1297.5  1298.0  1298.5  1299.0  1299.5  1300.0  1300.5  1301.0
 957          SQ       0    8.15   14.50   28.24   64.15  117.14  178.85  250.28  329.60

 958          KK     54S
 959          KM    SUB-BASIN 54
 960          BA    .027
 961          LS              92
 962          UD    .167

 963          KK     55S
 964          KM    SUB-BASIN 55
 965          BA    .020
 966          LS              88
 967          UD    .167

 968          KK   HC55A
 969          HC       2

 970          KK   HC55B
 971          HC       2

 972          KK    55RR
 973          KM    LAKE NO. 6
 974          RS       1    ELEV  1294.0
 975          SV       0     .62    1.25    1.90    2.60    3.33    4.99    5.70
 976          SE  1294.0  1294.5  1295.0  1295.5  1296.0  1296.5  1297.5  1298.0
 977          SQ       0    8.15   21.60   59.15  110.62  172.74  323.46  410.25

 978          KK     56S
 979          KM    SUB-BASIN 56
 980          BA    .040
 981          LS              83
 982          UD    .167

 983          KK     57S
 984          KM    SUB-BASIN 57
 985          BA    .104
 986          LS              82
 987          UD    .167
```

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

 988          KK   HC57A
 989          HC      2

 990          KK   HC57B
 991          HC      2

 992          KK    57RR
 993          KM    LAKE NO. 7
 994          RS      1    ELEV  1290.0
 995          SV      0     .42     .85    1.32    1.81    2.35
 996          SE  1290.0  1290.5  1291.0  1291.5  1292.0  1292.5
 997          SQ      0   55.37  139.73  246.52  361.01  489.63

 998          KK     58S
 999          KM    SUB-BASIN 58
1000          BA    .006
1001          LS              79
1002          UD    .167

1003          KK    HC58
1004          HC      2

1005          KK     51S
1006          KM    SUB-BASIN 51
1007          BA    .128
1008          LS              85
1009          UD    .167

1010          KK    HC51
1011          HC      3

1012          KK   51RR1
1013          KM    LAKE NO.8
1014          RS      1    ELEV  1277.0
1015          SV      0    3.63    7.31   11.10   14.99    19.0   27.29
1016          SE  1277.5  1278.0  1278.5  1279.0  1279.5  1280.0  1280.5
1017          SQ      0   47.73  149.77  274.47  422.96  590.56  776.30

1018          KK   51RR2
1019          KM    LAKE NO. 9
1020          RS      1    ELEV  1273.0
1021          SV      0     .79    1.58    2.41    3.26
1022          SE  1273.0  1273.5  1274.0  1274.5  1275.0
1023          SQ      0   72.24  202.66  372.95  558.36

1024          KK     61S
1025          KM    COMBINE SUB-BASINS 59, 60 & 61
1026          BA    .124
1027          LS              77
1028          UD    .167
```

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

1029        KK    HC61
1030        HC       2

1031        KK    61RR
1032        KM    LAKE NO. 10
1033        RS       1    ELEV  1265.0
1034        SV       0     4.1    9.60   12.50    15.5    21.6    24.7    28.0    31.2    34.6
1035        SE  1265.0  1265.5  1266.5  1267.0  1267.5  1268.0  1268.5  1269.0  1269.5  1270.0
1036        SQ       0       0    36.0    54.0    72.0   105.0   204.4   359.2   539.2   746.9

1037        KK   HC570
1038        KM    COMBINE OUTFLOW FROM SYSTEM III WITH SYSTEM II
1039        HC       2
            *
            *
            *   CONCLUDE PORTION OF HEC-1 MODEL INPUT OBTAINED FROM ARROWHEAD RANCH
            *   DEVELOPMENT REPORT BY DIBBLE & ASSOCIATES.
            *
            *

1040        KK   RM570
1041        KM   NORMAL DEPTH STORAGE ROUTE FLOW FROM SUB-BASIN 570 THROUGH 571
1042        KM            1) Reach Length = 5301 ft
1043        RS       6    FLOW      -1
1044        RC    .030    .020    .030    5301   .0009
1045        RX      28      68      88     100     112     124     144     154
1046        RY     108     107     106     100     100     106     107     108

1047        KK    571S
1048        KM   RUNOFF GENERATED ON SUB-BASIN 571
1049        KM   THE FOLLOWING PARAMETERS WERE PROVIDED FOR THIS BASIN
1050        KM   L= 2.272 mi  S= 26 ft/mi  Kb= 0.044
1051        KM   CLARK UNIT HYDROGRAPH FOR NATURAL WATERSHEDS WAS USED FOR THIS BASIN
1052        BA   1.345
1053        LG    .409    .109   5.980    .266   9.130
1054        UC   1.547    .978
1055        UA       0       3       5       8      12      20      43      75      90      96
1056        UA     100

1057        KK   HC571
1058        KM   COMBINE HYDROGRAPHS FROM SUB-BASIN 571 WITH ROUTED FLOW FROM 570
1059        HC       2

1060        KK   RM571
1061        KM   NORMAL DEPTH STORAGE ROUTE FLOW FROM SUB-BASIN 571 THROUGH 553
1062        KM            1) Reach Length = 3194 ft
1063        RS       3    FLOW      -1
1064        RC    .030    .020    .030    3194   .0009
1065        RX      28      68      88     100     112     124     144     154
1066        RY     108     107     106     100     100     106     107     108
```

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

1067        KK   553S
1068        KM   RUNOFF GENERATED ON SUB-BASIN 553
1069        KM   THE FOLLOWING PARAMETERS WERE USED FOR THIS BASIN
1070        KM   L= 1.052 mi  S= 38 ft/mi  Kb= 0.056
1071        KM   CLARK UNIT HYDROGRAPH FOR NATURAL WATERSHEDS WAS USED FOR THIS BASIN
1072        BA    .933
1073        LG    .419    .165   5.360    .284   2.760
1074        UC    .917    .364
1075        UA       0       3       5       8      12      20      43      75      90      96
1076        UA     100

1077        KK   HC553
1078        KM   COMBINE HYDROGRAPHS FROM SUB-BASIN 553 WITH ROUTED FLOWS FROM 541, 552
1079        KM   AND 571
1080        HC       4

1081        KK   RM553
1082        KM   NORMAL DEPTH STORAGE ROUTE FLOW FROM SUB-BASIN 553 THROUGH 554
1083        KM            1) Reach Length = 5660 ft
1084        RS       4    FLOW      -1
1085        RC    .040    .040    .040    5660   .0041
1086        RX     100     150     210     240     300     350     370     400
1087        RY      36      34      28      22      22      24      30      36

1088        KK   554R1
1089        DR   554D1

1090        KK   554R2
1091        DR   554D2

1092        KK   554S
1093        KM   RUNOFF GENERATED ON SUB-BASIN 554
1094        KM   THE FOLLOWING PARAMETERS WERE PROVIDED FOR THIS BASIN
1095        KM   L= 1.531 mi  S= 25 ft/mi  Kb= 0.064
1096        KM   CLARK UNIT HYDROGRAPH FOR NATURAL WATERSHEDS WAS USED FOR THIS BASIN
1097        BA    .540
1098        LG    .326    .248   3.610    .347  17.170
1099        UC   1.596   1.242
1100        UA       0       3       5       8      12      20      43      75      90      96
1101        UA     100

1102        KK   HC554
1103        KM   COMBINE HYDROGRAPHS FROM SUB-BASIN 554 WITH ROUTED FLOWS FROM 553
1104        KM   AND DIVERTED FLOWS FROM 532 & 533
1105        HC       4

1106        KK   RM554
1107        KM   NORMAL DEPTH STORAGE ROUTE FLOW FROM SUB-BASIN 554 THROUGH 555
1108        KM            1) Reach Length = 5771 ft
1109        RS       4    FLOW      -1
1110        RC    .040    .040    .040    5771   .0047
1111        RX      80     100     160     220     240     250     480     500
1112        RY     104     104      96      92      92      96      97     104
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LINE        ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1113        KK   555R1
1114        DR   555D1

1115        KK   555R2
1116        DR   555D2

1117        KK    555S
1118        KM   RUNOFF GENERATED ON SUB-BASIN 555
1119        KM   THE FOLLOWING PARAMETERS WERE PROVIDED FOR THIS BASIN
1120        KM   L= 1.108 mi  S= 34 ft/mi  Kb= 0.068
1121        KM   CLARK UNIT HYDROGRAPH FOR NATURAL WATERSHEDS WAS USED FOR THIS BASIN
1122        BA    .536
1123        LG    .326    .293   5.050    .252  11.750
1124        UC   1.167    .680
1125        UA       0       3       5       8      12      20      43      75      90      96
1126        UA     100

1127        KK  HC555A
1128        KM   COMBINE HYDROGRAPHS FROM SUB-BASIN 555 WITH ROUTED FLOW FROM 554
1129        KM   AND DIVERTED FLOWS FROM 533 & 534
1130        HC       4
            *
            *
            *   BEGIN PORTION OF HEC-1 MODEL INPUT OBTAINED FROM ARROWHEAD RANCH
            *   DEVELOPMENT REPORT BY DIBBLE & ASSOCIATES.
            *
            *
            *    ARROWHEAD RANCH - SECTION 25/26 - SYSTEM VI
            *

1131        KK     91S
1132        KM    SUB-BASIN 91
1133        BA    .069
1134        LS              77
1135        UD     .20

1136        KK     92S
1137        KM    SUB-BASIN 92
1138        BA    .033
1139        LS              84
1140        UD    .167

1141        KK    HC92
1142        HC       2

1143        KK    92RR
1144        KM    LAKE NO. 2
1145        RS       1    ELEV  1242.0
1146        SV     0.0     2.9     4.4     5.9     7.4     9.0    10.6    18.5    20.3    22.1
1147        SE  1242.0  1243.0  1243.5  1244.0  1244.5  1245.0  1245.5  1247.8  1248.3  1248.8
1148        SQ       0     .02     .03     .04     .05     .06     .07     .08    49.0   140.0
```

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

1149          KK     93S
1150          KM    SUB-BASIN 93
1151          BA    .061
1152          LS              71
1153          UD     .20

1154          KK    HC93
1155          HC       2

1156          KK    93RR
1157          KM    LAKE NO. 3
1158          RS       1    ELEV  1236.0
1159          SV     0.0     2.3     4.6     6.9     9.3    11.7    14.2
1160          SE  1236.0  1236.5  1237.0  1237.5  1238.0  1238.5  1239.0
1161          SQ       0     5.4     8.5    10.4    12.0    13.5    14.7

1162          KK     94S
1163          KM    SUB-BASIN 94
1164          BA    .077
1165          LS              76
1166          UD     .20

1167          KK    HC94
1168          HC       2

1169          KK     95S
1170          KM    SUB-BASIN 95
1171          BA    .068
1172          LS              75
1173          UD    .167

1174          KK    HC95
1175          HC       2

1176          KK     96S
1177          KM    SUB-BASIN 96
1178          BA    .086
1179          LS              84
1180          UD    .300

1181          KK    96RR
1182          KM    LAKE NO. 4
1183          RS       1    ELEV  1237.0
1184          SV     0.0     1.7     3.4     5.2     7.0     8.8    10.7
1185          SE  1237.0  1237.5  1238.0  1238.5  1239.0  1239.5  1240.0
1186          SQ     0.0     7.2    15.1    18.5    21.4    23.9    26.2

1187          KK     97S
1188          KM    SUB-BASIN 97
1189          BA    .071
1190          LS              71
1191          UD    .800
```

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

1192          KK    HC97
1193          HC       3

1194          KK    97RR
1195          KM    LAKE NO. 5
1196          RS       1    ELEV  1230.0
1197          SV     0.0     1.8     3.7     5.6     7.5     9.4    11.4    14.7    16.8    19.0
1198          SE  1230.0  1230.5  1231.0  1231.5  1232.0  1232.5  1233.0  1233.8  1234.3  1234.8
1199          SQ     0.0    0.01    0.02    0.03    0.04    0.05    0.06    0.08   124.0   350.0

1200          KK     98S
1201          KM    SUB-BASIN 98
1202          BA    .018
1203          LS              84
1204          UD    .167

1205          KK    98RR
1206          KM    LAKE NO. 6
1207          RS       1    ELEV  1230.0
1208          SV     0.0     0.5     1.1     1.7     2.3     2.9     3.5
1209          SE  1230.0  1230.5  1231.0  1231.5  1232.0  1232.5  1233.0
1210          SQ     0.0     7.2    15.1    18.5    21.4    23.9    26.2

1211          KK    HC98
1212          HC       2

1213          KK     99S
1214          KM    SUB-BASIN 99
1215          BA    .047
1216          LS              77
1217          UD    .167

1218          KK    HC99
1219          HC       2

1220          KK    99RR
1221          KM    LAKE NO.7
1222          RS       1    ELEV  1229.0
1223          SV     0.0     1.9     3.8     5.8     7.8     9.8    11.9
1224          SE  1229.0  1229.5  1230.0  1230.5  1231.0  1231.5  1232.0
1225          SQ     0.0     7.2    15.1    18.5    21.4    23.9    26.2

1226          KK     90S
1227          KM    SUB-BASIN 90
1228          BA    .077
1229          LS              77
1230          UD    .300

1231          KK   HC580
1232          KM    OUTFLOW FROM SYSTEM VI
1233          HC       2
              *
              *
              *   CONCLUDE PORTION OF HEC-1 MODEL INPUT OBTAINED FROM ARROWHEAD RANCH
              *   DEVELOPMENT REPORT BY DIBBLE & ASSOCIATES.
```

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

1234          KK   RM580
1235          KM   NORMAL DEPTH STORAGE ROUTE FLOW FROM SUB-BASIN 580 THROUGH 581
1236          KM            1) Reach Length = 5515 ft
1237          RS       6    FLOW      -1
1238          RC    .030    .020    .030    5515   .0047
1239          RX     148     168     188     200     208     220     260     300
1240          RY     110     107     106     100     100     106     108     109

1241          KK    581S
1242          KM   RUNOFF GENERATED ON SUB-BASIN 581
1243          KM   THE FOLLOWING PARAMETERS WERE PROVIDED FOR THIS BASIN
1244          KM   L= 1.836 mi  S= 15 ft/mi  Kb= 0.033
1245          KM   CLARK UNIT HYDROGRAPH FOR URBAN WATERSHEDS WAS USED FOR THIS BASIN
1246          BA    .823
1247          LG    .206    .184   3.920    .429  54.370
1248          UC    .896    .595
1249          UC   1.183    .810
1250          UA       0       5      16      30      65      77      84      90      94      97
1251          UA     100

1252          KK   HC581
1253          KM   COMBINE HYDROGRAPHS FROM SUB-BASIN 581 WITH ROUTED FLOW FROM 580
1254          HC       2

1255          KK  HC555B
1256          KM   COMBINE HYDROGRAPHS FROM SUB-BASIN 555 WITH 581
1257          HC       2

1258          KK   RM555
1259          KM   NORMAL DEPTH STORAGE ROUTE FLOW FROM SUB-BASIN 555 & 581 THROUGH 556
1260          KM            1) Reach Length = 7336 ft
1261          RS       5    FLOW      -1
1262          RC    .040    .040    .040    7336   .0054
1263          RX       0      20      80     250     440     480     530     560
1264          RY      84      80      76      74      74      80      90      92

1265          KK    556R
1266          DR    556D

1267          KK    556S
1268          KM   RUNOFF GENERATED ON SUB-BASIN 556
1269          KM   THE FOLLOWING PARAMETERS WERE PROVIDED FOR THIS BASIN
1270          KM   L= 1.379 mi  S= 26 ft/mi  Kb= 0.053
1271          KM   CLARK UNIT HYDROGRAPH FOR URBAN WATERSHEDS WAS USED FOR THIS BASIN
1272          BA    .558
1273          LG    .426    .110   3.920    .514   8.400
1274          UC   1.350    .931
1275          UA       0       5      16      30      65      77      84      90      94      97
1276          UA     100
```

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

1277        KK  HC556A
1278        KM   COMBINE HYDROGRAPHS FROM SUB-BASIN 556 WITH ROUTED FLOWS FROM 535,
1279        KM   556 & 581.  ALSO, TOTAL FLOW FROM NEW RIVER UPSTREAM OF ITS CONFLUENCE
1280        KM   WITH SKUNK CREEK.
1281        HC       4

1282        KK    408S
1283        KM   RUNOFF GENERATED ON SUB-BASIN 408
1284        KM   THE FOLLOWING PARAMETERS WERE PROVIDED FOR THIS BASIN
1285        KM   L= 1.935 mi  S= 22 ft/mi  Kb= 0.057
1286        KM   CLARK UNIT HYDROGRAPH FOR URBAN WATERSHEDS WAS USED FOR THIS BASIN
1287        BA   1.076
1288        LG    .298    .275   3.870    .415  18.170
1289        UC   1.980   1.284
1290        UA       0       5      16      30      65      77      84      90      94      97
1291        UA     100
1292        ZZ
```

```
****************************************
*                                      *
*  FLOOD HYDROGRAPH PACKAGE  (HEC-1)   *
*            MAY   1991                *
*          VERSION 4.0.1E              *
*                                      *
* RUN DATE  01/25/95  TIME  13:27:13   *
*                                      *
****************************************
```

```
****************************************
*                                      *
*   U.S. ARMY CORPS OF ENGINEERS       *
*   HYDROLOGIC ENGINEERING CENTER      *
*         609 SECOND STREET            *
*      DAVIS, CALIFORNIA 95616         *
*          (916) 551-1748              *
*                                      *
****************************************
```

ACDC AREA DRAINAGE MASTER STUDY
FILENAME: NR124.DAT KHE JOB NO. 0146
WATERSHED CONTRIBUTING TO NEW RIVER UP TO ITS CONFLUENCE WITH
SKUNK CREEK

2-YEAR 24-HOUR DURATION STORM FOR EXISTING CONDITIONS

```
9 IO        OUTPUT CONTROL VARIABLES
                 IPRNT          5  PRINT CONTROL
                 IPLOT          0  PLOT CONTROL
                 QSCAL         0.  HYDROGRAPH PLOT SCALE

  IT        HYDROGRAPH TIME DATA
                  NMIN          4  MINUTES IN COMPUTATION INTERVAL
                 IDATE      1   0  STARTING DATE
                 ITIME       0000  STARTING TIME
                    NQ        800  NUMBER OF HYDROGRAPH ORDINATES
                NDDATE      3   0  ENDING DATE
                NDTIME       0516  ENDING TIME
                 ICENT         19  CENTURY MARK

            COMPUTATION INTERVAL    0.07 HOURS
                 TOTAL TIME BASE   53.27 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
```

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	500S	5.	13.20	2.	1.	0.	0.41		
ROUTED TO	RM500	4.	15.20	2.	1.	0.	0.41	100.05	15.20
HYDROGRAPH AT	501S	0.	0.07	0.	0.	0.	0.52		
2 COMBINED AT	HC501	4.	15.20	2.	1.	0.	0.93		
ROUTED TO	RM501	3.	18.27	2.	1.	0.	0.93	100.05	18.27
HYDROGRAPH AT	502S	0.	0.07	0.	0.	0.	0.55		
HYDROGRAPH AT	510S	16.	12.73	5.	2.	1.	0.63		
ROUTED TO	RM510	14.	13.60	5.	2.	1.	0.63	99.21	13.60
HYDROGRAPH AT	511S	1.	13.07	0.	0.	0.	0.44		
2 COMBINED AT	HC511	14.	13.60	6.	2.	1.	1.06		
ROUTED TO	RM511	12.	14.67	6.	2.	1.	1.06	99.21	14.67
HYDROGRAPH AT	512S	1.	13.60	0.	0.	0.	0.47		
2 COMBINED AT	HC512A	12.	14.67	6.	2.	1.	1.53		
DIVERSION TO	533D	6.	14.67	3.	1.	0.	1.53		
HYDROGRAPH AT	502RE	6.	14.67	3.	1.	0.	1.53		
3 COMBINED AT	HC502	7.	14.67	5.	2.	1.	3.02		
ROUTED TO	RM502	6.	15.67	5.	2.	1.	3.02	100.03	15.67
HYDROGRAPH AT	503S	72.	13.27	34.	12.	5.	0.95		
2 COMBINED AT	HC503	73.	13.27	37.	14.	6.	3.97		
ROUTED TO	503RR	10.	20.13	10.	8.	5.	3.97	26.39	20.20
ROUTED TO	RM503	10.	20.53	10.	8.	5.	3.97	100.16	20.53
HYDROGRAPH AT	533R	6.	14.67	3.	1.	0.	0.00		
HYDROGRAPH AT	533A	2.	12.07	0.	0.	0.	0.01		
2 COMBINED AT	HC512B	6.	14.67	3.	1.	1.	0.01		
ROUTED TO	RM512	6.	15.13	3.	1.	1.	0.01	100.17	15.13
HYDROGRAPH AT	533B	69.	12.20	15.	5.	2.	0.28		

ROUTED TO	533RR1	16.	13.27	13.	5.	2.	0.28	30.05	13.27
2 COMBINED AT	HC533A	20.	15.07	16.	6.	3.	0.29		
HYDROGRAPH AT	520S	35.	12.40	8.	3.	1.	0.68		
DIVERSION TO	530D	35.	0.07	8.	3.	1.	0.68		
HYDROGRAPH AT	520RE	0.	0.07	0.	0.	0.	0.68		
ROUTED TO	RM520	0.	0.07	0.	0.	0.	0.68	100.00	0.00
HYDROGRAPH AT	521S	104.	12.53	19.	6.	3.	0.62		
2 COMBINED AT	HC521	104.	12.53	19.	6.	3.	1.29		
ROUTED TO	RM521	78.	13.20	19.	6.	3.	1.29	100.39	13.20
HYDROGRAPH AT	522S	4.	13.33	1.	0.	0.	0.51		
2 COMBINED AT	HC522	82.	13.20	20.	6.	3.	1.80		
HYDROGRAPH AT	533C	35.	12.33	7.	2.	1.	0.12		
2 COMBINED AT	HC533B	91.	13.20	27.	8.	4.	1.92		
ROUTED TO	533RR2	63.	13.67	24.	8.	4.	1.92	35.25	13.67
HYDROGRAPH AT	533D	21.	12.80	7.	2.	1.	0.10		
2 COMBINED AT	HC533C	75.	13.60	31.	10.	5.	2.02		
ROUTED TO	533RR3	16.	17.27	16.	9.	5.	2.02	29.59	17.27
HYDROGRAPH AT	533E	4.	12.13	1.	0.	0.	0.01		
2 COMBINED AT	HC533D	16.	17.20	16.	9.	5.	2.04		
ROUTED TO	533RR4	16.	17.27	16.	9.	5.	2.04	34.07	17.27
HYDROGRAPH AT	530S	152.	12.27	19.	6.	3.	0.82		
HYDROGRAPH AT	R530	35.	12.40	8.	3.	1.	0.00		
2 COMBINED AT	HC530	184.	12.27	28.	9.	4.	0.82		
ROUTED TO	RM530	136.	12.73	27.	9.	4.	0.82	100.53	12.73
HYDROGRAPH AT	531S	172.	12.67	32.	9.	4.	0.65		
2 COMBINED AT	HC531	303.	12.67	60.	18.	8.	1.47		
ROUTED TO	RM531	255.	13.27	59.	18.	8.	1.47	100.82	13.27
HYDROGRAPH AT	532S	97.	12.67	16.	4.	2.	0.52		
2 COMBINED AT	HC532	301.	13.20	75.	22.	10.	2.00		
DIVERSION TO	554D1	211.	13.20	53.	15.	7.	2.00		

HYDROGRAPH AT	532RE	90.	13.20	23.	7.	3.	2.00		
HYDROGRAPH AT	533F	17.	12.27	3.	1.	1.	0.06		
2 COMBINED AT	HC533E	94.	13.20	26.	8.	3.	2.06		
HYDROGRAPH AT	533G	18.	12.27	4.	1.	1.	0.08		
2 COMBINED AT	HC533F	99.	13.20	30.	9.	4.	2.14		
ROUTED TO	533RR6	20.	14.67	18.	8.	4.	2.14	29.30	14.73
2 COMBINED AT	HC533G	35.	16.07	34.	18.	9.	4.18		
ROUTED TO	RM522B	35.	16.33	33.	18.	9.	4.18	100.35	16.33
HYDROGRAPH AT	533H	15.	12.20	3.	1.	0.	0.03		
2 COMBINED AT	HC533H	36.	16.07	34.	18.	9.	4.21		
HYDROGRAPH AT	533I	25.	12.47	6.	2.	1.	0.08		
ROUTED TO	533RR8	8.	13.33	5.	2.	1.	0.08	28.64	13.33
2 COMBINED AT	HC533I	41.	14.93	38.	20.	10.	4.29		
ROUTED TO	RM522C	41.	15.07	38.	20.	10.	4.29	100.28	15.07
HYDROGRAPH AT	533J	16.	12.13	3.	1.	0.	0.03		
2 COMBINED AT	HC533J	41.	15.00	38.	21.	10.	4.33		
HYDROGRAPH AT	533K	14.	12.27	3.	1.	0.	0.06		
ROUTED TO	533RR9	9.	12.53	3.	1.	0.	0.06	26.80	12.53
2 COMBINED AT	HC533K	42.	14.87	39.	22.	11.	4.38		
DIVERSION TO	554D2	0.	14.87	0.	0.	0.	4.38		
HYDROGRAPH AT	533RE1	42.	14.87	39.	22.	11.	4.38		
DIVERSION TO	555D1	0.	14.87	0.	0.	0.	4.38		
HYDROGRAPH AT	533RE2	42.	14.87	39.	22.	11.	4.38		
DIVERSION TO	534D1	0.	14.87	0.	0.	0.	4.38		
HYDROGRAPH AT	533RE3	42.	14.87	39.	22.	11.	4.38		
DIVERSION TO	534D2	0.	14.87	0.	0.	0.	4.38		
HYDROGRAPH AT	533RE4	42.	14.87	39.	22.	11.	4.38		
ROUTED TO	RM533C	42.	15.07	39.	22.	11.	4.38	100.80	15.07
3 COMBINED AT	HC533L	69.	15.13	61.	35.	19.	8.64		
ROUTED TO	RM533D	68.	15.53	61.	35.	19.	8.64	100.69	15.53

HYDROGRAPH AT	534R1	0.	0.07	0.	0.	0.	0.00		
ROUTED TO	RM533E	0.	0.07	0.	0.	0.	0.00	100.00	0.00
DIVERSION TO	555D2	0.	0.07	0.	0.	0.	0.00		
HYDROGRAPH AT	533RE6	0.	0.07	0.	0.	0.	0.00		
DIVERSION TO	535D	0.	0.07	0.	0.	0.	0.00		
HYDROGRAPH AT	533RE7	0.	0.07	0.	0.	0.	0.00		
ROUTED TO	RM533F	0.	0.07	0.	0.	0.	0.00	100.00	0.00
HYDROGRAPH AT	534R2	0.	0.07	0.	0.	0.	0.00		
ROUTED TO	RM533G	0.	0.07	0.	0.	0.	0.00	100.00	0.00
HYDROGRAPH AT	534S	77.	12.73	29.	9.	4.	0.90		
4 COMBINED AT	HC534	126.	12.87	86.	43.	23.	9.54		
ROUTED TO	RM534A	123.	13.20	85.	43.	23.	9.54	100.55	13.20
HYDROGRAPH AT	535R	0.	0.07	0.	0.	0.	0.00		
DIVERSION TO	556D	0.	0.07	0.	0.	0.	0.00		
HYDROGRAPH AT	535RE	0.	0.07	0.	0.	0.	0.00		
ROUTED TO	RM534C	0.	0.07	0.	0.	0.	0.00	100.00	0.00
ROUTED TO	RM534E	0.	0.07	0.	0.	0.	0.00	100.00	0.00
HYDROGRAPH AT	535S	89.	12.33	20.	6.	3.	0.64		
3 COMBINED AT	HC535	160.	13.00	99.	49.	26.	10.18		
DIVERSION TO	DV91S	0.	13.00	0.	0.	0.	10.18		
HYDROGRAPH AT	535RE	160.	13.00	99.	49.	26.	10.18		
ROUTED TO	RM535	158.	13.13	99.	49.	26.	10.18	101.77	13.13
HYDROGRAPH AT	540S	30.	13.93	14.	5.	2.	2.24		
ROUTED TO	RM540	28.	14.67	14.	5.	2.	2.24	18.54	14.67
HYDROGRAPH AT	541S	0.	0.07	0.	0.	0.	0.47		
2 COMBINED AT	HC541	28.	14.67	14.	5.	2.	2.71		
ROUTED TO	RM541	26.	15.33	14.	5.	2.	2.71	86.48	15.33
HYDROGRAPH AT	542S	1.	12.93	0.	0.	0.	0.49		
2 COMBINED AT	HC542	26.	15.33	14.	5.	2.	3.20		
ROUTED TO	RM542	23.	16.13	14.	5.	2.	3.20	64.44	16.13

HYDROGRAPH AT	550S	23.	13.00	7.	3.	1.	1.95		
ROUTED TO	RM550	15.	14.80	7.	3.	1.	1.95	24.19	14.80
HYDROGRAPH AT	560S	33.	12.60	7.	2.	1.	1.12		
ROUTED TO	RM560	18.	14.33	7.	2.	1.	1.12	88.39	14.33
HYDROGRAPH AT	551S	2.	13.93	1.	0.	0.	1.45		
3 COMBINED AT	HC551	33.	14.47	15.	5.	2.	4.51		
ROUTED TO	RM551	30.	15.27	15.	5.	2.	4.51	76.07	15.27
HYDROGRAPH AT	552S	31.	14.00	17.	6.	3.	2.38		
2 COMBINED AT	HC552	53.	15.00	32.	12.	5.	6.90		
ROUTED TO	RM552	49.	16.13	32.	12.	5.	6.90	48.25	16.13
HYDROGRAPH AT	21S	5.	12.07	1.	0.	0.	0.04		
ROUTED TO	21RR	0.	0.07	0.	0.	0.	0.04	1277.30	24.53
HYDROGRAPH AT	22S	11.	12.07	2.	1.	0.	0.03		
2 COMBINED AT	HC22	11.	12.07	2.	1.	0.	0.06		
ROUTED TO	22RR	6.	12.27	2.	1.	0.	0.06	1276.93	12.27
HYDROGRAPH AT	23S	2.	12.07	0.	0.	0.	0.01		
2 COMBINED AT	HC23	8.	12.13	2.	1.	0.	0.07		
ROUTED TO	23RR	6.	12.60	2.	1.	0.	0.07	1275.32	12.60
HYDROGRAPH AT	24S	2.	12.07	0.	0.	0.	0.01		
2 COMBINED AT	HC24	6.	12.53	2.	1.	0.	0.08		
ROUTED TO	24RR	5.	12.93	2.	1.	0.	0.08	1272.29	12.93
HYDROGRAPH AT	25S	11.	12.07	2.	1.	0.	0.05		
2 COMBINED AT	HC25	13.	12.07	4.	1.	1.	0.13		
ROUTED TO	25RR	2.	15.40	2.	1.	1.	0.13	1268.18	15.33
HYDROGRAPH AT	27S	18.	12.07	3.	1.	0.	0.12		
ROUTED TO	27RR	2.	13.67	2.	1.	0.	0.12	1278.20	13.67
HYDROGRAPH AT	29S	4.	12.13	1.	0.	0.	0.06		
2 COMBINED AT	HC29	5.	12.13	3.	1.	1.	0.19		
HYDROGRAPH AT	30S	11.	12.07	2.	1.	0.	0.06		
ROUTED TO	30RR	2.	12.73	2.	1.	0.	0.06	1265.22	12.73

2 COMBINED AT	HC30	7.	12.13	4.	2.	1.	0.24		
HYDROGRAPH AT	31S	3.	12.13	1.	0.	0.	0.05		
3 COMBINED AT	HC31	11.	12.13	7.	3.	2.	0.42		
HYDROGRAPH AT	32S	3.	12.13	1.	0.	0.	0.05		
2 COMBINED AT	HC32	15.	12.13	7.	3.	2.	0.48		
HYDROGRAPH AT	34S	5.	12.13	1.	0.	0.	0.08		
2 COMBINED AT	HC34	20.	12.13	8.	4.	2.	0.55		
HYDROGRAPH AT	41S	5.	12.07	1.	0.	0.	0.02		
HYDROGRAPH AT	42S	8.	12.07	1.	0.	0.	0.07		
2 COMBINED AT	HC42	13.	12.07	2.	1.	0.	0.09		
ROUTED TO	42RR	4.	12.67	2.	1.	0.	0.09	1303.15	12.67
HYDROGRAPH AT	43S	0.	13.00	0.	0.	0.	0.01		
2 COMBINED AT	HC43	4.	12.67	2.	1.	0.	0.10		
HYDROGRAPH AT	44S	4.	12.07	1.	0.	0.	0.03		
2 COMBINED AT	HC44	7.	12.13	3.	1.	0.	0.13		
HYDROGRAPH AT	45S	7.	12.07	1.	0.	0.	0.02		
HYDROGRAPH AT	46S	12.	12.07	2.	1.	0.	0.06		
2 COMBINED AT	HC46	19.	12.07	3.	1.	0.	0.07		
ROUTED TO	46RR	5.	12.60	3.	1.	0.	0.07	1300.23	12.60
HYDROGRAPH AT	47S	6.	12.07	1.	0.	0.	0.03		
2 COMBINED AT	HC47A	10.	12.13	4.	1.	1.	0.11		
2 COMBINED AT	HC47B	16.	12.13	7.	2.	1.	0.24		
ROUTED TO	47RR	6.	14.33	5.	2.	1.	0.24	1289.49	14.33
HYDROGRAPH AT	48S	10.	12.07	2.	0.	0.	0.06		
2 COMBINED AT	HC48	11.	12.07	7.	3.	1.	0.30		
ROUTED TO	48RR	9.	12.20	7.	3.	1.	0.30	1287.13	12.20
HYDROGRAPH AT	49S	0.	23.40	0.	0.	0.	0.04		
2 COMBINED AT	HC49	9.	12.20	7.	3.	1.	0.34		
HYDROGRAPH AT	50S	4.	12.07	1.	0.	0.	0.02		
2 COMBINED AT	HC50	12.	12.13	7.	3.	1.	0.36		

HYDROGRAPH AT	52S	4.	12.07	1.	0.	0.	0.01		
HYDROGRAPH AT	53S	8.	12.07	1.	0.	0.	0.03		
2 COMBINED AT	HC53	12.	12.07	2.	1.	0.	0.04		
ROUTED TO	53RR	5.	12.27	2.	1.	0.	0.04	1297.34	12.27
HYDROGRAPH AT	54S	11.	12.07	2.	1.	0.	0.03		
HYDROGRAPH AT	55S	6.	12.07	1.	0.	0.	0.02		
2 COMBINED AT	HC55A	17.	12.07	3.	1.	0.	0.05		
2 COMBINED AT	HC55B	21.	12.07	4.	1.	1.	0.09		
ROUTED TO	55RR	9.	12.60	4.	1.	1.	0.09	1294.54	12.60
HYDROGRAPH AT	56S	7.	12.07	1.	0.	0.	0.04		
HYDROGRAPH AT	57S	16.	12.07	3.	1.	0.	0.10		
2 COMBINED AT	HC57A	22.	12.07	4.	1.	1.	0.14		
2 COMBINED AT	HC57B	28.	12.07	8.	3.	1.	0.23		
ROUTED TO	57RR	25.	12.20	8.	3.	1.	0.23	1290.23	12.20
HYDROGRAPH AT	58S	1.	12.07	0.	0.	0.	0.01		
2 COMBINED AT	HC58	26.	12.20	8.	3.	1.	0.24		
HYDROGRAPH AT	51S	27.	12.07	4.	1.	1.	0.13		
3 COMBINED AT	HC51	63.	12.13	19.	7.	3.	0.72		
ROUTED TO	51RR1	27.	12.80	18.	7.	3.	0.72	1277.78	12.80
ROUTED TO	51RR2	27.	13.00	18.	7.	3.	0.72	1273.19	13.00
HYDROGRAPH AT	61S	8.	12.13	2.	1.	0.	0.12		
2 COMBINED AT	HC61	29.	12.93	20.	7.	3.	0.85		
ROUTED TO	61RR	14.	16.73	12.	5.	2.	0.85	1265.89	16.73
2 COMBINED AT	HC570	20.	16.40	18.	9.	4.	1.40		
ROUTED TO	RM570	20.	17.07	18.	9.	4.	1.40	100.82	17.07
HYDROGRAPH AT	571S	70.	13.13	23.	7.	3.	1.35		
2 COMBINED AT	HC571	82.	13.13	37.	16.	8.	2.74		
ROUTED TO	RM571	79.	13.40	37.	16.	8.	2.74	101.80	13.40
HYDROGRAPH AT	553S	33.	12.67	5.	2.	1.	0.93		
4 COMBINED AT	HC553	101.	16.13	82.	34.	16.	13.77		

ROUTED TO	RM553	97.	16.80	81.	34.	16.	13.77	22.75	16.80
HYDROGRAPH AT	554R1	211.	13.20	53.	15.	7.	0.00		
HYDROGRAPH AT	554R2	0.	0.07	0.	0.	0.	0.00		
HYDROGRAPH AT	554S	24.	13.20	10.	4.	2.	0.54		
4 COMBINED AT	HC554	273.	13.27	136.	52.	24.	14.31		
ROUTED TO	RM554	253.	13.67	135.	52.	24.	14.31	94.05	13.67
HYDROGRAPH AT	555R1	0.	0.07	0.	0.	0.	0.00		
HYDROGRAPH AT	555R2	0.	0.07	0.	0.	0.	0.00		
HYDROGRAPH AT	555S	24.	12.80	7.	3.	1.	0.54		
4 COMBINED AT	HC555A	264.	13.67	140.	55.	26.	14.85		
HYDROGRAPH AT	91S	4.	12.13	1.	0.	0.	0.07		
HYDROGRAPH AT	92S	6.	12.07	1.	0.	0.	0.03		
2 COMBINED AT	HC92	10.	12.07	2.	1.	0.	0.10		
ROUTED TO	92RR	0.	22.87	0.	0.	0.	0.10	1242.43	24.47
HYDROGRAPH AT	93S	1.	12.60	0.	0.	0.	0.06		
2 COMBINED AT	HC93	1.	12.60	0.	0.	0.	0.16		
ROUTED TO	93RR	0.	17.53	0.	0.	0.	0.16	1236.02	17.67
HYDROGRAPH AT	94S	4.	12.13	1.	0.	0.	0.08		
2 COMBINED AT	HC94	4.	12.13	1.	0.	0.	0.24		
HYDROGRAPH AT	95S	3.	12.13	1.	0.	0.	0.07		
2 COMBINED AT	HC95	7.	12.13	2.	1.	0.	0.31		
HYDROGRAPH AT	96S	13.	12.20	3.	1.	0.	0.09		
ROUTED TO	96RR	3.	13.27	2.	1.	0.	0.09	1237.18	13.27
HYDROGRAPH AT	97S	1.	13.40	0.	0.	0.	0.07		
3 COMBINED AT	HC97	8.	12.13	4.	2.	1.	0.47		
ROUTED TO	97RR	0.	26.60	0.	0.	0.	0.47	1230.87	39.13
HYDROGRAPH AT	98S	3.	12.07	1.	0.	0.	0.02		
ROUTED TO	98RR	1.	12.40	1.	0.	0.	0.02	1230.09	12.40
2 COMBINED AT	HC98	1.	12.40	1.	0.	0.	0.48		
HYDROGRAPH AT	99S	3.	12.13	1.	0.	0.	0.05		

2 COMBINED AT	HC99	4.	12.13	1.	0.	0.	0.53		
ROUTED TO	99RR	1.	14.20	1.	0.	0.	0.53	1229.07	14.27
HYDROGRAPH AT	90S	4.	12.27	1.	0.	0.	0.08		
2 COMBINED AT	HC580	4.	12.27	2.	1.	0.	0.61		
ROUTED TO	RM580	3.	12.87	2.	1.	0.	0.61	100.12	12.87
HYDROGRAPH AT	581S	131.	12.53	48.	17.	8.	0.82		
2 COMBINED AT	HC581	133.	12.53	49.	18.	8.	1.43		
2 COMBINED AT	HC555B	334.	13.60	178.	71.	34.	16.28		
ROUTED TO	RM555	293.	14.47	176.	71.	34.	16.28	74.53	14.47
HYDROGRAPH AT	556R	0.	0.07	0.	0.	0.	0.00		
HYDROGRAPH AT	556S	13.	12.60	5.	2.	1.	0.56		
4 COMBINED AT	HC556A	398.	14.40	275.	121.	60.	27.02		
HYDROGRAPH AT	408S	39.	13.00	20.	7.	3.	1.08		

NORMAL END OF HEC-1 ***

SECTION V

HEC-1 Hydrology Results, 10-Year 24-Hour Storm (Existing Conditions)

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*                                      *
*   FLOOD HYDROGRAPH PACKAGE  (HEC-1)  *
*             MAY   1991               *
*           VERSION 4.0.1E             *
*                                      *
* RUN DATE  04/14/95  TIME  08:34:34   *
*                                      *
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*                                      *
*   U.S. ARMY CORPS OF ENGINEERS       *
*   HYDROLOGIC ENGINEERING CENTER      *
*         609 SECOND STREET            *
*      DAVIS, CALIFORNIA 95616         *
*          (916) 551-1748              *
*                                      *
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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

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

  1           ID    ACDC AREA DRAINAGE MASTER STUDY
  2           ID    FILENAME:  NR224.DAT          KHE JOB NO. 0146
  3           ID    WATERSHED CONTRIBUTING TO NEW RIVER UP TO ITS CONFLUENCE WITH
  4           ID    SKUNK CREEK
  5           ID
  6           ID    10-YEAR 24-HOUR DURATION STORM FOR EXISTING CONDITIONS
  7           ID
              *
              *       CREATED:  JANUARY 19, 1994
              *
              *    *DIAGRAM
  8           IT      4                    800
  9           IO      5
              *    *    *    *    *    *    *    *    *    *    *    *    *
              *                                                            *
              *          SUBAREA GROUPING CONTRIBUTING TO 91ST AVENUE DRAIN *
              *           SUB-BASINS 500-503, 510-512, 520-522, & 530-535   *
              *              TOTAL CONTRIBUTING AREA = 10.18 SQ. MI.        *
              *                                                            *
              *    *    *    *    *    *    *    *    *    *    *    *    *

 10           KK    500S
 11           KM   RUNOFF GENERATED ON SUB-BASIN 500
 12           KM   THE FOLLOWING PARAMETERS WERE PROVIDED FOR THIS BASIN
 13           KM   L= 1.455 mi  S= 50 ft/mi  Kb= 0.078
 14           KM   CLARK UNIT HYDROGRAPH FOR NATURAL WATERSHEDS WAS USED FOR THIS BASIN
 15           BA    .410
 16           IN      30
 17           KM   RAINFALL DEPTH OF 2.50 WAS SPACIALLY REDUCED AS SHOWN BY THE PB RECORD
 18           KM   AN AREAL REDUCTION COEFFICIENT OF .959 WAS USED FOR THIS BASIN
 19           PB   2.398
 20           KM   THE FOLLOWING PC RECORD USED A 24-HR SCS TYPE II STORM
 21           PC    .000    .005    .011    .016    .022    .028    .035    .041    .048    .056
 22           PC    .063    .071    .080    .089    .098    .109    .120    .133    .147    .163
 23           PC    .181    .204    .235    .283    .663    .735    .772    .799    .820    .838
 24           PC    .854    .868    .880    .891    .902    .912    .921    .929    .937    .945
 25           PC    .952    .959    .965    .972    .978    .984    .989    .995   1.000
 26           LG    .282    .323   4.080    .419   5.530
 27           UC   1.600   1.399
 28           UA      0       3       5       8      12      20      43      75      90      96
 29           UA    100

 30           KK   RM500
 31           KM   NORMAL DEPTH STORAGE ROUTE FLOW FROM SUB-BASIN 500 THROUGH 501
 32           KM              1) Reach Length = 5446 ft
 33           RS      9    FLOW      -1
 34           RC    .040    .030    .040    5446   .0060
 35           RX      0      25      50      80     120     150     175     200
 36           RY    102     101     100     100     100     100     101     102
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

  37          KK    501S
  38          KM   RUNOFF GENERATED ON SUB-BASIN 501
  39          KM   THE FOLLOWING PARAMETERS WERE PROVIDED FOR THIS BASIN
  40          KM   L= 1.031 mi  S= 32 ft/mi  Kb= 0.087
  41          KM   CLARK UNIT HYDROGRAPH FOR NATURAL WATERSHEDS WAS USED FOR THIS BASIN
  42          BA    .524
  43          LG    .350    .350   3.920    .384    .000
  44          UC   1.711    .995
  45          UA      0       3       5       8      12      20      43      75      90      96
  46          UA    100

  47          KK   HC501
  48          KM   COMBINE HYDROGRAPHS FROM SUB-BASIN 501 WITH ROUTED FLOW FROM 500
  49          HC      2

  50          KK   RM501
  51          KM   NORMAL DEPTH STORAGE ROUTE FROM SUB-BASIN 501 THROUGH 502
  52          KM           1) Reach Length = 7666 ft
  53          RS     12    FLOW      -1
  54          RC   .040    .030    .040    7666   .0044
  55          RX      0      25      50      80     120     150     175     200
  56          RY    102     101     100     100     100     100     101     102

  57          KK    502S
  58          KM   RUNOFF GENERATED ON SUB-BASIN 502
  59          KM   THE FOLLOWING PARAMETERS WERE PROVIDED FOR THIS BASIN
  60          KM   L= 1.452 mi  S= 23 ft/mi  Kb= 0.086
  61          KM   CLARK UNIT HYDROGRAPH FOR NATURAL WATERSHEDS WAS USED FOR THIS BASIN
  62          BA    .553
  63          LG    .350    .350   3.820    .361    .000
  64          UC   2.984   2.352
  65          UA      0       3       5       8      12      20      43      75      90      96
  66          UA    100

  67          KK    510S
  68          KM   RUNOFF GENERATED ON SUB-BASIN 510
  69          KM   THE FOLLOWING PARAMETERS WERE PROVIDED FOR THIS BASIN
  70          KM   L= 1.577 mi  S= 93 ft/mi  Kb= 0.074
  71          KM   CLARK UNIT HYDROGRAPH FOR NATURAL WATERSHEDS WAS USED FOR THIS BASIN
  72          BA    .625
  73          LG    .209    .322   3.980    .396   8.130
  74          UC   1.108    .781
  75          UA      0       3       5       8      12      20      43      75      90      96
  76          UA    100

  77          KK   RM510
  78          KM   NORMAL DEPTH STORAGE ROUTE FLOW FROM SUB-BASIN 510 THROUGH 511
  79          KM           1) Reach Length = 5415 ft
  80          RS      7    FLOW      -1
  81          RC   .040    .030    .040    5415   .0065
  82          RX      0      25      50      80     120     150     175     200
  83          RY    102     101     100      99      99     100     101     102
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 84           KK   511S
 85           KM   RUNOFF GENERATED ON SUB-BASIN 511
 86           KM   THE FOLLOWING PARAMETERS WERE PROVIDED FOR THIS BASIN
 87           KM   L= 1.025 mi  S= 34 ft/mi  Kb= 0.087
 88           KM   CLARK UNIT HYDROGRAPH FOR NATURAL WATERSHEDS WAS USED FOR THIS BASIN
 89           BA    .437
 90           LG    .336    .345   3.770    .350    .820
 91           UC   1.540    .977
 92           UA      0       3       5       8      12      20      43      75      90      96
 93           UA    100

 94           KK   HC511
 95           KM   COMBINE HYDROGRAPHS FROM SUB-BASIN 511 WITH ROUTED FLOW FROM 510
 96           HC      2

 97           KK   RM511
 98           KM   NORMAL DEPTH STORAGE ROUTE FLOW FROM SUB-BASIN 511 THROUGH 512
 99           KM           1) Reach Length = 5909 ft
100           RS      8    FLOW      -1
101           RC    .040    .030    .040    5909   .0054
102           RX      0      25      50      80     120     150     175     200
103           RY    102     101     100      99      99     100     101     102

104           KK   512S
105           KM   RUNOFF GENERATED ON SUB-BASIN 512
106           KM   THE FOLLOWING PARAMETERS WERE PROVIDED FOR THIS BASIN
107           KM   L= 1.210 mi  S= 26 ft/mi  Kb= 0.088
108           KM   CLARK UNIT HYDROGRAPH FOR NATURAL WATERSHEDS WAS USED FOR THIS BASIN
109           BA    .469
110           LG    .350    .350   3.610    .315    .000
111           UC   1.989   1.423
112           UA      0       3       5       8      12      20      43      75      90      96
113           UA    100

114           KK  HC512A
115           KM   COMBINE HYDROGRAPHS FROM SUB-BASIN 512 WITH ROUTED FLOW FROM 511
116           HC      2

117           KK   502RE
118           KM   DIVERT 50% WESTERLY ALONG BEARDSLEY RD. TO WESTBROOK VILLAGE WEST INLET
119           DT    5330
120           DI      0    1000    2000    3000
121           DQ      0     500    1000    1500

122           KK   HC502
123           KM   COMBINE HYDROGRAPHS FROM SUB-BASIN 502 WITH ROUTED FLOW FROM 501 AND
124           KM   REMAINING FLOW FROM SUBBASIN NO. 512 AT INLET TO WESTBROOK VILLAGE WEST
125           HC      3
              *
              *     INFLOW TO WESTBROOK VILLAGE WEST
              *
              *     This section of the model was developed by the FCDMC and was obtained
              *     from a Draft Copy of their June 20, 1994 report, "91st Avenue Drain
              *     Hydrology Update, Flood Control District of Maricopa County, Watershed
              *     Management Branch."
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LINE        ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

126         KK   RM502
127         KM   NORMAL DEPTH STORAGE ROUTE FROM SUB-BASIN 502 THROUGH 503
128         RS      7    FLOW      -1
129         RC   .030    .020    .030    5280   .0050
130         RX      0      30      60      90     190     300     330     360
131         RY    104     103     101     100     100     101     103     104

132         KK    503S
133         KM   RUNOFF GENERATED ON SUB-BASIN 503 (FCDMC SUB-BASIN I.D. WBW)
134         KM   TOTAL OF PARCELS 1 TO 27 IN WESTBROOK VILLAGE WEST (1983 PROJECT)
135         KM   PLUS PARCELS 28 (GOLF COURSES) ABOUT 23% OF AREA
136         KM   AREA REVISED FROM 1.00 SQ.MI. TO 0.952 SQ.MI. PARCEL IN SOUTHWEST CORNER OF
137         KM   SUBDIVISION DOES NOT CONTRIBUTE;  FLOWS PROCEED WESTWARD ON UNION HILLS DR.
138         BA    .952
139         LG    .35     .25   3.500    .280      30
140         UC  1.680   1.512
141         UA      0       3       5       8      12      20      43      75      90      96
142         UA    100

143         KK   HC503
144         KM   COMBINE HYDROGRAPHS FROM SUB-BASIN 503 WITH ROUTED FLOW FROM 502
145         HC      2

146         KK   503RR
147         KM   PER 1983 UDC REPORT AVAILABLE STORAGE IS 472 AC-FT IN GOLF COURSES
148         KM   A MAXIMUM OF 350 AC-FT IS ASSUMED AS PER ERIE'S QU ESTIMATE
149         KM   PER MEETING ON MAY 9, 1994 25 CFS IS ASSUMED AS BLEED OFF THRU 2' DIA PIPE
150         KM   CULVERT CROSSING UNION HILLS DRIVE AT ABOUT 93RD ALIGNMENT
151         RS      1    STOR       0
152         SV      0      50     100     150     200     300     350     400     500
153         SE     26      27      28      29      30      32      34      36      38
154         SQ      0      25      25      25      25      25      25     300     400

155         KK   RM503
156         KM   ROUTE ALONG UNION HILLS DR. EASTWARD TOWARDS 93RD AVE
157         RS      3    FLOW      -1
158         RC    .03     .02     .03    2080   .0019
159         RX      0      20      40      60      80     100     120     140
160         RY    102     101     100     100     100     100     101     102
            *
            *
            *    THIS CONCLUDES PORTION OF HEC-1 FILE OBTAINED FROM THE
            *     FCDMC HYDROLOGY
            *
            *

161         KK    533R
162         KM    RETRIEVE FLOWS GOING SOUTH ALONG 91ST AVE.
163         DR    533D
            *
            *
            *   BEGIN PORTION OF HEC-1 FILE OBTAINED FROM THE FCDMC HYDROLOGY
            *
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LINE        ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

164         KK   533A
165         KM   WESTBROOK VILLAGE PARCEL B8
166         KM   THIS PARCEL DISCHARGES DIRECTLY INTO 91ST AVE
167         BA   .0085
168         LG     .25     .25     3.5     .28      30
169         UC    .286    .267
170         UA       0       5      16      30      65      77      84      90      94      96
171         UA     100

172         KK  HC512B
173         KM   COMBINE HYDROGRAPHS SOUTH OF BEARDSLEY ROAD ALONG 91ST AVENUE
174         HC       2

175         KK   RM512
176         KM   ROUTE FLOWS ON 91ST AVENUE, BEARDSLY RD. TO UNION HILLS DR.
177         KM   ROUTE THRU 91ST AVE. SOUTHWARD, X-SECTION GIVEN IN 1983 WB REPORT
178         RS       2    FLOW      -1
179         RC     .02    .015     .02    2380   .0045
180         RX       0      12      22      40      80     121     131     143
181         RY     103     100     100     102     102     100     100     103

182         KK   533B
183         KM   COMBINE PARCELS 8A, 10B, 7, 6, 5, G10, 2B, 3B
184         BA   .2814
185         LG     .25     .25     3.5     .28      45
186         UC    .488    .446
187         UA       0       5      16      30      65      77      84      90      94      96
188         UA     100

189         KK  533RR1
190         KM   ROUTE FLOWS THROUGH RESERVOIR 10, WESTBROOK VILLAGE EAST
191         KM   THE RESERVOIR BLEEDS INTO 91ST AVENUE
192         RS       1    STOR      -1       0
193         SV       0     .35    2.28     6.4   12.82    24.0
194         SE    27.5    28.5    29.5    30.5    31.5    32.5
195         SQ       0       2      12      19      22      44

196         KK  HC533A
197         KM   91ST AVENUE AT INTERSECTION WITH UNION HILL DR.
198         HC       2
            *
            *   CONCLUDE PORTION OF HEC-1 FILE OBTAINED FROM THE FCDMC HYDROLOGY
            *

199         KK   520S
200         KM   RUNOFF GENERATED ON SUB-BASIN 520
201         KM   THE FOLLOWING PARAMETERS WERE PROVIDED FOR THIS BASIN
202         KM   L= 1.569 mi  S= 238 ft/mi  Kb= 0.071
203         KM   CLARK UNIT HYDROGRAPH FOR NATURAL WATERSHEDS WAS USED FOR THIS BASIN
204         BA    .675
205         LG    .202    .318   3.920    .384  11.030
206         UC    .650    .411
207         UA       0       3       5       8      12      20      43      75      90      96
208         UA     100
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 209          KK   520RE
 210          KM   DIVERT MAX. OF 136 CFS EAST ALONG CALLE LEJOS TO 83RD AVENUE AS
 211          KM   PER AM. ENGINEERING CO. REPORT DEC. 1993
 212          DT    530D
 213          DI       0      50     100     137     200     400    1000
 214          DQ       0      50     100     137     137     137     137

 215          KK   RM520
 216          KM   NORMAL DEPTH STORAGE ROUTE FLOW FROM SUB-BASIN 520 THROUGH 521
 217          KM            1) Reach Length = 5886 ft
 218          RS       6    FLOW      -1
 219          RC    .040    .030    .040    5886   .0056
 220          RX      40      80      90     100     140     150     160     200
 221          RY     103     102     101     100     100     101     102     103

 222          KK    521S
 223          KM   RUNOFF GENERATED ON SUB-BASIN 521
 224          KM   THE FOLLOWING PARAMETERS WERE PROVIDED FOR THIS BASIN
 225          KM   L= 1.176 mi  S= 30 ft/mi  Kb= 0.044
 226          KM   CLARK UNIT HYDROGRAPH FOR NATURAL WATERSHEDS WAS USED FOR THIS BASIN
 227          BA    .617
 228          LG    .100    .250   6.290    .186  15.530
 229          UC    .817    .443
 230          UA       0       3       5       8      12      20      43      75      90      96
 231          UA     100

 232          KK   HC521
 233          KM   COMBINE HYDROGRAPHS FROM SUB-BASIN 521 WITH ROUTED FLOW FROM 520
 234          HC       2

 235          KK   RM521
 236          KM   NORMAL DEPTH STORAGE ROUTE FLOW FROM SUB-BASIN 521 THROUGH 522
 237          KM            1) Reach Length = 6074 ft
 238          RS       7    FLOW      -1
 239          RC    .040    .030    .040    6074   .0049
 240          RX       0      50      75     105     145     175     200     250
 241          RY     103     101     100     100     100     100     101     103

 242          KK    522S
 243          KM   RUNOFF GENERATED ON SUB-BASIN 522
 244          KM   THE FOLLOWING PARAMETERS WERE PROVIDED FOR THIS BASIN
 245          KM   L= 1.186 mi  S= 24 ft/mi  Kb= 0.077
 246          KM   CLARK UNIT HYDROGRAPH FOR NATURAL WATERSHEDS WAS USED FOR THIS BASIN
 247          BA    .508
 248          LG    .388    .290   6.780    .185    .000
 249          UC   1.731   1.147
 250          UA       0       3       5       8      12      20      43      75      90      96
 251          UA     100
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LINE        ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

252         KK   HC522
253         KM   COMBINE HYDROGRAPHS FROM SUB-BASIN 522 WITH ROUTED FLOW FROM 521
254         KM   WEST INLET FOR WESTBROOK VILLAGE EAST
255         HC       2
            *
            *   BEGIN PORTION OF HEC-1 FILE OBTAINED FROM THE FCDMC HYDROLOGY
            *
            *  ROUTING COMMAND REMOVED FROM MODEL.  REACH LENGTH IS TOO SHORT FOR PEAK
            *  DISCHARGE ATTENUATION.
            *
            * KKRM522A
            * KM ROUTE OFFSITE INFLOWS, W.B. EAST INLET TO FIRST DETENTION
            * RS     1    FLOW      -1
            * RC   .03     .02     .03     260  .00192
            * RX     0      12    17.5    22.5    33.5    37.5      43      55
            * RY    45      42      40      40      40      40      42      45

256         KK    533C
257         KM   COMBINE PARCELS 9, 10A, 11, 12, GC3
258         KM   HIGHEST SCS LAG TIME USED BY CONSULTANT WAS CONVERTED TO TC: TLAG/0.60
259         BA    .123
260         LG     .35     .25     8.4     .06      35
261         UC    .559    .444
262         UA       0       3       5       8      12      20      43      75      90      96
263         UA     100

264         KK  HC533B
265         KM   COMBINE HYDROGRAPHS WITHIN EAST WESTBROOK VILLAGE
266         HC       2

267         KK  533RR2
268         KM   ROUTE FLOW THROUGH WESTBROOK VILLAGE EAST RESERVOIR 3
269         RS       1    STOR      -1       0
270         SV       0     .19    1.23    3.71    7.87    12.1    24.0
271         SE      32      33      34      35      36      37      38
272         SQ       0       2      12      19     195     811    1200

273         KK    533D
274         KM   COMBINE PARCELS 19, 18B, GC4-5
275         BA    .101
276         LG     .35     .15     8.4     .06      45
277         UC   1.142    .889
278         UA       0       3       5       8      12      20      43      75      90      96
279         UA     100

280         KK  HC533C
281         KM   COMBINE HYDROGRAPHS WITHIN EAST WESTBROOK VILLAGE
282         HC       2
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

283           KK  533RR3
284           KM   ROUTE FLOW THROUGH WESTBROOK VILLAGE EAST RESERVOIR 4 & 5
285           RS       1    STOR      -1       0
286           SV       0    2.57    7.19   13.71    22.4      32      37      42      47      52
287           SE      27      28      29      30      31      33      34      35      36      37
288           SQ       0       2      12      19      21      21      21      21     386    1207

289           KK    533E
290           KM   GOLF COURSE AT DRIVING RANGE
291           BA   .0126
292           LG     .35     .25     3.5     .29      45
293           UC    .297    .266
294           UA       0       3       5       8      12      20      43      75      90      96
295           UA     100

296           KK  HC533D
297           KM   COMBINE HYDROGRAPHS WITH IN EAST WESTBROOK VILLAGE     .
298           HC       2

299           KK  533RR4
300           KM   ROUTE FLOW THROUGH WESTBROOK VILLAGE EAST RESERVOIR 6
301           RS       1    STOR      -1       0
302           SV       0       2       4       6       8
303           SE      33      34      35      36      37
304           SQ       0       0     227     811    1200
              *
              *   CONCLUDE PORTION OF HEC-1 FILE OBTAINED FROM THE FCDMC HYDROLOGY
              *

305           KK    530S
306           KM   RUNOFF GENERATED ON SUB-BASIN 530
307           KM   THE FOLLOWING PARAMETERS WERE PROVIDED FOR THIS BASIN
308           KM   L= 1.452 mi  S= 280 ft/mi  Kb= 0.053
309           KM   CLARK UNIT HYDROGRAPH FOR NATURAL WATERSHEDS WAS USED FOR THIS BASIN
310           BA    .821
311           LG    .139    .276   3.550    .303  13.320
312           UC    .429    .218
313           UA       0       3       5       8      12      20      43      75      90      96
314           UA     100

315           KK    R530
316           KM   RETRIEVE DIVERTED FLOW FROM SUB-BASIN 520
317           DR    530D

318           KK   HC530
319           KM   COMBINE HYDROGRAPHS FROM SUB-BASIN 530 WITH DIVERTED FLOW FROM 520
320           HC       2

321           KK   RM530
322           KM   NORMAL DEPTH STORAGE ROUTE FLOW FROM SUB-BASIN 530 THROUGH 531
323           KM            1) Reach Length = 5688 ft
324           RS       6    FLOW      -1
325           RC    .040    .030    .040    5688   .0053
326           RX       0      25      50      80     120     150     175     200
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LINE        ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

327         RY     102     101     100     100     100     100     101     102

328         KK    531S
329         KM    RUNOFF GENERATED ON SUB-BASIN 531
330         KM    THE FOLLOWING PARAMETERS WERE PROVIDED FOR THIS BASIN
331         KM    L= 1.193 mi  S= 25 ft/mi  Kb= 0.060
332         KM    CLARK UNIT HYDROGRAPH FOR NATURAL WATERSHEDS WAS USED FOR THIS BASIN
333         BA     .654
334         LG     .225    .170  10.100    .036   9.530
335         UC    1.000    .543
336         UA       0       3       5       8      12      20      43      75      90      96
337         UA     100

338         KK    HC531
339         KM    COMBINE HYDROGRAPHS FROM SUB-BASIN 531 WITH ROUTED FLOW FROM 530
340         HC       2

341         KK    RM531
342         KM    NORMAL DEPTH STORAGE ROUTE FLOW FROM SUB-BASIN 531 THROUGH 532
343         KM            1) Reach Length = 6723 ft
344         RS       7    FLOW      -1
345         RC    .040    .030    .040    6723   .0043
346         RX       0      50      75     105     145     175     200     250
347         RY     103     101     100     100     100     100     101     103

348         KK    532S
349         KM    RUNOFF GENERATED ON SUB-BASIN 532
350         KM    THE FOLLOWING PARAMETERS WERE PROVIDED FOR THIS BASIN
351         KM    L= 1.109 mi  S= 25 ft/mi  Kb= 0.062
352         KM    CLARK UNIT HYDROGRAPH FOR NATURAL WATERSHEDS WAS USED FOR THIS BASIN
353         BA     .521
354         LG     .438    .103  10.100    .046    .000
355         UC     .992    .577
356         UA       0       3       5       8      12      20      43      75      90      96
357         UA     100

358         KK    HC532
359         KM    COMBINE HYDROGRAPHS FROM SUB-BASIN 532 WITH ROUTED FLOW FROM 531
360         HC       2
            *
            *   BEGIN PORTION OF HEC-1 FILE OBTAINED FROM THE FCDMC HYDROLOGY
            *

361         KK    532RE
362         KM    DIVERT 70% SOUTHWARD THRU 83RD AVENUE
363         DT    554D1
364         DI       0     200     400     800    1200    1500    2000    2500
365         DQ       0     140     280     560     840    1050    1400    1750

366         KK    533F
367         KM    COMBINE PARCELS 13, 14, G1
368         BA    .0644
369         LG     .35     .25     3.5     .29      45
370         UC    .405    .356
371         UA       0       3       5       8      12      20      43      75      90      96
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LINE        ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

372         UA     100

373         KK  HC533E
374         KM   COMBINE HYDROGRAPHS WITHIN EAST WESTBROOK VILLAGE
375         HC       2
            *    *    *    *    *    *    *    *    *    *    *    *
            *                                                       *
            *     RESERVOIR ROUTING OPTION WAS REMOVED FROM THE MODEL.      *
            *     ROUTED FLOWS WERE INCREASING AND/OR NO DIFFERENCE IN      *
            *     TIMING FROM THE INFLOW HYDROGRAPH WERE OBSERVED.          *
            *                                                               *
            *    *    *    *    *    *    *    *    *    *    *    *
            * KK533RR5
            * KM ROUTE FLOW THROUGH WESTBROOK VILLAGE EAST RESERVOIR 1
            * KM
            * RS     1    STOR       0
            * SV     0     .11     .63    1.43     3.3     5.5     6.5     6.9     7.5    10
            * SE    36      37      38      39      40      41      42      43      44    45
            * SQ     0       2      12      19    21.8    23.1    24.1      25     750    13

376         KK    533G
377         KM   COMBINE PARCELS 15, 16, 17, 18A, 23A, GC2
378         BA    .079
379         LG     .35     .25     3.5     .29      45
380         UC    .478    .444
381         UA       0       3       5       8      12      20      43      75      90      96
382         UA     100

383         KK  HC533F
384         KM   COMBINE HYDROGRAPHS WITHIN EAST WESTBROOK VILLAGE
385         HC       2

386         KK  533RR6
387         KM   ROUTE FLOW THROUGH WESTBROOK VILLAGE EAST RESERVOIR 2
388         KM
389         RS       1    STOR      -1       0
390         SV       0    1.97    4.86    9.02   14.99      20      25      30      34      38
391         SE      26      27      28      29      30      31      32      33      34      35
392         SQ       0       2      12      19      21      21      21      21     930    1200

393         KK  HC533G
394         KM   COMBINE 533RR4 AND 533RR6
395         HC       2

396         KK  RM522B
397         RS       2    FLOW      -1
398         RC     .04     .03     .04    1420   .0018
399         RX       0      30      60      90     120     150     180     210
400         RY     104     102     100     100     100     100     102     104
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

401           KK    533H
402           KM   COMBINE PARCELS 23B, 21A, G7
403           BA    .033
404           LG     .35     .15     8.4     .06      60
405           UC    .366    .266
406           UA       0       3       5       8      12      20      43      75      90      96
407           UA     100

408           KK  HC533H
409           HC       2
              *    *    *    *    *    *    *    *    *    *    *    *
              *                                                       *
              *     RESERVOIR ROUTING OPTION WAS REMOVED FROM THE MODEL.      *
              *     ROUTED FLOWS WERE INCREASING AND/OR NO DIFFERENCE IN      *
              *     TIMING FROM THE INFLOW HYDROGRAPH WERE OBSERVED.          *
              *                                                               *
              *    *    *    *    *    *    *    *    *    *    *    *
              * KK533RR7
              * KM ROUTE FLOWS THROUGH RESERVOIR 7, WESTBROOK VILLAGE EAST
              * RS     1    STOR      -1       0
              * SV     0     .15     .85    2.26    4.71     6.0     7.0     9.0
              * SE    27      28      29      30      31      32      33      34
              * SQ     0      11      23      35      46     526    1391    2500

410           KK    533I
411           KM   COMBINE PARCELS 25, 24, GC8, 27A, 26A
412           BA   .0839
413           LG     .35     .15     8.4     .06      45
414           UC    .728    .534
415           UA       0       3       5       8      12      20      43      75      90      96
416           UA     100

417           KK  533RR8
418           KM   ROUTE FLOWS THROUGH RESERVOIR 8, WESTBROOK VILLAGE EAST
419           RS       1    STOR      -1       0
420           SV       0     .36    2.13    5.54   10.63   15.29    16.0
421           SE      27      28      29      30      31      32      33
422           SQ       0       2      12      19      22      30     100

423           KK  HC533I
424           KM   COMBINE OUTFLOW FROM RESERVOIRS 7 AND 8
425           HC       2

426           KK  RM522C
427           KM   ROUTE HYDROGRAPHS THRU MAIN SOUTH STREET WITHIN EAST WESTBROOK VILLAGE
428           RS       1    FLOW      -1
429           RC     .03     .02     .03    1120   .0032
430           RX       0      15      30      60      80     105     120     135
431           RY     104     102     100     100     100     100     102     104
```

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

432           KK    533J
433           KM   COMBINE R/C, 1B, 26B
434           BA   .0342
435           LG     .35     .15     8.4     .06      60
436           UC    .281    .267
437           UA       0       3       5       8      12      20      43      75      90      96
438           UA     100

439           KK  HC533J
440           HC       2

441           KK    533K
442           KM   COMBINE PARCELS 1A, 20, 21B, G9A, G9B, 2A, 3A
443           BA   .0572
444           LG     .35     .25     5.0     .28      45
445           UC    .456    .355
446           UA       0       3       5       8      12      20      43 .    75      90      96
447           UA     100

448           KK  533RR9
449           KM   ROUTE THROUGH RESERVOIR 9, WESTBROOK VILLAGE EAST
450           RS       1    STOR      -1       0
451           SV       0     .03    .376   1.698   4.517   9.114  12.000
452           SE      25      26      27      28      29      30      31
453           SQ       0       2      11      18      24     128     200

454           KK  HC533K
455           KM   OUTFLOW FROM WESTBROOK VILLAGE EAST INTO UNION HILLS DR. AT 86TH AVE.
456           KM   ALIGNMENT AT INTERSECTION OF OUTLET WITH UNION HILLS RD., MAIN ENTRANCE
457           HC       2

458           KK  533RE1
459           KM   DIVERT 100 CFS TO NEW RIVER:  50 CFS THRU 42" CMP AND 50 CFS OVERLAND
460           DT   554D2
461           DI       0      50     100     150     300     600     900
462           DQ       0       0       0     100     100     100     100

463           KK  533RE2
464           KM   DIVERT TO COUNTRY CLUB ROAD AND EVENTUALLY TO NEW RIVER.  RATING CURVE
465           KM   AS PER ERIE'S REPORT, ASSUMES OVERFLOW PROPORTIONAL TO WEIR LENGTH
466           DT   555D1
467           DI       0      50      80     982    2670    7461   13454
468           DQ       0       0       0     214     607    1716    3152
              *
              *  ROUTING COMMAND REMOVED FROM MODEL.  REACH LENGTH IS TOO SHORT FOR PEAK
              *  DISCHARGE ATTENUATION.
              *
              * KK RM533A
              * KM ROUTE REMAINING TO INTERSECTION OF UNION HILLS DR. & 87TH AVENUE
              * RS     1    FLOW      -1
              * RC   .02    .015     .02     660   .0015
              * RX     0       1       5      35      40      70      74      75
              * RY   104     102     100     101     101     100     102     104
```

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

469           KK  533RE3
470           KM   DIVERT SOUTH THRU 87TH AVE., PORTION GOES TO 91ST AVE. AT UNION HILLS DR.
471           KM   USING RATING CURVE DEVELOPED BY ERIE & ASSOCIATES
472           KM   INFLOW IS ASSUMED SUM OF RATED Q AT ROAD INTERSECTION
473           KM   THIS APPLIES TO SUCCEDING DIVERSIONS USING ERIE'S DATA
474           DT   534D1
475           DI       0      50      80     762    2067    5745
476           DQ       0       0       0     221     625    1768
              *
              *  ROUTING COMMAND REMOVED FROM MODEL.  REACH LENGTH IS TOO SHORT FOR PEAK
              *  DISCHARGE ATTENUATION.
              *
              * KKRM533B
              * KM ROUTE REMAINING FLOW TO 89TH AVE. THRU NORTH SIDE OF UNION HILLS RD.
              * RS      1    FLOW      -1
              * RC   .015    .015    .015    1320   .0037
              * RX       0       1       5      35      40      70      74   .   75
              * RY     104     102     100     101     101     100     102     104

477           KK  533RE4
478           KM   ASSUME SPLIT OCCURS WHEN DEPTH IS 0.5 FT ABOVE 91ST AVE CROWN AT INTERSECTION
479           KM   PER ERIE'S RATING Q=145 CFS ABOVE WHICH FLOW WILL HAVE 50-50 SPLIT
480           KM   FLOW LESS THAN OR EQUAL TO 145 CFS WILL CONTINUE WESTWARD TO 91ST AVE.
481           DT   534D2
482           DI       0      80     145     300     500     800    1200
483           DQ       0       0       0     150     250     400     600

484           KK  RM533C
485           RS       1    FLOW      -1
486           RC     .02    .015     .02    1320   .0015
487           RX       0       1       5      35      40      70      74      75
488           RY     104     102     100     101     101     100     102     104

489           KK  HC533L
490           KM   UNION HILLS DR. AT 91ST AVENUE
491           HC       3

492           KK  RM533D
493           KM   NORMAL DEPTH STORAGE ROUTE FLOW FROM SUB-BASIN 533 THROUGH 534
494           KM            1) Reach Length = 5474 ft
495           RS       4    FLOW      -1
496           RC    .025    .020    .025    5474   .0044
497           RX       0      12      22      40     100     121     131     143
498           RY     103     100     100     101     101     100     100     103

499           KK   534R1
500           KM   RETRIEVE FLOWS GOING SOUTH OF 87TH AVE. SOUTH OF UNION HILLS DR.
501           DR   534D1
```

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

 502          KK  RM533E
 503          KM   ROUTE SOUTHWARD THRU 87TH AVE
 504          RS       5    FLOW      -1
 505          RC     .02    .015     .02    5560   .0042
 506          RX       0       1       5      35      40      70      74      75
 507          RY     104     102     100     101     101     100     102     104

 508          KK  533RE6
 509          KM   DIVERT 50% UP TO MAXIMUM OF 150 CFS EASTWARD ALONG BELL RD. TO NEW RIVER
 510          DT   555D2
 511          DI       0      20      50     150     200     300
 512          DQ       0       6      50     150     150     150

 513          KK  533RE7
 514          KM   DIVERT SOUTHWARD ALONG 87TH AVE., SOUTH OF BELL RD. USING ERIE'S RATING
 515          KM   VALUES
 516          DT    535D
 517          DI       0     101     600    2410    4905
 518          DQ       0      80     310    1540    3050

 519          KK  RM533F
 520          KM   ROUTE WESTWARD ALONG BELL RD.
 521          RS       2    FLOW      -1
 522          RC     .02    .015     .02    1320   .0015
 523          RX       0       1       5      45      50      90      94      95
 524          RY     104     102     100     101     101     100     102     104

 525          KK   534R2
 526          KM   RETRIEVE FLOWS GOING SOUTH ON 89TH AVE. SOUTH OF UNION HILL DR.
 527          DR   534D2

 528          KK  RM533G
 529          RS       4    FLOW      -1
 530          RC     .02    .015     .02    5280   .0049
 531          RX       0       1       5      35      40      70      74      75
 532          RY     104     102     100     101     101     100     102     104
              *
              *  ROUTING COMMAND REMOVED FROM MODEL.  REACH LENGTH IS TOO SHORT FOR PEAK
              *  DISCHARGE ATTENUATION.
              *
              * KKRM533H
              * RS     1    FLOW      -1
              * RC   .02    .015     .02     680   .0015
              * RX     0       1       5      35      40      70      74      75
              * RY   104     102     100     101     101     100     102     104
              *
              *   CONCLUDE PORTION OF HEC-1 FILE OBTAINED FROM THE FCDMC HYDROLOGY
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

533           KK    534S
534           KM   RUNOFF GENERATED ON SUB-BASIN 534
535           KM   THE FOLLOWING PARAMETERS WERE PROVIDED FOR THIS BASIN
536           KM   L= 1.571 mi  S= 18 ft/mi  Kb= 0.061
537           KM   CLARK UNIT HYDROGRAPH FOR URBAN WATERSHEDS WAS USED FOR THIS BASIN
538           BA    .896
539           LG    .264    .281   7.500    .116  18.180
540           UC   1.675   1.002
541           UA       0       5      16      30      65      77      84      90      94      97
542           UA     100

543           KK   HC534
544           KM   COMBINE HYDROGRAPHS FROM SUB-BASIN 534 WITH ROUTED FLOW FROM SUB-BASIN 533
545           HC       4

546           KK  RM534A
547           KM   NORMAL DEPTH STORAGE ROUTE FLOW FROM SUB-BASIN 534 THROUGH 535
548           KM            1) Reach Length = 5114 ft
549           RS       3    FLOW      -1
550           RC    .030    .020    .030    5114   .0041
551           RX       0       0       5      10      75      80      85      85
552           RY     108     104     102     100     100     102     104     108

553           KK    535R
554           DR    535D

555           KK   535RE
556           KM   DIVERT THROUGH PARADISE LANE WESTWARD USING ERIE'S RATING VALUES
557           DT    556D
558           DI       0     144     570    2530    5490
559           DQ       0      80     310    1540    3050

560           KK  RM534C
561           RS       1    FLOW      -1
562           RC     .02    .015     .02     720   .0038
563           RX       0       1       5      35      40      70      74      75
564           RY     104     102     100     101     101     100     102     104
              *
              *  ROUTING COMMAND REMOVED FROM MODEL.  REACH LENGTH IS TOO SHORT FOR PEAK
              *  DISCHARGE ATTENUATION.  INCLUDE REACH LENGTH IN HEC-1 COMMAND RM534E.
              *
              * KKRM534D
              * KM ROUTE TO EXISTING 91ST AVE. CHANNEL WESTWARD
              * RS     1    FLOW      -1
              * RC   .03     .02     .03     560   .0036
              * RX     0      10      20      35      45      60      70      80
              * RY   108     104     102     100     100     102     104     108

565           KK  RM534E
566           KM   ROUTE THRU EXISTING DRAIN
567           RS       3    FLOW      -1
568           RC    .030    .020    .030    1810   .0042
569           RX       0       6      12      24      36      48      60      72
570           RY     108     104     102     100     100     102     104     108
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LINE        ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

571         KK   535S
572         KM   RUNOFF GENERATED ON SUB-BASIN 535
573         KM   THE FOLLOWING PARAMETERS WERE PROVIDED FOR THIS BASIN
574         KM   L= 1.176 mi  S= 22 ft/mi  Kb= 0.040
575         KM   CLARK UNIT HYDROGRAPH FOR URBAN WATERSHEDS WAS USED FOR THIS BASIN
576         BA    .642
577         LG    .301    .164   6.290    .227  20.750
578         UC    .879    .470
579         UA       0       5      16      30      65      77      84      90      94      97
580         UA     100

581         KK   HC535
582         KM   COMBINE HYDROGRAPHS AT 91ST AVE. DRAIN AND ALIGNMENT OF GREENWAY RD.
583         HC       3

584         KK   535RE
585         KM   DIVERT THRU EXISTING 91ST AVE. CHANNEL SPILLWAY PER DESIGN DRAWINGS
586         KM   DESIGN CAPACITY OF TRIPLE BARREL CULVERT = 743 CFS PLUS FB CAPACITY
587         KM   FLOW SOUTHWARD ALONG 91ST AVE. TOWARDS DESERT HARBOR MPC
588         DT   DV91S
589         DI       0     100     743    1170    1900    3000    4700
590         DQ       0       0       0       0     520    1470    2700

591         KK   RM535
592         KM   ROUTE REMAINING FLOW THRU 91ST AVE. CHANNEL TO OUTLET
593         KM   EXISTING GUNITE CHANNEL WITH 2:1 SS AS PER FCD CONSULTANT DESIGN
594         RS       1    FLOW      -1
595         RC     .02    .015     .02    1720   .0008
596         RX       0       7      14      20      28      34      41      48
597         RY     107   103.5     100     100     100     100   103.5     107
            *    *    *    *    *    *    *    *    *    *    *    *
            *                                                        *
            *       SUBAREA GROUPING CONTRIBUTING TO NEW RIVER ABOVE *
            *               CONFLUENCE WITH SKUNK CREEK.             *
            *       SUB-BASINS 540-542, 550-556, 560, 570-571 & 580-581 *
            *           TOTAL CONTRIBUTING AREA = 16.84 SQ. MI.      *
            *                                                        *
            *    *    *    *    *    *    *    *    *    *    *    *

598         KK   540S
599         KM   RUNOFF GENERATED ON SUB-BASIN 540
600         KM   THE FOLLOWING PARAMETERS WERE PROVIDED FOR THIS BASIN
601         KM   L= 2.367 mi  S= 28 ft/mi  Kb= 0.071
602         KM   CLARK UNIT HYDROGRAPH FOR NATURAL WATERSHEDS WAS USED FOR THIS BASIN
603         BA   2.244
604         KM   RAINFALL DEPTH OF 2.50 WAS SPACIALLY REDUCED AS SHOWN BY THE PB RECORD
605         KM   AN AREAL REDUCTION COEFFICIENT OF .933 WAS USED
606         PB   2.333
607         LG    .250    .350   3.610    .315   5.020
608         UC   2.584   1.334
609         UA       0       3       5       8      12      20      43      75      90      96
610         UA     100
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

611           KK   RM540
612           KM   NORMAL DEPTH STORAGE ROUTE FLOW FROM SUB-BASIN 540 THROUGH 541
613           KM            1) Reach Length = 5708 ft
614           RS       5    FLOW      -1
615           RC    .040    .040    .040    5708   .0058
616           RX      40      80     180     200     225     245     260     300
617           RY      24      24      22      18      18      22      24      24

618           KK    541S
619           KM   RUNOFF GENERATED ON SUB-BASIN 541
620           KM   THE FOLLOWING PARAMETERS WERE PROVIDED FOR THIS BASIN
621           KM   L= 1.081 mi  S= 31 ft/mi  Kb= 0.088
622           KM   CLARK UNIT HYDROGRAPH FOR NATURAL WATERSHEDS WAS USED FOR THIS BASIN
623           BA    .467
624           LG    .250    .350   4.030    .408    .000
625           UC   1.839   1.196
626           UA       0       3       5       8      12      20      43      75      90      96
627           UA     100

628           KK   HC541
629           KM   COMBINE HYDROGRAPHS FROM SUB-BASIN 541 WITH ROUTED FLOW FROM 540
630           HC       2

631           KK   RM541
632           KM   NORMAL DEPTH STORAGE ROUTE FLOW FROM SUB-BASIN 541 THROUGH 542
633           KM            1) Reach Length = 5535 ft
634           RS       5    FLOW      -1
635           RC    .040    .040    .040    5535   .0054
636           RX     140     170     200     210     240     265     285     300
637           RY      94      92      90      86      86      90      92      94

638           KK    542S
639           KM   RUNOFF GENERATED ON SUB-BASIN 542
640           KM   THE FOLLOWING PARAMETERS WERE PROVIDED FOR THIS BASIN
641           KM   L= 1.059 mi  S= 33 ft/mi  Kb= 0.073
642           KM   CLARK UNIT HYDROGRAPH FOR NATURAL WATERSHEDS WAS USED FOR THIS BASIN
643           BA    .490
644           LG    .383    .239   3.770    .405    .740
645           UC   1.388    .837
646           UA       0       3       5       8      12      20      43      75      90      96
647           UA     100

648           KK   HC542
649           KM   COMBINE HYDROGRAPHS FROM SUB-BASIN 542 WITH ROUTED FLOW FROM 541
650           HC       2

651           KK   RM542
652           KM   NORMAL DEPTH STORAGE ROUTE FLOW FROM SUB-BASIN 542 THROUGH 553
653           KM            1) Reach Length = 5557 ft
654           RS       5    FLOW      -1
655           RC    .040    .040    .040    5557   .0061
656           RX      40      60     100     130     160     190     210     230
657           RY      72      71      70      64      64      70      71      72
              *    *    *    *    *    *    *    *    *    *    *    *    *
              *                                                            *
```

```
*     BREAK SEQUENCE - JUMP TO SUB-BASIN 550                          *
*                                                                     *
*     SUB-BASIN 550 IS LOCATED DOWNSTREAM OF NEW RIVER DAM.  THE      *
*     BF(BASE FLOW) RECORD OF HEC-1 WAS INCLUDED IN THIS SUB-BASIN    *
*     TO MODEL THE NEW RIVER DAM LOW LEVEL OUTFLOW.                   *
*     ASSUMED CONSTANT OUTFLOW OF 1700 CFS FOR 10-YEAR STORM.        *
*     SOURCE:  F.I.S., MARICOPA COUNTY, ARIZONA AND INCORPORATED      *
*              AREAS, FEMA.                                           *
*                                                                     *
*   *   *   *   *   *   *   *   *   *   *   *   *                     *
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LINE        ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

658         KK   550S
659         KM   RUNOFF GENERATED ON SUB-BASIN 550
660         KM   THE FOLLOWING PARAMETERS WERE PROVIDED FOR THIS BASIN
661         KM   L= 1.701 mi  S= 63 ft/mi  Kb= 0.073
662         KM   CLARK UNIT HYDROGRAPH FOR NATURAL WATERSHEDS WAS USED FOR THIS BASIN
663         BA   1.946
664         BF    1700
665         LG   .250    .350   4.140    .431   3.600
666         UC   1.500    .607
667         UA      0       3       5       8      12      20      43      75      90      96
668         UA    100

669         KK   RM550
670         KM   NORMAL DEPTH STORAGE ROUTE FLOW FROM SUB-BASIN 550 THROUGH 551
671         KM           1) Reach Length = 8432 ft
672         RS      6    FLOW      -1
673         RC   .040    .040    .040    8432   .0044
674         RX    210     400     420     445     500     525     590     670
675         RY     32      30      26      24      24      26      30      32
            *    *    *    *    *    *    *    *    *    *    *    *    *
            *                                                                *
            *    FOR BF RECORD IN SUB-BASIN 560, USE STRTQ=0 TO RETURN BASE FLOW  *
            *    CONDITIONS BACK TO NORMAL.  THIS RECORD PREVENTS SUBSEQUENT      *
            *    SUB-BASINS FROM HAVING A BASE FLOW VALUE OF 2350 CFS.            *
            *                                                                *
            *    *    *    *    *    *    *    *    *    *    *    *    *

676         KK   560S
677         KM   RUNOFF GENERATED ON SUB-BASIN 560
678         KM   THE FOLLOWING PARAMETERS WERE PROVIDED FOR THIS BASIN
679         KM   L= 1.866 mi  S= 192 ft/mi  Kb= 0.079
680         KM   CLARK UNIT HYDROGRAPH FOR NATURAL WATERSHEDS WAS USED FOR THIS BASIN
681         BA   1.116
682         BF      0
683         LG   .250    .360   4.120    .268   4.150
684         UC   .879    .496
685         UA      0       3       5       8      12      20      43      75      90      96
686         UA    100

687         KK   RM560
688         KM   NORMAL DEPTH STORAGE ROUTE FLOW FROM SUB-BASIN 560 THROUGH 551
689         KM           1) Reach Length = 14187 ft
690         RS     12    FLOW      -1
691         RC   .030    .040    .030   14187   .0088
692         RX      0     215     250     280     300     320     460     560
693         RY     94      92      90      88      88      90      92      94

694         KK   551S
695         KM   RUNOFF GENERATED ON SUB-BASIN 551
696         KM   THE FOLLOWING PARAMETERS WERE PROVIDED FOR THIS BASIN
697         KM   L= 2.280 mi  S= 46 ft/mi  Kb= 0.075
698         KM   CLARK UNIT HYDROGRAPH FOR NATURAL WATERSHEDS WAS USED FOR THIS BASIN
699         BA   1.448
700         LG   .248    .349   4.190    .443    .680
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 701          UC   2.568   1.649
 702          UA       0       3       5       8      12      20      43      75      90      96
 703          UA     100

 704          KK   HC551
 705          KM   COMBINE HYDROGRAPHS FROM SUB-BASIN 551 WITH ROUTED FLOWS FROM 550 & 560
 706          HC       3

 707          KK   RM551
 708          KM   NORMAL DEPTH STORAGE ROUTE FLOW FROM SUB-BASIN 551 THROUGH 552
 709          KM            1) Reach Length = 5663 ft
 710          RS       4    FLOW      -1
 711          RC    .040    .040    .040    5663   .0056
 712          RX     100     100     145     250     420     450     510     520
 713          RY      92      88      78      76      76      82      84      92

 714          KK    552S
 715          KM   RUNOFF GENERATED ON SUB-BASIN 552
 716          KM   THE FOLLOWING PARAMETERS WERE PROVIDED FOR THIS BASIN
 717          KM   L= 3.216 mi  S= 46 ft/mi  Kb= 0.068
 718          KM   CLARK UNIT HYDROGRAPH FOR NATURAL WATERSHEDS WAS USED FOR THIS BASIN
 719          BA   2.385
 720          LG    .244    .340   3.820    .363   7.320
 721          UC   2.619   1.671
 722          UA       0       3       5       8      12      20      43      75      90      96
 723          UA     100

 724          KK   HC552
 725          KM   COMBINE HYDROGRAPHS FROM SUB-BASIN 552 WITH ROUTED FLOW FROM 551
 726          HC       2

 727          KK   RM552
 728          KM   NORMAL DEPTH STORAGE ROUTE FLOW FROM SUB-BASIN 552 THROUGH 553
 729          KM            1) Reach Length = 5971 ft
 730          RS       5    FLOW      -1
 731          RC    .040    .040    .040    5971   .0055
 732          RX       0     100     130     190     310     390     450     500
 733          RY      56      54      50      48      48      50      52      56
              *
              *   ARROWHEAD RANCH DEVELOPMENT
              *
              *   This section of the model was developed by Dibble and Associates
              *   Consulting Engineers for the City of Glendale to address the Storm
              *   Drainage Plan for the Arrowhead Ranch Development.  The drainage
              *   report was titled, "Specific Area Plan, Storm Drainage Plan for the
              *   Arrowhead Ranch Development" and was prepared on April 20, 1992.
              *
              *   ARROWHEAD RANCH - SECTION 18/19 - SYSTEM II
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 734          KK     21S
 735          KM    SUB-BASIN 21
 736          BA    .035
 737          LS              82
 738          UD    .167

 739          KK    21RR
 740          KM    LAKE NO. 1
 741          RS       1    ELEV  1277.0
 742          SV     0.0     3.6     4.5     5.4     6.3     7.2
 743          SE  1277.0  1279.0  1279.5  1280.0  1280.5  1281.0
 744          SQ       0       0     5.4     8.5    10.4    12.0

 745          KK     22S
 746          KM    SUB-BASIN 22
 747          BA    .027
 748          LS              92
 749          UD    .167

 750          KK    HC22
 751          HC       2

 752          KK    22RR
 753          KM    LAKE NO. 2
 754          RS       1    ELEV  1276.5
 755          SV     0.0     0.3     0.7     1.2     1.6     2.2     2.7     3.3
 756          SE  1276.5  1277.0  1277.5  1278.0  1278.5  1279.0  1279.5  1280.0
 757          SQ       0     7.1    14.1    19.7    42.4    92.7   164.8   200.0

 758          KK     23S
 759          KM    SUB-BASIN 23
 760          BA    .009
 761          LS              86
 762          UD    .167

 763          KK    HC23
 764          HC       2

 765          KK    23RR
 766          KM    LAKE NO. 3
 767          RS       1    ELEV  1275.0
 768          SV     0.0      .3      .7     1.1     1.5    2.00     2.5
 769          SE  1275.0  1275.5  1276.0  1276.5  1277.0  1277.5  1278.0
 770          SQ       0     8.7    15.3    22.3    49.6   106.0   180.4

 771          KK     24S
 772          KM    SUB-BASIN 24
 773          BA    .006
 774          LS              87
 775          UD    .167
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 776          KK    HC24
 777          HC       2

 778          KK    24RR
 779          KM    LAKE NO. 4
 780          RS       1    ELEV  1272.0
 781          SV       0      .3      .7     1.1     1.6     2.0     2.5
 782          SE  1272.0  1272.5  1273.0  1273.5  1274.0  1274.5  1275.0
 783          SQ       0     8.7    15.3    22.3    49.6   106.0   180.4

 784          KK     25S
 785          KM    SUB-BASIN 25
 786          BA    .051
 787          LS              85
 788          UD    .167

 789          KK    HC25
 790          HC       2

 791          KK    25RR
 792          KM    LAKE NO. 5
 793          RS       1    ELEV  1268.0
 794          SV       0    1.75     3.5    5.31     7.2    9.15    11.2    13.3
 795          SE  1267.5  1268.0  1268.5  1269.0  1269.5  1270.0  1270.5  1271.0
 796          SQ       0     0.8     4.1    8.16     9.5    13.4    16.4    19.0

 797          KK     27S
 798          KM    SUB-BASIN 27
 799          BA    .123
 800          LS              82
 801          UD    .167

 802          KK    27RR
 803          KM    DETENTION BASIN NO. 7
 804          RS       1    ELEV  1278.0
 805          SV       0     1.9     3.9     5.9     7.9     9.9    12.1
 806          SE  1278.0  1278.5  1279.0  1279.5  1280.0  1280.5  1281.5
 807          SQ       0     5.4     7.6     9.2    10.6    12.0    13.2

 808          KK     29S
 809          KM    COMBINE SUB-BASIN 28 & 29
 810          BA    .063
 811          LS              77
 812          UD    .167

 813          KK    HC29
 814          HC       2

 815          KK     30S
 816          KM    SUB-BASIN 30
 817          BA    .056
 818          LS              84
 819          UD    .167
```

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

 820          KK    30RR
 821          KM    DETENTION BASIN 10
 822          RS       1    ELEV  1265.0
 823          SV       0     .78    1.58    2.40    3.25    4.13    5.03
 824          SE  1265.0  1265.5  1266.0  1266.5  1267.0  1267.5  1268.0
 825          SQ       0     5.4     8.5    10.4    12.0    13.5    14.7

 826          KK    HC30
 827          HC       2

 828          KK     31S
 829          KM    SUB-BASIN 31
 830          BA    .053
 831          LS              77
 832          UD    .167

 833          KK    HC31
 834          HC       3

 835          KK     32S
 836          KM    COMBINE SUB-BASIN 26 & 32
 837          BA    .053
 838          LS              77
 839          UD    .167

 840          KK    HC32
 841          HC       2

 842          KK     34S
 843          KM    COMBINE SUB-BASIN 33 & 34
 844          BA    .076
 845          LS              77
 846          UD    .167

 847          KK    HC34
 848          KM    OUTFLOW FROM SYSTEM II
 849          HC       2
              *
              *    ARROWHEAD RANCH - SECTION 18 - SYSTEM III
              *

 850          KK     41S
 851          KM    SUB-BASIN 41
 852          BA    .023
 853          LS              86
 854          UD    .167

 855          KK     42S
 856          KM    SUB-BASIN 42
 857          BA    .070
 858          LS              80
 859          UD    .167
```

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

 860          KK    HC42
 861          HC       2

 862          KK    42RR
 863          KM    LAKE NO. 1
 864          RS       1    ELEV  1303.0
 865          SV       0    1.32    2.66    4.05    5.49
 866          SE  1303.0  1303.5  1304.0  1304.5  1305.0
 867          SQ       0    12.0    13.5    15.4    29.6

 868          KK     43S
 869          KM    SUB-BASIN 43
 870          BA    .007
 871          LS              68
 872          UD    .167

 873          KK    HC43
 874          HC       2

 875          KK     44S
 876          KM    SUB-BASIN 44
 877          BA    .034
 878          LS              81
 879          UD    .167

 880          KK    HC44
 881          HC       2

 882          KK     45S
 883          KM    SUB-BASIN 45
 884          BA    .017
 885          LS              92
 886          UD    .167

 887          KK     46S
 888          KM    SUB-BASIN 46
 889          BA    .057
 890          LS              85
 891          UD    .167

 892          KK    HC46
 893          HC       2

 894          KK    46RR
 895          KM    LAKE NO. 3
 896          RS       1    ELEV  1300.0
 897          SV       0    1.39    2.81    4.30    5.86    7.44    9.19   10.97   12.81
 898          SE  1300.0  1300.5  1301.0  1301.5  1302.0  1302.5  1303.0  1303.5  1304.0
 899          SQ       0   11.32   18.50   24.75   68.41  175.58  515.84  478.47  662.59
```

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

900           KK     47S
901           KM    SUB-BASIN 47
902           BA    .034
903           LS              84
904           UD    .167

905           KK   HC47A
906           HC       2

907           KK   HC47B
908           HC       2

909           KK    47RR
910           KM    LAKE NO. 2
911           RS       1    ELEV  1289.0
912           SV       0     1.2    2.42    3.67    4.95
913           SE  1289.0  1289.5  1290.0  1290.5  1291.0
914           SQ       0     6.5    17.2    51.0   118.5

915           KK     48S
916           KM    SUB-BASIN 48
917           BA    .057
918           LS              83
919           UD    .167

920           KK    HC48
921           HC       2

922           KK    48RR
923           KM    LAKE NO. 4
924           RS       1    ELEV  1287.0
925           SV       0     .45     .90    1.37    1.85
926           SE  1287.0  1287.5  1288.0  1288.5  1289.0
927           SQ       0   34.65   79.50  127.20  170.70

928           KK     49S
929           KM    SUB-BASIN 49
930           BA    .037
931           LS              61
932           UD    .167

933           KK    HC49
934           HC       2

935           KK     50S
936           KM    SUB-BASIN 50
937           BA    .022
938           LS              84
939           UD    .167
```

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

940           KK    HC50
941           HC       2

942           KK     52S
943           KM    SUB-BASIN 52
944           BA    .010
945           LS              92
946           UD    .167

947           KK     53S
948           KM    SUB-BASIN 53
949           BA    .030
950           LS              87
951           UD    .167

952           KK    HC53
953           HC       2

954           KK    53RR
955           KM    LAKE NO. 5
956           RS       1    ELEV  1297.0
957           SV       0     .44     .89    1.38    1.89    2.43    3.00    3.60    4.23
958           SE  1297.0  1297.5  1298.0  1298.5  1299.0  1299.5  1300.0  1300.5  1301.0
959           SQ       0    8.15   14.50   28.24   64.15  117.14  178.85  250.28  329.60

960           KK     54S
961           KM    SUB-BASIN 54
962           BA    .027
963           LS              92
964           UD    .167

965           KK     55S
966           KM    SUB-BASIN 55
967           BA    .020
968           LS              88
969           UD    .167

970           KK   HC55A
971           HC       2

972           KK   HC55B
973           HC       2

974           KK    55RR
975           KM    LAKE NO. 6
976           RS       1    ELEV  1294.0
977           SV       0     .62    1.25    1.90    2.60    3.33    4.99    5.70
978           SE  1294.0  1294.5  1295.0  1295.5  1296.0  1296.5  1297.5  1298.0
979           SQ       0    8.15   21.60   59.15  110.62  172.74  323.46  410.25
```

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

 980          KK     56S
 981          KM    SUB-BASIN 56
 982          BA    .040
 983          LS              83
 984          UD    .167

 985          KK     57S
 986          KM    SUB-BASIN 57
 987          BA    .104
 988          LS              82
 989          UD    .167

 990          KK   HC57A
 991          HC       2

 992          KK   HC57B
 993          HC       2

 994          KK    57RR
 995          KM    LAKE NO. 7
 996          RS       1    ELEV  1290.0
 997          SV       0     .42     .85    1.32    1.81    2.35
 998          SE  1290.0  1290.5  1291.0  1291.5  1292.0  1292.5
 999          SQ       0   55.37  139.73  246.52  361.01  489.63

1000          KK     58S
1001          KM    SUB-BASIN 58
1002          BA    .006
1003          LS              79
1004          UD    .167

1005          KK    HC58
1006          HC       2

1007          KK     51S
1008          KM    SUB-BASIN 51
1009          BA    .128
1010          LS              85
1011          UD    .167

1012          KK    HC51
1013          HC       3

1014          KK   51RR1
1015          KM    LAKE NO.8
1016          RS       1    ELEV  1277.0
1017          SV       0    3.63    7.31   11.10   14.99    19.0   27.29
1018          SE  1277.5  1278.0  1278.5  1279.0  1279.5  1280.0  1280.5
1019          SQ       0   47.73  149.77  274.47  422.96  590.56  776.30
```

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

1020        KK   51RR2
1021        KM    LAKE NO. 9
1022        RS       1    ELEV  1273.0
1023        SV       0     .79    1.58    2.41    3.26
1024        SE  1273.0  1273.5  1274.0  1274.5  1275.0
1025        SQ       0   72.24  202.66  372.95  558.36

1026        KK    61S
1027        KM    COMBINE SUB-BASINS 59, 60 & 61
1028        BA    .124
1029        LS              77
1030        UD    .167

1031        KK    HC61
1032        HC       2

1033        KK    61RR
1034        KM    LAKE NO. 10
1035        RS       1    ELEV  1265.0
1036        SV       0     4.1    9.60   12.50    15.5    21.6    24.7    28.0    31.2    34.6
1037        SE  1265.0  1265.5  1266.5  1267.0  1267.5  1268.0  1268.5  1269.0  1269.5  1270.0
1038        SQ       0       0    36.0    54.0    72.0   105.0   204.4   359.2   539.2   746.9

1039        KK   HC570
1040        KM    COMBINE OUTFLOW FROM SYSTEM III WITH SYSTEM II
1041        HC       2
            *
            *
            *   CONCLUDE PORTION OF HEC-1 MODEL INPUT OBTAINED FROM ARROWHEAD RANCH
            *   DEVELOPMENT REPORT BY DIBBLE & ASSOCIATES.
            *
            *

1042        KK   RM570
1043        KM   NORMAL DEPTH STORAGE ROUTE FLOW FROM SUB-BASIN 570 THROUGH 571
1044        KM            1) Reach Length = 5301 ft
1045        RS       6    FLOW      -1
1046        RC    .030    .020    .030    5301   .0009
1047        RX      28      68      88     100     112     124     144     154
1048        RY     108     107     106     100     100     106     107     108

1049        KK    571S
1050        KM   RUNOFF GENERATED ON SUB-BASIN 571
1051        KM   THE FOLLOWING PARAMETERS WERE PROVIDED FOR THIS BASIN
1052        KM   L= 2.272 mi  S= 26 ft/mi  Kb= 0.044
1053        KM   CLARK UNIT HYDROGRAPH FOR NATURAL WATERSHEDS WAS USED FOR THIS BASIN
1054        BA   1.345
1055        LG    .409    .109   5.980    .266   9.130
1056        UC   1.547    .978
1057        UA       0       3       5       8      12      20      43      75      90      96
1058        UA     100
```

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

1059          KK   HC571
1060          KM   COMBINE HYDROGRAPHS FROM SUB-BASIN 571 WITH ROUTED FLOW FROM 570
1061          HC       2

1062          KK   RM571
1063          KM   NORMAL DEPTH STORAGE ROUTE FLOW FROM SUB-BASIN 571 THROUGH 553
1064          KM            1) Reach Length = 3194 ft
1065          RS       3    FLOW      -1
1066          RC    .030    .020    .030    3194   .0009
1067          RX      28      68      88     100     112     124     144     154
1068          RY     108     107     106     100     100     106     107     108

1069          KK    553S
1070          KM   RUNOFF GENERATED ON SUB-BASIN 553
1071          KM   THE FOLLOWING PARAMETERS WERE USED FOR THIS BASIN
1072          KM   L= 1.052 mi  S= 38 ft/mi  Kb= 0.056
1073          KM   CLARK UNIT HYDROGRAPH FOR NATURAL WATERSHEDS WAS USED FOR THIS BASIN
1074          BA    .933
1075          LG    .419    .165   5.360    .284   2.760
1076          UC    .917    .364
1077          UA       0       3       5       8      12      20      43      75      90      96
1078          UA     100

1079          KK   HC553
1080          KM   COMBINE HYDROGRAPHS FROM SUB-BASIN 553 WITH ROUTED FLOWS FROM 541, 552
1081          KM   AND 571
1082          HC       4

1083          KK   RM553
1084          KM   NORMAL DEPTH STORAGE ROUTE FLOW FROM SUB-BASIN 553 THROUGH 554
1085          KM            1) Reach Length = 5660 ft
1086          RS       4    FLOW      -1
1087          RC    .040    .040    .040    5660   .0041
1088          RX     100     150     210     240     300     350     370     400
1089          RY      36      34      28      22      22      24      30      36

1090          KK   554R1
1091          DR   554D1

1092          KK   554R2
1093          DR   554D2

1094          KK    554S
1095          KM   RUNOFF GENERATED ON SUB-BASIN 554
1096          KM   THE FOLLOWING PARAMETERS WERE PROVIDED FOR THIS BASIN
1097          KM   L= 1.531 mi  S= 25 ft/mi  Kb= 0.064
1098          KM   CLARK UNIT HYDROGRAPH FOR NATURAL WATERSHEDS WAS USED FOR THIS BASIN
1099          BA    .540
1100          LG    .326    .248   3.610    .347  17.170
1101          UC   1.596   1.242
1102          UA       0       3       5       8      12      20      43      75      90      96
1103          UA     100
```

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

1104          KK   HC554
1105          KM   COMBINE HYDROGRAPHS FROM SUB-BASIN 554 WITH ROUTED FLOWS FROM 553
1106          KM   AND DIVERTED FLOWS FROM 532 & 533
1107          HC       4

1108          KK   RM554
1109          KM   NORMAL DEPTH STORAGE ROUTE FLOW FROM SUB-BASIN 554 THROUGH 555
1110          KM            1) Reach Length = 5771 ft
1111          RS       4    FLOW      -1
1112          RC    .040    .040    .040    5771   .0047
1113          RX      80     100     160     220     240     250     480     500
1114          RY     104     104      96      92      92      96      97     104

1115          KK   555R1
1116          DR   555D1

1117          KK   555R2
1118          DR   555D2

1119          KK    555S
1120          KM   RUNOFF GENERATED ON SUB-BASIN 555
1121          KM   THE FOLLOWING PARAMETERS WERE PROVIDED FOR THIS BASIN
1122          KM   L= 1.108 mi  S= 34 ft/mi  Kb= 0.068
1123          KM   CLARK UNIT HYDROGRAPH FOR NATURAL WATERSHEDS WAS USED FOR THIS BASIN
1124          BA    .536
1125          LG    .326    .293   5.050    .252  11.750
1126          UC   1.167    .680
1127          UA       0       3       5       8      12      20      43      75      90      96
1128          UA     100

1129          KK  HC555A
1130          KM   COMBINE HYDROGRAPHS FROM SUB-BASIN 555 WITH ROUTED FLOW FROM 554
1131          KM   AND DIVERTED FLOWS FROM 533 & 534
1132          HC       4
              *
              *
              *   BEGIN PORTION OF HEC-1 MODEL INPUT OBTAINED FROM ARROWHEAD RANCH
              *   DEVELOPMENT REPORT BY DIBBLE & ASSOCIATES.
              *
              *
              *    ARROWHEAD RANCH - SECTION 25/26 - SYSTEM VI
              *

1133          KK     91S
1134          KM    SUB-BASIN 91
1135          BA    .069
1136          LS              77
1137          UD     .20
```

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

1138          KK     92S
1139          KM    SUB-BASIN 92
1140          BA    .033
1141          LS              84
1142          UD    .167

1143          KK    HC92
1144          HC       2

1145          KK    92RR
1146          KM    LAKE NO. 2
1147          RS       1    ELEV  1242.0
1148          SV     0.0     2.9     4.4     5.9     7.4     9.0    10.6    18.5    20.3    22.1
1149          SE  1242.0  1243.0  1243.5  1244.0  1244.5  1245.0  1245.5  1247.8  1248.3  1248.8
1150          SQ       0     .02     .03     .04     .05     .06     .07     .08    49.0   140.0

1151          KK     93S
1152          KM    SUB-BASIN 93
1153          BA    .061
1154          LS              71
1155          UD     .20

1156          KK    HC93
1157          HC       2

1158          KK    93RR
1159          KM    LAKE NO. 3
1160          RS       1    ELEV  1236.0
1161          SV     0.0     2.3     4.6     6.9     9.3    11.7    14.2
1162          SE  1236.0  1236.5  1237.0  1237.5  1238.0  1238.5  1239.0
1163          SQ       0     5.4     8.5    10.4    12.0    13.5    14.7

1164          KK     94S
1165          KM    SUB-BASIN 94
1166          BA    .077
1167          LS              76
1168          UD     .20

1169          KK    HC94
1170          HC       2

1171          KK     95S
1172          KM    SUB-BASIN 95
1173          BA    .068
1174          LS              75
1175          UD    .167

1176          KK    HC95
1177          HC       2
```

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

1178          KK     96S
1179          KM    SUB-BASIN 96
1180          BA    .086
1181          LS              84
1182          UD    .300

1183          KK    96RR
1184          KM    LAKE NO. 4
1185          RS       1    ELEV  1237.0
1186          SV     0.0     1.7     3.4     5.2     7.0     8.8    10.7
1187          SE  1237.0  1237.5  1238.0  1238.5  1239.0  1239.5  1240.0
1188          SQ     0.0     7.2    15.1    18.5    21.4    23.9    26.2

1189          KK     97S
1190          KM    SUB-BASIN 97
1191          BA    .071
1192          LS              71
1193          UD    .800

1194          KK    HC97
1195          HC       3

1196          KK    97RR
1197          KM    LAKE NO. 5
1198          RS       1    ELEV  1230.0
1199          SV     0.0     1.8     3.7     5.6     7.5     9.4    11.4    14.7    16.8    19.0
1200          SE  1230.0  1230.5  1231.0  1231.5  1232.0  1232.5  1233.0  1233.8  1234.3  1234.8
1201          SQ     0.0    0.01    0.02    0.03    0.04    0.05    0.06    0.08   124.0   350.0

1202          KK     98S
1203          KM    SUB-BASIN 98
1204          BA    .018
1205          LS              84
1206          UD    .167

1207          KK    98RR
1208          KM    LAKE NO. 6
1209          RS       1    ELEV  1230.0
1210          SV     0.0     0.5     1.1     1.7     2.3     2.9     3.5
1211          SE  1230.0  1230.5  1231.0  1231.5  1232.0  1232.5  1233.0
1212          SQ     0.0     7.2    15.1    18.5    21.4    23.9    26.2

1213          KK    HC98
1214          HC       2

1215          KK     99S
1216          KM    SUB-BASIN 99
1217          BA    .047
1218          LS              77
1219          UD    .167
```

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

1220        KK    HC99
1221        HC       2

1222        KK    99RR
1223        KM    LAKE NO.7
1224        RS       1    ELEV  1229.0
1225        SV     0.0     1.9     3.8     5.8     7.8     9.8    11.9
1226        SE  1229.0  1229.5  1230.0  1230.5  1231.0  1231.5  1232.0
1227        SQ     0.0     7.2    15.1    18.5    21.4    23.9    26.2

1228        KK     90S
1229        KM    SUB-BASIN 90
1230        BA    .077
1231        LS              77
1232        UD    .300

1233        KK   HC580
1234        KM    OUTFLOW FROM SYSTEM VI
1235        HC       2
            *
            *
            *   CONCLUDE PORTION OF HEC-1 MODEL INPUT OBTAINED FROM ARROWHEAD RANCH
            *   DEVELOPMENT REPORT BY DIBBLE & ASSOCIATES.
            *
            *

1236        KK   RM580
1237        KM   NORMAL DEPTH STORAGE ROUTE FLOW FROM SUB-BASIN 580 THROUGH 581
1238        KM            1) Reach Length = 5515 ft
1239        RS       6    FLOW      -1
1240        RC    .030    .020    .030    5515   .0047
1241        RX     148     168     188     200     208     220     260     300
1242        RY     110     107     106     100     100     106     108     109

1243        KK    581S
1244        KM   RUNOFF GENERATED ON SUB-BASIN 581
1245        KM   THE FOLLOWING PARAMETERS WERE PROVIDED FOR THIS BASIN
1246        KM   L= 1.836 mi  S= 15 ft/mi  Kb= 0.033
1247        KM   CLARK UNIT HYDROGRAPH FOR URBAN WATERSHEDS WAS USED FOR THIS BASIN
1248        BA    .823
1249        LG    .206    .184   3.920    .429  54.370
1250        UC    .896    .595
1251        UA       0       5      16      30      65      77      84      90      94      97
1252        UA     100

1253        KK   HC581
1254        KM   COMBINE HYDROGRAPHS FROM SUB-BASIN 581 WITH ROUTED FLOW FROM 580
1255        HC       2
```

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

1256          KK  HC555B
1257          KM   COMBINE HYDROGRAPHS FROM SUB-BASIN 555 WITH 581
1258          HC       2

1259          KK   RM555
1260          KM   NORMAL DEPTH STORAGE ROUTE FLOW FROM SUB-BASIN 555 & 581 THROUGH 556
1261          KM            1) Reach Length = 7336 ft
1262          RS       5    FLOW      -1
1263          RC    .040    .040    .040    7336   .0054
1264          RX       0      20      80     250     440     480     530     560
1265          RY      84      80      76      74      74      80      90      92

1266          KK    556R
1267          DR    556D

1268          KK    556S
1269          KM   RUNOFF GENERATED ON SUB-BASIN 556
1270          KM   THE FOLLOWING PARAMETERS WERE PROVIDED FOR THIS BASIN
1271          KM   L= 1.379 mi  S= 26 ft/mi  Kb= 0.053
1272          KM   CLARK UNIT HYDROGRAPH FOR URBAN WATERSHEDS WAS USED FOR THIS BASIN
1273          BA    .558
1274          LG    .426    .110   3.920    .514   8.400
1275          UC   1.350    .931
1276          UA       0       5      16      30      65      77      84      90      94      97
1277          UA     100

1278          KK  HC556A
1279          KM   COMBINE HYDROGRAPHS FROM SUB-BASIN 556 WITH ROUTED FLOWS FROM 535,
1280          KM   556 & 581.  ALSO, TOTAL FLOW FROM NEW RIVER UPSTREAM OF ITS CONFLUENCE
1281          KM   WITH SKUNK CREEK.
1282          HC       4

1283          KK    408S
1284          KM   RUNOFF GENERATED ON SUB-BASIN 408
1285          KM   THE FOLLOWING PARAMETERS WERE PROVIDED FOR THIS BASIN
1286          KM   L= 1.935 mi  S= 22 ft/mi  Kb= 0.057
1287          KM   CLARK UNIT HYDROGRAPH FOR URBAN WATERSHEDS WAS USED FOR THIS BASIN
1288          BA   1.076
1289          LG    .298    .275   3.870    .415  18.170
1290          UC   1.980   1.284
1291          UA       0       5      16      30      65      77      84      90      94      97
1292          UA     100
1293          ZZ
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****************************************
*                                      *
*   FLOOD HYDROGRAPH PACKAGE  (HEC-1)  *
*             MAY   1991               *
*           VERSION 4.0.1E             *
*                                      *
* RUN DATE  04/14/95  TIME  08:34:34   *
*                                      *
****************************************
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****************************************
*                                      *
*   U.S. ARMY CORPS OF ENGINEERS       *
*   HYDROLOGIC ENGINEERING CENTER      *
*         609 SECOND STREET            *
*      DAVIS, CALIFORNIA 95616         *
*          (916) 551-1748              *
*                                      *
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ACDC AREA DRAINAGE MASTER STUDY
FILENAME: NR224.DAT KHE JOB NO. 0146
WATERSHED CONTRIBUTING TO NEW RIVER UP TO ITS CONFLUENCE WITH
SKUNK CREEK

10-YEAR 24-HOUR DURATION STORM FOR EXISTING CONDITIONS

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9 IO        OUTPUT CONTROL VARIABLES
                 IPRNT          5  PRINT CONTROL
                 IPLOT          0  PLOT CONTROL
                 QSCAL         0.  HYDROGRAPH PLOT SCALE

  IT        HYDROGRAPH TIME DATA
                  NMIN          4  MINUTES IN COMPUTATION INTERVAL
                 IDATE      1   0  STARTING DATE
                 ITIME       0000  STARTING TIME
                    NQ        800  NUMBER OF HYDROGRAPH ORDINATES
                NDDATE      3   0  ENDING DATE
                NDTIME       0516  ENDING TIME
                 ICENT         19  CENTURY MARK

            COMPUTATION INTERVAL    0.07 HOURS
                 TOTAL TIME BASE   53.27 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
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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	500S	44.	13.20	16.	5.	2.	0.41		
ROUTED TO	RM500	41.	13.93	16.	5.	2.	0.41	100.25	13.93
HYDROGRAPH AT	501S	60.	13.20	17.	4.	2.	0.52		
2 COMBINED AT	HC501	79.	13.80	32.	9.	4.	0.93		
ROUTED TO	RM501	73.	14.60	30.	9.	4.	0.93	100.39	14.60
HYDROGRAPH AT	502S	33.	14.27	17.	5.	2.	0.55		
HYDROGRAPH AT	510S	130.	12.73	31.	9.	4.	0.63		
ROUTED TO	RM510	119.	13.20	31.	9.	4.	0.63	99.72	13.20
HYDROGRAPH AT	511S	63.	13.07	17.	4.	2.	0.44		
2 COMBINED AT	HC511	181.	13.20	48.	13.	6.	1.06		
ROUTED TO	RM511	169.	13.67	48.	13.	6.	1.06	99.91	13.67
HYDROGRAPH AT	512S	54.	13.47	19.	5.	2.	0.47		
2 COMBINED AT	HC512A	220.	13.67	67.	18.	8.	1.53		
DIVERSION TO	533D	110.	13.67	33.	9.	4.	1.53		
HYDROGRAPH AT	502RE	110.	13.67	33.	9.	4.	1.53		
3 COMBINED AT	HC502	171.	14.27	79.	23.	10.	3.02		
ROUTED TO	RM502	168.	14.67	79.	23.	10.	3.02	100.46	14.67
HYDROGRAPH AT	503S	199.	13.27	85.	27.	12.	0.95		
2 COMBINED AT	HC503	277.	14.47	159.	50.	23.	3.97		
ROUTED TO	503RR	25.	15.07	25.	25.	17.	3.97	27.56	20.40
ROUTED TO	RM503	25.	16.13	25.	25.	17.	3.97	100.28	16.47
HYDROGRAPH AT	533R	110.	13.67	33.	9.	4.	0.00		
HYDROGRAPH AT	533A	6.	12.07	1.	0.	0.	0.01		
2 COMBINED AT	HC512B	110.	13.67	34.	9.	4.	0.01		
ROUTED TO	RM512	108.	13.80	34.	9.	4.	0.01	100.80	13.80
HYDROGRAPH AT	533B	160.	12.13	32.	10.	5.	0.28		

ROUTED TO	533RR1	21.	13.53	20.	10.	5.	0.28	31.24	13.60
2 COMBINED AT	HC533A	129.	13.80	54.	19.	9.	0.29		
HYDROGRAPH AT	520S	242.	12.40	38.	11.	5.	0.68		
DIVERSION TO	530D	137.	12.40	32.	9.	4.	0.68		
HYDROGRAPH AT	520RE	105.	12.40	6.	2.	1.	0.68		
ROUTED TO	RM520	54.	12.93	6.	2.	1.	0.68	100.52	12.93
HYDROGRAPH AT	521S	297.	12.47	51.	15.	7.	0.62		
2 COMBINED AT	HC521	297.	12.53	57.	16.	7.	1.29		
ROUTED TO	RM521	266.	13.00	57.	16.	7.	1.29	100.80	13.00
HYDROGRAPH AT	522S	80.	13.20	24.	6.	3.	0.51		
2 COMBINED AT	HC522	335.	13.07	82.	22.	10.	1.80		
HYDROGRAPH AT	533C	77.	12.33	14.	4.	2.	0.12		
2 COMBINED AT	HC533B	362.	13.00	95.	27.	12.	1.92		
ROUTED TO	533RR2	350.	13.13	91.	27.	12.	1.92	36.25	13.13
HYDROGRAPH AT	533D	43.	12.80	13.	4.	2.	0.10		
2 COMBINED AT	HC533C	386.	13.13	104.	31.	14.	2.02		
ROUTED TO	533RR3	65.	15.13	28.	23.	13.	2.02	35.12	15.13
HYDROGRAPH AT	533E	9.	12.13	1.	0.	0.	0.01		
2 COMBINED AT	HC533D	65.	15.13	28.	23.	14.	2.04		
ROUTED TO	533RR4	62.	15.27	28.	23.	14.	2.04	34.27	15.27
HYDROGRAPH AT	530S	520.	12.20	61.	17.	8.	0.82		
HYDROGRAPH AT	R530	137.	12.13	32.	9.	4.	0.00		
2 COMBINED AT	HC530	657.	12.20	92.	26.	12.	0.82		
ROUTED TO	RM530	580.	12.53	92.	26.	12.	0.82	101.22	12.53
HYDROGRAPH AT	531S	357.	12.67	73.	19.	9.	0.65		
2 COMBINED AT	HC531	917.	12.53	165.	46.	21.	1.47		
ROUTED TO	RM531	826.	12.93	164.	46.	21.	1.47	101.58	12.93
HYDROGRAPH AT	532S	260.	12.67	51.	13.	6.	0.52		
2 COMBINED AT	HC532	1031.	12.93	214.	58.	26.	2.00		
DIVERSION TO	554D1	722.	12.93	150.	41.	18.	2.00		

HYDROGRAPH AT	532RE	309.	12.93	64.	18.	8.	2.00		
HYDROGRAPH AT	533F	41.	12.20	7.	2.	1.	0.06		
2 COMBINED AT	HC533E	320.	12.93	71.	20.	9.	2.06		
HYDROGRAPH AT	533G	45.	12.27	9.	3.	1.	0.08		
2 COMBINED AT	HC533F	337.	12.93	80.	23.	10.	2.14		
ROUTED TO	533RR6	103.	13.93	30.	21.	10.	2.14	33.09	13.93
2 COMBINED AT	HC533G	125.	13.93	58.	43.	24.	4.18		
ROUTED TO	RM522B	109.	14.13	58.	43.	24.	4.18	100.69	14.13
HYDROGRAPH AT	533H	29.	12.20	5.	2.	1.	0.03		
2 COMBINED AT	HC533H	110.	14.13	59.	44.	24.	4.21		
HYDROGRAPH AT	533I	50.	12.47	11.	3.	2.	0.08		
ROUTED TO	533RR8	14.	13.47	10.	3.	2.	0.08	29.29	13.47
2 COMBINED AT	HC533I	124.	14.13	67.	47.	26.	4.29		
ROUTED TO	RM522C	120.	14.27	67.	47.	26.	4.29	100.54	14.27
HYDROGRAPH AT	533J	31.	12.13	5.	2.	1.	0.03		
2 COMBINED AT	HC533J	121.	14.27	70.	48.	27.	4.33		
HYDROGRAPH AT	533K	34.	12.27	6.	2.	1.	0.06		
ROUTED TO	533RR9	15.	12.73	6.	2.	1.	0.06	27.52	12.73
2 COMBINED AT	HC533K	128.	14.20	76.	50.	28.	4.38		
DIVERSION TO	554D2	56.	14.67	4.	1.	0.	4.38		
HYDROGRAPH AT	533RE1	99.	14.67	73.	49.	27.	4.38		
DIVERSION TO	555D1	4.	14.67	1.	0.	0.	4.38		
HYDROGRAPH AT	533RE2	94.	14.67	72.	49.	27.	4.38		
DIVERSION TO	534D1	5.	14.67	1.	0.	0.	4.38		
HYDROGRAPH AT	533RE3	90.	14.67	71.	48.	27.	4.38		
DIVERSION TO	534D2	0.	14.67	0.	0.	0.	4.38		
HYDROGRAPH AT	533RE4	90.	14.67	71.	48.	27.	4.38		
ROUTED TO	RM533C	88.	15.60	71.	48.	27.	4.38	101.06	15.60
3 COMBINED AT	HC533L	211.	14.00	142.	89.	52.	8.64		
ROUTED TO	RM533D	206.	14.33	142.	89.	52.	8.64	101.17	14.33

HYDROGRAPH AT	534R1	5.	14.67	1.	0.	0.	0.00		
ROUTED TO	RM533E	3.	16.13	1.	0.	0.	0.00	100.22	16.13
DIVERSION TO	555D2	1.	16.13	0.	0.	0.	0.00		
HYDROGRAPH AT	533RE6	2.	16.13	0.	0.	0.	0.00		
DIVERSION TO	535D	1.	16.13	0.	0.	0.	0.00		
HYDROGRAPH AT	533RE7	0.	16.13	0.	0.	0.	0.00		
ROUTED TO	RM533F	0.	16.47	0.	0.	0.	0.00	100.04	16.53
HYDROGRAPH AT	534R2	0.	0.07	0.	0.	0.	0.00		
ROUTED TO	RM533G	0.	0.07	0.	0.	0.	0.00	100.00	0.00
HYDROGRAPH AT	534S	224.	12.67	78.	23.	10.	0.90		
4 COMBINED AT	HC534	319.	12.80	213.	109.	62.	9.54		
ROUTED TO	RM534A	315.	13.00	212.	109.	62.	9.54	100.99	13.00
HYDROGRAPH AT	535R	1.	16.13	0.	0.	0.	0.00		
DIVERSION TO	556D	1.	16.13	0.	0.	0.	0.00		
HYDROGRAPH AT	535RE	1.	16.13	0.	0.	0.	0.00		
ROUTED TO	RM534C	1.	16.27	0.	0.	0.	0.00	100.07	16.27
ROUTED TO	RM534E	1.	16.47	0.	0.	0.	0.00	100.02	16.47
HYDROGRAPH AT	535S	279.	12.33	55.	16.	7.	0.64		
3 COMBINED AT	HC535	461.	12.80	259.	123.	70.	10.18		
DIVERSION TO	DV91S	0.	12.80	0.	0.	0.	10.18		
HYDROGRAPH AT	535RE	461.	12.80	259.	123.	70.	10.18		
ROUTED TO	RM535	457.	12.87	259.	123.	69.	10.18	103.25	12.87
HYDROGRAPH AT	540S	279.	13.87	109.	30.	14.	2.24		
ROUTED TO	RM540	274.	14.20	108.	30.	14.	2.24	20.03	14.20
HYDROGRAPH AT	541S	43.	13.33	13.	3.	2.	0.47		
2 COMBINED AT	HC541	299.	14.13	121.	33.	15.	2.71		
ROUTED TO	RM541	293.	14.47	120.	33.	15.	2.71	88.00	14.47
HYDROGRAPH AT	542S	77.	12.93	18.	5.	2.	0.49		
2 COMBINED AT	HC542	310.	14.40	135.	38.	17.	3.20		
ROUTED TO	RM542	305.	14.73	134.	38.	17.	3.20	65.95	14.73

HYDROGRAPH AT	550S	1980.	13.00	1760.	1716.	1707.	1.95		
ROUTED TO	RM550	1963.	13.33	1760.	1716.	1707.	1.95	27.77	13.33
HYDROGRAPH AT	560S	341.	12.53	57.	15.	7.	1.12		
ROUTED TO	RM560	266.	13.40	57.	15.	7.	1.12	89.70	13.40
HYDROGRAPH AT	551S	82.	13.93	34.	9.	4.	1.45		
3 COMBINED AT	HC551	2279.	13.40	1850.	1740.	1718.	4.51		
ROUTED TO	RM551	2252.	13.67	1850.	1740.	1718.	4.51	78.23	13.67
HYDROGRAPH AT	552S	237.	13.93	106.	31.	14.	2.38		
2 COMBINED AT	HC552	2479.	13.73	1956.	1772.	1732.	6.90		
ROUTED TO	RM552	2462.	14.00	1956.	1772.	1732.	6.90	50.62	14.00
HYDROGRAPH AT	21S	17.	12.07	3.	1.	0.	0.04		
ROUTED TO	21RR	0.	0.07	0.	0.	0.	0.04	1277.91	24.80
HYDROGRAPH AT	22S	23.	12.00	4.	1.	1.	0.03		
2 COMBINED AT	HC22	23.	12.00	4.	1.	1.	0.06		
ROUTED TO	22RR	12.	12.27	4.	1.	1.	0.06	1277.36	12.27
HYDROGRAPH AT	23S	6.	12.07	1.	0.	0.	0.01		
2 COMBINED AT	HC23	16.	12.13	4.	1.	1.	0.07		
ROUTED TO	23RR	11.	12.60	4.	1.	1.	0.07	1275.68	12.60
HYDROGRAPH AT	24S	4.	12.07	1.	0.	0.	0.01		
2 COMBINED AT	HC24	12.	12.13	5.	2.	1.	0.08		
ROUTED TO	24RR	10.	13.13	5.	2.	1.	0.08	1272.63	13.13
HYDROGRAPH AT	25S	30.	12.07	5.	1.	1.	0.05		
2 COMBINED AT	HC25	36.	12.07	10.	3.	1.	0.13		
ROUTED TO	25RR	6.	14.80	5.	3.	2.	0.13	1268.71	14.80
HYDROGRAPH AT	27S	61.	12.07	9.	3.	1.	0.12		
ROUTED TO	27RR	6.	13.40	6.	3.	1.	0.12	1278.72	13.47
HYDROGRAPH AT	29S	22.	12.07	3.	1.	0.	0.06		
2 COMBINED AT	HC29	26.	12.07	9.	4.	2.	0.19		
HYDROGRAPH AT	30S	31.	12.07	5.	1.	1.	0.06		
ROUTED TO	30RR	7.	12.67	4.	1.	1.	0.06	1265.74	12.67

2 COMBINED AT	HC30	31.	12.07	14.	5.	2.	0.24		
HYDROGRAPH AT	31S	18.	12.07	3.	1.	0.	0.05		
3 COMBINED AT	HC31	51.	12.07	21.	9.	4.	0.42		
HYDROGRAPH AT	32S	18.	12.07	3.	1.	0.	0.05		
2 COMBINED AT	HC32	70.	12.07	24.	10.	5.	0.48		
HYDROGRAPH AT	34S	26.	12.07	4.	1.	1.	0.08		
2 COMBINED AT	HC34	96.	12.07	28.	11.	5.	0.55		
HYDROGRAPH AT	41S	14.	12.07	2.	1.	0.	0.02		
HYDROGRAPH AT	42S	30.	12.07	5.	1.	1.	0.07		
2 COMBINED AT	HC42	45.	12.07	7.	2.	1.	0.09		
ROUTED TO	42RR	12.	12.53	7.	2.	1.	0.09	1303.55	12.53
HYDROGRAPH AT	43S	1.	12.07	0.	0.	0.	0.01		
2 COMBINED AT	HC43	13.	12.27	7.	2.	1.	0.10		
HYDROGRAPH AT	44S	16.	12.07	2.	1.	0.	0.03		
2 COMBINED AT	HC44	26.	12.07	9.	3.	1.	0.13		
HYDROGRAPH AT	45S	15.	12.00	2.	1.	0.	0.02		
HYDROGRAPH AT	46S	34.	12.07	5.	2.	1.	0.06		
2 COMBINED AT	HC46	48.	12.07	7.	2.	1.	0.07		
ROUTED TO	46RR	13.	12.53	7.	2.	1.	0.07	1300.62	12.53
HYDROGRAPH AT	47S	19.	12.07	3.	1.	0.	0.03		
2 COMBINED AT	HC47A	29.	12.07	10.	3.	1.	0.11		
2 COMBINED AT	HC47B	55.	12.07	19.	6.	3.	0.24		
ROUTED TO	47RR	27.	13.27	17.	6.	3.	0.24	1290.14	13.27
HYDROGRAPH AT	48S	30.	12.07	5.	1.	1.	0.06		
2 COMBINED AT	HC48	37.	12.07	21.	8.	3.	0.30		
ROUTED TO	48RR	32.	12.20	21.	8.	3.	0.30	1287.46	12.20
HYDROGRAPH AT	49S	1.	12.13	0.	0.	0.	0.04		
2 COMBINED AT	HC49	33.	12.20	21.	8.	3.	0.34		
HYDROGRAPH AT	50S	12.	12.07	2.	1.	0.	0.02		
2 COMBINED AT	HC50	43.	12.13	23.	8.	4.	0.36		

HYDROGRAPH AT	52S	9.	12.00	1.	0.	0.	0.01		
HYDROGRAPH AT	53S	20.	12.07	3.	1.	0.	0.03		
2 COMBINED AT	HC53	28.	12.07	4.	1.	1.	0.04		
ROUTED TO	53RR	13.	12.27	4.	1.	1.	0.04	1297.88	12.27
HYDROGRAPH AT	54S	23.	12.00	4.	1.	1.	0.03		
HYDROGRAPH AT	55S	14.	12.07	2.	1.	0.	0.02		
2 COMBINED AT	HC55A	37.	12.07	6.	2.	1.	0.05		
2 COMBINED AT	HC55B	48.	12.07	10.	3.	1.	0.09		
ROUTED TO	55RR	29.	12.27	10.	3.	1.	0.09	1295.09	12.27
HYDROGRAPH AT	56S	21.	12.07	3.	1.	0.	0.04		
HYDROGRAPH AT	57S	52.	12.07	8.	2.	1.	0.10		
2 COMBINED AT	HC57A	73.	12.07	11.	3.	2.	0.14		
2 COMBINED AT	HC57B	91.	12.07	21.	7.	3.	0.23		
ROUTED TO	57RR	87.	12.13	21.	7.	3.	0.23	1290.69	12.13
HYDROGRAPH AT	58S	2.	12.07	0.	0.	0.	0.01		
2 COMBINED AT	HC58	89.	12.13	21.	7.	3.	0.24		
HYDROGRAPH AT	51S	76.	12.07	12.	4.	2.	0.13		
3 COMBINED AT	HC51	203.	12.07	56.	19.	8.	0.72		
ROUTED TO	51RR1	110.	12.47	54.	19.	8.	0.72	1278.30	12.47
ROUTED TO	51RR2	109.	12.53	53.	19.	8.	0.72	1273.64	12.53
HYDROGRAPH AT	61S	43.	12.07	7.	2.	1.	0.12		
2 COMBINED AT	HC61	122.	12.53	60.	21.	9.	0.85		
ROUTED TO	61RR	55.	14.60	46.	19.	8.	0.85	1267.02	14.60
2 COMBINED AT	HC570	96.	12.07	69.	30.	14.	1.40		
ROUTED TO	RM570	79.	14.73	68.	30.	14.	1.40	101.79	14.73
HYDROGRAPH AT	571S	311.	13.07	90.	25.	11.	1.35		
2 COMBINED AT	HC571	367.	13.07	156.	54.	25.	2.74		
ROUTED TO	RM571	362.	13.27	156.	54.	25.	2.74	104.10	13.27
HYDROGRAPH AT	553S	343.	12.53	48.	13.	6.	0.93		
4 COMBINED AT	HC553	2868.	14.07	2284.	1876.	1780.	13.77		

ROUTED TO	RM553	2862.	14.20	2284.	1876.	1780.	13.77	26.49	14.20
HYDROGRAPH AT	554R1	722.	12.93	150.	41.	18.	0.00		
HYDROGRAPH AT	554R2	56.	14.20	4.	1.	0.	0.00		
HYDROGRAPH AT	554S	99.	13.13	36.	11.	5.	0.54		
4 COMBINED AT	HC554	3123.	14.13	2469.	1928.	1804.	14.31		
ROUTED TO	RM554	3092.	14.47	2467.	1928.	1804.	14.31	97.61	14.47
HYDROGRAPH AT	555R1	4.	14.67	1.	0.	0.	0.00		
HYDROGRAPH AT	555R2	1.	16.13	0.	0.	0.	0.00		
HYDROGRAPH AT	555S	141.	12.80	32.	9.	4.	0.54		
4 COMBINED AT	HC555A	3112.	14.47	2496.	1937.	1808.	14.85		
HYDROGRAPH AT	91S	22.	12.07	4.	1.	1.	0.07		
HYDROGRAPH AT	92S	19.	12.07	3.	1.	0.	0.03		
2 COMBINED AT	HC92	41.	12.07	7.	2.	1.	0.10		
ROUTED TO	92RR	0.	24.13	0.	0.	0.	0.10	1243.39	24.53
HYDROGRAPH AT	93S	11.	12.13	2.	1.	0.	0.06		
2 COMBINED AT	HC93	11.	12.13	2.	1.	0.	0.16		
ROUTED TO	93RR	1.	14.47	1.	1.	0.	0.16	1236.12	14.33
HYDROGRAPH AT	94S	23.	12.07	4.	1.	1.	0.08		
2 COMBINED AT	HC94	23.	12.07	5.	2.	1.	0.24		
HYDROGRAPH AT	95S	20.	12.07	3.	1.	0.	0.07		
2 COMBINED AT	HC95	43.	12.07	8.	3.	1.	0.31		
HYDROGRAPH AT	96S	40.	12.13	7.	2.	1.	0.09		
ROUTED TO	96RR	8.	13.00	6.	2.	1.	0.09	1237.57	13.00
HYDROGRAPH AT	97S	6.	12.87	2.	1.	0.	0.07		
3 COMBINED AT	HC97	47.	12.07	16.	6.	3.	0.47		
ROUTED TO	97RR	0.	36.73	0.	0.	0.	0.47	1233.09	39.40
HYDROGRAPH AT	98S	10.	12.07	2.	0.	0.	0.02		
ROUTED TO	98RR	4.	12.33	2.	0.	0.	0.02	1230.28	12.33
2 COMBINED AT	HC98	4.	12.33	2.	1.	0.	0.48		
HYDROGRAPH AT	99S	16.	12.07	3.	1.	0.	0.05		

2 COMBINED AT	HC99	19.	12.07	4.	1.	1.	0.53		
ROUTED TO	99RR	4.	13.67	3.	1.	1.	0.53	1229.26	13.67
HYDROGRAPH AT	90S	21.	12.20	4.	1.	1.	0.08		
2 COMBINED AT	HC580	23.	12.20	7.	3.	1.	0.61		
ROUTED TO	RM580	20.	12.53	7.	3.	1.	0.61	100.61	12.53
HYDROGRAPH AT	581S	352.	12.33	96.	32.	15.	0.82		
2 COMBINED AT	HC581	363.	12.40	101.	35.	16.	1.43		
2 COMBINED AT	HC555B	3232.	13.27	2581.	1971.	1824.	16.28		
ROUTED TO	RM555	3191.	13.60	2580.	1971.	1824.	16.28	76.43	13.60
HYDROGRAPH AT	556R	1.	16.13	0.	0.	0.	0.00		
HYDROGRAPH AT	556S	96.	12.53	29.	8.	4.	0.56		
4 COMBINED AT	HC556A	3575.	13.53	2862.	2095.	1897.	27.02		
HYDROGRAPH AT	408S	145.	12.87	63.	20.	9.	1.08		

NORMAL END OF HEC-1 ***

SECTION VI

HEC-1 Hydrology Results, 100-Year 24-Hour Storm (Existing Conditions)

```
****************************************
*                                      *
*   FLOOD HYDROGRAPH PACKAGE  (HEC-1)  *
*             MAY   1991               *
*           VERSION 4.0.1E             *
*                                      *
*  RUN DATE  01/25/95  TIME  12:03:17  *
*                                      *
****************************************
```

```
****************************************
*                                      *
*   U.S. ARMY CORPS OF ENGINEERS       *
*   HYDROLOGIC ENGINEERING CENTER      *
*         609 SECOND STREET            *
*      DAVIS, CALIFORNIA 95616         *
*          (916) 551-1748              *
*                                      *
****************************************
```

```
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

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

  1           ID    ACDC AREA DRAINAGE MASTER STUDY
  2           ID    FILENAME:  NR324B.DAT          KHE JOB NO. 0146
  3           ID    WATERSHED CONTRIBUTING TO NEW RIVER UP TO ITS CONFLUENCE WITH
  4           ID    SKUNK CREEK
  5           ID
  6           ID    100-YEAR 24-HOUR DURATION STORM FOR EXISTING CONDITIONS
  7           ID
              *
              *       CREATED:  AUGUST 4, 1994
              *       REVISED:  SEPTEMBER 12, 1994
              *                 Revised to reflect the FCDMC's Hydrology for the
              *                 91st Avenue Drain as presented in a DRAFT Copy
              *                 dated June 20, 1994.
              *
              *       REVISED:  JANUARY 4, 1994
              *                 Revised to reflect the FCDMC's Hydrology Review
              *                 Comments dated October 14, 1994.
              *
              *    *DIAGRAM
  8           IT      4                    800
  9           IO      5
              *    *    *    *    *    *    *    *    *    *    *    *    *
              *                                                             *
              *          SUBAREA GROUPING CONTRIBUTING TO 91ST AVENUE DRAIN *
              *           SUB-BASINS 500-503, 510-512, 520-522, & 530-535   *
              *              TOTAL CONTRIBUTING AREA = 10.18 SQ. MI.        *
              *                                                             *
              *    *    *    *    *    *    *    *    *    *    *    *    *

 10           KK    500S
 11           KM   RUNOFF GENERATED ON SUB-BASIN 500
 12           KM   THE FOLLOWING PARAMETERS WERE PROVIDED FOR THIS BASIN
 13           KM   L= 1.455 mi  S= 50 ft/mi  Kb= 0.078
 14           KM   CLARK UNIT HYDROGRAPH FOR NATURAL WATERSHEDS WAS USED FOR THIS BASIN
 15           BA    .410
 16           IN      30
 17           KM   RAINFALL DEPTH OF 4.00 WAS SPACIALLY REDUCED AS SHOWN BY THE PB RECORD
 18           KM   AN AREAL REDUCTION COEFFICIENT OF .959 WAS USED FOR THIS BASIN
 19           PB   3.836
 20           KM   THE FOLLOWING PC RECORD USED A 24-HR SCS TYPE II STORM
 21           PC    .000    .005    .011    .016    .022    .028    .035    .041    .048    .056
 22           PC    .063    .071    .080    .089    .098    .109    .120    .133    .147    .163
 23           PC    .181    .204    .235    .283    .663    .735    .772    .799    .820    .838
 24           PC    .854    .868    .880    .891    .902    .912    .921    .929    .937    .945
 25           PC    .952    .959    .965    .972    .978    .984    .989    .995   1.000
 26           LG    .282    .323   4.080    .419   5.530
 27           UC    .983    .815
 28           UA       0       3       5       8      12      20      43      75      90      96
 29           UA     100
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

  30          KK   RM500
  31          KM   NORMAL DEPTH STORAGE ROUTE FLOW FROM SUB-BASIN 500 THROUGH 501
  32          KM             1) Reach Length = 5446 ft
  33          RS      9    FLOW      -1
  34          RC   .040    .030    .040    5446   .0060
  35          RX      0      25      50      80     120     150     175     200
  36          RY    102     101     100     100     100     100     101     102

  37          KK    501S
  38          KM   RUNOFF GENERATED ON SUB-BASIN 501
  39          KM   THE FOLLOWING PARAMETERS WERE PROVIDED FOR THIS BASIN
  40          KM   L= 1.031 mi  S= 32 ft/mi  Kb= 0.087
  41          KM   CLARK UNIT HYDROGRAPH FOR NATURAL WATERSHEDS WAS USED FOR THIS BASIN
  42          BA    .524
  43          LG    .350    .350   3.920    .384    .000
  44          UC   1.033    .568
  45          UA      0       3       5       8      12      20      43      75      90      96
  46          UA    100

  47          KK   HC501
  48          KM   COMBINE HYDROGRAPHS FROM SUB-BASIN 501 WITH ROUTED FLOW FROM 500
  49          HC      2

  50          KK   RM501
  51          KM   NORMAL DEPTH STORAGE ROUTE FROM SUB-BASIN 501 THROUGH 502
  52          KM            1) Reach Length = 7666 ft
  53          RS     12    FLOW      -1
  54          RC   .040    .030    .040    7666   .0044
  55          RX      0      25      50      80     120     150     175     200
  56          RY    102     101     100     100     100     100     101     102

  57          KK    502S
  58          KM   RUNOFF GENERATED ON SUB-BASIN 502
  59          KM   THE FOLLOWING PARAMETERS WERE PROVIDED FOR THIS BASIN
  60          KM   L= 1.452 mi  S= 23 ft/mi  Kb= 0.086
  61          KM   CLARK UNIT HYDROGRAPH FOR NATURAL WATERSHEDS WAS USED FOR THIS BASIN
  62          BA    .553
  63          LG    .350    .350   3.820    .361    .000
  64          UC   1.729   1.283
  65          UA      0       3       5       8      12      20      43      75      90      96
  66          UA    100

  67          KK    510S
  68          KM   RUNOFF GENERATED ON SUB-BASIN 510
  69          KM   THE FOLLOWING PARAMETERS WERE PROVIDED FOR THIS BASIN
  70          KM   L= 1.577 mi  S= 93 ft/mi  Kb= 0.074
  71          KM   CLARK UNIT HYDROGRAPH FOR NATURAL WATERSHEDS WAS USED FOR THIS BASIN
  72          BA    .625
  73          LG    .209    .322   3.980    .396   8.130
  74          UC    .721    .484
  75          UA      0       3       5       8      12      20      43      75      90      96
  76          UA    100
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 77           KK   RM510
 78           KM   NORMAL DEPTH STORAGE ROUTE FLOW FROM SUB-BASIN 510 THROUGH 511
 79           KM            1) Reach Length = 5415 ft
 80           RS       7    FLOW      -1
 81           RC    .040    .030    .040    5415   .0065
 82           RX       0      25      50      80     120     150     175     200
 83           RY     102     101     100      99      99     100     101     102

 84           KK    511S
 85           KM   RUNOFF GENERATED ON SUB-BASIN 511
 86           KM   THE FOLLOWING PARAMETERS WERE PROVIDED FOR THIS BASIN
 87           KM   L= 1.025 mi  S= 34 ft/mi  Kb= 0.087
 88           KM   CLARK UNIT HYDROGRAPH FOR NATURAL WATERSHEDS WAS USED FOR THIS BASIN
 89           BA    .437
 90           LG    .336    .345   3.770    .350    .820
 91           UC    .971    .585
 92           UA       0       3       5       8      12      20      43 .    75      90      96
 93           UA     100

 94           KK   HC511
 95           KM   COMBINE HYDROGRAPHS FROM SUB-BASIN 511 WITH ROUTED FLOW FROM 510
 96           HC       2

 97           KK   RM511
 98           KM   NORMAL DEPTH STORAGE ROUTE FLOW FROM SUB-BASIN 511 THROUGH 512
 99           KM            1) Reach Length = 5909 ft
100           RS       8    FLOW      -1
101           RC    .040    .030    .040    5909   .0054
102           RX       0      25      50      80     120     150     175     200
103           RY     102     101     100      99      99     100     101     102

104           KK    512S
105           KM   RUNOFF GENERATED ON SUB-BASIN 512
106           KM   THE FOLLOWING PARAMETERS WERE PROVIDED FOR THIS BASIN
107           KM   L= 1.210 mi  S= 26 ft/mi  Kb= 0.088
108           KM   CLARK UNIT HYDROGRAPH FOR NATURAL WATERSHEDS WAS USED FOR THIS BASIN
109           BA    .469
110           LG    .350    .350   3.610    .315    .000
111           UC   1.263    .859
112           UA       0       3       5       8      12      20      43      75      90      96
113           UA     100

114           KK  HC512A
115           KM   COMBINE HYDROGRAPHS FROM SUB-BASIN 512 WITH ROUTED FLOW FROM 511
116           HC       2

117           KK   502RE
118           KM   DIVERT 50% WESTERLY ALONG BEARDSLEY RD. TO WESTBROOK VILLAGE WEST INLET
119           DT    533D
120           DI       0    1000    2000    3000
121           DQ       0     500    1000    1500
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 122          KK   HC502
 123          KM   COMBINE HYDROGRAPHS FROM SUB-BASIN 502 WITH ROUTED FLOW FROM 501 AND
 124          KM   REMAINING FLOW FROM SUBBASIN NO. 512 AT INLET TO WESTBROOK VILLAGE WEST
 125          HC       3
              *
              *     INFLOW TO WESTBROOK VILLAGE WEST
              *
              *     This section of the model was developed by the FCDMC and was obtained
              *     from a Draft Copy of their June 20, 1994 report, "91st Avenue Drain
              *     Hydrology Update, Flood Control District of Maricopa County, Watershed
              *     Management Branch."
              *

 126          KK   RM502
 127          KM   NORMAL DEPTH STORAGE ROUTE FROM SUB-BASIN 502 THROUGH 503
 128          RS       7    FLOW      -1
 129          RC    .030    .020    .030    5280   .0050
 130          RX       0      30      60      90     190     300     330     360
 131          RY     104     103     101     100     100     101     103     104

 132          KK    503S
 133          KM   RUNOFF GENERATED ON SUB-BASIN 503 (FCDMC SUB-BASIN I.D. WBW)
 134          KM   TOTAL OF PARCELS 1 TO 27 IN WESTBROOK VILLAGE WEST (1983 PROJECT)
 135          KM   PLUS PARCELS 28 (GOLF COURSES) ABOUT 23% OF AREA
 136          KM   AREA REVISED FROM 1.00 SQ.MI. TO 0.952 SQ.MI. PARCEL IN SOUTHWEST CORNER OF
 137          KM   SUBDIVISION DOES NOT CONTRIBUTE;  FLOWS PROCEED WESTWARD ON UNION HILLS DR.
 138          BA    .952
 139          LG     .35     .25   3.500    .280      30
 140          UC   1.075    .921
 141          UA       0       3       5       8      12      20      43      75      90      96
 142          UA     100

 143          KK   HC503
 144          KM   COMBINE HYDROGRAPHS FROM SUB-BASIN 503 WITH ROUTED FLOW FROM 502
 145          HC       2

 146          KK   503RR
 147          KM   PER 1983 UDC REPORT AVAILABLE STORAGE IS 472 AC-FT IN GOLF COURSES
 148          KM   A MAXIMUM OF 350 AC-FT IS ASSUMED AS PER ERIE'S QU ESTIMATE
 149          KM   PER MEETING ON MAY 9, 1994 25 CFS IS ASSUMED AS BLEED OFF THRU 2' DIA PIPE
 150          KM   CULVERT CROSSING UNION HILLS DRIVE AT ABOUT 93RD ALIGNMENT
 151          RS       1    STOR       0
 152          SV       0      50     100     150     200     300     350     400     500
 153          SE      26      27      28      29      30      32      34      36      38
 154          SQ       0      25      25      25      25      25      25     300     400

 155          KK   RM503
 156          KM   ROUTE ALONG UNION HILLS DR. EASTWARD TOWARDS 93RD AVE
 157          RS       3    FLOW      -1
 158          RC     .03     .02     .03    2080   .0019
 159          RX       0      20      40      60      80     100     120     140
 160          RY     102     101     100     100     100     100     101     102
              *
              *
              *     THIS CONCLUDES PORTION OF HEC-1 FILE OBTAINED FROM THE FCDMC HYDROLOGY
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LINE        ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

161         KK    533R
162         KM    RETRIEVE FLOWS GOING SOUTH ALONG 91ST AVE.
163         DR    533D
            *
            *
            *   BEGIN PORTION OF HEC-1 FILE OBTAINED FROM THE FCDMC HYDROLOGY
            *

164         KK    533A
165         KM   WESTBROOK VILLAGE PARCEL B8
166         KM   THIS PARCEL DISCHARGES DIRECTLY INTO 91ST AVE
167         BA   .0085
168         LG     .25     .25     3.5     .28      30
169         UC    .183    .163
170         UA       0       5      16      30      65      77      84      90      94      96
171         UA     100

172         KK  HC512B
173         KM   COMBINE HYDROGRAPHS SOUTH OF BEARDSLEY ROAD ALONG 91ST AVENUE
174         HC       2

175         KK   RM512
176         KM   ROUTE FLOWS ON 91ST AVENUE, BEARDSLY RD. TO UNION HILLS DR.
177         KM   ROUTE THRU 91ST AVE. SOUTHWARD, X-SECTION GIVEN IN 1983 WB REPORT
178         RS       2    FLOW      -1
179         RC     .02    .015     .02    2380   .0045
180         RX       0      12      22      40      80     121     131     143
181         RY     103     100     100     102     102     100     100     103

182         KK    533B
183         KM    COMBINE PARCELS 8A, 10B, 7, 6, 5, G10, 2B, 3B
184         BA   .2814
185         LG     .25     .25     3.5     .28      45
186         UC    .312    .271
187         UA       0       5      16      30      65      77      84      90      94      96
188         UA     100

189         KK  533RR1
190         KM   ROUTE FLOWS THROUGH RESERVOIR 10, WESTBROOK VILLAGE EAST
191         KM   THE RESERVOIR BLEEDS INTO 91ST AVENUE
192         RS       1    STOR      -1       0
193         SV       0     .35    2.28     6.4   12.82    24.0
194         SE    27.5    28.5    29.5    30.5    31.5    32.5
195         SQ       0       2      12      19      22      44

196         KK  HC533A
197         KM   91ST AVENUE AT INTERSECTION WITH UNION HILL DR.
198         HC       2
            *
            *   CONCLUDE PORTION OF HEC-1 FILE OBTAINED FROM THE FCDMC HYDROLOGY
            *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 199          KK   520S
 200          KM   RUNOFF GENERATED ON SUB-BASIN 520
 201          KM   THE FOLLOWING PARAMETERS WERE PROVIDED FOR THIS BASIN
 202          KM   L= 1.569 mi  S= 238 ft/mi  Kb= 0.071
 203          KM   CLARK UNIT HYDROGRAPH FOR NATURAL WATERSHEDS WAS USED FOR THIS BASIN
 204          BA    .675
 205          LG    .202    .318   3.920    .384  11.030
 206          UC    .454    .276
 207          UA       0       3       5       8      12      20      43      75      90      96
 208          UA     100

 209          KK   520RE
 210          KM   DIVERT MAX. OF 136 CFS EAST ALONG CALLE LEJOS TO 83RD AVENUE AS
 211          KM   PER AM. ENGINEERING CO. REPORT DEC. 1993
 212          DT    530D
 213          DI       0      50     100     137     200     400    1000
 214          DQ       0      50     100     137     137     137     137

 215          KK   RM520
 216          KM   NORMAL DEPTH STORAGE ROUTE FLOW FROM SUB-BASIN 520 THROUGH 521
 217          KM            1) Reach Length = 5886 ft
 218          RS       6    FLOW      -1
 219          RC    .040    .030    .040    5886   .0056
 220          RX      40      80      90     100     140     150     160     200
 221          RY     103     102     101     100     100     101     102     103

 222          KK    521S
 223          KM   RUNOFF GENERATED ON SUB-BASIN 521
 224          KM   THE FOLLOWING PARAMETERS WERE PROVIDED FOR THIS BASIN
 225          KM   L= 1.176 mi  S= 30 ft/mi  Kb= 0.044
 226          KM   CLARK UNIT HYDROGRAPH FOR NATURAL WATERSHEDS WAS USED FOR THIS BASIN
 227          BA    .617
 228          LG    .100    .250   6.290    .186  15.530
 229          UC    .592    .310
 230          UA       0       3       5       8      12      20      43      75      90      96
 231          UA     100

 232          KK   HC521
 233          KM   COMBINE HYDROGRAPHS FROM SUB-BASIN 521 WITH ROUTED FLOW FROM 520
 234          HC       2

 235          KK   RM521
 236          KM   NORMAL DEPTH STORAGE ROUTE FLOW FROM SUB-BASIN 521 THROUGH 522
 237          KM            1) Reach Length = 6074 ft
 238          RS       7    FLOW      -1
 239          RC    .040    .030    .040    6074   .0049
 240          RX       0      50      75     105     145     175     200     250
 241          RY     103     101     100     100     100     100     101     103
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

242           KK    522S
243           KM   RUNOFF GENERATED ON SUB-BASIN 522
244           KM   THE FOLLOWING PARAMETERS WERE PROVIDED FOR THIS BASIN
245           KM   L= 1.186 mi  S= 24 ft/mi  Kb= 0.077
246           KM   CLARK UNIT HYDROGRAPH FOR NATURAL WATERSHEDS WAS USED FOR THIS BASIN
247           BA    .508
248           LG    .388    .290   6.780    .185    .000
249           UC   1.104    .696
250           UA      0       3       5       8      12      20      43      75      90      96
251           UA    100

252           KK   HC522
253           KM   COMBINE HYDROGRAPHS FROM SUB-BASIN 522 WITH ROUTED FLOW FROM 521
254           KM   WEST INLET FOR WESTBROOK VILLAGE EAST
255           HC      2
              *
              *   BEGIN PORTION OF HEC-1 FILE OBTAINED FROM THE FCDMC HYDROLOGY
              *
              *  ROUTING COMMAND REMOVED FROM MODEL.  REACH LENGTH IS TOO SHORT FOR PEAK
              *  DISCHARGE ATTENUATION.
              *
              * KKRM522A
              * KM ROUTE OFFSITE INFLOWS, W.B. EAST INLET TO FIRST DETENTION
              * RS     1    FLOW      -1
              * RC   .03     .02     .03     260  .00192
              * RX     0      12    17.5    22.5    33.5    37.5      43      55
              * RY    45      42      40      40      40      40      42      45

256           KK    533C
257           KM   COMBINE PARCELS 9, 10A, 11, 12, GC3
258           KM   HIGHEST SCS LAG TIME USED BY CONSULTANT WAS CONVERTED TO TC: TLAG/0.60
259           BA    .123
260           LG     .35     .25     8.4     .06      35
261           UC    .358    .271
262           UA      0       3       5       8      12      20      43      75      90      96
263           UA    100

264           KK  HC533B
265           KM   COMBINE HYDROGRAPHS WITHIN EAST WESTBROOK VILLAGE
266           HC      2

267           KK  533RR2
268           KM   ROUTE FLOW THROUGH WESTBROOK VILLAGE EAST RESERVOIR 3
269           RS      1    STOR      -1       0
270           SV      0     .19    1.23    3.71    7.87    12.1    24.0
271           SE     32      33      34      35      36      37      38
272           SQ      0       2      12      19     195     811    1200

273           KK    533D
274           KM   COMBINE PARCELS 19, 18B, GC4-5
275           BA    .101
276           LG     .35     .15     8.4     .06      45
277           UC    .731    .542
278           UA      0       3       5       8      12      20      43      75      90      96
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 279          UA     100

 280          KK  HC533C
 281          KM   COMBINE HYDROGRAPHS WITHIN EAST WESTBROOK VILLAGE
 282          HC       2

 283          KK  533RR3
 284          KM   ROUTE FLOW THROUGH WESTBROOK VILLAGE EAST RESERVOIR 4 & 5
 285          RS       1    STOR      -1       0
 286          SV       0    2.57    7.19   13.71    22.4      32      37      42      47      52
 287          SE      27      28      29      30      31      33      34      35      36      37
 288          SQ       0       2      12      19      21      21      21      21     386    1207

 289          KK    533E
 290          KM   GOLF COURSE AT DRIVING RANGE
 291          BA   .0126
 292          LG     .35     .25     3.5     .29      45
 293          UC    .190    .162
 294          UA       0       3       5       8      12      20      43      75      90      96
 295          UA     100

 296          KK  HC533D
 297          KM   COMBINE HYDROGRAPHS WITH IN EAST WESTBROOK VILLAGE
 298          HC       2

 299          KK  533RR4
 300          KM   ROUTE FLOW THROUGH WESTBROOK VILLAGE EAST RESERVOIR 6
 301          RS       1    STOR      -1       0
 302          SV       0       2       4       6       8
 303          SE      33      34      35      36      37
 304          SQ       0       0     227     811    1200
              *
              *   CONCLUDE PORTION OF HEC-1 FILE OBTAINED FROM THE FCDMC HYDROLOGY
              *

 305          KK    530S
 306          KM   RUNOFF GENERATED ON SUB-BASIN 530
 307          KM   THE FOLLOWING PARAMETERS WERE PROVIDED FOR THIS BASIN
 308          KM   L= 1.452 mi  S= 280 ft/mi  Kb= 0.053
 309          KM   CLARK UNIT HYDROGRAPH FOR NATURAL WATERSHEDS WAS USED FOR THIS BASIN
 310          BA    .821
 311          LG    .139    .276   3.550    .303  13.320
 312          UC    .346    .172
 313          UA       0       3       5       8      12      20      43      75      90      96
 314          UA     100

 315          KK    R530
 316          KM   RETRIEVE DIVERTED FLOW FROM SUB-BASIN 520
 317          DR    530D
```

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

318           KK   HC530
319           KM   COMBINE HYDROGRAPHS FROM SUB-BASIN 530 WITH DIVERTED FLOW FROM 520
320           HC      2

321           KK   RM530
322           KM   NORMAL DEPTH STORAGE ROUTE FLOW FROM SUB-BASIN 530 THROUGH 531
323           KM           1) Reach Length = 5688 ft
324           RS      6    FLOW      -1
325           RC   .040    .030    .040    5688   .0053
326           RX      0      25      50      80     120     150     175     200
327           RY    102     101     100     100     100     100     101     102

328           KK   531S
329           KM   RUNOFF GENERATED ON SUB-BASIN 531
330           KM   THE FOLLOWING PARAMETERS WERE PROVIDED FOR THIS BASIN
331           KM   L= 1.193 mi  S= 25 ft/mi  Kb= 0.060
332           KM   CLARK UNIT HYDROGRAPH FOR NATURAL WATERSHEDS WAS USED FOR THIS BASIN
333           BA   .654
334           LG   .225    .170  10.100    .036   9.530
335           UC   .775    .409
336           UA      0       3       5       8      12      20      43      75      90      96
337           UA    100

338           KK   HC531
339           KM   COMBINE HYDROGRAPHS FROM SUB-BASIN 531 WITH ROUTED FLOW FROM 530
340           HC      2

341           KK   RM531
342           KM   NORMAL DEPTH STORAGE ROUTE FLOW FROM SUB-BASIN 531 THROUGH 532
343           KM           1) Reach Length = 6723 ft
344           RS      7    FLOW      -1
345           RC   .040    .030    .040    6723   .0043
346           RX      0      50      75     105     145     175     200     250
347           RY    103     101     100     100     100     100     101     103

348           KK   532S
349           KM   RUNOFF GENERATED ON SUB-BASIN 532
350           KM   THE FOLLOWING PARAMETERS WERE PROVIDED FOR THIS BASIN
351           KM   L= 1.109 mi  S= 25 ft/mi  Kb= 0.062
352           KM   CLARK UNIT HYDROGRAPH FOR NATURAL WATERSHEDS WAS USED FOR THIS BASIN
353           BA   .521
354           LG   .438    .103  10.100    .046    .000
355           UC   .758    .429
356           UA      0       3       5       8      12      20      43      75      90      96
357           UA    100

358           KK   HC532
359           KM   COMBINE HYDROGRAPHS FROM SUB-BASIN 532 WITH ROUTED FLOW FROM 531
360           HC      2
              *
              *   BEGIN PORTION OF HEC-1 FILE OBTAINED FROM THE FCDMC HYDROLOGY
              *
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LINE        ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

361         KK   532RE
362         KM   DIVERT 70% SOUTHWARD THRU 83RD AVENUE
363         DT   554D1
364         DI       0     200     400     800    1200    1500    2000    2500
365         DQ       0     140     280     560     840    1050    1400    1750

366         KK    533F
367         KM   COMBINE PARCELS 13, 14, G1
368         BA   .0644
369         LG     .35     .25     3.5     .29      45
370         UC    .259    .217
371         UA       0       3       5       8      12      20      43      75      90      96
372         UA     100

373         KK  HC533E
374         KM   COMBINE HYDROGRAPHS WITHIN EAST WESTBROOK VILLAGE
375         HC       2
            *    *    *    *    *    *    *    *    *    *    *    *
            *                                                       *
            *     RESERVOIR ROUTING OPTION WAS REMOVED FROM THE MODEL.      *
            *     ROUTED FLOWS WERE INCREASING AND/OR NO DIFFERENCE IN      *
            *     TIMING FROM THE INFLOW HYDROGRAPH WERE OBSERVED.          *
            *                                                               *
            *    *    *    *    *    *    *    *    *    *    *    *
            * KK533RR5
            * KM ROUTE FLOW THROUGH WESTBROOK VILLAGE EAST RESERVOIR 1
            * KM
            * RS     1    STOR       0
            * SV     0     .11     .63    1.43     3.3     5.5     6.5     6.9     7.5      10
            * SE    36      37      38      39      40      41      42      43      44      45
            * SQ     0       2      12      19    21.8    23.1    24.1      25     750      13

376         KK    533G
377         KM   COMBINE PARCELS 15, 16, 17, 18A, 23A, GC2
378         BA    .079
379         LG     .35     .25     3.5     .29      45
380         UC    .306    .271
381         UA       0       3       5       8      12      20      43      75      90      96
382         UA     100

383         KK  HC533F
384         KM   COMBINE HYDROGRAPHS WITHIN EAST WESTBROOK VILLAGE
385         HC       2

386         KK  533RR6
387         KM   ROUTE FLOW THROUGH WESTBROOK VILLAGE EAST RESERVOIR 2
388         KM
389         RS       1    STOR      -1       0
390         SV       0    1.97    4.86    9.02   14.99      20      25      30      34      38
391         SE      26      27      28      29      30      31      32      33      34      35
392         SQ       0       2      12      19      21      21      21      21     930    1200
```

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

393           KK  HC533G
394           KM   COMBINE 533RR4 AND 533RR6
395           HC       2

396           KK  RM522B
397           RS       2    FLOW      -1
398           RC     .04     .03     .04    1420   .0018
399           RX       0      30      60      90     120     150     180     210
400           RY     104     102     100     100     100     100     102     104

401           KK    533H
402           KM   COMBINE PARCELS 23B, 21A, G7
403           BA    .033
404           LG     .35     .15     8.4     .06      60
405           UC    .234    .162
406           UA       0       3       5       8      12      20      43      75      90      96
407           UA     100

408           KK  HC533H
409           HC       2
              *    *    *    *    *    *    *    *    *    *    *    *
              *                                                       *
              *     RESERVOIR ROUTING OPTION WAS REMOVED FROM THE MODEL.      *
              *     ROUTED FLOWS WERE INCREASING AND/OR NO DIFFERENCE IN      *
              *     TIMING FROM THE INFLOW HYDROGRAPH WERE OBSERVED.          *
              *                                                               *
              *    *    *    *    *    *    *    *    *    *    *    *
              * KK533RR7
              * KM ROUTE FLOWS THROUGH RESERVOIR 7, WESTBROOK VILLAGE EAST
              * RS     1    STOR      -1       0
              * SV     0     .15     .85    2.26    4.71     6.0     7.0     9.0
              * SE    27      28      29      30      31      32      33      34
              * SQ     0      11      23      35      46     526    1391    2500

410           KK    533I
411           KM   COMBINE PARCELS 25, 24, GC8, 27A, 26A
412           BA   .0839
413           LG     .35     .15     8.4     .06      45
414           UC    .466    .326
415           UA       0       3       5       8      12      20      43      75      90      96
416           UA     100

417           KK  533RR8
418           KM   ROUTE FLOWS THROUGH RESERVOIR 8, WESTBROOK VILLAGE EAST
419           RS       1    STOR      -1       0
420           SV       0     .36    2.13    5.54   10.63   15.29    16.0
421           SE      27      28      29      30      31      32      33
422           SQ       0       2      12      19      22      30     100
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

423           KK  HC533I
424           KM   COMBINE OUTFLOW FROM RESERVOIRS 7 AND 8
425           HC       2

426           KK  RM522C
427           KM   ROUTE HYDROGRAPHS THRU MAIN SOUTH STREET WITHIN EAST WESTBROOK VILLAGE
428           RS       1    FLOW      -1
429           RC     .03     .02     .03    1120   .0032
430           RX       0      15      30      60      80     105     120     135
431           RY     104     102     100     100     100     100     102     104

432           KK    533J
433           KM   COMBINE R/C, 1B, 26B
434           BA   .0342
435           LG     .35     .15     8.4     .06      60
436           UC    .180    .163
437           UA       0       3       5       8      12      20      43      75      90      96
438           UA     100

439           KK  HC533J
440           HC       2

441           KK    533K
442           KM   COMBINE PARCELS 1A, 20, 21B, G9A, G9B, 2A, 3A
443           BA   .0572
444           LG     .35     .25     5.0     .28      45
445           UC    .292    .216
446           UA       0       3       5       8      12      20      43      75      90      96
447           UA     100

448           KK  533RR9
449           KM   ROUTE THROUGH RESERVOIR 9, WESTBROOK VILLAGE EAST
450           RS       1    STOR      -1       0
451           SV       0     .03    .376   1.698   4.517   9.114  12.000
452           SE      25      26      27      28      29      30      31
453           SQ       0       2      11      18      24     128     200

454           KK  HC533K
455           KM   OUTFLOW FROM WESTBROOK VILLAGE EAST INTO UNION HILLS DR. AT 86TH AVE.
456           KM   ALIGNMENT AT INTERSECTION OF OUTLET WITH UNION HILLS RD., MAIN ENTRANCE
457           HC       2

458           KK  533RE1
459           KM   DIVERT 100 CFS TO NEW RIVER:  50 CFS THRU 42" CMP AND 50 CFS OVERLAND
460           DT   554D2
461           DI       0      50     100     150     300     600     900
462           DQ       0       0       0     100     100     100     100

463           KK  533RE2
464           KM   DIVERT TO COUNTRY CLUB ROAD AND EVENTUALLY TO NEW RIVER.  RATING CURVE
465           KM   AS PER ERIE'S REPORT, ASSUMES OVERFLOW PROPORTIONAL TO WEIR LENGTH
466           DT   555D1
467           DI       0      50      80     982    2670    7461   13454
468           DQ       0       0       0     214     607    1716    3152
              *
```

```
*  ROUTING COMMAND REMOVED FROM MODEL.  REACH LENGTH IS TOO SHORT FOR PEAK
*  DISCHARGE ATTENUATION.
*
* KK RM533A
* KM ROUTE REMAINING TO INTERSECTION OF UNION HILLS DR. & 87TH AVENUE
* RS     1    FLOW     -1
* RC   .02    .015    .02    660   .0015
* RX     0       1      5     35      40     70     74     75
* RY   104     102    100    101     101    100    102    104
```

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

469         KK  533RE3
470         KM   DIVERT SOUTH THRU 87TH AVE., PORTION GOES TO 91ST AVE. AT UNION HILLS DR.
471         KM   USING RATING CURVE DEVELOPED BY ERIE & ASSOCIATES
472         KM   INFLOW IS ASSUMED SUM OF RATED Q AT ROAD INTERSECTION
473         KM   THIS APPLIES TO SUCCEDING DIVERSIONS USING ERIE'S DATA
474         DT   534D1
475         DI       0      50      80     762    2067    5745
476         DQ       0       0       0     221     625    1768
            *
            *  ROUTING COMMAND REMOVED FROM MODEL.  REACH LENGTH IS TOO SHORT FOR PEAK
            *  DISCHARGE ATTENUATION.
            *
            * KKRM533B
            * KM ROUTE REMAINING FLOW TO 89TH AVE. THRU NORTH SIDE OF UNION HILLS RD.
            * RS      1    FLOW      -1
            * RC   .015    .015    .015    1320   .0037
            * RX      0       1       5      35      40      70      74  .   75
            * RY    104     102     100     101     101     100     102     104

477         KK  533RE4
478         KM   ASSUME SPLIT OCCURS WHEN DEPTH IS 0.5 FT ABOVE 91ST AVE CROWN AT INTERSECTION
479         KM   PER ERIE'S RATING Q=145 CFS ABOVE WHICH FLOW WILL HAVE 50-50 SPLIT
480         KM   FLOW LESS THAN OR EQUAL TO 145 CFS WILL CONTINUE WESTWARD TO 91ST AVE.
481         DT   534D2
482         DI       0      80     145     300     500     800    1200
483         DQ       0       0       0     150     250     400     600

484         KK  RM533C
485         RS       1    FLOW      -1
486         RC     .02    .015     .02    1320   .0015
487         RX       0       1       5      35      40      70      74      75
488         RY     104     102     100     101     101     100     102     104

489         KK  HC533L
490         KM   UNION HILLS DR. AT 91ST AVENUE
491         HC       3

492         KK  RM533D
493         KM   NORMAL DEPTH STORAGE ROUTE FLOW FROM SUB-BASIN 533 THROUGH 534
494         KM            1) Reach Length = 5474 ft
495         RS       4    FLOW      -1
496         RC    .025    .020    .025    5474   .0044
497         RX       0      12      22      40     100     121     131     143
498         RY     103     100     100     101     101     100     100     103

499         KK   534R1
500         KM   RETRIEVE FLOWS GOING SOUTH OF 87TH AVE. SOUTH OF UNION HILLS DR.
501         DR   534D1
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 502          KK  RM533E
 503          KM   ROUTE SOUTHWARD THRU 87TH AVE
 504          RS       5    FLOW      -1
 505          RC     .02    .015     .02    5560   .0042
 506          RX       0       1       5      35      40      70      74      75
 507          RY     104     102     100     101     101     100     102     104

 508          KK  533RE6
 509          KM   DIVERT 50% UP TO MAXIMUM OF 150 CFS EASTWARD ALONG BELL RD. TO NEW RIVER
 510          DT   555D2
 511          DI       0      20      50     150     200     300
 512          DQ       0       6      50     150     150     150

 513          KK  533RE7
 514          KM   DIVERT SOUTHWARD ALONG 87TH AVE., SOUTH OF BELL RD. USING ERIE'S RATING
 515          KM   VALUES
 516          DT    535D
 517          DI       0     101     600    2410    4905
 518          DQ       0      80     310    1540    3050

 519          KK  RM533F
 520          KM   ROUTE WESTWARD ALONG BELL RD.
 521          RS       2    FLOW      -1
 522          RC     .02    .015     .02    1320   .0015
 523          RX       0       1       5      45      50      90      94      95
 524          RY     104     102     100     101     101     100     102     104

 525          KK   534R2
 526          KM   RETRIEVE FLOWS GOING SOUTH ON 89TH AVE. SOUTH OF UNION HILL DR.
 527          DR   534D2

 528          KK  RM533G
 529          RS       4    FLOW      -1
 530          RC     .02    .015     .02    5280   .0049
 531          RX       0       1       5      35      40      70      74      75
 532          RY     104     102     100     101     101     100     102     104
              *
              *  ROUTING COMMAND REMOVED FROM MODEL.  REACH LENGTH IS TOO SHORT FOR PEAK
              *  DISCHARGE ATTENUATION.
              *
              * KKRM533H
              * RS      1    FLOW      -1
              * RC    .02    .015     .02     680   .0015
              * RX      0       1       5      35      40      70      74      75
              * RY    104     102     100     101     101     100     102     104
              *
              *   CONCLUDE PORTION OF HEC-1 FILE OBTAINED FROM THE FCDMC HYDROLOGY
              *
```

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

533         KK    534S
534         KM   RUNOFF GENERATED ON SUB-BASIN 534
535         KM   THE FOLLOWING PARAMETERS WERE PROVIDED FOR THIS BASIN
536         KM   L= 1.571 mi  S= 18 ft/mi  Kb= 0.061
537         KM   CLARK UNIT HYDROGRAPH FOR URBAN WATERSHEDS WAS USED FOR THIS BASIN
538         BA    .896
539         LG    .264    .281   7.500    .116  18.180
540         UC   1.183    .682
541         UA       0       5      16      30      65      77      84      90      94      97
542         UA     100

543         KK   HC534
544         KM   COMBINE HYDROGRAPHS FROM SUB-BASIN 534 WITH ROUTED FLOW FROM SUB-BASIN 533
545         HC       4

546         KK  RM534A
547         KM   NORMAL DEPTH STORAGE ROUTE FLOW FROM SUB-BASIN 534 THROUGH 535
548         KM            1) Reach Length = 5114 ft
549         RS       3    FLOW      -1
550         RC    .030    .020    .030    5114   .0041
551         RX       0       0       5      10      75      80      85      85
552         RY     108     104     102     100     100     102     104     108

553         KK    535R
554         DR    535D

555         KK   535RE
556         KM   DIVERT THROUGH PARADISE LANE WESTWARD USING ERIE'S RATING VALUES
557         DT    556D
558         DI       0     144     570    2530    5490
559         DQ       0      80     310    1540    3050

560         KK  RM534C
561         RS       1    FLOW      -1
562         RC     .02    .015     .02     720   .0038
563         RX       0       1       5      35      40      70      74      75
564         RY     104     102     100     101     101     100     102     104
            *
            *  ROUTING COMMAND REMOVED FROM MODEL.  REACH LENGTH IS TOO SHORT FOR PEAK
            *  DISCHARGE ATTENUATION.  INCLUDE REACH LENGTH IN HEC-1 COMMAND RM534E.
            *
            * KKRM534D
            * KM ROUTE TO EXISTING 91ST AVE. CHANNEL WESTWARD
            * RS     1    FLOW      -1
            * RC   .03     .02     .03     560   .0036
            * RX     0      10      20      35      45      60      70      80
            * RY   108     104     102     100     100     102     104     108

565         KK  RM534E
566         KM   ROUTE THRU EXISTING DRAIN
567         RS       3    FLOW      -1
568         RC    .030    .020    .030    1810   .0042
569         RX       0       6      12      24      36      48      60      72
570         RY     108     104     102     100     100     102     104     108
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LINE        ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

571         KK   535S
572         KM   RUNOFF GENERATED ON SUB-BASIN 535
573         KM   THE FOLLOWING PARAMETERS WERE PROVIDED FOR THIS BASIN
574         KM   L= 1.176 mi  S= 22 ft/mi  Kb= 0.040
575         KM   CLARK UNIT HYDROGRAPH FOR URBAN WATERSHEDS WAS USED FOR THIS BASIN
576         BA    .642
577         LG    .301    .164   6.290    .227  20.750
578         UC    .633    .327
579         UA       0       5      16      30      65      77      84      90      94      97
580         UA     100

581         KK   HC535
582         KM   COMBINE HYDROGRAPHS AT 91ST AVE. DRAIN AND ALIGNMENT OF GREENWAY RD.
583         HC       3

584         KK   535RE
585         KM   DIVERT THRU EXISTING 91ST AVE. CHANNEL SPILLWAY PER DESIGN DRAWINGS
586         KM   DESIGN CAPACITY OF TRIPLE BARREL CULVERT = 743 CFS PLUS FB CAPACITY
587         KM   FLOW SOUTHWARD ALONG 91ST AVE. TOWARDS DESERT HARBOR MPC
588         DT   DV91S
589         DI       0     100     743    1170    1900    3000    4700
590         DQ       0       0       0       0     520    1470    2700

591         KK   RM535
592         KM   ROUTE REMAINING FLOW THRU 91ST AVE. CHANNEL TO OUTLET
593         KM   EXISTING GUNITE CHANNEL WITH 2:1 SS AS PER FCD CONSULTANT DESIGN
594         RS       1    FLOW      -1
595         RC     .02    .015     .02    1720   .0008
596         RX       0       7      14      20      28      34      41      48
597         RY     107   103.5     100     100     100     100   103.5     107
            *    *    *    *    *    *    *    *    *    *    *    *
            *                                                        *
            *       SUBAREA GROUPING CONTRIBUTING TO NEW RIVER ABOVE *
            *                CONFLUENCE WITH SKUNK CREEK.            *
            *       SUB-BASINS 540-542, 550-556, 560, 570-571 & 580-581 *
            *           TOTAL CONTRIBUTING AREA = 16.84 SQ. MI.      *
            *                                                        *
            *    *    *    *    *    *    *    *    *    *    *    *

598         KK   540S
599         KM   RUNOFF GENERATED ON SUB-BASIN 540
600         KM   THE FOLLOWING PARAMETERS WERE PROVIDED FOR THIS BASIN
601         KM   L= 2.367 mi  S= 28 ft/mi  Kb= 0.071
602         KM   CLARK UNIT HYDROGRAPH FOR NATURAL WATERSHEDS WAS USED FOR THIS BASIN
603         BA   2.244
604         KM   RAINFALL DEPTH OF 4.00 WAS SPACIALLY REDUCED AS SHOWN BY THE PB RECORD
605         KM   AN AREAL REDUCTION COEFFICIENT OF .933 WAS USED
606         PB   3.732
607         LG    .250    .350   3.610    .315   5.020
608         UC   1.718    .848
609         UA       0       3       5       8      12      20      43      75      90      96
610         UA     100
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

611           KK   RM540
612           KM   NORMAL DEPTH STORAGE ROUTE FLOW FROM SUB-BASIN 540 THROUGH 541
613           KM            1) Reach Length = 5708 ft
614           RS       5    FLOW      -1
615           RC    .040    .040    .040    5708   .0058
616           RX      40      80     180     200     225     245     260     300
617           RY      24      24      22      18      18      22      24      24

618           KK    541S
619           KM   RUNOFF GENERATED ON SUB-BASIN 541
620           KM   THE FOLLOWING PARAMETERS WERE PROVIDED FOR THIS BASIN
621           KM   L= 1.081 mi  S= 31 ft/mi  Kb= 0.088
622           KM   CLARK UNIT HYDROGRAPH FOR NATURAL WATERSHEDS WAS USED FOR THIS BASIN
623           BA    .467
624           LG    .250    .350   4.030    .408    .000
625           UC   1.108    .681
626           UA       0       3       5       8      12      20      43      75      90      96
627           UA     100

628           KK   HC541
629           KM   COMBINE HYDROGRAPHS FROM SUB-BASIN 541 WITH ROUTED FLOW FROM 540
630           HC       2

631           KK   RM541
632           KM   NORMAL DEPTH STORAGE ROUTE FLOW FROM SUB-BASIN 541 THROUGH 542
633           KM            1) Reach Length = 5535 ft
634           RS       5    FLOW      -1
635           RC    .040    .040    .040    5535   .0054
636           RX     140     170     200     210     240     265     285     300
637           RY      94      92      90      86      86      90      92      94

638           KK    542S
639           KM   RUNOFF GENERATED ON SUB-BASIN 542
640           KM   THE FOLLOWING PARAMETERS WERE PROVIDED FOR THIS BASIN
641           KM   L= 1.059 mi  S= 33 ft/mi  Kb= 0.073
642           KM   CLARK UNIT HYDROGRAPH FOR NATURAL WATERSHEDS WAS USED FOR THIS BASIN
643           BA    .490
644           LG    .383    .239   3.770    .405    .740
645           UC    .871    .499
646           UA       0       3       5       8      12      20      43      75      90      96
647           UA     100

648           KK   HC542
649           KM   COMBINE HYDROGRAPHS FROM SUB-BASIN 542 WITH ROUTED FLOW FROM 541
650           HC       2

651           KK   RM542
652           KM   NORMAL DEPTH STORAGE ROUTE FLOW FROM SUB-BASIN 542 THROUGH 553
653           KM            1) Reach Length = 5557 ft
654           RS       5    FLOW      -1
655           RC    .040    .040    .040    5557   .0061
656           RX      40      60     100     130     160     190     210     230
657           RY      72      71      70      64      64      70      71      72
              *    *    *    *    *    *    *    *    *    *    *    *    *
              *                                                            *
```

```
*     BREAK SEQUENCE - JUMP TO SUB-BASIN 550                          *
*                                                                     *
*     SUB-BASIN 550 IS LOCATED DOWNSTREAM OF NEW RIVER DAM.  THE      *
*     BF(BASE FLOW) RECORD OF HEC-1 WAS INCLUDED IN THIS SUB-BASIN    *
*     TO MODEL THE NEW RIVER DAM LOW LEVEL OUTFLOW.                   *
*     ASSUMED CONSTANT OUTFLOW OF 2350 CFS FOR 100-YEAR STORM.        *
*     SOURCE:  F.I.S., MARICOPA COUNTY, ARIZONA AND INCORPORATED      *
*              AREAS, FEMA.                                           *
*                                                                     *
*   *   *   *   *   *   *   *   *   *   *   *   *                     *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 658          KK   550S
 659          KM   RUNOFF GENERATED ON SUB-BASIN 550
 660          KM   THE FOLLOWING PARAMETERS WERE PROVIDED FOR THIS BASIN
 661          KM   L= 1.701 mi  S= 63 ft/mi  Kb= 0.073
 662          KM   CLARK UNIT HYDROGRAPH FOR NATURAL WATERSHEDS WAS USED FOR THIS BASIN
 663          BA   1.946
 664          BF    2350
 665          LG    .250    .350   4.140    .431   3.600
 666          UC    .958    .369
 667          UA       0       3       5       8      12      20      43      75      90      96
 668          UA     100

 669          KK   RM550
 670          KM   NORMAL DEPTH STORAGE ROUTE FLOW FROM SUB-BASIN 550 THROUGH 551
 671          KM           1) Reach Length = 8432 ft
 672          RS       6    FLOW      -1
 673          RC    .040    .040    .040    8432   .0044
 674          RX     210     400     420     445     500     525     590     670
 675          RY      32      30      26      24      24      26      30      32
              *    *    *    *    *    *    *    *    *    *    *    *    *
              *                                                                 *
              *     FOR BF RECORD IN SUB-BASIN 560, USE STRTQ=0 TO RETURN BASE FLOW   *
              *     CONDITIONS BACK TO NORMAL.  THIS RECORD PREVENTS SUBSEQUENT       *
              *     SUB-BASINS FROM HAVING A BASE FLOW VALUE OF 2350 CFS.             *
              *                                                                 *
              *    *    *    *    *    *    *    *    *    *    *    *    *

 676          KK   560S
 677          KM   RUNOFF GENERATED ON SUB-BASIN 560
 678          KM   THE FOLLOWING PARAMETERS WERE PROVIDED FOR THIS BASIN
 679          KM   L= 1.866 mi  S= 192 ft/mi  Kb= 0.079
 680          KM   CLARK UNIT HYDROGRAPH FOR NATURAL WATERSHEDS WAS USED FOR THIS BASIN
 681          BA   1.116
 682          BF       0
 683          LG    .250    .360   4.120    .268   4.150
 684          UC    .587    .317
 685          UA       0       3       5       8      12      20      43      75      90      96
 686          UA     100

 687          KK   RM560
 688          KM   NORMAL DEPTH STORAGE ROUTE FLOW FROM SUB-BASIN 560 THROUGH 551
 689          KM           1) Reach Length = 14187 ft
 690          RS      12    FLOW      -1
 691          RC    .030    .040    .030   14187   .0088
 692          RX       0     215     250     280     300     320     460     560
 693          RY      94      92      90      88      88      90      92      94

 694          KK   551S
 695          KM   RUNOFF GENERATED ON SUB-BASIN 551
 696          KM   THE FOLLOWING PARAMETERS WERE PROVIDED FOR THIS BASIN
 697          KM   L= 2.280 mi  S= 46 ft/mi  Kb= 0.075
 698          KM   CLARK UNIT HYDROGRAPH FOR NATURAL WATERSHEDS WAS USED FOR THIS BASIN
 699          BA   1.448
 700          LG    .248    .349   4.190    .443    .680
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 701          UC   1.473    .890
 702          UA       0       3       5       8      12      20      43      75      90      96
 703          UA     100

 704          KK   HC551
 705          KM   COMBINE HYDROGRAPHS FROM SUB-BASIN 551 WITH ROUTED FLOWS FROM 550 & 560
 706          HC       3

 707          KK   RM551
 708          KM   NORMAL DEPTH STORAGE ROUTE FLOW FROM SUB-BASIN 551 THROUGH 552
 709          KM            1) Reach Length = 5663 ft
 710          RS       4    FLOW      -1
 711          RC    .040    .040    .040    5663   .0056
 712          RX     100     100     145     250     420     450     510     520
 713          RY      92      88      78      76      76      82      84      92

 714          KK    552S
 715          KM   RUNOFF GENERATED ON SUB-BASIN 552
 716          KM   THE FOLLOWING PARAMETERS WERE PROVIDED FOR THIS BASIN
 717          KM   L= 3.216 mi  S= 46 ft/mi  Kb= 0.068
 718          KM   CLARK UNIT HYDROGRAPH FOR NATURAL WATERSHEDS WAS USED FOR THIS BASIN
 719          BA   2.385
 720          LG    .244    .340   3.820    .363   7.320
 721          UC   1.695   1.031
 722          UA       0       3       5       8      12      20      43      75      90      96
 723          UA     100

 724          KK   HC552
 725          KM   COMBINE HYDROGRAPHS FROM SUB-BASIN 552 WITH ROUTED FLOW FROM 551
 726          HC       2

 727          KK   RM552
 728          KM   NORMAL DEPTH STORAGE ROUTE FLOW FROM SUB-BASIN 552 THROUGH 553
 729          KM            1) Reach Length = 5971 ft
 730          RS       5    FLOW      -1
 731          RC    .040    .040    .040    5971   .0055
 732          RX       0     100     130     190     310     390     450     500
 733          RY      56      54      50      48      48      50      52      56
              *
              *   ARROWHEAD RANCH DEVELOPMENT
              *
              *   This section of the model was developed by Dibble and Associates
              *   Consulting Engineers for the City of Glendale to address the Storm
              *   Drainage Plan for the Arrowhead Ranch Development.  The drainage
              *   report was titled, "Specific Area Plan, Storm Drainage Plan for the
              *   Arrowhead Ranch Development" and was prepared on April 20, 1992.
              *
              *   ARROWHEAD RANCH - SECTION 18/19 - SYSTEM II
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

  734         KK     21S
  735         KM    SUB-BASIN 21
  736         BA    .035
  737         LS              82
  738         UD    .167

  739         KK    21RR
  740         KM    LAKE NO. 1
  741         RS       1    ELEV  1277.0
  742         SV     0.0     3.6     4.5     5.4     6.3     7.2
  743         SE  1277.0  1279.0  1279.5  1280.0  1280.5  1281.0
  744         SQ       0       0     5.4     8.5    10.4    12.0

  745         KK     22S
  746         KM    SUB-BASIN 22
  747         BA    .027
  748         LS              92
  749         UD    .167

  750         KK    HC22
  751         HC       2

  752         KK    22RR
  753         KM    LAKE NO. 2
  754         RS       1    ELEV  1276.5
  755         SV     0.0     0.3     0.7     1.2     1.6     2.2     2.7     3.3
  756         SE  1276.5  1277.0  1277.5  1278.0  1278.5  1279.0  1279.5  1280.0
  757         SQ       0     7.1    14.1    19.7    42.4    92.7   164.8   200.0

  758         KK     23S
  759         KM    SUB-BASIN 23
  760         BA    .009
  761         LS              86
  762         UD    .167

  763         KK    HC23
  764         HC       2

  765         KK    23RR
  766         KM    LAKE NO. 3
  767         RS       1    ELEV  1275.0
  768         SV     0.0      .3      .7     1.1     1.5    2.00     2.5
  769         SE  1275.0  1275.5  1276.0  1276.5  1277.0  1277.5  1278.0
  770         SQ       0     8.7    15.3    22.3    49.6   106.0   180.4

  771         KK     24S
  772         KM    SUB-BASIN 24
  773         BA    .006
  774         LS              87
  775         UD    .167
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 776          KK    HC24
 777          HC       2

 778          KK    24RR
 779          KM    LAKE NO. 4
 780          RS       1    ELEV  1272.0
 781          SV       0      .3      .7     1.1     1.6     2.0     2.5
 782          SE  1272.0  1272.5  1273.0  1273.5  1274.0  1274.5  1275.0
 783          SQ       0     8.7    15.3    22.3    49.6   106.0   180.4

 784          KK     25S
 785          KM    SUB-BASIN 25
 786          BA    .051
 787          LS              85
 788          UD    .167

 789          KK    HC25
 790          HC       2

 791          KK    25RR
 792          KM    LAKE NO. 5
 793          RS       1    ELEV  1268.0
 794          SV       0    1.75     3.5    5.31     7.2    9.15    11.2    13.3
 795          SE  1267.5  1268.0  1268.5  1269.0  1269.5  1270.0  1270.5  1271.0
 796          SQ       0     0.8     4.1    8.16     9.5    13.4    16.4    19.0

 797          KK     27S
 798          KM    SUB-BASIN 27
 799          BA    .123
 800          LS              82
 801          UD    .167

 802          KK    27RR
 803          KM    DETENTION BASIN NO. 7
 804          RS       1    ELEV  1278.0
 805          SV       0     1.9     3.9     5.9     7.9     9.9    12.1
 806          SE  1278.0  1278.5  1279.0  1279.5  1280.0  1280.5  1281.5
 807          SQ       0     5.4     7.6     9.2    10.6    12.0    13.2

 808          KK     29S
 809          KM    COMBINE SUB-BASIN 28 & 29
 810          BA    .063
 811          LS              77
 812          UD    .167

 813          KK    HC29
 814          HC       2

 815          KK     30S
 816          KM    SUB-BASIN 30
 817          BA    .056
 818          LS              84
 819          UD    .167
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LINE        ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

820         KK    30RR
821         KM    DETENTION BASIN 10
822         RS       1    ELEV  1265.0
823         SV       0     .78    1.58    2.40    3.25    4.13    5.03
824         SE  1265.0  1265.5  1266.0  1266.5  1267.0  1267.5  1268.0
825         SQ       0     5.4     8.5    10.4    12.0    13.5    14.7

826         KK    HC30
827         HC       2

828         KK     31S
829         KM    SUB-BASIN 31
830         BA    .053
831         LS              77
832         UD    .167

833         KK    HC31
834         HC       3

835         KK     32S
836         KM    COMBINE SUB-BASIN 26 & 32
837         BA    .053
838         LS              77
839         UD    .167

840         KK    HC32
841         HC       2

842         KK     34S
843         KM    COMBINE SUB-BASIN 33 & 34
844         BA    .076
845         LS              77
846         UD    .167

847         KK    HC34
848         KM    OUTFLOW FROM SYSTEM II
849         HC       2
            *
            *    ARROWHEAD RANCH - SECTION 18 - SYSTEM III
            *

850         KK     41S
851         KM    SUB-BASIN 41
852         BA    .023
853         LS              86
854         UD    .167

855         KK     42S
856         KM    SUB-BASIN 42
857         BA    .070
858         LS              80
859         UD    .167
```

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

 860          KK    HC42
 861          HC       2

 862          KK    42RR
 863          KM    LAKE NO. 1
 864          RS       1    ELEV  1303.0
 865          SV       0    1.32    2.66    4.05    5.49
 866          SE  1303.0  1303.5  1304.0  1304.5  1305.0
 867          SQ       0    12.0    13.5    15.4    29.6

 868          KK     43S
 869          KM    SUB-BASIN 43
 870          BA    .007
 871          LS              68
 872          UD    .167

 873          KK    HC43
 874          HC       2

 875          KK     44S
 876          KM    SUB-BASIN 44
 877          BA    .034
 878          LS              81
 879          UD    .167

 880          KK    HC44
 881          HC       2

 882          KK     45S
 883          KM    SUB-BASIN 45
 884          BA    .017
 885          LS              92
 886          UD    .167

 887          KK     46S
 888          KM    SUB-BASIN 46
 889          BA    .057
 890          LS              85
 891          UD    .167

 892          KK    HC46
 893          HC       2

 894          KK    46RR
 895          KM    LAKE NO. 3
 896          RS       1    ELEV  1300.0
 897          SV       0    1.39    2.81    4.30    5.86    7.44    9.19   10.97   12.81
 898          SE  1300.0  1300.5  1301.0  1301.5  1302.0  1302.5  1303.0  1303.5  1304.0
 899          SQ       0   11.32   18.50   24.75   68.41  175.58  515.84  478.47  662.59
```

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

900           KK     47S
901           KM    SUB-BASIN 47
902           BA    .034
903           LS              84
904           UD    .167

905           KK   HC47A
906           HC       2

907           KK   HC47B
908           HC       2

909           KK    47RR
910           KM    LAKE NO. 2
911           RS       1    ELEV  1289.0
912           SV       0     1.2    2.42    3.67    4.95
913           SE  1289.0  1289.5  1290.0  1290.5  1291.0
914           SQ       0     6.5    17.2    51.0   118.5

915           KK     48S
916           KM    SUB-BASIN 48
917           BA    .057
918           LS              83
919           UD    .167

920           KK    HC48
921           HC       2

922           KK    48RR
923           KM    LAKE NO. 4
924           RS       1    ELEV  1287.0
925           SV       0     .45     .90    1.37    1.85
926           SE  1287.0  1287.5  1288.0  1288.5  1289.0
927           SQ       0   34.65   79.50  127.20  170.70

928           KK     49S
929           KM    SUB-BASIN 49
930           BA    .037
931           LS              61
932           UD    .167

933           KK    HC49
934           HC       2

935           KK     50S
936           KM    SUB-BASIN 50
937           BA    .022
938           LS              84
939           UD    .167
```

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

 940          KK    HC50
 941          HC       2

 942          KK     52S
 943          KM    SUB-BASIN 52
 944          BA    .010
 945          LS              92
 946          UD    .167

 947          KK     53S
 948          KM    SUB-BASIN 53
 949          BA    .030
 950          LS              87
 951          UD    .167

 952          KK    HC53
 953          HC       2

 954          KK    53RR
 955          KM    LAKE NO. 5
 956          RS       1    ELEV  1297.0
 957          SV       0     .44     .89    1.38    1.89    2.43    3.00    3.60    4.23
 958          SE  1297.0  1297.5  1298.0  1298.5  1299.0  1299.5  1300.0  1300.5  1301.0
 959          SQ       0    8.15   14.50   28.24   64.15  117.14  178.85  250.28  329.60

 960          KK     54S
 961          KM    SUB-BASIN 54
 962          BA    .027
 963          LS              92
 964          UD    .167

 965          KK     55S
 966          KM    SUB-BASIN 55
 967          BA    .020
 968          LS              88
 969          UD    .167

 970          KK   HC55A
 971          HC       2

 972          KK   HC55B
 973          HC       2

 974          KK    55RR
 975          KM    LAKE NO. 6
 976          RS       1    ELEV  1294.0
 977          SV       0     .62    1.25    1.90    2.60    3.33    4.99    5.70
 978          SE  1294.0  1294.5  1295.0  1295.5  1296.0  1296.5  1297.5  1298.0
 979          SQ       0    8.15   21.60   59.15  110.62  172.74  323.46  410.25
```

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

 980          KK     56S
 981          KM    SUB-BASIN 56
 982          BA    .040
 983          LS              83
 984          UD    .167

 985          KK     57S
 986          KM    SUB-BASIN 57
 987          BA    .104
 988          LS              82
 989          UD    .167

 990          KK   HC57A
 991          HC       2

 992          KK   HC57B
 993          HC       2

 994          KK    57RR
 995          KM    LAKE NO. 7
 996          RS       1    ELEV  1290.0
 997          SV       0     .42     .85    1.32    1.81    2.35
 998          SE  1290.0  1290.5  1291.0  1291.5  1292.0  1292.5
 999          SQ       0   55.37  139.73  246.52  361.01  489.63

1000          KK     58S
1001          KM    SUB-BASIN 58
1002          BA    .006
1003          LS              79
1004          UD    .167

1005          KK    HC58
1006          HC       2

1007          KK     51S
1008          KM    SUB-BASIN 51
1009          BA    .128
1010          LS              85
1011          UD    .167

1012          KK    HC51
1013          HC       3

1014          KK   51RR1
1015          KM    LAKE NO.8
1016          RS       1    ELEV  1277.0
1017          SV       0    3.63    7.31   11.10   14.99    19.0   27.29
1018          SE  1277.5  1278.0  1278.5  1279.0  1279.5  1280.0  1280.5
1019          SQ       0   47.73  149.77  274.47  422.96  590.56  776.30
```

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

1020        KK   51RR2
1021        KM    LAKE NO. 9
1022        RS       1    ELEV  1273.0
1023        SV       0     .79    1.58    2.41    3.26
1024        SE  1273.0  1273.5  1274.0  1274.5  1275.0
1025        SQ       0   72.24  202.66  372.95  558.36

1026        KK    61S
1027        KM    COMBINE SUB-BASINS 59, 60 & 61
1028        BA    .124
1029        LS              77
1030        UD    .167

1031        KK    HC61
1032        HC       2

1033        KK    61RR
1034        KM    LAKE NO. 10
1035        RS       1    ELEV  1265.0
1036        SV       0     4.1    9.60   12.50    15.5    21.6    24.7    28.0    31.2    34.6
1037        SE  1265.0  1265.5  1266.5  1267.0  1267.5  1268.0  1268.5  1269.0  1269.5  1270.0
1038        SQ       0       0    36.0    54.0    72.0   105.0   204.4   359.2   539.2   746.9

1039        KK   HC570
1040        KM    COMBINE OUTFLOW FROM SYSTEM III WITH SYSTEM II
1041        HC       2
            *
            *
            *   CONCLUDE PORTION OF HEC-1 MODEL INPUT OBTAINED FROM ARROWHEAD RANCH
            *   DEVELOPMENT REPORT BY DIBBLE & ASSOCIATES.
            *
            *

1042        KK   RM570
1043        KM   NORMAL DEPTH STORAGE ROUTE FLOW FROM SUB-BASIN 570 THROUGH 571
1044        KM            1) Reach Length = 5301 ft
1045        RS       6    FLOW      -1
1046        RC    .030    .020    .030    5301   .0009
1047        RX      28      68      88     100     112     124     144     154
1048        RY     108     107     106     100     100     106     107     108

1049        KK    571S
1050        KM   RUNOFF GENERATED ON SUB-BASIN 571
1051        KM   THE FOLLOWING PARAMETERS WERE PROVIDED FOR THIS BASIN
1052        KM   L= 2.272 mi  S= 26 ft/mi  Kb= 0.044
1053        KM   CLARK UNIT HYDROGRAPH FOR NATURAL WATERSHEDS WAS USED FOR THIS BASIN
1054        BA   1.345
1055        LG    .409    .109   5.980    .266   9.130
1056        UC   1.058    .642
1057        UA       0       3       5       8      12      20      43      75      90      96
1058        UA     100
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1059          KK   HC571
1060          KM   COMBINE HYDROGRAPHS FROM SUB-BASIN 571 WITH ROUTED FLOW FROM 570
1061          HC       2

1062          KK   RM571
1063          KM   NORMAL DEPTH STORAGE ROUTE FLOW FROM SUB-BASIN 571 THROUGH 553
1064          KM            1) Reach Length = 3194 ft
1065          RS       3    FLOW      -1
1066          RC    .030    .020    .030    3194   .0009
1067          RX      28      68      88     100     112     124     144     154
1068          RY     108     107     106     100     100     106     107     108

1069          KK    553S
1070          KM   RUNOFF GENERATED ON SUB-BASIN 553
1071          KM   THE FOLLOWING PARAMETERS WERE USED FOR THIS BASIN
1072          KM   L= 1.052 mi  S= 38 ft/mi  Kb= 0.056
1073          KM   CLARK UNIT HYDROGRAPH FOR NATURAL WATERSHEDS WAS USED FOR THIS BASIN
1074          BA    .933
1075          LG    .419    .165   5.360    .284   2.760
1076          UC    .613    .233
1077          UA       0       3       5       8      12      20      43      75      90      96
1078          UA     100

1079          KK   HC553
1080          KM   COMBINE HYDROGRAPHS FROM SUB-BASIN 553 WITH ROUTED FLOWS FROM 541, 552
1081          KM   AND 571
1082          HC       4

1083          KK   RM553
1084          KM   NORMAL DEPTH STORAGE ROUTE FLOW FROM SUB-BASIN 553 THROUGH 554
1085          KM            1) Reach Length = 5660 ft
1086          RS       4    FLOW      -1
1087          RC    .040    .040    .040    5660   .0041
1088          RX     100     150     210     240     300     350     370     400
1089          RY      36      34      28      22      22      24      30      36

1090          KK   554R1
1091          DR   554D1

1092          KK   554R2
1093          DR   554D2

1094          KK    554S
1095          KM   RUNOFF GENERATED ON SUB-BASIN 554
1096          KM   THE FOLLOWING PARAMETERS WERE PROVIDED FOR THIS BASIN
1097          KM   L= 1.531 mi  S= 25 ft/mi  Kb= 0.064
1098          KM   CLARK UNIT HYDROGRAPH FOR NATURAL WATERSHEDS WAS USED FOR THIS BASIN
1099          BA    .540
1100          LG    .326    .248   3.610    .347  17.170
1101          UC   1.121    .839
1102          UA       0       3       5       8      12      20      43      75      90      96
1103          UA     100
```

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

1104          KK   HC554
1105          KM   COMBINE HYDROGRAPHS FROM SUB-BASIN 554 WITH ROUTED FLOWS FROM 553
1106          KM   AND DIVERTED FLOWS FROM 532 & 533
1107          HC       4

1108          KK   RM554
1109          KM   NORMAL DEPTH STORAGE ROUTE FLOW FROM SUB-BASIN 554 THROUGH 555
1110          KM            1) Reach Length = 5771 ft
1111          RS       4    FLOW      -1
1112          RC    .040    .040    .040    5771    .0047
1113          RX      80     100     160     220     240     250     480     500
1114          RY     104     104      96      92      92      96      97     104

1115          KK   555R1
1116          DR   555D1

1117          KK   555R2
1118          DR   555D2

1119          KK    555S
1120          KM   RUNOFF GENERATED ON SUB-BASIN 555
1121          KM   THE FOLLOWING PARAMETERS WERE PROVIDED FOR THIS BASIN
1122          KM   L= 1.108 mi  S= 34 ft/mi  Kb= 0.068
1123          KM   CLARK UNIT HYDROGRAPH FOR NATURAL WATERSHEDS WAS USED FOR THIS BASIN
1124          BA    .536
1125          LG    .326    .293   5.050    .252  11.750
1126          UC    .788    .440
1127          UA       0       3       5       8      12      20      43      75      90      96
1128          UA     100

1129          KK  HC555A
1130          KM   COMBINE HYDROGRAPHS FROM SUB-BASIN 555 WITH ROUTED FLOW FROM 554
1131          KM   AND DIVERTED FLOWS FROM 533 & 534
1132          HC       4
              *
              *
              *   BEGIN PORTION OF HEC-1 MODEL INPUT OBTAINED FROM ARROWHEAD RANCH
              *   DEVELOPMENT REPORT BY DIBBLE & ASSOCIATES.
              *
              *
              *    ARROWHEAD RANCH - SECTION 25/26 - SYSTEM VI
              *

1133          KK     91S
1134          KM    SUB-BASIN 91
1135          BA    .069
1136          LS              77
1137          UD     .20
```

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

1138          KK     92S
1139          KM    SUB-BASIN 92
1140          BA    .033
1141          LS              84
1142          UD    .167

1143          KK    HC92
1144          HC       2

1145          KK    92RR
1146          KM    LAKE NO. 2
1147          RS       1    ELEV  1242.0
1148          SV     0.0     2.9     4.4     5.9     7.4     9.0    10.6    18.5    20.3    22.1
1149          SE  1242.0  1243.0  1243.5  1244.0  1244.5  1245.0  1245.5  1247.8  1248.3  1248.8
1150          SQ       0     .02     .03     .04     .05     .06     .07     .08    49.0   140.0

1151          KK     93S
1152          KM    SUB-BASIN 93
1153          BA    .061
1154          LS              71
1155          UD     .20

1156          KK    HC93
1157          HC       2

1158          KK    93RR
1159          KM    LAKE NO. 3
1160          RS       1    ELEV  1236.0
1161          SV     0.0     2.3     4.6     6.9     9.3    11.7    14.2
1162          SE  1236.0  1236.5  1237.0  1237.5  1238.0  1238.5  1239.0
1163          SQ       0     5.4     8.5    10.4    12.0    13.5    14.7

1164          KK     94S
1165          KM    SUB-BASIN 94
1166          BA    .077
1167          LS              76
1168          UD     .20

1169          KK    HC94
1170          HC       2

1171          KK     95S
1172          KM    SUB-BASIN 95
1173          BA    .068
1174          LS              75
1175          UD    .167

1176          KK    HC95
1177          HC       2
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


1178          KK     96S
1179          KM    SUB-BASIN 96
1180          BA    .086
1181          LS              84
1182          UD    .300

1183          KK    96RR
1184          KM    LAKE NO. 4
1185          RS       1    ELEV  1237.0
1186          SV     0.0     1.7     3.4     5.2     7.0     8.8    10.7
1187          SE  1237.0  1237.5  1238.0  1238.5  1239.0  1239.5  1240.0
1188          SQ     0.0     7.2    15.1    18.5    21.4    23.9    26.2

1189          KK     97S
1190          KM    SUB-BASIN 97
1191          BA    .071
1192          LS              71
1193          UD    .800

1194          KK    HC97
1195          HC       3

1196          KK    97RR
1197          KM    LAKE NO. 5
1198          RS       1    ELEV  1230.0
1199          SV     0.0     1.8     3.7     5.6     7.5     9.4    11.4    14.7    16.8    19.0
1200          SE  1230.0  1230.5  1231.0  1231.5  1232.0  1232.5  1233.0  1233.8  1234.3  1234.8
1201          SQ     0.0    0.01    0.02    0.03    0.04    0.05    0.06    0.08   124.0   350.0

1202          KK     98S
1203          KM    SUB-BASIN 98
1204          BA    .018
1205          LS              84
1206          UD    .167

1207          KK    98RR
1208          KM    LAKE NO. 6
1209          RS       1    ELEV  1230.0
1210          SV     0.0     0.5     1.1     1.7     2.3     2.9     3.5
1211          SE  1230.0  1230.5  1231.0  1231.5  1232.0  1232.5  1233.0
1212          SQ     0.0     7.2    15.1    18.5    21.4    23.9    26.2

1213          KK    HC98
1214          HC       2

1215          KK     99S
1216          KM    SUB-BASIN 99
1217          BA    .047
1218          LS              77
1219          UD    .167
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LINE        ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1220        KK    HC99
1221        HC       2

1222        KK    99RR
1223        KM    LAKE NO.7
1224        RS       1    ELEV  1229.0
1225        SV     0.0     1.9     3.8     5.8     7.8     9.8    11.9
1226        SE  1229.0  1229.5  1230.0  1230.5  1231.0  1231.5  1232.0
1227        SQ     0.0     7.2    15.1    18.5    21.4    23.9    26.2

1228        KK     90S
1229        KM    SUB-BASIN 90
1230        BA    .077
1231        LS              77
1232        UD    .300

1233        KK   HC580
1234        KM    OUTFLOW FROM SYSTEM VI
1235        HC       2
            *
            *
            *   CONCLUDE PORTION OF HEC-1 MODEL INPUT OBTAINED FROM ARROWHEAD RANCH
            *   DEVELOPMENT REPORT BY DIBBLE & ASSOCIATES.
            *
            *

1236        KK   RM580
1237        KM   NORMAL DEPTH STORAGE ROUTE FLOW FROM SUB-BASIN 580 THROUGH 581
1238        KM            1) Reach Length = 5515 ft
1239        RS       6    FLOW      -1
1240        RC    .030    .020    .030    5515   .0047
1241        RX     148     168     188     200     208     220     260     300
1242        RY     110     107     106     100     100     106     108     109

1243        KK    581S
1244        KM   RUNOFF GENERATED ON SUB-BASIN 581
1245        KM   THE FOLLOWING PARAMETERS WERE PROVIDED FOR THIS BASIN
1246        KM   L= 1.836 mi  S= 15 ft/mi  Kb= 0.033
1247        KM   CLARK UNIT HYDROGRAPH FOR URBAN WATERSHEDS WAS USED FOR THIS BASIN
1248        BA    .823
1249        LG    .206    .184   3.920    .429  54.370
1250        UC    .896    .595
1251        UA       0       5      16      30      65      77      84      90      94      97
1252        UA     100

1253        KK   HC581
1254        KM   COMBINE HYDROGRAPHS FROM SUB-BASIN 581 WITH ROUTED FLOW FROM 580
1255        HC       2
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1256          KK  HC555B
1257          KM   COMBINE HYDROGRAPHS FROM SUB-BASIN 555 WITH 581
1258          HC       2

1259          KK   RM555
1260          KM   NORMAL DEPTH STORAGE ROUTE FLOW FROM SUB-BASIN 555 & 581 THROUGH 556
1261          KM            1) Reach Length = 7336 ft
1262          RS       5    FLOW      -1
1263          RC    .040    .040    .040    7336   .0054
1264          RX       0      20      80     250     440     480     530     560
1265          RY      84      80      76      74      74      80      90      92

1266          KK    556R
1267          DR    556D

1268          KK    556S
1269          KM   RUNOFF GENERATED ON SUB-BASIN 556
1270          KM   THE FOLLOWING PARAMETERS WERE PROVIDED FOR THIS BASIN
1271          KM   L= 1.379 mi  S= 26 ft/mi  Kb= 0.053
1272          KM   CLARK UNIT HYDROGRAPH FOR URBAN WATERSHEDS WAS USED FOR THIS BASIN
1273          BA    .558
1274          LG    .426    .110   3.920    .514   8.400
1275          UC    .904    .597
1276          UA       0       5      16      30      65      77      84      90      94      97
1277          UA     100

1278          KK  HC556A
1279          KM   COMBINE HYDROGRAPHS FROM SUB-BASIN 556 WITH ROUTED FLOWS FROM 535,
1280          KM   556 & 581.  ALSO, TOTAL FLOW FROM NEW RIVER UPSTREAM OF ITS CONFLUENCE
1281          KM   WITH SKUNK CREEK.
1282          HC       4

1283          KK    408S
1284          KM   RUNOFF GENERATED ON SUB-BASIN 408
1285          KM   THE FOLLOWING PARAMETERS WERE PROVIDED FOR THIS BASIN
1286          KM   L= 1.935 mi  S= 22 ft/mi  Kb= 0.057
1287          KM   CLARK UNIT HYDROGRAPH FOR URBAN WATERSHEDS WAS USED FOR THIS BASIN
1288          BA   1.076
1289          LG    .298    .275   3.870    .415  18.170
1290          UC   1.337    .831
1291          UA       0       5      16      30      65      77      84      90      94      97
1292          UA     100
1293          ZZ
```

```
****************************************
*                                      *
*   FLOOD HYDROGRAPH PACKAGE  (HEC-1)  *
*             MAY   1991               *
*           VERSION 4.0.1E             *
*                                      *
* RUN DATE  01/25/95  TIME  12:03:17   *
*                                      *
****************************************
```

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****************************************
*                                      *
*   U.S. ARMY CORPS OF ENGINEERS       *
*   HYDROLOGIC ENGINEERING CENTER      *
*         609 SECOND STREET            *
*      DAVIS, CALIFORNIA 95616         *
*          (916) 551-1748              *
*                                      *
****************************************
```

ACDC AREA DRAINAGE MASTER STUDY
FILENAME: NR324B.DAT KHE JOB NO. 0146
WATERSHED CONTRIBUTING TO NEW RIVER UP TO ITS CONFLUENCE WITH
SKUNK CREEK

100-YEAR 24-HOUR DURATION STORM FOR EXISTING CONDITIONS

```
9 IO        OUTPUT CONTROL VARIABLES
                 IPRNT          5  PRINT CONTROL
                 IPLOT          0  PLOT CONTROL
                 QSCAL         0.  HYDROGRAPH PLOT SCALE

  IT        HYDROGRAPH TIME DATA
                  NMIN          4  MINUTES IN COMPUTATION INTERVAL
                 IDATE      1   0  STARTING DATE
                 ITIME       0000  STARTING TIME
                    NQ        800  NUMBER OF HYDROGRAPH ORDINATES
                NDDATE      3   0  ENDING DATE
                NDTIME       0516  ENDING TIME
                 ICENT         19  CENTURY MARK

          COMPUTATION INTERVAL    0.07 HOURS
               TOTAL TIME BASE   53.27 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
```

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	500S	204.	12.67	46.	12.	6.	0.41		
ROUTED TO	RM500	190.	13.07	46.	12.	6.	0.41	100.63	13.07
HYDROGRAPH AT	501S	310.	12.67	55.	14.	6.	0.52		
2 COMBINED AT	HC501	406.	12.93	100.	26.	12.	0.93		
ROUTED TO	RM501	381.	13.40	98.	26.	12.	0.93	101.02	13.40
HYDROGRAPH AT	502S	179.	13.20	59.	15.	7.	0.55		
HYDROGRAPH AT	510S	466.	12.47	77.	21.	9.	0.63		
ROUTED TO	RM510	441.	12.67	77.	21.	9.	0.63	100.35	12.67
HYDROGRAPH AT	511S	272.	12.60	49.	12.	6.	0.44		
2 COMBINED AT	HC511	711.	12.67	125.	33.	15.	1.06		
ROUTED TO	RM511	672.	12.93	125.	33.	15.	1.06	100.72	12.93
HYDROGRAPH AT	512S	227.	12.87	54.	13.	6.	0.47		
2 COMBINED AT	HC512A	895.	12.93	179.	46.	21.	1.53		
DIVERSION TO	533D	447.	12.93	89.	23.	10.	1.53		
HYDROGRAPH AT	502RE	447.	12.93	89.	23.	10.	1.53		
3 COMBINED AT	HC502	873.	13.20	245.	64.	29.	3.02		
ROUTED TO	RM502	865.	13.40	245.	64.	29.	3.02	101.09	13.40
HYDROGRAPH AT	503S	575.	12.73	167.	50.	23.	0.95		
2 COMBINED AT	HC503	1221.	13.40	407.	114.	52.	3.97		
ROUTED TO	503RR	25.	13.07	25.	25.	20.	3.97	30.06	19.73
ROUTED TO	RM503	25.	14.33	25.	25.	19.	3.97	100.28	14.60
HYDROGRAPH AT	533R	447.	12.93	89.	23.	10.	0.00		
HYDROGRAPH AT	533A	13.	12.00	2.	0.	0.	0.01		
2 COMBINED AT	HC512B	448.	12.93	91.	24.	11.	0.01		
ROUTED TO	RM512	439.	13.07	91.	24.	11.	0.01	101.56	13.07
HYDROGRAPH AT	533B	377.	12.07	57.	18.	8.	0.28		

ROUTED TO	533RR1	39.	13.07	31.	17.	8.	0.28	32.27	13.07
2 COMBINED AT	HC533A	478.	13.07	122.	41.	19.	0.29		
HYDROGRAPH AT	520S	705.	12.27	88.	24.	11.	0.68		
DIVERSION TO	530D	137.	12.27	38.	12.	5.	0.68		
HYDROGRAPH AT	520RE	568.	12.27	50.	13.	6.	0.68		
ROUTED TO	RM520	525.	12.47	50.	13.	6.	0.68	101.82	12.47
HYDROGRAPH AT	521S	706.	12.33	100.	28.	13.	0.62		
2 COMBINED AT	HC521	1179.	12.40	150.	40.	18.	1.29		
ROUTED TO	RM521	1047.	12.73	150.	40.	18.	1.29	101.73	12.73
HYDROGRAPH AT	522S	309.	12.73	63.	16.	7.	0.51		
2 COMBINED AT	HC522	1356.	12.73	213.	56.	25.	1.80		
HYDROGRAPH AT	533C	172.	12.20	26.	8.	4.	0.12		
2 COMBINED AT	HC533B	1410.	12.73	239.	64.	29.	1.92		
ROUTED TO	533RR2	1129.	12.93	235.	64.	29.	1.92	37.82	12.93
HYDROGRAPH AT	533D	102.	12.47	24.	7.	3.	0.10		
2 COMBINED AT	HC533C	1193.	12.93	258.	71.	32.	2.02		
ROUTED TO	533RR3	1128.	13.07	184.	62.	32.	2.02	36.90	13.07
HYDROGRAPH AT	533E	20.	12.07	3.	1.	0.	0.01		
2 COMBINED AT	HC533D	1129.	13.07	185.	62.	32.	2.04		
ROUTED TO	533RR4	1102.	13.13	185.	62.	32.	2.04	36.75	13.13
HYDROGRAPH AT	530S	1128.	12.13	121.	34.	15.	0.82		
HYDROGRAPH AT	R530	137.	11.87	38.	12.	5.	0.00		
2 COMBINED AT	HC530	1265.	12.13	159.	45.	20.	0.82		
ROUTED TO	RM530	1165.	12.33	159.	45.	20.	0.82	101.80	12.33
HYDROGRAPH AT	531S	739.	12.47	144.	38.	17.	0.65		
2 COMBINED AT	HC531	1882.	12.40	303.	83.	38.	1.47		
ROUTED TO	RM531	1730.	12.73	303.	83.	38.	1.47	102.35	12.73
HYDROGRAPH AT	532S	570.	12.47	108.	27.	12.	0.52		
2 COMBINED AT	HC532	2183.	12.67	411.	110.	50.	2.00		
DIVERSION TO	554D1	1528.	12.67	288.	77.	35.	2.00		

HYDROGRAPH AT	532RE	655.	12.67	123.	33.	15.	2.00		
HYDROGRAPH AT	533F	92.	12.13	13.	4.	2.	0.06		
2 COMBINED AT	HC533E	674.	12.67	136.	37.	17.	2.06		
HYDROGRAPH AT	533G	105.	12.13	16.	5.	2.	0.08		
2 COMBINED AT	HC533F	704.	12.67	151.	42.	19.	2.14		
ROUTED TO	533RR6	645.	12.80	100.	39.	19.	2.14	33.69	12.80
2 COMBINED AT	HC533G	1529.	13.07	285.	101.	51.	4.18		
ROUTED TO	RM522B	1511.	13.20	285.	101.	51.	4.18	103.05	13.20
HYDROGRAPH AT	533H	56.	12.07	8.	3.	1.	0.03		
2 COMBINED AT	HC533H	1515.	13.20	291.	103.	52.	4.21		
HYDROGRAPH AT	533I	111.	12.27	20.	6.	3.	0.08		
ROUTED TO	533RR8	20.	13.20	16.	6.	3.	0.08	30.18	13.27
2 COMBINED AT	HC533I	1535.	13.20	307.	109.	55.	4.29		
ROUTED TO	RM522C	1525.	13.20	307.	109.	55.	4.29	102.42	13.20
HYDROGRAPH AT	533J	58.	12.07	9.	3.	1.	0.03		
2 COMBINED AT	HC533J	1529.	13.20	314.	111.	56.	4.33		
HYDROGRAPH AT	533K	80.	12.13	11.	4.	2.	0.06		
ROUTED TO	533RR9	20.	12.60	11.	4.	2.	0.06	28.40	12.60
2 COMBINED AT	HC533K	1548.	13.20	325.	114.	58.	4.38		
DIVERSION TO	554D2	100.	13.20	56.	14.	6.	4.38		
HYDROGRAPH AT	533RE1	1448.	13.20	269.	100.	51.	4.38		
DIVERSION TO	555D1	323.	13.20	46.	12.	5.	4.38		
HYDROGRAPH AT	533RE2	1126.	13.20	223.	88.	46.	4.38		
DIVERSION TO	534D1	334.	13.20	48.	12.	5.	4.38		
HYDROGRAPH AT	533RE3	792.	13.20	175.	76.	41.	4.38		
DIVERSION TO	534D2	396.	13.20	55.	14.	6.	4.38		
HYDROGRAPH AT	533RE4	396.	13.20	120.	62.	34.	4.38		
ROUTED TO	RM533C	389.	13.27	119.	62.	34.	4.38	101.81	13.27
3 COMBINED AT	HC533L	831.	13.20	263.	126.	73.	8.64		
ROUTED TO	RM533D	800.	13.40	263.	125.	72.	8.64	101.86	13.40

HYDROGRAPH AT	534R1	334.	13.20	48.	12.	5.	0.00		
ROUTED TO	RM533E	323.	13.40	48.	12.	5.	0.00	101.37	13.40
DIVERSION TO	555D2	150.	13.40	33.	8.	4.	0.00		
HYDROGRAPH AT	533RE6	173.	13.40	15.	4.	2.	0.00		
DIVERSION TO	535D	113.	13.40	11.	3.	1.	0.00		
HYDROGRAPH AT	533RE7	60.	13.40	4.	1.	0.	0.00		
ROUTED TO	RM533F	49.	13.60	4.	1.	0.	0.00	100.75	13.60
HYDROGRAPH AT	534R2	396.	13.20	55.	14.	6.	0.00		
ROUTED TO	RM533G	386.	13.40	55.	14.	6.	0.00	101.42	13.40
HYDROGRAPH AT	534S	601.	12.47	155.	44.	20.	0.90		
4 COMBINED AT	HC534	1472.	13.40	469.	180.	99.	9.54		
ROUTED TO	RM534A	1454.	13.53	468.	180.	98.	9.54	102.46	13.53
HYDROGRAPH AT	535R	113.	13.40	11.	3.	1.	0.00		
DIVERSION TO	556D	63.	13.40	6.	1.	1.	0.00		
HYDROGRAPH AT	535RE	50.	13.40	5.	1.	1.	0.00		
ROUTED TO	RM534C	49.	13.53	5.	1.	1.	0.00	100.70	13.53
ROUTED TO	RM534E	47.	13.67	5.	1.	1.	0.00	100.78	13.67
HYDROGRAPH AT	535S	697.	12.20	108.	31.	14.	0.64		
3 COMBINED AT	HC535	1534.	13.53	574.	209.	113.	10.18		
DIVERSION TO	DV91S	259.	13.53	16.	4.	2.	10.18		
HYDROGRAPH AT	535RE	1275.	13.53	558.	205.	111.	10.18		
ROUTED TO	RM535	1271.	13.60	557.	205.	111.	10.18	105.68	13.60
HYDROGRAPH AT	540S	1015.	13.13	270.	71.	32.	2.24		
ROUTED TO	RM540	994.	13.40	270.	71.	32.	2.24	21.97	13.40
HYDROGRAPH AT	541S	231.	12.73	46.	11.	5.	0.47		
2 COMBINED AT	HC541	1106.	13.33	315.	82.	37.	2.71		
ROUTED TO	RM541	1088.	13.53	314.	82.	37.	2.71	90.04	13.53
HYDROGRAPH AT	542S	329.	12.53	53.	13.	6.	0.49		
2 COMBINED AT	HC542	1145.	13.53	365.	95.	43.	3.20		
ROUTED TO	RM542	1125.	13.73	364.	95.	43.	3.20	67.93	13.73

HYDROGRAPH AT	550S	3700.	12.60	2548.	2401.	2373.	1.95		
ROUTED TO	RM550	3607.	12.87	2548.	2401.	2373.	1.95	29.06	12.87
HYDROGRAPH AT	560S	1080.	12.33	135.	35.	16.	1.12		
ROUTED TO	RM560	880.	12.93	135.	35.	16.	1.12	90.77	12.93
HYDROGRAPH AT	551S	542.	13.00	137.	34.	16.	1.45		
3 COMBINED AT	HC551	4975.	12.93	2819.	2471.	2405.	4.51		
ROUTED TO	RM551	4868.	13.07	2819.	2471.	2405.	4.51	79.38	13.07
HYDROGRAPH AT	552S	932.	13.20	281.	76.	34.	2.38		
2 COMBINED AT	HC552	5796.	13.13	3100.	2547.	2439.	6.90		
ROUTED TO	RM552	5706.	13.33	3100.	2547.	2439.	6.90	51.93	13.33
HYDROGRAPH AT	21S	39.	12.07	6.	2.	1.	0.04		
ROUTED TO	21RR	0.	24.20	0.	0.	0.	0.04	1279.03	24.20
HYDROGRAPH AT	22S	42.	12.00	7.	2.	1.	0.03		
2 COMBINED AT	HC22	42.	12.00	7.	2.	1.	0.06		
ROUTED TO	22RR	19.	12.27	6.	2.	1.	0.06	1277.97	12.27
HYDROGRAPH AT	23S	12.	12.00	2.	1.	0.	0.01		
2 COMBINED AT	HC23	29.	12.07	8.	3.	1.	0.07		
ROUTED TO	23RR	19.	12.73	8.	3.	1.	0.07	1276.23	12.73
HYDROGRAPH AT	24S	8.	12.00	1.	0.	0.	0.01		
2 COMBINED AT	HC24	21.	12.13	9.	3.	1.	0.08		
ROUTED TO	24RR	17.	13.20	9.	3.	1.	0.08	1273.15	13.20
HYDROGRAPH AT	25S	63.	12.07	10.	3.	1.	0.05		
2 COMBINED AT	HC25	74.	12.07	19.	6.	3.	0.13		
ROUTED TO	25RR	10.	15.27	10.	6.	3.	0.13	1269.63	15.27
HYDROGRAPH AT	27S	137.	12.07	21.	7.	3.	0.12		
ROUTED TO	27RR	10.	13.80	10.	6.	3.	0.12	1279.85	13.87
HYDROGRAPH AT	29S	57.	12.07	9.	3.	1.	0.06		
2 COMBINED AT	HC29	65.	12.07	18.	9.	4.	0.19		
HYDROGRAPH AT	30S	67.	12.07	10.	3.	1.	0.06		
ROUTED TO	30RR	11.	12.73	9.	3.	1.	0.06	1266.79	12.73

2 COMBINED AT	HC30	75.	12.07	27.	12.	6.	0.24		
HYDROGRAPH AT	31S	48.	12.07	7.	2.	1.	0.05		
3 COMBINED AT	HC31	128.	12.07	44.	20.	10.	0.42		
HYDROGRAPH AT	32S	48.	12.07	7.	2.	1.	0.05		
2 COMBINED AT	HC32	176.	12.07	51.	23.	11.	0.48		
HYDROGRAPH AT	34S	69.	12.07	11.	3.	1.	0.08		
2 COMBINED AT	HC34	245.	12.07	62.	26.	12.	0.55		
HYDROGRAPH AT	41S	30.	12.00	5.	1.	1.	0.02		
HYDROGRAPH AT	42S	72.	12.07	11.	3.	2.	0.07		
2 COMBINED AT	HC42	102.	12.07	16.	5.	2.	0.09		
ROUTED TO	42RR	17.	12.73	14.	5.	2.	0.09	1304.57	12.73
HYDROGRAPH AT	43S	4.	12.07	1.	0.	0.	0.01		
2 COMBINED AT	HC43	18.	12.67	15.	5.	2.	0.10		
HYDROGRAPH AT	44S	37.	12.07	6.	2.	1.	0.03		
2 COMBINED AT	HC44	54.	12.07	20.	7.	3.	0.13		
HYDROGRAPH AT	45S	26.	12.00	4.	1.	1.	0.02		
HYDROGRAPH AT	46S	71.	12.07	11.	3.	2.	0.06		
2 COMBINED AT	HC46	97.	12.00	15.	5.	2.	0.07		
ROUTED TO	46RR	23.	12.53	14.	5.	2.	0.07	1301.35	12.53
HYDROGRAPH AT	47S	41.	12.07	6.	2.	1.	0.03		
2 COMBINED AT	HC47A	59.	12.07	20.	7.	3.	0.11		
2 COMBINED AT	HC47B	113.	12.07	40.	13.	6.	0.24		
ROUTED TO	47RR	66.	12.33	37.	13.	6.	0.24	1290.61	12.33
HYDROGRAPH AT	48S	66.	12.07	10.	3.	1.	0.06		
2 COMBINED AT	HC48	105.	12.13	47.	17.	7.	0.30		
ROUTED TO	48RR	97.	12.27	46.	17.	7.	0.30	1288.19	12.27
HYDROGRAPH AT	49S	12.	12.07	2.	1.	0.	0.04		
2 COMBINED AT	HC49	106.	12.20	49.	17.	8.	0.34		
HYDROGRAPH AT	50S	26.	12.07	4.	1.	1.	0.02		
2 COMBINED AT	HC50	125.	12.13	52.	18.	8.	0.36		

HYDROGRAPH AT	52S	15.	12.00	2.	1.	0.	0.01		
HYDROGRAPH AT	53S	40.	12.00	6.	2.	1.	0.03		
2 COMBINED AT	HC53	55.	12.00	9.	3.	1.	0.04		
ROUTED TO	53RR	35.	12.20	9.	3.	1.	0.04	1298.59	12.20
HYDROGRAPH AT	54S	42.	12.00	7.	2.	1.	0.03		
HYDROGRAPH AT	55S	28.	12.00	4.	1.	1.	0.02		
2 COMBINED AT	HC55A	69.	12.00	11.	3.	2.	0.05		
2 COMBINED AT	HC55B	94.	12.07	19.	6.	3.	0.09		
ROUTED TO	55RR	77.	12.20	19.	6.	3.	0.09	1295.67	12.20
HYDROGRAPH AT	56S	46.	12.07	7.	2.	1.	0.04		
HYDROGRAPH AT	57S	116.	12.07	18.	6.	2.	0.10		
2 COMBINED AT	HC57A	163.	12.07	25.	8.	3.	0.14		
2 COMBINED AT	HC57B	226.	12.07	44.	14.	6.	0.23		
ROUTED TO	57RR	218.	12.13	44.	14.	6.	0.23	1291.37	12.13
HYDROGRAPH AT	58S	6.	12.07	1.	0.	0.	0.01		
2 COMBINED AT	HC5B	223.	12.13	45.	14.	6.	0.24		
HYDROGRAPH AT	51S	159.	12.07	25.	8.	3.	0.13		
3 COMBINED AT	HC51	496.	12.07	121.	40.	18.	0.72		
ROUTED TO	51RR1	328.	12.33	118.	40.	18.	0.72	1279.18	12.33
ROUTED TO	51RR2	323.	12.40	117.	40.	18.	0.72	1274.35	12.40
HYDROGRAPH AT	61S	113.	12.07	17.	5.	2.	0.12		
2 COMBINED AT	HC61	362.	12.33	134.	46.	21.	0.85		
ROUTED TO	61RR	201.	13.20	112.	44.	20.	0.85	1268.48	13.20
2 COMBINED AT	HC570	265.	12.07	168.	69.	32.	1.40		
ROUTED TO	RM570	255.	13.47	167.	69.	32.	1.40	103.41	13.47
HYDROGRAPH AT	571S	920.	12.67	193.	52.	23.	1.35		
2 COMBINED AT	HC571	1102.	12.67	356.	119.	55.	2.74		
ROUTED TO	RM571	1072.	12.87	355.	119.	55.	2.74	106.84	12.87
HYDROGRAPH AT	553S	1023.	12.33	116.	30.	13.	0.93		
4 COMBINED AT	HC553	7253.	13.33	3926.	2790.	2550.	13.77		

ROUTED TO	RM553	7210.	13.47	3925.	2790.	2550.	13.77	29.21	13.47
HYDROGRAPH AT	554R1	1528.	12.67	288.	77.	35.	0.00		
HYDROGRAPH AT	554R2	100.	12.07	56.	14.	6.	0.00		
HYDROGRAPH AT	554S	297.	12.73	77.	22.	10.	0.54		
4 COMBINED AT	HC554	7984.	13.40	4340.	2902.	2601.	14.31		
ROUTED TO	RM554	7918.	13.60	4338.	2902.	2601.	14.31	99.38	13.60
HYDROGRAPH AT	555R1	323.	13.20	46.	12.	5.	0.00		
HYDROGRAPH AT	555R2	150.	13.27	33.	8.	4.	0.00		
HYDROGRAPH AT	555S	443.	12.47	72.	20.	9.	0.54		
4 COMBINED AT	HC555A	8340.	13.60	4485.	2942.	2619.	14.85		
HYDROGRAPH AT	91S	60.	12.07	10.	3.	1.	0.07		
HYDROGRAPH AT	92S	40.	12.07	6.	2.	1.	0.03		
2 COMBINED AT	HC92	100.	12.07	16.	5.	2.	0.10		
ROUTED TO	92RR	0.	24.07	0.	0.	0.	0.10	1245.19	24.60
HYDROGRAPH AT	93S	39.	12.07	6.	2.	1.	0.06		
2 COMBINED AT	HC93	39.	12.07	7.	2.	1.	0.16		
ROUTED TO	93RR	4.	13.60	4.	2.	1.	0.16	1236.40	13.60
HYDROGRAPH AT	94S	64.	12.07	10.	3.	1.	0.08		
2 COMBINED AT	HC94	66.	12.07	14.	5.	2.	0.24		
HYDROGRAPH AT	95S	57.	12.07	9.	3.	1.	0.07		
2 COMBINED AT	HC95	122.	12.07	23.	8.	4.	0.31		
HYDROGRAPH AT	96S	88.	12.13	16.	5.	2.	0.09		
ROUTED TO	96RR	17.	13.00	13.	5.	2.	0.09	1238.31	13.00
HYDROGRAPH AT	97S	22.	12.73	7.	2.	1.	0.07		
3 COMBINED AT	HC97	138.	12.07	43.	15.	7.	0.47		
ROUTED TO	97RR	31.	15.00	21.	8.	4.	0.47	1233.92	14.93
HYDROGRAPH AT	98S	22.	12.07	3.	1.	0.	0.02		
ROUTED TO	98RR	9.	12.33	3.	1.	0.	0.02	1230.62	12.33
2 COMBINED AT	HC98	33.	14.93	22.	9.	4.	0.48		
HYDROGRAPH AT	99S	43.	12.07	7.	2.	1.	0.05		